FINAL
Interim Removal Action Report
Building T-1451 and East Canal Site Investigation/ Characterization

Former Adak Naval Complex
Adak, Alaska

Contract Number: N62473-07-D-3219
Delivery Order No.: JP01

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Prepared for:
Department of the Navy
Naval Facilities Engineering Command Northwest
1101 Tautog Circle, Suite 203
Silverdale, WA 98315-1101

Prepared by:
ERS Joint Venture
302 W. 5th Street, Suite 310
San Pedro, CA 90731

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APPROVAL PAGE

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Submitted By:

ERS JV
302 W. 5th Street, Suite 310
San Pedro, CA 90731

Reviews and Approvals:

_____ Date: _____
Howard Wittenberg
Project Manager
ERS JV

_____ Date: _____
Jamie Oakley
Technical Project Manager
Ahtna Engineering Services, LLC

EXECUTIVE SUMMARY

This report describes the activities and findings of the site investigation/site characterization (SI/SC) and remedial activities conducted by ERS-JV from May 17, 2012 through July 12, 2012 at the Former Adak Naval Complex located at Adak, Alaska. This work was performed for the United States Navy (Navy) Naval Facilities Engineering Command, Northwest (NAVFAC NW) under the Environmental Multiple Award Contracts (EMAC) Contract Number: N62473-07-D-3219, Delivery Order Number (No.) JP01. The objectives of the site investigation/site characterization (SI/SC) and remedial activities at the Former Adak Naval Complex were the following.

- Investigate the horizontal and vertical extent of petroleum contamination in order to excavate impacted soil and install a monitored natural attenuation (MNA) treatment area in the East Canal/Building T-1451 Area. The treatment area would prevent or minimize further impacts of surface water sheen and degradation of surface water quality by reducing the concentrations of light, non-aqueous phase liquids (LNAPL) and dissolved-phase petroleum hydrocarbons seeping into East Canal.
- Conduct a geophysical survey and investigation in the East Canal/Building T-1451 North area to assess the presence of unknown petroleum sources potentially contributing to impacts to the East Canal.
- Install four 4-inch diameter free product recovery wells in Area 303 to aid in recovery of free product observed in existing recovery wells in Area 303.
- Install six 2-inch monitoring wells to collect additional groundwater monitoring data in the Area 303 monitoring well network on the east side of Main Road.
- Install nine 2-inch monitoring wells in the East Canal/Building T-1451 Area to collect groundwater monitoring data associated with the MNA treatment area.

The SI/SC activities in the East Canal/Building T-1451 Area included advancement of the ultra violet optical screening tool (UVOST) probes and soil borings to determine the appropriate location for the construction of the MNA treatment area. A total of 123 UVOST probes and 46 soil borings were completed in the East Canal/Building T-1451 area as part of the SI/SC activities. UVOST data and soil sample results collected from the soil borings indicated petroleum contamination from 1-6 feet below ground surface (ft bgs) in the proposed MNA treatment area. Groundwater was consistently observed at 5 ft bgs in the majority of soil borings excluding borings closest to the canal.

The UVOST data and soil sample results from the borings were used to confine the depth of the excavation base during excavation of the contaminated soil for the construction of the MNA treatment area. The final areal limits of the proposed MNA treatment area were decided upon by the Navy, Alaska Department of Environmental Conservation (ADEC), and ERS-JV after review of four separate proposed areal bound configurations. The initial boundaries were proposed to remove the highest concentrations of contaminated soil within the 7,500 square foot (ft^2) boundary specified by the Navy. At ADEC's request, the boundaries were shifted to the north

and west to include the area nearest the culverts on the western boundary of the MNA treatment area (Figure 5). It was decided to construct the MNA treatment area close to the culverts in anticipation of possible contaminant migration beyond the boundary of the treatment area through the culvert area.

Activities performed to meet the objective of preventing or minimizing impacts to the water quality in the East Canal included excavation of petroleum impacted soils and construction of the MNA treatment area within the 7,500 ft^2 area approved by the Navy and ADEC in the East Canal/Building T-1451 Area. Approximately 875 cubic yards (cy) of petroleum contaminated soil was removed from the 7,500 ft^2 area to reduce the contaminant source contributing to sheen on the surface water in the East Canal. Approximately 3,400 pounds of the Oxygen BioChem® (OBC) chemical amendment and 1,000 pounds of wood fiber mulch were applied to the backfill material placed in the MNA treatment area excavation to potentially reduce the petroleum contaminant concentrations migrating through the groundwater and producing sheen on the surface water of the East Canal. After construction of the MNA treatment area, nine 2-inch monitoring wells were installed in the East Canal/Building T-1451 Area to monitor the effectiveness of the MNA treatment area and provide additional analytical groundwater data for petroleum contamination concentrations.

The SI/SC activities in the East Canal/Building T-1451 North area were performed to determine if there were unknown petroleum contamination sources contributing to sheen observed on the East Canal. The SI/SC activities in the North area included a geophysical survey to identify metal anomalies, excavation at the anomaly location, and collection of field screening, mobile laboratory, and fixed based laboratory soil samples to determine if the target discovered in the excavation was a source of petroleum contamination. A total of 25 targets were excavated as part of the anomaly investigation.

An approximately 2,400 ft^2 area with crushed steel drums was discovered in the East Canal/Building T-1451 North Area as part of the anomaly investigation excavations. No other significant objects were discovered in the East Canal/Building T-1451 North Area that could be considered additional sources of petroleum contamination. Many of the targets identified during the excavation phase of the anomaly excavations were discovered to be various metal debris' including: multiple 55-gallon drums welded together, multiple sizes and lengths of steel pipe and various types of steel cable.

Installation of four fuel recovery wells was completed in Area 303. Recovery well depths varied from 15 to 27.5 ft bgs. A total of six monitoring wells were installed in Area 303. Monitoring well depths varied from 27.5 to 30.5 ft bgs. All wells were completed with protective casings and three bollards. Concrete was placed at the base of each protective casing.

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ACRONYMS AND ABBREVIATIONS

%RE .....percentage of reference emittance
AAC .....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AST .....aboveground storage tanks
avgas .....aviation gasoline
bgs .....below ground surface
BRAC.....Base Realignment and Closure Commission
cy.....cubic yards
DL .....detection limit
DRO .....diesel range organics
EMAC .....Environmental Multiple Award Contracts
ft .....feet
ft^2.....square feet
FVD.....Fluorescence vs. Depth
GCI.....General Communications, Inc.
GEM.....Ground Electronics Maintenance
GRO .....gasoline range organics
IDW.....investigation-derived waste
IRAR .....Interim Removal Action Report
JP-5 .....jet petroleum number 5
LCS/LCSD.....laboratory control sample/ laboratory control sample duplicate
LIF.....laser induced fluorescence
LNAPL.....light, non-aqueous phase liquids
LOQ .....limit of quantitation
MS/MSD.....matrix spike/matrix spike duplicate
mg/kg .....milligrams per kilogram
MNA .....monitored natural attenuation
NAVFAC .....United States Navy Naval Facilities Engineering Command
Navy.....United States Navy
nm .....nanometer
No.....number
NW .....northwest
OBC® .....Oxygen BioChem®
PID .....photo-ionization detector
QC .....Quality Control
PAH.....polynuclear aromatic hydrocarbons
PCB .....polychlorinated biphenyls
PQL .....practical quantification limit
PVC.....polyvinyl chloride
ppm .....parts per million
RA .....remedial action

RCRA.....Resource Conservation and Recovery Act
RPD.....Relative percent difference
RRO .....residual range organics
SAP .....Sampling and Analysis Plan
SI/SC .....site investigation/site characterization
SIM .....selective ion monitoring
SOW.....Scope of Work
USEPA.....United States Environmental Protection Agency
USFWS .....United States Fish and Wildlife Service
UVOST .....ultra violet optical screening tool
VOC .....volatile organic compounds
WMSA .....waste management storage area

1.0 INTRODUCTION

ERS-JV and principal subcontractor, Ahtna Engineering Services, have prepared this Interim Remedial Action (IRAR) Report to address environmental investigation/remedial action activities performed at the former Naval Air Station in Adak, Alaska (Figure 1). This work was performed as a site investigation/site characterization (SI/SC) and a remedial action (RA) for the United States Navy (Navy) Naval Facilities Engineering Command, Northwest (NAVFAC NW) under the Environmental Multiple Award Contracts (EMAC) Contract Number: N62473-07-D-3219, Delivery Order Number (No.) JP01. The work was performed in conformance with the contract documents including the original task Scope of Work (SOW).

1.1 Project Objectives

For planning purposes, the site was divided into three sections, each with a distinct set of work elements: 1); East Canal/Building T-1451 Area; 2) East Canal/Building T-1451 North Area that extends from the northern boundary of the Building T-1451 area and north to Area 303; and 3) Area 303 (Figure 2). The project objectives are briefly described below.

- Prior characterization activities at the East Canal/Building T-1451 Site identified petroleum-related chemical concentrations in groundwater and surface water (in the East Canal) at concentrations greater than the Alaska Department of Environmental Conservation (ADEC) cleanup levels and surface water quality criteria. Petroleum hydrocarbons have been observed as sheen on the East Canal since 2003. The presence of petroleum sheen is a violation of surface water quality requirements established in 18 Alaska Administrative Code (AAC) 70.
- The objective of this phase of work was to reduce or eliminate migration of diesel range organics (DRO) contaminants and sheen into the East Canal. To accomplish this goal, further investigation was required along the East Canal to characterize the nature and extent of those source areas. In addition, impacted soil was to be removed and a monitored natural attenuation (MNA) treatment area was to be constructed to prevent or minimize further impacts of surface water sheen and degradation of surface water quality by reducing the concentrations of light, non-aqueous phase liquids (LNAPL) and dissolved-phase petroleum hydrocarbons seeping into East Canal.
- Conduct a geophysical investigation and test pit excavations in the East Canal/Building T-1451 North area to assess the presence of unknown petroleum sources potentially contributing to impacts to the East Canal.
- Perform additional investigation of identified petroleum contamination source areas in the East Canal/Building T-1451 Area to determine the nature and extent of petroleum contamination.
- To aid in recovery of free product observed in existing recovery wells in Area 303, four 4-inch diameter free product recovery wells were installed in Area 303

- To allow for collection of additional groundwater monitoring data in the Area 303 monitoring well network on the east side of Main Road, six 2-inch monitoring wells were installed in accordance with the Proposed Plan for Former Adak Naval Complex, Adak Island, Alaska – Proposed Cleanup of Area 303 (U.S. Navy, 2011).
- Installed nine 2-inch monitoring wells in the East Canal/Building T-1451 Area to collect groundwater monitoring data associated with the MNA treatment area.

1.2 Project Organization

This Interim Remedial Action Report is organized as follows:

- Section 1.0 Introduction
- Section 2.0 Site Description and Background
- Section 3.0 Field Activities
- Section 4.0 East Canal/Building T-1451 Area
- Section 5.0 East Canal/Building T-1451 North Area
- Section 6.0 Seep Two
- Section 7.0 Data Validation Summary
- Section 8.0 References

2.0 SITE DESCRIPTION AND BACKGROUND

2.1 Location

The former Adak Naval Complex is located on Adak Island, which is approximately 1,200 air miles southwest of Anchorage, Alaska, in the Aleutian Island chain (Figure 1). The former base was an important military facility from 1942 to 1997. Constructed as a defensive outpost in World War II, the former base supported as many as 100,000 troops and 100 ships. The airstrip was critical for the U.S. Air Force, which maintained control of the island until 1950 when the Navy took control of all facilities. By 1953, the island's population decreased to 176 military personnel, but increased steadily to about 5,600 military and civilian personnel by 1990. In 1995, the base was selected for closure by the Navy's Base Realignment and Closure Commission (BRAC). The Navy has been involved in environmental restoration, cleanup, and closure activities since the military mission ended in March 1997, to allow for eventual lease and transfer of land and facilities to non-Federal organizations. Land transfer agreements and associated documentation are being negotiated under BRAC among the Navy, the U.S. Fish and Wildlife Service (USFWS), and the Aleut Corporation. Aleut Corporation currently operates most of the infrastructure on the northern half of the island, and the USFWS currently manages the southern part of the island as part of the Alaska Maritime National Wildlife Refuge system (USGS 2005).

The Site is bounded as follows:

- On the north by Area 303.
- On the east by Main Road
- On the south by Main Road.
- On the west by the East Canal

Land uses in the general vicinity of Building T-1451 include residential areas to the north, the airport to the west, and the City of Adak Maintenance Facility to the east.

2.2 Site Background

2.2.1 East Canal/Building T-1451 Area

The Former Power Plant, Building T-1451 (Figure 2), was constructed in 1944 (then known as Post Power Plant No.1) and consisted of a power plant building, three fuel aboveground storage tanks (ASTs), a fuel pump shed, a water tank, and a septic tank. More recently, the site has been referred to as Power House No.4 or Power Plant No.4. The main power plant building originally measured 62 by 79 ft. Sometime after 1986, the power plant building was expanded and converted to use as a vehicle maintenance facility. A new 2,000-gallon jet petroleum No.5 (JP 5) AST with an impoundment dike was constructed 30 ft southwest of the building. The remodeled building was then referred to as the main Ground Electronics Maintenance (GEM) building

(Building T-1451) and has a smaller metal building attached to the east. It appears that the existing structure overlies much of the location of the three former ASTs.

The Former Power Plant site contained three ASTs and a fuel pump shed to the east of the building. The three former ASTs were steel cylinders, 10 ft in diameter, with concrete saddles. Two of the ASTs were 35 ft long and the third was 15 ft long. The removal dates and conditions of the former ASTs are unknown. No record of releases from the former tanks is available.

The former ASTs were supplied by a 2 inch-diameter service pipeline connected to the Clam Lagoon Pipeline, approximately 85 ft to the east. The exact location of the east-west trending service pipeline is unknown. No information was found regarding capping or possible removal of the 2 inch-diameter service pipeline or regarding records of releases.

The Clam Lagoon Pipeline was a north-south trending, 4 inch-diameter pipeline used to transfer diesel fuel from former Fuel Dock No. 7 to the Naval Security Group Activity at Clam Lagoon. The Clam Lagoon Pipeline was later used as a JP 5 transfer pipeline and was abandoned in 1977. An 8 inch-diameter pipeline that reportedly transferred aviation gasoline (avgas) from former Fuel Dock No. 7 to Tank Farm B runs along the eastern side of Main Road, past the Former Power Plant site. It was also abandoned in 1977. The Main Road Pipeline (contained JP 5) is located west of the site along the west side of the Main Road. In the summer of 2009 the Main Road Pipeline was cleaned, tested, and grouted in place (U.S. Navy 2010).

2.2.2 East Canal/Building T-1451 North Area

Little or no subsurface investigation has been completed in the East Canal/Building T-1451 North area, (Figure 2) although historical aerial photographs appear to show open excavations in the area and surface activity. The photo suggests that unpermitted disposal activities may have occurred. The East Canal/Building T-1451 North area is bound by Area 303 to the north, the East Canal/Building T-1451 area to the south, the Main Road to the east, and East Canal to the west.

2.2.3 Area 303

The petroleum-release site designated Area 303 (Figure 2) is located in downtown Adak between the air terminal and the former high school building. Area 303 is bounded by Airport Road to the north, Sandy Cove Housing area and the former high school building to the east, Eagle Bay Housing area and an unnamed dirt road to the south, and the air terminal to the west. Area 303 occupies approximately 23.8 acres that include disturbed commercial-industrial areas and open grass-covered areas. The primary physical features at Area 303 include the following: The former line crew building (Building T-2776), which is located at the northern limit of Area 303 along Airport Road. The General Communications, Inc. (GCI) Compound, which includes the GCI Building (Building 42352) and an associated long-distance telecommunications transmitter and receiver antenna, located within a fenced enclosure that is approximately centered within Area 303. Main Road traverses the eastern portion of the site in a northeast-southwest direction.

An underground utility corridor that contains former fuel transfer pipelines traverses the site parallel and adjacent to Main Road (U.S. Navy 2011).

2.3 Geology and Hydrology

Prior to the military use of Adak Island during World War II, the western portion of the downtown area was occupied by a back beach lagoon. The lagoon was separated from Kuluk Bay by a series of sand dunes. The lagoon was filled with sand and rock by the military forces to construct the airfield. The sand dunes were leveled to create the relatively flat area occupied by downtown Adak today.

During petroleum-related site investigations that have been conducted in the vicinity of the East Canal/Building T-1451 Areas and Area 303, numerous soil, groundwater, sediment, and surface water samples were collected over the period 1991 to 2011. The geology and hydrogeology at the site are characterized by sandy soils derived from stream, wind, and wave action. The subsurface soils have variable permeability and generally consist of sands and gravels with occasional layers of organic silt and clay. The saturated sands typical in the downtown portion of Adak Island have a high water-bearing capacity. The organic silts and clays have low water-bearing capacity and typically cause shallow water in the subsurface to pond above the primary aquifer as small perched groundwater zones. During 1994, the Navy conducted an extensive study of groundwater conditions on Adak Island. Results of this investigation were reported in the Final Groundwater Study Report, Operable Unit A. The groundwater study report concluded that groundwater in the main aquifer zone beneath the downtown area of Adak, and situated west of Main Road, flows generally west toward the East Canal of the airport ditch system. The groundwater study goes on to conclude that although some seasonal variation in regional groundwater levels are observed in the downtown area, the general direction of groundwater flow does not vary seasonally. In addition, the shallow groundwater flow pattern in the vicinity of the airfield is controlled by the water levels in the airport ditch, which fluctuate within a small range as a result of ditch pumping (U.S. Navy 2011).

2.4 Surface Water Hydrology

The closest surface water body in the vicinity of the East Canal/Building T-1451 Areas and Area 303 is the East Canal of the airport ditch system. A portion of the East Canal is located at the western boundary of the East Canal/Building T-1451 Areas and the southwestern boundary of Area 303. The airport ditch system, including the East Canal, was constructed to prevent runway flooding during high-water periods. The East Canal is an engineered diversionary structure designed to collect surface runoff from the airfield and surrounding area and convey it from the airport runway area. It parallels the north-south runway (Runway 18-36) and consists of a series of interconnected ditches. The canal contains fresh water year round. It generally has steeply sloped banks lined with tundra grass. The airport ditch system receives surface water and groundwater from a large portion of the downtown area, including the entire surface of Runway 18-36. There are more than 7,500 linear ft of ditch within the East Canal, which receives water

along its entire length through overland flow during rainfall events and through groundwater discharge. Approximately 1,500 ft of the East Canal potentially receive overland flow and groundwater discharge from the East Canal/Building T-1451 Areas and Area 303.

Water in the East Canal flows through the cross-over canal (which is contained in underground culverts) into the West Canal, where it is transferred through turbine pumps into South Sweeper Creek. This renders the airport ditch system (including the East Canal) an isolated, intrastate, and non-navigable waterway. Because the engineered drainage canals of the airport ditch system are isolated from South Sweeper Creek and are not considered navigable waters of the United States, they do not fall under the jurisdiction of the Clean Water Act. However, these surface water bodies are considered waters of the State of Alaska and are subject to the Alaska Water Quality Standards (18 AAC 70). According to EPA ecological risk assessment guidance (USEPA 1998), sound and explicit linkages between measures of effect and assessment endpoints are needed to identify an ecologically sensitive environment. Given that the East Canal functions to collect surface runoff from the airfield and receives surface and groundwater from a large portion of the downtown area on Adak, and given that the airport ditch system is separated from South Sweeper Creek by turbine pumps, canals of the airport ditch system are not considered ecologically sensitive environments or high-quality habitat of significance.

South Sweeper Creek, located approximately 4,000 ft along this transport pathway from Area 303, is the closest downgradient water body that is considered navigable waters of the United States. As such, it falls under the jurisdiction of the Clean Water Act. South Sweeper Creek is also considered the closest ecological exposure point for aquatic organisms potentially exposed to petroleum-related chemicals that were released at the site and transported to the East Canal. South Sweeper Creek receives surface water and groundwater from approximately 30 percent of the Sweeper Cove drainage basin, including stormwater runoff collected by the airport drainage ditch system. The outlet of South Sweeper Creek forms a sandy estuary where it empties into Sweeper Cove. As a result of the cycling tides, saltwater periodically moves beneath the freshwater flow as a wedge along the bottom of the creek. Salinity infiltration occurs in South Sweeper Creek and has been traced as far north as the mouth of Yakutat Creek, approximately 4,500 ft upstream from Sweeper Cove. The stormwater conveyances in the East Canal/Building T-1451 Areas and Area 303 consist primarily of ditches, culverts, catch basin inlets, manholes, and outlets. In general, stormwater west of Main Road flows via ditches or, after percolating into soil, with groundwater toward the East Canal of the airport ditch system and ultimately to South Sweeper Creek (U.S. Navy 2011).

3.0 FIELD ACTIVITIES

3.1 Project Execution

Work activities for this project have been organized according to the project SOW and the sequence of execution in the field. A photo log of site activities is provided in Appendix A. For this project, the following activities occurred:

- Mobilization
- Field Methods
- East Canal/Building T-1451 Area UVOST and Soil Boring Investigation
- East Canal/Building T-1451 North Area Geophysical Survey and Anomaly Investigation
- MNA Treatment Area Excavation and Construction
- Installation of monitoring wells in East Canal/Building T-1451 Area
- Installation of recovery and monitoring wells in the Area 303 and the East Canal/Building T-1451 Area
- Backfilling, re-grading, and re-vegetating excavated areas
- Transportation and disposal of the excavated material
- Demobilization

3.2 Mobilization

Mobilization efforts began in November 2011 with shipment of field equipment and supplies by barge to Adak Island. All equipment and materials arrived via barge and commercial air on Adak Island by May 2012. Field crew personnel were transported to the site by commercial air on May 17, 2012. The field crew consisted of two scientists, one geophysical survey technician, one heavy equipment operator, and two operators/laborers. Three field support scientist were on-site for various durations to assist the field team.

3.3 Field Methods

3.3.1 Field Screening Activities

Field screening was used to determine analytical soil sample locations and to guide the excavations. Field screening methods used at the site included visual, olfactory, and photoionization detector (PID) soil headspace field screening.

Visual screening consisted of inspecting the soil for staining indicative of fuel-related contamination. Olfactory screening consisted of noting incidental odors indicative of fuel-related contamination.

A MiniRAE 3000 PID was used to measure soil headspace vapors from soil samples to field screen soil for DRO in the East Canal/Building T-1451 Area and DRO, residual range organics (RRO), gasoline range organics (GRO), volatile organic compounds (VOC), and polynuclear aromatic hydrocarbons (PAH) concentrations in the East Canal/Building T-1451 North Area. The PID was used in accordance with the Draft Field Sampling Guidance (ADEC 2010), manufacturer instructions, and the SAP. Field screening soil samples were collected from freshly uncovered soil. A soil sample was placed in a plastic bag for a period of at least 15 minutes, but no more than one hour, at an approximate temperature of 40 degrees Fahrenheit (°F) to 60°F to allow hydrocarbons to volatize and accumulate in the headspace of the bag. The bag was then agitated for at least 15 seconds to further promote volatilization. The probe of the PID was inserted into the bag to measure the concentration of organic or combustible vapor concentrations in parts per million (ppm). The PID was calibrated and maintained in accordance with the manufacturer instructions and the SAP.

3.3.2 UVOST Screening Tool

The primary field screening method used during the SI/SC was laser induced fluorescence (LIF) technology employed by the UVOST system and a Geoprobe 6620DT direct-push, track-driven probe system. The system provided continuous, real-time data effective in locating and defining potential NAPL in subsurface soil. The UVOST activities and results are summarized in this Report.

A xenon helium hydrogen chloride excimer laser (308 nanometer [nm] wavelength) is used as the energy source. Ultraviolet light from the laser is transmitted through a silicon-clad optical fiber that terminates at a sapphire window. The sapphire window is in contact with the subsurface soil. The UVOST system can detect non-chlorinated, multi-ring, polynuclear aromatic hydrocarbons (fuel) in saturated and unsaturated soils. If petroleum hydrocarbons are present, the laser light excites the PAH fraction into releasing energy as fluorescence. The intensity of the fluorescence is used as an indicator of the relative contaminant (i.e. NAPL) concentration. LIF results are acquired and displayed in real time with depth in Fluorescence vs. Depth (FVD) log.

The LIF signal response was optimized using a proprietary reference solution, M1, from Dakota Technologies, Inc. before each UVOST push. The UVOST software package allowed for analysis of the amount of fluorescence at each of the four different response wavelengths that make up the LIF reading. The amount of fluorescence at each of the four wavelengths is called the “fuel signature.” The height and area under the waveform represented the signal intensity of each individual wavelength relative to the M1 standard. Signal intensity was represented as %RE (percentage of the Reference Emittance of the M1 standard). The concentration of a contaminant in the soil is related to the %RE. LIF data was reviewed by the field crew to identify the concentration and fuel type (GRO, DRO, and RRO) of the contaminant. This information was used to determine optimal locations for further UVOST investigation probes.

Naturally occurring fluorescent minerals such as carbonates can yield false positives. Data from sampling and laboratory analysis of soil samples will assist in determining if false positives have occurred. False negatives may occur where the DRO or GRO concentrations are near the limit of detection for the LIF probe, which is approximately 100 mg/kg.

The following is a list of operations performed to ensure data quality:

- Monitor the wave pattern on the Oscilloscope.
- Verify that M1 signal level and time delays are in the proper position and within limits.
- Calibrate the UVOST with M1 prior to advancing each new UVOST probe.
- Monitor the graphic output on the FVD log.
- After every push, place M1 on the probe window to visually verify that the signals are within tolerance.

Exaggerated background readings or loss of signal from the probe are the usual indications that a problem has occurred. Typical problems include:

- cracked window;
- dust on the mirror;
- software errors; and
- electronic malfunctions.

A total of 273 UVOST probes were advanced to delineate the horizontal and vertical extent of soil contamination in the East Canal/Building T-1451 Area and the East Canal/Building T-1451 North Area. Occasionally, system errors occurred while pushing the probe. When this occurred, the location was probed again until a useable dataset was acquired.

3.3.3 Analytical Soil Sample Collection

Soil borings were advanced to collect analytical soil samples and confirm the UVOST results at the Former Adak Naval Complex. Most borings were advanced within approximately 1-2 ft laterally of a UVOST point, unless otherwise noted. Boring logs were maintained by the field crew and are presented in Appendix B. Boreholes were advanced using the Geoprobe® 6620DT direct-push, track-driven probe system. To minimize the risk of cross contamination between soil sample intervals, field screening and subsurface soil samples were collected from borings in new macro-core liners. In addition, decontaminated stainless steel tablespoons and/or spatulas and clean, disposable nitrile gloves were used to collect soil for field screening and analytical soil samples from the macro-core liners.

Analytical soil sample locations were a function of the UVOST screening results, sample depths, and results from previous investigations, PID field screening results, field observations such as staining and odor, and the type of analysis to be conducted. Generally, at least one soil sample

was collected from each boring from the most contaminated soil interval based on PID results and field observations. The basis of this collection strategy was to determine the horizontal and vertical extent of contamination, confirm or correlate UVOST screening results, and collect data relevant to construct the MNA treatment area.

Boring depths varied and generally extended until a clean soil horizon was reached based on field screening results and field observations, or until refusal. At a minimum, soil boring logs documented the PID field screening results, soil types, field observations, and soil sample locations collected for laboratory analysis. The boring logs are provided in Appendix B.

Discrete grab sampling methods were used to collect analytical samples in accordance with the Draft Field Sampling Guidance (ADEC 2010) and the SAP (ERS-JV 2012) from excavations. Soil samples were collected after a minimum of six inches of soil was removed from sampling locations. Discrete grab samples were collected below areas that appeared most contaminated based on field screening results and field observations. Discrete grab samples were collected and submitted to the laboratory for contaminant analysis.

GRO/VOC samples were immediately measured into approximately 25 gram aliquots, placed in laboratory supplied sample jars, preserved with 25 milliliters methanol, and placed in a chilled sample cooler. All other analytes were collected by placing soil in the appropriate sample jars, which were then stored in the chilled sample coolers.

Discrete grab samples were collected from potentially clean overburden soil removed from the excavations and temporary stockpiles. Discrete grab samples were collected from approximately every 15 cy of potentially clean overburden, a more conservative sample collection interval than the ADEC Draft Field Sampling Guidance specifies.

3.4 East Canal/Building T-1451 Area UVOST and Soil Boring Investigation

A grid measuring approximately 190 ft long by 90 ft wide was established along the East Canal to investigate the horizontal and vertical extent of petroleum contamination impacting the surface water in the canal in order to determine the location for constructing an MNA Treatment Area (Figure 3). The grid was established to advance UVOST probes to detect the presence of petroleum contamination to aid in determining soil boring locations for analytical soil sample collection. Probes were advanced every 10-20 ft to an average depth of 12 ft bgs. A total of 123 UVOST probes were advanced in the grid as part of the MNA treatment area investigation.

Soil borings were completed adjacent to UVOST probes to collect analytical soil samples to investigate the horizontal and vertical extent of petroleum contamination in the location proposed for the construction of the MNA Treatment Area (Figure 4). The soil boring and UVOST probe pairs were also used to correlate the UVOST readings. A total of 192 soil samples were collected from the 52 soil borings in the proposed MNA Treatment Area location for DRO analysis by the mobile laboratory. A total of 37 soil samples were collected for DRO analysis and submitted to the fixed project laboratory to provide confirmation results for the 192 soil

samples analyzed by the mobile laboratory. Analytical soil samples were collected from depths ranging from 1 ft to 15 ft bgs in the MNA treatment area investigation. Analytical results from soil samples collected from the borings and analyzed at the mobile and fixed project laboratories are presented in Section 4.1.1. Soil boring logs are provided in Appendix B.

Additional investigation of the extent of petroleum contamination was completed in the East Canal/Building T-1451 Area with the UVOST to the east and south of the MNA treatment area grid (Figure 3). A total of 78 additional UVOST probes were advanced as a replacement for trenching activities.

Stained soil on the bank of the East Canal was also observed approximately 250 ft south of the culverts at the MNA treatment area in an area referred to as Seep Two (Figures 3 and 4). The stained soil on the bank in this area is approximately 20 ft in length. A total of 27 UVOST probes and 14 soil samples collected from four soil borings were advanced to evaluate the vertical and horizontal extent of petroleum contamination associated with the petroleum stained soil at Seep Two. Soil sample results for the Seep Two area are presented in Section 6.0.

3.5 MNA Treatment Area Excavation and Construction

Construction of the MNA treatment area began on June 11, 2012 in the northern portion of the treatment area with excavation of contaminated soil above the ADEC cleanup level for DRO. UVOST data and analytical soil sample results from the 52 soil borings were used to limit the depth of the excavation to one ft below the water table. The treatment area was divided into approximately 19 MNA treatment cells at 20 ft by 20 ft each (Figure 7) in order to effectively replace the contaminated soil with imported backfill mixed with the Oxygen BioChem® (OBC®) amendment and wood fiber mulch. Trench box panels were used to separate completed cells from non-completed cells to avoid excavation of the treated backfill as the additional cells were completed.

An average of 180 pounds of OBC® amendment and 50 pounds of wood fiber mulch were mixed with the backfill by the excavator bucket. The backfill was placed in 2 ft lifts with OBC® amendment and wood fiber mulch added to each lift. An average of 65 cy of backfill material mixed with the OBC® amendment and wood fiber mulch was used to backfill each cell to approximately 2 ft bgs. The remaining 2 ft of backfill consisted of analytically determined clean soil that was removed and stockpiled as overburden from the treatment area. Soil sample results from the samples collected from the soil stockpiles are presented in Section 4.3.

A portion of the East Canal required dewatering in order to excavate the contaminated soil from treatment cells #13-#17 (Figure 7). Dewatering was accomplished by first plugging the east culvert at both ends with plastic liner and a 1-cy supersack filled with imported backfill soil. A temporary inflatable coffer dam filled with water was then positioned diagonally from the south end of the plugged culvert to the bank of the East Canal. An oil/water separator consisting of a 55-gallon steel drum with holes punched in it was then placed in a sump created by the excavator. A 2-inch water pump was used to pump water from the oil/water separator over the

temporary dam and discharged into the East Canal. The temporary dam was removed after the completion of MNA treatment cell #17.

At the completion of the MNA treatment area construction activities the total surface area of the excavation measured approximately 7,500 ft^2. The total volume of excavated soil was approximately 1,650 cy. Approximately 875 cy of DRO contaminated soil and 875 cy of un-impacted soil were removed from the MNA treatment area excavation. The contaminated soil was placed on a 12 mil polyethylene liner constructed with berms to contain any liquids that may drain from the soils. Initially, landfarming the contaminated soil to reduce the DRO concentrations in the soil to below the ADEC cleanup level of 230 milligrams per kilogram (mg/kg) was the approved method for treating the contaminated soil for future use. After excavation of the MNA treatment area began, it was decided that the soil would be placed into 5-cy super sacks for off-site transport and disposal due to a smaller than anticipated volume of contaminated soil that would require disposal. As the excavation progressed, the 5-cy super sacks were filled and then transported to the Waste Management Storage Area (WMSA) with the front end loader for temporary storage before being transported via barge to Seattle, WA. Approximately 375 cy of soil placed in the contaminated stockpile was transferred into 1-cy super sacks after the MNA treatment area construction was completed. Construction of the MNA treatment area was completed on June 27, 2012.

3.6 East Canal/Building T-1451 Monitoring Well Construction

A total of nine monitoring wells were installed after construction of the MNA treatment area was completed (Figure 8). The monitoring wells were placed in areas determined through discussions with the Navy and ADEC. Two monitoring wells were placed in the MNA treatment area and seven wells were placed in locations to the north, south, and east of the MNA treatment area. Monitoring wells were installed using a Geoprobe 6620 track mounted rig with an attached hollow stem auger in accordance with ADEC's Monitoring Well Guidance (ADEC 2011). Well depths varied from 11.5 to 14.5 ft bgs. Two-inch diameter, Schedule 40 polyvinyl chloride (PVC) casing with a 10-ft, 0.010-inch slot screen was used for each well. Approximately 11 ft of 10/20 sand was placed around the screen and covered with an approximate one-ft bentonite seal. The wells were completed with protective casings and three bollards. A 3-ft by 3-ft concrete pad was placed at the base of each protective casing. Well construction logs are provided in Appendix B.

3.7 East Canal/Building T-1451 North Area Geophysical Survey and Anomaly Investigation

A geophysical survey was performed to identify potential contamination sources that may be contributing to the petroleum impacts observed in the East Canal. A survey grid was established in the ten acre area to facilitate the use of the EM-61 MKII® metal detector. The southern boundary of the survey area was adjusted from the initial proposed area at the request of the Navy to incorporate an area of interest based on historical aerial photographs. The total acreage

for the survey area remained 10 acres as agreed upon by the Navy and the contractor. The survey grid was separated into survey lanes marked with flags spaced approximately 10 ft apart in north-south transects for the survey area.

The SOW for this task specified 25 targets would be identified and investigated. The targets identified for excavation were selected by the project geophysicist based on size and shape as well as the largest EM-61 detection values (Figures 6A and 6B). A total of 34 targets were selected with nine targets discarded based on the nature of the target as observed by the geophysics survey technician and discussed with the project geophysicist. A total of 25 test pits were excavated to investigate the 25 targets identified as part of the geophysical survey. Soil samples were collected from the test pits for multiple analyses and analyzed by both the mobile and fixed project laboratories. Five soil samples were collected for the full characterization suite of analyses. Soil sample results for samples collected from the test pits are discussed in Section 5.1. The most significant finding from the anomaly investigation was an approximately 2,400 ft^2 area of buried crushed steel drums. The crushed drums were exposed on the surface in selected locations and found to be buried to depths as deep as 14 ft bgs as observed in test pit 9 (Figure 6B). Test pit logs for each anomaly excavation are provided in Appendix B.

A total of 45 UVOST probes and eight soil borings were completed along the perimeter of the drum area footprint identified during the EM-61survey (Figure 7). The eight soil borings were advanced with 29 soil samples collected from them for DRO analysis at the mobile laboratory. Soil borings SB-053, SB-054, SB-055, and SB-056 were completed to the south of the crushed drum area. Borings SB-057, B58, B59, and B60 were advanced along the northern perimeter of the crushed drum area near existing monitoring wells in that area. Soil sample results from the soil borings completed in the East Canal/Building T-1451 North Area are discussed in Section 5.2.1. Soil boring logs are provided in Appendix B.

3.8 Area 303 Recovery and Monitoring Well Construction

Four fuel recovery wells and six monitoring wells were installed in Area 303 (Figure 9) using a Geoprobe 6620 track mounted rig with an attached hollow stem auger in accordance with ADEC's Monitoring Well Guidance (ADEC 2011). Recovery well depths varied from 15 to 27.5 ft bgs. Four inch diameter, Schedule 40 PVC casing with a 10-ft, 0.020-inch slot screen was used for each well. Approximately 12 ft of 3/8-inch pea gravel was placed around the screen and covered with an approximate 1.5-13 ft bentonite seal based on the depth of each well. The wells were completed with protective casings and three bollards. Concrete was placed at the base of each protective casing. Well construction logs are provided in Appendix B.

The six monitoring wells were installed in Area 303 to depths that varied from 27.5 to 30.5 ft bgs. Two-inch diameter, Schedule 40 PVC casing with a 10-ft, 0.010-inch slot screen was used for each well. Approximately 11 ft of 10/20 sand was placed around the screen and covered with an approximate 13-16 ft bentonite seal. The wells were completed with protective casings and

three bollards. Concrete was placed at the base of each protective casing. Well construction logs are provided in Appendix B.

3.9 Seep Two Investigation

Stained soil on the bank of the East Canal was also observed approximately 250 ft south of the MNA treatment area in an area referred to as Seep Two. The stained soil on the bank in this area is approximately 20 ft in length. A total of 27 UVOST probes (Figure 3) and 14 soil samples collected from four soil borings (Figure 4) were advanced to assess the vertical and horizontal extent of petroleum contamination associated with the petroleum stained soil at Seep Two. A discussion of the Seep Two investigation is included in Section 6.0.

3.10 Backfilling, Regrading, and Revegetating Excavated Areas

Approximately 1,100 cy of imported backfill material was transported from a local borrow source to the East Canal/Building T-1451 Area and used to backfill the MNA treatment area excavation. The backfilled areas were returned to existing grade.

Areas disturbed by project activities were returned to a surface condition resembling their original state at the time of project initiation. Disturbed areas in the East Canal/Building T-1451 North Area were backfilled and seeded using a grass seed mixture in accordance with the approved Sampling and Analysis Plan (ERS-JV 2012). Disturbed areas in the East Canal/Building T-1451 North area and the MNA treatment area were re-graded and seeded after the construction activities were completed. Straw matting was placed along the bank of East Canal to reduce erosion of the backfill material used to reconstruct the bank.

3.11 Transportation and Disposal of the Excavated Material

Impacted soil excavated from the MNA treatment area was placed in 100, 5-cy supersacks and 373, 1-cy supersacks. The supersacks were staged in the WMSA for transport via barge to Seattle and disposal in Oregon. Each Super Sack was labeled to identify contents and source in accordance with the RAP. A front end loader was used to place filled 5-cy supersacks onto 40-ft flatbeds. The front end loader and a small forklift were used to place the 1-cy supersacks into 20-ft fully-enclosed storage containers located near the Port of Adak.

ADEC approval for offsite transportation was obtained on June 21, 2012 prior to initiating petroleum-contaminated soil transportation activities in accordance with 18 AAC 75.325(i). On August 10, 2012, Samson Tug and Barge transported 3 flatbeds with four 5-cy supersacks each and 23 enclosed shipping containers filled with 16 1-cy supersacks each from Adak, Alaska to Seattle, Washington. Waste Management, Inc. transferred the containers via rail transport from the shipyard in Seattle to Columbia Ridge Landfill located at 18177 Cedar Springs Lane in Arlington, Oregon. The Columbia Ridge Landfill is owned and operated by Waste Management. The remaining supersacks were transported via barge from Adak on December 13, 2012 for

disposal at the Columbia Ridge Landfill. The waste profile, copies of bills of lading, and the final certificates of waste disposal are provided in Appendix C.

3.12 Investigation-Derived Waste

Minimal quantities of investigation-derived wastes (IDW) were generated during the course of project field activities. Non-hazardous solid wastes including used nitrile gloves, paper towels, Ziploc® bags, liners, and other miscellaneous materials were placed in supersacks and disposed of with the contaminated soil at Waste Managements' Arlington, Oregon facility. Water collected during development of the recovery and monitoring wells was treated in the Absorbent W® Water Scrubber filter and discharged in an area of known petroleum contamination in the East Canal/Building T-1451 Area approximately 100 ft east of the MNA treatment area. The cellulose absorbent filters were placed in supersacks and disposed of in the same manner as the other project IDW.

3.13 Demobilization

Demobilization occurred after completion of all site activities. Personnel, sampling equipment, and supplies were demobilized from the project site by air transport and barge. All personnel were demobilized from the site by July 12, 2012 after all onsite project activities were complete. All equipment and materials were transported from Adak, AK to Anchorage, AK in December 2012.

4.0 EAST CANAL/BUILDING T-1451 AREA

The following section summarizes the site observations, analytical results, and conclusions and recommendations for the work conducted at the East Canal/Building T-1451 Area. Complete laboratory reports are provided in Appendix D. A data validation summary is provided in Section 7 and Appendix E.

4.1 UVOST and Soil Boring Investigation

A grid measuring approximately 190 ft long by 90 ft wide was established along the East Canal to investigate the horizontal and vertical extent of petroleum contamination impacting the surface water in the canal in order to determine the location for constructing an MNA Treatment Area. The grid was established to advance UVOST probes to detect the presence of petroleum contamination to aid in determining soil boring locations for analytical soil sample collection. A total of 123 UVOST probes were advanced as part of the investigation for determining the location of the MNA Treatment Area (Figure 3).

Additional investigation of the extent of petroleum contamination was completed in the East canal/Building T-1451 Area with the UVOST to the east and south of the MNA treatment area grid. A total of 78 additional UVOST probes were advanced as a replacement for trenching activities. The UVOST indicated the presence of petroleum contamination west of main road and to the southern boundary of the East Canal/Building T-1451 area site. Please refer to Figure 4 for the aerial extent of petroleum contamination determined by the UVOST screening tool in the East Canal/Building T-1451 area.

4.2 Soil Boring Sample Findings

A total of 52 soil borings were completed in the East Canal/Building T-1451 Area to determine the appropriate placement for the MNA treatment area (Figure 4). 173 primary and 19 field duplicate soil samples were collected from the soil borings for DRO analysis by the mobile laboratory. 33 primary and 4 field duplicate soil samples were collected and submitted to the fixed base laboratory for DRO analysis. The samples were collected from 1 to 15 ft bgs. Both the mobile and fixed based laboratories results consistently reported DRO concentrations exceeding the ADEC Method Two, Over 40 inch, Migration to Groundwater cleanup level of 230 mg/kg for DRO in soil samples collected from 1 to 6 ft bgs. The greatest DRO exceedance was 65,000 mg/kg in field duplicate soil sample 01-SB028 from soil boring SB-028 (Figure 4) at a depth of 4 to 5 ft bgs and analyzed by the fixed base laboratory. The soil sample results from both the mobile and fixed laboratories were used to determine the appropriate location to construct the MNA treatment area. Soil sample results from the mobile laboratory for samples collected from soil borings in the East Canal/Building T-1451 Area are provided in Table 4-1. Soil sample results from the fixed project laboratory for samples collected from soil borings in the East Canal/Building T-1451 Area are provided in Table 4-2. Soil boring logs are provided in Appendix B.

Table 4-1 Soil Boring DRO and RRO Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (AK102) (mg/kg)	RRO (AK103) (mg/kg)
East Canal/Bldg T-1451 Area	SB-007	5/25/2012	9:15 AM	01-B007-01	Primary	1 - 2	37.1	98.8
East Canal/Bldg T-1451 Area	SB-007	5/25/2012	9:20 AM	01-B007-02	Primary	3.5 - 4.5	**25,092**	972
East Canal/Bldg T-1451 Area	SB-007	5/25/2012	9:30 AM	01-B007-03	Primary	5 - 6	**281**	21.5
East Canal/Bldg T-1451 Area	SB-008	5/25/2012	9:55 AM	01-B008-01	Primary	1 - 2.5	**10,218**	449
East Canal/Bldg T-1451 Area	SB-008	5/25/2012	10:00 AM	01-B008-02	Primary	3 - 4	26.6	21.0
East Canal/Bldg T-1451 Area	SB-008	5/25/2012	10:10 AM	01-B008-03	Primary	8 - 9	15.3	12.0
East Canal/Bldg T-1451 Area	SB-009	5/25/2012	10:45 AM	01-B009-01	Primary	1 - 2	**3,533**	597
East Canal/Bldg T-1451 Area	SB-009	5/25/2012	10:48 AM	01-B009-02	Primary	3 - 4	**769**	32.0
East Canal/Bldg T-1451 Area	SB-009	5/25/2012	10:55 AM	01-B009-03	Primary	7.5 - 9	6.11	6.5
East Canal/Bldg T-1451 Area	SB-009	5/25/2012	11:00 AM	01-B009-04	Duplicate	7.5 - 9	9.44	5.7
East Canal/Bldg T-1451 Area	SB-010	5/25/2012	11:20 AM	01-B010-01	Primary	1 - 2	**11,440**	535
East Canal/Bldg T-1451 Area	SB-010	5/25/2012	11:26 AM	01-B010-02	Primary	7.5 - 9	10.2	8.3
East Canal/Bldg T-1451 Area	SB-010	5/25/2012	11:40 AM	01-B010-03	Primary	10 - 11	55.1	12.1
East Canal/Bldg T-1451 Area	SB-011	5/25/2012	2:20 PM	01-B011-01	Primary	1 - 2	**545**	69.4
East Canal/Bldg T-1451 Area	SB-011	5/25/2012	2:25 PM	01-B011-02	Primary	3 - 4	**11,209**	577
East Canal/Bldg T-1451 Area	SB-011	5/25/2012	2:30 PM	01-B011-03	Primary	5 - 6	18.8	13.0
East Canal/Bldg T-1451 Area	SB-011	5/25/2012	2:40 PM	01-B011-04	Primary	12 - 12.5	11.3	12.6
East Canal/Bldg T-1451 Area	SB-012	5/25/2012	3:00 PM	01-B012-01	Primary	1 - 2	**4,923**	315
East Canal/Bldg T-1451 Area	SB-012	5/25/2012	3:05 PM	01-B012-02	Primary	3 - 4	**32,578**	1,472
East Canal/Bldg T-1451 Area	SB-012	5/25/2012	3:10 PM	01-B012-03	Primary	4.5 - 5.5	**4,296**	233
East Canal/Bldg T-1451 Area	SB-012	5/25/2012	3:15 PM	01-B012-04	Primary	9 - 10	15.7	17.8
East Canal/Bldg T-1451 Area	SB-013	5/25/2012	3:40 PM	01-B013-01	Primary	1 - 2	**947**	139
East Canal/Bldg T-1451 Area	SB-013	5/25/2012	3:50 PM	01-B013-02	Primary	3 - 4	**9,695**	354
East Canal/Bldg T-1451 Area	SB-013	5/25/2012	3:55 PM	01-B013-03	Primary	4.5 - 5.5	9.2	4.8
East Canal/Bldg T-1451 Area	SB-013	5/25/2012	3:57 PM	01-B013-04	Primary	7 - 8	9.6	7.4
East Canal/Bldg T-1451 Area	SB-013	5/25/2012	4:00 PM	01-B013-05	Duplicate	7 - 8	7.7	3.9
East Canal/Bldg T-1451 Area	SB-014	5/25/2012	4:25 PM	01-B014-01	Primary	1 - 2	13.7	9.0
East Canal/Bldg T-1451 Area	SB-014	5/25/2012	4:30 PM	01-B014-02	Primary	2 - 3	**26,737**	661
East Canal/Bldg T-1451 Area	SB-014	5/25/2012	4:32 PM	01-B014-03	Primary	4.5 - 5.5	**30,831**	812
East Canal/Bldg T-1451 Area	SB-014	5/25/2012	4:40 PM	01-B014-04	Primary	7 - 8	7.8	5.7
East Canal/Bldg T-1451 Area	SB-015	5/25/2012	5:15 PM	01-B015-01	Primary	1 - 2	24.6	142
East Canal/Bldg T-1451 Area	SB-015	5/25/2012	5:20 PM	01-B015-02	Primary	3 - 4	**24,485**	364
East Canal/Bldg T-1451 Area	SB-015	5/25/2012	5:25 PM	01-B015-03	Primary	4.5 - 5.5	**38,409**	926
East Canal/Bldg T-1451 Area	SB-015	5/25/2012	5:30 PM	01-B015-04	Primary	6 - 7	33.0	5.1
East Canal/Bldg T-1451 Area	SB-016	5/26/2012	8:50 AM	01-B016-01	Primary	1 - 2	**5,218**	200
East Canal/Bldg T-1451 Area	SB-016	5/26/2012	8:55 AM	01-B016-02	Duplicate	1 - 2	**5,049**	253
East Canal/Bldg T-1451 Area	SB-016	5/26/2012	8:57 AM	01-B016-03	Primary	4 - 5	**36,898**	890
East Canal/Bldg T-1451 Area	SB-016	5/26/2012	9:00 AM	01-B016-04	Primary	5.5 - 6.5	91.6	10.1
East Canal/Bldg T-1451 Area	SB-016	5/26/2012	9:05 AM	01-B016-05	Primary	8 - 9	21.9	19.2
East Canal/Bldg T-1451 Area	SB-016	5/26/2012	9:09 AM	01-B016-06	Primary	11.5 - 12.5	18.1	18.9
East Canal/Bldg T-1451 Area	SB-017	5/26/2012	9:30 AM	01-B017-01	Primary	1 - 2	9.9	19.4
East Canal/Bldg T-1451 Area	SB-017	5/26/2012	9:34 AM	01-B017-02	Primary	3 - 4	8.8	9.5
East Canal/Bldg T-1451 Area	SB-017	5/26/2012	9:41 AM	01-B017-03	Primary	7.5 - 8.5	7.7	5.9

Table 4-1 Soil Boring DRO and RRO Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (AK102) (mg/kg)	RRO (AK103) (mg/kg)
East Canal/Bldg T-1451 Area	SB-018	5/26/2012	10:06 AM	01-B018-01	Primary	1 - 2	8.1	10.0
East Canal/Bldg T-1451 Area	SB-018	5/26/2012	10:09 AM	01-B018-02	Primary	3 - 4	10.0	12.1
East Canal/Bldg T-1451 Area	SB-018	5/26/2012	10:15 AM	01-B018-03	Primary	5 - 6	**301**	64.6
East Canal/Bldg T-1451 Area	SB-019	5/26/2012	10:40 AM	01-B019-01	Primary	1 - 2	**9,772**	249
East Canal/Bldg T-1451 Area	SB-019	5/26/2012	10:44 AM	01-B019-02	Primary	2 - 3	**16,718**	349
East Canal/Bldg T-1451 Area	SB-019	5/26/2012	10:45 AM	01-B019-03	Duplicate	2 - 3	**17,738**	342
East Canal/Bldg T-1451 Area	SB-019	5/26/2012	10:50 AM	01-B019-04	Primary	4 - 5	0.00	0.00
East Canal/Bldg T-1451 Area	SB-019	5/26/2012	10:55 AM	01-B019-05	Primary	5 - 6	41.3	9.6
East Canal/Bldg T-1451 Area	SB-020	5/26/2012	11:30 AM	01-B020-01	Primary	0.5 - 1.5	18.6	40.4
East Canal/Bldg T-1451 Area	SB-020	5/26/2012	11:31 AM	01-B020-02	Primary	2 - 3	**18,053**	511
East Canal/Bldg T-1451 Area	SB-020	5/26/2012	11:34 AM	01-B020-03	Duplicate	4 - 5	**21,075**	400
East Canal/Bldg T-1451 Area	SB-020	5/26/2012	11:35 AM	01-B020-04	Primary	4 - 5	**22,964**	415
East Canal/Bldg T-1451 Area	SB-020	5/26/2012	11:45 AM	01-B020-05	Primary	6 - 7	9.2	4.7
East Canal/Bldg T-1451 Area	SB-020	5/26/2012	11:46 AM	01-B020-06	Primary	9 - 10	7.1	3.7
East Canal/Bldg T-1451 Area	SB-021	5/28/2012	8:55 AM	01-B021-01	Primary	0.5 - 1.5	26.3	78.3
East Canal/Bldg T-1451 Area	SB-021	5/28/2012	9:00 AM	01-B021-02	Primary	2.5 - 3.5	**21,763**	815
East Canal/Bldg T-1451 Area	SB-021	5/28/2012	9:03 AM	01-B021-03	Duplicate	2.5 - 3.5	**19,871**	492
East Canal/Bldg T-1451 Area	SB-021	5/28/2012	9:05 AM	01-B021-04	Primary	4 - 5	**446**	18.6
East Canal/Bldg T-1451 Area	SB-021	5/28/2012	9:10 AM	01-B021-05	Primary	7.5 - 8.5	22.5	13.7
East Canal/Bldg T-1451 Area	SB-022	5/28/2012	9:40 AM	01-B022-01	Primary	0.5 - 1.5	44.4	92.4
East Canal/Bldg T-1451 Area	SB-022	5/28/2012	9:45 AM	01-B022-02	Primary	4 - 5	**26,878**	481
East Canal/Bldg T-1451 Area	SB-022	5/28/2012	9:50 AM	01-B022-03	Primary	5 - 6	**3,617**	89.3
East Canal/Bldg T-1451 Area	SB-022	5/28/2012	9:55 AM	01-B022-04	Primary	6.5 - 7.5	21.1	9.04
East Canal/Bldg T-1451 Area	SB-023	5/28/2012	10:20 AM	01-B023-01	Primary	1 - 2	**505**	849
East Canal/Bldg T-1451 Area	SB-023	5/28/2012	10:25 AM	01-B023-02	Primary	3 - 4	10.1	7.1
East Canal/Bldg T-1451 Area	SB-023	5/28/2012	10:30 AM	01-B023-03	Duplicate	3 - 4	7.9	5.9
East Canal/Bldg T-1451 Area	SB-023	5/28/2012	10:35 AM	01-B023-04	Primary	5 - 6	9.4	8.0
East Canal/Bldg T-1451 Area	SB-024	5/28/2012	11:05 AM	01-B024-01	Primary	1 - 2	8.0	10.2
East Canal/Bldg T-1451 Area	SB-024	5/28/2012	11:08 AM	01-B024-02	Primary	2.5 - 3.5	**11,633**	356
East Canal/Bldg T-1451 Area	SB-024	5/28/2012	11:12 AM	01-B024-03	Primary	4 - 5	**9,417**	263
East Canal/Bldg T-1451 Area	SB-024	5/28/2012	11:17 AM	01-B024-04	Primary	6 - 7	10.3	52.6
East Canal/Bldg T-1451 Area	SB-025	5/28/2012	2:15 PM	01-B025-01	Primary	1.5 - 2.5	**1,075**	74.9
East Canal/Bldg T-1451 Area	SB-025	5/28/2012	2:18 PM	01-B025-02	Primary	3.5 - 4.5	**2,115**	172
East Canal/Bldg T-1451 Area	SB-025	5/28/2012	2:20 PM	01-B025-03	Duplicate	3.5 - 4.5	**2,709**	91.5
East Canal/Bldg T-1451 Area	SB-025	5/28/2012	2:25 PM	01-B025-04	Primary	5 - 6	**586**	45.5
East Canal/Bldg T-1451 Area	SB-025	5/28/2012	2:30 PM	01-B025-05	Primary	6.5 - 7.5	49.6	12.4
East Canal/Bldg T-1451 Area	SB-026	5/28/2012	2:47 PM	01-B026-01	Primary	1 - 2	**267**	41.9
East Canal/Bldg T-1451 Area	SB-026	5/28/2012	2:49 PM	01-B026-02	Primary	2 - 3	**13,465**	202
East Canal/Bldg T-1451 Area	SB-026	5/28/2012	2:52 PM	01-B026-03	Primary	3.5 - 4.5	**22,331**	477
East Canal/Bldg T-1451 Area	SB-026	5/28/2012	2:57 PM	01-B026-04	Primary	5 - 6	16.6	4.0
East Canal/Bldg T-1451 Area	SB-027	5/28/2012	3:20 PM	01-B027-01	Primary	2 - 3	19.6	42.0
East Canal/Bldg T-1451 Area	SB-027	5/28/2012	3:22 PM	01-B027-02	Primary	4 - 5	11.1	3.9
East Canal/Bldg T-1451 Area	SB-027	5/28/2012	3:28 PM	01-B027-03	Primary	5 - 6	**2,736**	60.4

Table 4-1 Soil Boring DRO and RRO Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (AK102) (mg/kg)	RRO (AK103) (mg/kg)
East Canal/Bldg T-1451 Area	SB-027	5/28/2012	3:30 PM	01-B027-04	Primary	7.5 - 8.5	74.4	7.80
East Canal/Bldg T-1451 Area	SB-028	5/28/2012	3:45 PM	01-B028-01	Primary	0.5 - 1.5	**279**	844
East Canal/Bldg T-1451 Area	SB-028	5/28/2012	3:50 PM	01-B028-02	Primary	2.5 - 3.5	**18,040**	198
East Canal/Bldg T-1451 Area	SB-028	5/28/2012	3:52 PM	01-B028-03	Duplicate	2.5 - 3.5	**18,575**	321
East Canal/Bldg T-1451 Area	SB-028	5/28/2012	3:55 PM	01-B028-04	Primary	4 - 5	**27,050**	166
East Canal/Bldg T-1451 Area	SB-028	5/28/2012	4:05 PM	01-B028-05	Primary	6 - 7	12.5	9.1
East Canal/Bldg T-1451 Area	SB-028	5/28/2012	4:15 PM	01-B028-06	Primary	9 - 10	14.5	3.9
East Canal/Bldg T-1451 Area	SB-029	5/29/2012	9:00 AM	01-B029-01	Primary	1 - 2	9.4	15.9
East Canal/Bldg T-1451 Area	SB-029	5/29/2012	9:10 AM	01-B029-02	Primary	3 - 4	14.5	8.9
East Canal/Bldg T-1451 Area	SB-029	5/29/2012	9:30 AM	01-B029-03	Primary	5.5 - 6.5	25.7	4.6
East Canal/Bldg T-1451 Area	SB-029	5/29/2012	9:32 AM	01-B029-04	Duplicate	5.5 - 6.5	28.7	2.1
East Canal/Bldg T-1451 Area	SB-029	5/29/2012	9:35 AM	01-B029-05	Primary	7 - 8	4.2	3.0
East Canal/Bldg T-1451 Area	SB-030	5/29/2012	10:50 AM	01-B030-01	Primary	1 - 2	18.5	14.8
East Canal/Bldg T-1451 Area	SB-030	5/29/2012	10:55 AM	01-B030-02	Primary	3.5 - 4.5	16.6	11.1
East Canal/Bldg T-1451 Area	SB-030	5/29/2012	11:05 AM	01-B030-03	Primary	4 - 5	**288**	15.0
East Canal/Bldg T-1451 Area	SB-030	5/29/2012	11:10 AM	01-B030-04	Primary	8 - 9	4.7	3.9
East Canal/Bldg T-1451 Area	SB-031	5/29/2012	11:35 AM	01-B031-01	Primary	1 - 2	16.4	10.5
East Canal/Bldg T-1451 Area	SB-031	5/29/2012	11:40 AM	01-B031-02	Primary	3.5 - 4.5	139	11.0
East Canal/Bldg T-1451 Area	SB-031	5/29/2012	11:50 AM	01-B031-03	Primary	5.5 - 6.5	88.9	8.0
East Canal/Bldg T-1451 Area	SB-031	5/29/2012	11:52 AM	01-B031-04	Duplicate	5.5 - 6.5	40.5	10.0
East Canal/Bldg T-1451 Area	SB-031	5/29/2012	11:55 AM	01-B031-05	Primary	9 - 10	7.8	3.2
East Canal/Bldg T-1451 Area	SB-032	6/1/2012	5:00 PM	01-B032-01	Primary	0.5 - 1	**14422**	7849
East Canal/Bldg T-1451 Area	SB-032	6/1/2012	5:05 PM	01-B032-02	Primary	1 - 2	**33732**	599
East Canal/Bldg T-1451 Area	SB-032	6/1/2012	5:10 PM	01-B032-03	Primary	3 - 4	**745**	35.3
East Canal/Bldg T-1451 Area	SB-032	6/1/2012	5:15 PM	01-B032-04	Duplicate	3 - 4	**891**	23.0
East Canal/Bldg T-1451 Area	SB-032	6/1/2012	5:16 PM	01-B032-05	Primary	5 - 6	12.0	8.9
East Canal/Bldg T-1451 Area	SB-032	6/1/2012	5:18 PM	01-B032-06	Primary	6 - 7	21.2	7.4
East Canal/Bldg T-1451 Area	SB-033	6/1/2012	5:25 PM	01-B033-01	Primary	1 - 2	9.1	7.5
East Canal/Bldg T-1451 Area	SB-033	6/1/2012	5:30 PM	01-B033-02	Primary	2 - 3	12.8	6.2
East Canal/Bldg T-1451 Area	SB-033	6/1/2012	5:35 PM	01-B033-03	Primary	3 - 4	10.4	5.3
East Canal/Bldg T-1451 Area	SB-033	6/1/2012	5:37 PM	01-B033-04	Primary	4 - 5	14.6	11.5
East Canal/Bldg T-1451 Area	SB-033	6/1/2012	5:45 PM	01-B033-05	Primary	5 - 6	10.2	6.7
East Canal/Bldg T-1451 Area	SB-034	6/1/2012	5:54 PM	01-B034-01	Primary	1 - 2	12.7	13.8
East Canal/Bldg T-1451 Area	SB-034	6/1/2012	5:56 PM	01-B034-02	Primary	2 - 3	5.4	5.0
East Canal/Bldg T-1451 Area	SB-034	6/1/2012	5:58 PM	01-B034-03	Primary	3 - 4	9.7	7.5
East Canal/Bldg T-1451 Area	SB-034	6/1/2012	6:00 PM	01-B034-04	Duplicate	3 - 4	6.6	6.4
East Canal/Bldg T-1451 Area	SB-034	6/1/2012	6:02 PM	01-B034-05	Primary	4 - 5	9.5	10.1
East Canal/Bldg T-1451 Area	SB-035	6/2/2012	9:08 AM	01-B035-01	Primary	1 - 2	8.4	7.6
East Canal/Bldg T-1451 Area	SB-035	6/2/2012	9:10 AM	01-B035-02	Primary	2 - 3	11.1	7.0
East Canal/Bldg T-1451 Area	SB-035	6/2/2012	9:12 AM	01-B035-03	Primary	3.5 - 4.5	6.8	3.9
East Canal/Bldg T-1451 Area	SB-035	6/2/2012	9:21 AM	01-B035-04	Primary	8.5 - 9.5	8.0	4.3
East Canal/Bldg T-1451 Area	SB-035	6/2/2012	9:23 AM	01-B035-05	Duplicate	8.5 - 9.5	19.4	6.4
East Canal/Bldg T-1451 Area	SB-036	6/2/2012	9:33 AM	01-B036-01	Primary	0.5 - 1.5	11.4	29.6

Table 4-1 Soil Boring DRO and RRO Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (AK102) (mg/kg)	RRO (AK103) (mg/kg)
East Canal/Bldg T-1451 Area	SB-036	6/2/2012	9:35 AM	01-B036-02	Primary	2 - 3	**8,084**	152
East Canal/Bldg T-1451 Area	SB-036	6/2/2012	9:40 AM	01-B036-03	Primary	4 - 5	**32,178**	467
East Canal/Bldg T-1451 Area	SB-036	6/2/2012	9:47 AM	01-B036-04	Primary	5 - 6	12.9	4.3
East Canal/Bldg T-1451 Area	SB-036	6/2/2012	9:50 AM	01-B036-05	Primary	8 - 9	11.8	7.8
East Canal/Bldg T-1451 Area	SB-036	6/2/2012	9:55 AM	01-B036-06	Primary	10.5 - 11.5	11.0	13.4
East Canal/Bldg T-1451 Area	SB-036	6/2/2012	9:57 AM	01-B036-07	Primary	11.5 - 12	12.0	5.8
East Canal/Bldg T-1451 Area	SB-037	6/2/2012	10:10 AM	01-B037-01	Primary	1 - 2	14.8	45.8
East Canal/Bldg T-1451 Area	SB-037	6/2/2012	10:12 AM	01-B037-02	Primary	2.5 - 3.5	**787**	15.3
East Canal/Bldg T-1451 Area	SB-037	6/2/2012	10:15 AM	01-B037-03	Primary	4.5 - 5	10.2	7.4
East Canal/Bldg T-1451 Area	SB-037	6/2/2012	10:20 AM	01-B037-04	Primary	5 - 6	13.2	6.3
East Canal/Bldg T-1451 Area	SB-037	6/2/2012	10:23 AM	01-B037-05	Primary	7 - 8	6.4	4.1
East Canal/Bldg T-1451 Area	SB-037	6/2/2012	10:25 AM	01-B037-06	Duplicate	7 - 8	12.0	4.5
East Canal/Bldg T-1451 Area	SB-038	6/2/2012	10:38 AM	01-B038-01	Primary	1 - 2	7.2	6.4
East Canal/Bldg T-1451 Area	SB-038	6/2/2012	10:40 AM	01-B038-02	Primary	2 - 3	12.6	4.7
East Canal/Bldg T-1451 Area	SB-038	6/2/2012	10:42 AM	01-B038-03	Primary	4 - 5	6.6	4.0
East Canal/Bldg T-1451 Area	SB-038	6/2/2012	10:50 AM	01-B038-04	Primary	6.5 - 7.5	10.7	6.7
East Canal/Bldg T-1451 Area	SB-038	6/2/2012	10:52 AM	01-B038-05	Primary	9 - 10	5.3	3.5
East Canal/Bldg T-1451 Area	SB-039	6/2/2012	11:05 AM	01-B039-01	Primary	1 - 2	7.9	9.3
East Canal/Bldg T-1451 Area	SB-039	6/2/2012	11:07 AM	01-B039-02	Primary	2 - 3	9.0	3.9
East Canal/Bldg T-1451 Area	SB-039	6/2/2012	11:10 AM	01-B039-03	Primary	4 - 5	7.6	4.4
East Canal/Bldg T-1451 Area	SB-039	6/2/2012	11:25 AM	01-B039-04	Primary	5 - 6	5.9	4.1
East Canal/Bldg T-1451 Area	SB-039	6/2/2012	11:27 AM	01-B039-05	Primary	9 - 10	7.2	4.0
East Canal/Bldg T-1451 Area	SB-040	6/2/2012	11:37 AM	01-B040-01	Primary	1 - 2	9.6	17.2
East Canal/Bldg T-1451 Area	SB-040	6/2/2012	11:40 AM	01-B040-02	Primary	2.5 - 3.5	8.2	5.8
East Canal/Bldg T-1451 Area	SB-040	6/2/2012	11:42 AM	01-B040-03	Primary	4 - 5	6.1	4.2
East Canal/Bldg T-1451 Area	SB-040	6/2/2012	11:45 AM	01-B040-04	Duplicate	4 - 5	7.8	4.7
East Canal/Bldg T-1451 Area	SB-040	6/2/2012	11:50 AM	01-B040-05	Primary	5 - 6	5.0	4.0
East Canal/Bldg T-1451 Area	SB-040	6/2/2012	11:52 AM	01-B040-06	Primary	7 - 8	6.9	4.2
East Canal/Bldg T-1451 Area	SB-041	6/2/2012	1:45 PM	01-B041-01	Primary	1 - 2	45.4	229
East Canal/Bldg T-1451 Area	SB-041	6/2/2012	1:47 PM	01-B041-02	Primary	2.5 - 3.5	11.0	27.2
East Canal/Bldg T-1451 Area	SB-041	6/2/2012	1:50 PM	01-B041-03	Primary	4 - 5	8.0	8.1
East Canal/Bldg T-1451 Area	SB-041	6/2/2012	1:58 PM	01-B041-04	Primary	5 - 6	7.1	7.4
East Canal/Bldg T-1451 Area	SB-041	6/2/2012	2:00 PM	01-B041-05	Primary	7 - 8	6.5	3.5
East Canal/Bldg T-1451 Area	SB-042	6/2/2012	2:10 PM	01-B042-01	Primary	1 - 2	23.4	117
East Canal/Bldg T-1451 Area	SB-042	6/2/2012	2:12 PM	01-B042-02	Primary	2.5 - 3.5	15.8	5.3
East Canal/Bldg T-1451 Area	SB-042	6/2/2012	2:15 PM	01-B042-03	Primary	3.5 - 4.5	**38,244**	531
East Canal/Bldg T-1451 Area	SB-042	6/2/2012	2:20 PM	01-B042-04	Primary	5 - 6	14.5	5.5
East Canal/Bldg T-1451 Area	SB-042	6/2/2012	2:22 PM	01-B042-05	Primary	9 - 10	7.4	9.3
East Canal/Bldg T-1451 Area	SB-042	6/2/2012	2:23 PM	01-B042-06	Duplicate	9 - 10	9.9	2.7
East Canal/Bldg T-1451 Area	SB-043	6/2/2012	2:30 PM	01-B043-01	Primary	1 - 2	9.6	39.7
East Canal/Bldg T-1451 Area	SB-043	6/2/2012	2:33 PM	01-B043-02	Primary	2.5 - 3.5	10.0	3.5
East Canal/Bldg T-1451 Area	SB-043	6/2/2012	2:35 PM	01-B043-03	Primary	4 - 5	7.7	2.9
East Canal/Bldg T-1451 Area	SB-043	6/2/2012	2:40 PM	01-B043-04	Primary	5 - 6	7.6	2.1

Table 4-1 Soil Boring DRO and RRO Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (AK102) (mg/kg)	RRO (AK103) (mg/kg)
East Canal/Bldg T-1451 Area	SB-044	6/2/2012	2:55 PM	01-B044-01	Primary	1 - 2	7.7	4.4
East Canal/Bldg T-1451 Area	SB-044	6/2/2012	2:56 PM	01-B044-02	Primary	2.5 - 3.5	**40,886**	572
East Canal/Bldg T-1451 Area	SB-044	6/2/2012	2:57 PM	01-B044-03	Primary	4 - 5	**35,967**	484
East Canal/Bldg T-1451 Area	SB-044	6/2/2012	3:02 PM	01-B044-04	Primary	5 - 6	36.5	1.5
East Canal/Bldg T-1451 Area	SB-044	6/2/2012	3:05 PM	01-B044-05	Primary	9 - 10	6.0	2.6
East Canal/Bldg T-1451 Area	SB-044	6/2/2012	3:08 PM	01-B044-06	Primary	10 - 11	101	1.7
East Canal/Bldg T-1451 Area	SB-045	6/2/2012	3:15 PM	01-B045-01	Primary	1 - 2	28.3	140
East Canal/Bldg T-1451 Area	SB-045	6/2/2012	3:17 PM	01-B045-02	Primary	2.5 - 3.5	6.5	9.9
East Canal/Bldg T-1451 Area	SB-045	6/2/2012	3:19 PM	01-B045-03	Primary	4 - 5	**6,776**	91.8
East Canal/Bldg T-1451 Area	SB-045	6/2/2012	3:20 PM	01-B045-04	Duplicate	4 - 5	**7,248**	133
East Canal/Bldg T-1451 Area	SB-045	6/2/2012	3:25 PM	01-B045-05	Primary	5 - 6	18.6	3.0
East Canal/Bldg T-1451 Area	SB-045	6/2/2012	3:30 PM	01-B045-06	Primary	6 - 7	6.2	2.7
East Canal/Bldg T-1451 Area	SB-046	6/2/2012	3:35 PM	01-B046-01	Primary	1 - 2	10.7	31.7
East Canal/Bldg T-1451 Area	SB-046	6/2/2012	3:38 PM	01-B046-02	Primary	2.5 - 3.5	7.4	5.6
East Canal/Bldg T-1451 Area	SB-046	6/2/2012	3:40 PM	01-B046-03	Primary	4 - 5	7.0	3.5
East Canal/Bldg T-1451 Area	SB-046	6/2/2012	3:45 PM	01-B046-04	Duplicate	4 - 5	5.3	4.0
East Canal/Bldg T-1451 Area	SB-046	6/2/2012	3:51 PM	01-B046-05	Primary	5 - 6	6.1	3.8
East Canal/Bldg T-1451 Area	SB-046	6/2/2012	3:53 PM	01-B046-06	Primary	6 - 7	6.8	2.8
East Canal/Bldg T-1451 Area	SB-047	6/4/2012	2:57 PM	01-B047-01	Primary	3.3 - 5.3	**19,941**	403
East Canal/Bldg T-1451 Area	SB-048	6/4/2012	3:40 PM	01-B048-01	Primary	5.7 - 7.7	**7,920**	604
East Canal/Bldg T-1451 Area	SB-049	6/4/2012	4:16 PM	01-B049-01	Primary	3.4 - 5.4	**31,691**	584
East Canal/Bldg T-1451 Area	SB-050	6/4/2012	4:50 PM	01-B050-01	Primary	2.1 - 4.1	**27,026**	553
East Canal/Bldg T-1451 Area	SB-051	6/4/2012	5:15 PM	01-B051-01	Primary	2.4 - 4.4	**49,371**	788
East Canal/Bldg T-1451 Area	SB-052	6/4/2012	5:40 PM	01-B052-01	Primary	2.3 - 4.3	**410**	41.5

Notes:
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
ADEC = Alaska Department of Environmental Conservation
AK = Alaska
B = soil boring sample identification
DRO = Diesel Range Organics
mg/kg = milligrams per kilogram
RRO = Residual Range Organics
QC = quality control
SB = Soil boring

Table 4-2 Soil Boring DRO Soil Data from Fixed Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date and Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (C10<C25)		
						Result (mg/kg)	Flag	Detection Limit (mg/kg)
East Canal/Bldg T-1451 Area	SB-001	5/20/2012 8:50:00 AM	01-SB001	Primary	4 - 5	8		2.8
East Canal/Bldg T-1451 Area	SB-001	5/20/2012 9:02:00 AM	01-SB002	Primary	5 - 6	8.3		2.9
East Canal/Bldg T-1451 Area	SB-002	5/20/2012 9:35:00 AM	01-SB003	Primary	4 - 5	**2900**		2.7
East Canal/Bldg T-1451 Area	SB-002	5/20/2012 9:40:00 AM	01-SB004	Primary	5 - 6	3.9		2.9
East Canal/Bldg T-1451 Area	SB-002	5/20/2012 9:50:00 AM	01-SB005	Primary	11.5 - 12.5	8		2.8
East Canal/Bldg T-1451 Area	SB-003	5/20/2012 10:20:00 AM	01-SB006	Primary	5 - 6	230		2.8
East Canal/Bldg T-1451 Area	SB-003	5/20/2012 10:30:00 AM	01-SB007	Primary	8 - 9	8.2		2.9
East Canal/Bldg T-1451 Area	SB-003	5/20/2012 10:35:00 AM	01-SB008	Primary	14 - 15	8.3		2.9
East Canal/Bldg T-1451 Area	SB-004	5/20/2012 11:10:00 AM	01-SB009	Primary	2.5 - 3.5	82		2.5
East Canal/Bldg T-1451 Area	SB-004	5/20/2012 11:10:00 AM	01-SB009	Primary	2.5 - 3.5	81	R	2.5
East Canal/Bldg T-1451 Area	SB-004	5/20/2012 12:00:00 PM	01-SB010	Duplicate	2.5 - 3.5	**26000**	R	12
East Canal/Bldg T-1451 Area	SB-004	5/20/2012 11:20:00 AM	01-SB011	Primary	4 - 5	**21000**		14
East Canal/Bldg T-1451 Area	SB-004	5/20/2012 11:25:00 AM	01-SB012	Primary	9 - 10	7.9		2.8
East Canal/Bldg T-1451 Area	SB-005	5/20/2012 12:05:00 PM	01-SB013	Primary	3.5 - 5	11		2.5
East Canal/Bldg T-1451 Area	SB-005	5/20/2012 12:10:00 PM	01-SB014	Primary	5 - 6	**34000**	R	15
East Canal/Bldg T-1451 Area	SB-005	5/20/2012 1:00:00 PM	01-SB015	Duplicate	5 - 6	97	R	2.6
East Canal/Bldg T-1451 Area	SB-006	5/20/2012 2:05:00 PM	01-SB016	Primary	4 - 6	**27000**		13
East Canal/Bldg T-1451 Area	SB-006	5/20/2012 2:10:00 PM	01-SB017	Primary	9 - 10	8.1		2.9
East Canal/Bldg T-1451 Area	SB-010	5/25/2012 11:26:00 AM	01-SB018	Primary	7.5 - 9	2.7	J	2.7
East Canal/Bldg T-1451 Area	SB-011	5/25/2012 2:25:00 PM	01-SB019	Primary	3 - 4	**11000**		12
East Canal/Bldg T-1451 Area	SB-015	5/25/2012 5:20:00 PM	01-SB020	Primary	3 - 4	**25000**		12
East Canal/Bldg T-1451 Area	SB-016	5/26/2012 8:50:00 AM	01-SB021	Primary	1 - 2	**5200**		2.5
East Canal/Bldg T-1451 Area	SB-019	5/26/2012 10:50:00 AM	01-SB022	Primary	4 - 5	**18000**		13
East Canal/Bldg T-1451 Area	SB-020	5/26/2012 11:34:00 AM	01-SB023	Primary	4 - 5	**20000**		13
East Canal/Bldg T-1451 Area	SB-022	5/28/2012 9:45:00 AM	01-SB024	Primary	4 - 5	**25000**		12
East Canal/Bldg T-1451 Area	SB-024	5/28/2012 11:12:00 AM	01-SB025	Primary	4 - 5	**12000**		12
East Canal/Bldg T-1451 Area	SB-026	5/28/2012 2:57:00 PM	01-SB026	Primary	5 - 6	7	J	2.9
East Canal/Bldg T-1451 Area	SB-028	5/28/2012 3:50:00 PM	01-SB027	Primary	4 - 5	**42000**		27
East Canal/Bldg T-1451 Area	SB-028	5/28/2012 4:30:00 PM	01-SB028	Duplicate	4 - 5	**65000**		25
East Canal/Bldg T-1451 Area	SB-030	5/29/2012 11:05:00 AM	01-SB029	Primary	4 - 5	85		2.9
East Canal/Bldg T-1451 Area	SB-033	6/1/2012 5:37:00 PM	01-SB030	Primary	4 - 5	15	J	1.4
East Canal/Bldg T-1451 Area	SB-036	6/2/2012 9:35:00 AM	01-SB031	Primary	2 - 3	**3800**		1.3
East Canal/Bldg T-1451 Area	SB-039	6/2/2012 11:07:00 AM	01-SB032	Primary	2 - 3	3.1	J	1.3
East Canal/Bldg T-1451 Area	SB-042	6/2/2012 2:15:00 PM	01-SB033	Primary	3.5 - 4.5	**11000**		6.4
East Canal/Bldg T-1451 Area	SB-044	6/2/2012 2:56:00 PM	01-SB034	Primary	2.5 - 3.5	**31000**		12
East Canal/Bldg T-1451 Area	SB-044	6/2/2012 3:08:00 PM	01-SB035	Primary	9 - 10	110		1.6
East Canal/Bldg T-1451 Area	SB-046	6/2/2012 3:38:00 PM	01-SB036	Primary	2.5 - 3.5	3.4	J	1.3
East Canal/Bldg T-1451 Area	SB-046	6/2/2012 4:00:00 PM	01-SB037	Duplicate	2.5 - 3.5	1.9	J	1.3
East Canal/Bldg T-1451 Area	SB-047	6/4/2012 3:15:00 PM	01-SB038	Primary	3.3 - 5.3	**29000**		28
East Canal/Bldg T-1451 Area	SB-048	6/4/2012 3:40:00 PM	01-SB039	Primary	5.7 - 7.7	**4900**	J	3
East Canal/Bldg T-1451 Area	SB-049	6/4/2012 4:16:00 PM	01-SB040	Primary	3.4 - 5.4	**23000**		27

Table 4-2 Soil Boring DRO Soil Data from Fixed Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date and Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (C10<C25)		
						Result (mg/kg)	Flag	Detection Limit (mg/kg)
East Canal/Bldg T-1451 Area	SB-050	6/4/2012 4:50:00 PM	01-SB041	Primary	2.1 - 4.1	**19000**		27
East Canal/Bldg T-1451 Area	SB-051	6/4/2012 5:15:00 PM	01-SB042	Primary	2.4 - 4.4	**38000**		27
East Canal/Bldg T-1451 Area	SB-052	6/4/2012 5:40:00 PM	01-SB043	Primary	2.3 - 4.3	**660**	J	2.6

Notes:
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
ADEC = Alaska Department of Environmental Conservation
AK = Alaska
DRO = Diesel Range Organics
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
mg/kg = milligrams per kilogram
QC = quality control
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
The presence or absence of the analyte cannot be verified.
SB = soil boring number/sample identification

4.3 Excavation and Overburden Stockpile Sampling

A total of 88 primary and 11 field duplicate samples were collected from the overburden soil stockpile and analyzed for DRO by the mobile laboratory. A total of 12 primary and three field duplicate soil samples were collected from the overburden stockpile and submitted to the fixed base laboratory for DRO analysis. Nine soil samples were analyzed by the mobile laboratory and one soil sample was analyzed by the fixed project laboratory from soil collected from the contaminated stockpile.

4.4 Overburden Soil Sample Findings

Five clean stockpile soil samples submitted to the mobile laboratory had results greater than the ADEC Method Two, Over 40 inch, Migration to Groundwater cleanup level of 230 mg/kg for DRO. The results varied from 243 mg/kg (01-EX103-01) to 677 mg/kg (01-EX116-01). Approximately 20 cy of impacted soil was removed from the clean stockpile and placed into the contaminated stockpile. The area where the impacted soil was removed was field screened and resampled with five confirmation soil samples submitted to the mobile lab for DRO analysis. Sample results indicated no residual contamination remained in the overburden stockpile. Soil sample results from the mobile laboratory for samples collected from the overburden stockpile in the East Canal/Building T-1451 Area are provided in Table 4-3.

One soil sample (01-EX015) collected from the overburden stockpile and analyzed for DRO by the fixed project laboratory had a result of 450 mg/kg, above the ADEC soil cleanup level for DRO. Soil sample 01-EX015 was collected at the same location as soil sample 01-EX065-01 that was submitted to the mobile laboratory for DRO analysis. Soil sample 01-EX065-01 had a DRO result of 95 mg/kg. The contaminated soil was not able to be removed as the soil had been placed as backfill based on the mobile laboratory sample result. The difference in the fixed laboratory result greater than the ADEC cleanup level and the mobile result less than the cleanup level was only observed in this one instance from the 86 total soil samples submitted to the fixed base laboratory for confirmation of the mobile laboratory sample analysis results from borings and excavations. Soil sample results from the fixed project laboratory for samples collected from the overburden stockpile in the East Canal/Building T-1451 Area are provided in Table 4-4.

Soil samples were collected from the contaminated stockpile to determine if there was non-contaminated material in the contaminated soil stockpile that was possibly less than the ADEC cleanup level for DRO. All sample results from the mobile and fixed project laboratories indicated the soil was impacted at concentrations greater than the ADEC soil cleanup level of 230 mg/kg for DRO. Analytical results for soil samples collected from the contaminated stockpile are provided in Table 4-3 and Table 4-4.

A limited number of soil samples were collected from the excavation for characterization purposes of black soil observed in treatment cells #7 and #10. Two soil samples were collected from the black soil in treatment cell #7 and one from treatment cell #10. The samples were

Table 4-3 Stockpile DRO and RRO Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	DRO (AK102) Result (mg/kg)	RRO (AK103) Result (mg/kg)
Stockpile	TA-Overburden	6/11/2012	10:40 AM	01-E 030-01	Primary	73.9	154
Stockpile	TA-Overburden	6/11/2012	11:00 AM	01-E 031-01	Primary	25.7	69.2
Stockpile	TA-Overburden	6/11/2012	11:15 AM	01-E 032-01	Primary	16.6	75.4
Stockpile	TA-Overburden	6/11/2012	11:17 AM	01-E 033-01	Duplicate	13.9	37.9
Stockpile	TA-Overburden	6/11/2012	11:30 AM	01-E 034-01	Primary	13.1	62.4
Stockpile	TA-Overburden	6/11/2012	1:55 PM	01-E 035-01	Primary	23.6	72.3
Stockpile	TA-Overburden	6/11/2012	2:20 PM	01-E 036-01	Primary	116	53.0
Stockpile	TA-Overburden	6/11/2012	2:50 PM	01-E 037-01	Primary	12.1	15.8
Stockpile	TA-Overburden	6/11/2012	3:05 PM	01-E 038-01	Primary	6.2	19.4
Stockpile	TA-Overburden	6/11/2012	3:45 PM	01-E 039-01	Primary	7.3	13.3
Stockpile	TA-Overburden	6/11/2012	3:58 PM	01-E 040-01	Primary	6.0	15.8
Stockpile	TA-Overburden	6/11/2012	4:22 PM	01-E 041-01	Primary	8.2	22.4
Stockpile	TA-Overburden	6/11/2012	4:25 PM	01-E 042-01	Duplicate	7.0	22.3
Stockpile	TA-Overburden	6/11/2012	4:55 PM	01-E 043-01	Primary	9.5	17.2
Stockpile	TA-Overburden	6/11/2012	5:20 PM	01-E 044-01	Primary	11.1	18.4
Stockpile	TA-Overburden	6/11/2012	5:22 PM	01-E 045-01	Primary	9.0	15.1
Stockpile	TA-Cell-1	6/12/2012	2:16 PM	01-E 046-01	Primary	20.0	21.3
Stockpile	TA-Cell-1	6/12/2012	2:18 PM	01-E 047-01	Primary	12.9	25.9
Stockpile	TA-Cell-1	6/12/2012	2:30 PM	01-E 048-01	Primary	12.0	25.7
Stockpile	TA-Cell-1	6/12/2012	2:35 PM	01-E 049-01	Primary	12.6	30.1
Stockpile	TA-Cell-1	6/12/2012	2:37 PM	01-E 050-01	Primary	9.8	22.8
Stockpile	TA-Cell-1	6/12/2012	2:58 PM	01-E 051-01	Primary	14.0	15.1
Stockpile	TA-Cell-1	6/12/2012	3:20 PM	01-E 052-01	Primary	7.4	17.1
Stockpile	TA-Cell-1	6/12/2012	3:35 PM	01-E 053-01	Primary	16.7	8.7
Stockpile	TA-Cell-1	6/12/2012	4:00 PM	01-E 054-01	Duplicate	10.8	17.6
Stockpile	TA-Cell-1	6/12/2012	4:05 PM	01-E 055-01	Primary	24.7	9.5
Stockpile	TA-Cell-1	6/12/2012	4:30 PM	01-E 056-01	Primary	72.9	15.6
Stockpile	TA-Cell-2	6/13/2012	8:52 AM	01-E 057-01	Primary	11.3	18.3
Stockpile	TA-Cell-2	6/13/2012	9:25 AM	01-E 058-01	Primary	6.0	9.8
Stockpile	TA-Cell-2	6/13/2012	9:37 AM	01-E 059-01	Primary	11.4	16.2
Stockpile	TA-Cell-2	6/13/2012	9:57 AM	01-E 060-01	Primary	35.6	7.3
Stockpile	TA-Cell-2	6/13/2012	10:08 AM	01-E 061-01	Primary	200	11.9
Stockpile	TA-Cell-2	6/13/2012	10:10 AM	01-E 062-01	Primary	145	8.9
Stockpile	TA-Cell-2	6/13/2012	10:35 AM	01-E 063-01	Primary	79.3	7.4
Stockpile	TA-Cell-2	6/13/2012	10:37 AM	01-E 064-01	Primary	11.1	6.9
Stockpile	TA-Cell-2	6/13/2012	11:10 AM	01-E 065-01	Primary	95.9	17.0
Stockpile	TA-Cell-2	6/13/2012	11:13 AM	01-E 066-01	Primary	41.5	11.1
Stockpile	TA-Cell-2	6/13/2012	11:15 AM	01-E 067-01	Duplicate	29.2	11.8
Stockpile	TA-Cell-2	6/13/2012	11:45 AM	01-E 068-01	Primary	27.7	5.7
Stockpile	TA-Cell-2	6/13/2012	11:47 AM	01-E 069-01	Primary	69.6	10.9
Stockpile	TA-Cell-2	6/13/2012	11:50 AM	01-E 070-01	Duplicate	62.6	7.1
Stockpile	TA-Cell-2	6/13/2012	1:25 PM	01-E 071-01	Primary	18.4	29.2
Stockpile	Contam-SP	6/13/2012	4:53 PM	01-E 072-01	Primary	**9,122**	347
Stockpile	Contam-SP	6/13/2012	5:07 PM	01-E 073-01	Primary	**7,402**	175
Stockpile	TA-Cell-4	6/15/2012	9:18 AM	01-E 074-01	Primary	25.3	22.6
Stockpile	TA-Cell-4	6/15/2012	9:21 AM	01-E 075-01	Primary	17.6	12.6
Stockpile	TA-Cell-4	6/15/2012	9:37 AM	01-E 076-01	Primary	19.2	21.5
Stockpile	TA-Cell-4	6/15/2012	9:50 AM	01-E 077-01	Primary	50.4	27.0
Stockpile	TA-Cell-4	6/15/2012	10:02 AM	01-E 078-01	Primary	15.7	18.2
Stockpile	TA-Cell-4	6/15/2012	10:05 AM	01-E 079-01	Duplicate	19.0	27.5
Stockpile	TA-Cell-4	6/15/2012	10:25 AM	01-E 080-01	Primary	16.3	23.6
Stockpile	TA-Cell-4	6/15/2012	11:00 AM	01-E 081-01	Primary	42.6	24.7
Stockpile	TA-Cell-4	6/15/2012	11:05 AM	01-E 082-01	Primary	31.7	16.6
Stockpile	TA-Cell-4	6/15/2012	11:18 AM	01-E 083-01	Primary	31.2	41.0
Stockpile	TA-Cell-4	6/15/2012	11:50 AM	01-E 084-01	Primary	89.8	28.5
Stockpile	TA-Cell-4	6/15/2012	11:55 AM	01-E 085-01	Primary	153	53.9
Stockpile	TA-Cell-4	6/15/2012	12:05 PM	01-E 086-01	Primary	149	51.4
Stockpile	Contam-SP	6/15/2012	2:55 PM	01-E 087-01	Primary	131	318
Stockpile	Contam-SP	6/15/2012	2:58 PM	01-E 088-01	Primary	35.1	27.9
Stockpile	Contam-SP	6/15/2012	3:40 PM	01-E 089-01	Primary	**1,300**	180
Stockpile	Contam-SP	6/15/2012	3:43 PM	01-E 090-01	Duplicate	**1,039**	157
Stockpile	Contam-SP	6/15/2012	3:48 PM	01-E 091-01	Primary	**4,233**	241

Table 4-3 Stockpile DRO and RRO Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	DRO (AK102) Result (mg/kg)	RRO (AK103) Result (mg/kg)
Stockpile	Contam-SP	6/15/2012	3:55 PM	01-E 092-01	Primary	**37**	41.7
Stockpile	TA-Cell-5	6/15/2012	6:10 PM	01-E 093-01	Primary		
Stockpile	TA-Cell-7	6/18/2012	8:35 AM	01-E 094-01	Primary	47.1	17.5
Stockpile	TA-Cell-7	6/18/2012	8:42 AM	01-E 095-01	Primary	18.5	30.9
Stockpile	TA-Cell-7	6/18/2012	9:07 AM	01-E 097-01	Primary	91.9	39.2
Stockpile	TA-Cell-7	6/18/2012	9:18 AM	01-E 098-01	Primary	43.3	36.2
Stockpile	TA-Cell-7	6/18/2012	9:20 AM	01-E 099-01	Duplicate	27.3	38.0
Stockpile	TA-Cell-7	6/18/2012	9:25 AM	01-E 100-01	Primary	72.5	55.3
Stockpile	TA-Cell-7	6/18/2012	9:50 AM	01-E 102-01	Primary	107	95.0
Stockpile	TA-Cell-7	6/18/2012	9:52 AM	01-E 103-01	Primary	**243**	81.8
Stockpile	TA-Cell-7	6/18/2012	10:10 AM	01-E 104-01	Primary	**390**	98.6
Stockpile	TA-Cell-7	6/18/2012	10:45 AM	01-E 105-01	Primary	110	53.8
Stockpile	TA-Cell-8	6/18/2012	1:50 PM	01-E 106-01	Primary	100	17.4
Stockpile	TA-Cell-9	6/18/2012	2:17 PM	01-E 107-01	Primary	174	30.7
Stockpile	TA-Cell-10	6/18/2012	2:35 PM	01-E 108-01	Primary	**3,75**	362
Stockpile	TA-Cell-11	6/18/2012	2:47 PM	01-E 109-01	Primary	**557**	72.7
Stockpile	TA-Cell-12	6/18/2012	3:27 PM	01-E 110-01	Primary	**352**	38.8
Stockpile	Contam-SP	6/18/2012	3:38 PM	01-E 111-01	Primary	**2,790**	227
Stockpile	Contam-SP	6/18/2012	3:40 PM	01-E 112-01	Primary	**1, 95**	214
Stockpile	Contam-SP	6/18/2012	3:45 PM	01-E 113-01	Duplicate	**2,453**	222
Stockpile	TA-Cell-9	6/19/2012	9:10 AM	01-E 114-01	Primary	**452**	135
Stockpile	TA-Cell-9	6/19/2012	9:12 AM	01-E 115-01	Primary	150	55.7
Stockpile	TA-Cell-9	6/19/2012	9:47 AM	01-E 116-01	Primary	**77**	447
Stockpile	Clean-SP - Confirmation	6/19/2012	1:40 PM	01-E 117-01	Primary	89.9	24.2
Stockpile	Clean-SP - Confirmation	6/19/2012	1:42 PM	01-E 118-01	Primary	68.5	36.0
Stockpile	Clean-SP - Confirmation	6/19/2012	2:55 PM	01-E 119-01	Primary	82.8	45.9
Stockpile	Clean-SP - Confirmation	6/19/2012	2:57 PM	01-E 120-01	Primary	78.2	31.4
Stockpile	TA-Cell-10	6/20/2012	8:55 AM	01-E 121-01	Primary	25.0	24.3
Stockpile	TA-Cell-10	6/20/2012	9:52 AM	01-E 122-01	Primary	**2 4**	23.9
Stockpile	TA-Cell-10	6/20/2012	9:55 AM	01-E 123-01	Primary	188	15.1
Stockpile	TA-Cell-10	6/20/2012	10:45 AM	01-E 125-01	Primary	40.6	27.9
Stockpile	TA-Cell-10	6/20/2012	11:20 AM	01-E 126-01	Primary	97.1	32.3
Stockpile	TA-Cell-10	6/20/2012	11:22 AM	01-E 127-01	Primary	175	31.4
Stockpile	TA-Cell-10	6/20/2012	2:03 PM	01-E 128-01	Primary	32.1	12.9
Stockpile	TA-Cell-10	6/20/2012	2:05 PM	01-E 129-01	Duplicate	24.8	15.2
Stockpile	TA-Cell-11	6/20/2012	6:27 PM	01-E 130-01	Primary	92.9	54.3
Stockpile	TA-Cell-11	6/20/2012	6:30 PM	01-E 131-01	Primary	194	64.8
Stockpile	TA-Cell-12	6/21/2012	4:10 PM	01-E 132-01	Primary	33.5	15.5
Stockpile	TA-Cell-12	6/21/2012	4:12 PM	01-E 133-01	Primary	55.3	13.3
Stockpile	TA-Cell-12	6/21/2012	4:15 PM	01-E 134-01	Primary	36.1	15.4
Stockpile	TA-Cell-12	6/21/2012	5:00 PM	01-E 135-01	Primary	98.6	117
Stockpile	TA-Cell-12	6/21/2012	5:05 PM	01-E 136-01	Duplicate	112	90.0
Stockpile	TA-Cell-13	6/25/2012	11:58 AM	01-E 137-01	Primary	10.4	15.3
Stockpile	TA-Cell-14	6/25/2012	11:59 AM	01-E 138-01	Primary	10.6	14.3
Stockpile	TA-Cell-15	6/26/2012	5:23 PM	01-E 139-01	Primary	10.8	10.9
Stockpile	TA-Cell-16	6/26/2012	5:30 PM	01-E 140-01	Duplicate	16.4	32.7
Stockpile	TA-Cell-17	6/26/2012	5:32 PM	01-E 141-01	Primary	7.2	13.3
Stockpile	TA-Cell-18	6/27/2012	12:22 PM	01-E 142-01	Primary	24.8	116
Stockpile	TA-Cell-19	6/27/2012	12:31 PM	01-E 143-01	Primary	16.6	38.3

Notes:
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
ADEC = Alaska Department of Environmental Conservation
AK = Alaska
DRO = Diesel Range Organics
E = excavation soil sample
RRO = Residual Range Organics
mg/kg = milligrams per kilogram
QC = quality control
TA = sample collected from the MNA treatment area as unimpacted soil

Table 4-4 Stockpile DRO and RRO Soil Data from i ed Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date and Time	Sample Name	Sample QC Type	DRO (AK 102)		
					Result (mg/kg)	lag	Detection Limit (mg/kg)
Stockpile	Clean-SP - Confirmation	6/19/2012 2:57:00 PM	01-E 019	Primary	150	J	2.7
Stockpile	Clean-SP - Confirmation	6/19/2012 3:00:00 PM	01-E 020	Duplicate	120	J	2.6
Stockpile	TA-Cell-10	6/20/2012 2:03:00 PM	01-E 021	Primary	29	J	2.6
Stockpile	TA-Cell-12	6/21/2012 5:00:00 PM	01-E 022	Primary	140	J	2.7
Stockpile	TA-Cell-15	6/26/2012 5:23:00 PM	01-E 023	Primary	11	21	2.4
Stockpile	TA-Cell-18	6/27/2012 12:22:00 PM	01-E 024	Primary	28		2.6
Stockpile	TA-Cell-18	6/27/2012 12:25:00 PM	01-E 025	Duplicate	38		2.7
Stockpile	TA-Cell-19	6/27/2012 12:31:00 PM	01-E 026	Primary	15	21	2.4
Stockpile	Contam-SP	6/15/2012 3:55:00 PM	01-E 017	Primary	**00**		2.5
Stockpile	TA-Cell-1	6/12/2012 3:35:00 PM	01-E 013	Primary	79		2.7
Stockpile	TA-Cell-1	6/12/2012 4:00:00 PM	01-E 014	Duplicate	57		2.5
Stockpile	TA-Cell-2	6/13/2012 11:10:00 AM	01-E 015	Primary	**450**		2.7
Stockpile	TA-Cell-4	6/15/2012 10:25:00 AM	01-E 016	Primary	20	J	2.5
Stockpile	TA-Cell-7	6/18/2012 9:25:00 AM	01-E 018	Primary	66	J	2.9
Stockpile	TA-Overburden	6/11/2012 10:58:00 AM	01-E 010	Primary	130	J	3
Stockpile	TA-Overburden	6/11/2012 11:00:00 AM	01-E 011	Primary	15	J	3.9
Stockpile	TA-Overburden	6/11/2012 3:45:00 PM	01-E 012	Primary	12	J	2.6

Notes:
Result is estimated due to blank contamination - result is considered not detected at the associated reporting limit
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
ADEC = Alaska Department of Environmental Conservation
AK = Alaska
DRO = Diesel Range Organics
E = excavation soil sample identification
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
mg/kg = milligrams per kilogram
QC = quality control
SP = soil sample collected from stockpile
TA = sample collected from the MNA treatment area as unimpacted soil
= The analyte was analyzed for but was not detected above the reported sample quantitation limit.

submitted to the mobile laboratory for DRO analysis. The sample results indicated the black soils contained DRO concentrations greater than the ADEC cleanup level. The soil sample results for the samples collected from treatment cells #7 and #10 are provided in Table 4-5.

4.5 Summary and Discussion

The SI/SC activities in the East Canal/Building T-1451 Area included advancement of UVOST probes and soil borings to determine the appropriate location for the construction of the MNA treatment area. A total of 123 UVOST probes and 46 soil borings were completed in the East Canal/Building T-1451 area as part of the SI activities. UVOST data and soil sample results collected from the soil borings indicated petroleum contamination from 1-6 ft bgs in the proposed MNA treatment area. Groundwater was observed at 5 ft bgs in the majority of soil borings excluding borings closest to the canal.

The UVOST data and soil sample results from the borings were used to confine the depth of the excavation base during excavation of the contaminated soil for the construction of the MNA treatment area. The final boundaries of the proposed MNA treatment area were decided upon by the Navy and ADEC after review of four separate proposed boundary configurations. The initial boundaries were proposed to remove the greatest concentrations of contaminated soil within the 7,500 square foot (ft^2) boundary specified by the Navy. At ADEC's request, the boundaries were shifted to the north and west to include the area nearest the culverts on the western boundary of the MNA treatment area (Figure 5). It was decided to construct the MNA treatment area close to the culverts in anticipation of possible contaminant migration beyond the boundary of the treatment area through the culvert area.

Activities performed to meet the objective of reducing impacts to the water quality of the East Canal included excavation of petroleum impacted soils and construction of the MNA treatment area within the 7,500 ft^2 area approved by the Navy and ADEC in the East Canal/Building T-1451 Area. Approximately 875 cy of petroleum contaminated soil was removed from the 7,500 ft^2 area to reduce the contaminant source contributing to sheen on the surface water in the East Canal. Approximately 3,400 pounds of the OBC® chemical amendment and 1,000 pounds of wood fiber mulch were applied to the backfill material placed in the MNA treatment area excavation to potentially reduce the petroleum contaminant concentrations migrating through the groundwater and producing sheen on the surface water of the East Canal.

The project was successful in eliminating sheen on the canal from the area where the MNA treatment area was constructed. Additional UVOST data collected in the East Canal/Building T-1451 Area indicates a large petroleum contaminated source area to the east of the East Canal. Contamination is present from as shallow as 1 ft bgs to as deep as 10 ft bgs nearest to Main Road (Boring Logs, Appendix B).

4.6 Recommendations

Extensive UVOST and soil data were collected during the investigation phase of this project to determine the appropriate location of the MNA treatment area to maximize its effectiveness. Additional UVOST data were also collected to the north, south, and east of the MNA treatment area boundary to provide additional data to support delineation of the source area. However, additional soil borings and UVOST data are recommended in the East Canal/Building T-1451 Area to fully characterize the extent of the petroleum hydrocarbon source area that is impacting the groundwater and surface water quality of the East Canal. Specifically, soil borings should be advanced along both sides of Main Road extending south from the northern portion of the East Canal/Building T-1451 Area site boundary defined for the 2012 investigation (Figure 2). It is also recommended that additional soil borings and UVOST data be collected at the existing City of Adak maintenance facility (Building T-1451) to determine the extent of contamination associated with the former ASTs that supplied fuel to the former power plant inside Building T-1451.

A large source area removal action with on-site thermal treatment of the contaminated soil is one recommended method to eliminate future impacts to the East Canal due to limited borrow source material available on Adak Island. A second option would be to perform small interim removal actions with constructed MNA treatment areas along the bank of the East Canal if new stained areas develop on the bank. The area to be addressed includes the large area east of the East Canal and west of Main Road as observed on Figure 3 depicting UVOST identified areas of petroleum contamination.

Table 4-5 E ca ation DRO and RRO Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	DRO (AK102) Result (mg/kg)	RRO (AK103) Result (mg/kg)
Excavation	TA-Cell-7	6/18/2012	8:58 AM	01-E 096-01	Primary	**2, 27**	838
Excavation	TA-Cell-7	6/18/2012	9:42 AM	01-E 101-01	Primary	**1,0 2**	175
Excavation	TA-Cell-10	6/20/2012	10:38 AM	01-E 124-01	Primary	**1,521**	49.4

Notes:

bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level

ADEC = Alaska Department of Environmental Conservation

AK = Alaska

DRO = Diesel Range Organics

E = excavation soil sample identification

RRO = Residual Range Organics

mg/kg = milligrams per kilogram

QC = quality control

TA = sample collected from the MNA treatment area as unimpacted soil

5.0 EAST CANAL/BUILDING T-1451 NORTH AREA

The following sections summarize the observations and analytical results for the East Canal/Building T-1451 North Area.

5.1 Anomaly Investigation

The SOW for this task specified 25 targets would be identified and investigated (Figures 6A and 6B). The targets identified for excavation were selected by the project geophysicist based on size and shape as well as the largest EM-61 detection values. A total of 34 targets were selected with nine targets discarded based on the nature of the target as observed by the geophysics survey technician and discussed with the project geophysicist. A large area of buried flattened drums was discovered in the approximate footprint of the disturbed area depicted in the Navy provided 1977 aerial photograph. A dark liquid with a strong petroleum odor was discovered during the excavation of test pit #10 in the eastern portion of the buried drum area (Figures 6A and 6B).

5.2 Summary of Contaminant Findings

Soil samples were collected from test pit excavations as part of the anomaly investigation in the East Canal/Building T-1451 North Area. A total of 12 soil samples were collected from the 25 test pit excavations and submitted to the mobile laboratory for DRO/RRO and GRO/BTEX analysis. Soil sample 01-EX011-03 collected from test excavation #11 was the only soil sample analyzed by the mobile laboratory that exceeded the ADEC DRO soil cleanup level of 230 with a concentration of 411 mg/kg at a depth of 3.5 bgs. The mobile laboratory soil sample results for excavation soil samples collected in the East Canal/Building T-1451 North Area are presented in Table 5-2 and Table 5-3.

A total of five full suite characterization soil samples were collected from three test pit excavations (9, 10, and 25) and analyzed by the fixed based laboratory for DRO/RRO, GRO, VOCs, PAH, polychlorinated biphenyls (PCB), and Resource Conservation and Recovery Act (RCRA) metals. Soil sample EX-001, collected from test pit excavation #10, was the only soil sample to exceed the ADEC cleanup level with a DRO concentration of 2,500 mg/kg at a depth of 3 ft bgs. All other soil sample results for the specified analyses were either below the ADEC, cleanup level for DRO or below the laboratory reporting level. The fixed based laboratory soil sample results for excavation soil samples collected in the East Canal/Building T-1451 North Area are presented in Tables 5-4 through 5-8.

Many of the items discovered during the test pit excavations were not indicative of a contamination source such as welded steel drums, steel cable, or <1” diameter steel pipe. Visual, olfactory, and PID screening were used to evaluate the targets discovered during the excavations. Generally, a PID screening value greater than 15 ppm or large amounts of debris warranted the collection of a soil sample.

5.3 Soil Boring Sampling Results

A total of 29 soil samples were collected from eight soil borings in the East canal/Building T-1451 North Area and submitted to the mobile laboratory for DRO analysis (Figure 7). Soil borings SB-053, SB-054, SB-055, and SB-056 were completed on the southern perimeter of the crushed drum area (Figure 7). Groundwater was encountered at 4-5 ft bgs on the southern

Table 5-1 Anomaly Investigation Results
East Canal/Bldg T-1451 North Area, Adak, Alaska

Anomaly/ Target No.	Date Investigated	Test Pit No.	Test Pit Depth (ft)	Length (ft)	Width (ft)	PID Count	Sample Count	Notes
1	5/28/2012	TP-001	3.5	2	3	1	0	Encounter 2 welded 55-gal metal drums
2	5/28/2012	TP-002	3.5	5	10	1	0	Encounter 55-gal metal drum at 2.5' bgs
3	5/28/2012	TP-003	5	8	5	1	0	Encounter 55-gal metal drums observed at 2.5' bgs
4	5/28/2012	TP-004	4	8	5	1	0	Encounter 2 sets of 2 welded 55-gal metal drums
5	5/28/2012	TP-005	20	15	15	1	0	No object found in excavation.
6	5/28/2012	TP-006	3.5	15	20	0	1	Encounter 2 sections of metal pipe (2-3' in length)
7	5/29/2012	TP-007	2.5	10	12	2	0	Encounter 3 sections of metal pipe (2'-3' length)
8	5/29/2012	TP-008	6	17	21	4	0	Piping found at 4.5' and 5.5'. All piping 1" diameter.
9	5/29/2012							DISCARDED - MONITORING WELL FLUSH W/ GROUND SURF, GROWN OVER WITH 3" GRASS + TUNDRA.
10	5/29/2012							DISCARDED - 2" DIA PIPE 10' IN LENGTH AT 6' DEEP - NOT A SOURCE OBJECT
11	5/29/2012	TP-009	17	9	11	6	5	Encounter approximately 100 55-gal metal drums removed from test pit area in addition to other miscellaneous metal debris.
12	5/29/2012	TP-010	3	7	7	3	1	Encounter numerous compacted 55-gal metal drums
13	5/30/2012	TP-020	1.5	3	9	1	1	Encounter one 55-gal metal drum
14	5/29/2012	TP-015A	1	4	4	1	0	Concrete foundation with rebar
	5/29/2012	TP-015B	1	5	5	1	0	Encounter one 55-gal metal drum
15	5/29/2012	TP-011	4	10	10	2	1	Encounter numerous compacted 55-gal metal drums
16	5/29/2012	TP-012	10	10	16	3	0	Encounter compacted 55-gal metal drums in first 6"; 3"-diameter pipe approximately 6' long, reached depth below drum layer
17	5/29/2012	TP-013	2.5	10	10	0	0	Found braided steel cable at 18" bgs, no visual or olfactory indications of petroleum contamination.
18	5/29/2012	TP-014	2.5	10	10	2	0	Found 4 bricks, 1"-diameter pipe approximately 2' long in 2 equal section, hit rebar foundation of former hangar, possible creosote at base
19	--							DISCARDED - TARGET LOCATED ON EAST CANAL ROAD.
20	5/29/2012							DISCARDED - TARGET LOCATED BENEATH REBAR FILLED CONCRETE FOUNDATION.
21	5/30/2012							DISCARDED - 2" X 1" X 11' SECTION OF GALVANIZED CHANNEL ON SURFACE, COVERED BY GRASS.
22	5/30/2012							DISCARDED - Pit of metal waste: 1" pipe and scrap metal at 8" deep - NOT SOURCE OBJECTS
23	5/30/2012	TP-024	4	4	10	0	0	Encounter 55-gal metal drums welded together (former culvert), 2"-diameter pipe at 10' long
24	5/30/2012							DISCARDED - Rebar and scrap metal from 0-6" deep - REMAINS OF A RAZED BUILDING
25	5/30/2012	TP-023	2.5	4	10	2	1	Encounter rebar, marsten matting, one 55-gal metal drum
26	5/30/2012	TP-022	1.5	3	8	1	1	Encounter metal debris/old drum, 12'x6"-diameter water pipe that matches to valve found in TP-021.
27	5/30/2012	TP-021	2.5	10	8	2	1	Encounter 300# water main valve (6"-diameter), 5' long, several drums
28	5/30/2012	TP-018	3	5	8	0	0	No anomaly source found
29	5/30/2012	TP-019	3	9	12	3	1	Encounter several 55-gal metal drums
30	5/30/2012							DISCARDED - ONLY USED FOR DELINEATION OF DRUMS, Encounter several 55-gal metal drums
31	5/30/2012	TP-016	4	15	15	3	1	Encounter several 55-gal metal drums and 3"-diameter compacted pipe at 3' length
32	5/30/2012	TP-017	4	6	10	2	1	Encounter several 55-gal metal drums
33	5/30/2012							DISCARDED - ONLY USED FOR DELINEATION OF DRUMS, Encounter several 55-gal metal drums
34	5/31/2012	TP-025	9	12	20	1	3	Encounter numerous compacted 55-gal metal drums

Notes:
-- = not investigated
ft = feet
gray shading = target was discarded

Table 5-2 Test Pit DRO and RRO Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 North Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (AK102) Result (mg/kg)	RRO (AK103) Result (mg/kg)
East Canal/Bldg T-1451 North Area	TP-006	5/29/2012	8:35 AM	01-EX006-02	Primary	2	170	73.9
East Canal/Bldg T-1451 North Area	TP-009	5/31/2012	1:00 PM	01-EX009-15	Primary	15	3.5	11.4
East Canal/Bldg T-1451 North Area	TP-011	5/29/2012		01-EX011-03	Primary	3	**412**	962
East Canal/Bldg T-1451 North Area	TP-016	5/30/2012	10:50 AM	01-EX016-02	Primary	2	9.8	27.7
East Canal/Bldg T-1451 North Area	TP-017	5/30/2012	11:10 AM	01-EX017-04	Primary	4	7.0	15.0
East Canal/Bldg T-1451 North Area	TP-019	5/30/2012	1:32 PM	01-EX019-1.5	Primary	1.5	4.5	9.2
East Canal/Bldg T-1451 North Area	TP-020	5/30/2012	1:57 PM	01-EX020-1.5	Primary	1.5	11.0	16.4
East Canal/Bldg T-1451 North Area	TP-021	5/30/2012	2:12 PM	01-EX021-1.5	Primary	1.5	12.9	15.7
East Canal/Bldg T-1451 North Area	TP-022	5/30/2012		01-EX022-1.5	Primary	1.5	8.9	15.4
East Canal/Bldg T-1451 North Area	TP-023	5/30/2012	3:18 PM	01-EX023-01	Primary	1	18.5	--
East Canal/Bldg T-1451 North Area	TP-025	5/31/2012	11:53 AM	01-EX025-08	Primary	8	3.6	6.4
East Canal/Bldg T-1451 North Area	TP-025	5/31/2012	12:00 PM	01-EX026-08	Duplicate	8	2.9	4.6

Notes:

bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level

ADEC = Alaska Department of Environmental Conservation

AK = Alaska

EX = excavation soil sample

DRO = Diesel Range Organics

mg/kg = milligrams per kilogram

RRO = Residual Range Organics

QC = quality control

TP = test pit

Table 5-3 Test Pit BTEX Soil Data from Mobile Laboratory
East Canal/Bldg T-1451 North Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	Benzene (8021) Result (ug/kg)	Ethyl-benzene (8021) Result (ug/kg)	Toluene (8021) Result (ug/kg)	Xylenes (total) (8021) result (ug/kg)
East Canal/Bldg T-1451 North Area	TP-009	5/31/2012	1:00:00 PM	01-EX009-15	Primary	0.0	0.0	0.00418	0.00148
East Canal/Bldg T-1451 North Area	TP-011	5/29/2012		01-EX011-03	Primary	0.0	0.00141	0.00642	0.00883
East Canal/Bldg T-1451 North Area	TP-016	5/30/2012	10:50:00 AM	01-EX016-02	Primary	0.0	0.0	0.01273	0.00436
East Canal/Bldg T-1451 North Area	TP-017	5/30/2012	11:10:00 AM	01-EX017-04	Primary	0.00346	0.0	0.02381	0.0
East Canal/Bldg T-1451 North Area	TP-019	5/30/2012	1:32:00 PM	01-EX019-1.5	Primary	0.0	0.0	0.00141	0.0
East Canal/Bldg T-1451 North Area	TP-020	5/30/2012	1:57:00 PM	01-EX020-1.5	Primary	0.00123	0.0	0.01318	0.0
East Canal/Bldg T-1451 North Area	TP-021	5/30/2012	2:12:00 PM	01-EX021-1.5	Primary	0.0	0.0	0.00244	0.0
East Canal/Bldg T-1451 North Area	TP-022	5/30/2012		01-EX022-1.5	Primary	0.0	0.0	0.00216	0.0
East Canal/Bldg T-1451 North Area	TP-023	5/30/2012	3:18:00 PM	01-EX023-01	Primary	0.0	0.0	0.00420	0.0
East Canal/Bldg T-1451 North Area	TP-025	5/31/2012	11:53:00 AM	01-EX025-08	Primary	0.0	0.0	0.00488	0.0
East Canal/Bldg T-1451 North Area	TP-025	5/31/2012	12:00:00 PM	01-EX026-08	Duplicate	0.0	0.00295	0.00800	0.00463

Notes:
EX = excavation soil sample identification
ug/kg = micrograms per kilogram
QC = quality control
TP = test pit number

Table 5-4 Excavation DRO, GRO, RRO Soil Data from Fixed Laboratory
East Canal/Bldg T-1451 North Area, Adak, Alaska

						GRO (C6-C10)			DRO (C10-<C25)			RRO (C25-C36)		
Area of Concern	Sample Location	Sample Date and Time	Sample Name	Sample QC Type	Depth Interval	Result (mg/kg)	Flag	Detection Limit (mg/kg)	Result (mg/kg)	Flag	Detection Limit (mg/kg)	Result (mg/kg)	Flag	Detection Limit (mg/kg)
East Canal/Bldg T-1451 North Area	TP-009	5/31/2012 1:00:00 PM	01-EX005	Primary	15'	0.55	J	0.22	3	J	2.4	15		11
East Canal/Bldg T-1451 North Area	TP-009	5/31/2012 1:05:00 PM	01-EX006	Primary	16.5 - 17	9.8		0.33	99		1.4	21*	U (31)	6.9
East Canal/Bldg T-1451 North Area	TP-009	5/31/2012 12:40:00 PM	01-EX003	Primary	11'	0.99	J	0.23	15	J	1.5	110	J	7.1
East Canal/Bldg T-1451 North Area	TP-009	5/31/2012 12:55:00 PM	01-EX004	Primary	15'	0.84	J	0.25	35	J	1.3	300		6
East Canal/Bldg T-1451 North Area	TP-010	5/29/2012 2:31:00 PM	01-EX001	Primary	3'	120	J	0.21	**2,500**		12	**10,000**	J	58
East Canal/Bldg T-1451 North Area	TP-025	5/31/2012 11:53:00 AM	01-EX002	Primary	8'	0.29	J	0.25	1.3	J	1.3	**14***	U (28)	6.1
East Canal/Bldg T-1451 North Area	TP-027	6/5/2012 3:24:00 PM	01-EX007	Primary					**34,000**		28			
East Canal/Bldg T-1451 North Area	TP-028	6/5/2012 5:05:00 PM	01-EX008	Primary					**21,000**		26			
East Canal/Bldg T-1451 North Area	TP-029	6/5/2012 6:10:00 PM	01-EX009	Primary					**14,000**		28			

Notes:
* Result is estimated due to blank contamination - result is considered not detected at the associated reporting limit
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
DRO = Diesel Range Organics
EX = excavation soil sample identification
GRO = Gasoline Range Organics
j = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
mg/kg = milligrams per kilogram
RRO = Residual Range Organics
QC = quality control
TP = test pit
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Table 5-5 Test Pit PAH Soil Data from Fixed Laboratory
East Canal/Bldg T-1451 North Area, Adak, Alaska

	Sample Location	TP-010		TP-025		TP-009		TP-009		TP-009		
	Sample Date and Time	5/29/2012 14:31		5/31/2012 11:53		5/31/2012 12:40		5/31/2012 12:55		5/31/2012 13:05		
	Sample Name	01-EX001		01-EX002		01-EX003		01-EX004		01-EX006		
Analyte	ADEC Cleanup Level	Result (ug/kg)	Detection Limit (ug/kg)	Result (ug/kg)	Detection Limit (ug/kg)	Result (ug/kg)	Detection Limit (ug/kg)	Result (ug/kg)	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)
1-Methylnaphthalene	6200	2500	11	11	5.7	13	6.6	11	5.3	12		6.2
2-Methylnaphthalene	6100	3700	11	11	5.7	13	6.6	11	5.3	12		6.2
Acenaphthene	180000	190	11	11	5.7	60	6.6	11	5.3	12		6.2
Acenaphthylene	180000	21	11	11	5.7	13	6.6	11	5.3	12		6.2
Anthracene	3000000	81	11	11	5.7	200	6.6	11	5.3	12		6.2
Benzo[a]anthracene	3600	160	11	11	5.7	260	6.6	11	5.3	12		6.2
Benzo[a]pyrene	2100	140	11	11	5.7	150	6.6	11	5.3	12		6.2
Benzo[b]fluoranthene	12000	130	11	11	5.7	240	6.6	11	5.3	12		6.2
Benzo[g,h,i]perylene	38700000	94	11	11	5.7	68	6.6	11	5.3	12		6.2
Benzo[k]fluoranthene	120000	45	11	11	5.7	87	6.6	11	5.3	12		6.2
Chrysene	360000	200	11	11	5.7	200	6.6	9.1	5.3	12		6.2
Dibenzo(a,h)anthracene	4000.0	21	11	11	5.7	43	6.6	11	5.3	12		6.2
Fluoranthene	1400000	230	11	11	5.7	1100	6.6	18	5.3	6.3	J	6.2
Fluorene	220000	230	11	11	5.7	89	6.6	11	5.3	12		6.2
Indeno[1,2,3-cd]pyrene	41000	77	11	11	5.7	92	6.6	11	5.3	12		6.2
Naphthalene	20000	1200	11	11	5.7	13	6.6	11	5.3	12		6.2
Phenanthrene	3000000	410	11	11	5.7	490	6.6	11	5.3	12		6.2
Pyrene	1000000	320	11	11	5.7	740	6.6	21	5.3	6.4	J	6.2

Notes:
* Result is estimated due to blank contamination - result is considered not detected at the associated reporting limit
ADEC = Alaska Department of Environmental Conservation
EX = excavation soil sample identification
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
ug/kg = micrograms per kilogram
PAH = Polynuclear Aromatic Hydrocarbons
TP = test pit number

Table 5-6 Test Pit Metals Soil Data from Fixed Laboratory
East Canal/Bldg T-1451 North Area, Adak, Alaska

Sample Location		TP-010			TP-025			TP-009			TP-009			TP-009		
Sample Date and Time		5/29/2012 14:31			5/31/2012 11:53			5/31/2012 12:40			5/31/2012 12:55			5/31/2012 13:05		
Sample Name		01-EX001			01-EX002			01-EX003			01-EX004			01-EX006		
Analyte	ADEC Cleanup Level	Result (mg/kg)	Flag	Detection Limit (mg/kg)	Result (mg/kg)	Flag	Detection Limit (mg/kg)	Result (mg/kg)	Flag	Detection Limit (mg/kg)	Result (mg/kg)	Flag	Detection Limit (mg/kg)	Result (mg/kg)	Flag	Detection Limit (mg/kg)
Arsenic	3.7	0.38		0.31	0.42		0.34	0.4		0.32	0.4		0.32	2		0.37
Barium	1100	20		0.096	7.4		0.1	12		0.099	12		0.099	13		0.12
Cadmium	5.0	1.2		0.19	0.3	J	0.21	0.82		0.2	0.48	J	0.2	0.29		0.23
Chromium	25	14	J	0.37	3		0.41	4.4		0.39	4.6		0.39	3.1		0.45
Lead	400	20		0.14	0.9	J	0.16	3.6		0.15	7		0.15	2.2		0.17
Selenium	3.4	2.7	J	0.19	1.4	J	0.21	3.1	J	0.2	2.2	J	0.2	1.4		0.23
Silver	11.2	0.82*	U (0.96)	0.54	0.99*	U (1)	0.59	0.91*	U (0.99)	0.56	0.79*	U (0.999)	0.56	0.87		0.65
Mercury	1.4	0.026	J	0.0053	0.0075		0.0047	0.016		0.0067	0.014	J	0.0055	0.012	J	0.0051

Notes:
* Result is estimated due to blank contamination - result is considered not detected at the associated reporting limit
ADEC = Alaska Department of Environmental Conservation
EX = excavation soil sample identification
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
mg/kg = milligrams per kilogram
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
TP = test pit number

Table 5-7 Test Pit VOC Soil Data from Fixed Laboratory
East Canal/Bldg T-1451 North Area, Adak, Alaska

	Sample Location	TP-010			TP-025			TP-009			TP-009			TP-009			TP-009		
	Sample Date and Time	5/29/2012 14:31			5/31/2012 11:53			5/31/2012 12:40			5/31/2012 12:55			5/31/2012 13:00			5/31/2012 13:05		
	Sample Name	01-EX001			01-EX002			01-EX003			01-EX004			01-EX005			01-EX006		
Analyte	ADEC Cleanup Level	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)
1,1,1,2-Tetrachloroethane	NA	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,1,1-Trichloroethane	820	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,1,2,2-Tetrachloroethane	17	4		1.5	4.7		1.8	4.4		1.7	4.8		1.8				6.4		2.4
1,1,2-Trichloroethane	18	4		1.4	4.7		1.6	4.4		1.5	4.8		1.6				6.4		2.2
1,1-Dichloroethane	25000	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,1-Dichloroethene	30	6.8		2.3	8		2.7	7.6		2.5	8.2		2.7				11		3.6
1,1-Dichloropropene	NA	6.8		4.5	8		5.3	7.6		5	8.2		5.5				11		7.3
1,2,3-Trichlorobenzene	NA	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,2,3-Trichloropropane	0.53	14		5.2	16		6.2	15		5.9	16		6.4				22		8.4
1,2,4-Trichlorobenzene	850	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,2,4-Trimethylbenzene	23000	2000		4.5	16		5.3	15		5	16		5.5				22		7.3
1,2-Dibromo-3-Chloropropane	NA	68		30	80		35	76		33	82		36				110		48
1,2-Dibromoethane	NA	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,2-Dichlorobenzene	5100	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,2-Dichloroethane	16	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,2-Dichloropropane	18	4.5		1.8	5.3		2.1	5		2	5.5		2.1				7.3		2.8
1,3,5-Trimethylbenzene	23000	710		4.5	16		5.3	15		5	16		5.5				22		7.3
1,3-Dichlorobenzene	28000	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,3-Dichloropropane	NA	14		4.5	16		5.3	15		5	16		5.5				22		7.3
1,4-Dichlorobenzene	640	14		4.5	16		5.3	15		5	16		5.5				22		7.3
2,2-Dichloropropane	NA	14		4.5	16		5.3	15		5	16		5.5				22		7.3
2-Butanone (MEK)	59	140		45	160		53	150		50	160		55				220		73
2-Chlorotoluene	NA	14		4.5	16		5.3	15		5	16		5.5				22		7.3
2-Hexanone	NA	68		23	80		27	76		25	82		27				110		36
4-Chlorotoluene	NA	14		5.9	16		6.9	15		6.6	16		7.1				22		9.4
4-Methyl-2-pentanone (MIBK)	8100	68		23	80		27	76		25	82		27				110		36
Acetone	88000	140		45	160		53	150		50	160		55				220		73
Benzene	25	8.6*	U (32)	1.8	4.6*	U (8.6)	2.1	5		2	5.5		2.2	2.2	J	1.9	7.3		2.9
Bromobenzene	NA	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Bromochloromethane	NA	14		5.4	16		6.4	15		6.1	16		6.6				22		8.7
Bromodichloromethane	44	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Bromoform	340	14		5	16		5.9	15		5.6	16		6				22		8
Bromomethane	NA	45		16	53		19	50		18	55		19				73		25
Carbon disulfide	12000	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Carbon tetrachloride	23	6.8		2.3	8		2.7	7.6		2.5	8.2		2.7				11		3.6
Chlorobenzene	630	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Chlorodibromomethane	32	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Chloroethane	580000	140		45	160		53	150		50	160		55				220		73
Chloroform	460	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Chloromethane	NA	140		45	160		53	150		50	160		55				220		73
cis-1,2-Dichloroethene	240	14		4.5	16		5.3	15		5	16		5.5				22		7.3
cis-1,3-Dichloropropene	NA	4.5		1.8	5.3		2.1	5		2	5.5		2.2				7.3		2.9
Dibromomethane	NA	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Dichlorodifluoromethane	140000	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Ethylbenzene	6900	240		4.5	16		5.3	15		5	16		5.5	14		4.7	22		7.3
Hexachlorobutadiene	47	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Isopropylbenzene	51000	160		4.5	16		5.3	15		5	16		5.5				22		7.3
Methyl tert-butyl ether	1300	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Methylene Chloride	16	27*	U (1100)	4.5	130*	U (1100)	5.3	14*	U (20)	5	26*	U (1100)	5.5				79	J	7.3
Naphthalene	20000	1200		4.5	12	J	5.3	15		5	16		5.5				46		7.3
n-Butylbenzene	15000	1100		4.5	16		5.3	15		5	16		5.5				22		7.3
N-Propylbenzene	15000	220		4.5	16		5.3	15		5	16		5.5				22		7.3
Total Xylenes	63000	980		9	27		10.6	25		10	27		11	23.4		9.4	37		14.6

Table 5-7 Test Pit VOC Soil Data from Fixed Laboratory
East Canal/Bldg T-1451 North Area, Adak, Alaska

	Sample Location	TP-010			TP-025			TP-009			TP-009			TP-009			TP-009		
	Sample Date and Time	5/29/2012 14:31			5/31/2012 11:53			5/31/2012 12:40			5/31/2012 12:55			5/31/2012 13:00			5/31/2012 13:05		
	Sample Name	01-EX001			01-EX002			01-EX003			01-EX004			01-EX005			01-EX006		
Analyte	ADEC Cleanup Level	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)	Result (ug/kg)	Flag	Detection Limit (ug/kg)
p-Isopropyltoluene	NA	490		4.5	16		5.3	15		5	16		5.5				22		7.3
sec-Butylbenzene	12000	180		4.5	16		5.3	15		5	16		5.5				22		7.3
Styrene	960	14		4.5	16		5.3	15		5	16		5.5				22		7.3
tert-Butylbenzene	12000	26		4.5	16		5.3	15		5	16		5.5				22		7.3
Tetrachloroethene	24	6.8		2.3	8		2.7	7.6		2.5	8.2		2.7				11		3.6
Toluene	6500	15*	U (18)	4.5	17*	U (21)	5.3	15		5	10	U (22)	5.5	11	J	4.7	22		7.3
trans-1,2-Dichloroethene	370	14		4.5	16		5.3	15		5	16		5.5				22		7.3
trans-1,3-Dichloropropene	NA	4.5		1.8	5.3		2.1	5		2	5.5		2.2				7.3		2.9
Trichloroethene	20	2.7	J	1.8	5.3		2.1	5		2	5.5		2.2				7.3		2.9
Trichlorofluoromethane	86000	14		4.5	16		5.3	15		5	16		5.5				22		7.3
Vinyl chloride	8.5	2.3		0.9	2.7		1.1	2.5		1	2.7		1.1				3.6		1.5

Notes:
* Result is estimated due to blank contamination - result is considered not detected at the associated reporting limit
+ = m,p Xylene result is for sample 01-EX004 is estimated due to blank contamination. The Total Xylene concentration value is the sum of the laboratory reported values
ADEC = Alaska Department of Environmental Conservation
EX = excavation soil sample identification
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
TP = test pit number
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
ug/mg = micrograms per kilogram

Table 5-8 Test Pit PCB Soil Data from Fixed Laboratory
East Canal/Bldg T-1451 North Area, Adak, Alaska

Sample Location		TP-010			TP-025		TP-009		TP-009		TP-009	
Sample Date and Time		5/29/2012 14:31			5/31/2012 11:53		5/31/2012 12:40		5/31/2012 12:55		5/31/2012 13:05	
Sample Name		01-EX001			01-EX002		01-EX003		01-EX004		01-EX006	
Analyte	ADEC Cleanup Level (mg/kg)	Result (mg/kg)	Flag	Detection Limit (mg/kg)	Result (mg/kg)	Detection Limit (mg/kg)	Result (mg/kg)	Detection Limit (mg/kg)	Result (mg/kg)	Detection Limit (mg/kg)	Result (mg/kg)	Detection Limit (mg/kg)
PCB-1016	1	0.005		0.0032	0.0056	0.0036	0.0066	0.0042	0.0053	0.0034	0.0061	0.0039
PCB-1221	1	0.01		0.0081	0.011	0.009	0.013	0.011	0.011	0.0085	0.012	0.0098
PCB-1232	1	0.01		0.0071	0.011	0.0078	0.013	0.0092	0.011	0.0074	0.012	0.0086
PCB-1242	1	0.005		0.0021	0.0056	0.0024	0.0066	0.0028	0.0053	0.0022	0.0061	0.0026
PCB-1248	1	0.005		0.003	0.0056	0.0034	0.0066	0.004	0.0053	0.0032	0.0061	0.0037
PCB-1254	1	0.005		0.0021	0.0056	0.0024	0.0066	0.0028	0.0053	0.0022	0.0061	0.0026
PCB-1260	1	0.0095	J	0.003	0.0056	0.0034	0.0066	0.004	0.0053	0.0032	0.0061	0.0037

Notes:
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
ADEC = Alaska Department of Environmental Conservation
EX = excavation soil sample identification
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
mg/kg = milligrams per kilogram
PCB = Polychlorinated Biphenyls
TP = test pit number

perimeter of the drum area. Soil samples 01-B053-02 and 01-B053-03 collected at depths from 1 ft to 4 ft bgs from Boring SB-053 (completed to the south of the crushed drum area discovered during the anomaly investigation) had DRO concentrations of 21,000 mg/kg and 25,000 mg/kg. Fix based laboratory soil sample 01-SB044 collected from the mobile lab sample 01-B053-02 had a corresponding DRO result of 22,000 mg/kg. Soil sample results from the mobile laboratory for samples collected from soil borings in the East Canal/Building T-1451 North Area are provided in Table 5-9. Soil sample results from the fix based laboratory for samples collected from soil borings in the East Canal/Building T-1451 North Area are provided in Table 5-10.

5.4 Summary and Discussion

The SI/SC activities in the North area were performed to determine if there were unknown petroleum contamination sources contributing to sheen on the East Canal. The SI/SC activities in the North area included a geophysical survey to identify metal anomalies, excavation at the anomaly location, and collection field screening, mobile laboratory, and fixed based laboratory soil samples to determine if the target discovered in the excavation was a source of petroleum contamination. The crushed drum area is located to the northwest of the disturbed area depicted in the 1977 historical aerial photo. Please refer to Figure 6B for the approximate outline of the crushed drum area relative to the disturbed area in the 1977 historic aerial photo.

Mobile and fixed based laboratory soil sample results did not indicate the presence of contamination in test pits 1-9 or 12-25. Soil samples collected and analyzed by the mobile and fixed based laboratories did indicate DRO contamination in test pits 10 and 11 at depths of 3-4 ft bgs. An approximate 2,400 ft^2 area with buried crushed steel drums was discovered in the East Canal/Building T-1451 North Area as part of the anomaly investigation excavations for test pits 9-11 and 25 (Figure 6). The crushed drums were exposed on the surface in certain areas and buried to a depth as deep as 14 ft bgs as observed in test pit 9 (Figure 6B). No other significant objects were discovered in the East Canal/Building T-1451 North Area that could be considered additional sources of petroleum contamination. Many of the targets identified during the excavation phase of the anomaly excavations were discovered to be various metal debris' including: multiple 55-gallon drums welded together, multiple sizes and lengths of steel pipe and various types of steel cable. It is noted that the contamination encountered in the Drum Debris Area may be associated with the Solid Waste Management Unit (SWMU) 62 Eagle Bay Housing contamination area; however, further investigation is required to confirm this association.

DRO contamination was observed in soil samples collected from borings completed to the north and south of the crushed drum area (Figure 7). Petroleum contamination on the southern perimeter of the crushed drum area as observed on Figure 7 from UVOST and soil sample data extends approximately 55 ft southwest of the buried drum area to depths of 1-4 ft bgs. Petroleum contamination on the northern perimeter encompasses a larger area with an approximate length of 250 ft from the southeast to the northwest to depths of 15-19 ft bgs.

5.5 Recommendations

Further site investigation is recommended beyond the north and east perimeter of the crushed drum area depicted in Figure 7. The intent of this investigation would be to differentiate the petroleum hydrocarbon contamination possibly associated with the crushed drum area from the historic SWMU 62 contamination area. The extent of the petroleum contamination associated with the crushed drum area does not appear to extend to the East Canal as observed from the UVOST probes and soil boring data collected along the perimeter of the drum area (Figure 7). If the contamination observed to the south of the crushed drum area is associated with SWMU 62, then the crushed drums could remain in place as they would not be considered a significant source of contamination.

Table 5-9 Soil Boring DRO and RRO Soil Data from Mobile Laboratory East Canal/Bldg T-1451 North Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date	Sample Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (AK102) Result (mg/kg)	RRO (AK103) Result (mg/kg)
East Canal/Bldg T-1451 North Area	SB-053	6/9/2012	8:20 AM	01-B053-01	Primary	0.5 - 1	10.5	24.7
East Canal/Bldg T-1451 North Area	SB-053	6/9/2012	8:25 AM	01-B053-02	Primary	1 - 2.5	**21,501**	963
East Canal/Bldg T-1451 North Area	SB-053	6/9/2012	8:35 AM	01-B053-03	Primary	3 - 4	**25,013**	700
East Canal/Bldg T-1451 North Area	SB-053	6/9/2012	8:40 AM	01-B053-04	Duplicate	3 - 4	**25,425**	1 158
East Canal/Bldg T-1451 North Area	SB-053	6/9/2012	8:45 AM	01-B053-05	Primary	5.5 - 6.5	10.6	34.1
East Canal/Bldg T-1451 North Area	SB-054	6/9/2012	9:05 AM	01-B054-01	Primary	0.5 - 1.5	9.6	20.8
East Canal/Bldg T-1451 North Area	SB-054	6/9/2012	9:10 AM	01-B054-02	Primary	3 - 4	8.8	24.9
East Canal/Bldg T-1451 North Area	SB-054	6/9/2012	9:15 AM	01-B054-03	Primary	5 - 6	9.0	11.7
East Canal/Bldg T-1451 North Area	SB-055	6/9/2012	9:35 AM	01-B055-01	Primary	1.5 - 2.5	9.8	27.9
East Canal/Bldg T-1451 North Area	SB-055	6/9/2012	9:40 AM	01-B055-02	Primary	4 - 5	7.8	9.9
East Canal/Bldg T-1451 North Area	SB-055	6/9/2012	9:45 AM	01-B055-03	Primary	5 - 6	7.3	16.3
East Canal/Bldg T-1451 North Area	SB-056	6/9/2012	10:48 AM	01-B056-01	Primary	5.5 - 6.5	12.8	26.2
East Canal/Bldg T-1451 North Area	SB-056	6/9/2012	10:50 AM	01-B056-02	Primary	6.5 - 7.5	69.1	294
East Canal/Bldg T-1451 North Area	SB-056	6/9/2012	10:53 AM	01-B056-03	Primary	7.5 - 8.5	6.0	7.3
East Canal/Bldg T-1451 North Area	SB-057	6/9/2012	11:45 AM	01-B057-01	Primary	4 - 5	9.2	9.9
East Canal/Bldg T-1451 North Area	SB-057	6/9/2012	11:50 AM	01-B057-02	Primary	5 - 6	4.7	4.4
East Canal/Bldg T-1451 North Area	SB-057	6/9/2012	11:52 AM	01-B057-03	Duplicate	5 - 6	8.3	20.7
East Canal/Bldg T-1451 North Area	SB-057	6/9/2012	11:55 AM	01-B057-04	Primary	7 - 8.5	5.3	4.0
East Canal/Bldg T-1451 North Area	SB-058	6/9/2012	2:30 PM	01-B058-01	Primary	14.5 - 15.5	8.8	3.9
East Canal/Bldg T-1451 North Area	SB-058	6/9/2012	2:35 PM	01-B058-02	Primary	16 - 17.5	**8,731**	273
East Canal/Bldg T-1451 North Area	SB-058	6/9/2012	2:40 PM	01-B058-03	Primary	18 - 19	9.6	3.8
East Canal/Bldg T-1451 North Area	SB-059	6/9/2012	2:55 PM	01-B059-01	Primary	15 - 16	**5,530**	141.1
East Canal/Bldg T-1451 North Area	SB-059	6/9/2012	3:00 PM	01-B059-02	Primary	17 - 18	**6,938**	76.2
East Canal/Bldg T-1451 North Area	SB-059	6/9/2012	3:05 PM	01-B059-03	Duplicate	17 - 18	**9,831**	297
East Canal/Bldg T-1451 North Area	SB-059	6/9/2012	3:10 PM	01-B059-04	Primary	19 - 20	16.0	4.3
East Canal/Bldg T-1451 North Area	SB-060	6/9/2012	3:15 PM	01-B060-01	Primary	17 - 18	**1,972**	15.8
East Canal/Bldg T-1451 North Area	SB-060	6/9/2012	3:20 PM	01-B060-02	Primary	18.5 - 19.5	**16,053**	145
East Canal/Bldg T-1451 North Area	SB-060	6/9/2012	3:25 PM	01-B060-03	Primary	21 - 22	11.1	15.1

Notes:
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
ADEC = Alaska Department of Environmental Conservation
AK = Alaska
B = soil boring sample identification
DRO = Diesel Range Organics
ft bgs = feet below the ground surface
mg/kg = milligrams per kilogram
RRO = Residual Range Organics
SB = soil boring number
QC = quality control

Table 5-10 Soil Boring DRO Soil Data from Fixed Laboratory
East Canal/Bldg T-1451 North Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date and Time	Sample Name	Sample QC Type	Depth Interval	DRO (C10-<C25)		
						Result (mg/kg)	Flag	Detection Limit (mg/kg)
East Canal/Bldg T-1451 North Area	SB-053	6/9/2012 8:25:00 AM	01-SB044	Primary	1 - 2.5	**22,000**	J	6.1
East Canal/Bldg T-1451 North Area	SB-057	6/9/2012 11:55:00 AM	01-SB045	Primary	7 - 8.5	200	J	2.9
East Canal/Bldg T-1451 North Area	SB-057	6/9/2012 12:00:00 PM	01-SB046	Duplicate	7 - 8.5	7.7	J	2.7
East Canal/Bldg T-1451 North Area	SB-058	6/9/2012 2:35:00 PM	01-SB047	Primary	16 - 17.5	**5,900**		2.7

Notes:
Result is estimated due to blank contamination - result is considered not detected at the associated reporting limit
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
ADEC = Alaska Department of Environmental Conservation
AK = Alaska
DRO = Diesel Range Organics
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
mg/kg = milligrams per kilogram
QC = quality control
SB = soil boring number/sample identification
J = The analyte was not detected above the reported sample quantitation limit.
owever the reported quantitation limit is approximate and may or may not represent
the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

6.0 SEEP TWO

The following section summarizes the site observations, analytical results, and conclusions and recommendations for the work conducted at the East Canal/Building T-1451 Area.

6.1 Seep Two Soil Sampling

A total of 14 soil samples were collected from four soil borings completed in the Seep Two area and submitted to the fixed based laboratory for DRO analysis. Groundwater was encountered at 5.5 ft bgs in the four borings completed in the Seep Two area. Soil sample 01-SB049 collected from boring SB-061 at a depth of 4-5 ft bgs had a DRO result of 14,000 mg/kg. Soil sample 01-SB050 collected from boring SB-061 at a depth of 5-6 ft bgs had a DRO result of 4,800 mg/kg. Soil sample 01-SB057 collected from boring SB-064 at a depth of 4-5 ft bgs had a DRO result of 16,000 mg/kg. Soil sample 01-SB058 collected from boring SB-064 at a depth of 5-6 ft bgs had a DRO result of 5,700 mg/kg. Soil sample 01-SB059 was collected as a field duplicate for sample 01-SB-058 from boring SB-064 at a depth of 5-6 ft bgs had a DRO result of 5,500 mg/kg. Soil sample results from the fixed project laboratory for samples collected from soil borings in the Seep Two are provided in Table 6-1.

6.2 Summary and Discussion

The area referred to as Seep Two is currently contributing to sheen on the surface of the canal – approximately 250 ft south of the MNA installation area as DRO contaminated groundwater enters the canal. Visible petroleum staining on the bank of the canal indicates DRO impacted groundwater is migrating to the bank of the canal from an unknown, upgradient source. The UVOST probes and the 14 soil samples collected from the borings indicated petroleum contamination at the ground surface on the bank of the canal and from depths of 4 ft bgs to 6 ft bgs approximately 80 ft east of the East Canal. The contamination source extends to the east of the East Canal towards Main Road as observed in UVOST probes UV-181, UV-184, and UV-185 (Figure 3).

6.3 Recommendations

Additional soil borings to the east of the area referred to as Seep Two are recommended to assess the extent of the source area causing sheen observed on the bank of the East Canal. The intent of the investigation would be to determine if there is a separate source area creating Seep Two or if it is the same source area that created the larger seep that was removed further to the north (Figure 3).

Either a large source area removal action or an interim removal action excavation and construction of an enhanced MNA treatment area could help to remove or reduce the current petroleum contamination in the groundwater that is staining the bank of the East Canal and causing sheen on the surface water of the canal.

Table 6-1 Soil Boring DRO Soil Data from Fixed Laboratory
Seep 2 Area, Adak, Alaska

Area of Concern	Sample Location	Sample Date and Time	Sample Name	Sample QC Type	Depth Interval (ft bgs)	DRO (AK 102)		
						Result (mg/kg)	Flag	Detection Limit (mg/kg)
Seep 2	SB-061	6/30/2012 8:55:00 AM	01-SB048	Primary	3 - 4	6.7	21	2.4
Seep 2	SB-061	6/30/2012 9:00:00 AM	01-SB049	Primary	4 - 5	**14000**		5.3
Seep 2	SB-061	6/30/2012 9:15:00 AM	01-SB050	Primary	5 - 6	**4800**		2.7
Seep 2	SB-061	6/30/2012 9:20:00 AM	01-SB051	Primary	6.5 - 7.5	10	25	2.9
Seep 2	SB-062	6/30/2012 10:10:00 AM	01-SB053	Primary	4.5 - 5	34	J	2.6
Seep 2	SB-062	6/30/2012 9:55:00 AM	01-SB052	Primary	3 - 4	6	20	2.3
Seep 2	SB-063	6/30/2012 10:25:00 AM	01-SB054	Primary	3 - 4	6.3	20	2.3
Seep 2	SB-063	6/30/2012 10:30:00 AM	01-SB055	Primary	5 - 6	26	J	2.8
Seep 2	SB-064	6/30/2012 10:50:00 AM	01-SB056	Primary	2.5 - 3.5	6.7	21	2.4
Seep 2	SB-064	6/30/2012 10:55:00 AM	01-SB057	Primary	4 - 5	**16000**		4.9
Seep 2	SB-064	6/30/2012 11:00:00 AM	01-SB058	Primary	5 - 6	**5700**		2.8
Seep 2	SB-064	6/30/2012 11:03:00 AM	01-SB059	Duplicate	5 - 6	**5500**		2.7
Seep 2	SB-064	6/30/2012 11:05:00 AM	01-SB060	Primary	7 - 8	8.1	25	2.9

Notes:
Result is estimated due to blank contamination - result is considered not detected at the associated reporting limit
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
ADEC = Alaska Department of Environmental Conservation
AK = Alaska
DRO = Diesel Range Organics
mg/kg = milligrams per kilogram
QC = quality control
SB = soil boring number/sample identification

7.0 DATA VALIDATION SUMMARY

Two TestAmerica laboratories were utilized for analysis of laboratory samples during the Adak 2012 field effort. One laboratory was set up as a mobile laboratory in Adak to be used for quick turnaround. The mobile laboratory was intended more as a screening tool as the data was not reported with any laboratory quality control (QC) procedures. A formal validation was not completed on the mobile laboratory data, however, two quality checks, a review of relative percent differences (RPD) between 35 duplicate pairs (Table 7-1) and a comparison to fixed laboratory data between 41 pairs (Table 7-2) were performed to assess the overall quality of the mobile laboratory data compared to a fixed lab. These quality checks are discussed further in Sections 7.2.2 and 7.5.1

The fixed lab was Test America Laboratories located in Tacoma, Washington. Complete laboratory data including QC from TestAmerica Tacoma is included in Appendix D. The following data packages were reviewed as part of the data validation effort.

580-32969	580-33322	580-33485
580-33213	580-33336	580-33621
580-33219	580-33365	580-33787

Individual data validation summaries for each data package are included in Appendix E. Detailed discussions of the laboratory data is included in the following discussions.

7.1 Analytical Methods

The following analytical methods were performed on project samples. Not all samples were analyzed for the same suite of analyses. Soil samples were reported on a dry weight basis.

- GRO by Method AK101
- VOCs by Method EPA 8260
- DRO and RRO by Method AK102/103
- PAHs by Method EPA 8270 Selective Ion Monitoring (SIM)
- RCRA Metals by Method EPA 6020 and Mercury by Method EPA 7471A
- PCBs by Method EPA 8082

Nine level four data packages were received from the laboratory and validated per the requirements of the project specific Sampling and Analysis Plan (ERS-JV 2012). Per the requirements of EPA National Functional Guidelines for Inorganic and Organic Data Review, the pertinent analytical methods, and professional judgment, the following validation qualifiers were applied to the data as applicable:

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated quality control (QC) or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

These validation qualifiers supercede the laboratory flags associated with the reported data, with the exception of the J flag for estimated analyte concentrations that are less than the limit of quantitation (LOQ) but greater than the detection limit (DL). Any laboratory data that are reported with a J flag and do not have a validation qualifier associated with it remain J flagged as estimated concentrations.

7.2 Precision

7.2.1 Field Duplicates – Fixed Laboratory

A total of nine duplicate pairs were submitted to the laboratory for a DRO analysis representative of the methods used to analyze project samples (six duplicate pairs were for the soil boring soil samples and three duplicate pairs were for the excavation soil samples). A total of 86 primary or original field samples were collected for this project, which means that duplicates were collected at a frequency of approximately 10% of the field samples. The duplicate and primary soil samples collected at Adak were not homogenized; rather the duplicate and primary soil samples may best be described as being co-located. Given that the primary and duplicate samples were not homogenized, the differences in concentration between the primary and duplicate samples are predominately a function of the heterogeneity of the analyte concentrations in the site soils. RPDs between the primary and duplicate results were calculated for samples where both the primary and duplicate results were greater than the LOQ and are detailed in Table 7-1. An RPD less than 50 percent is desirable as a measure of laboratory precision for soils with relatively

Table 7-1 Relative ercent Differences in Laboratory Samples
Adak, Alaska

FI ED LABORATOR

Coun	Sample Location	Top Depth	Bottom Depth	rimary Sample ID	rimary Sample DRO Result (mg/kg)	Duplicate Sample ID	Duplicate Sample DRO Result (mg/kg)	R D
1	Clean-SP			01-EX019	150	01-EX020	120	22%
2	SB-004	2.5	3.5	01-SB009	82	01-SB010	**26000**	**199**
3	SB-005	5	6	01-SB014	**34000**	01-SB015	97	**199**
4	SB-028	4	5	01-SB027	**42000**	01-SB028	**65000**	43%
5	SB-046	2.5	3.5	01-SB036	3.4	01-SB037	1.9	**57**
6	SB-057	7	8.5	01-SB045	200	01-SB046	7.7	**185**
7	SB-064	5	6	01-SB058	**5700**	01-SB059	**5500**	4%
8	TA-Cell-1			01-EX013	79	01-EX014	57	32%
9	TA-Cell-18			01-EX024	28	01-EX025	38	30%

MOBILE LABORATOR

Coun	Sample Location	Top Depth	Bottom Depth	rimary Sample ID	rimary Sample DRO Result (mg/kg)	Duplicate Sample ID	Duplicate Sample DRO Result (mg/kg)	R D
1	SB-009	7.5	9	01-B009-03	6.1	01-B009-04	9.4	43%
2	SB-013	7	8	01-B013-04	9.6	01-B013-05	7.7	22%
3	SB-016	1	2	01-B016-01	**5218 5**	01-B016-02	**5049 3**	3%
4	SB-019	2	3	01-B019-02	**16718 5**	01-B019-03	**17737 6**	6%
5	SB-020	4	5	01-B020-04	**22964 4**	01-B020-03	**21075 3**	9%
6	SB-021	2.5	3.5	01-B021-02	**21763 1**	01-B021-03	**19870 6**	9%
7	SB-023	3	4	01-B023-02	10.1	01-B023-03	7.9	25%
8	SB-025	3.5	4.5	01-B025-02	**2114 6**	01-B025-03	**2708 9**	25%
9	SB-028	2.5	3.5	01-B028-02	**18039 9**	01-B028-03	**18575 1**	3%
10	SB-029	5.5	6.5	01-B029-03	25.7	01-B029-04	28.7	11%
11	SB-031	5.5	6.5	01-B031-03	88.9	01-B031-04	40.5	**75**
12	SB-032	3	4	01-B032-03	**745 0**	01-B032-04	**890 8**	18%
13	SB-034	3	4	01-B034-03	9.7	01-B034-04	6.6	38%
14	SB-035	8.5	9.5	01-B035-04	8.0	01-B035-05	19.4	**83**
15	SB-037	7	8	01-B037-05	6.4	01-B037-06	12.0	**61**
16	SB-040	4	5	01-B040-03	6.1	01-B040-04	7.8	24%
17	SB-042	9	10	01-B042-05	7.4	01-B042-06	9.9	29%
18	SB-045	4	5	01-B045-03	**6775 7**	01-B045-04	**7248 1**	7%
19	SB-046	4	5	01-B046-03	7.0	01-B046-04	5.3	28%
20	SB-053	3	4	01-B053-03	**25013 2**	01-B053-04	**25424 7**	2%
21	SB-057	5	6	01-B057-02	4.7	01-B057-03	8.3	**55**
22	SB-059	17	18	01-B059-02	**6938 0**	01-B059-03	**9830 6**	34%
23	TP-025	8		01-EX025-08	3.6	01-EX026-08	2.9	23%
24	TA-Overburden			01-EX032-01	16.6	01-EX033-01	13.9	17%
25	TA-Overburden			01-EX041-01	8.2	01-EX042-01	7.0	16%
26	TA-Cell-1			01-EX053-01	16.7	01-EX054-01	10.8	42%
27	TA-Cell-2			01-EX066-01	41.5	01-EX067-01	29.2	35%
28	TA-Cell-2			01-EX069-01	69.6	01-EX070-01	62.6	11%
29	TA-Cell-4			01-EX078-01	15.7	01-EX079-01	19.0	19%
30	Contam-SP			01-EX089-01	**1299 8**	01-EX090-01	**1038 8**	22%
31	TA-Cell-7			01-EX098-01	43.3	01-EX099-01	27.3	45%
32	Contam-SP			01-EX112-01	**1695 4**	01-EX113-01	**2453 0**	37%
33	TA-Cell-10			01-EX128-01	32.1	01-EX129-01	24.8	26%
34	TA-Cell-12			01-EX135-01	98.6	01-EX136-01	111.6	12%
35	TA-Cell-15			01-EX139-01	10.8	01-EX140-01	16.4	42%

Notes:
= RPD greater than 50%
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
DRO = Diesel Range Organics
EX = excavation soil sample identification
ft bgs = feet below the ground surface
mg/kg = milligrams per kilogram
QC = quality control
RPD = relative percent difference
SB = soil boring number/sample identification
SP = soil sample collected from stockpile
TA = sample collected from the MNA treatment area as unimpacted soil

uniform contaminant distributions, but this criterion has decreased relevance when the contaminant distribution is heterogeneous (i.e. due to the contaminant distribution heterogeneity in the site soils the duplicate results should not be used exclusively as a measure of laboratory precision or analytical variability). Two duplicate pairs (01-SB009 - 01-SB010 and 01-SB014 – 01-SB015) were rejected for RPD calculations due to an RPD of 199% (Table 1, Appendix E). A corrective action was completed during field activities to address this discrepancy, was submitted to NAVFAC NW on May 23, 2012 and is included in Appendix B.

A third duplicate pair had an unacceptable and non-calculable result for RPD. DRO was detected at a concentration greater than the LOQ in the original (0-1SB036) and not detected above the DL in the field duplicate sample (01-SB037). Both of the results were qualified as estimated (J and UJ respectively). A fourth duplicate pair had an unacceptable and non-calculable result for RPD. The original (01-SB045) had a result above the LOQ and its duplicate (01-SB046) had a result below the LOQ but above the DL. The duplicate sample was qualified as estimated (J and UJ respectively). Otherwise, the RPDs between the remaining duplicate results were acceptable.

Since samples were collected and analyzed using consistent protocol, the same degree of variability observed in original and duplicate pairs can be expected in field samples without duplicates. Therefore, given the high degree of agreement between the duplicate pairs the data are considered usable for the site investigation/characterization activities.

7.2.2 Field Duplicates – Mobile Laboratory

A total of 35 duplicate pairs were submitted blind to the laboratory for a DRO analysis representative of the methods used to analyzed project samples (23 duplicate pairs were for the soil borings soil samples and 12 duplicate pairs were for the excavation soil samples). A total of 316 primary field samples were collected for this project, which means that duplicates were collected at a frequency of approximately 10%. An RPD less than 50 percent is desirable as a measure of laboratory precision for soils with relatively uniform contaminant distributions. Four of the 35 duplicate pairs had RPDs greater than 50%, or 11%. RPD calculations are included in Table 7-1.

7.2.3 Laboratory Control Samples and Matrix Spike/Matrix Spike Duplicates

Laboratory control samples (LCSs) and LCS duplicates (LCSDs) as well as laboratory matrix spike/matrix spike duplicate (MS/MSD) pairs were assessed for RPD per validation guidelines per analytical test. The RPD for the LCS/LCSD pairs were within laboratory and validation protocol acceptance criteria indicating any MS/MSD RPD exceedances can be attributed to heterogeneity issues. Overall precision for the Adak data set indicates that results are usable for supporting the site investigation/characterization objectives.

7.3 Accuracy and Bias

7.3.1 Laboratory QC Samples and Percent Recoveries

As described in the USEPA's Guidance for Data Quality Assessment, Practical Methods for Data Analysis (USEPA 2000), laboratory control samples are evaluated to assess overall method performance and are the primary indicators of laboratory performance. Greater than 99% of the Adak LCS/LCSD recoveries met criteria while approximately 0.1% was above the upper control limit (methylnaphthalene and acenaphthalene in one LCS). The results from the LCS/LCSD pairs for both recovery and RPD indicate the laboratory sample processing and analytical systems are in control.

Additionally MS/MSD results are examined to evaluate the impact of matrix effects on overall analytical performance and the potential usability of the data. An MS is a representative environmental sample that is spiked with target analytes of interest prior to being taken through the entire extraction and analytical process in order to evaluate analytical bias for an actual matrix. An MSD is a collocated (e.g., a VOC soil sample) or a homogenized sample that is also spiked with target compounds and processed through an entire extraction and analytical procedure, along with the MS, in order to evaluate overall precision between the analyte recoveries for an actual matrix. Laboratory duplicate samples are also used to assess precision of sample processing and analysis within the laboratory system. Approximately 97% of the MS/MSD recoveries met criteria while 3% were either above or below the laboratory and/or validation acceptance criteria. In almost all cases where the MS or MSD recovery exceeded (above or below) the control limit, the associated laboratory control sample results were within acceptance criteria, indicating a sample matrix effect or high analyte levels contributed to, or caused, the MS or MSD recovery control limit exceedances. The distribution of the MS/MSD recovery values does not indicate a significant net high or low bias. Both MS/MSD pairs and LCS/LCSD pairs were prepared and analyzed at the appropriate frequency of one per batch (not to exceed 20 samples in a batch). The Adak project laboratory data are considered usable for the site investigation/characterization activities.

7.3.2 Surrogate Percent Recoveries

Greater than 99% of all of the laboratory samples met their respective surrogate recovery criteria. Approximately 0.1% of the laboratory samples had percent recoveries below their respective acceptance criteria. A low recovery indicates a potential low bias for the sample result. A high recovery indicates a potential high bias for the sample result. Because such a small percentage of samples had failing surrogates, it is concluded that in general the data outside the percent recovery range does not have a discernible bias. The surrogate compound results outside control limits were attributed to either sample matrix effects or high sample analyte levels. In summary approximately 99% of the surrogate recovery data for the Adak project meets criteria and the surrogate recovery data outside the target range do not indicate bias. Therefore, the Adak

laboratory data are considered usable for supporting the site investigation/characterization activities.

7.3.3 Method Blanks

Method blanks are used to indicate potential bias in the analytical system. Method blanks were analyzed at the appropriate frequency of one per analytical batch (not to exceed 20 samples). The results of the method blanks are assessed to indicate potential bias inherent to the analytical system that may have contributed to the associated analytical result. Analytes were detected in approximately 4% of the total method blanks results; therefore, the estimated analyte results (concentrations between the practical quantification limit [PQL] and DL) in the associated samples are elevated to non-detect at the LOQ. The small percentage of estimated concentrations detected in the method blanks does not indicate an overall bias in the Adak data and therefore the data are considered usable for supporting the site investigation/characterization activities.

7.3.4 Trip Blanks

Trip blanks are used to indicate potential bias to VOC and GRO samples that may be introduced through sample shipping and handling. Two trip blanks were submitted with the samples over the course of sample collection at the Adak site and analyzed for GRO and VOCs. Estimated detections of GRO and specific VOCs were identified in the trip blanks; therefore, the estimated detections of GRO and VOCs in the associated samples were elevated to non-detect at the LOQ. In one case, methylene chloride was detected at a concentration greater than the LOQ; therefore, methylene chloride was U qualified in the associated samples at the reported concentration. Since all but one of the affected data points were reported as non-detect to the LOQ, the data are considered usable for supporting the site investigation/characterization activities.

7.4 Representativeness

Representativeness is a qualitative parameter used to assess whether sample results are representative of true site conditions. Representativeness relative to analytical measurements is primarily influenced by application of consistent sampling and analytical methodology. The sampling network was designed to assess current site conditions in the site-specific study units. The following measures were taken to address the representativeness of any material collected for analysis:

1. Sample collection was performed by a qualified person as required by 18 AAC 78 using methods listed in the SAP (ERS-JV 2012).
2. To minimize the potential for cross-contamination, new disposable collection equipment and new, pre-cleaned containers were used as specified in the SAP.
3. Field instruments and measuring devices were calibrated daily and operated in accordance with the pertinent standard operating procedure and/or the manufactures recommendations, per the SAP.

4. Samples were labeled and uniquely identified in accordance with the SAP, and field records indicate the exact location from which each field sample was collected.
5. Laboratory protocol was performed in accordance with laboratory standard operating procedures.

Therefore, measurement representativeness is considered acceptable for this project.

7.5 Comparability

The following sections detail comparability between the two laboratories and the various field screening techniques. Note that with the exception of 4 rejected data points, no data was excluded from the comparability analysis for data quality issues.

7.5.1 Fixed Laboratory vs. Mobile Laboratory Correlation

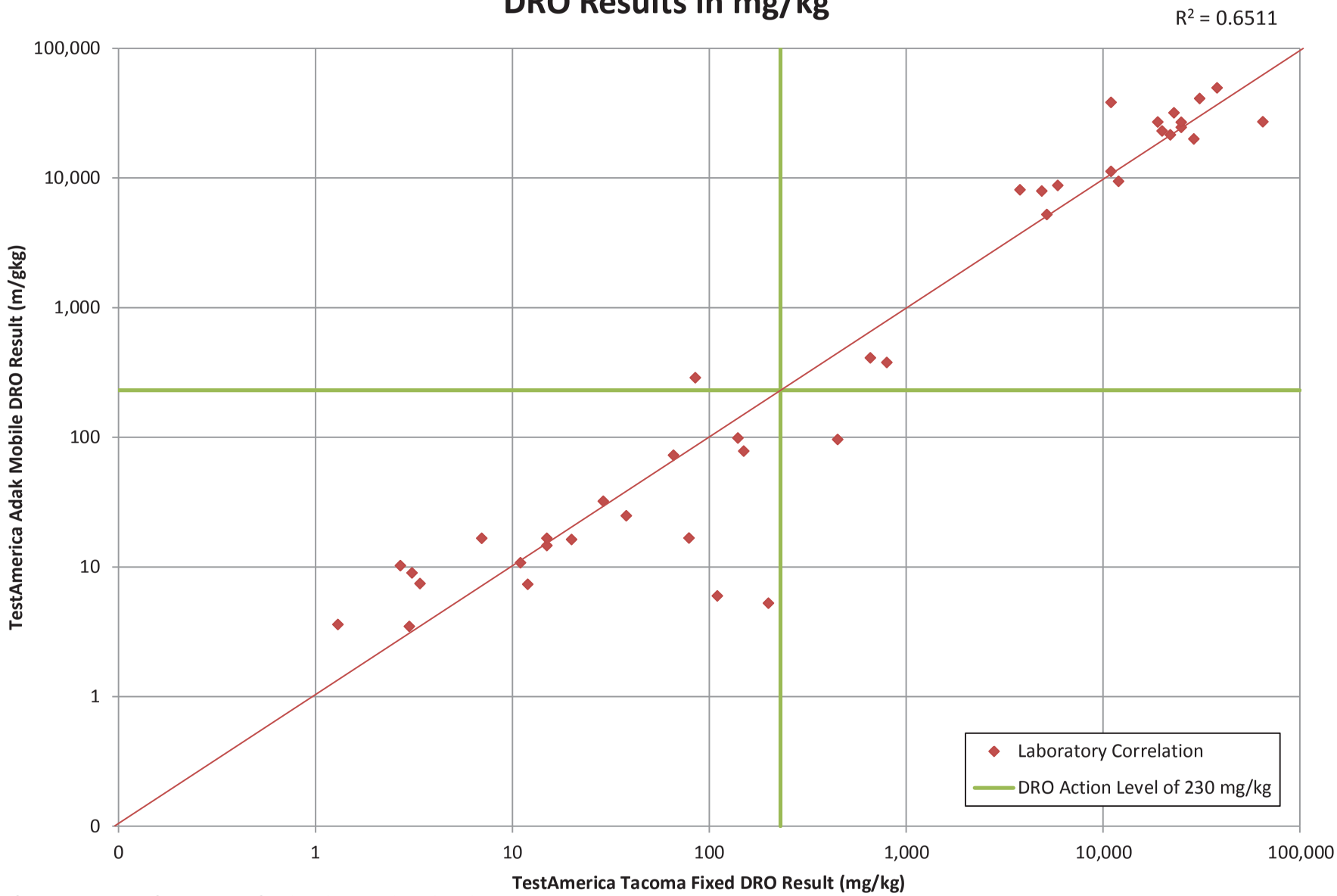
A total of 437 samples were collected for laboratory analysis during the 2012 field efforts. Two TestAmerica laboratories were used for sample analysis: a mobile laboratory set up in Adak to provide quick turnaround and a fixed laboratory in Tacoma, Washington for standard reporting. The mobile laboratory only analyzed samples for DRO, GRO, and BTEX and reported raw data with no quality control measures. A total of 351 samples were analyzed by the mobile laboratory. The Tacoma laboratory analyzed for all requested parameters, and analyzed 86 samples reporting to a Level IV quality control standard.

To evaluate the quality of results from the mobile laboratory, a correlation was conducted of the mobile and Tacoma laboratory on 40 sample pairs analyzed for DRO. One sample pair, 01-B019-04/01-SB022 was not included as the mobile laboratory did not appear to analyze the sample. The pairs were collected from suspected clean areas, moderately impacted areas, and highly impacted areas. Results from the mobile laboratory ranged from 1.3 to 65,000 mg/kg. Results from the Tacoma laboratory ranged from 3.5 to 49,371 mg/kg. A correlation plot is included in Chart 1. Note that in samples where both a primary and duplicate sample were collected, only the highest result was plotted as per the ADEC guidance.

Laboratory data is typically used to verify soil impacts compared to the applicable regulations. In general, the data correlated well in comparison to the applicable soil ADEC cleanup level for DRO of 230 mg/kg. Nineteen (19) samples were found to be below the ADEC cleanup level in both the mobile and Tacoma laboratories. Nineteen (19) samples were found to be above the ADEC cleanup level in both the mobile and Tacoma laboratories. Only 2 samples did not correlate – one was below the cleanup level in the Tacoma laboratory (85 mg/kg) and just above in the mobile (288 mg/kg). The other sample was above the cleanup level in the Tacoma laboratory (450 mg/kg) and below in the mobile (96 mg/kg).

The relative percent difference (absolute value of result minus result divided by averaged results) was calculated for the 41 correlated samples. The RPD for the samples was less than 50% for 25

Chart 1: Fixed and Mobile Laboratory Sample Correlation
DRO Results in mg/kg



Refer to Section 7 of IRA Report for details regarding this chart.

of the samples, and ranged as high as 200%. A summary of the correlated samples is presented in Table 7-2.

7.5.2 UVOST Field Screening vs. Laboratory Data Correlation

A total of 229 laboratory samples analyzed for DRO were correlated to the UVOST screening results of %RE. Two results that were rejected as bad data (01-SB009 and 01-SB015) were not included in the comparability analysis, and one sample pair, 01-B019-04/01-SB022 was not included as the mobile laboratory did not appear to analyze the sample. The pairs were collected from suspected clean areas, moderately impacted areas, and highly impacted areas. Laboratory results ranged from non-detect to over 49,000 mg/kg. To evaluate the usability of the UVOST as a screening tool, the DRO results were plotted against the peak %RE over the depth interval of the sample. The plot is presented in Chart 2.

The UVOST screening tool is used to give an immediate indication to the field scientist whether the site soils are impacted with fuel. The tool is not generally used to evaluate the soil impacts as compared to applicable regulations. For that reason, the important aspect to regard in the UVOST correlation to laboratory data is whether the UVOST and laboratory data both are positive for fuel or are both negative for fuel. For the purposes of this correlation, soil is presumed to contain fuel if the DRO laboratory result was greater than 230 mg/kg and the UVOST %RE was above 3%. A table of peak %RE values for each UVOST probe advanced for the project is provided in Appendix F. Figures for each UVOST probe displaying the estimated fuel type with the %RE value and corresponding depth are provided in Appendix F.

Of the 229 correlation points, 107 points (or 46.7%) had a low %RE and a low DRO laboratory result. Another 83 points (or 36.2%) had a high %RE and a high DRO laboratory result. For this project, the ability of the UVOST to accurately predict whether the soil was impacted or not impacted was 83%. Only 5 points of the 229 (or 2.2%) were falsely negative, meaning that the UVOST predicted the soil to not be impacted and the laboratory result showed evidence that it was impacted at a level greater than the threshold of 230 mg/kg DRO. The points are the following and are shown on Table 7-3.

- SB-011/UV-064/01-B011-01,
- SB-023/UV-081/01-B023-01,
- SB-028/UV-050/01-B028-01,
- SB-059/UV-234/01-B059-01, and
- SB-060/UV-239/01-B060-01.

On this project, there were 34 points (14.8%) that were falsely positive, meaning that the UVOST predicted the soil to be impacted, and the laboratory result indicated that it was not. Generally, this is a better scenario than false negatives as it ensures that laboratory data is used to confirm the area is clean rather than assuming from a screening tool that it is not. A summary of

Table 7-2 Mobile and Fixed Laboratory Correlation Samples
East Canal/Bldg T-1451 Area, Adak, Alaska

Sample Location	Top Depth (ft bgs)	Bottom Depth (ft bgs)	TestAmerica Tacoma		TestAmerica Adak Mobile		Relative ercent Difference
			Sample ID	DRO Result (mg/kg)	Sample ID	DRO Result (mg/kg)	
SB-010	7.5	9	01-SB018	**2 7**	01-B010-02	**10 2**	116%
SB-011	3	4	01-SB019	**11000**	01-B011-02	**11209**	2%
SB-015	3	4	01-SB020	**25000**	01-B015-02	**24485**	2%
SB-016	1	2	01-SB021	**5200**	01-B016-01/02	**5218**	0%
SB-020	4	5	01-SB023	**20000**	01-B020-03/04	**22964**	14%
SB-022	4	5	01-SB024	**25000**	01-B022-02	**26878**	7%
SB-024	4	5	01-SB025	**12000**	01-B024-03	**9417**	24%
SB-026	5	6	01-SB026	**7**	01-B026-04	**16 6**	82%
SB-028	4	5	01-SB027/28	**65000**	01-B028-04	**27050**	82%
SB-030	4	5	01-SB029	**85**	01-B030-03	**288**	109%
SB-033	4	5	01-SB030	**15**	01-B033-04	**14 6**	3%
SB-036	2	3	01-SB031	**3800**	01-B036-02	**8084**	72%
SB-039	2	3	01-SB032	**3 1**	01-B039-02	**9 0**	97%
SB-042	3.5	4.5	01-SB033	**11000**	01-B042-03	**38244**	111%
SB-044	2.5	3.5	01-SB034	**31000**	01-B044-02	**40886**	28%
SB-044	9	10	01-SB035	**110**	01-B044-05	**6 0**	179%
SB-046	2.5	3.5	01-SB036/37	**3 4**	01-B046-02	**7 4**	75%
SB-047	3.3	5.3	01-SB038	**29000**	01-B047-01	**19941**	37%
SB-048	5.7	7.7	01-SB039	**4900**	01-B048-01	**7920**	47%
SB-049	3.4	5.4	01-SB040	**23000**	01-B049-01	**31691**	32%
SB-050	2.1	4.1	01-SB041	**19000**	01-B050-01	**27026**	35%
SB-051	2.4	4.4	01-SB042	**38000**	01-B051-01	**49371**	26%
SB-052	2.3	4.3	01-SB043	**660**	01-B052-01	**409 8**	47%
SB-053	1	2.5	01-SB044	**22000**	01-B053-02	**21501**	2%
SB-057	7	8.5	01-SB045/46	**200**	01-B057-04	**5 3**	190%
SB-058	16	17.5	01-SB047	**5900**	01-B058-02	**8731**	39%
TP-025			01-EX002	**1 3**	01-EX025-08	**3 6**	94%
TP-009			01-EX005	**3**	01-EX009-15	**3 5**	14%
TA-Overburden			01-EX012	**12**	01-EX039-01	**7 3**	48%
TA-Cell-1			01-EX013	**79**	01-EX053-01	**16 7**	130%
TA-Cell-2			01-EX015	**450**	01-EX065-01	**95 9**	130%
TA-Cell-4			01-EX016	**20**	01-EX080-01	**16 3**	20%
Contam-SP			01-EX017	**800**	01-EX092-01	**376 5**	72%
TA-Cell-7			01-EX018	**66**	01-EX100-01	**72 5**	9%
Clean-SP			01-EX019	**150**	01-EX120-01	**78 2**	63%
TA-Cell-10			01-EX021	**29**	01-EX128-01	**32 1**	10%
TA-Cell-12			01-EX022	**140**	01-EX135-01	**98 6**	35%
TA-Cell-15			01-EX023	**11**	01-EX139-01	**10 8**	2%
TA-Cell-18			01-EX025	**38**	01-EX142-01	**24 8**	42%
TA-Cell-19			01-EX026	**15**	01-EX143-01	**16 6**	10%

Notes:

[ ] = discrepancy between results and ADEC cleanup level of 230 mg/kg for DRO

%RE = OST percent of relative emittance

bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level

DRO = Diesel Range Organics

EX = excavation soil sample identification

ft bgs = feet below the ground surface

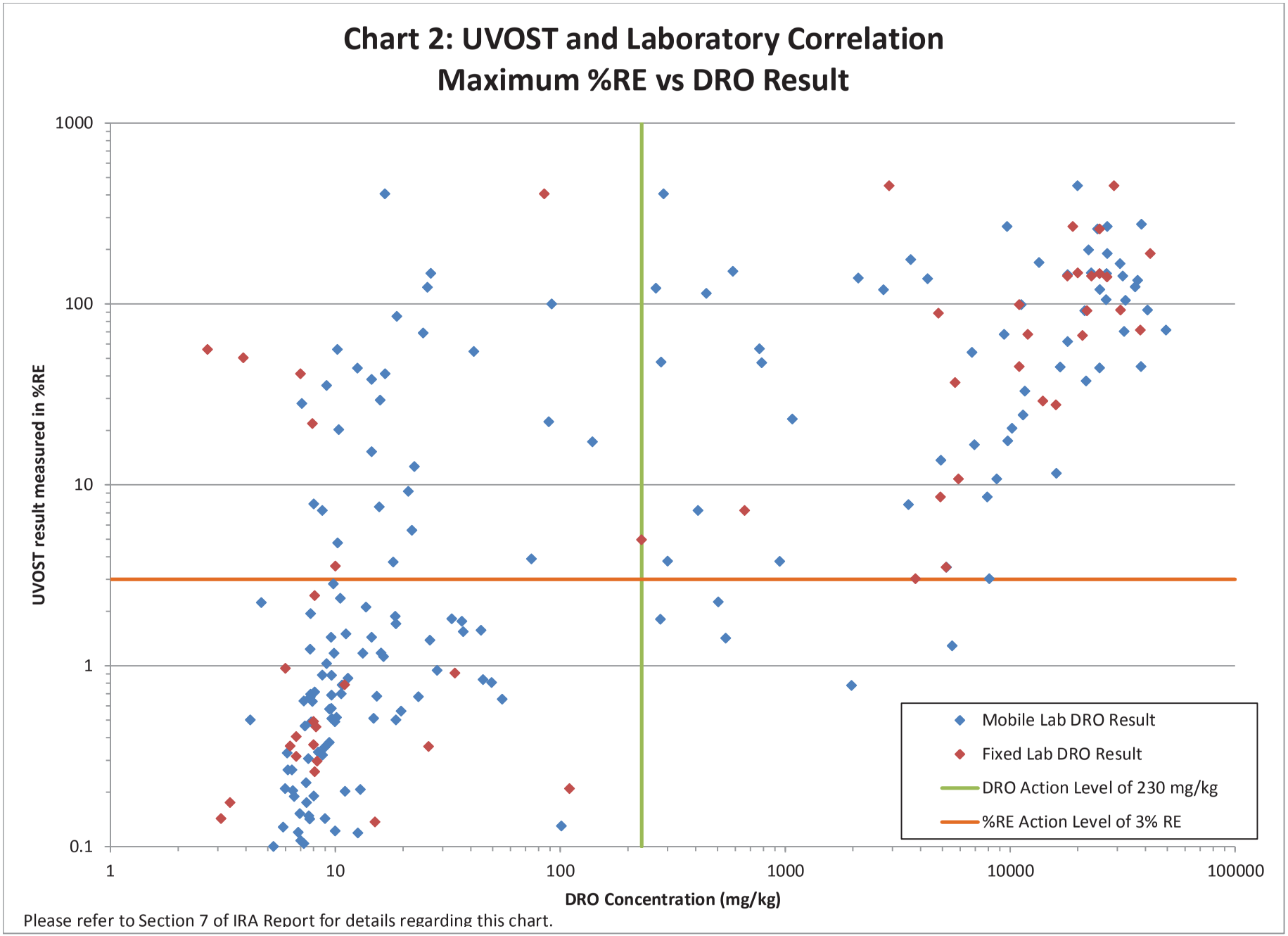
mg/kg = milligrams per kilogram

QC = quality control

SB = soil boring number/sample identification

SP = soil sample collected from stockpile

TA = sample collected from the MNA treatment area as unimpacted soil



Please refer to Section 7 of IRA Report for details regarding this chart.

Table 7-3 OST and Laboratory Correlation oints
East Canal/Bldg T-1451 Area, Adak, Alaska

Soil Boring ID	OST ID	Sample ID	Lab	Top Depth (ft bgs)	Bottom Depth (ft bgs)	DRO Result (mg/kg)	OST eak RE	Explanation
SB-001	-017	01-SB001	ixed	4	5	8	0.37	
SB-001	-017	01-SB002	ixed	5	6	8	0.30	
SB-002	-020	01-SB003	ixed	4	5	**2900**	**450 22**	
SB-002	-020	01-SB004	ixed	5	6	4	**50 36**	No obvious explanation
SB-002	-020	01-SB005	ixed	11.5	12.5	8	0.49	
SB-003	-011	01-SB006	ixed	5	6	230	**4 97**	
SB-003	-011	01-SB007	ixed	8	9	8	0.46	
SB-004	-039	01-SB011	ixed	4	5	**21000**	**66 85**	
SB-004	-039	01-SB012	ixed	9	10	8	**21 79**	ncharacteristic OST response result 10% for entire boring
SB-005	-008	01-SB013	ixed	3.5	5	11	0.79	
SB-006	-035	01-SB016	ixed	4	6	**27000**	**140 99**	
SB-006	-035	01-SB017	ixed	9	10	8	**2 44**	
SB-007	-055	01-B007-01	Mobile	1	2	37	**1 54**	
SB-007	-055	01-B007-02	Mobile	3.5	4.5	**25092**	**119 82**	
SB-007	-055	01-B007-03	Mobile	5	6	**281**	**47 71**	
SB-008	-057	01-B008-01	Mobile	1	2.5	**10218**	**20 54**	
SB-008	-057	01-B008-02	Mobile	3	4	27	**147 32**	No obvious explanation
SB-008	-057	01-B008-03	Mobile	8	9	15	0.68	
SB-009	-018	01-B009-01	Mobile	1	2	**3533**	**7 78**	
SB-009	-018	01-B009-02	Mobile	3	4	**769**	**56 50**	
SB-009	-018	01-B009-03	Mobile	7.5	9	6	0.33	
SB-010	-052	01-B010-01	Mobile	1	2	**11440**	**24 28**	
SB-010	-052	01-B010-02	Mobile	7.5	9	10	**55 91**	No obvious explanation
SB-010	-052	01-B010-03	Mobile	10	11	55	0.65	
SB-010	-052	01-SB018	ixed	7.5	9	3	**55 91**	No obvious explanation
SB-011	-064	01-B011-01	Mobile	1	2	**545**	**1 42**	No obvious explanation
SB-011	-064	01-B011-02	Mobile	3	4	**11209**	**99 03**	
SB-011	-064	01-B011-03	Mobile	5	6	19	**85 27**	No obvious explanation
SB-011	-064	01-SB019	ixed	3	4	**11000**	**99 03**	
SB-012	-096	01-B012-01	Mobile	1	2	**4923**	**13 65**	
SB-012	-096	01-B012-02	Mobile	3	4	**32578**	**104 59**	
SB-012	-096	01-B012-03	Mobile	4.5	5.5	**4296**	**137 79**	
SB-012	-096	01-B012-04	Mobile	9	10	16	**7 55**	OST likely malfunctioning result 5% for entire boring
SB-013	-093	01-B013-01	Mobile	1	2	**947**	**3 77**	
SB-013	-093	01-B013-02	Mobile	3	4	**9695**	**267 67**	
SB-013	-093	01-B013-03	Mobile	4.5	5.5	9	**1 03**	
SB-013	-093	01-B013-04	Mobile	7	8	10	0.51	
SB-014	-101	01-B014-01	Mobile	1	2	14	**2 11**	
SB-014	-101	01-B014-02	Mobile	2	3	**26737**	**105 34**	
SB-014	-101	01-B014-03	Mobile	4.5	5.5	**30831**	**166 73**	
SB-014	-101	01-B014-04	Mobile	7	8	8	**1 94**	
SB-015	-074	01-B015-01	Mobile	1	2	25	**68 93**	Sample likely collected closer to 1 ft rather than 2 ft
SB-015	-074	01-B015-02	Mobile	3	4	**24485**	**259 37**	
SB-015	-074	01-B015-03	Mobile	4.5	5.5	**38409**	**275 52**	
SB-015	-074	01-B015-04	Mobile	6	7	33	**1 81**	
SB-015	-074	01-SB020	ixed	3	4	**25000**	**259 37**	
SB-016	-095	01-B016-01	Mobile	1	2	**5218**	**3 50**	
SB-016	-095	01-B016-03	Mobile	4	5	**36898**	**135 11**	
SB-016	-095	01-B016-04	Mobile	5.5	6.5	92	**99 76**	No obvious explanation
SB-016	-095	01-B016-05	Mobile	8	9	22	**5 60**	OST likely malfunctioning result 1% for entire boring
SB-016	-095	01-B016-06	Mobile	11.5	12.5	18	**3 74**	OST likely malfunctioning result 1% for entire boring
SB-016	-095	01-SB021	ixed	1	2	**5200**	**3 50**	
SB-017	-104	01-B017-01	Mobile	1	2	10	**1 17**	
SB-017	-104	01-B017-02	Mobile	3	4	9	**7 20**	OST response is orange not blue
SB-017	-104	01-B017-03	Mobile	7.5	8.5	8	**1 23**	
SB-018	-007	01-B018-01	Mobile	1	2	8	0.72	
SB-018	-007	01-B018-02	Mobile	3	4	10	0.49	
SB-018	-007	01-B018-03	Mobile	5	6	**301**	**3 78**	
SB-019	-032	01-B019-01	Mobile	1	2	**9772**	**17 46**	
SB-019	-032	01-B019-02	Mobile	2	3	**16718**	**44 81**	
SB-019	-032	01-B019-05	Mobile	5	6	41	**54 48**	No obvious explanation
SB-019	-032	01-SB022	ixed	4	5	**18000**	**142 54**	
SB-020	-084	01-B020-01	Mobile	0.5	1.5	19	**1 71**	
SB-020	-084	01-B020-02	Mobile	2	3	**18053**	**61 96**	
SB-020	-084	01-B020-04	Mobile	4	5	**22964**	**148 24**	
SB-020	-084	01-B020-05	Mobile	6	7	9	**35 34**	ncharacteristic OST response result 20% for entire boring
SB-020	-084	01-B020-06	Mobile	9	10	7	**28 11**	ncharacteristic OST response result 20% for entire boring
SB-020	-084	01-SB023	ixed	4	5	**20000**	**148 24**	
SB-021	-098	01-B021-01	Mobile	0.5	1.5	26	**1 38**	
SB-021	-098	01-B021-02	Mobile	2.5	3.5	**21763**	**37 43**	
SB-021	-098	01-B021-04	Mobile	4	5	**446**	**114 16**	
SB-021	-098	01-B021-05	Mobile	7.5	8.5	22	**12 62**	ncharacteristic OST response result 5% for entire boring
SB-022	-066	01-B022-01	Mobile	0.5	1.5	44	**1 57**	
SB-022	-066	01-B022-02	Mobile	4	5	**26878**	**146 97**	
SB-022	-066	01-B022-03	Mobile	5	6	**3617**	**175 74**	
SB-022	-066	01-B022-04	Mobile	6.5	7.5	21	**9 20**	ncharacteristic OST response result 2% for entire boring
SB-022	-066	01-SB024	ixed	4	5	**25000**	**146 97**	
SB-023	-081	01-B023-01	Mobile	1	2	**505**	**2 25**	No obvious explanation
SB-023	-081	01-B023-02	Mobile	3	4	10	0.52	
SB-023	-081	01-B023-04	Mobile	5	6	9	0.58	
SB-024	-086	01-B024-01	Mobile	1	2	8	**7 84**	OST response is orange not blue
SB-024	-086	01-B024-02	Mobile	2.5	3.5	**11633**	**32 92**	
SB-024	-086	01-B024-03	Mobile	4	5	**9417**	**67 83**	
SB-024	-086	01-B024-04	Mobile	6	7	10	**20 15**	ncharacteristic OST response result 15% for entire boring

Table 7-3 OST and Laboratory Correlation oints
East Canal/Bldg T-1451 Area, Adak, Alaska

Soil Boring ID	OST ID	Sample ID	Lab	Top Depth (ft bgs)	Bottom Depth (ft bgs)	DRO Result (mg/kg)	OST eak RE	Explanation
SB-024	-086	01-SB025	ixed	4	5	**12000**	**67 83**	
SB-025	-043	01-B025-01	Mobile	1.5	2.5	**1075**	**23 11**	
SB-025	-043	01-B025-02	Mobile	3.5	4.5	**2115**	**139 03**	
SB-025	-043	01-B025-04	Mobile	5	6	**586**	**151 25**	
SB-025	-043	01-B025-05	Mobile	6.5	7.5	50	0.81	
SB-026	-068	01-B026-01	Mobile	1	2	**267**	**122 09**	
SB-026	-068	01-B026-02	Mobile	2	3	**13465**	**169 35**	
SB-026	-068	01-B026-03	Mobile	3.5	4.5	**22331**	**198 47**	
SB-026	-068	01-B026-04	Mobile	5	6	17	**41 10**	No obvious explanation
SB-026	-068	01-SB026	ixed	5	6	7	**41 10**	No obvious explanation
SB-027	-005	01-B027-01	Mobile	2	3	20	0.56	
SB-027	-005	01-B027-02	Mobile	4	5	11	**1 50**	
SB-027	-005	01-B027-03	Mobile	5	6	**2736**	**119 47**	
SB-027	-005	01-B027-04	Mobile	7.5	8.5	74	**3 90**	No obvious explanation
SB-028	-050	01-B028-01	Mobile	0.5	1.5	**279**	**1 80**	No obvious explanation
SB-028	-050	01-B028-02	Mobile	2.5	3.5	**18040**	**145 04**	
SB-028	-050	01-B028-04	Mobile	4	5	**27050**	**190 01**	
SB-028	-050	01-B028-05	Mobile	6	7	13	**44 17**	ncharacteristic OST response reprobed as -050b
SB-028	-050	01-B028-06	Mobile	9	10	14	**38 20**	ncharacteristic OST response reprobed as -050b
SB-028	-050	01-SB027	ixed	4	5	**42000**	**190 01**	
SB-029	-006	01-B029-01	Mobile	1	2	9	0.38	
SB-029	-006	01-B029-02	Mobile	3	4	15	**1 44**	
SB-029	-006	01-B029-03	Mobile	5.5	6.5	26	**123 35**	No obvious explanation
SB-029	-006	01-B029-05	Mobile	7	8	4	0.50	
SB-030	-003	01-B030-01	Mobile	1	2	18	**1 87**	
SB-030	-003	01-B030-02	Mobile	3.5	4.5	17	**405 92**	No obvious explanation
SB-030	-003	01-B030-03	Mobile	4	5	**288**	**405 92**	
SB-030	-003	01-B030-04	Mobile	8	9	5	**2 23**	
SB-030	-003	01-SB029	ixed	4	5	85	**405 92**	No obvious explanation
SB-031	-024	01-B031-01	Mobile	1	2	16	**1 12**	
SB-031	-024	01-B031-02	Mobile	3.5	4.5	139	**17 30**	No obvious explanation
SB-031	-024	01-B031-03	Mobile	5.5	6.5	89	**22 30**	No obvious explanation
SB-031	-024	01-B031-05	Mobile	9	10	8	0.49	
SB-033	-210	01-SB030	ixed	4	5	15	0.14	
SB-035	-192	01-B035-01	Mobile	1	2	8	0.33	
SB-035	-192	01-B035-02	Mobile	2	3	11	0.01	
SB-035	-192	01-B035-03	Mobile	3.5	4.5	7	0.03	
SB-035	-192	01-B035-04	Mobile	8.5	9.5	8	0.19	
SB-036	-194	01-B036-01	Mobile	0.5	1.5	11	0.85	
SB-036	-194	01-B036-02	Mobile	2	3	**8084**	**3 02**	
SB-036	-194	01-B036-03	Mobile	4	5	**32178**	**70 32**	
SB-036	-194	01-B036-04	Mobile	5	6	13	0.21	
SB-036	-194	01-B036-05	Mobile	8	9	12	0.05	
SB-036	-194	01-B036-06	Mobile	10.5	11.5	11	0.08	
SB-036	-194	01-B036-07	Mobile	11.5	12	12	0.04	
SB-036	-194	01-SB031	ixed	2	3	**3800**	**3 02**	
SB-037	-193	01-B037-01	Mobile	1	2	15	0.51	
SB-037	-193	01-B037-02	Mobile	2.5	3.5	**787**	**47 29**	
SB-037	-193	01-B037-03	Mobile	4.5	5	10	**4 77**	No obvious explanation
SB-037	-193	01-B037-04	Mobile	5	6	13	**1 17**	
SB-037	-193	01-B037-05	Mobile	7	8	6	0.27	
SB-038	-208	01-B038-01	Mobile	1	2	7	0.64	
SB-038	-208	01-B038-02	Mobile	2	3	13	0.12	
SB-038	-208	01-B038-03	Mobile	4	5	7	0.19	
SB-038	-208	01-B038-04	Mobile	6.5	7.5	11	0.05	
SB-038	-208	01-B038-05	Mobile	9	10	5	0.10	
SB-039	-207	01-B039-01	Mobile	1	2	8	0.63	
SB-039	-207	01-B039-02	Mobile	2	3	9	0.14	
SB-039	-207	01-B039-03	Mobile	4	5	8	0.31	
SB-039	-207	01-B039-04	Mobile	5	6	6	0.13	
SB-039	-207	01-B039-05	Mobile	9	10	7	0.10	
SB-039	-207	01-SB032	ixed	2	3	3	0.14	
SB-040	-196	01-B040-01	Mobile	1	2	10	0.58	
SB-040	-196	01-B040-02	Mobile	2.5	3.5	8	0.09	
SB-040	-196	01-B040-03	Mobile	4	5	6	0.05	
SB-040	-196	01-B040-05	Mobile	5	6	5	0.06	
SB-040	-196	01-B040-06	Mobile	7	8	7	0.15	
SB-041	-200	01-B041-01	Mobile	1	2	45	0.84	
SB-041	-200	01-B041-02	Mobile	2.5	3.5	11	0.20	
SB-041	-200	01-B041-03	Mobile	4	5	8	0.08	
SB-041	-200	01-B041-04	Mobile	5	6	7	0.06	
SB-041	-200	01-B041-05	Mobile	7	8	7	0.04	
SB-042	-203	01-B042-01	Mobile	1	2	23	0.67	
SB-042	-203	01-B042-02	Mobile	2.5	3.5	16	**29 37**	Sample likely collected closer to 2.5 ft
SB-042	-203	01-B042-03	Mobile	3.5	4.5	**38244**	**45 06**	
SB-042	-203	01-B042-04	Mobile	5	6	14	**15 22**	No obvious explanation
SB-042	-203	01-B042-05	Mobile	9	10	7	0.23	
SB-042	-203	01-SB033	ixed	3.5	4.5	**11000**	**45 06**	
SB-043	-205	01-B043-01	Mobile	1	2	10	0.69	
SB-043	-205	01-B043-02	Mobile	2.5	3.5	10	0.12	
SB-043	-205	01-B043-03	Mobile	4	5	8	0.14	
SB-043	-205	01-B043-04	Mobile	5	6	8	0.15	
SB-044	-206	01-B044-01	Mobile	1	2	8	0.67	
SB-044	-206	01-B044-02	Mobile	2.5	3.5	**40886**	**92 35**	

Table 7-3 OST and Laboratory Correlation oints
East Canal/Bldg T-1451 Area, Adak, Alaska

Soil Boring ID	OST ID	Sample ID	Lab	Top Depth (ft bgs)	Bottom Depth (ft bgs)	DRO Result (mg/kg)	OST eak RE	Explanation
SB-044	-206	01-B044-03	Mobile	4	5	**35967**	**124 21**	
SB-044	-206	01-B044-04	Mobile	5	6	36	**1 76**	
SB-044	-206	01-B044-05	Mobile	9	10	6	0.21	
SB-044	-206	01-B044-06	Mobile	10	11	101	0.13	
SB-044	-206	01-SB034	ixed	2.5	3.5	**31000**	**92 35**	
SB-044	-206	01-SB035	ixed	9	10	110	0.21	
SB-045	-201	01-B045-01	Mobile	1	2	28	0.94	
SB-045	-201	01-B045-02	Mobile	2.5	3.5	6	0.20	
SB-045	-201	01-B045-03	Mobile	4	5	**6776**	**53 95**	
SB-045	-201	01-B045-05	Mobile	5	6	19	0.50	
SB-045	-201	01-B045-06	Mobile	6	7	6	0.27	
SB-046	-199	01-B046-01	Mobile	1	2	11	0.78	
SB-046	-199	01-B046-02	Mobile	2.5	3.5	7	0.18	
SB-046	-199	01-B046-03	Mobile	4	5	7	0.11	
SB-046	-199	01-B046-05	Mobile	5	6	6	0.06	
SB-046	-199	01-B046-06	Mobile	6	7	7	0.12	
SB-046	-199	01-SB036	ixed	2.5	3.5	3	0.18	
SB-047	-020	01-B047-01	Mobile	3.3	5.3	**19941**	**450 22**	
SB-047	-020	01-SB038	ixed	3.3	5.3	**29000**	**450 22**	
SB-048	-014	01-B048-01	Mobile	5.7	7.7	**7920**	**8 56**	
SB-048	-014	01-SB039	ixed	5.7	7.7	**4900**	**8 56**	
SB-049	-032	01-B049-01	Mobile	3.4	5.4	**31691**	**142 54**	
SB-049	-032	01-SB040	ixed	3.4	5.4	**23000**	**142 54**	
SB-050	-093	01-B050-01	Mobile	2.1	4.1	**27026**	**267 67**	
SB-050	-093	01-SB041	ixed	2.1	4.1	**19000**	**267 67**	
SB-051	-039	01-B051-01	Mobile	2.4	4.4	**49371**	**71 56**	
SB-051	-039	01-SB042	ixed	2.4	4.4	**38000**	**71 56**	
SB-052	-104	01-B052-01	Mobile	2.3	4.3	**410**	**7 20**	
SB-052	-104	01-SB043	ixed	2.3	4.3	**660**	**7 20**	
SB-053	-241	01-B053-01	Mobile	0.5	1	11	**2 36**	
SB-053	-241	01-B053-02	Mobile	1	2.5	**21501**	**91 61**	
SB-053	-241	01-B053-03	Mobile	3	4	**25013**	**44 23**	
SB-053	-241	01-B053-05	Mobile	5.5	6.5	11	0.70	
SB-053	-241	01-SB044	ixed	1	2.5	**22000**	**91 61**	
SB-054	-269	01-B054-01	Mobile	0.5	1.5	10	**1 44**	
SB-054	-269	01-B054-02	Mobile	3	4	9	0.32	
SB-054	-269	01-B054-03	Mobile	5	6	9	0.35	
SB-055	-271	01-B055-01	Mobile	1.5	2.5	10	**2 84**	
SB-055	-271	01-B055-02	Mobile	4	5	8	0.70	
SB-055	-271	01-B055-03	Mobile	5	6	7	0.46	
SB-058	-230	01-B058-01	Mobile	14.5	15.5	9	0.89	
SB-058	-230	01-B058-02	Mobile	16	17.5	**8731**	**10 76**	
SB-058	-230	01-B058-03	Mobile	18	19	10	0.88	
SB-058	-230	01-SB047	ixed	16	17.5	**5900**	**10 76**	
SB-059	-234	01-B059-01	Mobile	15	16	**5530**	**1 29**	No obvious explanation
SB-059	-234	01-B059-02	Mobile	17	18	**6938**	**16 66**	
SB-059	-234	01-B059-04	Mobile	19	20	16	**1 17**	
SB-060	-239	01-B060-01	Mobile	17	18	**1972**	0.78	No obvious explanation
SB-060	-239	01-B060-02	Mobile	18.5	19.5	**16053**	**11 56**	
SB-061	-177	01-SB048	ixed	3	4	7	0.41	
SB-061	-177	01-SB049	ixed	4	5	**14000**	**29 03**	
SB-061	-177	01-SB050	ixed	5	6	**4800**	**88 82**	
SB-061	-177	01-SB051	ixed	6.5	7.5	10	**3 55**	No obvious explanation
SB-062	-263	01-SB052	ixed	3	4	6	0.97	
SB-062	-263	01-SB053	ixed	4.5	5	34	0.91	
SB-063	-178	01-SB054	ixed	3	4	6	0.36	
SB-063	-178	01-SB055	ixed	5	6	26	0.36	
SB-064	-265	01-SB056	ixed	2.5	3.5	7	0.32	
SB-064	-265	01-SB057	ixed	4	5	**16000**	**27 67**	
SB-064	-265	01-SB058	ixed	5	6	**5700**	**36 69**	
SB-064	-265	01-SB060	ixed	7	8	8	0.26	

Notes
Blue highlighting indicates the result is a false negative.
Red highlighting indicates the result is a false positive.
%RE = percentage of relative emittance
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
DRO = Diesel Range Organics
ft bgs = feet below the ground surface
mg/kg = milligrams per kilogram
QC = quality control
SB = soil boring number/sample identification
= ultra viloet optical screening tool probe identification number
OST = ultra viloet optical screening tool

the correlation points is included in Table 7-3. The false negative points are shown in blue. The false positive points are shown in red.

A review of the data indicated that in certain situations, the UVOST results were either erroneous (meaning that the tool was likely malfunctioning), had indications that the area was not impacted by fuel despite the elevated %RE (the response was due to another source rather than fuel), or indicated that the level of 3% RE may have been too low of an action level for this site. Explanations for some of the false positive correlation points are included in Table 7-3.

7.5.3 All Field Screening and All Laboratory Data Correlation

During the 2012 field effort, a specific series of nine samples were collected at discrete depths for multiple types of screening and laboratory analysis to provide data for correlation (Figure 10). The field screening methods included UVOST screening (as normal, in-situ), screening with the UVOST with soil in a bag (ex-situ), PID using headspace methods, mobile laboratory data, and fixed laboratory data. The results are shown in Table 7-4. The typical in-situ screening data and laboratory data correlation was described in detail in Section 7.5.2. The correlation of fixed and mobile laboratory data was described in detail in Section 7.5.1.

As described in Section 7.5.2, screening tools are used in the field to indicate a binary result: whether or not the soil is impacted with fuel. For this project, the action levels for a positive indicator were a UVOST response of 3%RE, a headspace PID response of 10 ppmV, and a laboratory result of 230 mg/kg.

Chart 3 compares the two screening tools used on site during 2012 field efforts; PID and UVOST. The results are generally comparable in that both tools indicated that soils were impacted in all but one case, where the PID was elevated and the UVOST was not. Chart 4 compares the two methods for using the UVOST tool; in-situ and ex-situ. It must be noted here that using the UVOST ex-situ is not its intended purpose. In order to use the UVOST tool as ex-situ the soil must be removed from the ground using a sampling tool and is effectively similar to using a PID. The results are generally comparable in that both tools indicated that soils were impacted nearly 100% of the time. In one case, the ex-situ reading was 1.2% and the in situ was 7.2%. Chart 5 compares the PID screening tool to the laboratory results. Here the results are comparable given that all results indicated fuel impacts 100% of the time.

7.5.4 Standard Methods, Procedures, Quantitation Units, and Reporting Formats

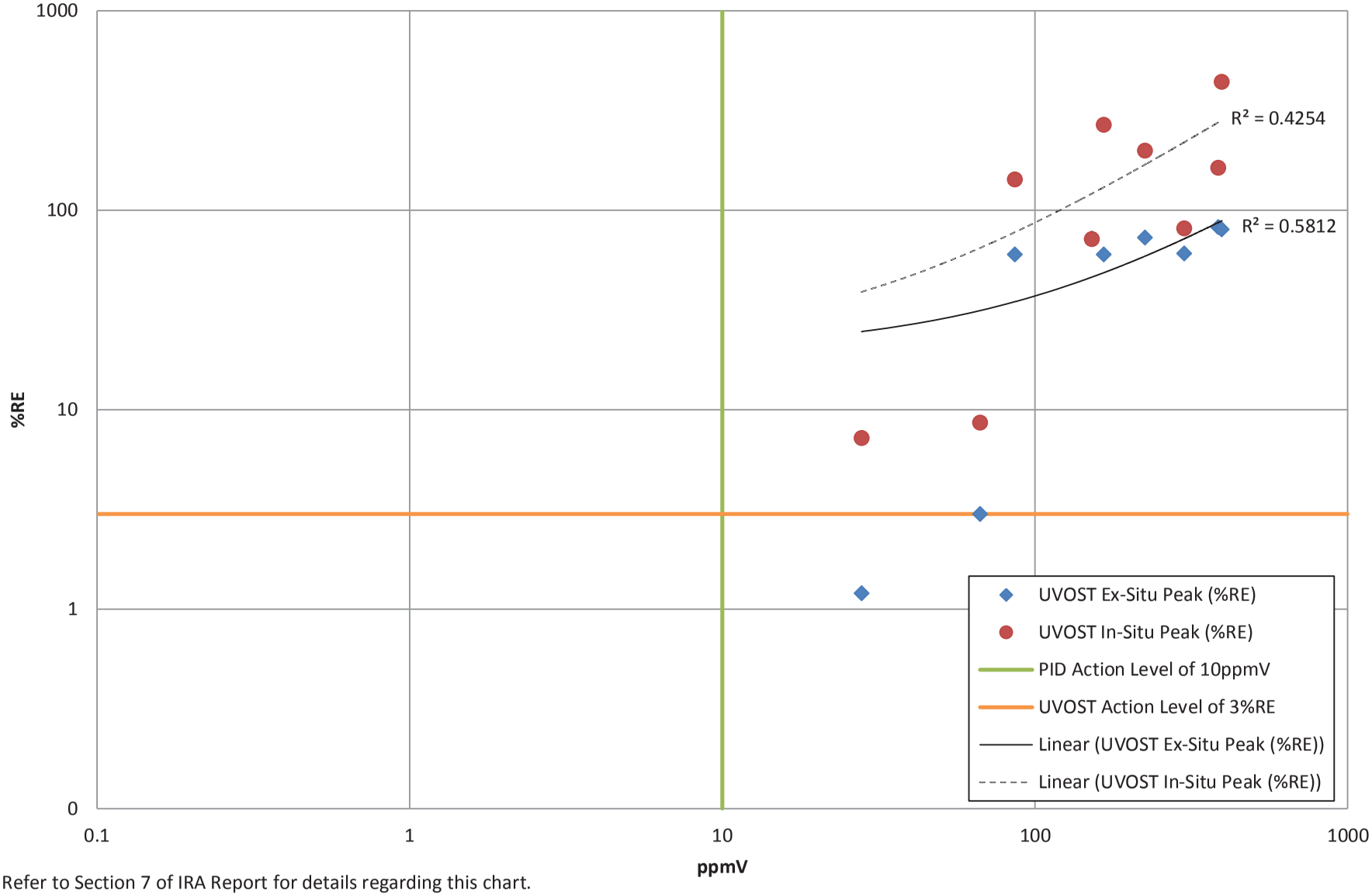
EPA methods as specified by the project specific SAP were used for sample preparation and analysis of the samples. Therefore, the analytical results are considered comparable to other samples prepared and analyzed by these same methods.

Table 7-4 Correlation Data for All Sampling Methods
East Canal/Bldg T-1451 Area, Adak, Alaska

rimary Sample Location ID	Duplicate Sample Location ID	In-Situ Depth (ft bgs)	OST In-Situ eak (RE)	Ex-Situ Sample Depth (ft bgs)	OST Ex-Situ eak (RE)	eadspace ID (ppmv)	Mobile Laboratory Sample ID	Mobile Laboratory Result (mg/kg)	Fixed Laboratory Sample ID	Fixed Laboratory Result (mg/kg)
B031	TP27	5.1	**81 0**	4.5 - 5.5	**60 7**	**300 1**	01-EX027-01	**43,494**	01-EX007	**34000**
B026	TP28	3.8	**198 5**	3.25 - 4.25	**72 9**	**225 1**	01-EX028-01	**23,607**	01-EX008	**21000**
B010	TP29	3.6	**163 0**	3.0 - 4.0	**82 1**	**386 1**	01-EX029-01	**16,059**	01-EX009	**14000**
020	B047	4.3	**440 0**	3.3 - 5.3	**80 0**	**395 8**	01-SB047-01	**19,940**	01-SB038	**29000**
014	B048	6.7	**8 6**	5.7 - 7.7	**3 0**	**66 8**	01-SB048-01	**7,920**	01-SB039	**4900**
032	B049	4.4	**142 5**	3.4 - 5.4	**60 0**	**86 3**	01-SB049-01	**31,691**	01-SB040	**23000**
093	B050	3.1	**267 7**	2.0 - 4.0	**60 0**	**166 1**	01-SB050-01	**27,025**	01-SB041	**19000**
039	B051	3.4	**71 6**	2.5 - 4.5	**72 0**	**152 1**	01-SB051-01	**4,937**	01-SB042	**38000**
104	B052	3.3	**7 2**	2.3 - 4.3	**1 2**	**27 9**	01-SB052-01	**410**	01-SB043	**660**

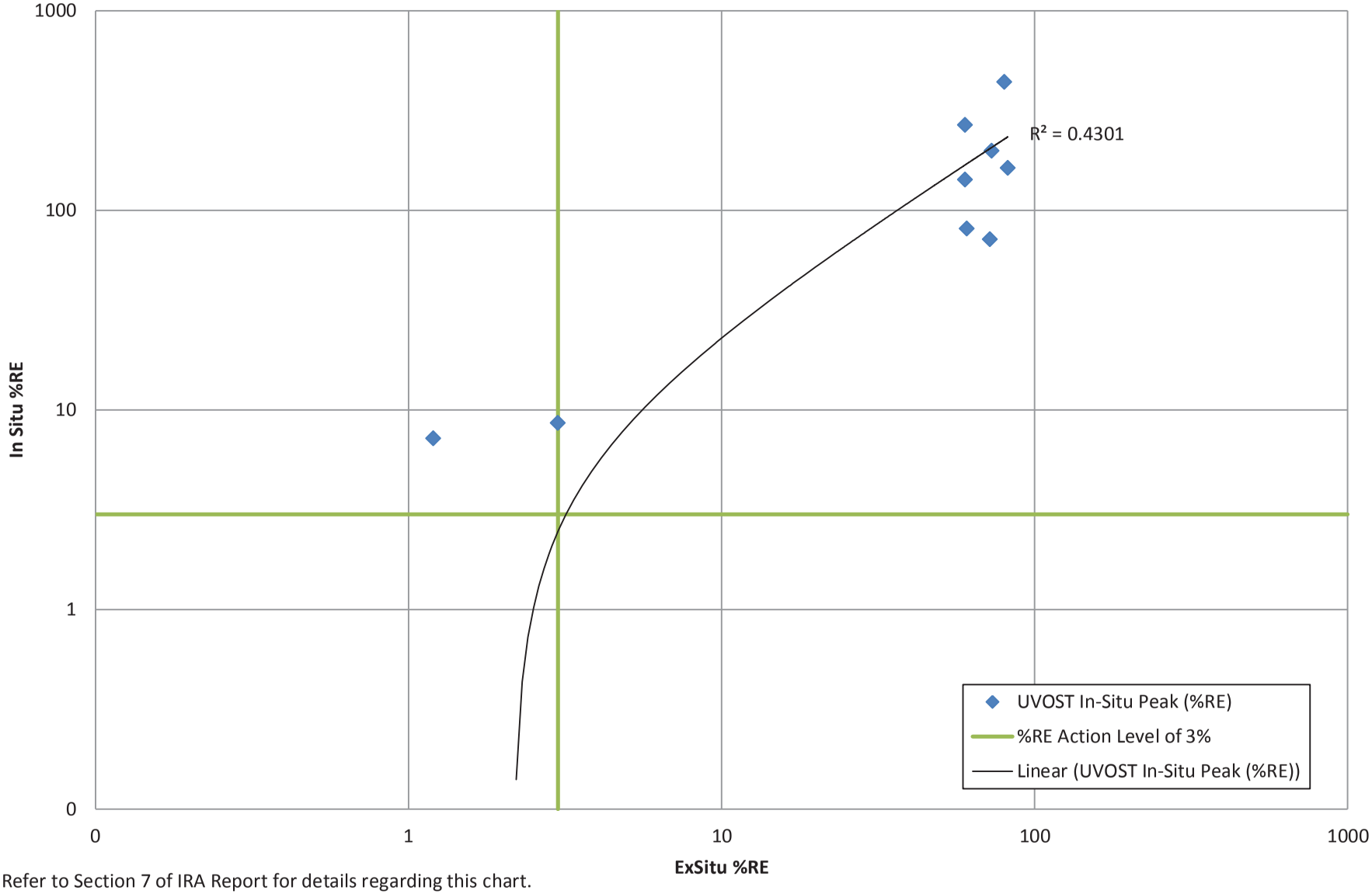
Notes:
%RE = percentage of relative emittance
bold indicates that the result is greater than the ADEC Method 2 Over 40 inch zone migration to groundwater cleanup level
DRO = Diesel Range Organics
EX = excavation soil sample identification
ft bgs = feet below the ground surface
mg/kg = milligrams per kilogram
QC = quality control
SB = soil boring number/sample identification

Chart 3: UVOST and PID Screening Tool Correlation
%RE vs ppmv



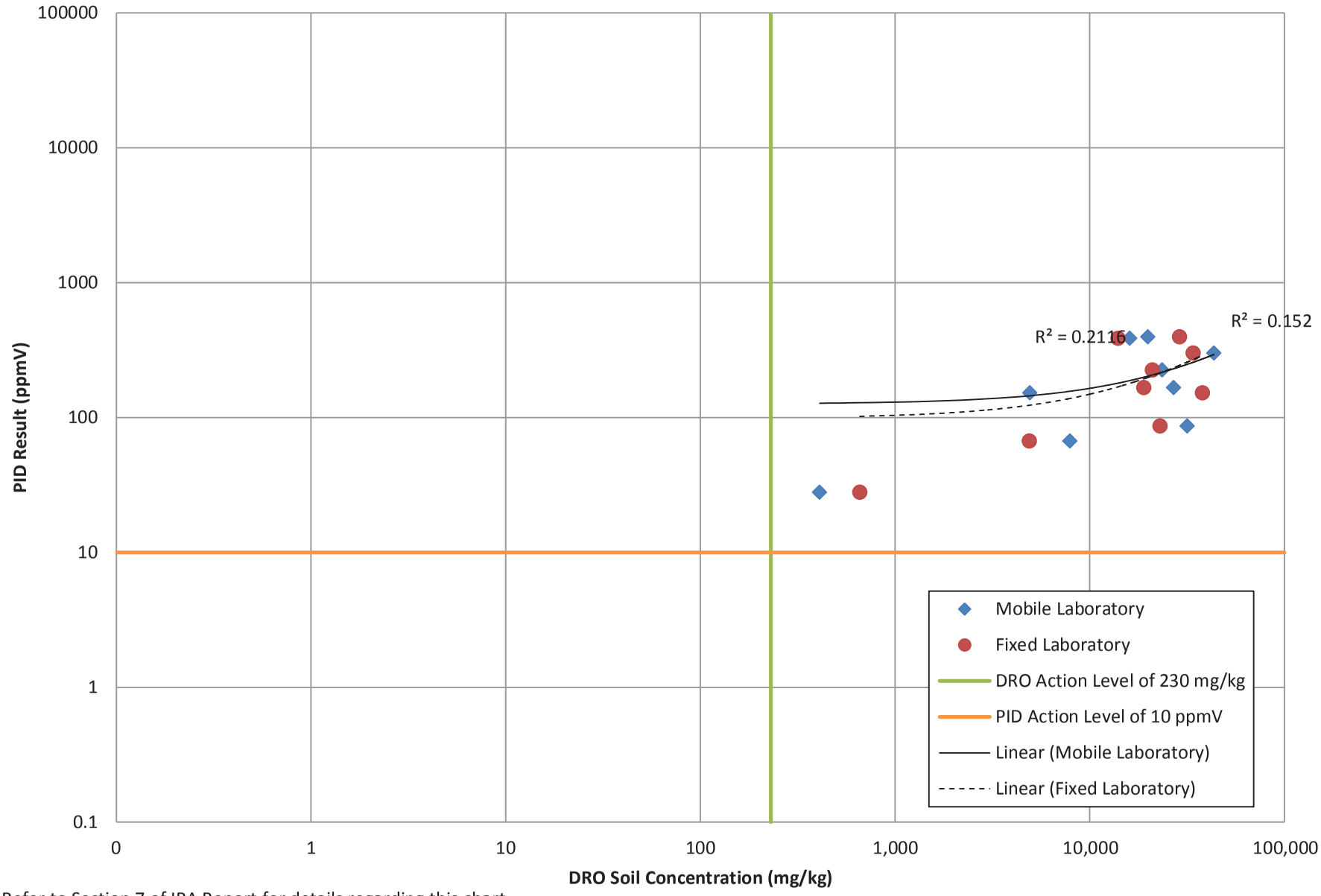
Refer to Section 7 of IRA Report for details regarding this chart.

Chart 4: UVOST Screening Tool Correlation
In-Situ vs Ex-Situ



Refer to Section 7 of IRA Report for details regarding this chart.

Chart 5: PID Screening and Laboratory Data Correlation



Refer to Section 7 of IRA Report for details regarding this chart.

7.6 Completeness

No analytical results required rejection due to data quality issues. Therefore the 90% completeness requirement was met. The Adak project laboratory results are considered usable for the site investigation/characterization activities.

7.7 Sensitivity – Limits of Quantitation

LOQs of undiluted sample results were less than the regulatory cleanup levels and project goals. In some cases, elevated reporting limits were required due to high analyte levels, or matrix interference, but these isolated instances did not impact overall project sensitivity goals.

8.0 REFERENCES

Alaska Department of Environmental Conservation (ADEC). 2011. Division of Spill Prevention and Response Contaminated Sites Program, *Monitoring Well Guidance*. November 2011.

_____. 2010. Division of Spill Prevention and Response Contaminated Sites Program, *Draft Field Sampling Guidance*. May 2010.

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———. 2010. *Draft Revision 2. Engineering Evaluation/Cost Analysis, Former Power Plant, Building T-1451*. Prepared by URS Group, Inc. under Contract No. N44255-05-D-5100, Delivery Order 0051 for Naval Facilities Engineering Command Northwest, Silverdale, Washington. December 2010.

FIGURES

Notes:

1. All locations are approximate.
2. Reference: Navel Facilities Engineering Command. Final Cleanup Report, 19 Sites - Former Adak Naval Complex Adak Island, Alaska. Rep. Poulsbo: Department of the Navy, 2005. Print.

Former Adak Naval Complex, Adak Island, Alaska

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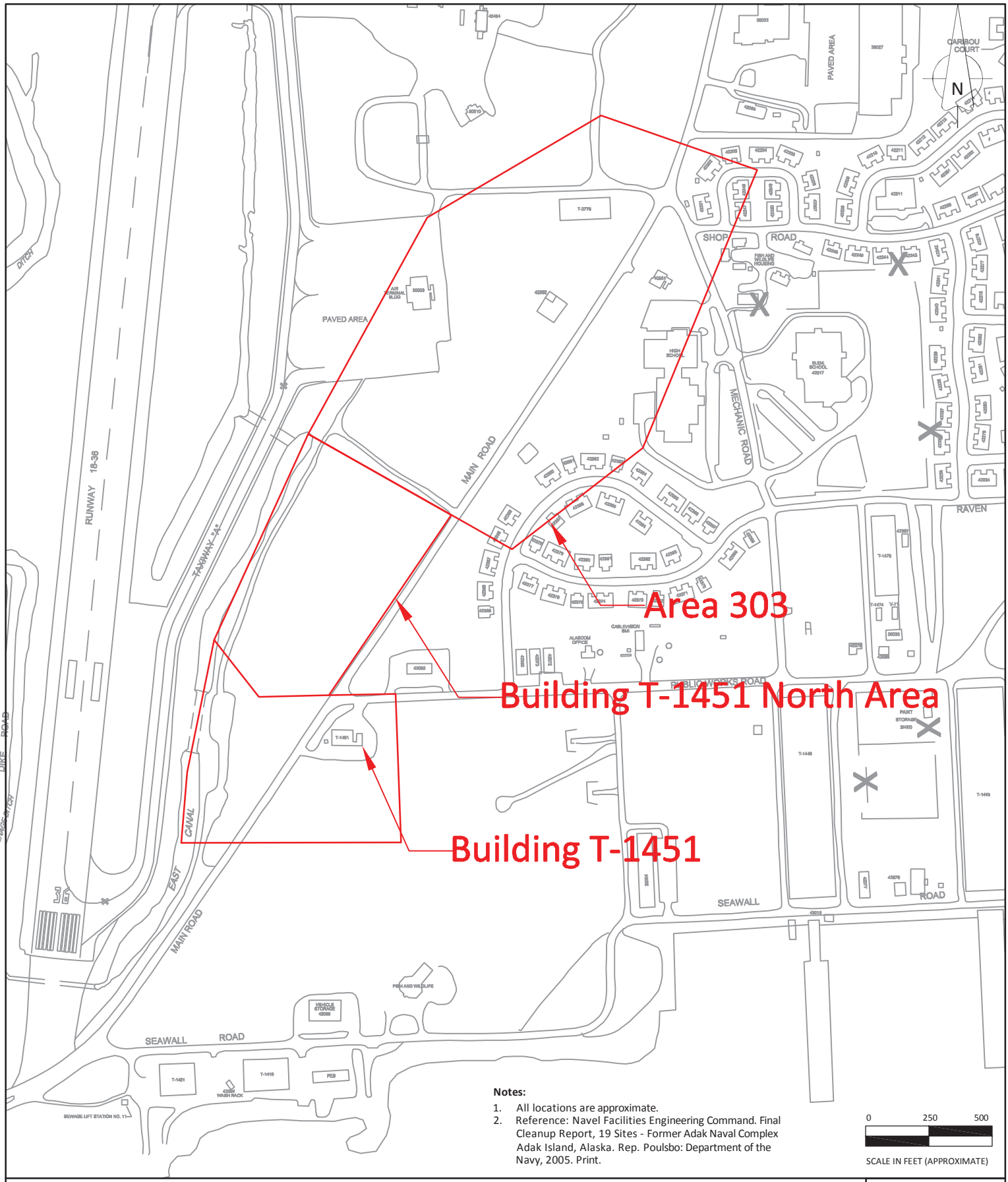
State and Site Vicinity Maps

Project Number:	Figure Number:
20171	1
Date: 11-01-2012	
Drawn By: L.B.	



Notes:

1. All locations are approximate.
2. Reference: Navel Facilities Engineering Command. Final Cleanup Report, 19 Sites - Former Adak Naval Complex Adak Island, Alaska. Rep. Poulsbo: Department of the Navy, 2005. Print.

Former Adak Naval Complex, Adak Island, Alaska

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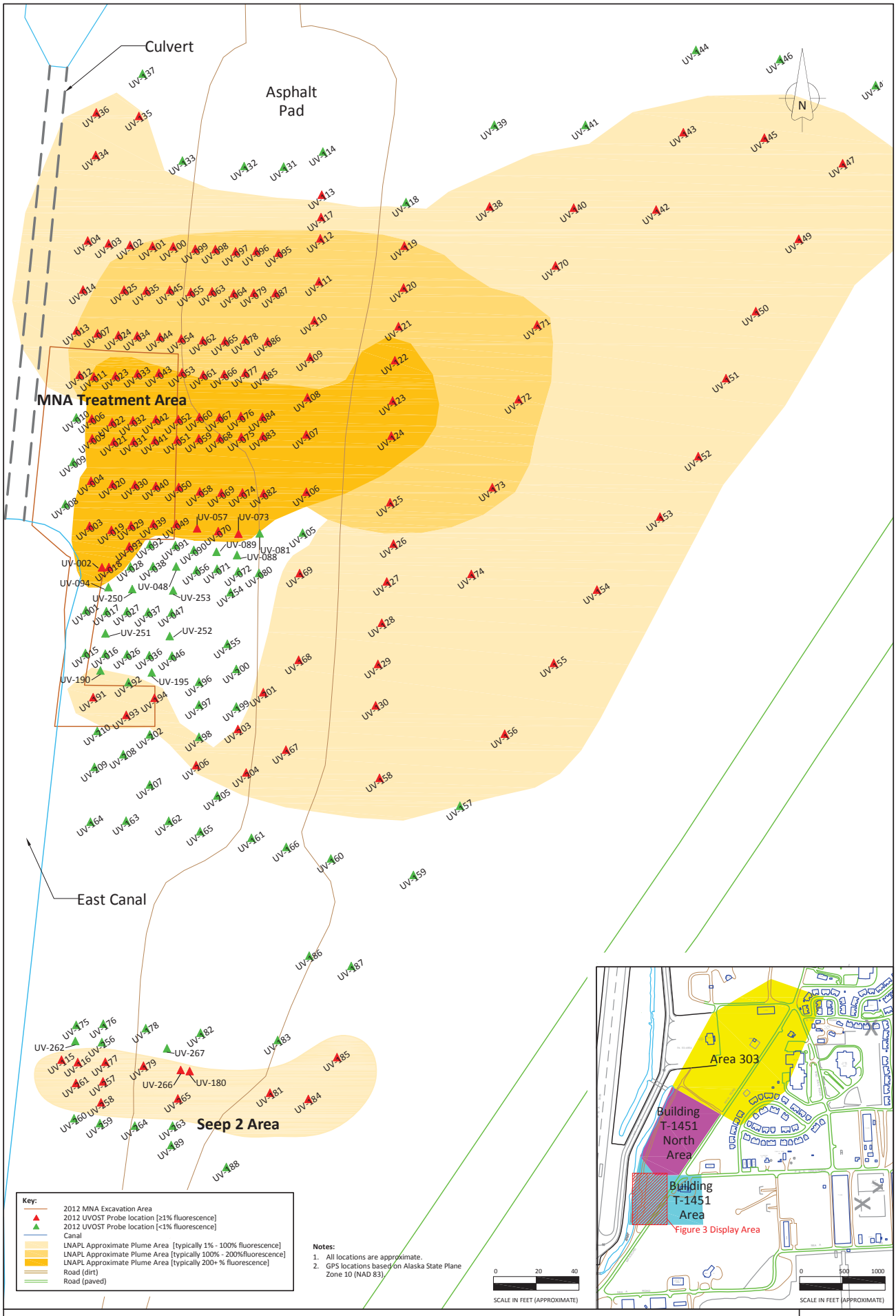
Building T-1451 and Area 303 Site Plan

Project Number:	Figure Number:
20171	2
Date: 11-01-2012	
Drawn By: L.B.	



Former Adak Naval Complex, Adak Island, Alaska

ERS-JV
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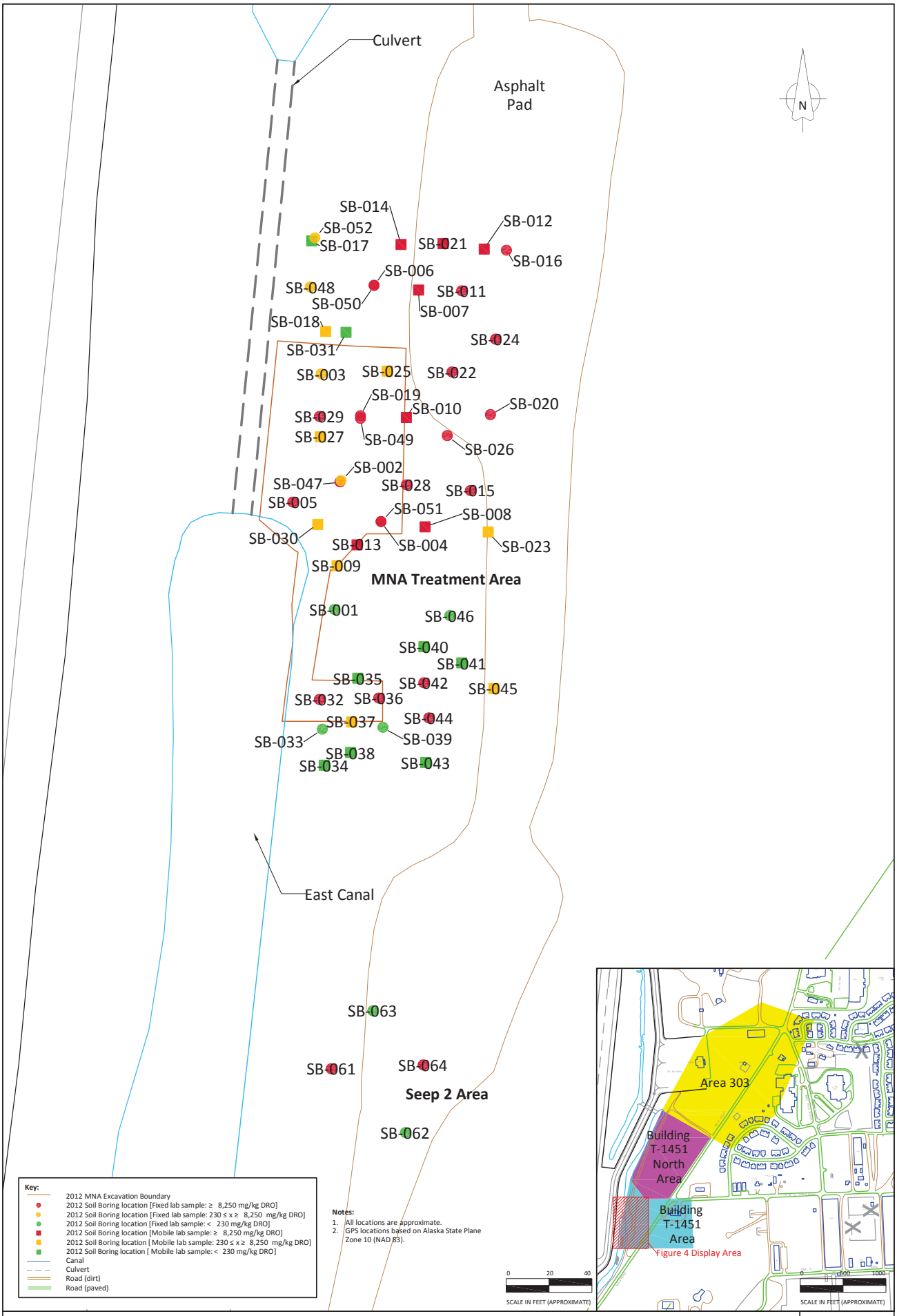
Building T-1451/East Canal - 2012 UVOST Probe Locations

Project Number: 20171	Figure Number:
Date: 03-19-2013	3
Drawn By:	



Former Adak Naval Complex, Adak Island, Alaska

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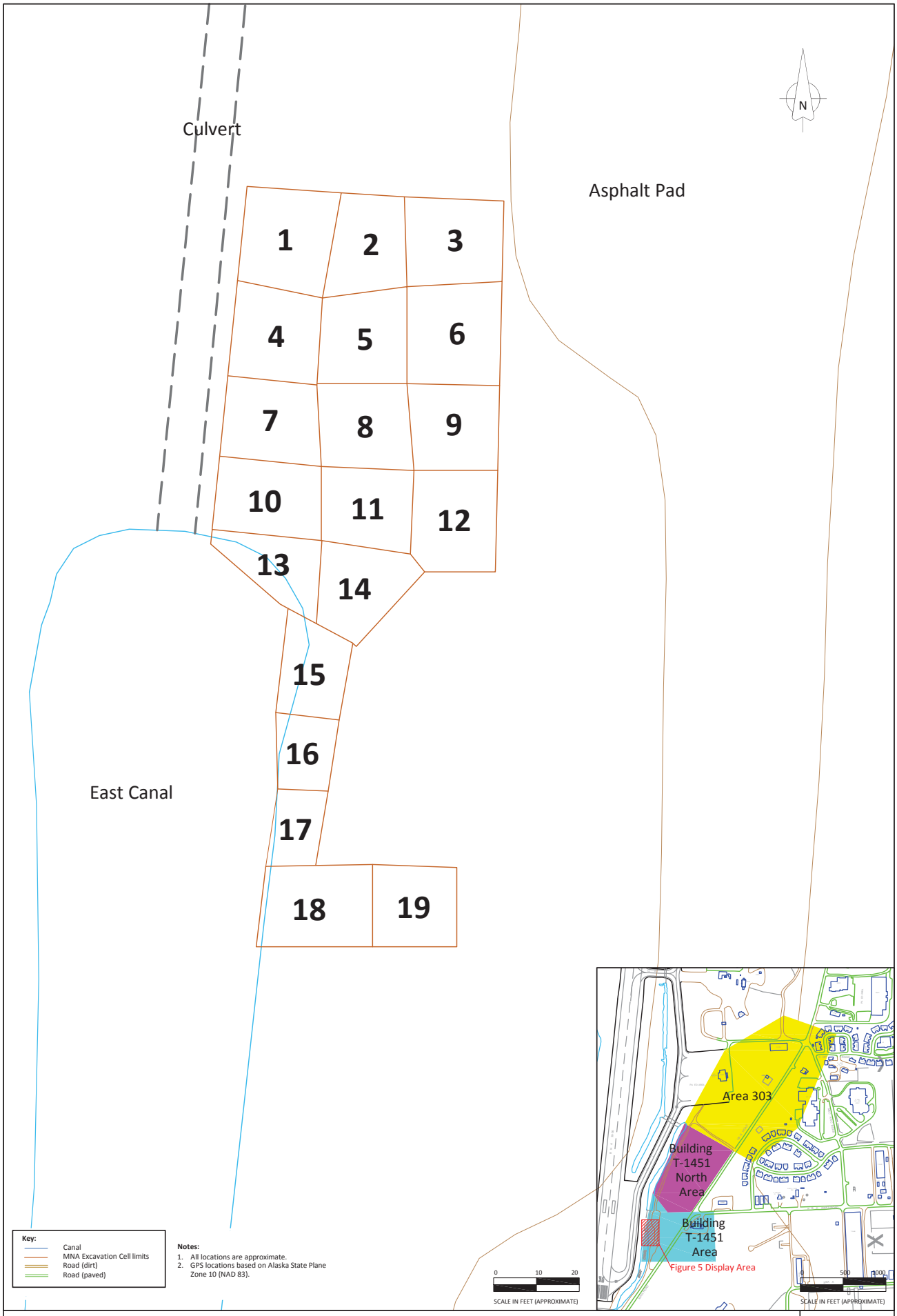
Building T-1451/East Canal - 2012 Soil Boring Locations

Project Number: 20171	Figure Number:
Date: 12-04-2012	4
Drawn By: L.B. & G.R.	



Former Adak Naval Complex, Adak Island, Alaska

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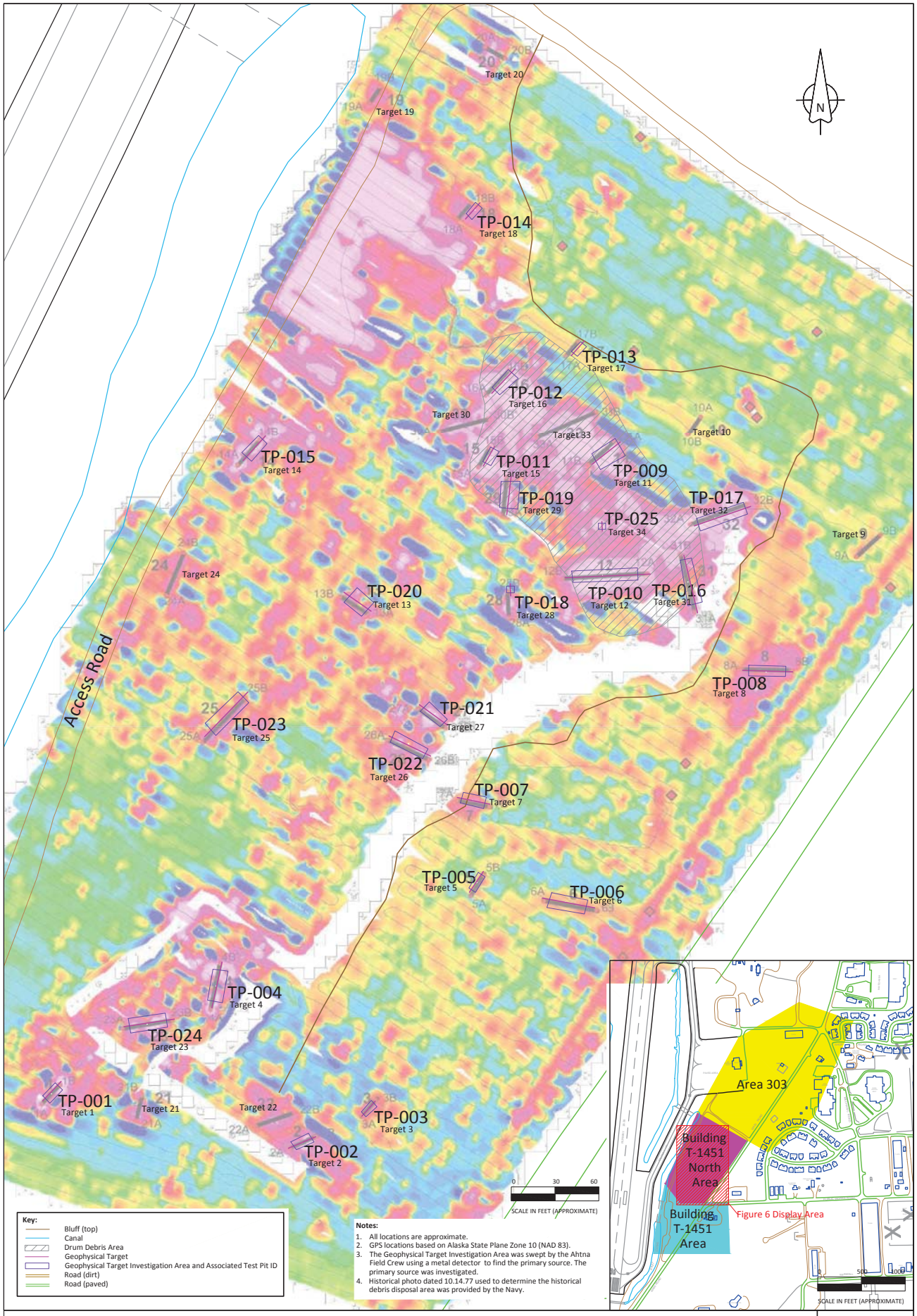
ERS Joint enture

Building T-1451/East Canal - 2012 MNA Treatment Cell Locations

Project Number: 20171
Date: 12-06-2012
Drawn By: L.B.
Figure Number: 5



Former Adak Naval Complex, Adak Island, Alaska

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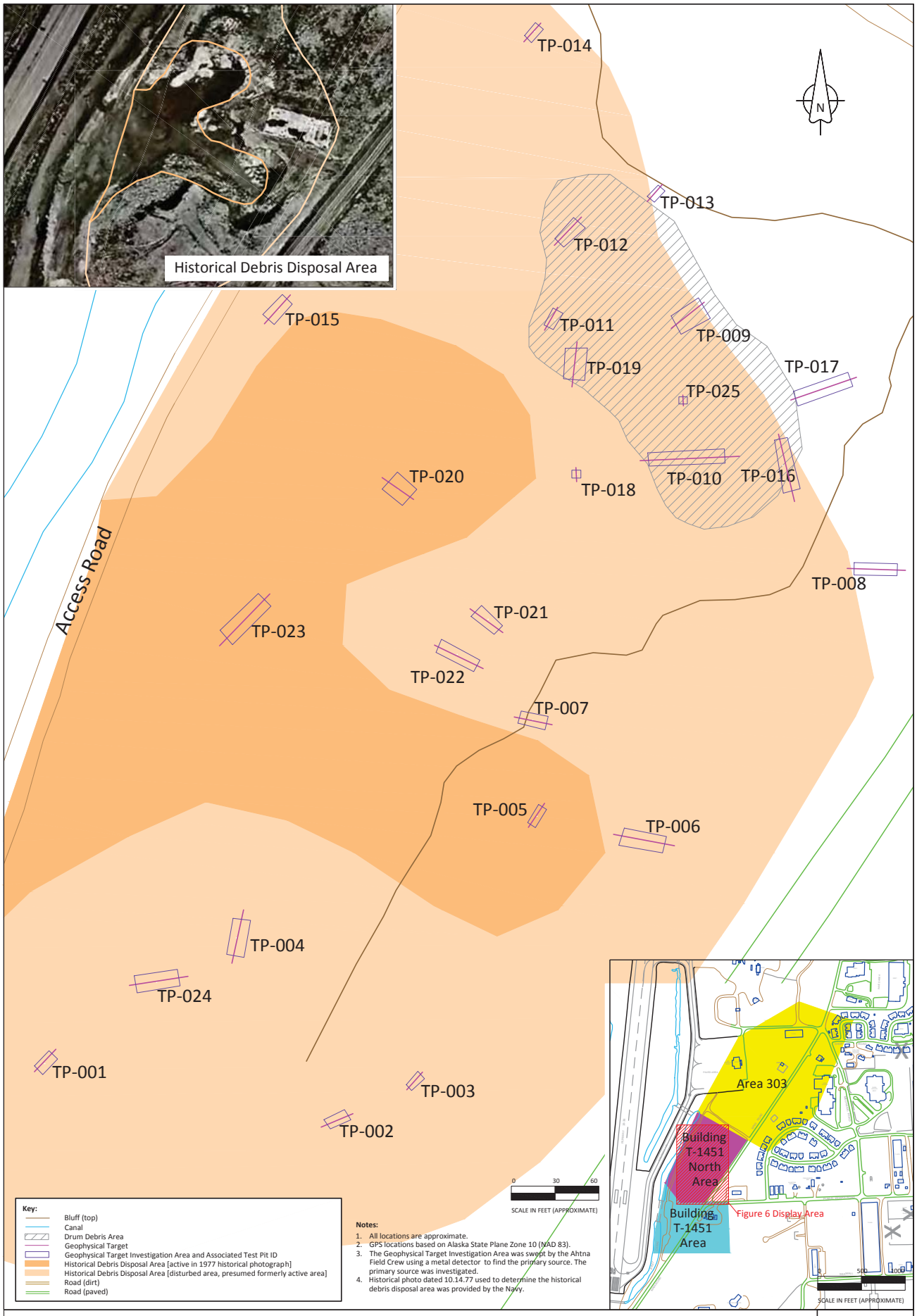
Building T-1451/East Canal North Area -
2012 Geophysical Investigation Areas and Test Pit Locations

Project Number:	Figure Number:
20171	6A
Date: 12-06-2012	
Drawn By: L.B.	



Key:

- Bluff (top)
- Canal
- Drum Debris Area
- Geophysical Target
- Geophysical Target Investigation Area and Associated Test Pit ID
- Historical Debris Disposal Area [active in 1977 historical photograph]
- Historical Debris Disposal Area [disturbed area, presumed formerly active area]
- Road (dirt)
- Road (paved)

Notes:

1. All locations are approximate.
2. GPS locations based on Alaska State Plane Zone 10 (NAD 83).
3. The Geophysical Target Investigation Area was swept by the Ahtna Field Crew using a metal detector to find the primary source. The primary source was investigated.
4. Historical photo dated 10.14.77 used to determine the historical debris disposal area was provided by the Navy.

Former Adak Naval Complex, Adak Island, Alaska

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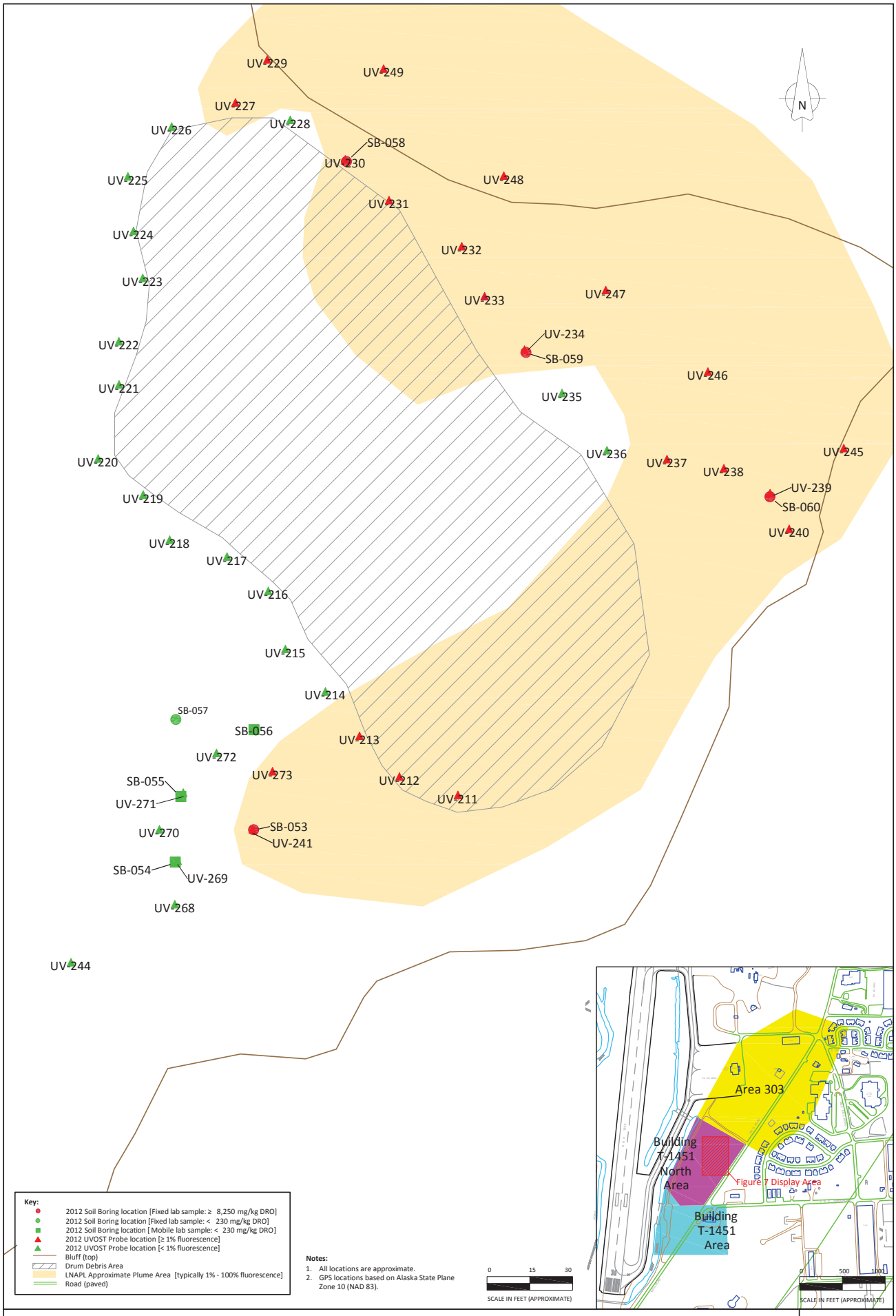
Building T-1451/East Canal North Area - 2012 Geophysical Investigation Areas and Test Pit Locations

Project Number:	Figure Number:
20171	6B
Date: 12-06-2012	
Drawn By: L.B.	



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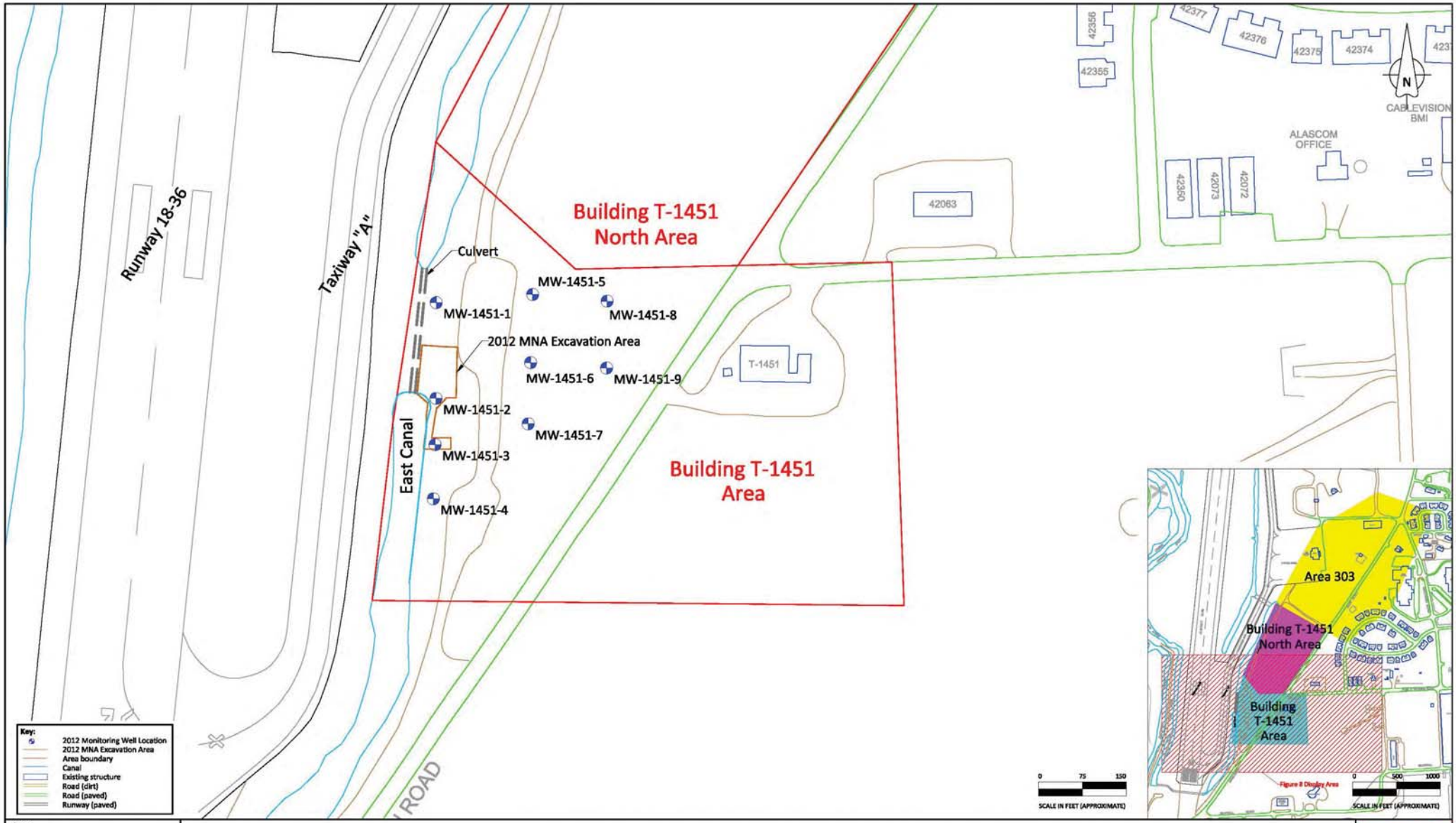
Building T-1451/East Canal North Area - 2012 UVOST Probe and Soil Boring Locations

Project Number: 20171	Figure Number:
Date: 12-06-2012	7
Drawn By:	



Notes:
1. All locations are approximate.
2. GPS locations based on Alaska State Plane Zone 10 (NAD 83).

Former Adak Naval Complex, Adak Island, Alaska

Building T1451/East Canal - New Monitoring Well Locations

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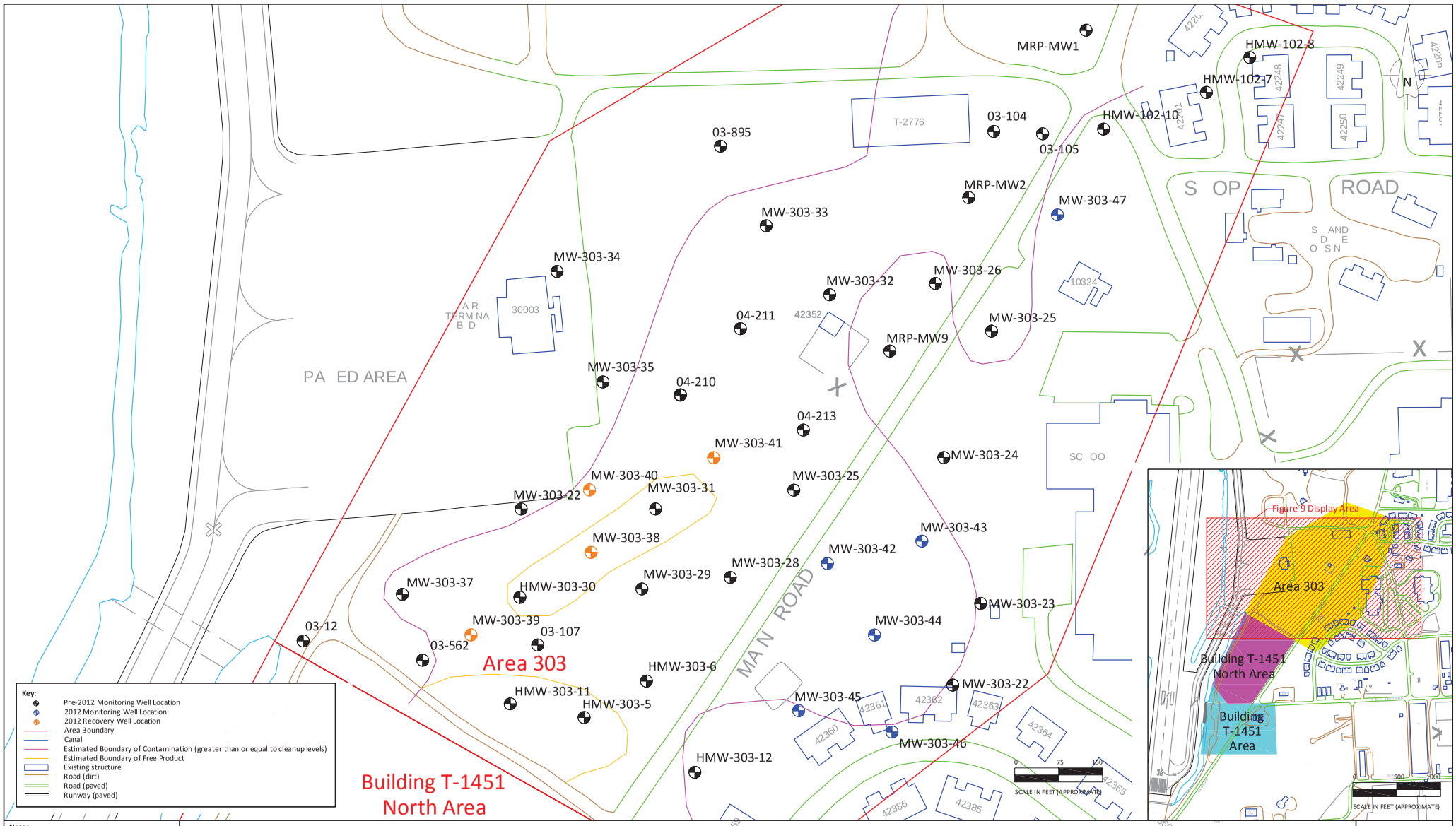
Project Number: 20171	Figure Number:
Date: 12-04-2012	8
Drawn By: LB.	



Notes:

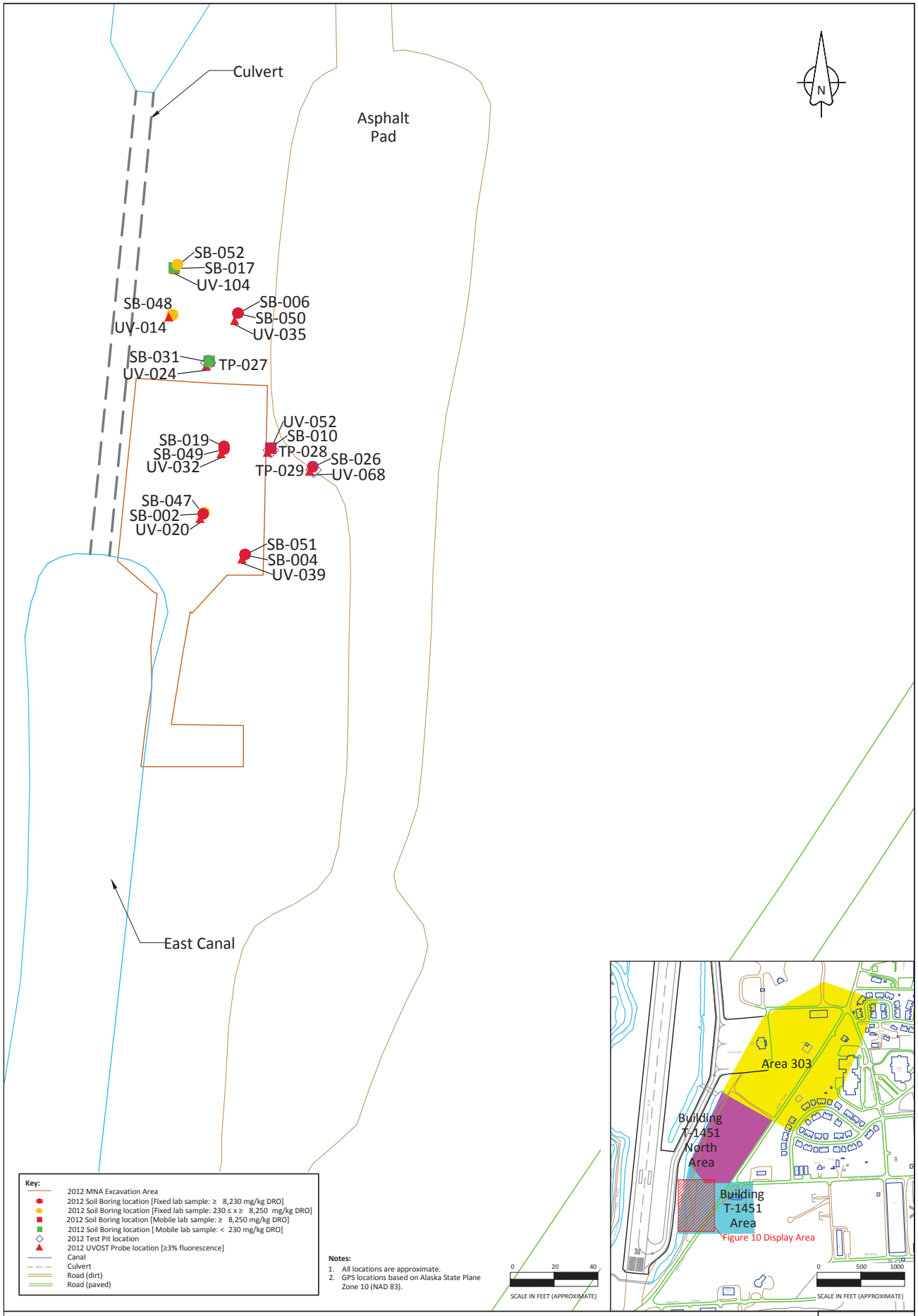
1. All locations are approximate.
2. GPS locations based on Alaska State Plane Zone 10 (NAD 83).

Former Adak Naval Complex, Adak Island, Alaska

Area 303 - New and Existing Monitoring and Recovery Well Locations

ERS-JV
ERS Joint enture

Project Number: 20171	Figure Number:
Date: 12-04-12	9
Drawn By: L.B.	



Former Adak Naval Complex, Adak Island, Alaska

ERS-JV
ERS Joint Venture

Building T1451/East Canal - 2012 Correlation Exercise
Soil Boring and Test Pit Locations

Project Number:	Figure Number:
20171	10
Date: 12-04-2012	
Drawn By: L.B.	

APPENDIX A

PHOTOGRAPH LOG

Photograph 1: Looking north at Test Pit #1, welded drums. Anomaly investigation in the East Canal/Building T-1451 North Area.

Photograph 2: Various metal debris discovered in Test Pit #7. PID field screening samples did not indicate the presence of petroleum contamination. Anomaly investigation in the East Canal/Building T-1451 North Area.

Photograph 3: Looking east at Test Pit #9, multiple crushed drums. East Canal/Building T-1451 North Area.

Photograph 4: Looking north at Test Pit #10, multiple crushed drums. A dark liquid with a strong petroleum odor is visible in the middle of the photograph. East Canal/Building T-1451 North Area.

Photograph 5: Looking north at Test Pit #11, multiple crushed drums. Petroleum contamination was present at sample location on the north sidewall. East Canal/Building T-1451 North Area.

Photograph 6: Looking north at Test Pit #17, crushed drums. Field screening samples and mobile laboratory results for DRO did not indicate petroleum contamination in this location. East Canal/Building T-1451 North Area.

Photograph 7: Looking east at Test Pit #21, 6-inch diameter pipe with a valve. No indication of petroleum contamination in this location. East Canal/Building T-1451 North Area.

Photograph 8: Looking north at Test Pit #23, Marston Matting. East Canal/Building T-1451 North Area.

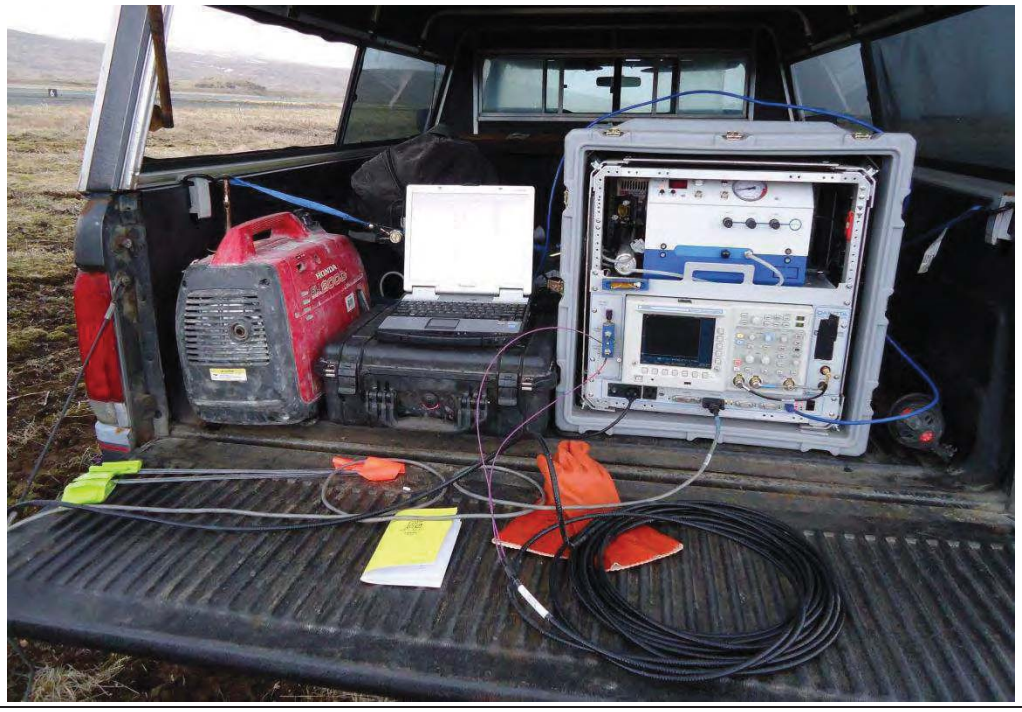
Photograph 9: Looking north at Test Pit #9. An analytical soil sample collected from the orange sludge visible in the center of the photograph did not indicate contamination. East Canal/Building T-1451 North Area.

Photograph 10: Looking west at the extent of wood stave pipe removal in the proposed MNA treatment area East Canal/Building T-1451 Area.

Photograph 11: Looking south with the stained bank of the East Canal visible in the middle of the photograph. Setup of the UVOST grid is being performed, indicated by paint lines. East Canal/Building T-1451 Area.

Photograph 12: Looking south at the stained riprap and vegetation on the bank of the East Canal. East Canal/Building T-1451 Area.

Photograph 13: Looking south at the Geoprobe 6620 advancing UVOST probe UV-001 with UVOST tool attached. East Canal/Building T-1451 Area.



Photograph 14: UVOST screening tool setup (facing north). East Canal/Building T-1451 Area.

Photograph 15: Advancing UVOST probe UV-015 as part of the UVOST investigation in the East Canal/Building T-1451 Area (facing north).

Photograph 26: Scientist logging soil core from boring B-018 as part of the investigation in the East Canal/Building T-1451 Area to determine the placement of the MNA treatment area. (facing southeast).

Photograph 17: Advancing hollow stem auger to construct Area 303 monitoring well MW-303-46 (facing north).

Photograph 18: Constructing the temporary contaminated soil stockpile cell prior to the MNA treatment area excavation (facing southwest).

Photograph 19: Completed temporary contaminated soil stockpile cell in the East Canal/Building T-1451 Area (facing north).

Photograph 20: Placing petroleum contaminated soil removed from cell #1 of the MNA treatment area excavation into the temporary stockpile (facing east).

Photograph 21: Excavation of cell #1 below groundwater as part of the MNA treatment area excavation in the East Canal/Building T-1451 Area (facing east).

Photograph 22: Placing a trench box panel in cell #1 to separate the completed cell from non-completed cells as part of the MNA treatment area excavation in the East Canal/Building T-1451 Area (facing northwest).

Photograph 23: Excavator used to mix the project amendment and wood fiber mulch with imported backfill material in cell #1 as part of the MNA treatment area excavation in the East Canal/Building T-1451 Area (facing south).

Photograph 34: Excavation of cell #5 below groundwater as part of the MNA treatment area excavation in the East Canal/Building T-1451 Area. Contaminated soil was placed in 5-cy supersacks in the background (facing east).

Photograph 25: Placing lift of imported backfill material in cell #5 in the MNA treatment area prior to adding the amendment and wood fiber mulch (looking south).

Photograph 26: Applying the OBC amendment and wood fiber to lift of imported backfill material in cell #5 as part of the MNA treatment area excavation in the East Canal/Building T-1451 Area (facing south).

Photograph 27: Excavation of cell #9 below (facing south).

Photograph 28: Degraded fuel recovery on the groundwater surface in cell #11 (facing east).

Photograph 29: Installation of the temporary dam completed to dewater the excavation area for the cells along the bank of the East Canal (facing east).

Photograph 30: Photograph of liner material and a filled 1-cy supersack used to seal the east culvert north of the MNA treatment area (facing southwest).

Photograph 31: Removing overburden soil from the bank cells. The temporary oil/water separator is visible on the left side of the photograph (facing east).

Photograph 32: Excavation of cell #13 below (facing northwest).

Photograph 33: Excavation of cell #14 below groundwater with the temporary cofferdam visible in the background of the photograph (facing southwest).

Photograph 34: Mixing the OBC amendment and wood fiber mulch with lift of imported backfil material in cell #17 (facing south).

Photograph 35: Completed MNA treatment area with straw matting used to mitigate erosion of backfill material used to reconstruct the bank of the East Canal (facing north).

Photograph 36: Close up photograph of the bank of the East Canal near the culverts. This area was stained with petroleum leaching from the bank of the canal as observed in photograph #12 (facing west).

Photograph 37: UVOST probing being performed in the Seep Two Area. Fence posts anchoring the sorbent boom along the bank of the East Canal are present in the left-center portion of the photograph.

Photograph 38: UVOST probing being performed in the Seep Two Area. The stained bank of the East Canal from Seep 2 is visible on the left portion of the photograph.

APPENDIX B

FIELD DOCUMENTATION

Initial Quality Control Meeting

Contract N62473-07-D-3219 CTO JP01, Building T-1451 and East Canal Site Investigation/ Characterization, Adak, Alaska

Contractor: ERS JV
Administered by: Naval Facilities Engineering Command Northwest

May 31, 2012 at 10:00 am AKST

Name	Role/Position
Grady May	Navy Remedial Project Manager (RPM)
Brian Cullen	Navy Technical Representative (NTR)
Guy Warren	Alaska Department of Environmental Conservation (ADEC) Environmental Program Specialist
Meghan Dooley	ADEC Environmental Program Specialist
Jamie Oakley	Technical Manager
Tim Dobson	Field Team Lead/Geologist
Lauren Boldrick	On-site Geologist
Tom Spitler	Geophysical Survey Technician
Julia Klens Caprio	Quality Assurance Manager

Topics: Meeting was conducted as Initial Quality Control meeting to be held every Thursday at 9:00 am Adak (10:00 am AKST). Discussion of project status as of 5/31/2012.

Summary of Communication:

9:00 (Adak) – Introductions. The call began with a general discussion of conditions on Adak.

9:10-9:15 – Discussed progression of work thus far, specifically:

- Work started on 5/18/2012, began advancing UVOST probes in MNA treatment area (Seep #1), starting on the stained ground surface south of MW151.
- Current Status of UVOST and soil probe investigation is 104 UVOST probe locations, 31 soil borings and 104 analytical soil samples collected.

The excavation schedule was then reviewed.

9:15-9:25 – ADEC requested cross-sections and associated aerial view figures to be sent as soon as possible. The project team agreed cross-sections and figures will be provided after appropriate QC's by June 1, 2012 to include all available data collected to date. The group agreed to have a teleconference on Monday (June 4, 2012) to confer and agree upon MNA treatment area excavation limits. UVOST soil probes and additional soil borings have been utilized to investigate a second seep (Seep #2, approximately 260 feet south of the culverts adjacent to the MNA treatment area).

9:25-9:35 – Group begins discussing Building T-1451/East Canal North Area Geophysical Investigation and associated geophysical anomalies (targets). The Geophysical Survey Technician explains the methodology used to locate and identify anomalies which have the highest possibility of being USTs,

drums, or a pipeline, all of which could be possible sources for the MNA treatment area seep (Seep #1) or Seep #2. The Geophysical Survey Technician and ADEC also discuss the drum dump and debris area near Targets 11 and 12.

9:35-9:45 – The group agrees that despite the observation of some apparent source release from the drum dump/debris area, the volume observed is likely not contributing to either Seep. A UVOST soil probe investigation will be completed at locations around the perimeter of the drum dump/debris area and at locations parallel to the East Canal to further evaluate the potential for source contribution to surface water. The group agrees that further investigation of Targets 11 and 12, along with fixed lab and mobile lab analytical samples will be sufficient to confirm that this area is not contributing to any seeps to East Canal. It is also decided that the crushed drums can remain in the drum debris/dump area since the magnitude of debris in this area will require a much larger effort to plan and perform, and will take place outside of the current scope of work.

9:45-9:55 – The group agrees relocating three wells due to utility line concerns is appropriate and will be performed in accordance with the long-term groundwater monitoring goals.

9:55-10:05 – The group discusses the potential source for Seep #2 (approximately 260 feet south of the culverts adjacent to the MNA treatment area). Seep #2 was bounded on the north and south edges using the UVOST. Group decides to have weekly Thursday QC meetings.

The meeting concludes at 10:05 am Adak (11:05 am AKST).

ERS-JV
CQC Meeting Agenda
Building T-1451 and East Canal Site Investigation/ Characterization
Adak, AK
Adak Island, Alaska
Contract #N62473-07-D-3219

Date: 6/7/2012
Time: 0900 Adak time, 1000 Anchorage time
Location: Teleconference - Call in number: 1-866-699-3239
Attendee Code - 20214449#
Invited: Grady May(NAVFAC-NW), Thomas Spriggs (NAVFAC LANT) Brian Cullen (NAVFAC-NW), Guy Warren (ADEC), Meghan Dooley (ADEC), Howard Wittenberg (ERS-JV), Jamie Oakley (ERS-JV/AES), Tim Dobson (ERS-JV/AES) Lauren Boldrick (ERS-JV/AES)

Period:

A. Review previous meeting minutes

B. Work or testing accomplished since last meeting

Excavated test pit #25 between test pits #9 and #10 to two feet below groundwater to collect a full suite characterization sample for submittal to the fixed lab. Strong petroleum odor was encountered at approximately 3.0' bgs. Groundwater was encountered at 4.5' – 5.5' bgs. Mobile lab sample collected below the groundwater did not indicate petroleum contamination.

Excavated test pit #9 to 17'bgs after determination from QC meeting held on 5/31/12 that removed drums could be placed back into the excavation after completion. Encountered a thick orange liquid oozing from a crushed drum at approximately 11' bgs from the north sidewall. Collected a full characterization sample from soil impacted by the thick orange liquid. A full characterization suite sample was collected from the south sidewall at 15' bgs and from the base. Considerable sloughing material from deteriorating sidewalls mixed with base of the excavation.

A total of 24 UVOST probes were advanced along the perimeter of the crushed drum area on 6/6/12 to investigate potential petroleum contaminant migration in the groundwater. Percent relative emittance values ranged from less than 1% to 40% RE near the toe of the slope along the southern perimeter of the drum area.

Advanced three soil borings on 6/1/12 to characterize staining of the east side canal bank along the East Canal just south of seep #1 and north of seep #2 for soil

removal. The staining was characterized as a seep #3 after PID screening samples indicated contamination above the water table. Mobile lab samples or soil boring B-032 indicated DRO contamination from 1' to 4' bgs approximately 10 feet east of the bank of East Canal. An additional 12 soil borings were advanced on 6/2/12 with soil samples submitted to the mobile lab and fixed lab while awaiting the return of the UVOST screening tool. Petroleum contamination was observed in six of the 15 soil borings from depths of 2 to 5 feet bgs. UVOST probes were advanced next the additional borings to provide UVOST data to a known interval with an analytical result.

The proposed MNA treatment area boundary was reviewed and discussed during two conference calls held on 6/4/12 and 6/5/12. Participants on the calls included The Navy, ADEC, and contractor personnel. The MNA boundary was adjusted to an agreed upon boundary limit by ADEC and the Navy on Tuesday 6/5/12

The Navy requested 5 additional soil borings be advanced on 6/4/12 adjacent to five previously advanced UVOST points and soil borings with analytical soil results to collect a homogenized sample from a two foot interval that captures the depth of the peak %RE value for the UVOST probe for correlation purposes. The Navy requested that homogenized samples be collected and analyzed by the UVOST for an ex-situ UVOST reading, a PID screening, a mobile lab soil sample, and a fixed lab sample.

The Navy requested 4-5 test pits be excavated on 6/5/12 adjacent to previously advanced UVOST points and soil borings with analytical soil results to collect a homogenized sample from a one foot interval that captures the depth of the peak %RE value for the UVOST probe for correlation purposes. The Navy requested that homogenized samples be collected and analyzed by the UVOST for an ex-situ UVOST reading, a PID screening, a mobile lab soil sample, and a fixed lab sample.

A wood stave pipe was encountered at 2.5 feet bgs during excavation of the first test pit on 6/5/12 adjacent to UV-050/B-028. The pipe contained liquid with a strong hydrocarbon odor. The contractor was asked to cease the test pit excavation and trench along the pipe upgradient from the MNA treatment area to determine the extent of the pipe. A water sample was collected from the pipe and analyzed by the mobile laboratory for screening purposes. The mobile lab result indicated the sample contained 96% DRO. Work stoppage on the pipe was canceled on 6/6/12. The wood stave pipe was removed by the contractor approximately 15 feet east of B-028. Approximately 13 gallons of diesel contaminated water were collected and drummed for future disposal. Four 10-15 foot sections of the wood stave pipe were removed for future disposal

Installed monitoring wells MW-303-40, MW-303-41, MW-303-39, MW-303-38, MW-303-43 and RW-303-02 in Area 303 from 5/31/2012 to 6/2/12.

C. Review of work to be completed in the next two weeks and documentation required

Install the MNA treatment area according to the approved layout. Documentation is required in the daily contractor production report, daily contractor quality control report, and field notebook.

Finish investigation in the East Canal/Building T-1451 North Area. Use UVOST screening tool and soil borings to characterize potential petroleum contamination from identified source(s) pending laboratory analysis. Documentation is required in the daily contractor production report, daily contractor quality control report, field notebook and associated field log forms.

Install remaining 3 recovery wells in Area 303 as time permits. Documentation is required in the daily contractor production report, daily contractor quality control report, field notebook and associated field log forms.

D. Resolution of any QC problems and QC Action Items

E. Other discussion points:

To be determined

F. Next Meeting

Thursday, June 14.

FCR Log

FCR #	Description of Change	Date Initiated	Status	Date

June 7, 2012 Quality Control Meeting Minutes

Contract N62473-07-D-3219 CTO JP01, Building T-1451 and East Canal Site Investigation/ Characterization, Adak, Alaska

Contractor: ERS JV
Administered by: Naval Facilities Engineering Command Northwest

June 7, 2012 at 9:00 am Adak Time

Name	Role/Position
Grady May	Navy RPM
Tom Spriggs	NTR
Brian Cullen	On-site NTR
Guy Warren	Alaska Department of Environmental Conservation (ADEC) Environmental Program Specialist
Meghan Dooley	ADEC Environmental Program Specialist
Howard Wittenberg	Project Manager
Jamie Oakley	Technical Manager
Julia Klens Caprio	Quality Assurance Manager
Tim Dobson	Field Team Lead
Lauren Boldrick	On-site Geologist

Topics: Discussion of project status since the last QC meeting, any outstanding issues, and a look ahead of work to be completed.

Summary of Communication:

Meeting begins at 9:00am.

9:00 – 9:05: Introductions

9: 05 – 9:10: The previous week's meeting minutes are reviewed.

9:10 – 9:15: The group discusses the nine (9) wells to be installed in the MNA excavation area. ADEC suggests spreading the well locations to areas outside the Seep 1 area for further monitoring. The group decides that a figure with proposed locations will be developed by the team and distributed for review/discussion.

9:15 – 9: 20: The previous week's work effort is reviewed. The first topic is Test Pit #9 (Target 11) in the T-1451 North Area (geophysical anomaly investigation area). It was approved last week by the Navy and ADEC that all exposed drums could be reburied in that area.

UVOST activities were performed around the test pit on June 6, 2012, to delineate the extent of the drum pit area (Target 11). Further delineation activities are ongoing in this area.

On June 1, 2012, Seep 3 was further investigated by advancing soil borings and collecting mobile lab samples. Mobile lab results within the indicated soil contamination zone range from 14000 mg/kg – 35000 mg/kg between 2.0' – 4.0' bgs.

Within the last week, the six Area 303 monitoring wells have be installed, and one of the recovery wells has

been installed near the airport.

9: 20 – 9: 30: Discussion on the upcoming events. Excavation activities will begin in the proposed MNA Treatment Zone. Further UVOST probes will be advanced within the T-1451 North Area to finish delineating the geophysical anomaly area and possible associated contamination.

The Navy would like to set up a time to discuss the correlations.

Meeting concludes at 9:30am.

Action Items:

- Set up meeting time to discuss correlation samples.

ERS-JV
CQC Meeting Agenda
Building T-1451 and East Canal Site Investigation/ Characterization
Adak, AK
Adak Island, Alaska
Contract #N62473-07-D-3219

Date: 6/14/2012
Time: 0900 Adak time, 1000 Anchorage time, 1100 Seattle time
Location: Teleconference - Call in number: 1-866-699-3239
Attendee Code - 20214449#
Invited: Grady May(NAVFAC-NW), Thomas Spriggs (NAVFAC LANT) Brian Cullen (NAVFAC-NW), Guy Warren (ADEC), Meghan Dooley (ADEC), Howard Wittenberg (ERS-JV), Jamie Oakley (ERS-JV/AES), Tim Dobson (ERS-JV/AES) Lauren Boldrick (ERS-JV/AES)

Period:

A. Review previous meeting minutes

B. Work or testing accomplished since last meeting

21 UVOST probes were advanced in the East Canal/Building T-1451 North Area along the perimeter of the crushed drum area discovered as part of the geophysical investigation to investigate petroleum contamination along the perimeter of the drum extent. Probes were advanced from the southeast corner of the drum area at the toe of the large slope and progressed west then north along the perimeter of the drum extent. The geophysics survey technician was able to mark the extent of the drums for ease of probing along the perimeter.

UVOST probes indicated petroleum contamination in the southeast corner of the drum area at depths from 1 foot to 4 feet bgs and from 17 feet to 20 feet bgs on the northern perimeter.

Eight soil borings (B53-B60) were completed in the East Canal/Building T-1451 North Area. Five soil borings (B53-B57) were completed in the southeast corner to the south of the crushed drum area boundary. Three soil borings (B58-B60) were completed along the north perimeter where petroleum contamination was observed with previous UVOST probe data in that area. One boring in the southeast corner (B53) had DRO concentrations greater than the ADEC cleanup level in two of four samples collected at depths from 1.5 feet to 3.5 feet bgs. The three borings completed along the northern perimeter each had soil samples with DRO concentrations above the ADEC cleanup level for DRO from 15.5 feet bgs to 19 feet bgs as analyzed by the mobile laboratory. Fixed lab samples results

collected from the borings in the East Canal/Building T-1451 North Area are pending analysis.

Excavation of the MNA treatment area commenced on Monday 6/11/12. The MNA treatment area is segregated into 20 feet x 20 feet cells for ease of application of OBC amendment to allow for consistent mixing of soil, the OBC amendment, and wood fiber mulch. The MNA treatment area is approximately 60 feet wide by 80 feet long in the portion of the treatment area that extends from the northern extent to the southern outlet of the culverts. Overburden material was removed beginning in the northwest corner of the MNA treatment area and progressed from west to east. Overburden soil was removed to depths of 2 feet bgs in the western portion to 1.5 feet bgs on the eastern boundary 30 feet to the south from the northern boundary and across the 60 feet wide east-west portion of the treatment area in the northern section.

Excavation and treatment of cell #1 was completed closest to the culverts on Tuesday 6/12/12 to a depth of 1 foot below groundwater which was encountered at 5 feet bgs. Geotextile liner was encountered at 2.5 feet bgs and 4 feet bgs. The backfill for the culvert construction was encountered from 1 foot bgs to a depth of approximately 5.5 feet bgs. The culvert backfill material is very dense sandy gravel with high silt content. Upon completion of the excavation, cell #1 was backfilled with a total of 100 pounds of OBC amendment and 50 pounds of wood fiber mulch mixed into 4 feet of backfill material and placed in cell #1. A trench box panel was placed to separate the south sidewall of cell #1 and the next cell to be completed to the south.

Excavation and treatment of cell #2 was completed on Wednesday 6/13/12, east of cell #1. Geotextile was encountered in three sections from 2.5 feet bgs to 4.5 feet bgs in cell #2. Petroleum contamination was present from 3.5 to 4 feet bgs associated with cross section C in the western portion of cell #2 and 2 feet bgs in the eastern portion associated with cross section D. Groundwater was encountered at 5 feet bgs. Soil was removed from 0.5 foot to 1 foot below groundwater due to sloughing sand into the excavation base. Upon completion of the excavation, cell #1 was backfilled with a total of 150 pounds of OBC amendment and 50 pounds of wood fiber mulch mixed into 4 feet of backfill material and placed in cell #2. A trench box panel was placed to separate the south sidewall of cell #2 and the next cell to be completed to the south.

Excavation of cell #3 in the northeast corner of the MNA treatment area was started on Wednesday 6/13/12. Removed contaminated material from 1 foot to 1.5 feet bgs to groundwater encountered at 5 to 5.5 feet bgs within the cell. Approximately 13 feet by 20 feet of the 20 feet by 20 feet cell has been removed.

C. Review of work to be completed in the next two weeks and documentation required

Continue to install the MNA treatment area according to the approved design. Documentation is required in the daily contractor production report, daily contractor quality control report, and field notebook.

Finish investigation in the East Canal/Building T-1451 North Area pending final fixed laboratory results for test pit soil samples. Documentation is required in the daily contractor production report, daily contractor quality control report, field notebook and associated field log forms.

Install remaining 3 recovery wells in Area 303 as time permits. Documentation is required in the daily contractor production report, daily contractor quality control report, field notebook and associated field log forms.

D. Resolution of any QC problems and QC Action Items

E. Other discussion points:
To be determined

F. Next Meeting
Thursday, June 21.

FCR Log

FCR #	Description of Change	Date Initiated	Status	Date

Quality Control Meeting Minutes

Contract N62473-07-D-3219 CTO JP01, Building T-1451 and East Canal Site Investigation/ Characterization, Adak, Alaska

Contractor: ERS JV
Administered by: Naval Facilities Engineering Command Northwest

June 14, 2012 at 10:00 am AKST

Name	Role/Position
Grady May	Navy RPM
Tom Spriggs*	NTR
Brian Cullen	On-site NTR
Guy Warren	Alaska Department of Environmental Conservation (ADEC) Environmental Program Specialist
Meghan Dooley	ADEC Environmental Program Specialist
Howard Wittenberg	Project Manager
Jamie Oakley	Technical Manager
Tim Dobson	Field Team Lead
Lauren Boldrick	On-site Geologist

*not present

Topics: Discussion of project status since the last QC meeting, any outstanding issues, and a look ahead of work to be completed.

Summary of Communication:

Meeting begins at 9:00am.

9:00 – 9:05: Introductions

9: 05 – 9:10: The previous week's meeting minutes are reviewed.

9:10 – 9:15: Mr. Dobson details the investigation activities using the UVOST probe within the Building T-1451 North Area, around Target 9 where a Test Pit was excavated to further delineate possible contamination within that local area. ADEC interjects that according to GIS data from that area we are likely encountering the SMU-62 plume. Eight soil borings were collected from that area, with initial mobile lab results indicating some diesel range organics contamination, and fixed labs results should be available soon. The Navy asks for copies of the mobile labs results to be sent out. They will be sent out soon, but we will first verbally confirm with the fixed lab that there is not any indication of any other type of contamination in the area (PCBs, RCRA metals, etc).

9:15 – 9: 20: Status update on the MNA excavation progress. The excavation cells each measure approximately 20' x 20' x 6'. Cell 3 is still in progress and was at a depth of 5.2' below ground surface (bgs). Geotechnical liner was discovered at approximate depths of 2.5' bgs and 4.0' bgs. Groundwater was encountered at approximately 5.0' bgs. A sheen was observed in Cell 2. The Navy requests that pictures of the excavation be sent out. Photos will be provided.

9: 20 – 9: 30: Discussion on the amount of treatment chemical used in each cell. Approximately 100 pounds of treatment chemical were used in Cell 1 and approximately 150 pounds of treatment chemical were used in Cell 2. It was discussed that more chemical than needed was mobilized for the project. It was decided by the group that all of the treatment chemical would be mixed into the backfill so that there would be no leftovers to haul off-island.

The final three recovery wells will be installed in approximately three weeks, once the drillers return to the island.

Off-haul of excavated material is discussed. We may use super-sacks to remove the contaminated soil from the site, to send to a west-coast disposal facility instead of keeping it on-site for land-farming. This decision is not final but the idea was discussed with the group. The group accepts this idea universally. A Design Change Notification will be issued upon finalization of internal organization for this change.

Meeting concludes at 9:30am.

Action Items:

- Submit photos to the onsite NTR.
- Submit a Design Change Notification regarding off-site soil disposal if it is feasible.
- A meeting will be organized to discuss correlation samples once fixed lab data is available.

ERS-JV
CQC Meeting Agenda
Building T-1451 and East Canal Site Investigation/ Characterization
Adak, AK
Adak Island, Alaska
Contract #N62473-07-D-3219

Date: 6/21/2012
Time: 0900 Adak time, 1000 Anchorage time
Location: Teleconference - Call in number: 1-866-699-3239
Attendee Code - 20214449#
Invited: Grady May(NAVFAC-NW), Thomas Spriggs (NAVFAC LANT) Brian Cullen (NAVFAC-NW), Guy Warren (ADEC), Meghan Dooley (ADEC), Howard Wittenberg (ERS-JV), Jamie Oakley (ERS-JV/AES), Tim Dobson (ERS-JV/AES) Lauren Boldrick (ERS-JV/AES)

Period:

A. Questions on previous meeting minutes?

B. Work or testing accomplished since last meeting

Please refer to the figure that shows the locations of the MNA treatment cells completed to date.

Completed excavation and treatment of cell #3 on 6/14/12. Excavation and treatment of cells #4 through #6 were completed from Friday 6/15/12 to Saturday 6/16/17. Geotextile liner was encountered at 2 feet bgs. Groundwater was encountered at 5 feet bgs. Drain rock greater than 2” fraction was left in place and mixed with the initial backfill lift placed in the excavation base.
During the excavation and treatment of cell #5 two layers of geotextile liner were encountered .The top liner was encountered at 2 feet bgs and the second liner was encountered sloping from east to west below the top liner. Contaminated soil was encountered at 3.5 feet to 4 feet bgs in the western portion of cell #5 and 1.5 feet bgs in the eastern portion of cell #5. Groundwater was encountered at 5 feet bgs. During excavation and treatment of cell #6 contaminated soil was initially encountered from 1 foot bgs to 1.5 feet bgs. Groundwater was encountered at 5 feet bgs. A total of three buckets of OBC and one 50 pound bag of wood fiber mulch were mixed with 4 feet of borrow source backfill material by the excavator bucket in each of the cells #4 through #6.

Excavation and treatment of cells #7 through cell #9 (shown on the attached figure) were completed from Monday 6/18/12 to Tuesday 6/19/12. Geotextile

liner was encountered at 2.5 feet bgs. Contaminated soil was encountered at 5 feet bgs in the eastern portion of the cell at groundwater level. The drain rock greater than 2" fraction was left in place and mixed with the initial backfill lift placed in the excavation base. Excavation and treatment of cell #8 encountered contaminated soil at depths between 1.5 feet bgs to 3 feet bgs. Two geotextile liners were observed in similar fashion as in cell #5.Groundwater was encountered at 5.5 feet bgs. Excavation and treatment of cell #9 encountered initially encountered contaminated soil between 1 foot to 1.5 feet bgs. Groundwater was encountered at 4.5 feet bgs A total of five buckets of OBC and one 50 pound bag of wood fiber mulch were mixed with 4 feet of borrow source backfill material by the excavator bucket in each of the cells #7 through #9.

Excavation and treatment of cell #10 was completed on Wednesday 6/20/12. Geotextile liner was encountered at three feet bgs. Contaminated soil was encountered at 5 feet to 5.5 feet bgs in the southeastern portion of the cell at groundwater level near the stained bank of the East Canal. The drain rock greater than 2" fraction was left in place and mixed with the initial backfill lift placed in the excavation base. Six buckets of OBC and one 50 pound bag of wood fiber mulch were mixed with 4 feet of borrow source backfill material by the excavator bucket in cell #10.

Excavation of cell #11 was started on Wednesday 6/20/12.

C. Review of work to be completed in the next two weeks and documentation required

Continue to install the MNA treatment area according to the approved design. The portion along the canal will be excavated and treated in the next week. A field change request has been initiated to adjust the placement of the cofferdam to include leaving one culvert open to allow water to continue to drain the canal.

After concurrence by the project team, install nine monitoring wells in the East Canal/Building T-1451 Area Proposed Monitoring Well Locations are presented for discussion in the attached figure.

Install remaining 3 recovery wells in Area 303 as time permits. Documentation is required in the daily contractor production report, daily contractor quality control report, field notebook and associated field log forms.

Completion and approval of the ADEC Off-Site Soil Transport and Disposal form.

D. Resolution of any QC problems and QC Action Items

E. Other discussion points:

To be determined

F. **Next Meeting**
Thursday, June 28.

FCR Log

FCR #	Description of Change	Date Initiated	Status	Date

Quality Control Meeting Minutes

Contract N62473-07-D-3219 CTO JP01, Building T-1451 and East Canal Site Investigation/ Characterization, Adak, Alaska

Contractor: ERS JV
Administered by: Naval Facilities Engineering Command Northwest

June 21, 2012 at 10:00 am AKST

Name	Role/Position
Grady May	Navy RPM
Tom Spriggs	NTR
John Pittz	On-site NTR
Brian Cullen	On-site NTR
Guy Warren	Alaska Department of Environmental Conservation (ADEC) Environmental Program Specialist
Meghan Dooley	ADEC Environmental Program Specialist
Howard Wittenberg	Project Manager
Jamie Oakley	Technical Manager
Tim Dobson	Field Team Lead
Lauren Boldrick	Geologist

Topics: Meeting was conducted as Initial Quality Control meeting to be held every Thursday at 9:00 am Adak (10:00 am AKST).

Summary of Communication:

Meeting begins at 9:00am.

9:00 – 9:05: Introductions

9: 05 – 9:10: The previous week's meeting minutes are reviewed.

9:10 – 9:15: Mr. Dobson details the rough footprint of completed cells 3 – 9. The field team within the excavation consistently encountered the geotechnical liner. Large rocks and cobbles were encountered in cell 4, which likely were placed by the crew whom installed the culvert for drainage purposes. The Navy questions as to whether free product was encountered in any of the cells excavated in the previous week.

9:15 – 9: 20: Mr. Dobson explains that free product had not made it into cell 4, or any west side cells at this juncture, likely due to the matrix material. It was noted that free product is appearing mostly in the middle cells, at the geotechnical liner boundary. There is a discussion of the amount of OBC mixed into the matrix material within the groundwater seasonal fluctuation zone.

9: 20 – 9: 30: The group discusses the tidal influence on the area, and the effects that it will have on the upcoming week of excavation activities, especially in regards to the canal banks. The group decides that the canal can be approached in a more practical method, so a Design Change Notification to attain official approval for this method will be submitted to the Navy. The upcoming well installations and placement are discussed next. The group would like a few figures sent out with adjustments made to the figure sent out for today's meeting. The Navy ends the discussion with reminding the group that a new NTR, Mr. Pitts, will be onsite, as Mr. Cullen is returning home.

Meeting concludes at 9:30am.

Action Items:

- A Design Change Notification regarding the canal bank excavation methodology will be submitted to the Navy.
- A revised figure of the monitoring wells will be submitted.

ERS-JV
CQC Meeting Agenda
Building T-1451 and East Canal Site Investigation/ Characterization
Adak, AK
Adak Island, Alaska
Contract #N62473-07-D-3219

Date: 6/28/2012
Time: 0900 Adak time, 1000 Anchorage time
Location: Teleconference - Call in number: 1-866-699-3239
Attendee Code - 20214449#
Invited: Grady May (NAVFAC-NW), Thomas Spriggs (NAVFAC LANT) Brian Cullen (NAVFAC-NW), Guy Warren (ADEC), Meghan Dooley (ADEC), Howard Wittenberg (ERS-JV), Jamie Oakley (ERS-JV/AES), Tim Dobson (ERS-JV/AES) Lauren Boldrick (ERS-JV/AES)

Period:

A. Previous meeting minutes

Meeting minutes for last meeting submitted today. Please send any comments after your review. Minutes from todays meeting will be sent out before the next meeting.

B. Work or testing accomplished since last meeting

Continue excavation of the MNA treatment area as of last QC meeting held on 6/21/12. Refer to the figure for the locations of the MNA treatment cells.

Excavation and treatment of cells #11and #12 (shown on the attached figure) were completed from Thursday 6/21/12 to Friday 6/22/17. During the excavation and treatment of cell #11 two layers of geotextile liner were encountered. Contaminated soil was encountered at 2.5 bgs in the western portion of cell #11 and 1.0 feet bgs in the eastern portion of cell 11. NAPL was encountered in cell #11 and removed with 14 sorbent pillows, 5-10’ sections of sorbent boom, and 40 sorbent pads. During the excavation and treatment of cell #12, contaminated soil was initially encountered from 1 foot bgs to 1.5 feet bgs. A total of six 45 pound buckets of OBC amendment and one 50 pound bag of wood fiber mulch were mixed with 4 feet of borrow source backfill material by the excavator bucket in each of cells #11 and #12.

The east culvert was blocked with 2-1 CY supersacks and plastic liner to divert the flow of water to the west culvert for placement of the cofferdam on Friday 6/22/12. One 65 foot section of the cofferdam was set in place against the supersack on the south end of the east culvert and filled with water to inflate and settle the cofferdam in place. Once the cofferdam was filled and had settled to the

bottom of the canal, dewatering of this section of the canal was completed to allow for excavation and treatment of cells #13-#17 for the MNA treatment area.

Excavation and treatment of cells #13 and #14 (shown on the attached figure) were completed on Saturday 6/23/12. Geotextile liner was encountered at 3 feet bgs in cell #13. Contaminated soil was encountered at 5 feet bgs in the eastern portion of the cell #13 at groundwater level. Two geotextile liners were encountered in cell #14. Contaminated soil was encountered from 1 foot bgs to 2.5 feet bgs in cell #14. A total of six 45-pound buckets of OBC amendment and one 50 pound bag of wood fiber mulch were mixed with 4 feet of borrow source backfill material by the excavator bucket in cells #13 and #14.

Excavation and treatment of cells #15-#17 were completed on Monday 6/25/12. Contaminated soil was encountered from 1 foot bgs to 2.5 feet bgs in cell #15. Groundwater was encountered at 4.0 feet bgs. Five 45 pound buckets of OBC and one 50 pound bag of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell #15. Excavation and treatment of cell #16 was completed south of treatment cell #15. Three 45 pound buckets of OBC amendment and one 50 pound bag of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell #16. Excavation and treatment of cell #17 was completed south of treatment cell #16. Two buckets of OBC amendment and one 50 pound bag of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell #17

Excavation and treatment of cells #18 and #19 were completed from 6/25/12 to 6/27/12 without the need to relocate the cofferdam due to a low tide level. A partial section of cell #18 was completed on 6/25/12 during the low tide event in order to restore the East Canal bank and remove the cofferdam. The cofferdam was removed on 6/26/12. Contaminated soil in cell #18 was encountered at the bank of the East Canal to 2 feet bgs. Contaminated soil in cell #19 was encountered from 2 feet bgs to 3 feet bgs. Five 45 pound buckets of OBC amendment and one 50 pound bag of wood fiber mulch were added to each cell #18 and #19.

Excavation and treatment of the MNA treatment area is complete pending final inspection.

Recovery wells RW-303-01, RW-303-03 and RW-303-04 were installed from Monday 6/25/12 to Tuesday 6/26/12 in Area 303. Monitoring wells MW-303-40, MW-303-41 and MW-303-42 were developed and completed with concrete for the protective casings and bollards on Tuesday 6/26/12.

Monitoring wells MW-303-38, MW-303-39, and MW-303-43 and recovery wells RW-303-01, RW-303-02, and RW-303-03, and RW-303-04 were developed on Wednesday 6/27/12.

Two monitoring wells were installed in accordance with the locations agreed to on the attached "New Monitoring Well" figure on the up-gradient portion of the MNA treatment area in the East Canal/Building T-1451 Area on Wednesday 6/27/12.

C. Review of work to be completed in the next two weeks and documentation required

Complete installation of the seven remaining monitoring wells in the East Canal/Building T-1451 Area as shown on the attached figure.

Grade and seed the excavated area in East Canal/Building T-1451 Area.

Seed the excavated area in East Canal/Building T-1451 North Area.

Place remaining contaminated soil in the temporary stockpile in supersacks and transport to the waste management storage area.

Complete all Non-regulated waste bill of lading and properly label all supersack containers with the appropriate "Non-Hazardous Waste" placards.

D. Resolution of any QC problems and QC Action Items

E. Other discussion points:

To be determined

F. Next Meeting

Thursday, July 5, 2012.

FCR Log

FCR #	Description of Change	Date Initiated	Status	Date
01	Cofferdam placement relocation	6/20/12	Approved	6/20/12

Quality Control Meeting Minutes

Contract N62473-07-D-3219 CTO JP01, Building T-1451 and East Canal Site Investigation/ Characterization, Adak, Alaska

Contractor: ERS JV
Administered by: Naval Facilities Engineering Command Northwest

June 28, 2012 at 10:00 am AKST

Name	Role/Position
Grady May	Navy RPM
Tom Spriggs	NTR
John Pittz	On-site NTR
Brian Cullen	On-site NTR
Guy Warren	Alaska Department of Environmental Conservation (ADEC) Environmental Program Specialist
Meghan Dooley	ADEC Environmental Program Specialist
Howard Wittenberg	Project Manager
Jamie Oakley	Technical Manager
Tim Dobson	Field Team Lead
Lauren Boldrick	Geologist

Topics: Discussion of project status since the last QC meeting, any outstanding issues, and a look ahead of work to be completed. Note not all participants listed above attended but are copied on the distribution.

Summary of Communication:

Meeting begins at 9:00am.

9:00 – 9:05: Introductions

9: 05 – 9:10: The group lists the people who will miss the meeting: Brian Cullen and Tom Spriggs (Navy), and Meghan Dooley and Guy Warren (ADEC). John Pittz (Navy) has replaced Brian Cullen (Navy) as the onsite NTR however Mr. Cullen will remain an active member of the team.

9:10 – 9:15: The excavation status is discussed. Free product was noticed in Cell 12 on the side wall of the cell. Six buckets of OBC were mixed with the material for that cell. Once Cell 12 was completed, the coffer dam was set up in the canal and the water pumped out of the coffer dam area to allow for excavation of Cell 13 to begin.

9:15 – 9:20: The discussion continued regarding the excavation activities, describing Cells 13 – 19. Five to six buckets of OBC was used in each of the cells depending on the varying amounts of visible contamination. The coffer dam performed very well within the constraints of the onsite conditions. The excavation and the treatment of the matrix material has been completed. Backfilling is an on-going activity. The area will be reseeded upon completion of adding the clean fill from two to zero feet below ground surface.

9:20 – 9:30: The monitoring wells were discussed. All recovery and monitoring wells in the Building T-1451 North Area have been installed and developed. Two wells have been installed within the Building T-1451/East Canal Area. The rest will be installed within the course of the next week.

The Navy discusses that the southern seep may be addressed during this field season under this contract but will be dependent on funding.

Meeting concludes at 9:30am.

Action Items:
- None at this time.

ERS-JV
CQC Meeting Agenda
Building T-1451 and East Canal Site Investigation/ Characterization
Adak, AK
Adak Island, Alaska
Contract #N62473-07-D-3219

Date: 7/5/2012
Time: 0900 Adak time, 1000 Anchorage time
Location: Teleconference - Call in number: 1-866-699-3239
Attendee Code - 20214449#
Invited: Grady May(NAVFAC-NW), Thomas Spriggs (NAVFAC LANT) Brian Cullen (NAVFAC-NW), Guy Warren (ADEC), Meghan Dooley (ADEC), Howard Wittenberg (ERS-JV), Jamie Oakley (ERS-JV/AES), Tim Dobson (ERS-JV/AES) Lauren Boldrick (ERS-JV/AES)

Period:

A. Questions on previous meeting minutes?

B. Work or testing accomplished since last meeting

Installed the remaining seven monitoring wells for the MNA treatment area monitoring well network in the East Canal/Building T-1451 Area on Thursday, 6/28/12 and Friday, 6/29/12.

Completed four soil borings to 10 feet bgs for to collect soil samples for analytical results in the area referred to as seep #2 in the East Canal/Building T-1451 Area on Saturday 6/30/12.

Continue placing contaminated soil into 1 cubic yard intermediate bulk containers (IBCs) for future offsite transport and disposal.

Review of work to be completed in the next two weeks and documentation required

Complete the concrete and bollard protections of the monitoring wells in the East Canal/Building T-1451 Area as shown on the attached figure.

Complete the restoration and final seeding of the excavated area in East Canal/Building T-1451 Area.

Complete the restoration and final seeding of the excavated area in East Canal/Building T-1451 North Area.

Place remaining contaminated soil from the temporary stockpile in IBCs and transport to the waste management storage area.

Complete all Non-regulated waste bills of lading and properly label all IBCs with the appropriate “Non-Hazardous Waste” placards.

C. Resolution of any QC problems and QC Action Items

D. Other discussion points:
To be determined

E. Next Meeting
Thursday, July 12, 2012.

FCR Log

FCR #	Description of Change	Date Initiated	Status	Date
01	Cofferdam placement relocation	6/20/12	Approved	6/20/12

Quality Control Meeting Minutes

Contract N62473-07-D-3219 CTO JP01, Building T-1451 and East Canal Site Investigation/ Characterization, Adak, Alaska

Contractor: ERS JV
Administered by: Naval Facilities Engineering Command Northwest

July 5, 2012 at 10:00 am AKST

Name	Role/Position
Grady May	Navy RPM
Tom Spriggs	NTR
John Pittz	On-site NTR
Brian Cullen	On-site NTR
Guy Warren	Alaska Department of Environmental Conservation (ADEC) Environmental Program Specialist
Meghan Dooley	ADEC Environmental Program Specialist
Howard Wittenberg	Project Manager
Jamie Oakley	Technical Manager
Tim Dobson	Field Team Lead
Lauren Boldrick	Geologist
Julia Caprio	QA

Topics: Discussion of project status since the last QC meeting, any outstanding issues, and a look ahead of work to be completed. Note not all participants listed above attended but are copied on the distribution.

Summary of Communication:

Meeting begins at 9:00am.

9:00: Introductions. The group lists the people who will miss the meeting: Grady May (Navy), and Meghan Dooley (ADEC). Brian Cullen (Navy) and John Pittz (Navy) as the onsite NTR however Mr. Cullen will remain an active member of the team.

9:05 – 9:10: The group discusses the work completed to date and the remaining work that will be completed in the coming week. There were no comments regarding the work completed or to be completed. The discussion also included the tentative schedule for transporting the removed soil off -site in early August. The transport of the removed soil is dependent on the arrival of the scheduled barge service and the group will be notified when that occurs.

9:10 Meeting is concluded. It is agreed that the next QC meeting planned for 7/12/12 will be the last QC meeting until fieldwork resumes.

Action Items:
- None at this time

ERS-JV
CQC Meeting Agenda
Building T-1451 and East Canal Site Investigation/ Characterization
Adak, AK
Adak Island, Alaska
Contract #N62473-07-D-3219

Date: 7/12/2012
Time: 0900 Adak time, 1000 Anchorage time
Location: Teleconference - Call in number: 1-866-699-3239
Attendee Code - 20214449#
Invited: Grady May(NAVFAC-NW), Thomas Spriggs (NAVFAC LANT) Brian Cullen (NAVFAC-NW), Guy Warren (ADEC), Meghan Dooley (ADEC), Howard Wittenberg (ERS-JV), Jamie Oakley (ERS-JV/AES), Tim Dobson (ERS-JV/AES) Lauren Boldrick (ERS-JV/AES)

Period:

A. Review previous meeting minutes

B. Work or testing accomplished since last meeting

Contaminated soil removed from the MNA treatment area is now contained in IBCs and staged in the Waste Management Storage Area to await transport and disposal on scheduled barge service.

All wells for Area 303 and East Canal/Building T-1451 are completed with concrete and developed.

The test pits areas completed as part of the anomaly excavation in East Canal/Building T-1451 North Area are backfilled and reseeded.

Construction equipment and heavy equipment are stored to await transport off-island

Review of work to be completed in the next two weeks and documentation required

Reseed the MNA treatment area once soft ground dries out from recent rain. To be completed on 7/12/12.

Plug remaining UVOST probes with bentonite observed during walk through in the East Canal/Building T-1451 North Area and East Canal/Building T-1451. To be completed 7/12/12.

Complete demobilization activities

Complete all Non-regulated waste bill of lading and properly label all IBCs with the appropriate “Non-Hazardous Waste” placards.

C. Resolution of any QC problems and QC Action Items

D. Other discussion points:
To be determined

E. Next Meeting
F. To be determined

FCR Log

FCR #	Description of Change	Date Initiated	Status	Date
01	Cofferdam placement relocation	6/20/12	Approved	6/20/12

— LAB OUT ON 6/14

CONFIRM SCALE ON

Outdoor writing products for Outdoor writing people

2:30 TIME W/JAMIE

- MOVE CULVERTS -
THROW IN MW-151

85.1

RIR #351

Stapled tagboard field

TTT Environmental (907) 770-904

DRAWN ON 7,500 ft² AREA

Propose

GO THROUGH

CROSS SECTIONS

DRAWN LINE ACROSS THICKNESS

NEROS TO BER

CROSS SECTION

UVO

BOB - UVOST

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Building T-1451 and East Canal
Site Investigation / Characterization
Adak, AK

Field Notebook #2 #1-TD

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DCN: ERS.3219.JP91.0001

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CONTENTS

PAGE	REFERENCE	DATE
	- JAMIE OAKLEY - 227-3981	
	BRIAN CULLEN - 360-531-3597	
	AES - AK Air Account #: 27442476646	

2 BUILDING T-1451/EAST CANAL SI/SC 17MAY12
~90°F, CLOUDY, WINDY PPE: LEVEL D
1300 - ARRIVE TSIA FOR FLIGHT TO ADAK
1450 - DEPART ANC FOR ADAK
1645 - ARRIVE ADAK - MEET RICK KESO
FOR LODGING

17 MAY 12
NFETP

BUILDING T-1451/EAST CANAL SI/SC 18MAY12
~40°F, OVERCAST, LT WIND PPE = LEVEL D
~~0700 - PREPATORY/INITIAL MEETING TO~~ 5/19
0900 - PRE-WORK MEETING - GATHER EQUIPMENT
1000 - PREPIRATORY/INITIAL PHASE MEETING WITH NAVY RPM/NTR - SEE PREP/INITIAL PHASE MEETING FORMS - INITIATE GEOPHYSICAL SURVEY AND UVOT INVESTIGATION DFOW's
1030 - CONDUCT TAILGATE SAFETY MEETING - PARTICIPANTS: T. DOBSON, Z. KIRK, L. NELSON, H. WETTLIN, S. DUGAN, S. ESPINO, T. SPITLER, S. PIERCE, M. CHAPMAN, B. CULLEN
1100 - VERIFY UTILITY LOCATES W/ ADAK CITY MANAGER LAYTON LOCKETT. MR. LOCKETT REQUESTED FURTHER NOTIFICATION WHEN READY TO INSTALL WELLS IN AREA 305 WITHIN 20' OF UTILITY EASEMENT ALONG MAIN ROAD. NO UTILITY WITHIN BUILDING T-1451/EAST CANAL AREA

18 MAY 12
NFETP

Rite in the Rain

4 BUILDING T-1451/EAST CANAL SI/SC 18 MAY 12

~40°F CLOUDY, WINDY PPE: LEVEL D

1400 - ARRIVE ON-SITE BUILDING T-1451/EAST CANAL AREA TO BEGIN UVOST INVESTIGATION - CONDUCT SAFETY BRIEF FOR UVOST PROBING WITH GEOPROBE 6620 DRILL RIG.

- PERSONNEL: S. PIERCE & M. CHAPMAN (HAMMER FAN) T. DOBSON & Z. KIRK (CERS-JV) BRIAN CULLEN (NTR)

- MARK UVOST SURVEY AREA -

1600 - BEGIN UVOST PROBING OPERATION

1615 - BRIAN CULLEN DEPARTS SITE ADVANCE UVOST PROBES ALONG EAST CANAL SOUTH TO NORTH

1745 - BRIAN CULLEN ARRIVES ON-SITE

- LATE ENTRY - VERIFY UVOST CALIBRATION BEFORE EACH PROBE

1820 - BRIAN CULLEN DEPARTS SITE

1920 - LAST UVOST PROBE COMPLETED. TOTAL OF 11 UVOST PROBES COMPLETED TODAY

1930 - DEPART SITE - SECURE EQUIP.

2300 - COMPLETE PREP/INITIAL PHASE CHECKLIST, DAILY CONTRACTOR REPORT, DAILY QC REPORT DONE FOR DAY

18 MAY 12

NFRTP

BUILDING T-1451/EAST CANAL SI/SC ~~TO~~ 19 MAY 12

40°F - CLOUDY - WINDY PPE: LEVEL D

0700 - CONDUCT SAFETY MEETING

PARTICIPANTS - T. DOBSON, L. NELSON, S. ESPINO, S. DUGGAN, H. WATTUM, T. SPITLER - AHTNA, Z. KIRK - GEOSYNTEC, S. PIERCE, M. CHAPMAN - HAMMER

0730 - REVIEW REPORTS FOR SUBMITTAL TO BRIAN CULLEN (NTR) -

0915 - SUBMIT REPORTS TO BRIAN CULLEN (NTR)

0930 - ARRIVE ON-SITE - BUILDING T-1451/EAST CANAL AREA -

- T. SPITLER - CONTINUES SURVEY IN BUILDING T-1451/EAST CANAL AREA

- UVOST INVESTIGATION CONTINUES IN S-N TRANSECTS

1215 - BREAK LUNCH

1315 - ARRIVE ON-SITE AT BUILDING T-1451/EAST CANAL AREA - OBSERVE T. SPITLER PERFORM EM-61 CHECK BEFORE SURVEY.

19 MAY 12

NFRTP

Rite in the Rain

BUILDING T-1451/EAST CANAL SI/SC 19 MAY 12
~40°F, CLOUDY, WINDY PPE: LEVEL D

1400 - CONTINUE UVOST INVESTIGATION BUILDING T-1451/EAST CANAL AREA

1430 - BRIAN CULLEN ARRIVES ON-SITE INFORM HIM OF PROGRESS OF UVOST INVESTIGATION

1445 - BRIAN CULLEN DEPARTS SITE

1500 - UVOST PROBE UV-029 INDICATES CONTINUOS READING OF ELEVATED % RE TO 16' BGS - DIFFERENT SIGNATURE THAN PREVIOUS PROBES.

1700 - PROBES UV-031 AND UV-032 DISPLAY SIMILAR CONTINUOS READINGS AS UV-029 TO 16' BGS - S. PIERCE REBOOTS SYSTEM.

1840 - ADVANCE UV-039 TO ~~35~~ 37' BGS. UVOST DISPLAY SHOW'S AVERAGE 20% RE FROM 9' BGS TO 37' BGS -

1910 - SECURE SITE - DEPART

19 MAY 12
NFER

BUILDING T-1451/EAST CANAL SI/SC 20 MAY 12
~35°F CLOUDY, WINDY PPE: D

0700 - CONDUCT TAILGATE SAFETY MEETING.
PERSONNEL: T. DOBSON, Z. KIRK, L. NELSON, S. ESPINOZA, T. SPITLER, S. DUGGAN, H. WOTTLIN, S. PIERCE, M. CHAPMAN

0730: PREP FOR SOIL SAMPLING IN BLDG. T-1451/EAST CANAL AREA

0825 - ARRIVE ON SITE AT BLDG T-1451/EAST CANAL AREA. AREA IS STAGED AND READY FOR DRILLING OPERATION

0840 - BEGIN BORING 01-SB-001
- LESA NELSON COLLECT GPS POINTS TO VERIFY SURVEY GRID FOR GEOPHYSICAL SURVEY

1220 - COMPLETE 01-SB005 - BREAK FOR LUNCH

1320 - ARRIVE ON-SITE AT BUILDING T-1451/EAST CANAL AREA -

1420 COMPLETE 01-SB006 - DEPART SITE TO PACKAGE SOIL SAMPLES FOR SHIPMENT TO TA-SEATTLE GOLDSTREAK -
SAMPLES REQUIRE 24 HR TAT.

1530 - SHIP SAMPLES ON ALASKA

~~19 MAY~~ 20 MAY 12

Rite in the Rain

8 BUILDING T-1451/EAST CANAL SE/SC 20 MAY 12

~40°F, CLOUDY, WINDY PPE: LEVEL D

AIR CARGO.

1610 - ARRIVE BUILDING T-1451/EAST CANAL AREA TO BEGIN UVOST INVESTIGATION FOR REST OF DAY BEGIN WITH UVOST PROBE UV-040 CONTINUE 20 FOOT GRID TO THE NORTH ALONG EAST CANAL

LATE ENTRY - 1735 -

- SOIL SAMPLES INCLUDED 2 FIELD DUPLICATES AND 1 MS/MSD - TOTAL

1745 - NTR BRIAN CULLEN AND ENGINEER TOM SPRIGGS ARRIVE ON SITE TO OBSERVE UVOST INVESTIGATION. BRIAN CULLEN INFORMED ME THAT HE AND TOM SPRIGGS WILL BE AT THE DAILY TAILGATE SAFETY MEETING MONDAY 5/21

1755 - BRIAN CULLEN (NTR) AND TOM SPRIGGS (NAVY) DEPART SITE

1900 - COMPLETE UVOST PROBE UV-048

- COMPLETED 6 SOIL BORINGS, COLLECTED 16 PRIMARY, 2 FIELD DUPLICATE, AND 1 MS/MSD EARLIER IN THE DAY - DEPARTED SITE, SECURED FOR DAY

[signature] TO 5 20 MAY 12

BUILDING T-1451/EAST CANAL SE/SC 21 MAY 12

~45°F PARTLY SUNNY - PPE: LEVEL D

- 1030 - MEET WITH NTR TO DISCUSS FORMAT FOR DAILY CONTRACTOR AND QCI REPORTS.
- MENTIONED - THAT SAMPLE NOMENCLATURE DISCREPANCY WAS IDENTIFIED AFTER SOIL SAMPLES COLLECTED FROM SOIL BORINGS IN THE BUILDING T-1451 EAST CANAL AREA WERE SHIPPED TO THE OFF-SITE PROJECT LABORATORY
- CORRECTIVE ACTION WAS TAKEN TO AMMEND SAMPLE NOMENCLATURE TO COMPLY WITH SPECIFICATIONS IN WS # 27 OF THE APPROVED SAP
- DISCREPANCY AND RESOLUTION WILL BE DOCUMENTED IN DAILY QC REPORT

1100 - MEETING CONCLUDED AFTER REVIEW OF DAILY CONTRACTOR REPORT AND QC REPORTS. BRIAN CULLEN PROVIDED COMMENTS TO ENSURE PROPER DOCUMENTATION FOR BOTH REPORTS

[signature] NTR 21 MAY 12

Rite in the Rain

BUILDING T-1451/EAST CANAL SE SC TO ~~ZONAL 12~~ 21 MAY 12
45°F - PARTLY SUNNY PPE: D

- PREP FOR - EXCAVATION / STOCKPILE MATERIAL
  NOTIFY - CITY STATE -
- Stockpile - material -

- POSSIBLE ASBESTOS CONCERNS IN UP-HANGAR -> FIND OUT IF SAMPLES REQUIRED -

1315 - SAFETY MEETING FOR EXCAVATION DISCUSSED AHA - FOR EXCAVATION SAFETY AND MATERIAL TRANSPORT

- MEETING ATTENDEES: BRIAN CULLEN (NTR), TOM SRIGGS (NAVY), TIM DOBSON (AHTNA), JON OVERCAND (AHTNA) HERB WOTTLIN (AHTNA), AND STEVE DUGGAN (AHTNA).
- VEHICLE SPOTTER WILL BE USED TO CONTROL TRAFFIC AS EXCAVATOR IS MOVED FROM THE CITY OF ADAK TO THE LOCAL BORROW SOURCE NEAR FINGER BAY.
- NON-ESSENTIAL PERSONNEL WILL NOT BE PRESENT DURING BACKFILL SOURCE EXCAVATION
- 1325 - CONCLUDE MEETING

NFRETO 21 MAY 12

BUILDING T-1451/EAST CANAL SE SC ~~ZONAL 12~~ 21 MAY 12
~40°F, PARTLY SUNNY PPE: LEVEL D

1330 - CONTINUE EDITS OF DAILY REPORTS FOR 5/18, 5/19, AND 5/20.

1700 - ARRIVE ON SITE AT BUILDING T-1451/EAST CANAL AREA TO OBSERVE UVOST PROBING. - PROBES CONTINUE TO BE ADVANCED TO THE NORTH ALONG EAST CANAL - PROBES ADVANCED ALONG THE 7TH TRANSECT TO THE EAST UPGRADIENT FROM EAST CANAL

1830 - DEPART SITE TO PICK-UP SURVEY CREW MEMBER.

1840 - ARRIVE ON SITE. SURVEY CREW MEMBER COLLECTS SURVEY DATA FOR UVOST PROBES COMPLETED TODAY

1910 - SECURE SITE - DONE FOR DAY AT T-1451/EAST CANAL AREA.

NFRETO 21 MAY 12

Rite in the Rain

 BUILDING T-1451/EAST CANAL SE/SC TU 22 MAY 12

~40, CLOUDY PPE: LEVEL D

0700 - DAILY TAILGATE MEETING HELD

(ERS-JV) TIM DOSSON, ZACK KINCK, LESA NELSON, SILVIA ESPINO, JON OVERLAND, HERB WITTLIN, STEVE DUGGAN, TOM SPITZER

- 0800 - PREPARE REPORTS, DAILY CONTRACTOR AND DAILY QC REPORT - S

09 - SUBMIT REPORTS TO BRIAN CULLEN (NTR) FOR 5/18, 5/19, 5/20, and 5/21

1015 - MEET WITH BRIAN CULLEN TO DISCUSS STAINED AREA 300' SOUTH OF CULVERTS IN EAST CANAL. NAVY WOULD LIKE TO EXCAVATE SURFACE STAINING ON THE BANK WHICH IS ≈ 40' IN LENGTH. CONTRACTOR INFORMED THE NAVY THAT THAT AREA WAS NOT A PART OF THE SOW. POTENTIAL UVOST AREA NTR INFORMED CONTRACTOR THAT POSSIBLE ASBESTOS CONTAINED IN INSULATION IN THE VP HANGAR SLATED FOR USE FOR THE LANDFARM CELL. CONTRACTOR WILL COLLECT A SAMPLE OF THE MATERIAL FOR ASBESTOS ANALYSIS.

NFETP 22 MAY 12

~40, CLOUDY PPE: LEVEL D

- NTR REQUESTED GEOPHYSICAL SURVEY BOUNDARY ON THE SOUTH END BE ADJUSTED TO TO CREATE A LINEAR BOUNDARY. ACREAGE WILL STILL BE 10 ACRES. CONTRACTOR AGREED. GEOPHYSICS SURVEY TECH WAS ABLE TO ESTABLISH NEW CONTROL POINT FOR THE SOUTHWEST CORNER OF THE SURVEY AREA TO CREATE A LINEAR TRANSECT.

1300 - EXCAVATOR OPERATOR WAS ABLE TO MOB EXCAVATOR TO BORROW SOURCE TO BEGIN PRODUCING BACKFILL MATERIAL FOR FUTURE TRANSPORT TO THE BUILDING T-1451 AREA WHEN FRONT END LOADER AND 12 YD³ DUMP TRUCK ARRIVE ON ISLAND SCHEDULED ON 5/29/12

1430 - BRIAN CULLEN AND TOM SPRIGGS ARRIVE ON SITE. TOM SPRIGGS REQUESTS THAT THE UVOST BE USED TO FURTHER INVESTIGATE PETROLEUM CONT. UP GRADIENT

22 MAY 12 Rain

BUILDING T-1451/EAST CANAL SE/SC. TO ~~[illegible]~~ 22 MAY 12

~40°F, CLOUDY, OCCASIONAL RAIN PPE: D

FROM THE EAST CANAL. TS SUGGESTS CONTINUING A TRANSECT 20' EAST OF LAST UVOST TRANSECT USED TO GRID THE MNA TREATMENT AREA. CONSTRUCTION AGREED THAT THE UVOST WOULD BE USED TO INVESTIGATE CONTAMINATION TO THE EAST AS THE GRID FOR THE MNA TREATMENT AREA IS WELL DEFINED TO ESTABLISH THE BOUNDARIES FOR THE MNA TREATMENT AREA.

1450 - BC, TS, AND TD DEPART THE SITE TO LOOK AT THE ASBESTOS (POSSIBLY) INSULATION AT THE VP HANGAR -

1455 ARRIVE AT THE VP HANGAR - TAKE PHOTOS OF THE INSULATION DEPOSITED ON THE FLOOR OF THE HANGAR. OBSERVE SPRAYED INSULATION ON ALL FOUR WALLS OF THE HANGAR AND TAKE PHOTOS. WILL COLLECT SAMPLE OF MATERIAL BEFORE THE SCHEDULED FLIGHT LEAVES ON THURSDAY, 5/24/12.

1515 - ARRIVE BACK ON SITE AT THE EAST CANAL/BUILDING T-1451 AREA.

NFETP 22 MAY 12

BUILDING T-1451/EAST CANAL SE:SC TO ~~[illegible]~~ 22 MAY 12

~40°F, CLOUDY OCCASIONAL RAIN PPE: D

1900 - COMPLETE UVOST PROBING FOR DAY. 104 PROBES TO COMPLETE THE MNA TREATMENT AREA 150'x80' GRID. 10 ADDITIONAL UVOST PROBES TO FURTHER DELINEATE PETROLEUM CONTAMINATION EAST AND UPGRADIENT OF MNA GRID. 2 UVOST PROBES COMPLETED 300' SOUTH OF CULVERTS IN SEPARATED SEEP ALONG BANK OF EAST CANAL.

SECURED SITE - DONE FOR DAY

NFETP 22 MAY 12

Rite in the Rain

BUILDING T-1451/EAST CANAL SI-SC 23 MAY 12

~45°F, Cloudy, RAINY — PPE: D

0700 - HELD HEALTH & SAFETY TAILGATE MEETING: ATTENDEES:
TIM DUBSON, ZACK KIRK, JON OVERLAND
STEVE DUGGAN, HERB WOTTLIN,
LESA NELSON, SILVIA ESPINA, TOM SPITLER - ERS-JV
SCOTT PIERCE, MARTIN CHAPMAN - HAMMER ENV.

- 0730 - JON OVERLAND, OPERATOR AND STEVE DUGGAN WITH HERB WOTTLIN LEAVE FOR BORROW SOURCE TO PRODUCE MATERIAL FOR BACKFILL

- 0745 - ZACK ~~Z~~ TO KIRK - AND DRILLERS CONTINUE UVOST INVESTIGATION AT EAST CANAL/BUILDING T-1451 AREA TO INVESTIGATE EXTENT OF PETROLEUM CONTAMINATION.

- 1305 - HELD PREPATORY/INITIAL PHASE MEETING FOR TASKS 6 & 7
ATTENDEES: BRIAN CULLEN, TOM SRIGGS (NAUPAC)
TIM DUBSON, ZACK KIRK, JON OVERLAND
HERB WOTTLIN, AND STEVE DUGGAN (ERS-JV)

NEETP 23 MAY 12

~45°F CLOUDY, RAINING PPE: LEVEL D

- 1335 - PREP/INITIAL PHASE MEETING FOR TASKS 6 & 7 CONCLUDED.

- JON OVERLAND, HERB WOTTLIN AND STEVE DUGGAN CONTINUE TO PRODUCE BACKFILL AT THE LOCAL BORROW SOURCE

1400 - ARRIVE ON SITE AT T-1451 AREA
- UVOST INV. CONTINUES TO FIND OF EDGES OF CONTAMINATION OUTSIDE OF MNA TREATMENT GRID AT THE REQUEST OF THE NAVY. ADDITIONAL UVOST POINTS CONSIDERED REPLACEMENT FOR ORIGINAL 1500' OF TRENCHING - NAVY CONSIDERED DEPTHS OF CONTAMINATION OBSERVED IN THE UVOST DISPLAY AN ADEQUATE DEPTH TO STOP PROBING. UVOST PROBES ADVANCED TO AVERAGE OF 7'36S.

1700 - NAVY ENGINEER INQUIRES ABOUT GEOPHYSICAL DATA IF AVAILABLE TO VIEW. CONTRACTOR INFORMS THE NAVY THAT PRELIMINARY DATA IS

NEETP 23 MAY 12 Rite in the Rain

BUILDING T-1451/EAST CANAL SI & SC 23 MAY 12

46°F - CLOUDY PPE: LEVEL D

CON'T AVAILABLE TO VIEW ON FIGURE. GEOPHYSICIST WILL HAVE DATA READY TO REVIEW AS SOON AS THURSDAY, 5/24/12. FIELD PM GAVE OK FOR GEOPHYSICS TECH TO SHOW AVAILABLE DATA TO NAVY ENGINEER.

TO 5/23 ~~1900~~ - 1720 - TO ~~DF~~ - LATE ENTRY -

NAVY ENGINEER ARRIVED ON SITE AT 1650. DISCUSSED GEOPHYSICAL DATA AS DESCRIBED ABOVE. TO 5/23 ~~GEOP~~ FIELD PM DEPARTED SITE W/ NAVY ENGINEER AT 1710.

1730 - FIELD PM ARRIVED BACK ON SITE. UVOST INVESTIGATION CONTINUES ALONG THE EASTERN PORTION OF THE SITE APPROACHING THE MAIN ROAD.

1900 - FINISHED UVOST PROBES FOR THE DAY - 29 UVOST PROBES ADVANCED TO DELINEATE EXTENT OF CONTAMINATION - 39 ADDITIONAL UVOST PROBES HAVE BEEN ADVANCED IN PLACE OF TRENCHING TO INVESTIGATE EXTENT OF CONTAMINATION

NFETP 23 MAY 12

BUILDING T-1451/EAST CANAL SI & SC 24 MAY 12

40°F, CLOUDY PPE: LEVEL D

0700 - HOLD SAFETY MEETING - ATTENDEES: TIM DOBSON, Z. KIRK, J. OVERLAND, HERB WOTTON, L. NELSON, S. ESPINO, STEVE DUGGAN, T. SPITLER (CRC-JV), S. PIERCE, M. CHAPMAN (HAMMER)

1015 MEET WITH NAVY TO DISCUSS ADDITIONAL UVOST PROBES TO DELINEATE CONTAMINATION OUTSIDE MNA TA. NAVY WOULD LIKE TO CONTINUE DELINEATION AS TIME PERMITS.

1300 - MEET W/ NAVY TO DISCUSS SEEP AREA 300' SOUTH OF MNA TA. CONTRACTOR AGREES TO CONTINUE UVOST SI TO DELINEATE 2nd SEEP AREA AS TIME PERMITS. CONTRACTOR INFORMS NAVY THAT MOBILE LAB IS READY TO PROCESS SOIL SAMPLES SO SOIL BORINGS WILL BE ADVANCED IN THE MNA TA ON FRIDAY 5/25/12. UVOST WILL REMAIN IN ADAK UNTIL SUNDAY 5/27/12 - POSSIBLE TO CONTINUE UVOST PROBING ON SATURDAY 5/26/12

1630 - STEVE DUGGAN AND SILVIA ESPINO TO DEPART ADAK

NFETP 24 MAY 12

Rite in the Rain

BUILDING T-1451/EAST CANAL SE & SC — 24 MAY 12

40°F - Cloudy — PPE: LEVEL D

1700: ARRIVE AT EAST CANAL/BUILDING T-1451 SITE. NAVY ENGINEER ON SITE OBSERVING UVOST PROBING -

- PROBES CONTINUE TO BE ADVANCED SOUTH AND EAST OF MNA TA TO DELINEATE SOUTHERN SEEP

1800 - DEPART SITE TO FINISH REVIEW OF UVOST DATA FOR CORRELATION SOIL SAMPLES TO BE COLLECTED ON FRIDAY 5/25/12 -

1900 - DONE FOR DAY - TOTAL OF 34 UVOST PROBES COMPLETED TODAY FOR A TOTAL OF 73 UVOST PROBES TO DELINEATE EXTENT OF CONTAMINATION IN EAST CANAL/BUILDING T-1451 AREA.

- OPERATOR PROVIDED APPROXIMATELY 500 cy BACKFILL MATERIAL TOTAL AS OF TODAY ~ 5/24/12

NFETP 24 MAY 12

BUILDING T-1451/EAST CANAL SE/SC — 25 MAY 12

40°F CLOUDY - — PPE: LEVEL D

0700 - CONDUCT DAILY TAILGATE SAFETY MEETING: ATTENDEES:
T. DOBSON, Z. KIRK, L. NELSON, J. OVERLAND, H. WOTTLIN, T. SPITZER (ERS-JU)
S. PIERCE, M. CHAPMAN (HAMMER)

0720 - CONDUCT ~~DA~~ PREPATORY/INITIAL PHASE MEETING FOR DIRECT PUSH DRILLING AND SUBSURFACE SAMPLING FOR EAST CANAL/BUILDING T-1451 AREA
ATTENDEE'S:
TIM DOBSON, L. NELSON, Z. KIRK (ERS-JU)
S. PIERCE, M. CHAPMAN

- BEGIN SOIL BORINGS IN MNA TO COLLECT SOIL SAMPLES TO BE ANALYZED AT MOBILE LAB - 1 per 10 samples WILL BE COLLECTED AND ANALYZED AT THE FIXED LAB.

1000 - MEET WITH NAVY TO ENQUIRE ABOUT WEEKLY QC MEETING W/ THE RPM NTR INFORMED CONTRACTOR THAT RPM IS NOT AVAILABLE BUT WILL ADVISE WHEN MEETINGS WILL BE HELD

NFETP 25 MAY 12 Rain.

~~TH EAST CANAL~~ BUILDING T-1451/EAST CANAL SE/SC 5/TD 25MAY12

45°F. PARTLY CLOUDY - PPE: LEVEL D

1030 - CONCLUDE MEETING W/ NAVY -

1255 - SUBMITTED SOIL SAMPLES TO MOBILE LABORATORY - 12 PRIMARY AND 1 DUPLICATE -

FIXED LABORATORY SAMPLE 01-SB018 WAS COLLECTED FROM SAME LOCATION AS MOBILE LAB SAMPLE 01-SB010-02 ON 5/25/12 AT 1126, ANALYZED FOR DRO

1425 - ARRIVE ONSITE AT EAST CANAL/BUILDING T-1451, - ZK & LN CONTINUE BORINGS IN NAVA TA TO CORRELATE UVOST RESULTS TO ANALYTICAL RESULTS AND DETERMINE VERTICAL EXTENT OF CONTAMINATION. COLLECT ADDITIONAL 21 SAMPLES FROM 9 BORINGS. ~~LS~~. COLLECT - FIXED LAB CONF SAMPLES FROM 2 BORINGS TO MAINTAIN 10% SAMPLE COLLECTION IN ACCORDANCE WITH SAP.

- 01B011-02 MOBILE LAB SAMPLE COLLECTED 01-SB019 FOR FIXED LAB AT 1425

01-B015-02 - MOBILE LAB SAMPLE - COLLECTED 01-SB020 FOR FIXED LAB

NFETP 25MAY12

BUILDING T-1451/EAST CANAL SE/SC 25MAY12

45°F - PARTLY CLOUDY PPE: LEVEL D

- AT 1720.

- 1800 - FINISH SOIL BORINGS FOR THE DAY. COMPLETED TOTAL OF NINE SOIL BORINGS FOR THE DAY W/ TOTAL OF ~~35~~ TD 34 SOIL SAMPLES SUBMITTED TO THE MOBILE LAB FOR DRO ANALYSIS

~~1850 - FLASH LOG~~ TD 5/25

SECURE SITE. DEPART SITE

1850 - SUBMIT SOIL SAMPLES TO THE MOBILE LAB. RESULTS PENDING FOR SAMPLES SUBMITTED EARLIER TODAY.

1900 - DONE FOR DAY

NFETP 25MAY12

Rite in the Rain

40°F - OCCASIONAL RAIN, CLOUDY PPE: LEVEL D

0700 - CONDUCT DAILY TAILGATE SAFETY MEETING -

ATTENDEES:

T. DOBSON, Z. KIRK, E. OVERLAND, H. WOTTON, L. NELSON, T. SPITLER (ERS-SU)

S. PIERCE, M. CHAPMAN (HAMMER)

- 0730 - BEGIN TO COMPLETE PREVIOUS WEEKS REPORTS INTO PDF. AN COMPLETE CONTRACTOR AND CONTRACTOR QUALITY CONTROL DAILY REPORTS - FOR 5/25/12

1030 - VISIT MOBILE LAB FOR SAMPLE RESULTS FOR SAMPLES COLLECTED ON 5/25/12 - RECEIVED RESULTS FOR 26 SAMPLES OUT OF 34 SAMPLES SUBMITTED ON 5/25/12

1100 - ARRIVE ON-SITE AT EAST CANAL/BUILDING T-1451 AREA - ZK INFORMED FIELD PM THAT 4 SOIL BORINGS WERE COMPLETED AT THAT TIME. THE DRILL CREW TO 5/26 ~~GOES~~ 5. IS NOW SETTING UP FOR 5th BORING - NOTED AS B20 -

NFETP 26MAY12

40°F, RAIN SHOWERS PPE: LEVEL D

- 1210 - DEPART EAST CANAL/BUILDING T-1451 AREA SITE TO CONTINUE CONTRACTOR PRODUCTION AND QUALITY CONTROL REPORTS.

1215 - BEGIN PROCESSING TODAYS SUBSURFACE SOIL SAMPLES TO SUBMIT TO THE MOBILE LABORATORY

- TOTAL OF 23 SOIL SAMPLES WERE COLLECTED FROM BORINGS B16 THROUGH B20 IN THE UNA TREATMENT AREA. THREE SAMPLES WERE COLLECTED FOR SUBMITTAL TO THE FIXED LABORATORY -

01-SB021 COLLECTED FROM BORING B16 FROM 1'-2' BGS AT 0850

07-SB022 COLLECTED FROM BORING B19 FROM 4'-5' BGS AT 1050

- 1300 - AWAITING LAB RESULTS FOR THE SOIL SAMPLES COLLECTED ON 5/25/12

1330 - CONTINUE PDF SIGNATURES ON CONTRACTOR PRODUCTION AND QUALITY CONTROL ~~SAMPLES~~ TO REPORTS

NFETP 26 MAY12

Rite in the Rain

~~EAST~~ BUILDING T-1451/EAST CANAL SI/SC 26MAY12

40°F - TRAINING PPE: LEVEL D

1550 - DEPART WITH LN FOR THE VP HANGAR TO COLLECT POTENTIAL ASBESTOS CONTAINING INSULATION SAMPLE.

1600 - COLLECT SAMPLE OF ASBESTOS (POSSIBLE) INSULATION FROM MATERIAL ENCASING PIPING AND INSULATION ON THE FLOOR OF THE HANGAR THAT HAD FALLEN OF THE WALL OF THE HANGAR. - LESA NELSON (ERS-JV) QUALIFIED TO COLLECT POTENTIAL ACM.

TO SIC

1620 - ARRIVE ON SITE AT EC/BUILDING T-1451 AREA - CONTINUE TO COLLECT UVOST PROBES ON SOUTH END OF SITE TO DELINEATE SOUTH SEEP. 8 PROBES ADVANCED TODAY.

1645 - DRILL CREW NEED TO END DAY EARLY TO FILL FUEL TANKS AND PACK UVOST EQUIPMENT FOR AIR CARGO TOMORROW (5/27/12)

1700 - ARRIVE AT LIVING QUARTERS - DRIVE TO BORROW SOURCE TO MONITOR BACKFILL PRODUCTION.

1715 - APPROXIMATELY 700 YARDS (CUBIC)

26MAY12

BUILDING T-1451/EAST CANAL SI/SC 26MAY12

40°F, RAINING PPE: LEVEL D

OF MATERIAL HAVE BEEN STOCKPILED

TO SIC

~~1725~~ 1725 - DEPART BORROW SOURCE

1735 - PREPARE FOR RESPIRATOR FIT TEST ADMINISTERED BY L. NELSON. FIT TEST FOR RESPIRATOR ADMINISTERED TO T. DOBSON AND HERB WOTTON (AES/ERS-JV) FOR FUTURE USE WHEN APPLYING AMENDMENT IN THE MNA TA.

1830 - RESPIRATOR TEST COMPLETED - BOTH T. DOBSON AND H. WOTTON FIT TO WEAR RESPIRATOR

1840 - CHECK WITH MOBILE LABORATORY - FOR SOIL SAMPLE RESULTS FOR SAMPLES COLLECTED ON 5/25/12 TO S LAB PERSONNEL INFORMED CONTRACTOR THAT RESULTS SHOULD BE READY THIS P.M.

1850 - PREPARE DAILY CONTRACTOR PRODUCTION AND QUALITY CONTROL REPORTS

1900 - DONE FOR DAY

26MAY12

NFETP

Rite in the Rain

28 BUILDING T-1451/EAST CANAL SI/SC 28 MAY 12

40°F - CLOUDY PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING

ATTENDEES:

T. DOBSON, Z. KIRK, J. OVERLAND, T. SPITLER
H. WOTTLIN, L. BOLDRICK (ERS-JV)
S. PIERCE, M. CHAPMAN (HAMMER)

0710 - CONDUCT PREPARATORY / INITIAL PHASE MEETING FOR ANOMALY INVESTIGATION / SOIL SAMPLING -

- PERSONNEL:

(ERS JV) T. DOBSON, Z. KIRK, J. OVERLAND, H. WOTTLIN, L. BOLDRICK, T. SPITLER (HAMMER) - S. PIERCE - M. CHAPMAN

- DISCUSS HOW WORK WILL BE ACCOMPLISHED. FEATURES OF WORK INCLUDE TEST PIT EXCAVATION - SOIL SAMPLING - UVOST PROBES AND DRILLING - MAYBE ~~ACCOMPLISHED~~ TO SITE ACCOMPLISHED IF PETROLEUM SOURCE IS IDENTIFIED.

AHA'S REVIEWED - UXO HAZARD REVIEWED, T. SPITLER WILL BE ON-SITE AT EAST CANAL / BUILDING T-1451 NORTH AREA FOR ANOMALY EXCAVATION.

NEETP 28 MAY 12

BUILDING T-1451/EAST CANAL SI/SC 28 MAY

40°F. RAIN PPE: LEVEL D

~~0800~~ 1030 - TP ARRIVE ON-SITE AT EAST CANAL / BUILDING T-1451 AREA. TALK WITH NTR ABOUT HOLDING PREP/INITIAL MEETING FOR INSTALLING MONITORING WELLS IN THE AREA SOS. NTR REQUESTS THAT PREP/INITIAL MEETING BE HELD WEDNESDAY 5/30/12. -

1040 - HELP ZK COLLECT SOIL SAMPLES FROM BORINGS. ~~ARRIVE ON-SITE~~ TP BORING BZ3 WAS COMPLETED - START BORING BZ4 -

1140 - COMPLETE BORING BZ4 AND BREAK FOR LUNCH -

1215 - PREPARE COC FOR SAMPLES AND SUBMIT TO MOBILE LABORATORY - TOTAL OF 17 SOIL SAMPLES SUBMITTED.

SAMPLES SUBMITTED TO FIX LAB:

01-SB024 FROM BORING 01-~~SB~~22-02 AT 0945

01-SB025 FROM BORING SAMPLE

01-SB024-03 AT 1112 INCLUDE MS/MSD

NEETP 28 MAY 12 Rain

JOB BUILDING T-1451/EAST CANAL SZ/SC 28 MAY 91
40°F - RAIN PPE: LEVEL D
1340 - BEGIN BORING B25 -.
COLLECT 4 SOIL SAMPLES (PRIMARY)
AND 1 FIELD DUPLICATE FOR
ANALYSIS AT MARINE LAB

28 MAY 91
NFEP

EAST CANAL/BUILDING T-1451 SZ/SC 28 MAY 1991
40°F RAIN, WIND PPE: LEVEL D

1545 - T. SPITLER HAS 20 ANOMALIES MARKED FOR INVESTIGATION - OPERATOR HAS EXCAVATOR ON SITE AT EAST CANAL BLDG T-1451 NORTH AREA.

1550 - DEPART EC/BLDG T-1451 NORTH AREA TO GRAB NECESSARY SAMPLING SUPPLIES TO SAMPLE ANOMALY LOCATIONS IF CONTAMINATION IS INDICATED BY PID, VISUAL, OR OLFACTORY OBSERVATIONS

1636 - ANOMALY LOCATION #1 - 2 METAL 55-GAL DRUMS WELDED TOGETHER MOSTLY USED TO FORM CULVERT PIPES.

1640 - GRAB PID SAMPLE ≈ 1' BELOW BOTTOM OF DRUM ~ 3.5' BGS
- FLOW FRESH SURFACE REMOVED WITH SHOVEL.
MATRIX: FINE-MEDIUM SAND W/SILT
- OXIDATION STAINING AT BOTTOM OF DRUM IMPACT.

1700 - ANOMALY LOCATION #2 - 1 METAL 55 GAL DRUM ≈ 2.5 BGS - GRAB PID SAMPLE, 1' BELOW DRUM AT ≈ 3.5' BGS - ~~PID 3.3~~ PID 2.2 PPM

NFEP 28 MAY 91

Rite in the Rain

40°F RAIN/WIND 17PPE/LEVEL D

- 1800 - MOVE TO ANOMALY #4 - 2 SECTIONS OF 2-55 gal METAL DRUMS REMOVED. 1 DRUM VISIBLE AT SIDEWALL (WEST) OF EXCAVATION - GRAB PID SAMPLE AT 3.5' bgs
- ANOMALY #5 EXCAVATED TO 20' BGS - EM-61 TECH CHECKED INTERVALS W/ SCHONSTEDT METAL DETECTOR WAS USED TO CHECK FOR METAL AT 10' AND 15' BGS - NO INDICATION OF METAL. PID GRAB SAMPLE COLLECTED FROM EXCAVATOR BUCKET AT 20' BGS - READING: 3.3 PPM - NO VISUAL, OR OLFACTORY INDICATION OF CONTAMINATION NO OBJECT LOCATED
- 1825 - BEGIN TO EXCAVATION OF ANOMALY #6 - WEST OF MAIN ROAD. ENCOUNTER LAYER OF CONT. SOIL AT 1.5'-2' BGS
- GRAVEL LAYER 6" - 1.5' BGS
OXIDATION AT 2' BGS - 2.5' BGS
SAND LAYER BEGINS 2.5' BGS
OBSERVE METAL PIPE ON WEST SIDE WALL. EM-61 TECH CHECKS SIDEWALL WITH SCHONSTEDT ON WEST

NFETP 28 MAY 12

40.

SIDEWALL - METAL PIPE IS LIKELY SOURCE OF ANOMALY
- WILL SHOW NTR EXCAVATION AREA ON 5/29/12
1900 - SECURE SITE - PARK EXCAVATOR AT SOUTH ACCESS ROAD TO BLOCK ACCESS -
- NO VISUAL OR OLFACTORY SIGNS OF CONTAMINATION IN PITS 1-5 TO
- PID SAMPLES LESS THAN 5 PPM IN TEST PITS #1-5
- TEST PIT #6 DOES INDICATE POTENTIAL CONTAMINATION - WILL GRAB MOBILE LAB SAMPLE FROM TEST PIT #6 IN AM FOR 29 MAY 12. -
- DONE FOR DAY

NFETP 28 MAY 12

Rite in the Rain

- 40°F CLOUDY PAUL LEERD

0700 - CONDUCT DAILY TAILGATE MEETING:
- ATTENDEES -
T. DOBSON, Z. KIRK, J. OVERLAND, H. WOTTON
- L. BADRICK, T. SPITLER (CERS JV)
- S. PIERCE, M. CHAPMAN (HAMMER)

- 0830 - COLLECT SAMPLE AT TP6 FOR DRO/RRO, GRO/BTEX FOR ANALYSIS AT MOBILE LAB. - 01-EX006-02 AT 0855

- 0910 - TP7 - TARGET 8 FROM EM-61 DISCOVERED TO BE 3 - SMALL DIAMETER PIPES 2'-3' IN LENGTH - 2 PID
- SAMPLES COLLECTED - FS1 = 2.4 PPM FS2 = 3.6 PPM - NO VISUAL/OLFACTORY SIGNS OF CONTAMINATION -

0945 - ANOMALY #10 - TWO SECTIONS OF 1" PIPING FOUND AT 4.5' AND 5.5'
- COLLECTED 4 PID SAMPLES - FS1 = 2.1 PPM, FS2 = 1.9 PPM, FS3 = 2.1 PPM, FS4 = 1.4 PPM - NO VISIBLE STAINING OR ODOR ASSOCIATED WITH PIPING.

1140 - ANOMALY #11 - LOCATED ON NORTH SIDEWALL OF DISTURBED AREA DEPICTED IN 1997 ARMAR

NFETP 29MAY12

40°F CLOUDY PAUL LEERD

PHOTOGRAPH. ENCOUNTERED FLATTENED DRUMS AT ≈ 6" BGS. EXPOSED 50 DRUMS TO A DEPTH OF 6' BGS
- DECISION PENDING ON WHAT TO DO WITH AMOUNT OF DRUMS REMOVED
- NTR MAKES CALL TO RPM TO DISCUSS EXCAVATION IN ACCORDANCE WITH SOW AND WORK PLAN - TO DIG TO 17' BGS OR 2' BELOW GW.
COLLECT FIELD SCREENING SAMPLES ON SIDEWALL EXPOSED -
FS1 = 1.2 PPM FS2 = 0.8 PPM
FS3 = 0.9 PPM - NO VISIBLE STAINING OR ODOR ON SIDEWALLS AT 1', 3', OR 4' -

1340 BEGIN ~~ANOMALY EXCAVATION #10~~ #12 - TP 10, ANOMALY 12 (TO)
- FLATTENED DRUMS ENCOUNTERED AT 6" BGS. REMOVE DRUMS TO ≈ 3'-4' BGS - DARK, ODOROUS LIQUID ENCOUNTERED AT 3'-4' BGS -
COLLECT FIELD SCREENING SAMPLES ON EAST, SOUTH, AND WEST SIDEWALLS
FS1 = 2323 PPM - FS2 = 94.7 PPM

NFETP 29MAY12

Rite in the Rain

FS3 = 95.6 PPM. COLLECT FULL CHARACTERIZATION SUITE SAMPLE FROM FS1 LOCATION - GRO/DRO: DRO/RRO, DAA PCB AND RCRA METALS. DEPTH 3' BGS - RPM ADVISES TO FILL TP10 TO LIMIT WATER INFILTRATION. -

1510 - ANOMALY TARGET #~~11~~ 15, TP 12 ENCOUNTER FLATTENED DRUMS AT 2'' - 2' BGS. COLLECT FIELD SCREEN SAMPLES ON NORTH AND WEST SIDEWALLS AT BASE OF EXCAVATION. FS1 = 0.7 PPM FS2 = 1.2 PPM. DECIDE TO COLLECT ~~FULL CHARACTERIZATION~~ GRO/BTEX, DRO/RRO SUITE FOR LAB ANALYSIS - VISUAL SIGNS OF PETROLEUM CONTAMINATION IN DISTURBED SOILS; COLLECT SAMPLE FROM GRAY SAND LENSES WITHIN BROWN MEDIUM SAND. 01-EX01-03

1540 - ANOMALY TARGET #~~12~~ 16 (TP 12) LOCATION IS WEST OF TP#~~8~~ 9 AND NORTH OF TP#11. EXPOSE FLATTENED DRUMS 6'' BGS - AND PIPING AT 1' BGS - EXCAVATOR DOES NOT ENCOUNTER DEBRIS 1 BUCKET WIDTH DOWN SLOPE

FROM DRUM DEBRIS. FROM 2' - 6' BGS - COLLECT FIELD SCREEN SAMPLES ON WEST AND SOUTH WALL AND BASE AT 5' BGS - FS1 = 0.9 PPM FS2 = 0.7 PPM FS3 = 0.8 PPM. - NO VISIBLE STAINING OR ODOR PRESENT - DO NOT COLLECT ANALYTICAL SAMPLE IN THIS AREA.

1610 - ANOMALY TARGET #~~13~~ 17 TP #13 NORTH OF ANOMALY #~~12~~ 16 TARGET EXPOSED AT 2.5' BGS IS BRAIDED STEEL CABLE WITH SHACKLES. EM-61 TREM CONFIRMS TARGET HAD LOW MILLIVOLT VALUE. NO VISIBLE STAINING OR ODOR. DO NOT COLLECT FIELD SCREEN SAMPLES. - NTR ON-SITE AGREES NO FURTHER ACTION IS NECESSARY. BACKFILL EXCAVATION.

1705 - ANOMALY TARGET #18 - TP 14 - - TARGET LOCATED AT 2' BGS - IS 2' LONG SECTION OF 1'' DIAMETER PIPE. SOIL IN AREA IS DARK WITH ORGANIC MATTER TO 2.5' - 3' BGS ENCOUNTER CONCRETE EXCAVATION

Rite in the Rain

BUILDING T-1451/EAST CANAL SI/SC 29 MAY 12

40°F CLOUDY PPE: LEVEL D

AT 3' BGS. PIECES OF CREOSOTE PILING EXPOSED AT CONCRETE FOUNDATION BASE. COLLECT 2 FIELD SCREENING SAMPLES FROM SOIL ON BASE OF CONCRETE PAD - FS1 = 0.0 FS2 = 0.0 NO ODOR OR STAINING PRESENT - ON CONCRETE PAD. DO NOT COLLECT CHARACTERIZATION SAMPLE FOR THIS AREA. - T. DOBSON DEPART SITE.

1745 - ANOMALY #20 DISCOVERED TO BE REBAR IN CONCRETE PAD SOUTH OF LOCATION TARGET #18. DISCARDED AND MOVED TO TARGET 14.

- CONCRETE FOUNDATION AT 1' DEEP AND SS GAL DRUM. -

TO FIELD SCREENING SAMPLES COLLECTED BY L. BOLDRICK - FS1 = 1.2 FS2 = 1.5 NO SIGNS OF PETROLEUM CONTAMINATION - NO SOIL SAMPLE COLLECTED - ~~T. DOBSON~~ TDS

1900 - BEGIN PREPARATION OF DAILY REPORTS.

2 MOBILE LAB SAMPLES COLLECTED - 01-EX000-02 FOR GRO/BTEX DRO/RRO TO ~~01-EX001~~ EX011-03 FOR GRO/BTEX DRO/RRO

FIXED LAB SAMPLE - 01-EX001 - FULL SUITE

NFEEP 29 MAY 12

BUILDING T-1451/EAST CANAL SI/SC 30 MAY 12

40°F CLOUDY, RAIN PPE: LEVEL D

- 0700 - CONDUCT TAILGATE SAFETY MEETING

ATTENDEES:

T. DOBSON, Z. KIRK, L. BOLDRICK, J. OVERLAND, H. WOTLIN, T. SPITLER. (ERS-JV)

S. PIERCE, M. CHAPMAN (HAMMER)

0720 - CONDUCT PREPATORY/INITIAL PHASE MEETING FOR TASK 8: INSTALLATION OF MONITORING AND RECOVERY WELLS

ATTENDEES:

T. DOBSON, Z. KIRK, L. BOLDRICK (ERS-JV)

S. PIERCE, M. CHAPMAN (HAMMER)

REVIEW WORK PLAN AND SOP# FOR CONSTRUCTION OF WELLS.

DISCUSS AHA FOR TASK 8 AND SAFETY AROUND DRILL RIG - CONCLUDE MEETING

- 0730 - BEGIN PREPARATION OF DAILY CONTRACTOR PRODUCTION AND CONTRACTOR QUALITY CONTROL REPORT FOR 5/29/12 - MORNING IS

~~0830~~ TO 5/30 - SPENT READING DAILY REPORTS AND PREPARING FOR QC MEETING SCHEDULED FOR 0900, 5/31/12.

- 1400 - ARRIVE AT AREA 303 TO OBSERVE MONITORING WELL

30 MAY 12

Rite in the Rain

30 MAY 12

40°F RAIN PPE: LEVEL D

WELL CONSTRUCTION - DRILLERS, SCIENTIST WEARING APPROPRIATE PPE - WELL DEEPER THAN ANTICIPATED - WATER LEVEL LOWER THAN WELLS (EXISTING IN AREA) -

1440 - ARRIVE ON SITE AT EC/BLDG T-1451 NORTH AREA - OBSERVE EXCAVATION OF TARGET (TP 26) - LARGE DIAMETER WATER PIPE AND OTHER METAL DEBRIS - PROPER PPE WORN BY GROUND CREW - DEPART SITE

1900 - SUMMARIZE DAY'S ACTIVITIES -

AREA 303 - MONITORING WELL MW-303-42 COMPLETED - BOTTOM DEPTH = ~~30~~ 29' BGS - SCREEN SET - 19'-29' BGS -

EC/BT-145 N 9 TARGETS INVESTIGATED - MOBILE LAB SAMPLES COLLECTED

T-31 (TP-16) - 01-EX016-02, T-32 (TP 17) - 01-EX017-04 ~~T-28 (TP 18)~~ TO 01- T22 (TP 19) - 01-EX019-1.5, T-13 (TP20) - 01-EX020-1.5, T27 (TP 21) - 01-EX021-1.5 T26 (TP 22) - 01-EX022-02, T25 (TO ~~23~~ TP 23) 01-EX023-1

- CONTINUE PREP FOR QC MEETING - FOR 5/31/12

RFEP 30 MAY 12

BUILDING T-1451/EAST CANAL SI/SC 31 MAY 12

40°F CLOUDY PPE LEVEL D

0700 - CONDUCT TAILGATE H&S MEETING

- ATTENDEES -

T. DOBSON, Z. KIRK, L. BOLDRICK, J. OVERLAND H. WOTTLIN, T. SPITLER (BEAS JV) S. PIERCE, M. CHAPMAN (CHAMBER)

0710 - PREPARE FOR ~~DATE~~ TO QC MEETING AT 0900 -

0840 - ARRIVE AT NTR QUARTERS IN PREP FOR QC MEETING -

0900 - CALL INTO TELECONFERENCE -

- PARTICIPANTS DOCUMENTED IN MEETING MINUTES - ~~T. DOBSON~~ TO GOES GO THROUGH AGENDA. - DISCUSS WORK PROGRESS FOR EC/BLDG T-1451 AREA, EC/BLDG T-1451 NORTH AREA, AND AREA 303 - ACTION ITEMS:

- NEED TO COMPILE DATA FOR REVIEW OF MNA TR - IN EC/BLDG T-1451 AREA
- INVESTIGATE BETWEEN TARGETS #11 & #12 FOR FURTHER DRUM-CONTAMINATION -
- EXCAVATE TARGET #11 TO DETERMINE EXTENT OF DRUM DEPTH -

1000 - CALL CONCLUDED -

RFEP 31 MAY 12

Rite in the Rain

40°F CLOUDY PPE LEVEL D

1120 - ARRIVE ON-SITE AT EC/DEPOT T-1451

NA - TO OBSERVE PROPER PPE BY FIELD CREW IS DOCUMENTED -

- TP EXCAVATION FOR AREA BETWEEN TARGETS #11 & #12 - OBSERVE DRUMS AND DEBRIS - CONTAMINATED SOIL AT ≈ 3' BGS - GW AT 4.5' - 5.5' - COLLECTED - CHARACTERIZATION SAMPLE AT ≈ 7.5-8' BGS - 2' or 2.5' BELOW GW - 01-EX002 AT 1153

- PERSONNEL - J. OVERLAND, A. WOTTON, L. BILONICK, T. SPOTTEN -

EQUIP: 325C CATERPILLAR EXCAVATOR -

- 1210 - RESUME EXCAVATION OF TEST PIT #9

- ENCOUNTER DRUM LEAKING ORANGE VISCOUS FLUID - NO ODOR BUT COLLECT FULL CHARACTERIZATION SUITE FROM OBSERVATION. 01-EX003 @ 1240

- CONTINUE EXCAVATION - DRUMS NO LONGER OBSERVED AT 13'-14' BGS - COLLECT PID SAMPLES FS1 (SOUTHSW) TO FS1 = 14.7 ppm - FS2 (WEST SW) = 5.9 ppm AND FS3 (NORTH SW) = 5.2 ppm. BASE PID SAMPLE DISTURBED MATERIAL

31MAY12

40°F CLOUDY PPE LEVEL D

NOT REPRESENTATIVE - PID VALUE WAS NOT TAKEN AFTER SAMPLES COLLECTED

- SUBMITTED FIXED LAB CHARACTERIZATION SAMPLE - FROM SOUTH AND SOUTH WEST SIDEWALLS - 01-EX004 @ 1255 AND 01-EX005 FOR FULL CHARACTERIZATION SUITE.

- BACKFILL EXCAVATION W/DRUMS

1315 - RETURN TO PACK COOLER FOR FLIGHT OFF ADAK -

1425 - DROPOFF COOLER AT ALASKA AIR CARGO -

- TO 1530 - NOTICE PID SAMPLE FOR BASE WAS NOT SCREENED - TOOK PID READING - AND HAD READING OF 353.1 - DECIDE TO SUBMIT THE BASE SAMPLE TO THE FIXED LAB FOR FULL CHARACTERIZATION SUITE - NOT TO MOBILE LAB. TO 5/31 (01-EX006)

- WILL NOTIFY TESTAMERICA SEATTLE THAT SAMPLE 01-EX005 WILL BE ANALYZED FOR DRO/RRO GRO/BTEX AND NOT FULL SUITE -

- 1600-1700 - PREPARE DAILY REPORTS. DONE FOR DAY

NFETP 31MAY12 Rite in the Rain

40°F, RAIN PPR: LEVELD

- 0700 - CONDUCT DAILY TAILGATE SAFETY MEETING -
ATTENDEES -
T. DOBSON, H. WITTENBERG, T. KIRK, L. BOLDRICK, J. OVERLAND, W. WOTTON Z. RASMUSSEN T. SPITLER - (RRS-JV)
- S. PIERCE, Trevor BROWN (HAMMER)
- 0715 - Martin CHAPMAN DEPART ADAK ON 5/31/12 - REPLACED BY TREVOR BROWN - HAMMER ENV.
- ZACK RASMUSSEN ARRIVED 5/31/12
- HELD PREP/INITIAL MEETING FOR T. BROWN TO REVIEW AHA'S AND TASKS #3-#4 AND #8 - T. BROWN WILL BE DRILL OPERATOR FOR ABOVE TASKS -
HELD PREP/INITIAL TO REVIEW AHA'S AND TASKS #6-7 FOR ZACK RASMUSSEN Z. RASMUSSEN WILL OPERATE THE FRONT END LOADER AND DRIVE END DUMP TRUCK.
- 0745 - ~~FINISH~~ START DAILY REPORT AND REVIEW - SUBMIT TO NTR ON DVD AT 1050 -

NFEIP 01 JUNE 12

40°F, CLOUDY PPR: LEVELD

- 1130 - MOVE AROUND SITE W/ HOWARD WITTENBERG TO VIEW BUILDING T-1451/EAST CANAL SITE.
~~1151 NOTES: B4, B5, B6, B10,~~
TO GL ~~B11, B14, B15, B16, B19, B20,~~
~~B21~~ TO * - LAUREN BOLDRICK USED FIELD NOTE BOOK TO MAKE NOTES WHILE COLLECTING/VIEWING DATA FOR FIGURES AND CROSS SECTIONS FOR SUBMITTAL TO NAVY -
- LATE ENTRY - 1232 - RETURN TO QUARTERS TO COMPILE DATA FOR NAVY/ADEC REVIEW OF EAST CANAL/BUILDING T-1451 NNA PROPOSED TA.
1300 - GATHER SURVEY POINTS AT EAST CANAL/BUILDING T-1451 AREA AT THE CULVERT SECTION. CURRENT FIGURE FOR UVOST/BORING INFO SHOWS CULVERTS ARE UNDER PROPOSED TA.
1330 - RETURN TO VIEW SURVEY DATA/COMPILE FIGURE
1430 - DISCUSS BOUNDARIES OF PROPOSED TMNA TA WITH TECHNICAL DM

NFEIP 01 JUNE 12 Rite in the Rain

BUILDING T-1451/EAST CANAL S/SE 01 JUNE 12

40°, CLOUDY PDR: LEVELD

1530 - AFTER REVIEW OF DATA POINTS COLLECTED FOR ADDITIONAL CHARACTERIZATION EAST AND SOUTH OF THE MNA TA, DECIDE TO ADVANCE MORE SOIL BORINGS TO COLLECT SOIL SAMPLES TO ~~MOL~~ TO 01 SUBMIT TO MOBILE LAB SOUTH OF SOUTHERN END OF UVOST GRID FOR TO DETERMINE IF THERE IS ADDITIONAL SEEP IN BANK OF EAST CANAL DUE TO SOIL STAINING ON BANK OF CANAL

1600 - INFORM DRILL CREW THAT DRILL RIG WILL BE USED TO ADVANCE SOIL BORINGS. - DRILL CREW WILL SWITCH OUT AUGER DEVICE ON GEOPROBE 6620 TO COLLECT SOIL SAMPLES.

DRILLER COMPLETED MW-303-38 AND MW-303-43. READY TO BE DOWN RECOVERY WELLS IN AREA 303 - BOLLARDS AND STICKUPS NEED TO BE TO 01 FILLED WITH CONCRETE.

- 1650 - BORING ~~B-33~~ TO 01 B-32 WAS STARTED -

01 JUN 12

BUILDING T-1451/EAST CANAL S/SE 01 JUNE 12

40°F CLOUDY PDR: LEVELD

1720 - B-32 COMPLETED W/ TOTAL OF 5 primary samples and 1 FIELD DUPLICATE - FOR MOBILE LAB

~~B~~ TO 01 1720 - B-33 WAS STARTED.

1745 - B-33 COMPLETED WITH TOTAL OF 5 Primary SOIL SAMPLES SAMPLE 01-SB030 COLLECTED FROM 01-SB033-04 TO SUBMIT TO ~~MOBILE~~ FIXED 01 LAB.

1750 - START TO B-34

1802 - BORING B-34 COMPLETED. WITH 5 SAMPLES SUBMITTED TO MOBILE LABORATORY - 2/PRIMARY AND 1 FIELD DUPLICATE.

- PROCESS SAMPLES TO SUBMIT TO MOBILE LAB -

18 - DRILLERS DEPART (HAMMER)

1900 - SUBMIT SAMPLES TO MOBILE LAB.

PERSONNEL ON SITE AT EC/T-1451 AREA INCLUDE - T. DOBSON, C. BOLDRICK, Z. BURK (BRS-JV) - S. PIERCE AND T. BROWN

- 2 OPERATORS AND 1 LABORER MOVE ≈ 80-90 yds³ OF BACKFILL MATERIAL

01 JUN 12

Rite in the Rain

FROM LOCAL BORROW SOURCE -
EQUIPMENT: 325 C EXCAVATOR, 120 VOLVO
LOADER; 12 yd³ END DUMP TRUCK -
(LOADER / DUMP TRUCK ARRIVED 5/31
WITH SAMSON TUG / BARGE - OFF
LOADED ON 6/1/12 AM.
PERSONNEL: J. OVERLAND, H. WHITTON,
Z. RASMUSSEN.
- - AREA 303 -
INSTALL MW-303-38 AND MW-303-C13
- NOT COMPLETE UNTIL CONCRETE SET
FOR STICK UPS AND BOLLARDS -
- ALL 6 2"-M. WELLS NOT COMPLETE
UNTIL CONCRETE SET FOR STICKUPS
AND BOLLARDS -
-

01 JUNE 12

NFGTP

Rite in the Rain
ALL-WEATHER WRITING PAPER

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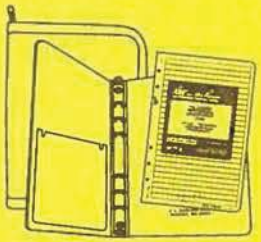
Loose Leaf with Ring Binder

Memo Books

All-Weather Pens

Notebooks

RiteintheRain.com

CM 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

1600
1745
1830

Outdoor writing products for Outdoor writing people

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BUILDING T-1451 AND EAST CANAL
SITE INVESTIGATION / CHARACTERIZATION

ADAK, AK

FIELD BOOK H1 - ZK

Rite in the Rain
ALL-WEATHER
FIELD
№ 351

DCN: ERS.3219.3P01.0001

Rite in the Rain
ALL-WEATHER WRITING PAPER

Name ERS - JV

Address

Phone

Project BUILDING T-1451 AND EAST CANAL
SITE INVESTIGATION / CHARACTERIZATION
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Clear Vinyl Protective Slipcovers (Item No. 30) are available for this style of notebook.
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CONTENTS

PAGE	REFERENCE	DATE
	CONTACT #S	
	MIKE (COMMUNICATIONS) - 577-2002	
	Brian Cullen - 360-531-3997	

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

0900 - PRE-WORK MEETING

- BEGIN UNLOADING EQUIPMENT AND STAGING FIELD GEAR

1000 - CONDUCT PRE-CONSTRUCTION MEETING FOR UVOST DRILLING AND EM SURVEY

- CONDUCT TAILGATE SAFETY MEETING
  - MEETING PARTICIPANTS: T. DOBSON, S. DUGGAN, S. ESPINO, H. WOTTLIN, L. NELSON, T. SPEILER (AHTNA), M. CHAPMAN, S. PIERCE (HAMMER ENV.) Z. KIRK (GEOSYNTEC), B. CULLEN (NTR)

1100 - CONTINUE EQUIPMENT PREPARATION

- VERIFY UTILITY ~~LOCATES~~ @ 5/19 LINES ARE CLEAR OF UVOST AREA WITH CITY OF ADAK.

1400 - ARRIVE ONSITE.

- ONSITE PERSONNEL: M. CHAPMAN AND S. PIERCE (HAMMER), T. DOBSON (P.M., AHTNA), Z. KIRK (GEOSYNTEC), B. CULLEN (NTR)
- CONDUCT SITE WALK. STAGE EQUIPMENT

1500 - MARK (SPRAY PAINT) UVOST GRID.

1530 - CONDUCT ONSITE SAFETY WALK THRU WITH

5/18/12

~40°, OVERCAST, WINDY PPE: LEVEL D

PHOTOGRAPH LOG.

PHOTO #	LOCATION	DIRECTION	DESCRIPTION
101-0005	EAST CANAL	SOUTH	NORTHEAST CORNER OF THE CANAL, SHOWING UVOST GRID LINES
101-0006	E. CANAL BANK	SOUTH	UVOST PROBE LOCATIONS IN STAINED SOIL AREA
101-0007	E. CANAL	SOUTH	ADVANCING UVOST PROBE ALONG EAST BANK OF CANAL. PROBE ID: UV-001
101-0008	E. CANAL	NORTH	ADVANCING PROBE UV-001 ALONG EAST BANK OF CANAL
101-0009	E. CANAL	WEST	UVOST PROBE UV-008 ALONG NORTH EDGE OF CANAL, EAST OF CULVERTS
101-0010	E. CANAL	EAST	" "

N.F.T.P.

5/18/12

~40°, OVERCAST, LT. WEND — PPE: LEVEL D

THE DRILL RIG.

1600 - COMMENCE UVOST DRILLING.

1615 - B. CULLEN DEPARTS THE SITE.

- ADVANCE BORINGS ALONG EAST EDGE OF CANAL.
- CONTINUE NORTH BEYOND NORTH EDGE OF CANAL UNTIL RE PERCENTAGE DECREASES.

1745 - ~~BEFORE TO THE SITE~~ ZK 5/18 B. CULLEN ~~REF~~ ZK 5/18 ARRIVES ON SITE.

1815 - COMPLETE 1ST PASS OF UVOST PROBES. EXTENDED 100' NORTH OF CANAL EDGE.

1820 B. CULLEN DEPARTS THE SITE.

ZK 5/18 ~~1930~~ 1920 - COMPLETE LAST UVOST PROBE OF THE DAY

- CLEAN UP AND SECURE THE SITE.

1930 - DEPART THE SITE.

2045 - UPDATE PHOTOGRAPH LOG.

2100 - END OF DAY.

N.F.T.P.

5/18/12

~40°F, OVERCAST, LT. WEND — PPE: LEVEL D

~~UVOST DATA~~ ZK 5/18 UVOST DATA

LOCATION ID	(HIGHEST) PERCENT RE	TOTAL DEPTH	ADDL. NOTES
UV-001	2.1% (1.5')	15'	
UV-002	60.4% (2.4')	ZK 5/18 ~~15'~~ 14'	
UV-003	405.9% (4.1')	15'	MULT. SPIKES 400 (4.4'), 180 (6.6')
UV-004	196.3% (5.5')	15'	HIGH SPIKE RANGE - 4.8 - 6.5'
UV-005	119.5% (5.7')	10.4'	SPIKE RANGE - 5.0 - 6.5'
UV-006	123.4% (5.6')	10.4'	SPIKE RANGE - 5.5 - 6.5'
~~UV-007~~	ZK 5/18	~~10.5'~~	
UV-007	3.8% (5.5')	10.4'	
UV-008	0.8% (3.7')	12'	
UV-009	2.0% (5.8')	12'	
UV-010	2.5% (6.4')	12'	
UV-011	5.0% (5.7') ~~5.0'~~ ZK 5/18	12'	SPIKE RANGE 5.5 - 6.5'

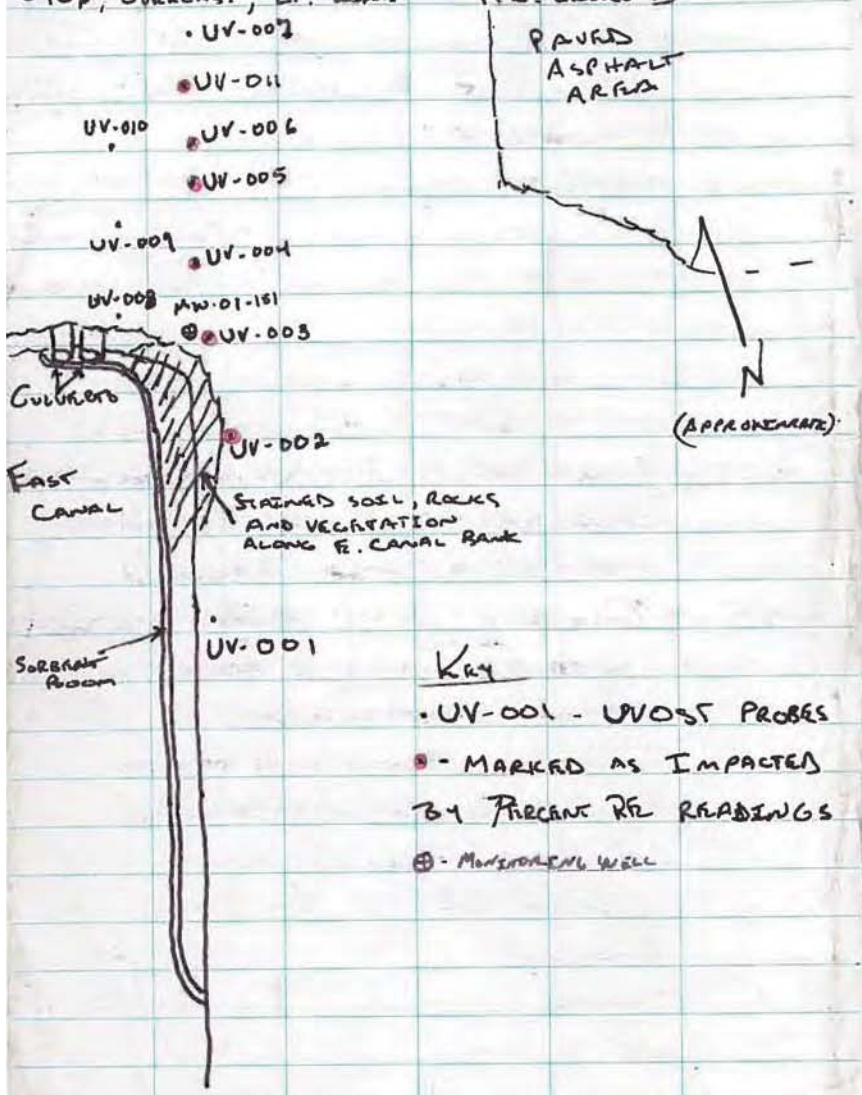
N.F.T.P.

5/18/12

Rite in the Rain

~40°F, OVERCAST, LT. WIND

PPE: LEVEL D



KEY

• UV-001 - UVOST PROBES

• - MARKED AS IMPACTED BY PERCENT RPE READINGS

⊕ - MONITORING WELL

5/18/12

~40°F, OVERCAST, WINDY

PPE: LEVEL D

0700 - MEETING FOR PROJECT SAFETY
- CONDUCT TAILGATE SAFETY MEETING:
  - PARTICIPANTS:
    AHTNA: S. DUGGAN, T. DOBSON, L. NELSON, T. SPITLER, S. ESPINO
    H. WOTTLIN
    GEOSYNTEC: Z. KIRK
    HAMMER: S. PIERCE, M. CHAPMAN

0745 - ARRIVE ONSITE PREP FIELD EQUIPMENT
- ONSITE PERSONNEL: Z. KIRK (GEOSYNTEC), S. PIERCE, M. CHAPMAN (HAMMER)

0815 - COMMENCE UVOST PROBE DRILLING
- CONTINUE (NORTH) ALONG GRID TRACK EAST OF CULVERT SECTIONS

0905 - TRANSITION TO SOUTH EDGE OF GRID TO CONTINUE DELINEATION TO THE SOUTH AND EAST OF CANAL

0930 - T. DOBSON AND L. NELSON ARRIVE ONSITE.

1215 - COMPLETE SECOND ~~FROM~~ ZK 5/19 TRANSECT FROM SOUTH TO NORTH.

1400 - BEGIN THIRD TRANSECT, 10 FT EAST OF SECOND TRANSECT.

5/19/12

Rite in the Rain

ISCUG T-1451 R. CANAL SI/SC 17 MAY 12

~40°F, OVERCAST, WINDY, INTERMITTENT RAIN, LEVEL D

PROBE ID	HIGHEST % RE (@ DEPTH)	TOTAL DEPTH	ADDITIONAL NOTES
UV-012	4.1% (@ 6.3')	12'	SPIKE RANGE: 6.0'-7.0'
UV-013	17.3% (6.5')	12'	SPIKE RANGE: 6.2'-7.5'
UV-014	8.6% (6.7')	12'	RANGE: 6.5'-7.5'
UV-015	0.1% (BK 5/19 ~~1.0'~~ 1.4')	10'	
UV-016	0.8% (2.7')	12'	
UV-017	0.5% (3.7')	12'	
UV-018	56.5% (3.3')	12'	RANGE: 1.5'-4.2' DEPTH READING IS INCORRECT. BORING CEASED AT 12' BGS
UV-019	138.8% (2.8') 95% (4.0')	12'	RANGE: 2.0'-6.0'
UV-020	450% (4.3')	12'	RANGE: 2.7'-6.0'
UV-021	309.1% (4.1')	12'	RANGE: 3.5'-7.0'
UV-022	356.8% (4.4')	12'	RANGE: 4.2'-6.0'
* UV-023 ~~UV-022~~	149.8% (5.0')	15'	RANGE: 4.3'-18.5'. * RE RANGE EXTENDS BENEATH G-W
UV-024	81.0% (5.1')	12'	RANGE: 4.5'-6.0'
UV-025	88.0% (4.5')		RANGE: 4.0'-5.5'
UV-026	0.9% (5.0')	12'	SIGNAL SPIKE IN BACKGROUND
UV-027	0.7% (3.4')	12'	" "
UV-028	2.4% (2.9')	12'	" "

5/19/12

~40°F, OVERCAST, WINDY, INT. RAIN PPE: LEVEL D

PROBE ID	HIGHEST RE% (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
~~UV-029~~	~~168.4% (2.1')~~		BORING CEASED DUE TO UVOST SENSOR MALFUNCTION
UV-029	235.1% (3.4')	12'	SPIKE RANGE: 1.5' TO 6'
UV-030	311.8% (3.9')	12'	SPIKE RANGE: 2.25' TO 5.3'
UV-031	296% (3.7')	16'	RE SPIKED AT 3.7' AND ~~[illegible]~~ BK 5/19 GRADUALLY DECREASED (UNTIL BORING CEASED) AT 16'. RE% INDICATES DRO IMPACTED SOIL EXTENDED BK BE PASSED 6'
UV-031B	311% (3.9')	12'	SPIKE RANGE: 2.5' TO 5.5'
UV-032	191% (4.5')	9'	SPIKE RANGE: 2.5-9.0'
CANCELLED UV-032		MOD REBOOT SYSTEM	
UV-032	142.5% (4.4')	12'	SPIKE RANGE: 1.5-9.0'
UV-033	253.6% (6.4')	12'	SPIKE RANGE: 2.5-~~9.0~~ 8.5' BK
UV-034 *	110.8% (3.6')	10.3'	RANGE: 2.3-10.3'
* CANCELLED UV-034 DUE TO UVOST MALFUNCTION. REDRILLED THE PROBE BORING			
UV-034	160% (4.0')	16'	RANGE: 2.2'-12.0'
UV-035	~~144.6~~ BK 149.1% (4.9')		PRIMARY SPIKE RANGE 3.0'-6.0'. DRO SIGNATURE FEET ENDS 12' BGS

5/19/12

Rite in the Rain

DUG 1-1951 3 R. CANAL SI/SC

~40°F, OVERCAST, WINDY PPE: LEVEL D

1500 - WHILE ADVANCING PROBE AT UV-029, THE UVOST SENSOR MALFUNCTIONED, GIVING AN INCONSISTENT/ELEVATED (AND UNCHARACTERISTICALLY STABLE) READING BELOW THE GW INTERFACE. CEASED DRILLING AND MOVED THE BORING 0.5 FT WEST. ~~SE~~ BK SECOND UV-029 BORING REPORTED A PERCENT RE SPIKE RANGE OF 1.5' TO 6'. OTHER PROBES IN VICINITY OF UV-029 REPORTED RE PERCENT SPIKE RANGES FROM 2.0 FEET (OR GREATER) TO 6.0'

1550 - BORING UV-031 REPORTED ~~SIGNIFICANT SPIKE~~ ZK 5/19 RE % SPIKE AT 3.7 BGS (CONSISTENT WITH OTHER PROBES). THOUGH % RE READING ~~GRADUALLY DECREASED~~ ZK 5/19 REMAINED ELEVATED (GRADUALLY DECREASING) DOWN TO 6'.

- ADVANCED AN ADDITIONAL PROBE (UV-031B) TO VERIFY FINDINGS. R.E % SPIKE RANGE AT UV-031B IS MORE CONSISTENT WITH THE OTHER PROBES IN THE VICINITY.

1610 - EXPERIENCING ~~ABN~~ ZK 5/19 ADDITIONAL ~~CONSISTENT RE~~ ZK 5/19 PROBE SENSOR READING INCONSISTENCIES AT UV-032. REBOOT UVOST SYSTEM.

5/19/12 4/6

DUG 1-1951 3 R. CANAL SI/SC

~40°F, OVERCAST, WINDY PPE: LEVEL D

1615 - L. NELSON AND S. ESPEND ARRIVE ONSITE TO COLLECT GPS COORDINATES OF UVOST PROBE LOCATIONS

1620 - RESUME UVOST PROBING.

1700 - UVOST SYSTEM EXPERIENCING ADDITIONAL ~~SEE~~ ZK 5/19 READING ERRORS.

- REBOOT THE SYSTEM.

1720 - RESUME DRILLING.

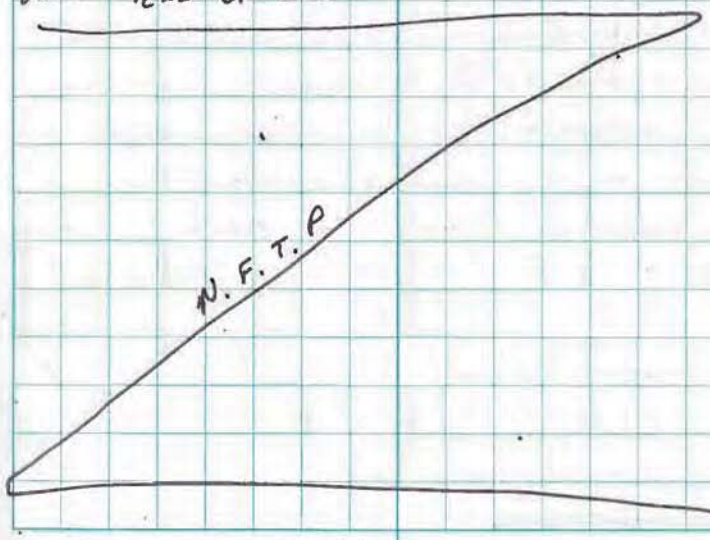
1800 - BEGIN FOURTH TRANSECT (SOUTH TO NORTH)

1910 - CONCLUDE UVOST PROBING.

1915 - CLEAN UP AND DEPART THE SITE

1935 - POST FIELD WRAP UP WORK

2000 - END OF DAY



5/19/12 Rite in the Rain 5/6

BLDG 7-1431, 3 R. CANAL 21/SC

~40°F, OVERCAST, WINDY PPE: LEVEL D

PROBE ID	HIGHEST % RE	(DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-036	1.5%	2.3'	12'	RE. SPIKE IN BACKGROUND
UV-037	1.1%	2.5'	12'	" "
UV-038	3.1%	1.2'	12'	" "
UV-039	71.6%	3.4'	37'	PRIMARY SPIKE RANGE: 1.5' – 5' PERCENT RE. NEVER ~~DROPPED~~ ZK 5/19 DECREASES BELOW 15% AFTER SPIKE

PHOTO LOG

PHOTO #	DIRECTION	DESCRIPTION
101-0011	NE	SETTING UP DRILL RIG OVER PROBE
101-0012	N	UVOST MONITORING EQUIP.
101-0014	—	UVOST MONITOR DISPLAY
101-0015	N	DRILLING AT UV-015 LOCN.
101-0021	N	DRILLING EAST OF CANAL
101-0023	S	UVOST PROBE AREA NORTH OF CANAL
101-025	—	UVOST CALIBRATION TOOL
101-026	NW	MONITORING A UVOST PROBE

NF, T.P

5/19/12 6/6

~40°F, OVERCAST, WIND PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MTG.
- PARTICIPANTS: ARMNA: T. DOBSON, H. WORTLEY, L. NELSON, S. DUGGAN, T. SPITLER AND S. ESPINO
GEOSYNTEC: Z. KIRK
HAMMER: S. PIERCE, M. CHAPMAN

0730 - CALIBRATE PID Z.K. 5/20/12
· FRESH AIR CAL: 0.0
· SPAN CAL: ~~100.2~~ ZK 5/20 100.0
· BUMP CHECK: 100.2

0820 - ARRIVE ONSITE: T. DOBSON, Z. KIRK, M. CHAPMAN, S. PIERCE

0840 - COMMENCE MACROCORE BORINGS
- ADVANCE BORING ~~01-SB001~~ ZK 5/22 B-1 AT UV-017
PROBE LOCATION, ADVANCED TO 15' BGS
SAMPLES: 01-SB001 ~~-01~~ ZK 5/23 @0850 - 4'-5'
01-SB002 ~~-02~~ ZK 5/23 @ 0903 - 5'-6'
- ADVANCE BORING ~~01-SB002~~ B-2 ZK 5/23 AT UV-020
SAMPLES: 01-SB003 ~~01-SB002-01~~ ZK 5/23 @0930 - 4'-5'
01-SB004 ~~01-SB002-02~~ ZK 5/23 0940 - 5'-6'
01-SB005 ~~01-SB002-03~~ ZK 5/23 @0950 - 11.5'-12.5'
- ADVANCE BORING ~~01-SB003~~ B-3 ZK 5/23 AT UV-011
SAMPLES: 01-SB006 ~~01-SB003-01~~ ZK 5/23 @ 1020 - 5'-6'
01-SB007 ~~01-SB003-02~~ ZK 5/23 @ 1030 - 8'-9'

5/20/12 1/6

Rite in the Rain

BLDG 1-1401 3 RD. CANAL SU/SC 20 MAY 2012

~40°F, OVERCAST, WINDY PPE: LEVEL D

01-SB008 ZK 5/23
~~01-SB007-03~~ @ 1035 - 14' - 15'

B-4 ZK 5/23
- ADVANCE BORING ~~01-SB004~~ AT UV-039

01-SB009 ZK 5/23
· SAMPLES - ~~01-SB004-01~~ @ 1110 - 2.5' - 3.5'

01-SB010 ZK 5/23
DUPLICATE: ~~01-SB004-02~~ @ 1200

01-SB011 ZK 5/23
- ~~01-SB004-03~~ @ 1120 - 4' - 5'

01-SB012 ZK 5/23
- ~~01-SB004-04~~ @ 1125 - 9' - 10'

ZK 5/23 B-5
- ADVANCE BORING ~~01-SB005~~ AT UV-008

01-SB013 ZK 5/23
· SAMPLES - ~~01-SB005-01~~ @ 1205 - 3.5' - 5'

01-SB014 ZK 5/23
- ~~01-SB005-02~~ @ 1210

ZK 5/20
~~-01-~~

01-SB015 ZK 5/23
DUPLICATE: ~~01-SB005-03~~ @ 1300

B-6 ZK 5/23
- ADVANCE BORING ~~01-SB006~~ AT UV-035

01-SB016 ZK 5/23
SAMPLES: ~~01-SB006-01~~ @ 1405 - 4' - 6'

- COLLECT MS/MSD AT SB006-01

01-SB017 ZK 5/23
- ~~01-SB006-02~~ @ 1410 - 9' - 10'

1430 - CEASE SOIL BORINGS TO PROCESS SAMPLES.

1500 - PACKAGE SAMPLE COOLER.

1530 - DELIVER SAMPLES TO ALASKA AIRLINES FOR SHIPMENT TO TEST AMERICA SEATTLE.

1600 - RETURN TO THE SITE TO CONTINUE UVOST PROBES.

1745 · T. SPRIGGS AND B. CULLEN (NAVFAC)

5/20/12

~45°F, OVERCAST, WINDY PPE: LEVEL D

PROBE ID	MAX % RE (DEPTH)	TOTAL DEPTH	ADDITIONAL NOTES
UV-040	227.5% (2.9')	12'	PRIMARY SPIKE RANGE: 2.5'-6.5' BELOW ~~AFTER~~ 6.5', % RE. STAYS ZK slow STEADY AROUND 50%
UV-041	239.7% (3.8')	12'	SPIKE RANGE: 2.0'-6.5'
UV-042	177.4% (3.3')	20'	PRIMARY SPIKE RANGE: 2.5'-6.5' BELOW 6.0', % RE REMAINS STEADY, GRADUALLY DECREASES FROM 45% TO 20%.
UV-043	151.3% (5.8')	13'	SPIKE RANGE: 2.5' TO 6.0'
UV-044	113.6% (4.0')	17'	PRIMARY SPIKE RANGE: 2.5' TO 6.0' GRADUALLY DECREASES TO 14% AT 14'. REMAINS STEADY AROUND 4% BELOW 14'.
UV-045	104% (4.0')	12'	SPIKE RANGE: 2.5'-6.0'. RE. SIGNATURE ZK IS ~~NOT~~ ZK MORE CONSISTENT W/ ~~PROPANE~~ ZK GAS
UV-046	1.7% (0.8')	12'	THE SPIKE IN BACKGROUND SIGNATURES
UV-047	1.2% (1.4')	12.6'	" "
UV-048	1.2% (1.1')	12'	" "

N.F.T.P

5/20/12

Rite in the Rain

[illegible] 3 [illegible]. CANAL JE/SC [illegible]

~40°F, OVERCAST, WINDY PPE LEVEL D

ARRIVE ONSITE.

1800 - TS AND BC. DEPART THE SITE.

1820 - BEGIN ~~5~~ ZK 5/00 FIFTH GRID TRANSECT FROM SOUTH TO NORTH

1900 - CEASE UVOST DRILLING.

1910 - CLEAN UP AND DEPART THE SITE.

1930 - END OF DAY

PHOTO LOG

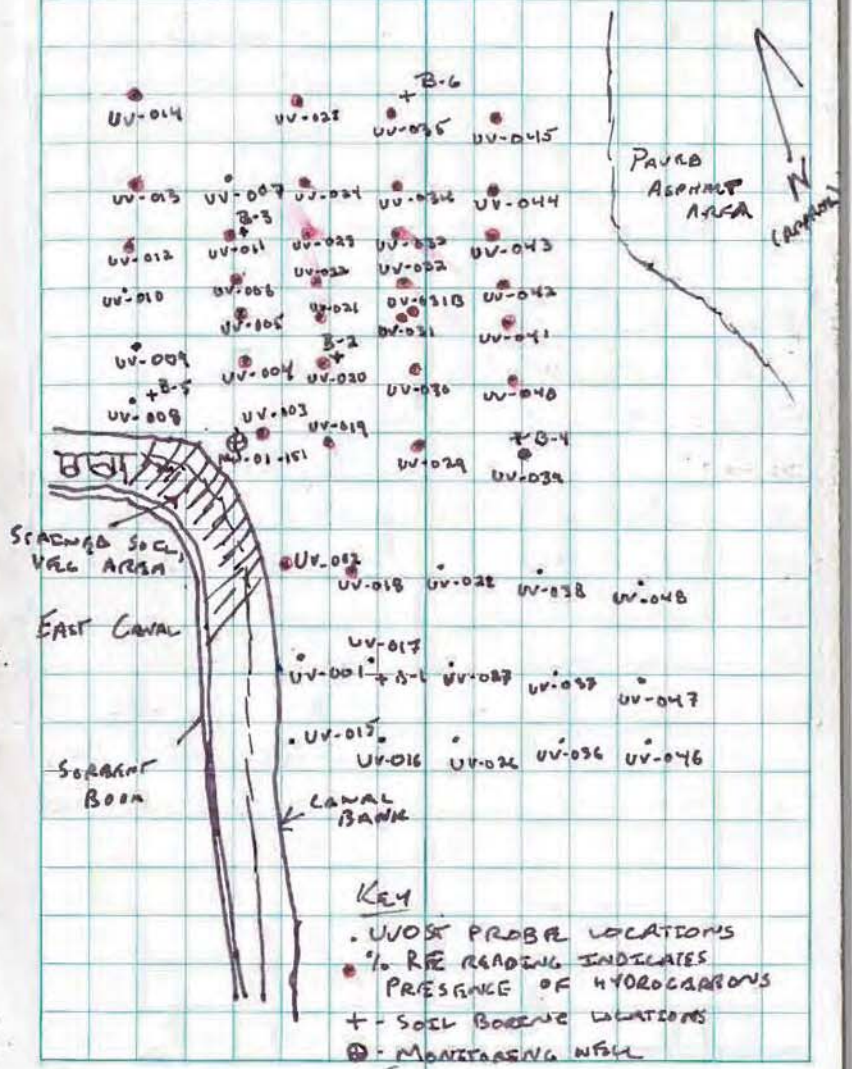
PHOTO #	DIRECTION	DESCRIPTION
101-0030	—	SHEEN OBSERVED IN BORING 01-SB003
101-0031	—	CORE SAMPLES FROM 01-SB004
101-0033	SW	COLLECTING GPS COORDINATES OF UVOST PROBES AND SOIL BORING LOCATIONS
101-0035	SW	SAMPLE LOCATION 01-SB002 MARKED BY RED PIN FLAG

N.F.T.P.

5/20/12

~40°F, OVERCAST, WINDY PPE: LEVEL D

UPDATED SITE DIAGRAM.



5/20/12

Rite in the Rain

BUILDING 1-1451, 3 E. C SE/SC 27 MAY 12

~35°F, OVERCAST, WINDY PPE: LEVEL D

0700 · CONDUCT TAILGATE SAFETY MEETING.

MEETING PARTICIPANTS:

· AHTNA: T. DOBSON, H. WOTTLEN, L. NELSON S. FESTEND, S. DUGGAN, T. SPITZER, J.

· NAVFAC NW: B. CULLEN, T. SPRIGGS

· GEOSYNTEC: Z. KIRK

· HAMMER ENV: S. PIERCE, M. CHAPMAN

0815 · ARRIVE ONSITE.

· PERSONNEL ONSITE: AHTNA - L. NELSON GEOSYNTEC - Z. KIRK, HAMMER ENV: M. CHAPMAN, S. PIERCE

0830 · RESUME UVOST PROBES

0930 · B. CULLEN AND T. SPRIGGS ARRIVE ONSITE

1000 · B.C. AND T.S. DEPART THE SITE.

1045 · BEGIN ZK 5/21 SEVENTH GRID TRANSECT FROM SOUTH TO NORTH

· ~~MOVE TRANSECT~~ ZK 5/21 START TRANSECT 40' NORTH OF PREVIOUS TRANSECTS BECAUSE OF CONSISTENT LOW % RF READINGS IN PROBES AT SOUTH END OF UVOST GRID

1500 · START ZK 5/21 SEVENTH TRANSECT FROM NORTH EDGE OF GRID TRAVERSING SOUTH

5/21/12

BLDG 1-1451, 3 E. CAMP [illegible]

~40°F, OVERCAST, WINDY PPE: LEVEL D

PROBE ID	MAX % RF (DEPTH)	TOT. DEPTH	ADDL. NOTES
UV-049	204.1% (4.1')	~~5/21~~ 12.0'	SPIKE RANGE: 2.0 - 5.0
UV-050	190.0% (4.4')	12.0'	PRIMARY RANGE: 2.0'-5.5'
			REMAINS STEADY AT 90% BELOW 5.5'
UV-050B	249.3% (4.1')	12.0'	SPIKE RANGE: 1.5'-5.5'
UV-051	203.7% (4.1')	12.0'	SPIKE RANGE: 2.0'-5.5'
UV-052	163.1% (3.6')	12.0'	SPIKE RANGE: 1.5'-9.0'
UV-053	180.7% (3.9')	12.0'	SPIKE RANGE: 2.25'-6.0'
UV-054	108.2% (2.9')	12.0'	SPIKE RANGE: 2.0'-5.5'
UV-055	119.8% (4.2')	12.0'	SPIKE RANGE: 2.0'-5.5'
UV-056	1.2% (1.7')	12.0'	SPIKE IN BACKGROUND SIGNAL
UV-057	147.3% (3.1')	12.0'	SPIKE RANGE: 2.0'-5.5'
UV-058	172.9% (4.9')	12.0'	SPIKE RANGE: 2.0'-5.5'
UV-059	163.9% (3.1')	12.0'	PRIMARY SPIKE RANGE: 1.5'-5.5'
			STEADY AROUND 10% BELOW 5.0'
UV-060	159.4% (3.9')	12.0'	PRIMARY SPIKE RANGE: 1.5'-5.5'
			STEADY AROUND 25% BELOW 5.0'
UV-060B	190.2% (3.9')	12.0'	SPIKE RANGE: 1.5'-6.0'
UV-061	183.0% (5.0')	12.0'	SPIKE RANGE: 2.0'-6.5'
UV-062	167.3% (5.3')	12.0'	SPIKE RANGE: 2.5'-6.0'
UV-063	129.3% (3.9')	12.0'	SPIKE RANGE: 2.5'-6.0'
			2ND SPIKE 118.9% (5.0')
UV-064	106.2% (4.8')	12.0'	SPIKE RANGE: 2.5'-6.0'
			2ND SPIKE ZK 5/21 99% (3.0')

5/21/12

Rite in the Rain

BLDG. T-1451 ⅓ E. CANAL SI/SC 21 MAY 2012

~45°F, PARTLY SUNNY, LT. WIND PPE: LEVEL D

PROBE ID	MAX % RE (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-065	141.6% (3.9')	12.6'	SPIKE RANGE: 2.0'-5.5'
UV-066	175.7% (5.9')	14.3'	SPIKE RANGE: 2.5-6.5'
			LARGER RE. SPIKE AT 12.0'
			BGS TO 21%
UV-067	214.8% (3.8')	14.2'	SPIKE RANGE: 2.0'-5.5'
			MINOR SPIKE AT 10.0'
			BGS TO 29.1% RE.
UV-068	198.5% (3.8')	12.0'	SPIKE RANGE: 1.5'-5.5'
UV-069	310.1% (3.6')	12.0'	SPIKE RANGE: 2.0'-5.5'
UV-070	190.0% (3.6')	12.0'	SPIKE RANGE: 2.5'-5.5'
UV-071	2.9% (1.0')	12.0'	SPIKE IN BACKGROUND SIGNAL
UV-072	1.4% (1.6')	12.0'	" "
UV-073	46.1% (4.4')	12.0'	SPIKE RANGE: 4.0-5.0
UV-074	275.5% (4.7')	12.0'	SPIKE RANGE: 1.75'-6.0'
UV-075	175.0% (3.4')	12.0'	SPIKE RANGE: 2.0'-5.5'
UV-076	183.5% (4.0')	12.3'	SPIKE RANGE: 2.5'-6.0'
UV-077	184.6% (5.7')	12.4'	SPIKE RANGE: 2.5'-7.0'
			MINOR SPIKE AT 9.0' BGS
			TO 31% RE
UV-078	145.5% (4.0')	12.0'	SPIKE RANGE: 2.5'-6.0'
UV-079	121.5% (4.2')	12.0'	SPIKE RANGE: 2.5'-7.0

N.F.T.P

5/21/12

BLDG T-1451 ⅓ E. CANAL SI/SC 21 MAY 12

~45°, OVERCAST, WINDY PPE: LEVEL D

1630 - L. NELSON DEPARTS THE SITE

1700 - T. DOBSON ARRIVES ONSITE.

1715 - BEGIN EIGHTH TRANSFER ZK 5/21 FROM SOUTH TO NORTH.

1850 - CLEAR UVOST PROBE DEPLOYMENT

1900 - CLEAN UP AND DEPART THE SITE.

1930 - UPDATE PHOTOGRAPH LOG

PHOTO #	DIRECTION	DESCRIPTION
101-0037	WEST	ADVANCING UVOST PROBE
101-0038	EAST	PREPARING UVOST PROBE
		TO ADVANCE IN BORING
101-0039	SOUTH	ADVANCING UVOST PROBE
		IN PAVED ASPHALT AREA
101-0041	SOUTH	MONITORING THE PERCENT
		ZK 5/21 RELATIVE EMISSIVITY
		DURING PROBING. UVOST
		GRID AND E. CANAL IN
		BACKGROUND.
101-0042	EAST	UVOST PROBING ZK 5/21
		OPERATIONS
101-0043	SOUTHWEST	ADVANCING UVOST PROBE
		ZK 5/21 ALONG EAST OF CANAL.

N.F.T.P.

5/21/12

Rite in the Rain

~40°, OVERCAST, WINDY, LT. RAIN PPE: LEVEL D

0700 · CONDUCT TAILGATE SAFETY MEETING.
PARTICIPANTS: - AHTNA: T. DOREON, L. NELSON, S. ESPINO, H. WOOTLEN, S. DUGGAN, T. SPEIRK, D. OVERLAND
· GEOSYNTEC: Z. KIRK
· HAMMER ENV.: S. PERRER, M. CHAPMAN
- SEE DAILY TAILGATE FORM FOR DETAILS

0746 · ARRIVE ON SITE

0860 - BEGIN NINTH TRANSECT FROM SOUTH TO NORTH OF GRID.

0955 · COMPLETE NINTH TRANSECT. BEGIN PROBING ZK 5/22 ~~BETWEEN~~ ALONG SOUTH END OF UVOST GRID, BETWEEN LOCATIONS OF HIGH AND LOW RE. READINGS TO FURTHER DELINEATE THE SOUTH EDGE OF THE IMPACTED AREA.

100 · B. CULLEN AND T. SERIGGS ARRIVE ONSITE.

1130 - COMPLETE DELINEATION PROBES AT SOUTH END OF GRID.

1135 - B.C. AND T.S. DEPART THE SITE.

1340 · COMMENCE PROBING ALONG NORTH EDGE OF UVOST GRID. EXPAND GRID THRATT FEET NORTH.

5/22/12 1/6

~40°, OVERCAST, WINDY, RAIN PPE: LEVEL D

PROBE ID	MAX % RE (DEPTH)	TOT. DEPTH	DESCRIPTION
UV-080	1.2% (1.5')	12.0'	% RE SPIKE IN BACKGROUND SIGNAL ZK 5/22
UV-081	2.3% (1.1')	12.0'	" "
UV-082	222.6% (3.9')	13.0'	PRIMARY SPIKE RANGE: 2.0'-6.0' BELOW 6.0' % RE REMAINS ZK 5/22 AT AROUND 15% TO 11.5' BGS
UV-083	184.4% (5.2')	12.0'	SPIKE RANGE: 2.0'-6.0' MINOR SPIKE AT 10.' TO 13.6 % R.E.
UV-084	148.2% (4.1)	12.0'	PRIMARY SPIKE RANGE: 2.0'-5.5' BELOW 5.5' % RE REMAINS STEADY AROUND 30% RE.
UV-085	178.5% (6.2')	13.5'	SPIKE RANGE: 2.5'-7.0'
UV-086	67.8% (4.6')	12.0'	PRIMARY SPIKE RANGE: 2.5'-6.0' % RE REMAINS STEADY AROUND 20% FROM 6.0'-9.5' BGS.
UV-087	14.4% (4.7')	12.0'	SPIKE RANGE: 4.5'-9.5'
UV-088	1.3% (1.3')	12.0'	SPIKE IN BACKGROUND SIGNAL
UV-089	1.5% (1.4)	12.0'	" "
UV-090	1.4% (1.7')	12.0'	" "
UV-091	2.6% (5.3')	12.0'	SPIKE RANGE: 4.0'-7.0'
UV-092	1.1% (1.4')	12.0'	SPIKE IN BACKGROUND SIGNAL
UV-093	267.7% (3.1')		SPIKE RANGE: 2.5'-9.0'

5/22/12 Rite in the Rain 2/6

~40°F, OVERCAST, WINDY PPE: LEVEL D

PROBE ID	MAX % RE (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-094	1.9% (0.6')	12.0'	SPIKE IN BACKGROUND SIGNAL
UV-095	151.2% (5.2')	12.0'	~~[illegible]~~ EK 5/22 SPIKE RANGE: 2.5'-8.0'
UV-096	137.8% (5.5')	12.0'	SPIKE RANGE: 2.0'-6.0'
UV-097	117.3% (5.2')	12.0'	SPIKE RANGE: 2.5-6.5'
UV-098	124.6% (5.0)	12.0'	SPIKE RANGE: 2.5'-6.0'
			MINOR % RE SPIKE AT 8.5' TO 12.6%
UV-099	135.3% (5.2)	15.0'	SPIKE RANGE: 2.5'-6.0'
UV-100	137.7% (4.3')	12.0'	SPIKE RANGE: 2.5'-6.0'
UV-101	166.7% (5.1')	12.0'	SPIKE RANGE: 2.5-5.8'
UV-102	160.7% (4.5')	12.0'	SPIKE RANGE: 4.0'-5.5
UV-103	7.8% (5.3')	12.0'	SPIKE RANGE: 5.0'-6.0'
UV-104	7.2% (3.3')	12.0'	SPIKE RANGE: 3.0'-4.5'
			SECONDARY SPIKE: 3.8% AT 6.6'
UV-105	1.5% (0.9')	12.0'	SPIKE IN BACKGROUND SIGNAL
UV-106	287.7% (4.9')	12.0'	SPIKE RANGE: 2.0'-6.0'
UV-107	194.4% (3.4')	12.5'	SPIKE RANGE: 2.5'-6.0'
UV-108	155.3% (5.8)	12.0'	SPIKE RANGE: 3.0'-7.0'
UV-109	141.4% (4.2)	12.0'	SPIKE RANGE: 3.0-6.0'
UV-110	86.5% (3.5')	12.0'	SPIKE RANGE: 3.0-6.0
UV-111	125.0% (5.3')	13.0'	SPIKE RANGE: 2.5'-6.5'
			MINOR SPIKE AT 12.0' BGS TO 10% RE

5/22/12 3/6

~40°F, OVERCAST, WINDY PPE: LEVEL D

1400 - T. DOBSON ARRIVES ON SITE.

1405 - T.D. AND L. NELSON DEPART THE SITE

1430 - B. CULLEN AND T. SPRECHER ARRIVE ON SITE.
- T.D. AND L. NELSON RETURN TO THE SITE.

1450 - B.C., T.S. AND T.D. DEPART THE SITE.

1515 - T.D. RETURNS TO THE SITE.

1550 - EXPAND GRID EAST 20' ADDITIONAL FEET. RUN GRID THE LENGTH OF THE ASPHALT PAVED AREA, APPROXIMATELY 110' NORTH OF ~~[illegible]~~ EK 5/22 NORTH EDGE OF GRID, IN TWENTY FOOT SPACING.

1600 - L.N. DEPARTS THE SITE.

1800 - STOP TRANSECT AFTER BORING TWO CONSECUTIVE PROBES (THIRTY FEET ~~APART~~ EK 5/22 APART) ~~STOP~~ EK 5/22 THIRTY FEET NORTH OF UVOST GRID NORTH EDGE.

1810 - BEGIN PROBING ~~[illegible]~~ EK 5/22 OTHER BOOMED SECTION OF CANAL, SOUTH OF UVOST GRID AREA ALONG EAST EDGE OF CANAL. BOOM IS CONTAINING ADDITIONAL SHEENING ON THE CANAL SURFACE WATER.

1900 - CEASE PROBING

5/22/12 Rite in the Rain 4/6

BLDG T-1451 ; E. CANAL S2/S6

~40°F, OVERCAST, WINDY — PPE: LEVEL B

PROBE ID	MAX % RE (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-112	121.0% (4.7')	12.0'	SPIKE RANGE: 3.0-7.0
UV-113	4.0% (5.7')	12.0'	SPIKE RANGE: 5.5-7.0
UV-114	1.3% (1.6')	12.0'	SPIKE IN BACKGROUND SIGNAL
TRANSITION TO OTHER SIDE OF E. CANAL.			BOOMED SECTION
UV-115	112.3% (1.9')	8.0'	SPIKE RANGE: 1.5'-3.5'
UV-116	95.2% (3.2)	8.3'	SPIKE RANGE: 1.5'-5.0'

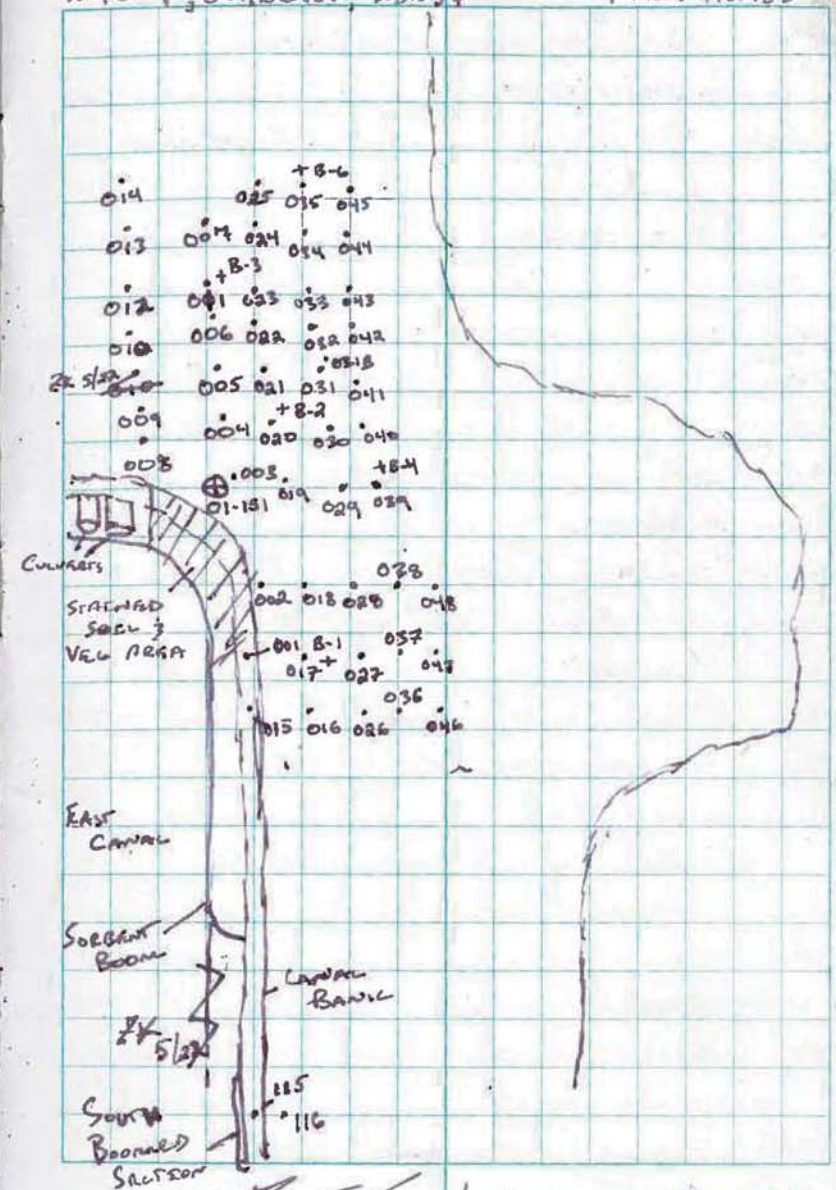
1905 - CLEAN UP AND DEPART THE SITE.

2030 - END OF DAY

N.F.T.P

5/22/12

~40°F, OVERCAST, WINDY — PPE: LEVEL B



5/22/12

~48°F, OVERCAST, LT. WIND PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING.
- PARTICIPANTS: T. DOBSON, H. WOETLEN, M. OVERLAND, S. DUGGAN, T. SPETLER, L. NELSON, S. ESPENO. - AHTNA
Z. KERR - GEOSYNTEC
S. PEARCE, M. CHAPMAN - HAMMER ENV.

0745 - AREA ONSITE. PERSONNEL ONSITE:
L. NELSON (AHTNA), Z. KERR (GEOSYNTEC), S. PEARCE, M. CHAPMAN (HAMMER ENV.)

0810 - BEGIN UVOST PROBES.
- ADVANCE PROBE BETWEEN ~~[illegible]~~ ZK 5/23 LOW AND IMPACTED ENDEATEING PROBE LOCATIONS AT ~~[illegible]~~ ZK 5/23 NORTH END OF EASTERN DELINEATION TRANSECT.

0840 - DRIVE COMPLETION ON DRILLING HAMMER (DAMPENER) ASSEMBLY BREAKS WHILE DRILLING FIRST PROBE.
- DRILLERS DEPART THE SITE TO GET REPLACEMENT ~~[illegible]~~ ZK 5/23 PART.

0900 - DRILLERS RETURN AND SWAP OUT PART.
- RESUME DRILLING.

0930 - EXTEND DELINEATION TRANSECT 40' TO THE EAST TRAVERSING NORTH TO SOUTH.

0955 - T. DOBSON ARRIVES ONSITE.

5/23/12

~40°F, OVERCAST, LT. WIND, RAIN PPE: LEVEL D

PROBE ID	MAX % (DEPTH)	TOT. DEPTH	ADDL. NOTES
UV-117	1.8% (1.1')	12.0'	SPIKE IN BACKGROUND SIGNAL
ZK 5/23 ~~UV-118~~	ZK 5/23 ~~1.3% (0.7')~~		
UV-118	1.3% (0.7')	12.5'	" "
UV-119	90.4% (5.4')	12.0'	SPIKE RANGE: 3.5'-6.5'
UV-120	125.2% (4.3')	12.0'	SPIKE RANGE: 3.5-6.5
UV-121	79.5% (4.7')	12.0'	SPIKE RANGE: 4.0'-6.0'
UV-122	202.2% (3.6)	12.0'	SPIKE RANGE: 2.5'-7.0'
UV-123	225.1% (3.1)	12.0'	SPIKE RANGE: 2.0'-7.0'
UV-124	283.5% (5.6)	12.0'	SPIKE RANGE: 2.5'-7.0'
UV-125	183.5% (3.7')	12.0'	SPIKE RANGE: 1.5'-6.5'
UV-126	89.5% (2.7')	12.0'	SPIKE RANGE: 2.0'-4.5'
UV-127	143.1% (3.2')	12.0'	SPIKE RANGE: 2.0'-5.0'
UV-128	112.2% (5.3')	12.0'	SPIKE RANGE: 2.5'-4.0'
UV-129	133.7% (2.8)	12.0'	SPIKE RANGE: 2.5'-5.0'
			SECONDARY SPIKE: 75.4% AT 4.5'
UV-130	84.5% (2.8')	6.1'	SPIKE RANGE: 2.5'-4.5'
UV-131	1.8% (1.0')	8.0'	SPIKE IN BACKGROUND SIGNAL
UV-132	1.7% (2.1')	8.0'	" "
UV-133	1.0% (1.6')	8.0'	SPIKE RANGE: 1.5'-1.7'
UV-134	203.3% (6.5')	8.0'	SPIKE RANGE: 3.5'-4.5'
UV-135	41.9% (4.5')	8.0'	SPIKE RANGE: 4.0'-5.5'
UV-136	22.5% (3.1)	8.0'	SPIKE RANGE: 2.5'-4.0'

5/23/12

~40° F, OVERCAST, LT. WIND, RAIN PPE: LEVEL D

1015 - T.D DEPARTS THE SITE

1300 - CONDUCT INITIAL PREPATORY MEETING FOR EXCAVATION OF TREATMENT ZONE AND TRENCH ~~[illegible]~~ ZK 5/23 EXCAVATIONS AND BACKFILLING OF THE TREATMENT ZONE.

- MEETING PARTICIPANTS:
  - AHTNA - T. DOBSON, H. WOTTLIN, S. DUGLAN, J. OVERLAND
  - NAVFAC - R. CULLEN, T. SPRIGGS
  - GROSYNTEL - Z. KIRK

1400 - RETURN TO THE SITE

1445 - T. SPRIGGS ARRIVES ONSITE. DISCUSSES INTEREST IN EXPANDING PROBE GRID FURTHER ~~[illegible]~~ ZK 5/23 EAST (40 ADDITIONAL FEET) TO TRY AND DELINEATE THE EXTENT OF AREA REGISTERING ELEVATED % RF READINGS.

- ~~[illegible]~~ ZK 5/23 GAIN APPROVAL FROM T. DOBSON (PM) TO EXPAND ~~[illegible]~~ ZK 5/23 PROBE AREA TO TRY AND DELINEATE THE PLUME.

1545 - T. DOBSON ARRIVES ONSITE.

1610 - T. SPRIGGS DEPARTS THE SITE.

~~LATE~~ ENTRY ~~AK~~ - 1400 - DUMPING OPERATIONS

5/23/12

~45°F, OVERCAST, LT. WIND, LT. RAIN PPE: LEVEL D

BEGIN AT THE SITE. ~~AK~~ ZK 5/23 CLEAN FILL MATERIAL BEING DEPOSITED AT STAGING AREA AT SOUTHERN ASPHALT PAVED AREA.

1645 - T. SPRIGGS RETURNS TO THE SITE.

1705 - T. SPRIGGS AND T. DOBSON DEPART THE SITE.

1720 - WHILE UNLOADING CLEAN FILL MATERIAL DUMP TRUCK BREAKS DOWN (CLUTCH)
- CONTACT T. DOBSON

1730 - T.D ARRIVES ONSITE TO INSPECT DUMP TRUCK

1830 - CEASE PROBING.

1845 - CLEAN UP AND DEPART THE SITE.

1930 - UPDATE PHOTO LOG.

PHOTO #	DATE	DIRECTION	DESCRIPTION
101-0045	5/23	NE	ANALYZING UVOST PROBE
101-0047	5/23	SE	ADVANCING UVOST PROBE IN AREA TO THE EAST OF ASPHALT PAD
101-0048	5/23	SE	ADVANCING UVOST PROBE " "
101-0049	5/23	SE	" "

ZK 5/23

5/23/12

Rite in the Rain

~45°F, OVERCAST, LT. WIND PPE: LEVEL D

PROBE I.D	MAX % RE (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-137	1.7% (1.1')	8.0'	SPIKE IN BACKGROUND SIGNAL
UV-138	136.9% (3.1')	7.5	SPIKE RANGE: 2.5'-5.0'
UV-139	1.6% (0.6')	6.0'	SPIKE IN BACKGROUND SIGNAL
UV-140	72.9% (2.9')	6.0'	SPIKE RANGE: 1.0'-3.5'
UV-141	1.4% (2.8)	6.0'	SPIKE IN BACKGROUND SIGNAL
UV-142	16.6% (3.5')	6.0' ZK 5/23	SPIKE RANGE 3.0'-5.0'
UV-143	45.5% (4.9')	6.0' ZK 5/23	SPIKE RANGE 3.5'-5.5'
UV-144	0.9% (1.2')	6.0'	SPIKE IN BACKGROUND SIGNAL
UV-145	50.8% (4.6')	7.5'	SPIKE RANGE: 3.5'-6.5'
UV-146	1.1% (0.8)	10.0'	SPIKE IN BACKGROUND SIGNAL
~~UV-147~~	~~49.4% (8.2')~~	~~11.0'~~	~~SPIKE RANGE: 8.0-10.0'~~

ZK/5/24

N.F.T.P

5/23/12

~40°F, OVERCAST, WINDY PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING
PARTICIPANTS: AHTNA - T. DOBSON, L. NELSON, H. WOTTLEN, D. OVERLAND, S. DUGGAN, S. ESPINO, T. SPITLER
GEOSYNTEC: Z. KIRK
HAMMAR ENV - S. PIERCE, M. CHAPMAN

0800 - ARRIVE ONSITE. Z. KIRK, GEOSYNTEC
S. PIERCE, M. CHAPMAN - HAMMAR ENV.
- DEPART THE SITE TO FILL UP FUEL CANISTERS

0830 - RETURN TO ~~PASS~~ ZK 5/24 THE SITE. CONTINUE DELINEATION ~~EFFORTS~~ ZK 5/24 EFFORTS

0910 - B. CULLEN AND T. SPRIGGS ARRIVE ONSITE. ~~DEG~~ ZK 5/24 SHOVEL DEG AT UV-140 LOCATION. ENCOUNTER HYDROCARBON IMPACTED SOIL AT APPROXIMATELY 1.5' BGS. (CONSISTENT WITH UVOST PROBE READINGS AT THAT LOCATION.)

0930 - T. DOBSON AND S. DUGGAN ~~ARRIVED~~ ZK 5/24 ARRIVE ON SITE.

1000 - T.D AND SD DEPART THE SITE. TD WILL TALK WITH CITY OFFICE ABOUT DRILLING FURTHER EAST

5/24/12

Rite in the Rain

~40°F, OVERCAST, WINDY PPE: LEVEL D

PROBE ID	MAX % RR (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-147	69.8% (10.5')	12.0'	SPIKE RANGE: 8.5'-12'
UV-148	0.6% (1.3')	12.0'	SPIKE IN BACKGROUND SIGNAL
UV-149	49.4% (8.7')	11.0'	SPIKE RANGE: 8.0'-10.0'
UV-150	12.6% (8.4')	10.0'	SPIKE RANGE: 7.5'-9.0'
UV-151	48.5% (6.7')	10.0	SPIKE RANGE: 5.5'-9.0'
UV-152	145.3% (8.0')	10.0	SPIKE RANGE: 5.0'-10.0'
UV-153	159.6% (11.1')	12.7'	SPIKE RANGE: 7.0'-12.0'
UV-154	21.8% (9.5')	12.0'	SPIKE RANGE: 7.5'-10.0'
UV-155	86.6% (7.3')	10.0'	SPIKE RANGE: 6.5-9.0'
UV-156	102.1% (5.4')	8.0'	SPIKE RANGE: 4.0-7.0'
UV-157	2.6% (6.7')	8.0'	SPIKE IN BACKGROUND SIGNAL
UV-158	75.4% (3.0')	10.0'	PRIMARY SPIKE: 2.5-4.5' BELOW 4.5' % RR DECREASES SLOWLY TO 16% UNTIL 8.5'
UV-159	1.3% (0.8')	8.0'	SPIKE IN BACKGROUND SIGNAL
UV-160	1.3% (0.5')	8.0'	" "
UV-161	3.0% (1.4')	8.0'	" "
UV-162	1.1% (1.9')	8.0'	" "
UV-163	1.2% (1.0')	8.0'	" "
UV-164	0.8% (1.3')	6.0'	" "
UV-165	1.0% (2.6')	8.0'	" "
UV-166	1.7% (2.0')	8.0'	" "

5/24/12

~40°F, OVERCAST, WINDY PPE: LEVEL D

NEAR SUPPOSED ~~ABANDONED~~ BK 5/24/12 FORMER POWER LINES.

- T.D. ~~TAKES~~ BK 5/24 COLLECTS A TRAST SAMPLE FROM UV-140 - FOR MOBILE LAB TO TEST THERE EQUIPMENT.

1010 - B.C. AND T.S. DEPART THE SITE.

1030 - T.D. RETURNS TO THE SITE. GOING TO TRY AND LOCATE A BURIED POWER ~~LINE~~ BK 5/24 LINE UTILIZOR EAST OF PROBING EXTENT.

1350 - B. CULLEN AND T. SPRIGGS ARRIVE ONSITE.

1400 - T. DOBSON RETURNS TO THE SITE. DISCUSS WITH THE DRILLERS AND BC AND TS THE POSSIBILITY OF ~~FAST~~ BK 5/24 PROBING FURTHER EAST OF DELINEATION GRID

- DUE TO AN UNLOCATED ELECTRIC LINE, DRILLERS WOULD NEED MORE CONFIRMATION OF LINE LOCATION BEFORE ~~MOV~~ BK 5/24 DRILLING ANY FURTHER EAST.

- WILL CONTINUE DELINEATING ALONG ~~SOUTH~~ EDGE ~~OF~~ BK 5/24.

1506 - TD DEPARTS THE SITE

5/24/12

BLDG 1-1401 3 R. CANAL

~45°F, OVERCAST, WINDY PPE: LEVEL D

1520 - B.C. DEPARTS THE SITE.

1555 - BC RETURNS TO THE SITE.

1630 - BEGIN PROBING IN OVERGROWED AREA EAST OF NORTH ASPHALT PAD.

- BC AND TS DEPART THE SITE.

1700 - TS RETURNS TO THE SITE.

1720 - T.D. RETURNS TO THE SITE.

1730 - TRANSITION TO SOUTH BOOMED AREA ALONG R. CANAL FOR FURTHER DELINEATION

1745 - T.D. DEPARTS THE SITE.

1850 - TS DEPARTS THE SITE.

1855 - CEASE DRILLING

1906 - CLEAN UP AND DEPART THE SITE.

1930 - UPDATE PHOTO LOG.

2200 - END OF DAY

N.F.T.P

5/24/12

BLDG 1-1401 3 R. CANAL

~40°F, OVERCAST, WINDY PPE: LEVEL D

PROBE ID	MAX % RG (DEPTH)	TOT. DEPTH	ADDL. NOTES
UV-167	155.5% (2.7')	10.0'	PEAK RANGE: 2.0'-8.0'
UV-168	110.4% (4.7')	8.0'	PEAK RANGE: 2.7'-5.5'
UV-169	75.0% (5.2')	12.0'	PRIMARY PEAK RANGE: 3.5'-6.5'
			SECONDARY AROUND 15% BELOW 6.5'
UV-170	121.4% (2.5')	6.0'	SPIKE RANGE: 1.0'-3.0'
UV-171	51.5% (2.5')	10.0'	SPIKE RANGE: 0.5'-3.3'
UV-172	185.9% (2.9')	8.0'	SPIKE RANGE: 0.5'-4.0'
UV-173	101.7% (3.2')	6.0'	SPIKE RANGE: 1.0-4.0'
UV-174	132.1% (4.0')	8.0'	SPIKE RANGE: 2.0-6.0'
UV-175	0.9% (0.8')	6.0'	SPIKE IN BACKGROUND SIGNAL
UV-176	1.1% (1.2')	8.0'	" "
UV-177	88.8% (5.3')	8.0'	SPIKE RANGE: 4.5'-6.5'
UV-178	1.5% (1.3')	7.0'	SPIKE IN BACKGROUND SIGNAL
UV-179	35% (5.2')	8.0'	SPIKE RANGE: 4.0'-6.5'
UV-180	94.4% (4.4')	7.0'	SPIKE RANGE: 4.5'-6.0'
UV-181	75.8% (4.9')	7.0'	SPIKE RANGE: 4.5-6.0'

N.F.T.P.

5/24/12

Rite in the Rain

BLDG T-1451 F. R. CANAL

~40°F, OVERCAST, WINDY : PPE : LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0050	NNE	ADVANCING DELINEATION UVOST PROBE EAST OF TREATMENT ZONE AREA
101-0051	NE	" "
101-0053	SW	" "
101-0054	S	PROBING IN AREA WEST OF ROAD
101-0055	SE	" "
101-0058	SE	PROBING NEAR CLEAN FILL STOCKPILE. AT SOUTHERN ASPHALT PAD
ZK 5/24 101-0060 ~~101-0059~~	SW	PROBING ALONG E. CANAL BEYOND CONTAINMENT BOOM.
101-0061	SSW	" "
101-0063	N	" "
101-0070	SW	SETTING UP TO DRILL NORTH OF SOUTHERN ASPHALT PAD FOR DELINEATION PURPOSES
101-0074	S	PROBING ZK 5/24 ~~AT~~ SOUTHERN DELINEATION EXTENTS
101-0075	S	" "
101-0076	W	DELINEATING IMPACT AT SOUTHERN BOOMED AREA OF E. CANAL
101-0077	S	" "
101-0079	NW	" "
101-0080	NW	" "

6/6

BLDG T-1451 F. R. CANAL

~40°F, OVERCAST, WINDY PPE : LEVEL D

0700 - CONDUCT TAILGATE SAFETY MTG.
PARTICIPANTS: ARTNA - T. DOBSON, L. NELSON, K. WOTTLEN, D. OVERLAND, T. SPIELER
- GEOSYNTEC - Z. KERR
- HAMMER ENV - M. CHAPMAN, S. ALERCE

0800 - CALIBRATE PID Z. KERR 5/25/12
- FRESH AIR CAL: 0.0 PPM
- SPAN CAL: 100.2 PPM
- BUMP CHECK: 100.0 PPM

0820 - ARRIVE ON SITE. SET UP EQUIPMENT AND WORK STATION

0900 - COMMENCE DRILLING SOIL BORINGS
- ADVANCE BORING B-7 AT UV-055 LOCATION
- SAMPLES: 01-B007-01 @ 0915, 1.0'-2.0'
- 01-B007-02 @ 0920, 3.5'-4.5'
- 01-B007-03 @ 0930, 5.0'-6.0'

0940 - ADVANCE BORING B-8 AT UV-057
SAMPLES: 01-B008-01 @ 0955, 1.0'-2.5'
- 01-B008-02 @ 1000, 3.0'-4.0'
- 01-B008-03 @ 1010, 8.0'-9.0'

1030 - ADVANCE BORING B-9 AT UV-018
SAMPLES: 01-B009-01 @ 1045, 1-2'
- 01-B009-02 @ 1048, 3'-4'

5/25/12

Rite in the Rain

1/

BLDG T-1451 S. R. CANAL SI/SC

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

B-9 BORING CONT.

-01-B009-03 @ 1055, 7.5-9.0'

-COLLECT SAMPLE DUPLICATE

01-B009-04 @ 1100

1110 - ADVANCE B-10 BORING AT UV-052

· SAMPLES: -01-B010-01 @ 1120, 1'-2'

-01-B010-02 @ 1126, 7.5'-9'

-COLLECT OFFSITE LAB SAMPLE

-01-SB018 @ 1126

-01-B010-03 @ 1140, 10'-11'

1405 - ADVANCE BORING B-11 AT UV-064

· SAMPLES: -01-B011-01 @ 1420, 1'-2'

-01-B011-02 @ 1425, 3'-4'

COLLECT SAMPLE FOR FIXED LAB

AT 01-B011-02

ID- 01-SB019 @ 1425

-01-B011-03 @ 1430, 5'-6'

-01-B011-04 @ 1440, 12'-12.5'

1415 - T. SPREGGS ARRIVES ONSITE

1425 - T. DOBSON ARRIVES ONSITE

1450 - ADVANCE BORING B-12 AT UV-096

· SAMPLES: -01-B012-01 @ 1500, 1'-2'

-01-B012-02 @ 1505, 3'-4'

-01-B012-03 @ 1510, 4.5'-5.5

5/25/12 2/

~45°F, OVERCAST, LT WIND PPE: LEVEL D

B-12 BORING DETAILS CONT.

-01-B012-04 @ 1515, 9'-10'

1530 - ADVANCE BORING B-13 AT UV-093

- SAMPLES: -01-B013-01 @ 1540, 1'-2'

-01-B013-02 @ 1550, 3'-4'

-01-B013-03 @ 1555, 4.5'-5.5'

-01-B013-04 @ 1557, 7'-8'

ZK 5/25

~~-01-B013-05 @ 1600~~

-COLLECT SAMPLE DUPLICATE

AT 01-B013-04

ID: 01-B013-05 @ 1600

1610 - ADVANCE BORING B-14 AT UV-101

· SAMPLES: -01-B014-01 @ 1625, 1'-2'

-01-B014-02 @ 1630, 2'-3'

-01-B014-03 @ 1632, 4.5'-5.5'

-01-B014-04 @ 1640, 7'-8'

1630 - T. SPREGGS DEPARTS THE SITE

1705 - ADVANCE BORING B-15 AT UV-074

· SAMPLES: -01-B015-01 @ 1715, 1'-2'

-01-B015-02 @ 1720, 3'-4'

ZK 5/25

~~-01-B015-03~~ COLLECT FIXED

LAB SAMPLE AT 01-B015-02

ID: 01-SB020 @ 1720

-01-B015-03 @ 1725, 4.5'-5.5'

5/25/12 Rite in the Rain 3/

BLDG T-1451 3 E. CANAL — 25 MAY 2012

~40°F, OVERCAST, WINDY PPE: LEVEL D

B-15 BORING DETAILS (CONT.)

- 01-B015-04 @1730, 6'-7'

1740 - ~~CRASING~~ BK 5/25 CEASE DRILLING ACTIVITIES.

1800 - CLEAN UP AND DEPART THE SITE.

1820 - REVIEW BORING LOGS AND PROCESS MOBILE LABORATORY SAMPLES.

1840 - TD DELIVERS SAMPLES TO MOBILE LAB.

1850 - UPDATE PHOTO LOG.

1945 - END OF DAY

N.F.T.P

5/25/12 4/

BLDG T-1451 3 E. CANAL — 25 MAY 2012

~40°F, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0084	WEST	COLLECTING SOIL SAMPLES FOR MOBILE LABORATORY
101-0085	—	HYDROCARBON SHEENING OBSERVED IN SOIL FROM MACROCORE BORINGS.
101-0087 ~~101-0088~~ BK 5/25	N	LOGGING SOIL BORINGS.
101-0089	—	CLOSE UP OF SOIL BORING. TOP TWO FEET OF CORE SHOWN, SHOWING GRAVEL LAYER CONSISTENT ~~AT~~ BK 5/25 FROM 0.5' TO 2.0' BGS AT THE SITE
101-0090	W	~~CO~~ BK 5/25 TAKING PID READINGS OF SCREENING SAMPLES.

N.F.T.P.

5/25/12 5/

Rite in the Rain

BLDG T-1451 ¾ E. CANAL SI/SC 26 MAY 12

~40°F, OVERCAST, CALM, LT. RAIN PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING

PARTICIPANTS: AHTNA: T. DOBSON, H. WOTTLIN, L. NELSON, D. OVERLAND, T. SPITLER

GEOSYNTEC: Z. KIRK

HAMMER ENV.: S. PIERCE, M. CHAPMAN

0725 - CALIBRATE PID Z. KIRK

FRESH AIR CAL: 0.0 PPM

SPAN CAL: 100.2 PPM

BUMP CHECK: 100.0 PPM

0805 - ARRIVE ONSITE

PERSONNEL: AHTNA: L. NELSON,

GEOSYNTEC - Z. KIRK

HAMMER ENV - S. PIERCE, M. CHAPMAN

0820 - BEGIN DRILLING SOIL BORINGS

ZK 5/26 0835 - ADVANCE BORING B-16 AT UV-095

- SAMPLES: 01-B016-01 @ 0850, 1'-2'

COLLECT SAMPLE DUPLICATE AT 01-B016-01

- 01-B016-02 @ 0855

- 01-B016-03 @ 0857, 4'-5'

- 01-B016-04 @ 0900, ZK 5/26 5.5'-6.5'

- 01-B016-05 @ 0906, 8'-9'

- 01-B016-06 @ 0909, 11.5'-12.5'

5/26/12

BLDG T-1451 ¾ E. CANAL SI/SC MONDAY 26 MAY 12

~86°F, OVERCAST, WINDY PPE: LEVEL D

0915 - ADVANCE BORING B-17 AT UV-104

- SAMPLES: 01-B017-01 @ 0930, 1'-2'

01-B017-02 @ 0934, 3'-4'

01-B017-03 @ 0941, 7.5'-8.5'

* LATE ENTRY * - 0850 - COLLECT FIXED LAB SAMPLE AT 01-B016-01 SAMPLE LOCATION. SAMPLE ID: 01-SB021 @ 0850

0950 - ADVANCE BORING B-18 AT UV-007

- SAMPLES: 01-B018-01 @ 1006, 1'-2'

- 01-B018-02 @ 1009, 3'-4'

- 01-B018-03 @ 1015, 5'-6'

1030 - ADVANCE BORING B-19 AT UV-032

- SAMPLES: 01-B019-01 @ 1040, 1'-2'

- 01-B019-02 @ 1044, 2'-3'

- COLLECT SAMPLE DUPLICATE

ID: 01-B019-03 @ 1045

- 01-B019-04 @ 1050, 4'-5'

- COLLECT FIXED LAB SAMPLE

ID: 01-SB022 @ 1050

- 01-B019-05 @ 1055, 5'-6'

1105 - ADVANCE BORING B-20 AT UV-084

- SAMPLES: 01-B020-01 @ 1130, 0.5'-1.5'

- 01-B020-02 @ 1131, 2'-3'

- 01-B020-03 @ 1134, 4'-5'

5/26/12

Rite in the Rain

~35°F, OVERCAST, WENDY, RAIN PPE: LEVEL D

BORING B-20 (CONT.).

- COLLECT SAMPLE DUPLICATE AT 01-B020-04
  ID: 01-B020-04 @ 1135
- COLLECT FIELD LABORATORY SAMPLE
  ID 01-SB023 @ 1134
- 01-B020-05 @ 1145, 6'-7'
- 01-B020-06 @ 1146, 9'-10'

1230 - PROCESS AND DELIVER SAMPLES TO MOBILE LABORATORY

1400 - ZK 5/26 ~~SWITCH TO~~ CEASE SOIL BORING DRILLING TRANSITION TO UVOST BORINGS.

- RESUME DELINEATION EFFORTS ZK 5/26 ~~AT~~ FOR SOUTHERN BOOMER ZK 5/26 ~~SALTPOO~~ AREA.

1600 - T. DOBSON ARRIVES ON SITE.

ZK 5/26 ~~1800~~ 1640 - CEASE DRILLING ZK 5/26 ~~DUE TO~~ SO DRILLERS CAN GET FUEL BEFORE STATION CLOSES FOR THE DAY.

- AFTER FUELING DRILLERS NEED TO BREAK DOWN UVOST EQUIPMENT TO GET IT READY TO SHIP FOR THE SUNDAY FLIGHT.

1730 - UPDATE PHOTO LOG.

1820 - REVIEW BORING LOGS.

1900 - END OF DAY

5/26/12

~35°F, OVERCAST, WENDY, LT. RAIN PPE: LEVEL D

PROBE ID	MAX % RE (DEPTH)	TOT. DEPTH	ADDL. NOTES
UV-182	1.4% (1.8')	7.0'	SPIKE IN BACKGROUND SIGNAL
UV-183	1.5% (1.5')	8.0'	" "
UV-184	17.6% (5.4')	8.0'	SPIKE RANGE: 5.2'-6.5'
UV-185	78.6% (5.0')	9.5'	SPIKE RANGE: 4'-7.0'
UV-186	1.4% (1.3')	8.3'	SPIKE IN BACKGROUND SIGNAL
ZK 5/26 ~~UV-187~~			
UV-187	1.0% (0.7')	7.0'	" "
UV-188	1.2% (0.8')	8.0	" "
UV-189	1.3% (2.5')	ZK 5/26 ~~6.2'~~ 7.0'	" "

N.F.P.

5/26/12

48 ISLDG T-1401 3 R. CANAL BL/SC [illegible]

~85°F, OVERCAST, WINDY, RAIN PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0092	——	5 TO 6 FOOT CORE AT. BORING B-17 FROM LEFT TO RIGHT: SILTY GRAVEL (SATURATED) ORGANIC MATERIAL, AND MEDIUM SANDS SEEN THROUGHOUT THE SITE
101-0093	——	5 TO 6 FOOT CORE AT B-17
101-0094	SW	COLLECTING SOIL SAMPLES FROM MACROCORES
101-0096	SE	SOIL SAMPLING ~~of~~ BK 5/26 FROM MACRO CORES
101-0097	ENE	COLLECTING SOIL FROM MACROCORE SLEEVE

N.F.T.P

5/26/12

5/5

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2 EAST CANAL / BUILDING T-1451 SI/SC 02 JUNE 92
40°F WINDY - GUSTS PPE: LEVEL D

0700 - CONDUCT DAILY TAILGATE SAFETY MEETING.
ATTENDEES: T. DOBSON - LEAD
H. WITTENBERG, Z. KIRK, L. BOLDRICK, J. OVERLAND, H. WOTTLIN, Z. RASMUSSEN, (ERS-JV)
S. PIERCE, ~~S~~ TO G/V T. BROWN (HAMMER)

- 0730 - WORK IN EAST CANAL / BUILDING T-1451 AREA CONTINUES. COLLECT SOIL SAMPLES FROM BORINGS TO CHARACTERIZE SMALL AREA OF CONTAMINATION SOUTH OF INITIAL UVOST GRID. -
PERSONNEL INCLUDED TASK 4
Z. KIRK - (ERS-JV) - L. BOLDRICK (ERS-JV)
S. PIERCE, T. BROWN (HAMMER)
- ~~OPERATOR X 2~~ - TV G/V EQUIPMENT IS GEOPROBE GEO
- TASK 6 & 7 - LOAD AND TRANSPORT NATIVE BACKFILL FROM BORROW SOURCE TO EC/BLDG T-1451 AREA FOR BACKFILL IN EXCAVATION OF MWA TA.
- EQUIPMENT IS VOLVO 120 LOADER AND A 40' END DUMP TRUCK.
PERSONNEL INCLUDE:
OPERATOR - J. OVERLAND TRUCK DRIVER:

NFRP

EAST CANAL / BUILDING T-1451 SI/SC 02 JUNE 92
40°F WINDY GUSTS TO 30 MPH PPE: LEVEL D

Z. RASMUSSEN. LABORER HERD WITTLIN (ERS-JV).
- 0800 - 1100 - PREPARE CONTRACTOR DAILY PRODUCTION REPORT AND CONTRACTOR QUALITY REPORT -
- MULTIPLE CONVERSATIONS WITH ERS-JV P.M. ABOUT PHASES OF WORK, WORK COMPLETED, AND OVERALL PROGRESS TO DATE -
1350 - SUBMIT DAILY REPORTS TO NTR ON RECORDABLE "DUD"
1350 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA TO ASSIST AND OBSERVE BORING OPERATIONS -
- PERSONNEL WEARING APPROPRIATE PPE TO INCLUDE HARD HATS, SAFETY GLASSES, STEEL TOE BOOTS, SAFETY VESTS AND HEARING PROTECTION IF NEED ~~GRID~~ TV GEOPROBE DRILL RIG
- CREW HAS COMPLETED 8 BORINGS - B35 - B43 - SOUTH OF INITIAL UVOST GRID.
1530 - DRILL CREW COMPLETES BORING B46. L. BOLDRICK AND T. DOBSON

Rite in the Rain

- 40-F, WINDY - GUSTING 30MPH PPE: LEVEL D
SAMPLE REMAINING MACRO CORES FOR MOBILE AND FIXED LAB SUBMITTALS
~~FT~~ TO GIR 1615 - FINISH SAMPLING FROM MACRO CORES. CLEAN UP SITE FOR EXPECTED STORM CONDITIONS REST OF WEEKEND
1630 - DEPART EC/BLDG T-1451 AREA FOR SUBMITTAL OF SAMPLES TO MOBILE LAB
1740 - SUBMIT SOIL SAMPLES TO MOBILE LABORATORY.
- LATE ENTRY - 1741
DRILL CREW AND Z. KIRK DEPARTED SITE AT 1530 TO INSTALL RECOVERY WELL ~~HW~~ TO GIR RW-303-02 IN AREA 303.
- 1740 CON'T - TOTAL SAMPLES COLLECTED FOR SUBMITTAL TO MOBILE ARE 67. 61 PRIMARY SAMPLES, 6 DUPLICATE SAMPLES COLLECTED AND SUBMITTED TO MOBILE LABORATORY -
6 CONFIRMATION SAMPLES COLLECTED AND SUBMITTED TO FIXED LAB. PLUS ONE DUPLICATE.
- LATE ENTRY FOR SAMPLES COLLECTED FROM BORING B46. CON'T →

40°F WINDY GUSTING 30MPH PPE: LEVEL D

- B46 SOIL SAMPLES - DRO/ARO2 ANALYSIS
01-B046-01 @ 1535
01-B046-02 @ 1538
01-SB036 @ 1538, - DUPLICATE
SAMPLE 01-SB037 @ 1600 >FL
01-B046-03 @ 1540
01-B046-04 @ 1545, DUPLICATE
SAMPLE FOR 01-B046-~~04~~ TO GIR 03
01-B046-05 @ 1551
01-B046-06 @ 1553
1800 - DRILL CREW S. PIERCE, T. BROWN AND Z. KIRK, SCIENTIST RETURN AFTER CONSTRUCTING RECOVERY WELL RW-303-02 - CONCRETE NEEDS TO BE SET FOR STICK UP AND BOLLARDS FOR RW-303-02 RECOVERY WELL TO BE COMPLETE AND INSPECTED.
1900 - LOADING AND HAULING OF BACKFILL OPERATIONS DONE FOR DAY, OPERATORS ESTIMATE APPROXIMATELY 250 CUBIC YARDS ON LOCATION AT EC/BLDG T-1451 AREA - TASK

Rite in the Rain

6 EAST CANAL/BUILDING T-1451 SI/SC 02 JUNE 12

40°F. WINDY GUSTS TO 30 MPH DPE: LEWELD

TASK 4. COMPLETED 12 SOIL BORINGS TO PROVIDE ADDITIONAL ANALYTICAL DATA FOR CHARACTERIZATION OF CONTAMINATE SOURCE DATA WAY SOUTH OF UVOST GRID

- SAMPLES COLLECTED FOR DNO/AKIOL ANALYSIS.

DONE FOR DAY

02 JUNE 12

NEETD

TO ~~EAST CANAL/B~~ BUILDING T-1451/EAST CANAL SI/SC 04 JUNE 12

45°F SUNNY - PARTIAL CLOUDS DPE: LEWELD

- 0700 - CONDUCT SAFETY MEETING - DISCUSS WORK FOR DAY -

TASK 4 - UVOST PROBING WILL BE PERFORMED TO COLLECT DATA FOR FURTHER DELINEATION OF CONTAMINANT IN ~~B~~ TO G14 EAST CANAL/BUILDING T-1451 AREA

TASK 6&7 - CONTINUE TO TRANSPORT BACKFILL MATERIAL FROM LOCAL BORROW SOURCE DOWN TO STAGING AREA IN EAST CANAL/BUILDING T-1451 AREA -

MEETING ATTENDEES:

T. DOBSON, Z. KIRK, J. OVERLAND, H. WOTTLIN, Z. RASMUSSEN, C. BOLDRICK, T. SPITZER (~~EAS JV~~ TO G14, ALIENA), S. PIERCE, T. BROWN (HAMMER TEAM)

0730 - COMPILE DUD WITH MNA FIGURE & CROSS SECTIONS TO DELIVER TO NAVY RPM.

. MEET WITH NAVY RPM AND DISCUSS PROGRESS OF THE MNA AREA IN THE EAST CANAL/BLDG T-1451 AREA

REVIEW PREVIOUS REPORTS FROM OTHER CONTRACTORS.

OBSERVE THAT MONITORING WELL

Rite in the Rain

8 ~~EAST CANAL~~ TO GR 01 JUNE 12
BUILDING T-1451/EAST CANAL SE/SC
45°F, PARTLY CLOUDY PRE:CLEURED

01-151 AT THE SOUTH END OF CULVERTS IS SCREENED INTERVAL FROM ~~TOP~~ 6 ft BGS TO 11' BGS.

0850 - DEPART RPM RESIDENCE
HAMMER ENV UVOST TECH S. PIERCE CALIBRATING UVOST FOR THE DAYS PROBING. S. PIERCE MENTIONS THAT UVOST NOT CALIBRATING CORRECTLY. WILL CONTINUE TO CALIBRATE UNTIL IN SPECIFICATIONS.

0900 - PREPARE FOR 1100 MEETING WITH NAVY, AND ADEC TO DISCUSS PROPOSED MNA TA. COMPILE ADDITIONAL SOIL BORING INFORMATION INTO FIGURES TO FOR PRESENTATION TO GROUP, L. BOLDRICK TO EMAIL MEETING PARTICIPANTS WITH UP DATED FIGURE WHEN COMPLETE.

1100 - ARRIVE FOR GROUP CONFERENCE CALL AT NTR AND RPM RESIDENCE. ADEC, NAVY AND AHTNA ON CALL. PARTICIPANTS
G. MAY - NAVY - B. CULLEN - NAVY - T. SPRIGGS
G. WARREN, MEGHAN DOOLEY - ADEC
J. OAKLEY, T. DOBSON, L. BOLDRICK - AHTNA
J. CARLO - GEOSINTEC

NEXT 04 JUNE 12

BUILDING T-1451/EAST CANAL SE/SC 04 JUNE 12
45°F, PARTLY CLOUDY PRE:CLEURED

- MAIN TOPIC OF DISCUSSION WAS NAVY CONCERN OF CORRELATING UVOST PROBE DATA TO ANALYTICAL SOIL DATA. NAVY SUGGESTS FURTHER BORING COMPLETED WITH ANALYTICAL SOIL SAMPLES SUBMITTED TO MOBILE LAB
- DISCUSS PROPOSED MNA BOUNDARY FOR INSTALLATION OF TREATMENT CELL. NAVY SUGGESTS MOVING BOUNDARY TO THE WEST OF PROPOSED AREA TO CAPTURE POTENTIAL SEEPAGE THAT MAY MIGRATE BEYOND CURRENT PROPOSED BOUNDARY
- MEETING MINUTES WILL BE COMPILED TO INCLUDE ACTION ITEMS - MEETING AT 0700 ADAK TIME SCHEDULED WITH OUTSIDE CONTRACTOR.

MEETING CONCLUDED AT ~~1100~~ TO 1112 - 1200

1120 - RPM REVIEWS RFP ~~RFBP~~ RFP TO DETERMINE IF A VOLUME WAS SPECIFIED FOR REMOVAL OF CERTAIN CUBIC YARDAGE TO REMOVE.

1230 INFORM DRILLING CREW THAT UVOST PROBING WILL BE POSTPONED AT THE REQUEST OF THE NAVY TO PERFORM

Rite in the Rain.

45°F, PARTLY CLOUDY PDE: LEVEL D

FINE SOIL BORINGS FOR EX-SITU CORRELATION WITH THE UVOST COMPARED TO ANALYTICAL SOIL SAMPLES SUBMITTED TO THE MOBILE LABORATORY. BORINGS WILL BE COMPLETED ADJACENT TO PREVIOUSLY ADVANCED UVOST PROBES AS FOLLOWS:

UV020 - PEAK 450% at 4.3' - INTERVAL 3.3'-5.3'
UV-014 - PEAK 8.6% at 6.7' - INTERVAL 5.7'-7.7'
UV-052 - PEAK 142.5% at 4.4' - INTERVAL 3.4'-5.4'
UV-095 - PEAK 267.7% at 3.1' - INTERVAL 2.1'-4.1'
UV-059 - PEAK 71.6% at 3.4' - INTERVAL 2.4'-4.4'

1245-1330 - LUNCH - PREPARE TO ARRIVE ON SITE AT EAST CANAL/BUILDING T-1451 AREA

1345 - MEET NAVY RPM TO INFORM HIM THAT DRILLERS PREPARING TO PERFORM THE EX-SITU CORRELATION BORINGS.

1400 - ARRIVE ON-SITE AT EC/BLDG T-1451 AREA
- DRILLERS ARRIVE WITH FUEL FOR GEOPROBE.
- RPM AND I DISCUSS SI/SC WORK THAT HAS BEEN COMPLETED TO DATE

1445 - DRILLERS ADVANCE B-047 ADJACENT UV-020 - SEE Z.K. NOTES AND BORE LOG FOR DATA INFORMATION

45°F, PARTLY CLOUDY PDE: LEVEL D

OBSERVE PROPER PDE IS WORN BY PERSONNEL ON-SITE - TO INCLUDE HARD HATS, SAFETY GLASSES, ORANGE VESTS, STEEL TOE BOOTS, AND HEARING PROTECTION.

PERSONNEL ON-SITE INCLUDE:
OKADA MAY - NAVFACNW - ~~ADJ~~ TODAY RPM
TIM DOBSON, Z. KIRK, G. BOLDRICK (ARMY)
S. PIERCE, T. BROWN (HAMMER).

SAMPLE 01-B047-01 COLLECTED AT 1457, HOMOGENIZED AND ANALYZED FOR EX-SITU CORRELATION, MOBILE LAB SOIL ANALYSIS FOR DRO, ELKED LAB ANALYSIS AND PID SCREENING - SEE Z.K NOTES

1530 - ADVANCE B-48 ADJACENT TO UV-014 OBSERVE PROBE FOR SAMPLE COLLECTION -

1540 - GRAM DEPARTS SITE - OBSERVE THERE IS NO BORING ASSOCIATED WITH UV-014, NAVY IDENTIFY WRONG UVOST/BORING POINT TO PULL FOR EX-SITU CORRELATION WILL ADVANCE BORING ADJACENT TO UV-104/13

Rite in the Rain

45°F, PARTLY CLOUDY PPE: LEVEL D

1550 - ADVANCE B-49 ADJACENT TO UV-032 - OBSERVER DRILLER PLACEMENT OF RIG - SOIL SAMPLE COLLECTED. TO 6/4 B:49 01-~~B49~~-01 AT 1616. SAMPLE HOMOGENIZED SEE ZIC NOTES / BORE LOG.-

1640 - G. MAH RETURNS ON-SITE - DISCUSS PLANS FOR MNA TA CONSTRUCTION. AND PLANNED CALL FOR G/S AT 0700. -

1645 - ADVANCE B-50 ADJACENT TO AT UV-023 SOIL SAMPLE 01-B050-01 AT 1650 FOR EX-SITU CORRELATION - PID. MOBILE LAB SAMPLE AND FIXED LAB SAMPLE

1700 - ADVANCE BORING B-51 AT UVOST UV-039
- COLLECT SOIL SAMPLE 01-B051-01 @ 1715 - FOR EX-SITU CORRELATION, PID, MOBILE LAB. SOIL SAMPLE, AND FIXED LAB SAMPLE.
- DISCUSS WITH RPM EXTENT OF MNA TA.

1710 - G. MAH DEPARTS SITE

1720 - ADVANCE BORING B-52 AT UV-104

45°F, PARTLY CLOUDY PPE: LEVEL D

- SOIL SAMPLE 01-B052-01 AT 1740 FOR EX-SITU CORRELATION - PID, MOBILE LAB ANALYSIS AND FIXED LAB ANALYSIS. - THIS BORING WAS COMPLETED TO REPLACE BORING B-48 ADJACENT TO UV-014 AS THERE WAS NO BORING ASSOCIATED WITH UVOST 014.

1800 - BORINGS COMPLETED FOR EX-SITU CORRELATION.

1900 - SAMPLES SUBMITTED TO MOBILE LAB FOR ANALYSIS - FIXED LAB SAMPLES WILL BE SUBMITTED FOR THURSDAY 6/7/12 FLIGHT OUT OF ADAK.
- 5 SOIL BORINGS AND 1 UVOST PROBE WERE COMPLETED ON EAST CANAL / BLDG T-1451 AREA
- ≈ 150 cy of BORROW SOURCE MATERIAL TRANSPORTED TO EAST/CANAL BLDG-T-1451 AREA SITE FOR BACKFILL DURING CONSTRUCTION OF MNA TA.
- FIXED LAB SAMPLES 01-SB030 — 01-SB037 PLUS 01-EB006 SUBMITTED TO TA-SEATTLE FOR ANALYSIS OF DRO/ARO →

Rite in the Rain

01-EX006 - SUBMITTED FOR GRO/VOC, DRO/[illegible]
PAH, PCB, METALS - 24 HOUR TAT REQUESTED
- FOR 01-EX006 -
-

04 JUNE 12
NZEKP

- 0700 - CONFERENCE CALL WITH NAVY, ADEC, AHTNA TO DISCUSS PROPOSED MAA TA EXCAVATION FOOTPRINT AND ADDITIONAL UVOST CORRELATION SAMPLING ACTIVITIES.
- BOUNDARY LIMITS WERE DISCUSSED ADJACENT TO SPECIFIC BORING AND UVOST PROBE LOCATIONS. SEE MEETING MINUTES FOR SPECIFIC LOCATIONS
NAVY REQUEST TEST PITS BE EXCAVATED NEXT UVOST POINTS THAT DISPLAY INCONSISTENT CORRELATION BETWEEN UVOST DATA AND SOIL BORING DATA. NAVY SUGGESTS UV-030 NEXT TO B-026, AND UV-026 - NEXT TO B-026. WILL PICK ADDITIONAL UVOST/BORING LOCATIONS THAT ARE INCONSISTENT TO BE ~~B~~ TBR % RE COMPARED TO ANALYTICAL SOIL CONCENTRATIONS.
NAVY ASKS TO REVIEW SOIL BORING SAMPLES TO PICK ADDITIONAL CORRELATIONS FOR TEST PIT EXCAVATIONS.
0735 - MEETING ADJOURNED.

Rite in the Rain

TP 615 ~~EAST CAN~~ BUILDING T-1451/EAST CANAL S2/SC 05 JUNE 12

45°F, CLOUDY PPE: LEVEL D

0800 - REVIEW SOIL BORING ANALYTICAL DATA TO CHOOSE APPROPRIATE UVOST-BORING LOCATIONS TO DIG TEST PITS NEXT TO.

DECIDE TO EXCAVATE NEXT TO

B-010 - UV-052 - PK PRE 163% at 3.6'

B 031 - UV-024 - PK RE = 81% AT 5.1'

B015 - UV-043 PK RE% = 88% AT 4.5'

- TEST PITS WILL BE EXCAVATED TO COLLECT A SOIL SAMPLE THAT WILL BE 0.5' ABOVE PK RE% VALUE AND 0.5' BELOW PK% RE VALUE.

SAMPLES WILL BE HOMOGENIZED AND PLACED IN SEPERATE SAMPLE CONTAINERS FOR EX-SITU UVOST READING, PID SCREENING, MOBILE LAB SOIL SAMPLE ANALYSIS, AND FIXED LAB SOIL SAMPLE ANALYSIS.

- 1000 - INFORM NAVY RPM THAT T. DOBSON AND L. BOLDRICK WILL BE ON SITE AT EAST CANAL/BLDG T-1451 TO PERFORM TEST PIT EXCAVATIONS. PLEASE SEE FIELD NOTE BOOK # FOR DOCUMENTATION REGARDING

NRPO 05 JUNE 12

BUILDING T-1451/EAST CANAL S2/SC 05 JUNE 12

45°F, CLOUDY PPE: LEVEL D

WORK COMPLETED IN EAST CANAL/BLDG T-1451 AREA FOR TEST PIT EXCAVATION AND EX-SITU UVOST CORRELATION DATA. REFER TO NOTE BOOK # FOR NOTES REGARDING FIELD WORK FROM 1055 - 1840, PGS # 15-18.

- 1930 - SUMMARY OF DAYS EVENTS

- AFTER TRENCHING OF EXPOSED PIPELINE THERE WAS CONCERN THAT AVIATION GASOLINE MAYBE IN THE PIPELINE. L. BOLDRICK MADE A CALL TO THE ANCHORAGE AHTNA OFFICE TO GET CIH'S RECOMMENDATION FOR WORKER SAFETY. CIH INFORMED THE CONTRACTOR THAT METAL TO METAL CONTACT COULD COMBUSTION IF AVGAS IS PRESENT. WORK STOPPED UNTIL LIQUID SAMPLE 01-WW001 SUBMITTED TO THE MOBILE LAB FOR DRO/RRO GRO/BTEX RESULTS WERE RECEIVED. INFORMED THE RPM THAT TRENCHING FOR THE WOOD STAVE PIPELINE WOULD CEASE UNTIL MOBILE RESULTS WERE RECEIVED →

NRPO 05 JUNE 12

Rite in the Rain

BUILDING T-1451 / EAST CANAL SE/SE 06 JUNE 12

45°F TO 61°F CLOUDY PAE: LEVEL 0

- ~~COMP~~ COMPLETED 20 UVOST PROBES ADJACENT TO SOIL BORINGS B-32 ~~AND~~ THRU 61°F THROUGH B-46 NEAR SEEP #3 FOR UVOST CORRELATION AT EAST CANAL / BLDG T-1451 AREA
- TRANSPORTED ≈ 110 YD³ OF BACKFILL MATERIAL TO THE EAST CANAL / BLDG T-1451 AREA.

06 JUNE 12

NFETP

40°F DARK CLOUDY PAE: LEVEL 0

0700 - CONDUCT SAFETY MEETING - DISCUSS PLAN FOR TODAY - UVOST IN EAST CANAL / BLDG T-1451 ADJACENT AREA

- REMOVE PIPELINE FROM MAIN AREA
- HAUL BACKFILL MATERIAL AS TIME PERMITS FROM LOCAL BORROW SOURCE

0830 - SPEAK W/ RPM AND NTR ABOUT REMOVING PIPE FROM NAVA. INFORM THEM PIPE WILL BE REMOVED SOMETIME AFTER 1300 - CONTRACTOR WILL INFORM RPM WHEN ON-SITE AND READY TO REMOVE PIPE. MOBILE LAB SAMPLE FOR THE WATER IN THE PIPE HAD A DIESEL RESULT OF 96%. NO CONCERN WITH AVIATION GASOLINE

1000 - 1430 - WORK ON SUBMITTALS TO GET TO NAVY FOR 6/2, 6/4, AND 6/5. SUBMIT REPORTS FOR 6/2 AND 6/4 TO ~~RPM~~ TO CG REPS AND NTR.

06 JUNE 12

NFETP

Rite in the Rain

 BUILDING T-1451 / EAST CANAL SE/SE 06 JUNE
40°F. PARTLY CLOUDY PPE: LEVEL D

- 1445 - INFORM RPM THAT CONTRACTOR IS READY TO REMOVE WOOD STAVE PIPE FROM UNA AREA
1500 - NTR AND RPM ON-SITE TO MONITOR PIPE REMOVAL - SEE FIELD NOTES # FOR DETAILS OF ACTUAL PIPE REMOVAL - OBSERVE PROPER PPE IS DONNED BY PERSONNEL INVOLVED IN THE REMOVAL - INCLUDE HARD HAT, REFLECTIVE VEST, SAFETY GLASSES, AND STEEL TOED BOOTS. OBSERVED PERSONNEL FOR EXCAVATOR SAFETY ACTIONS. EXCAVATOR USED IS ACAT 325 TRACKED EXCAVATOR.
1630 - 4 SECTIONS OF PIPE REMOVED. PIPE WAS WRAPPED IN 6 MIL POLYESTER - REINFORCED SHEETING. PIPE WAS PLACED IN WASTE STORAGE AREA NEAR ADMIN BUILDING
- APPROXIMATELY 13 GALLONS OF MIXED FUEL AND WATER WAS DRAINED FROM PIPE - WATER WAS COLLECTED IN 5-GALLON BUCKETS AND SORBENT PADS WERE USED TO

NFTP 06 JUNE 12

40°F PARTLY CLOUDY PPE: LEVEL D

COLLECT VISIBLE FUEL PRODUCT ON THE WATER SURFACE. THE WATER FUEL WATER MIX WAS CONTAINERIZED IN A 55 GALLON OPEN TOP DRUM ON-SITE THAT ALREADY CONTAINED DECONTAMINATION WATER USED TO DECON MACRO-CORE SAMPLERS DURING SOIL BORING ADVANCEMENTS
- 1700 - PREPARE DAILY REPORTS FOR 6/5/12 - CONTRACTOR PRODUCTION AND QUALITY CONTROL REPORTS.
- PREPARE QC MEETING AGENDA
- 1900 - SUMMARY OF DAYS EVENTS - UXO INVESTIGATION INITIATED IN EAST CANAL / BLDG T-1451 NORTH AREA TO INVESTIGATE PETROLEUM CONT. ASSOCIATED WITH CRUSHED DRUM AREA DISCOVERED IN GEOPHYSICAL SURVEY. PROBES ADVANCED ALONG THE PERIMETER OF DRUM AREA MARKED BY EMI STEEL.
- 7 LOADS OF FILL HAULED FROM LOCAL BORROW SOURCE TO EAST CANAL / BLDG T-1451 SITE. LABORERS SET-UP BERMS

Rite in the Rain

BUILDING T-1451/EAST CANAL SE/SC 06 JUNE 12

45°F, Cloudy PM: CRUZ

AREA TO PLACE A 12 MIL LINER ON ASPHALT PAD NE OF MNA TO GO TA FOR PLACEMENT OF POTENTIALLY CONTAMINATED SOIL.

NO INCIDENTS OR MISHAPS

06 JUNE 12

NEETP

BUILDING T-1451/EAST CANAL SE/SC 07 JUNE 12

45°F, Cloudy PDE: CRUZ

0700 TAILGATE SAFETY MEETING AHA

- CONTINUE INVEST IN EAST CANAL/BLDG T-1451 NORTH AREA ALONG PERIMETER OF DRUM AREA.
- EXCAVATE AND HAUL BACKFILL FROM BORROW SOURCE TO EAST CANAL/BLDG T-1451 AREA. CONSOLIDATE CONT. MATERIAL FROM PIPELINE EX. AND TEST PITS EXCAVATION.

ATTENDERS: T. DODSON
L. BOLDRICK, Z. KIRK, J. OUTLAND
H. WOTTLIN, Z. RASMUSSEN, T. SPILLER (AFS)
S. PIERCE, T. BROWN (HAMMER)

0730 - 0845 - PREPARE FOR WEEKLY QC MEETING

0900 - 0930 - WEEKLY QC MEETING - DISCUSS WORK COMPLETED FROM 5/31/12 - 6/6/12 - TWO WEEK PLAN INCLUDES MNA TO CONSTRUCTION TO GO AREA 303 RECOVERY WELL INSTALLATION.

- 1000 - 1300 - PROJECT MANAGEMENT ACTIVITIES, LOGISTICS, SOIL EXCAVATION ESTIMATES IN MNA ZONE.

TD 6/7

Rite in the Rain

BUILDING T-1451/EAST CANAL SE/SC 06 JUNE 12

45°F, Cloudy PIG: CRUZ D

AREA TO PLACE A 12 MIL LINER ON ASPHALT PAD NE OF MNA TO CL TA FOR PLACEMENT OF POTENTIALLY CONTAMINATED SOIL.

NO INCIDENTS OR MISHAPS

06 JUNE 12

NEETP

BUILDING T-1451/EAST CANAL SE/SC 07 JUNE 12

45°F, Cloudy PDE: CRUZ D

0700 TAILGATE SAFETY MEETING AHAD

- CONTINUE INVEST IN EAST CANAL/BLDG T-1451 NORTH AREA ALONG PERIMETER OF DRUM AREA
- EXCAVATE AND HAUL BACKFILL FROM BORROW SOURCE TO EAST CANAL/BLDG T-1451 AREA. CONSOLIDATE CONT. MATERIAL FROM PIPELINE EX. AND TEST PITS EXCAVATION.

ATTENDERS: T. DODSON
L. BOLDRICK, Z. KIRK, J. OUTLAND
M. WOTTLIN, Z. RASMUSSEN, T. SPILLER (AES)
S. PIERCE, T. BROWN (HAMMER)

0730 - 0845 - PREPARE FOR WEEKLY QC MEETING

0900 - 0930 - WEEKLY QC MEETING - DISCUSS WORK COMPLETED FROM 5/31/12 - 6/6/12 - TWO WEEK PLAN INCLUDES MNA TO CL TA CONSTRUCTION AREA 303 RECOVERY WELL INSTALLATION.

- 1000 - 1300 - PROJECT MANAGEMENT ACTIVITIES, LOGISTICS, SOIL EXCAVATION ESTIMATES IN MNA ZONE.

FD 6/7

Rite in the Rain

BUILDING T-1451/EAST CANAL SI/SC 07 JUNE 12

40°F CLOUDY PPE: LEVEL D

1300-1500 - PREPARE DATA AND REVIEW ANALYTICAL SOIL SAMPLE DATA FROM UVOST / SOIL BORINGS ADVANCED IN EAST CANAL/BUILDING T-1451 AREA

PREPARE SAMPLES AND PACK COOLER FOR SOIL SAMPLE SHIPMENT TO TA-SEATTLE ON TODAY'S FLIGHT

1530 - DROP OFF SAMPLE COOLER AT ALASKA AIRLINES - L. BOLDRICK CHECKS IN FOR FLIGHT TO DEPART ADAK. TRACKING BILL #

1630 - 1830 REVIEW DATA FROM EAST CANAL/BLDG T-1451 AREA - PREPARE REPORTS

REVIEW MEETING MINUTES FROM QC MEETING.

1900 - 15 UVOST PROBES COMPLETED IN EAST CANAL/BLDG T-1451 NORTH AREA IN NORTH AND SOUTHERN PORTION - CONTAMINATION NOTED IN BOTH AREAS.

LOADS OF BACKFILL MATERIAL TRANSPORTED TO EAST CANAL/BLDG T-1451 AREA FOR CONSTRUCTION OF MNA ZONE.

- CONTINUE EXCAVATING FILL AT BORROW SOURCE

L. BOLDRICK DEPARTED ADAK FOR ANCHORAGE

NFP 07 JUNE 12

~~EAST CANAL~~ DP 6/8 BUILDING T-1451/EAST CANAL SI/SC 08 JUNE 12

45°F, PARTLY CLOUDY PPE: LEVEL D

0700 HELD TAILGATE SAFETY MEETING - WORK TODAY TO 6/8 INCLUDED:

CONTINUED EXCAVATION FOR BORROW SOURCE BACKFILL, LOADING AND TRANSPORT TO EAST CANAL/BUILDING T-1451 AREA

- UVOST IN EAST CANAL/BLDG T-1451 NORTH AREA ALONG SOUTHERN EXTENT OF PRIOR PAREA.

FILL DATA GAPS IN EAST CANAL/BLDG T-1451 AREA WITH UVOST

- 0845 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA - DRILLERS ON-SITE - WITH UVOST - FILL DATA GAPS NEAR COMPLETED BORINGS FOR CLEAN AREA BETWEEN STEP #1 AND STEP #3

- 0915 - 6 UVOST PROBES COMPLETED BETWEEN STEP #1 & STEP #3

- 0930 - PREPARE TO MOBILIZE SAMPLE IN EC/BLDG T-1451 NORTH AREA

1015 - RETURN TO EC/BLDG T-1451 AREA TO UVOST STEP #2 TO ATTEMPT TO BOUND EDGES OF CONTAMINATION FOR FURTHER/FUTURE MNA TA IN THAT STEP #2 - SEE Z.K NOTES

NFP 08 JUNE 12

Rite in the Rain

BUILDING T-1451/EAST CANAL SI/SC 08 JUNE 12
45°F, PARTLY PPE: LEVEL D

FOR UVOST DATA. - PROPER PPE BY PERSONNEL.
ON SITE - GEOPROBE 6620 - DRILL RIG USED
PERSONNEL: T. DOBSON, Z. KINE (GEO-TECH)
S. PIERCE, T. BROWN (HAMMER)

1200 - COMPLETED 4 UVOST PROBES AT SEEP #2
BREAK FOR LUNCH.

1340 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA
TO UVOST BOUNDS OF SEEP #2.

1500 - COMPLETE UVOST PROBES UV-260 - UV-263
TO DEFINE BOUNDS OF SEEP #2. UVOST PROBE
FIBER OPTIC CABLE BREAKS ON PROBE UV-264
WILL REPAIR FIBER OPTIC CABLE.

1600 - DEPART EAST CANAL/BLDG T-1451 TO
MEET WITH NAM IRM.

1700 - BACK ON-SITE AT EC/BLDG T-1451 NORTH
AREA - DRILLERS ADVANCING UVOST PROBES
ALONG SOUTHERN EXTENT OF DRUM AREA
TO DELINEATE PETROLEUM CONTAMINATION

1800 NEAR TOE OF SLOPE, SOUTH OF TP#10

~~1730~~ TO 6/8 - DRILLERS COMPLETE UVOSTING FOR THE
DAY IN THE EC/BLDG T-1451 NORTH AREA
- COMPLETE AN ADDITIONAL 6 PROBES IN
SOUTHEASTERN CORNER OF DRUM AREA
(UV-268 - UV-273) - SEE Z.K NOTES

NFETP 08 JUNE 12

BUILDING T-1451/EAST CANAL SI/SC 08 JUNE 12
45°F, PARTLY CLOUDY PPE: LEVEL D

- COMPLETED 17 UVOST PROBES IN THE
EC/BLDG T-1451 AREA TO DELINEATE
THE BOUNDARIES OF CONTAMINATION
FOR SEEP #2 AND FILL IN DATA
GAPS ~~B~~ TP 6/8 SOUTH OF THE MNATA.

- 1830 - MONITOR EXCAVATION OPERATION
WHILE DIGGING MATERIAL OFF SIDE
OF ROADWAY FROM A CANDJURE
DEPOSIT WEST OF THE ADAK SOUTHERN
PORTION OF THE RUNWAY.

- LOADER AND TRUCK CONTINUE TO
TRANSPORT BACKFILL MATERIAL
TO THE EC/BLDG T-1451 AREA.

1900 - CHECK EC/BLDG T-1451 AREA
STOCKPILE COVER. COVER IS
SECURE.

DEPART SITE
DONE FOR DAY

NFETP 08 JUNE 12

Rite in the Rain

35-40°F, CLOUDY PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING -

- BACKFILL TRANSPORT CONTINUES FROM LOCAL BORROW SOURCE TO STAGING AREA AT THE EC/BLDG T-1451 AREA.
- DRILL CREW TO ADVANCE SOIL BORINGS IN CONTAMINATED AREA IN EC/T-1451 NORTH AREA ALONG SOUTHERN EDGE.

1000 - ARRIVE ON SITE AT EC/BLDG T-1451 NORTH AREA. DRILL CREW HAVE COMPLETED SOIL BORINGS B053 - B055 IN SE CORNER OF CONTAMINATED AREA FROM CRUSHED DRUMS ALONG THE SOUTHERN PERIMETER. BORING B-053 HAD PID SCREENINGS RESULTS OF 229.1 PPM AT 1.5' BGS TO 377.9 PPM AT 3.5' BGS.

1210 DRILLERS COMPLETE BORINGS B056 & B057 - BREAK FOR LUNCH -

- 1310 - 1600 - REVIEW DATA FOR MNA TREATMENT AREA - REVIEW CROSS SECTIONS TO DETERMINE CLEAN, UNIMPACTED LIMITS FROM GROUND SURFACE TO DEPTH

1610 - ARRIVE ON SITE. DRILLERS HAVE COMPLETED SOIL BORINGS B-058 - B060 ON NORTH PERIMETER

35-40°F, CLOUDY PPE: LEVEL D

OF CRUSHED DRUM SITE AT EC/BLDG T-1451 NORTH AREA. PID SCREENINGS INDICATE CONTAMINATION FROM 14'-22' BGS

- DRILL CREW PREPARES TO READY EQUIPMENT FOR SUNDAY CARGO FLIGHT (6/10) FROM ADAK TO ANCHORAGE

- 1645 DEPART EC/BLDG T-1451 NORTH AREA FOR BORROW SOURCE AREA

1700 - INFORM OPERATOR (LOADER) AND TRUCK DRIVER THAT ENOUGH FILL HAS BEEN PLACED AT EC/BLDG T-1451 AREA TO BEGIN EXCAVATION ON MONDAY 6/11.

1715 - DEPART BORROW SOURCE.

1725 - ARRIVE EC/BLDG T-1451 AREA TO OBSERVE SITE CONDITIONS FOR FORECASTED STORM OVERNIGHT

- SOIL STOCKPILE CLEAN HAS ADEQUATE SECURE POINTS FOR WIND.

1800 - DEPART EC/BLDG T-1451 AREA - LOADER AND DUMP TRUCK NOW ON-SITE EQUIPMENT USED TO CONSOLIDATE FILL MATERIAL INTO ONE LARGE STOCKPILE

40°F CLOUDY PPE: LEVEL D

-1900 - SUMMARY

TOTAL OF EIGHT SOIL BORINGS ADVANCED IN EC/BLDG T-1451 NORTH AREA.

25 PRIMARY SAMPLES COLLECTED FOR MOBILE LAB ANALYSIS OF DRO

3 DUPLICATE SAMPLES COLLECTED FOR MOBILE LAB ANALYSIS OF DRO

3 PRIMARY LAB SAMPLES COLLECTED FOR SUBMISSION TO FIXED LAB. BUCKLOE:

01-SB044 (MS/MSD) FROM 01-SB053-62 @ 0825

01-SB045 FROM 01-SB057-04 @ 1155

AND FIXED LAB DUPLICATE 01-SB046 @ 1200 -

15 LOADS OF BACKFILL MATERIAL TRANSPORTED TO EC/BLDG T-1451 AREA FROM LOCAL BORROW SOURCE - APPROXIMATELY 950 YD³ ON-SITE.

09 JUNE 12

NFIP

45°F PARTLY CLOUDY PPE: LEVEL D

0700 - DAILY TAILGATE SAFETY INSPECTION

- EXCAVATION OF MMA ZONE TA TO START. EXCAVATION / LOADING SAFETY
- ATTENDEES:

T. DOBSON, Z. KUCER, H. WOTTLIN, J. OVERLAND, Z. RASMUSSEN, T. SPITLER.

- EXCAVATION SAFETY - IN / LOADER AND EXCAVATOR MOVING ON-SITE. PPE: EYE CONTACT WITH OPERATOR

0830 - REVIEW DATA FOR DEPTHS OF CONTAMINATION TO START EXCAVATION IN NW CORNER.

- CREW (2 OPERATORS, 1 LABORER) PREPARE EQUIPMENT, DAILY CHECKS OF CAT 325C EXCAVATOR AND VOLVO 120G FRONT END LOADER.

- 0930 - PREPARE STOCKPILE LINER FOR CLEAN MATERIAL - NORTH OF MMA TA EXCAVATION BOUNDARY.

1020 - EXCAVATION COMMENCE - IN NORTHWEST CORNER OF MMA TA BOUNDARY

PERSONNEL: T. DOBSON, Z. KUCER, Z. RASMUSSEN, J. OVERLAND (EXCAVATOR), H. WOTTLIN (LOADER).

- REMOVE TOP 1' (6") INITIALLY - WILL PROGRESS FROM WEST TO EAST NEAR THE CULVERT IN ≈ 20-25' WIDE SECTION

Rite in the Rain

45°F PARTLY CLOUDY PAE: LEWELD

FROM N-S

1210 - BREAK FOR LUNCH -

- 1330 - ON-SITE AT EC/BLDG T-1451 MNA TA TO DEFINE EXCAVATION OF MNA AREA.
- REMOVING CLEAN OVERBURDEN NORTH OF UV012 TO UV010 - THE EAST TO ≈ UV022
- COLLECT MOBILE LAB SCREENING SAMPLES
- ~~14 PRIMARY SAMPLES~~ TO GW

1400 - SPEAK WITH ~~BRIAN~~ TO GW NTR ABOUT POTENTIAL AMOUNT OF CLEAN OVERBURDEN TO REMOVE FROM THE PORTION OF THE MNA TA CLOSEST TO THE CULVERTS. NTR WILL SPEAK WITH RPM ABOUT POTENTIAL SHIFT IN MNA TA BOUNDARY EAST FROM CULVERTS.

1435 NTR DEPARTS SITE -

1515 NTR ON SITE WITH NAVY ESCORT. RPM HAS REQUESTED PROPOSED BOUNDARY SHIFT BY EMAIL; ENTERED TECHNICAL DIR OF REQUEST.

1530 - NTR DEPARTS SITE.

CONTINUE REMOVING CLEAN OVERBURDEN TO GEOTEXTILE LINER 2.2'-2.5' BGS TO X-SECTION D UNTIL ~~ON~~ TO GW UV032 - CONTAMINATION ODOR PRESENT AT 1.5' BGS BETWEEN UV022 AND UV032

11 JUNE 12

45°F PARTLY CLOUDY

- 1710 - NTR ON-SITE TO MONITOR PROGRESS.
- 1720 - NTR DEPARTS SITE EC/BLDG T-1451
- 1800 - SET UP - 5 YARD SUPERSACK TO FILL WITH CONTAMINATED SOIL FROM 1'-1.5' BGS IN THE VICINITY OF UV032 (X-SECTION D)
- 1830 - MOVE SUPERSACK TO WASTE STORAGE AREA NEAR PONT (ADMIN BLDG)
  - SECURE COVER ON STOCKPILE.
  - PICK UP SITE
- 1900 - DEPART SITE - TOTAL OF 14 PRIMARY SOIL SAMPLES COLLECTED FOR THE MOBILE LAB ANALYSIS FOR DRO, TWO FIELD DUPLICATES COLLECTED AS WELL. -

≈ 90 cubic yards OF MATERIAL - CLEAN ~~OB~~ TO GW OVER BURDEN (PENDING MOBILE LAB ANALYSIS AND A 5 YARD SUPER SACK OF CONTAMINATED MATERIAL REMOVED.

≈ 10 yards ~~OF~~ TO GW OF CONTAMINATED SOIL WERE REMOVED FROM PREVIOUS TEST PITS ON THE EXCAVATION FOOT PRINT

- THREE SOIL SAMPLES COLLECTED FOR DRO TO SUBMIT TO FRED LAB - 01-E010, 01-EX-011, AND 01-EX012.

11 JUNE 12 Sun Rain

34 Building T-1457/East Canal SI/SC 12 June 12

45°F Partly cloudy

- 0700 - Conduct Tailgate Safety Meeting - Continue MNA TA Excavation - Safety near loader and excavator, PPE - Hard hat, reflective vest, safety glasses, any steel toe boots.

Participants: T. Dobson, Z. King, J. Overland, H. Wottlin, Z. Ramirez, T. Spitler.

0800 - Gather materials. Operator/laborers perform equipment checks.

0830 - Submit Daily Report for 6/11/12 to NTR, RPM.

0900 - Fuel truck pump breaks, can't fuel excavator.

0930 - Operators/laborer depart site - EC/Bldg T-1457 area - to get status of fuel truck delivery.

1020 - Operators/laborer bring 15 gallons of diesel to put in excavator. Fuel truck will deliver fuel when pump is fixed.

- Resume MNA TA excavation - Begin at "D" X-section line - contaminated material ≈ 1'-1.5' BGS - Remove to 2'-2.5' BGS moving east to X-section line "E" near probes ~~UV043~~ to 6/12 UV043 and "D" X-section line near

Probe UV039 -

1040 - Begin removing asphalt to the NE corner of the MNA boundary - Asphalt will be placed in find dump.

1045 - NTR and BEC (Brad Eng. coordinator) on-site. Request to transport asphalt to upper borrow source area where other asphalt is currently stockpiled. NTR concurred with decision to haul asphalt to upper borrow pit.

1110 - NTR/BEC depart site.

1115 - Fuel truck arrives on site EC/Bldg T-1451 area to fuel excavator - loader and dump truck.

1130 - Fuel truck departs - Excavator resumes removal of asphalt in NE corner.

- 1140 - Asphalt removed. Resume excavation along X-section "E" and "F" in NE corner of MNA boundary associated w/ UV043 & UV053. Contamination present 1.5' BGS ~~to~~ to 6/12 in the NE corner.

1205 - Excavation continues along "F" X-section ~~2~~ to 6/12 line to UV052 - 2' BGS -

Lunch - Break

Rite in the Rain

-1330 - ONSITE EL/BLDG T-1451 AREA - RESUME EXCAVATION ACTIVITIES. CONTINUED TO EXCAVATE ALONG "F" XSECTION BOUNDARY
1410 - RECEIVE OK TO CONTINUE W/ TOG/LR PROPOSED APPROVED TREATMENT CELL. WILL EXCAVATE TO GROUND WATER IN NW CORNER ON THE CULVERT SIDE OF THE MNA BOUNDARY.
1445 - ARRIVE ON SITE W/ OBC AMENDMENT AND FIBER MULCH TO PLACE IN EXCAVATED AREA CELL #1 - EXCAVATION BEGINS
1545 - ENCOUNTER GW AT 5' BGS - REMOVE TO 6' BGS. - APPROXIMATE LOCATION IS UVO11 -10 N
- OBSERVE DARK SAND LAYER MIXED ORGANICS AND SLIGHT PETROLEUM ODOR -
1630 - COLLECT PID SCREENING - CELL #1 - FSI = 55.1 PPM AT 5' BGS - REMOVE TO 6' BGS TO PLACE FILL MATERIAL - UV PROBES DON'T INDICATE CONTAMINATION BELOW 6' BGS.
1700 - COMPLETE EXCAVATION OF CELL #1 -
1720 PREPARE TO SHORE SIDE WALLS W/ TRENCH BOX PANELS ON
1740 - SET PANEL ON SOUTH SIDEWALL OF CELL #1
- CELLS 20'x20' - 6' DEEP BGS
4' LIFT OF MATERIAL WITH AMENDMENT TO ADD

DRG: LEWIS

1750 - 1st LIFT OF MATERIAL SET IN CELL #1
1800 1.5' - MIX 1 BUCKET OBC - 1/2 BAG OF FIBER MULCH
MIX IN PLACE WITH EXCAVATOR BUCKET.
1825 - PLACE 1/2 BUCKET OF OBC ON TOP OF 1st AGITATED LIFT.
1840 - PLACE 1 FOOT OF FILL AND REMAINING 1/2 BUCKET OF OBC AMENDMENT. - ADDITIONAL HALF BAG OF FIBER MULCH ADDED TO THIS LIFT. MIX AMENDMENT AND FIBER MULCH INTO THAT SOIL.
1855 - PLACE REMAINING 1.5' OF FILL MATERIAL TO 2' BGS AND MIX WITH SOILS IN PLACE.
CELL #1 - MIXED 4' OF AMENDED SOIL FROM 6' BGS - 2' BGS.
- COLLECTED 10 PRIMARY AND 1 FIELD DUPLICATE SAMPLE FROM OVER BURDEN STOCKPILES. 2 FIXED LAB SAMPLES COLLECTED FROM OVER BURDEN - (01-EX013 & EX014)
- 10 PRIMARY AND 1 FIELD DUPLICATE SUBMITTED TO MOBILE LABORATORY

Rite in the Rain

12 JUNE 12

1920 - COVER STOCKPILES AND SEEDED SITE.
- COMPLETED CELL #1 WITH 100 lbs OBC -
50 lbs FIBER MULCH AMENDED INTO
4' OF BORROW SOURCE MATERIAL. -
1935 - PROCESS AND SUBMIT MOBILE LAB SAMPLES
FOR DRO/ARO2 ANALYSIS.
- DONE FOR DAY

12 JUNE 12

NEATP

BUILDING T-2451/EAST CANAL SE/SE

13 JUNE 12

45°F PARTLY CLOUDY

0700 - CONDUCT TAILGATE SAFETY MEETING
- DISCUSS SAFETY, PPE AROUND EXCAVATOR
AND FRONT END LOADER.
- MAIA TA EXCAVATION TO CONTINUE ALONG
NORTHERN BOUNDARY TO INCLUDE CELL #2
- PERSONNEL:
T. DOBSON, Z. KIRK, J. OVERLAND, H. WOTTLIN,
Z. RASMUSSEN, AND T. SPILTER.
- 0730 - OPERATORS DEPART FOR EC/BLDG T-1451
AREA SITE, TO GREASE AND DAILY CHECK FOR
EXCAVATOR (CAT 325C) AND LOADER (VOLVO 120G)
0830 - FINAL CHECK OF DAILY CONTRACTOR
PRODUCTION REPORT AND QC REPORT FOR
WORK CONDUCTED ON 6/12/12. - SUBMIT
REPORTS TO NTR, NPM, AND RES-JV - PM's
0850 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA -
PREP FOR EXCAVATION OF CELL #2
0900 - BEGIN REMOVING OVERBURDEN FROM WEDGE
SEPARATING CELL #1 AND CELL #2,
COLLECT PID SCANS AT 4' BGS - 8.2 PPM
ALONG C X-SECTION - NORTH OF UV023
0925 - NTR ARRIVES ON-SITE -
- CONTINUE TO REMOVE SOIL ON CELL #2
- GEOTEXTILE LINER ENCOUNTERED

13 JUNE 12

Rite in the Rain

From FD 2.5' BGS NEAR UV034-UV035
PORTION OF X-SECTION D BOUNDARY FOR CELL
#2, REMOVE CONTAMINATED SOIL FROM 2.5'
BGS TO GW ENCOUNTERED AT 5' BGS
BETWEEN UV023 AND NORTH SIDE WALL NEAR
X-SECTION C-LINE
1040 NTR DEPARTS SITE.
- EXCAVATION OF CELL#2 CONTINUES TO GW AT
5' BGS FROM & 2-2.5' BGS NEAR UV037
PROBE UV033 ON D-X SECTION LINE
1130 - CONTINUE TO REMOVE CONTAMINATED SOIL
FROM CELL #2 TO GW AT UV037 PROBE
UV033 MOVING IN AN EASTERLY DIRECTION -
1200 - BREAK FOR LUNCH
1315 - ON SITE AT EC/BLDG T-1457 AREA TO
CONTINUE EXCAVATION OF CELL #2 TO 6' BGS
TO 6/13 ~~1440~~ TO
1415 - UTRON-SITE -
FINISH EXCAVATION OF CELL #2 TO 6' BGS -
1 FT BELOW GW.
1420 - SET TRENCH BOX-PANEL ON SOUTHWALL -
TO 6/13 EXCAVATOR USED TO MOVE PANEL INTO PLACE.
1430 - BEGIN PLACING BACKFILL IN CELL#2 - LOADER
1440 HAULS MATERIAL TO EXCAVATOR TO PLACE IN THE

13 JUNE 12

CELL. PLACE 1.5' OF FILL IN CELL#2 6' BGS
TO 4.5' BGS
1500 - PLACE 50 LBS OBC AND 25 LBS
OF FIBER MULCH IN 1st 1.5' OF
BACKFILL
1520 - PLACE ADDITIONAL 50 LBS OF
OBC AND 25 LBS OF FIBER
MULCH IN CELL#2. MIX AND PLACE
1.5' OF FILL MATERIAL AFTER APPLICATION
OF
1535 - PLACE ADDITIONAL 50 LBS OF
OBC IN CELL #2 - TO 6' PLACED
ADDITIONAL 1' OF BACKFILL -
1540 - NTR DEPARTS SITE
1625 - COMPLETE BACKFILL IN CELL#2
AND BEGIN EXCAVATION IN CELL#3
CONTINUING EAST TO X-SECTION F IN
THE NORTH EAST CORNER OF THE EXCAVATION
1705 - NTR RETURNS TO SITE.
- TO MONITOR EXCAVATION ACTIVITY
CONTINUE EXCAVATION IN CELL#3
1740 - PLACE TRENCH BOX PANEL ON SOUTHWALL
OF CELL#3 -

NEF 13 JUNE 12

Rite in the Rain

1820 - TRENCH FOR PANEL SET ON S.SIDE OF CELL #3. PREPARE TO SECURE STOCKPILES AND SITE.

1850 - STOCKPILE COVERS IN PLACE AND SECURE FOR FORECASTED STORM. DEPART SITE.

1900 - COLLECTED 15 PRIMARY AND 2 FIELD DUPLICATE SAMPLES FOR DRO ANALYSIS TO 6/13 AT MOBILE LABORATORY. COLLECTED ONE FIXED LAB SAMPLE FROM OVERBURDEN STOCKPILE TO 6/13 01-EX015-FOR DRO ANALYSIS.

- MOBILE LAB SAMPLES COLLECTED FROM OVERBURDEN STOCKPILES.

- COMPLETED CELL #2 WITH 150 LBS OF OBC AND 50 LBS OF FIBER MULCH.

- ≈ 4' OF MATERIAL MIXED WITH AMENDMENT

- COMPLETED 2/3 OF CELL #3 EXCAVATION

- TO 8.5' BGS - (0.5' BELOW GW)

13 JUNE 12

ARTP

40°F RAIN, WIND PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING -

- EXCAVATION IN MAIN TA CONTINUES IN CELL #3 IN NE CORNER. - EXCAVATOR AND LOADER SAFETY - EYE CONTACT - PPE FOR SITE SAFETY

- ATTENDEES -

T. BOISSON, J. OVERCAMP, Z. KINK, H. WOTTON, Z. RASMUSSEN, T. SPITZER

0830 - PREPARE FOR QC MEETING -

0900 - QC MEETING WITH NAVR, ADEC AND RAS-JV PERSONNEL -

DISCUSS BURNS FROM 6/7 - 6/13 - SEE MEETING MINUTES

0930 MEETING CONCLUDED.

~~1130~~ 1030 TO 6/13 - PREPARE / SUBMIT DAILY REPORT

1105 - ARRIVE ON SITE AT EL/BLDG T-1451 NORTH AREA. - TREATMENT CELL #3 BACKFILLED WITH 150 LBS OF OBC AND 50 LBS OF FIBER MULCH. TO 2' BGS.

- 1125 COVER TEMPORARY STOCKPILE W/ 6 MIL LINER - EXCAVATION AREA IS TO WET TO CONTINUE TO DIG AT THIS TIME. DECIDED TO BREAK FOR

14 JUNE 12

Rite in the Rain

BUILDING T-1451/EAST CANAL SE/SC 14 JUNE 12

40°F, RAIN, WIND PPE: LEVEL D

LUNCH EARLY

1135 - DEPART SITE AFTER APPLYING ADDITIONAL WEIGHT TO STOCKPILE COVER

1230 - FORECAST CALLS FOR INCLEMENT WEATHER WITH STEADY WINDS TO 40 MPH AND GUSTS OF UP TO 60 MPH. WINDS HAVE STEADILY INCREASED BUT DO NOT APPEAR TO BE APPROACHING THE THRESHOLD OF 50 MPH. DECIDE TO SEE IF WEATHER HOLDS. PREVIOUS NIGHTS RAIN HAS ELEVATED GROUNDWATER AN ADDITIONAL 6" OR MORE IN OPEN AREA OF EXCAVATION IN THE FIRST 3 CELLS COMPLETED.

1300 ARRIVE AT ALASKA AIR CARGO TO DROP OFF HAZMAT FOR HAMMER FENU TO SHIP TO ANCHORAGE. PAPERWORK FOR HAZMAT HAS NOT BEEN REVISED

1400 - RETURN TO SITE AT EC/BUILDING T-1451 WITH ADDITIONAL WEIGHTS SUCH AS TIRES AND PALLETS TO APPLY TO TEMP STOCKPILE COVER FOR FORECASTED STRONG WINDS.

1430 - EXCAVATION AREA FOR CELL #4 IS TOO WET TO CONTINUE TODAY, STANDING

14 JUNE 12

BUILDING T-1451/EAST CANAL SE/SC 14 JUNE 12

40°F, WINDY, RAIN PPE: LEVEL D

WATER IN TREATMENT CELLS 1 & 3 WILL FLOW INTO EXCAVATION OF CELL #4. DECIDE TO CEASE EXCAVATION ACTIVITIES FOR TODAY.

1500 - SECURE EAST CANAL/BUILDING T-1451 AREA FOR SEVERE WEATHER. TEMPORARY STOCKPILE COVERED AND WEIGHTED - SITE SECURE.

1600 VARIOUS FILING AND PAPERWORK DONE FOR DAY

14 JUNE 12

NFTP

Rite in the Rain

15 JUNE 12

40°F. CLOUDY WARM

0700 - TAILGATE SAFETY MEETING -
EXCAVATOR SAFETY, LOADER SAFETY -
CONTINUE MAN TA EXCAVATION TO START
CELL #4 - SOUTH OF CELL #1.
- EQUIPMENT: CAT 325C, VOLVO 1206 -
ATTENDEES:
T. DOBSON, Z. KIRIC, J. OVERLAND, HENGTLIN,
Z. RASMUSSEN, T. SPITLER
- 0800 - SUBMIT DAILY REPORT TO NTR, RPM AND
RES-JV PM'S
- GATHER WOOD MULCH AND 20 MIL LINER
FOR STOCKPILES AT TANGO BLDG.
0830 - ARRIVE ON SITE AT FL/BLDG T-1451
AREA. EXCAVATOR AND LOADER READY
TO BEGIN EXCAVATION. WATER LEVEL
HAS DROPPED IN CELL AREA BETWEEN
CELL #1 AND AREA FOR CELL #4.
- OPERATOR EXPOSED GEOLINER FOR CULVERTS
ON WEST BOUNDARY OF MAN TA FOR CELL #4
AT 2' BGS FROM WEST SIDE WALL OF CELL #4
0900 - REMOVE OVERBURDEN FOR CELL #4
0920 - GRAY SAND IN CELL #4 AT 3.5' BGS - 10'
WEST OF WSW (BOUNDARY LINE) - COLLECT
PID SAMPLE.

BUILDING T-1451 / EAST LANDFILL SITE

15 JUNE 1247

0935 - PID SAMPLE - 0.8 PPM
CONTINUE OVERBURDEN REMOVAL OF
CELL #4
1045 - REMOVE OVERBURDEN TO 5' BGS.
HIT GW ON WEST SIDE WALL OF
CELL #4 - NO ODOR - OTHER THAN SULFUR/
DECAY ODOR IN GRAY SAND AND CULVERT
BACKFILL
1100 - SMALL DIG AT 3.5' BGS. ON ESW OF
CELL #4 - COLLECT PID SCREENING SAMPLE
1110 - PID SCREEN = 80 PPM - FOR ESW CELL #4
3.5' BGS
- 1120 - ENCOUNTER 2"-8" DRAIN ROCK ALONG
WSW OF CELL #4 NEAR CULVERTS
1140 - CONTINUE TO SEGREGATE ODOR
TO GLASS
~~ROCK~~ - MATERIAL. DISCRETE POCKETS
OF CONTAMINATION WITHIN CELL #4
FROM 5' - 4' BGS
1150 BREAK FOR LUNCH
1400 - RESUME EXCAVATION OF CELL #4 -
WILL CRANE LARGE DRAIN ROCK IN PLACE
TO MIX WITH OBC AT GW LEVEL.
ROCK IS GREATER THAN 2" CRITERIA
FOR ANALYTICAL RESULTS

Rite in the Rain

48 BUILDING T-1461/EAST DENVER SZ/GW 15 JUNE 12

45°F, PARTLY CLOUDY AFTERNOON PRE-CLEANED

1520 - PLACE TRENCH BORES ON SOUTH SIDE WITH CLEAN DRAW ROCK IN PLACE 4' BEYOND BOUNDARY LINE. -

1530 - BEGIN TO PLACE FILL - EXCAVATION OF CELL #4 1'-10.5' ~~BGS~~ TO GIS GW

TO GIS ~~1.5'~~ 1550 - APPLY 150# BUCKET OF OBC AND 1/2 BAG OF MULCH TO INITIAL 1.5' OF FILL IN GW INTERFACE.

1630 - ADD 700 # OF OBC TO REMAINING 2.5' OF FILL, MIX IN PLACE WITH BUCKET IN CELL #4 -

1650 - COMPLETE BACKFILL OF CELL #4 -

1705 - FUEL TRUCK ARRIVES TO FILL EXCAVATOR

1720 - FUEL TRUCK DEPARTS

1725 - BEGIN REMOVING OVERBURDEN FOR CELL #5

1800 - OBSERVE LARGE DEBRIS IN 2nd LINER FOR CULVERT GEO LINER, LARGE ROCK FROM 4"-8" IN CULVERT BACKFILL REMOVE TO 3.5' BGS TO 4.0' BGS NEAR BOUNDARY OF CELL #4 & CELL #5

1900 - REMOVE OVERBURDEN FROM SPLITTING OF LINER FROM 4.0' BGS TO 1' BGS IN CELL #5.

- SECURE COVER FOR TEMPORARY STOCKPILE.

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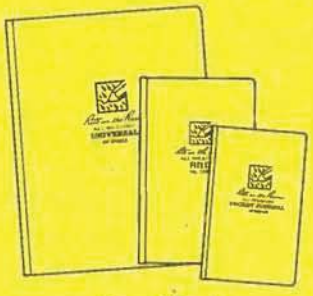
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	CONTACT #'s	
	MIKE (COMMUNICATIONS UTILITY LOCATOR) - 577-2002	
	BRIAN CULLEN - 360-531-3997	

~40°F, OVERCAST, LT. WIND PPE: LEVEL 1

0700 - CONDUCT TAILGATE SAFETY MEETING
- PARTICIPANTS: ANNA T. DOBSON, H. WOTTEN
T. SPEILER, D. OVERLAND, L. BOLDRICK
GEOLOGIST: Z. KERK
- HAMMER FENN: S. PERRICE, M. CHAPMAN

0730 - CONDUCT INITIAL PREPATORY MEETING FOR THE ANOMOLY EXCAVATIONS.

0745 - CALIBRATE PID - Z. KERK 5/28/12
FRESH AIR CAL: 0.0 PPM
SPAN CAL: ~~99.6 PPM~~ ZK 5/28 100.0 PPM
BUMP CHECK: 99.6 PPM

0815 - ARRIVE ONSITE. BEGIN SOIL BORINGS

0840 - ADVANCE BORING B-21 AT UV-098
- SAMPLES: 01-B021-01 @ 0855, 0.5'-1.5'
- 01-B021-02 @ 0900, 2.5'-3.5'
~~01-B021-03 @ 0906, 4'-5'~~ ZK 5/28
- COLLECT SAMPLE DUPLICATE AT 01-B021-02
SAMPLE ID: 01-B021-03 @ 0903
- 01-B021-04 @ 0905, 4'-5'
- 01-B021-05 @ 0910, 7.5'-8.5

0925 - ADVANCE BORING B-22 AT UV-066
- SAMPLES: 01-B022-01 @ 0940, 0.5'-1.5'
- 01-B022-02 @ 0945, 4'-5'

5/28/12 1/4

~40°F, OVERCAST, WINDY, RAIN PPE: LEVEL 1

- COLLECT FIELD LAB SAMPLE AT ZK 5/28 FROM B1-B022-02.
SAMPLE ID: 01-SB024 @ 0945
- 01-B022-03 @ 0950, 5'-6'
- 01-B022-04 @ 0955, 6.5'-7.5'

1010 - ADVANCE BORING B-23 AT UV-081
- SAMPLES - 01-B023-01 @ 1020, 1'-2'
- 01-B023-02 @ 1025, 3'-4'
- COLLECT SAMPLE DUPLICATE AT 01-B023-02
SAMPLE ID: 01-B023-03 @ 1030
- 01-B023-04 @ 1035, 5'-6'

1030 - T. DOBSON AND B. CULLEN ARRIVE ONSITE.

1045 - BC DEPARTS THE SITE.

1050 - ADVANCE BORING B-24 AT UV-096
- SAMPLES: 01-B024-01 @ 1105, 1'-2'
- 01-B024-02 @ 1108, 2.5'-3.5'
- 01-B024-03 @ 1112, 4'-5'
- COLLECT FIELD LAB SAMPLE AND MS/MSD AT 01-B024-03 LOCATION
SAMPLE ID: 01-SB025 @ 1112
- 01-B024-04 @ 1117, 6'-7'

ZK

5/28/12 2/4

~40°F, OVERCAST, WINDY, RAIN PPE: LEVEL D

1400 - ADVANCE BORING B-25 AT UV-043
- SAMPLES: 01-B025-01 @ 1415, 1.5-2.5'
- 01-B025-02 @ 1418, 3.5'-4.5'
DUPLICATE SAMPLE: 01-B025-03 @ 1420
- 01-B025-04 @ 1425, 5.0'-6.0'
- 01-B025-05 @ 1430, 6.5'-7.5'

1440 - ADVANCE BORING B-26 AT UV-068
- SAMPLES: 01-B026-01 @ 1447, 1'-2'
- 01-B026-02 @ 1449, 2'-3'
- 01-B026-03 @ 1452, 3.5'-4.5'
- 01-B026-04 @ 1457, 5'-6'
- FIXED LAB SAMPLE: 01-SB026 @ 1457

1510 - ADVANCE BORING B-27 AT UV-005
- SAMPLES: 01-B027-01 @ 1520, 2'-3'
- 01-B027-02 @ 1522, 4'-5'
- 01-B027-03 @ 1528, 5'-6'
- 01-B027-04 @ 1530, 7.5'-8.5'

1530 - ZK 5/28 ~~BEGIN ANOMOLY~~ H. HOFFLER, J. OVERLAND, T. SPITLER, AND T. DOBSON BEGIN ANOMOLY EXCAVATION IN T-1451 NORTH AREA.

1540 - ADVANCE BORING B-28 AT UV-050
- SAMPLES: 01-B028-01 @ 1545, 0.5'-1.5'

5/28/12 3/4

~40°F, OVERCAST, WINDY, RAIN PPE: LEVEL D

- 01-B028-02 @ 1550, 2.5'-3.5'
- SAMPLE DUPLICATE: 01-B028-03 @ 1552
- 01-B028-04 @ 1555, 4'-5'
- FIXED LAB SAMPLE: 01-SB027 @ 1555
- FIXED LAB DUP: 01-SB028 @ 1630
- 01-B028-05 @ 1605, 6'-7'
- 01-B028-06 @ 1615, 9'-10'

1630 - CLEAR DRILLING TREATMENT ZONE AREA.

1700 - CLEAN UP AND DEPART THE ~~ZONE~~ ZK 5/28 SITE.

1745 - PROCESS AND DELIVER SAMPLES TO MOBILE LABORATORY.

1850 - ZK 5/28 ~~COMPLETE ANOM~~ CLEAR ANOMOLY EXCAVATION.

1900 - DEPART THE SITE

2015 - END OF DAY

N.F.T.P.

5/28/12 4/4

~40°F, OVERCAST, WINDY, RAIN PPE: LEVEL D

0900 - CONDUCT TAILGATE SAFETY MEETING
PARTICIPANTS: AHTNA - T. DOBSON,
H. WOTTLIN, J. OVERLAND, T. SPITLER
L. BOLDRICK
GEOSYNTEC - Z. KERK
HAMMER ENV. - M. CHAPMAN, S. PIERCE

0825 - ARRIVE ON SITE.

0835 - BEGIN DRILLING SOIL BORINGS
- ADVANCE BORING B-29 AT UV-006
· SAMPLES: -01-B029-01 @ 0900, 1'-2'
-01-B029-02 @ 0910, 3'-4'
-01-B029-03 @ 0930, 5.5'-6.5'
SAMPLE DUPLICATE: 01-B029-04 @ 0932
-01-B029-05 @ 0935, 7'-8'

0940 - B. CULLEN ARRIVES ON SITE.

0950 - ZK DEPARTS TO TAKE SCREENING BAGS TO THE ANOMOLY EXCAVATION ~~AREA~~ ZK 5/29 ACTIVITY (T-1451 NORTH AREA) TO SCREEN BAGS WITH PID DETECTOR

1030 - B.C. DEPARTS THE SITE.

1040 - RESUME DRILLING
- ADVANCE BORING B-30 AT UV-003
- SAMPLES: -01-B030-01 @ 1050, 1'-2'
-01-B030-02 @ 1055, 3.5'-4.5'

5/29/12 1/6

~40°F, OVERCAST, WINDY, RAIN PPE: LEVEL D

- BORING B-30 CONT.
· 01-B030-03 @ 1105, 4'-5'
- COLLECT FIELD LAB SAMPLE: 01-SB029
· 01-B030-04 @ 1110, 8'-9'

1120 - ADVANCE BORING B-31 AT UV-024
· SAMPLES: -01-B031-01 @ 1135, 1'-2'
-01-B031-02 @ 1140, 3.5'-4.5'
-01-B031-03 @ 1150, 5.5'-6.5'
SAMPLE DUPLICATE:
· 01-B031-04 @ 1152
· 01-B031-05 @ 1155

1145 - T. DOBSON ARRIVES ON SITE.

1215 - CEASE SOIL BORINGS. DEPART THE SITE.

1350 - ~~ARRIVE AT~~ ZK 5/29 ZKIRK AND S. PIERCE ARRIVE AT BLDG T-1451 NORTH SITE (AREA OF ONGOING ANOMOLY EXCAVATION.
· ONSITE PERSONNEL: (AHTNA) - T. DOBSON
L. BOLDRICK, T. SPITLER, H. WOTTLIN,
J. OVERLAND AND (~~ARMY~~ ZK 5/29 NAVFAC)
B. CULLEN.
- PICK UP GPS UNIT TO LOCATE MONITORING WELL LOCATIONS.

5/29/12 2/6

~40°F, OVERCAST, WINDY PPE: LEVEL D

1420 - DEPART THE SITE TO LOCATE PROPOSED WELL LOCATIONS.

1630 - COMPLETE LOCATING THE PROPOSED WELL LOCATIONS.

- CHECK IN AT CITY OFFICE TO REVIEW CITY PLANS COVERING AREAS OF PROPOSED WELLS.

1650 - MEET WITH PHONE COMPANY REP. TO LOOK OVER THE FIBER OPTIC GRID ~~FOR~~ ZK 5/29 TO COMPARE WITH THE PROPOSED WELL LOCATIONS.

1700 - S.P. AND MIKE (TELEPHONE COMPANY REPRESENTATIVE) GO TO SCHOOL YARD TO INSPECT TWO WELL LOCATIONS NEAR A BURIED FIBER OPTIC CABLE.

- ZK RETURNS TO THE BLDG T-1451 NORTH SITE TO BRING BACK GPS UNIT.

1715 - SP RETURNS TO THE SITE. MIKE WAS UNABLE TO LOCATE FIBEROPTIC LINE. WILL CHECK HIS PLANS AND HAVE AN ANSWER BY TOMORROW MORNING.

ZK

5/29/12

~40°F, OVERCAST, WINDY PPE: LEVEL D

- STATUS OF PROPOSED WELL LOCATIONS AFTER CONDUCTING LOCATES AND REVIEWING CITY PLANS:
  - MW-303-40: READY TO DRILL
  - MW-303-39: READY TO DRILL AFTER SHALLOW PROBING OF THE WELL LOCATION ~~WITH A~~ ZK 5/29 ~~DTEC~~ ZK 5/29 TO ENSURE LOCATION IS CLEAR OF INACTIVE WATER LINES.
  - MW-303-~~38~~ 42 ZK 5/29: AWAITING CONFIRMATION FROM MIKE (TELEPHONE COMPANY) THAT LOCATION IS CLEAR OF FIBEROPTIC LINE.
  - MW-303-38: NEEDS TO BE RELOCATED APPROXIMATELY 10 TO 20 FT NORTHEAST ~~DUE~~ TO LEVEL POWER LINE IN THE VICINITY
  - MW-303-41: NEEDS TO BE MOVED 5' FT SOUTHEAST (AWAY FROM ROAD ON SCHOOLYARD SIDE OF FENCE) TO BE CLEAR OF POWER LINE IN THE VICINITY RUNNING PARALLEL TO THE ROAD.
  - MW-303-43: NEEDS TO BE MOVED. LOCATION IS ADJACENT TO A

5/29/12

~40°F, OVERCAST, WINDY PPE: LEVEL D

POWER TRANSFORMER AND A FORMER LIGHT POLE BASE. LOCATION NEEDS TO BE ~~RELOCATED~~ ZK 5/29 REDETERMINED ~~BASED ON~~ ZK 5/29 CONSIDERING WATER, POWER AND ~~AT~~ ZK 5/29 COMMUNICATION LINES IN THE AREA.

- RW-303-01: AWAITING VERIFICATION OF WATER LINE IN THE VICINITY.
- RW-303-02: READY TO DRILL
- RW-303-03: READY TO DRILL
- RW-303-04: READY TO DRILL.

1730 - RETURN TO BLDG T-1451 & E. CANAL SITE. CLEAN UP AND DEPART THE SITE.

1600 - BREAK DOWN WASTE AND LOAD AUGERS IN TO DRILLING VEHICLE TO PREPARE FOR WELL INSTALLATION WORK

1650 - UPDATE NOTES AND DISCUSS WELL LOCATION ISSUES.

1930 - REVIEW AND UPDATE PHOTO LOG.

1945 - END OF DAY

N.F.T.P

5/29/12 5/6

~40°F, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0100	NW	LOGGING SOIL CORE FROM BORING
101-0102	SE	" "
101.0103	—	CLOSE-UP VIEW OF 0'-5' CORE OF SOIL BORING
101-0104	NE	MW-303.43 MONITORING WELL LOCATION BETWEEN TRANSFORMER AND LIGHT POLE BASE
101-0105	E	" "
101.0106	NE	" "
101.0107	N	HYDRANT FOR WATER LINE THAT TRAVERSES OUTSIDE FENCE NEAR MW-303-43 LOCATION

N.F.T.P.

5/29/12 6/6

~40°F, OVERCAST, WINDY, RAIN. PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING
PARTICIPANTS: ARCHA - T. DOBSON, H. WOTTLEN, L. BULDRECK, T. SPEELER, J. OVERLAND
GEOSYNTEC: Z. KIRK
HAMMER ENV.: S. PIERCE, M. CHAPMAN

0730 - HOLD INITIAL AND PREPATORY MEETING FOR D.F.O.W. - INSTALLING MONITORING WELLS IN AREA 303
PARTICIPANTS: T.D., L.B., Z.K., S.P. AND M.C.
- DISCUSS POSSIBILITY OF MOVING THREE WELL LOCATIONS TO AVOID UTILITY LINES. WILL BE ADDRESSED DURING THURSDAY QA/QC MEETING.

0800 - ~~BP~~ ZK 5/30 STAGE EQUIPMENT AT MW-303-40 MONITORING WELL LOCATION

0900 - BEGIN DRILLING MW-303-40

1100 - COMPLETE ~~EXCAVATION~~ ZK 5/30 DRILLING AT MW-303-40. INSERT WELL CASING AND ~~FILL~~ ZK 5/30 PACK WITH SILICA SAND TWO 2 FT ABOVE SCREEN AND

5/30/12

~40°F, OVERCAST, WINDY, RAIN PPE: LEVEL D

BENTONITE TO WITHIN 2' FEET OF THE SURFACE.
- WELL SPECIFICATIONS:
- TOTAL DEPTH: 29.5'
- CASING INTERVAL: 19'-29' BGS
- SAND PACK: 17'-29' BGS
- BENTONITE SEAL: 2'-17' BGS
- CEMENT MONUMENT: 0'-2' BGS
- STICK-UP HEIGHT: 3.5'
- WELL CASING HEIGHT: 39.5'
- TOTAL # OF SILICA SAND BAGS: 7
- TOTAL # OF BENTONITE BAGS: 6

* LATE ENTRY * 1030 - B. CULLEN ONSITE FOR 15 MINUTES.

1330 - TRANSITION TO MW-303-42 LOCATION.
- WHILE GUAGING DEPTH FOR SCREEN, MEASURE NEARBY WELL MW-303-24 FOR COMPARISON

1400 - DETERMINE TO DRILL LOCATION INITIALLY WITH MACRO CORE TO ~~INSPECT~~ ZK 5/30 EVALUATE SOIL FOR THE CORRECT LOCATION OF GROUND WATER INTERFACE.

1430 - BEGIN DRILLING TEST BORING

5/30/12

~40°F, OVERCAST, WINDY PPE: LEVEL D

USING MACRO CORES AT MW-303-42 LOCATION

1530 - COMPLETE DRILLING WITH MACROCORE. HOWEVER STILL UNABLE TO CONFIRM THE DEPTH TO GROUNDWATER BECAUSE ~~OF~~ ZK 5/30 SUBSURFACE ~~PERCOLATION~~ ZK 5/30 PERCOLATION FROM RECENT RAIN EVENTS IS FLOODING THE BORING AND DRAINED THROUGH MACROCORE FROM ABOVE.

1615 - MEASURE THE GROUNDWATER LEVELS IN NEARBY WELLS TO USE THE DEPTHS AS A COMPARISON FOR THE NEW WELLS' SCREEN INTERVALS.

1645 - DETERMINE THAT REGIONAL GW LEVEL FOR WELLS MW-303-42, MW-303-38, MW-303-39 AND MW-303-41 IS APPROXIMATELY 24' BGS.

1715 - DEPART THE SITE TO DISCUSS WELL ~~LOCAT~~ ZK 5/30 LOCATIONS AND GW DEPTHS FOR ~~SCREENED INTERVALS~~ ZK 5/30 WELL SCREENS ~~WITH~~ T. DODSON

1750 - L. BOLDRICK AND Z. KERK RETURN TO THE SITE TO MEASURE

5/30/12 3/5

~40°F, OVERCAST, WINDY PPE: LEVEL D

TOTAL DEPTH OF GROUNDWATER WELLS IN VICINITY OF PROPOSED MONITORING WELLS. AVERAGE TOTAL DEPTH OF EXISTING WELLS IS 32' - 33' BGS.

- THE ONE EXCEPTION IS MW-303-25 DEPTH TO WATER AT THAT WELL IS APPROXIMATELY 10' BGS AND TOTAL DEPTH IS 18' BGS

1830 - DEPART THE SITE.

1850 - REVIEW PROPOSED MONITORING WELL LOCATIONS FOR DETERMINATION OF WELL SCREEN INTERVALS

1920 ~~1820~~ - UPDATE PHOTO LOG. ZK 5/30

N.F.T.P

5/30/12 4/5

BLDG T-1451 & F. CANAL SE/SC 30 MAY 2012
AREA 303

~40°F, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0109	SW	SETTING UP TO AUGER AT MW-303-40 LOCATION
101-0111	NW	AUGER DRILLING AT MW-303-40 LOCATION
ZK 5/30 101-0112 ~~101-0112~~	NW	" "
101-0114	E	CLEARING SOIL FROM ZK 5/30 ~~FROM~~ AUGER. SOIL CUTTINGS WERE PLACED IN 55 GALLON DRUMS
ZK 5/30 101-0115 ~~101-0115~~	E	MEASURING DEPTH TO WATER IN WELL CASING AFTER COMPLETING DRILLING
101-0117	NW	WELL CASING AT ZK 5/30 ~~MW~~ MW-303-40, PRIOR TO CUTTING TO STICK UP LENGTH
101-0119	N	DRILLING WITH MACROCORES AT ZK 5/30 ~~01~~ MW-303-42 WELL LOCATION

N.F.T.A.

5/30/12 5/5

BLDG T-1451 & F. CANAL SE/SC 31 MAY 2012
AREA 303

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING
PARTICIPANTS: ANTNA · T. DOBSON, L. BOLDRICK, H. WOTTLIN, D. OVERLAND, T. SPITLER
GEOSYNTEC: Z KIRK
HAMMER ENV: S. PIERCE, M. CHAPMAN

0730 - ARRIVE ONSITE: PERSONNEL: Z. KIRK, M. CHAPMAN, S. PIERCE
- INSERT WATER LEVEL AT WELL MW-303-40, : APPROXIMATELY 24.7'

0800 - START AUGER DRILLING WELL MW-303-42

0845 - SET WELL AT 30.5' BGS WITH START OF SCREEN AT 30' BGS

0900 - PACK WELL CASING WITH SAND PACK AND BENTONITE
- SOIL CUTTINGS PLACED IN TWO 55 GALLON DRUMS
- WELL SPECIFICATIONS: MW-303-42
  - WELL DEPTH: 30.5'
  - SCREEN INTERVAL: 20' - 30'
  - SAND PACK: 18' - 30.5'
  - BENTONITE: 2' - 18'
  - CEMENT BASE: 0' - 2'
  - STICK UP HEIGHT: 38.5" ~~43'~~ ZK 5/31
  - WELL CASING HEIGHT: 35.0"

5/31/12 1/4

BLDG T-1451 & E. CANAL SI/SC 31 MAY 2012
AREA 303

~40°F, OVERCAST, WINDY PPE: LEVEL D

- TOTAL # OF SILICA SAND BAGS USED: 6
- TOTAL # OF BENTONITE BAGS: 6

0930 - INSTALL ~~AA~~ ZK 5/31 STICK UP MONUMENT AND
~~0944~~ ZK 5/31 PROTECTIVE BOLLARDS.

0950 - INSTALL STICK UP MONUMENT AND PROTECTIVE BOLLARDS AT MW-303-40 WELL

1030 - STAGE SAND AND BENTONITE BAGS AND WELL CASINGS AND BOLLARDS AT NEXT TWO WELL LOCATIONS: MW-303-41 AND MW-303-39

1215 - BEGIN DRILLING WELL MW-303-41.

1245 - B. CULLEN ONSITE FOR 10 MINUTES

1330 - SET THE WELL. POUR SAND PACK AND BENTONITE SEAL.

- WELL SPECIFICATIONS:
  - WELL DEPTH: 30.5'
  - SCREEN INTERVAL: 20'-30'
  - SAND PACK: 18-30.5'
  - BENTONITE SEAL: 2'-18'
  - CEMENT BASE: 0-2'
  - STICK UP MONUMENT HEIGHT: 3.5'
  - WELL CASING HEIGHT: 3'
  - BAGS OF SILICA SAND USED: 6

5/31/12

BLDG T-1451 & E. CANAL SI/SC 31 MAY 2012
AREA 303

~40°F, OVERCAST, WINDY PPE: LEVEL D

BAGS OF BENTONITE SEAL USED: 7

1420 - COMPLETE WELL. INSTALL MONUMENTS AND PROTECTIVE BOLLARDS

1435 - SET UP AT MW-303-39 WELL LOCATION

1440 - COMMENCE DRILLING WELL

1560 - ENCOUNTER CLAY AT 20'.

- WILL SET THE WELL CASING AT 17 TO 27'

1505 - CEASE DRILLING, SET THE WELL CASING.

1515 - POUR SAND PACK AND BENTONITE SEAL.

WELL SPECIFICATIONS:

- TOTAL DEPTH: 27.5'
- SCREEN INTERVAL: 17'-27'
- SAND PACK: 15'-27.5
- BENTONITE SEAL: 2'-15'
- CONCRETE BASE: 0'-2'
- STICK UP MONUMENT HEIGHT:
- WELL CASING HEIGHT: 3'
- BAGS OF SILICA SAND USED: 6
- BAGS OF BENTONITE USED: 6

1530 - S. PIERCE AND M. CHAPMAN DEPART THE SITE TO TAKE M.C TO THE AIRPORT.

1540 - DECON THE DRILLING RODS AND

5/31/12

BLDG T-1451 & E. CANAL SI/SC 31 MAY 2012
AREA 303

~40°F, OVERCAST, LT. WIND APR: LEVEL D

CLEAN UP THE SITE.

1640 - L. BOLDRICK ARRIVES ONSITE. SHE NEEDS ASSISTANCE IN LOCATING THE LAST 8 UVOST LOCATIONS AT THE ~~[illegible]~~ ZK 5/31 BLDG T-1451 & E. CANAL AREA TO COLLECT GPS READINGS OF THE LOCATIONS.

1655 - ARRIVE AT E. CANAL SITE. LOG GPS POINTS FOR UVOST LOCATIONS UV-181 THROUGH UV-189.

1745 - RETURN TO THE MW-303-39 LOCATION. ~~AM~~ ZK 5/31 S. PEARCE ONSITE WITH T. BROWN (M. CHAPMAN'S REPLACEMENT).

- CLEAN UP AND DEPART THE SITE.

1900 - ARRIVE AT THE MW-303-38 LOCATION

- USE UTILITY LOCATING TRANSMITTER TO LOCATE AND MARK OUT HIGH VOLTAGE ELECTRICAL AND WATER LINES IN THE AREA.

1945 - STOP AT EQUIPMENT CONTAINERS TO INVENTORY EQUIPMENT FOR REMAINDER OF WELL INSTALLATION

~~2130 - UPDATE PHOTO LOG~~ ZK 5/31/12

2145 - END OF DAY.

5/31/12 4/4

BLDG T-1451 & E. CANAL SI/SC 1 JUN 2012
AREA 303

~45°, OVERCAST, WINDY APR: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING

PARTICIPANTS: AMENA - T. DOBSON, H. WOTTLEN, L. BOLDRICK, T. SPITLER, J. OVERLAND, Z. RASMUSSEN

GEOSYNTEC: Z. KIRK

CKY: H. WETTENBERG

HAMMER: S. PEARCE, T. BROWN

0800 - STAGE DRILLING EQUIPMENT AT MW-303-38 WELL LOCATION

0830 - BEGIN DRILLING WELL MW-303-38

0900 - SET WELL CASING.

0920 - POUR SAND PACK AND BENTONITE SEAL WHILE REMOVING AUGER RODS.

- PLACE SOIL CUTTINGS IN 55 GALLON DRUM STAGED BY THE WELL.

- WELL SPECIFICATIONS:
  - TOTAL DEPTH: 27.5
  - SCREEN INTERVAL: 17'-27'
  - SAND PACK: 27.5-15'
  - BENTONITE SEAL: 2'-15'
  - CONCRETE BASE: 0'-2' ZK 6/1
  - STICK UP MONUMENT: 3.5'
  - WELL CASING: 3'

6/1/12 1/7

BLDG T-1451 & E. CANAL SE/SC 1 JUNE 2012
AREA 303

~47°F, OVERCAST, LT. WIND PPE: LEVEL D

BAGS OF SILICA SAND USED: ~~6.5~~ 6.5 ZK 6/1

BAGS OF BENTONITE USED: 6

0945 - ~~CLEAN UP WORK AREA~~ INSTAL STICK-UP MONUMENT AN PROTECTIVE BOLLARDS ZK 6/1

1000 - CLEAN UP WORK AREA AND DECON AUGER FLIGHTS.

1020 - TRANSITION TO MW-303-43 LOCATION

1030 - PERFORM UTILITY LOCATE AND CLEAR DRILLING LOCATION

1130 - DEPART THE SITE TO PICK UP WELL MATERIALS

1300 - BACK ON SITE. SET UP SAW HORSES FOR SUPPORTING SUPER SACK (FOR ~~ORE~~ SOIL CUTTINGS). ZK 6/1

1340 - STAGE DRILLING EQUIPMENT

1400 - COMMENCE DRILLING WELL ~~AT~~ ZK 6/1 MW-303-43.

1435 - SET WELL CASING.

1445 - REMOVE AUGER FLIGHTS WHILE POURING SAND PACK AND BENTONITE SEAL.

- SOIL CUTTINGS PLACED IN ONE SUPERSACK STAGED BY THE WELL.

1500 - INSTALL STICK UP MONUMENT AND

[signature] 6/1/12 2/7

BLDG T-1451 & E. CANAL SE/SC 1 JUNE 2012
AREA 303

~45°F, PARTLY SUNNY, WINDY PPE: LEVEL D

PROTECTIVE BOLLARDS.

1515 - DECON THE AUGER FLIGHTS.

- WELL MW-303-43 SPECIFICATIONS
  - WELL DEPTH: 30'
  - SCREEN INTERVAL: 19.5'-29.5'
  - SAND PACK: 17.5'-30
  - BENTONITE: 2'-17.5'
  - CONCRETE: BASE: 0-2'
  - STICK UP MONUMENT: 40"
  - WELL CASING HEIGHT: 3'
  - BAGS OF SILICA SAND USED: 6.5
  - BAGS OF BENTONITE USED: 6

1530 - DEPART TO STAGE EQUIPMENT AT THE NEXT WELL LOCATION AND TO CHANGE OVER RIG TO BE ABLE TO DRILL 4" RECOVERY WELLS

1600 - WHILE BREAKING TO CHANGE OVER RIG FOR 4" WELLS, T. DOBSON STATES THAT ADDITIONAL BORINGS ARE NEEDED AT THE EAST CANAL AREA TO THE SOUTH OF THE MAIN VVOST GRID AREA.

1610 - CHANGE OVER TO PREPARE FOR MACROCORE BORINGS

[signature] 6/1/12 3/7

BLOG T-1451 ⅓ E. CANAL SI/SC 1 JUNE 2012

~40°F, OVERCAST, WENDY PPE: LEVEL D

1645 - RETURN TO E. CANAL SITE.

1650 - COMMENCE SOIL BORING DRILLING

- ADVANCE BORING B-32
  - SAMPLES: - 01-B032-01 @ 1700, 0.5-1'
    - 01-B032-02 @ 1705, 1'-2'
    - 01-B032-03 @ 1710, 3'-4'
    - SAMPLE DUPLICATE: 01-B032-04 @ 1715
    - 01-B032-05 @ 1716, 5'-6'
    - 01-B032-06 @ 1718, 6'-7'

1720 - ADVANCE BORING B-33
  - SAMPLES: - 01-B033-01 @ 1725, 1-2'
    - 01- ~~B003~~ B033-02 @ 1730, 2'-3' ZK 6/1
    - 01-B033-03 @ 1735, 3'-4'
    - 01-B033-04 @ 1737, 4'-5'
    - FIXED LAB SAMPLE: 01-SB030 @ 1737
    - 01-B032-05 @ 1745

1750 - ADVANCE BORING ~~B-31~~ ZK 6/1 B-34
  - SAMPLES: - 01-B034-01 @ 1754, 1'-2'
    - 01-B034-02 @ 1756, 2'-3'
    - 01-B034-03 @ 1758, 3'-4'
    - ~~01-B034-04 @~~ ZK 6/1
    - SAMPLE DUPLICATE: 01-B034-04 @ 1800
    - 01-B034-05 @ 4'-5'

[signature] 6/1/12

BLOG T-1451 ⅓ E. CANAL SI/SC 1 JUNE 12

~40°F, OVERCAST, WENDY PPE: LEVEL D

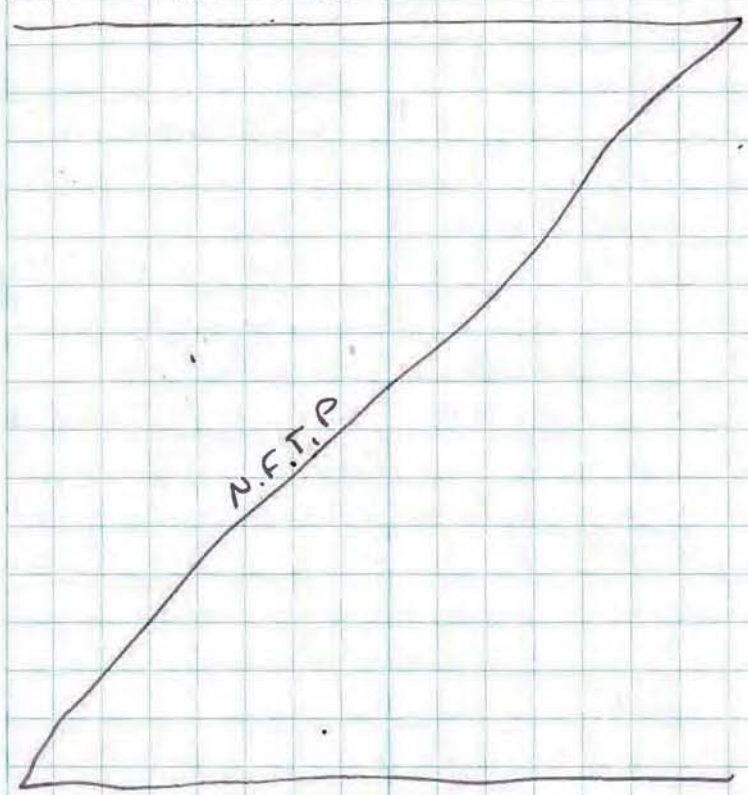
~~1815 - DEPART THE SITE~~ ZK 6/1.

1815 - CEASE DRILLING. CLEAN UP AND DEPART THE SITE.

1900 - REVIEW FIELD LOGS AND DATA SHEETS

1925 - UPDATE PHOTO LOG

2000 - END OF DAY



[signature] 6/1/12

BLDG T-1451 ¾ E. CANAL SE/SC 1 JUNE 12

~40°F, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DATE	DIRECTION	DESCRIPTION
101-~~0120~~ 0120 ZK 5/31	5/31/12	NNW	CLEARING CUTTINGS
~~101-0122~~	~~5/31/12~~	~~NE~~ ZK 5/31	FROM AUGER FLIGHTS
101-0122	5/31/12	N	AUGERING AT WELL
			MW-303-42
101-0124	5/31/12	SE	SETTING PROTECTIVE
~~101-0125~~ ZK 5/31			BOLLARDS
101-0125	5/31/12	SE	DECONTAMINATING AUGERS
101-0127	5/31/12	S	SETTING STICK UP
			MONUMENT AT MW-303-42
101-0129	5/31/12	NE	DRILLING WELL MW-303-41
101-0132	5/31/12	SSW	" "
101-0133	5/31/12	S	" "
101-0134	5/31/12	S	SETTING WELL CASING AT
			MW-303-41
101-0135	5/31/12	S	" "
101-0136	5/31/12	S	" "
101-0138	5/31/12	E	DRILLING AT MW-303-39
101-0139	5/31/12	NE	" "
101-0140	5/31/12	E	" "
101-0142	5/31/12	NW	" "
101-0144	6/1/12	NE	DRILLING AT MW-303-38
101-0146	6/1/12	SE	" "
101-0147	6/1/12	SE	" "

6/1/12

BLDG T-1451 ¾ E. CANAL SI/SC 1 JUNE 12

~40°F, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DATE	DIRECTION	DESCRIPTION
101-0149	6/1/12	S	COMPLETED WELL
			MW-303-38 WITH
			PROTECTIVE BOLLARDS
101-0153	6/1/12	S	INSTALLING PROTECTIVE
			BOLLARDS AT MW-303-39
101-0155	6/1/12	S	COMPLETING WELL
			MONUMENT AT MW-303-39
101-0159	6/1/12	E	SETTING AUGER
			AT MW-303-43
101-0162	6/1/12	E	INSERTING WELL
			CASING
101-0163	6/1/12	E	" "
101-0165	6/1/12	NW	DECONTING AUGERS
101-0166	6/1/12	SE	COMPLETED WELL
			AT MW-303-43

N.F.S.P

6/1/12

BLDG T-1451 ½ E. CANAL SI/SC 2 JUNE 2012

~40°F, OVERCAST, STRONG WIND, LT. RAIN PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING

PARTICIPANTS: T. DOBSON, L. BOLDRICK, H. WOTTLIN, D. OVERLAND, T. SPEELER, Z. RASMUSSEN

CIC: H. WITTENBERG

GEOSYNTEC: Z. KERK

HAMMER ENV.: S. PEERCE, T. BROWN

0745 - ARRIVE AT AREA OF PROPOSED RECOVERY WELLS TO MEASURE DEPTH TO GROUND WATER IN NEARBY ~~WELLS~~ ZK 6/2 EXISTING WELLS TO ENSURE THAT SUFFICIENT MATERIALS ARE ON HAND TO CONSTRUCT THE FOUR RECOVERY WELLS

0840 - ARRIVE AT E. CANAL SITE.

PERSONNEL ON SITE: Z. KERK, L. BOLDRICK, S. PEERCE, T. BROWN, H. WITTENBERG

0850 - POWER UP EQUIPMENT AND SET UP SCREENING AREA.

0900 - COMMENCE DRILLING SOIL BORINGS.

- ADVANCE BORING B-35
  - SAMPLES: 01-B035-01 @ 0908, 1'-2'
    - 01-B035-02 @ 0910, 2'-3'
    - 01-B035-03 @ 0912, 3.5'-4.5'
    - 01-B035-04 @ 0921, 8.5'-9.5'

6/2/12

BLDG T-1451 ½ E. CANAL SI/SC ZK 6/2 2 JUNE 12

~40°F, OVERCAST, STRONG WINDS PPE: LEVEL D

- SAMPLE DUPLICATE - 01-B035-05 @ 0923

0925 - ADVANCE BORING B-36 ZK 6/2

- SAMPLES: ~~01-SI~~ ZK 6/2 01-B036-01 @ 0933, 0.5'-1.5'
  - 01-B036-02 @ 0935, 2'-3'
  - FIELD LAB SAMPLE - 01-B031 @ 0937
  - 01-B036-03 @ 0940, 4'-5'
  - 01-B036-04 @ 0947, 5'-6'
  - 01-B036-05 @ 0950, 8'-9'
  - 01-B036-~~06~~ @ 0955, 10.5'-11.5'
  - 01-B036-07 @ 0957, 12'-12.5'

0955 - ADVANCE BORING ~~B-38~~ ZK 6/2 B-37

- SAMPLES: 01-~~B038~~ B037 ZK 6/2-01 @ 1010, 1'-2'
  - 01-~~B038~~ B037 ZK 6/2-02 @ 1012, 2.5'-3.5'
  - 01-~~B038~~ B037 ZK 6/2-03 @ 1015, 4.5'-5'
  - 01-~~B038~~ B037 ZK 6/2-04 @ 1020, 5'-6
  - 01-~~B038~~ B037 ZK 6/2-05 @ 1023, 7'-8
  - COLLECT SAMPLE DUPLICATE
    - 01-~~B038~~ B037 ZK 6/2-06 @ 1025

1030 - ADVANCE BORING B-38

- SAMPLES: 01-B038-01 @ 1038, 1'-2'
  - 01-B038-02 @ 1040, 2'-3'
  - 01-B038-03 @ 1042, 4'-5'
  - 01-B038-04 @ 1050, 6'-7'

6/2/12

BLOC T-1451 & E. CANAL SI/SC 2 JUNE 2012

~40°F, OVERCAST, STRONG WINDS PPE: LEVEL D

-01-B038-05 @ 1052, 9'-10

1100 - ADVANCE BORING B-39

- SAMPLES: 01-B039-01 @ 1105, 1-2

- 01-B039-02 @ 1107

- FIELD LAB SAMPLE 01-SB032 @ 1107

- 01-B039-03 @ 1110

- 01-B039-04 @ 1125

- 01-B039-05 @ 1127

1130 - ADVANCE BORING B-40

SAMPLES: 01-B040-01 @ 1137, 1'-2'

01-B040-02 @ 1140, 2.5'-3.5'

01-B040-03 @ 1142, 4'-5'

DUPLICATE: 01-B040-04 @ 1145 ZK 6/2

01-B040-05 @ 1150, 5'-6'

01-B040-06 @ 1152, 7'-8'

ZK 6/2 1340 - ADVANCE BORING B-41

- SAMPLES: 01-B041-01 @ 1345

- 01-B041-02 @ 1347

- 01-B041-03 @ 1350

- 01-B041-04 @ 1358

- 01-B041-05 @ 1400

1405 - ADVANCE BORING B-42

- SAMPLES: 01-B042-01 @ 1410, 1'-2'

01-B042-02 @ 1412, 2.5'-3.5'

6/2/12

BLOC T-1451 & E. CANAL SI/SC 2 JUNE 2012

~40°F, OVERCAST, HEAVY WINDS PPE: LEVEL D

1415 - TD ARRIVES ONSITE

- BORING B-42 (CONT)

-01-B042-03 @ 1415, 3.5'-4.5'

- FIELD LAB SAMPLE 01-SB033 @ 1415

-01-B042-04 @ 1420, 5'-6'

-01-B042-05 @ 1422, 9'-10'

- DUPLICATE SAMPLE: 01-B042-06 @ 1424

1425 - ADVANCE BORING B-43

- SAMPLES: 01-B043-01 @ 1430, 1'-2'

- 01-B043-02 @ 1433, 2.5'-3.5'

- 01-B043-03 @ 1435, 4'-5'

- 01-B043-04 @ 1440, 5'-6'

1450 - ADVANCE BORING B-44

- SAMPLES: 01-B044-01 @ 1455, 1'-2'

- 01-B044-02 @ 1456, 2.5'-3.5'

- FIELD LAB SAMPLE: 01-SB034 @ 1456

- 01-B044-03 @ 1457, 4'-5'

- 01-B044-04 @ 1502, 5'-6'

- 01-B044-05 @ 1505, 9'-10'

- FIELD LAB SAMPLE: 01-SB035 @ 1505

- 01-B044-06 @ 1508, 10'-11'

1510 - ADVANCE BORING B-45

- SAMPLES: 01-B045-01 @ 1515, 1'-2'

- 01-B045-02 @ 1517, 2.5'-3.5'

6/2/12

BLDG T-1451 ⅓ E. CANAL SI/SC 2 JUNE 2012

~40°F, OVERCAST, HIGH WINDS, PPE: LEVEL D

- 01-B045-03 @ 1519, 4'-5'
  - COLLECT DUPLICATE SAMPLE: 01-B045-04 @ 1520
- 01-B045-05 @ 1525, 5'-6'
- 01-B045-06 @ 1530, 6'-7'

1535 - ADVANCE BORING B-46

~~+5~~ ZK 6/2

1540 - ZK, S.P. AND T.B DEPART THE SITE TO RETURN TO AREA 303 TO RESUME WELL INSTALLATION

1545 - ARRIVE AT LOCATION OF PROPOSED RECOVERY WELL RW-303-02

1560 - SET UP DRILLING EQUIPMENT

1615 - COMMENCE DRILLING WELL

1640 - SET WELL CASING

1655 - BEGIN REMOVING AUGER FLIGHTS WHILE POURING PEA GRAVEL PACK AND BENTONITE SEAL.
- SOIL CUTTINGS PLACED IN SUPERSACK STAGED NEAR THE WELL.

1740 - COMPLETE INSTALLATION. CLEAN UP THE WORK AREA AND DECON AUGER FLIGHTS
- WELL SPECIFICATIONS: RW-303-02
  - ~~WELL SIZE / TYPE: RW~~ ZK 6/2

6/2/12

BLDG T-1451 ⅓ E. CANAL SI/SC 2 JUNE 2012
AREA 303

~40°F, OVERCAST, HIGH WINDS, PPE: LEVEL D

- WELL TYPE / SIZE: RECOVERY / 4"
- TOTAL DEPTH: 15'
- SCREEN INTERVAL: 4.5'-14.5'
- GRAVEL PACK: 3'-15'
- BENTONITE SEAL: 1.5'-3.5'
- CONCRETE BASE: 0-1.5'
- WELL CASING HEIGHT: 3' AGS
  STICK UP MONUMENT HEIGHT: 40"
- BAGS OF PEA GRAVEL USED: 7
- BAGS OF BENTONITE USED: 1.5

1800 - DEPART THE SITE.

1830 - REVIEW LOGS AND DATA SHEETS

1900 - UPDATE PHOTO LOG

1940 - END OF DAY

N.F.T.P

6/2/12

BLDG T-1451 & E. CANAL SE/SC 2 JUNE 12

~40°F, OVERCAST, HIGH WINDS PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0168	SW	AREA OF INVESTIGATION ON 6/1/12 AND 6/2/12 - BORINGS AROUND VISIBLE SHEEN SEEP ON THE E. CANAL
101-0169	W	" "
101-0170	SW	TRANSPORTING SAMPLE CORES TO PROCESSING AREA
101-0172	SW	- SETTING UP TO DRILL A NEW LOCATION.
101-0173	NW	- EXTRACTING SAMPLE CORES FROM MACROCORE BARRELS
101-0174	NW	- SAMPLE PROCESSING AREA.
101-0175	NW	- CUTTING MACROCORE SLEEVES
101-0176	E	- ANALYZING OPEN CORES
101-0177	E	" "
101-0181	N	- PREPARING TO AUGER DRILL RW-303-02 LOCATION
101-0182	N	" "
101-0183	N	- ~~AF~~ ZK 6/2 - ATTACHING AUGER FLIGHTS
101-0184	NW	- LOCKING AUGER FLIGHTS TOGETHER

ZK 6/2

6/2/12 7/7

BLDG T-1451 & E. CANAL SE/SC 4 JUNE 2012

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING.
PARTICIPANTS: AMEC: T. DOBSON, L. BOLDRICK, D. OVERLAND, H. WOTTLEN, Z. RASMUSSEN, T. SPESSLER
GEOSYNTEC: Z. KIRK
HAMMER ENV.: S. PERRCK, T. BROWN

0745 - ENERGIZE UVOST LASER AND TROUBLESHOOT SYSTEM ERRORS.

1110 - ARRIVE ONSITE
- PERSONNEL: Z. KIRK, S. PERRCK, T. BROWN

1115 - CONFIGURE UVOST SYSTEM
- LAY OUT GRID FOR UVOST PROBES IN AREA TO THE SOUTH OF THE ORIGINAL GRID EXTENTS TO COLLECT ADDITIONAL SUB-SURFACE DATA AROUND ~~SEE~~ ZK 6/4 A SHEEN ~~SEEP~~ ZK 6/4 SEEP ALONG THE SOUTHERN BERMED SECTION OF E. CANAL

1230 - CHECK UVOST PROBING. ~~12~~ ZK 6/4 TRANSITION TO MACRO CORE BORINGS AND EX-SITU UVOST SCREENING FOR CORRELATION AT 5 LOCATIONS WITHIN THE ORIGINAL GRID ~~EXTENT~~ ZK 6/4 AREA

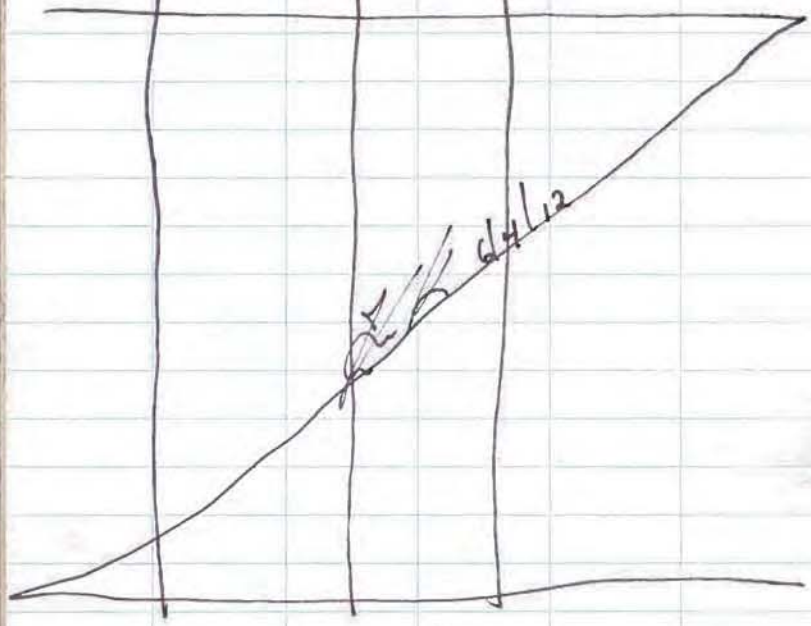
6/4/12 1/7

BLDG T-1451 & E. CANAL SI/SC 4 JUNE 2012

~40°F, OVERCAST, WIND PPE: LEVEL D

UVOST PROBE DATA

PROBE ID	MAX % RE (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-190	2.6% (0.9')	7'	SPIKE IN BACKGROUND SIGNAL



1430 - ARRIVE ON SITE. CONFIGURE DRILL RIG FOR MACROCORE AND EX-SITU UVOST SCREENING.

- PLAN IS TO ONLY ~~CAPTOR~~ ZK 6/4 COLLECT SOIL WHERE THE SPIKE OF % RELATIVE EMITTANCE ON THE UVOST PROBE OCCURRED
- ON SITE PERSONNEL: ~~AHF~~ ZK 6/4 T. DOBSON

6/4/12

BLDG T-1451 & E. CANAL SI/SC 4 JUNE 2012

~45°F, OVERCAST, WINDY PPE: LEVEL D

Z. KERK, S. PIERCE, T. BROWN, AND G. MAY (NAVFAC)

1445 - COMMENCE DRILLING MACRO CORE BORINGS.

- ADVANCE BORING B-47 AT UV-020
  - UV-020: UVOST SCREENING 450% AT 4.3'
  - COLLECT SAMPLE CORE FROM 3' - 8' TO COVER RANGE OF % RE SPIKE
  - SAMPLE: 01-B047-01 @ 1457, 3.3' - 5.3'
  - FIXED LAB SAMPLE: ~~3.3 - 5.3 MNA001~~ ZK 6/4 SB038

1530 - ADVANCE BORING B-48 AT UV-014

- UVOST SCREENING 8.6% AT 6.7'
- SAMPLE CORE FROM 3' - 8'
- SAMPLE: 01-B048-01 @ 1540, 5.7 - 7.7
- FIXED LAB SAMPLE: ~~MNA002~~ ZK 6/6 SB039 @ 1540

1540 - G. MAY DEPARTS THE SITE.

1550 - ADVANCE BORING B-49 AT UV-032

- IN-SITU SCREENING RESULT: 142.5% AT 4.4'
- SAMPLE CORE FROM 2.5' - 7.5'
- SAMPLE: 01-B049-01 @ 1616, 3.4' - 5.4'
- FIXED LAB SAMPLE: ~~MNA003~~ ZK 6/6 SB040 @ 1616

1640 - G. MAY RETURNS TO THE SITE.

1645 - ADVANCE BORING B-50 AT UV-093

- IN-SITU SCREENING RESULT: 267.7% AT 3.1'

6/4/12

~45°F, OVERCAST, WINDY PPE: LEVEL D

- SAMPLE CORE COLLECTED FROM: 2'-7'
- SAMPLE: 01-B050-01 @ 1650, 2.1'-4.1'
  - FIXED LAB SAMPLE: ~~[illegible]~~ EK C/C SB041 @ 1650

1700 - ADVANCE BORING B-51 AT UV-039

UV-039 IN-SITU SCREENING RESULTS: 76.6% AT 3.4'

- SAMPLE CORE COLLECTED FROM: 2'-7'
- SAMPLE: 01-B051-01 @ 1715, 2.4'-4.4'
  - FIXED LAB SAMPLE: ~~[illegible]~~ EK C/C SB042 @ 1715

1710 - G. MAY DEPARTS THE SITE

1725 - ADVANCE BORING B-52 AT UV-104

- UV-104 IN-SITU SCREENING RESULTS: 7.2% AT 3.9
- SAMPLE CORE COLLECTED FROM: 2'-7'
- SAMPLE: 01-B052-01 @ 1740, 2.3'-4.3'
  - FIXED LAB SAMPLE: ~~[illegible]~~ EK C/C SB043 @ 1740

* LATE ENTRY * - 1500 - L. BOUDREAU ARRIVES ONSITE

1800 - CEASE SOIL BORINGS.

- CLEAN UP AND DEPART THE SITE.

1815 - PROCESS AND DELIVER SAMPLES TO MOBILE LABORATORY.

1900 - UPDATE PHOTO LOG

* LATE ENTRY * - DESCRIPTION OF CORRELATION SAMPLING PROCEDURE:

- MACROCORES WERE DRIVEN IN 5 FOOT SECTIONS AROUND THE DESIRED SAMPLE

6/4/12 4/7

~45°F, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0186	S	- PREPARING TO UVOST PROBE ALONG SOUTHERN PORTION OF E. CANAL BOOMED AREA.
101-0187	W	" "
101-0188	SW	" "
101-0190	S	UVOST PROBING ALONG E. CANAL. DUMP TRUCK IN BACKGROUND DEPOSITING CLEAN FILL MATERIAL
101-0191	S	" "
101-0194	W	- PREPARING TO DRILL EX-SITU ~~BO~~ EK C/C UVOST CORRELATION BORINGS
101-0196	—	MACROCORE SAMPLE FROM CORRELATION BORING
101-0198	SE	- CALIBRATING UVOST PROBE
101-0199	S	- EX-SITU UVOST SCREENING OF SOIL SAMPLE
101-0201	SE	" "
101-0202	SE	" "
101-0205	S	- COLLECTING SOIL SCREENING

6/4/12 5/7

BLDG T-1451 / R. CANAL SE/SC 4 JUNE 2012

~45°F, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0207	SE	- PREPARING FOR EX-SITU UVOST SCREENING
101-0208	SE	- EX-SITU UVOST SOIL SCREENING
101-0209	NE	- ANALYZING EX-SITU UVOST READINGS
101-0210	NE	" "
101-0212	NE	" "

N.F.T.P

6/4/12

BLDG T-1451 / R. CANAL SE/SC 4 JUNE 2012

~45°F, OVERCAST, WINDY PPE: LEVEL D

ZK 6/4 ~~SAMPLER~~ RANGE.

- SAMPLE RANGE (ONE FOOT ON ZK 6/4 ~~EITHER~~ EITHER SIDE OF IN-SITU UVOST ZK 6/4 ~~PROBE~~ SPIKE) WAS ISOLATED AND COLLECTED IN ONE QUART ZIPLOCK BAGS.
- SAMPLES WERE HOMOGENIZED.
- FIXED LABORATORY SAMPLE WAS REMOVED FROM HOMOGENOUS SAMPLE BAG.
- EX-SITU UVOST SAMPLES WERE TAKEN FOR SCREENING FROM THE HOMOGENOUS SAMPLE BAG.
- PID SCREENING ZK 6/4 ~~COLLECTED~~ TAKEN FROM HOMOGENOUS SAMPLE BAG (AFTER PERMITTING TIME FOR VOLATILIZATION ZK 6/4 ~~VOLATILIZATION~~)
- THE HOMOGENOUS SAMPLE BAG WAS DOUBLE BAGGED IN A SECOND ZIPLOC TO PREVENT ANY LOSS OF SOIL OR VOLATILIZATION AND DELIVERED TO THE MOBILE LAB.
- FIXED AND MOBILE LAB SAMPLES DELIVERED UNDER APPROVED COC PROCEDURES

1930 - END OF DAY

6/4/12

~40°F, OVERCAST, LT. WIND PPE: LAUREL Δ

0700 - CONDUCT TAILGATE SAFETY:
PARTICIPANTS: ~~H. W~~ AHNA - H. WOTTLEN, J. OVERLAND, T. SPEELER, Z. RASMUSSEN
GEOSYNTEC: Z. KERK
HAMMER ENV: S. PIERCE, T. BROWN

0800 - ARRIVE ONSITE. PERSONNEL: Z. KERK, T. BROWN AND S. PIERCE

0830 - COMMENCE UVOST PROBE DRILLING.

1100 - T. DOBSON ARRIVES ONSITE.

1110 - J. OVERLAND ARRIVES ONSITE WITH EXCAVATOR
- L. BOADRECK ARRIVES ONSITE.
- T.D., J.O. AND L.B WILL COLLECT SOIL SAMPLES FROM TEST PITS (DUG WITH EXCAVATOR) ~~FROM~~ ZK 6/5 FOR PID / EX-SITU UVOST SCREENING AND CONFIRMATION SAMPLING FOR ADDITIONAL CORRELATION WITH UVOST ~~EX-SITU~~ ZK 6/5 IN-SITU SCREENINGS

1120 - B. CULLEN AND G. MAY ARRIVE ONSITE.

1125 - TEST PIT EXCAVATION BEGINS.

1200 - ZK, SP AND T.B DEPART THE SITE

1345 - RETURN TO THE SITE.

1355 - SET UP EQUIPMENT TO CONTINUE UVOST PROBES.

6/5/12 1/

~40°F, OVERCAST, LT. WIND PPE: LAUREL Δ

	PROBE ID	MAX % RE (DEPTH)	TOT. DEPTH	ZK 6/5 ~~DESC~~ ADDL. NOTES
(B-32)	UV-191	116.5% (2.2')	12'	SPIKE RANGE: 1'-3'
(B-35)	UV-192	0.9% (0.3')	12.5'	SPIKE IN BACKGROUND SIGNAL
(B-37)	UV-193	47.3% (3.4')	12'	SPIKE RANGE: 2.5'-4.5'
(B-36)	UV-194	92.6% (3.7')	12'	SPIKE RANGE: 3.0'-4.5'
	UV-195	0.6% (1.5')	12'	SPIKE IN BACKGROUND SIGNAL
(B-40)	UV-196	0.6% (1.6')	12'	" "
	UV-197	2.2% (0.8')	12'	" "
	UV-198	0.6% (0.4')	12'	" "
(B-46)	UV-199	1.0% (0.6')	12'	" "
(B-41)	UV-200	1.7% (0.8')	12'	" "
(B-45)	UV-201	54.0% (4.2')	12'	SPIKE RANGE: 3.5'-4.5'
	UV-202	50.1% (4.3)	14'	PRIMARY SPIKE RANGE: 3.5'-4.5', % RE REMAINS APPROXIMATELY 20% BELOW 4.5'
(B-42)	UV-203	45.1% (3.7')	12'	SPIKE RANGE: 3.5-5.5
	UV-204	69.4% (5.4')	12'	SPIKE RANGE: 4.0'-6.5'
(B-43)	UV-205	0.7% (1.0')	12'	SPIKE IN BACKGROUND SIGNAL
(B-44)	UV-206	124.2% (4.2')	12'	SPIKE RANGE: 2.0'-4.5'
(B-39)	UV-207	0.7% (1.0')	13'	SPIKE IN BACKGROUND SIGNAL
(B-38)	UV-208	0.9% (0.4')	12'	" "
(B-34)	UV-209	1.1% (1.4')	12'	" "
(B-33)	UV-210	0.6% (0.9')	12'	" "

6/5/12 2/

~46°F, OVERCAST, LT. WIND PPE: LAVEL D

1405 - T.D, J.O., H.W. AND L.B RETURN TO THE SITE

* LATE ENTRY * 1130 - TEST PIT EXCAVATION ENCOUNTERS A BURIED PIPELINE IN VICINITY OF UV-050, TRAVERSING EAST TO WEST, AT APPROXIMATELY 2.5'

- PIPELINE CONTAINS UN-IDENTIFIED PETROLEUM PRODUCT.
- LB COLLECTS CHARACTERIZATION SAMPLE FOR ANALYSIS AND DETERMINATION OF PRODUCT CONSTITUENTS

1145 - EXCAVATION IS CONTINUED TO THE EAST TO TRACE PIPELINE EXTENT

1420 - B. CULLEN AND G. MAY RETURN TO THE SITE

- SEE TD OR LB FIELD NOTES FOR FURTHER DETAILS REGARDING SAMPLE DATA AND ADDITIONAL EXCAVATION INFORMATION REGARDING THE PIPELINE INVESTIGATION.

1620 - CEASE UVOST PROBING.

1630 - DEPART THE SITE FOR REFUELING.

1700 - ~~BACK~~ ZK 6/5 RETURN TO THE SITE

1715 - SP. AND TB DEPART THE SITE.

- ZK REMAINS ONSITE ~~WITH TEAM~~ ZK 6/5 FOR THE PIT EXCAVATION.

6/5/12 3/

~40°F, OVERCAST, LT WIND PPE: LEVEL D

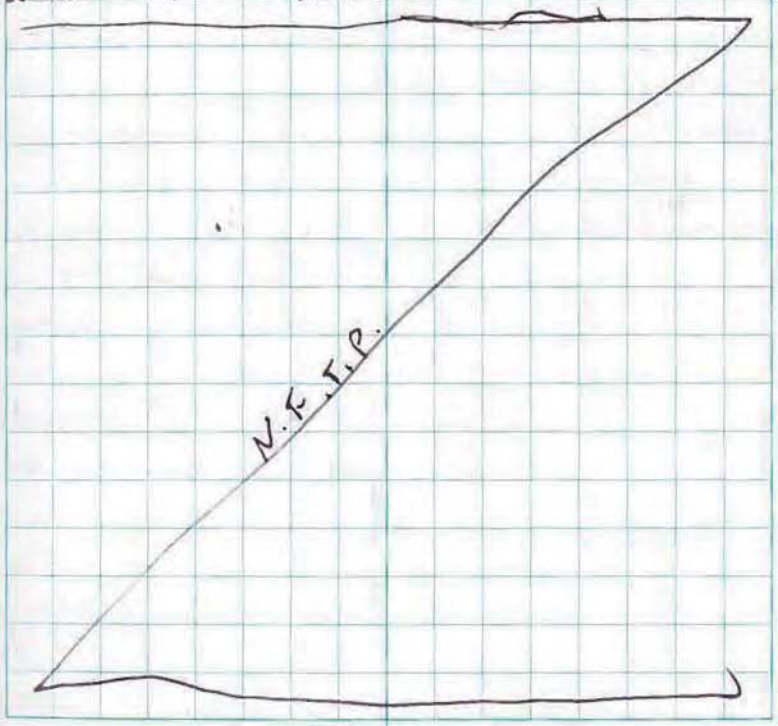
- ONSITE PERSONNEL: T.D, J.O., AND L.B.
- SEE FIELD NOTES AND DATA SHEETS DOCUMENTED BY T.D. FOR DETAILS

1830 - CEASE TEST PIT EXCAVATION.

1840 - CLEAN UP AND DEPART THE SITE.

1905 - ~~UPDATE~~ ZK 6/5 UPDATE PHOTO LOG.

2015 - END OF DAY.



6/5/12 4/

BLDG T-1451 ; E. CANAL SI/SE 5 JUNE 2012

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0213	NW	- ADVANCING UVOST PROBE ALONG CANAL
101-0214	NW	- " "
101-0217	SE	- IN-SITU UVOST DRILLING NORTH OF CLEAN FILL STOCKPILE
101-0218	N	- COMMENCING TEST PIT EXCAVATIONS
101-0219	N	- LOGGING TEST PIT SAMPLES
101-0222	NW	- ADVANCING UVOST PROBE. TEST PIT EXCAVATION ONGOING TO THE NORTH
101-0223	NW	" "
101-0226	SE	- INITIAL TEST PIT EXCAVATION
101-0228	—	- PETROLEUM STAINING VISIBLE IN TEST PIT SIDEWALLS
101-0229	N	- DRILLING AND EXCAVATION ACTIVITIES AT THE SITE
101-0230	—	INITIAL EXCAVATION UNCOVERED ~~BURIED~~ ZK c/s SECTION OF HEST BURIED LINE
101-231	—	CLOSE-UP VIEW OF EXPOSED LINE CONSTRUCTED OF WOOD, BOUND BY METAL BANDS AND COVERED WITH CREOSOTE
101-232	—	STANDING LIQUID (UNKNOWN) IN LINE
101-235	W	TEST PIT EXCAVATION EXTENDED EAST ALONG ROUTE OF LINE.
101-237	SW	CONTINUING UVOST PROBE INVESTIGATION

6/5/12 5/

BLDG T-1451 ; E. CANAL SI/SC 5 JUNE 2012

~45°F, OVERCAST, LT. WIND PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0239	NW	- ADDITIONAL UVOST INVESTIGATION ALONG E. CANAL.
101-0240	NW	" "
101-0241	NW	" "
101-0243	NW	" "
101-0247	E	- EXCAVATING TEST PITS FOR CORRELATION SAMPLING.
101-0248	E	- INSPECTING TEST PIT
101-0249	E	- MEASURING DEPTH TO WATER IN TEST PIT.
101-0251	—	- COLLECTING SCREENING SAMPLE FROM TEST PIT SIDEWALL.
101-0253	—	- EXPOSED GROUNDWATER AT BASE OF TEST PIT.
101-0254	S	- BACKFILLING TEST PIT EXCAVATION
101-0255	S	- BACKFILLING TEST PIT EXCAVATION, DUMP TRUCK UNLOADING CLEAN FILL MATERIAL AT SOUTHERN END OF SITE.

N.F.T.P.

6/5/12 6/

BLDG T-1451 3 E. CANAL SI/SC 6 BUNK 12
T-1451 NORTH AREA
~40°F, OVERCAST, LT. WIND PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING.
PARTICIPANTS: ANTONA · T. DUBSON, T. SPETLER, B. OVERLAND, L. BOLDRICK, H. WOTTLEN
Z. RASMUSSEN
GEOSYNTEC: Z. KEARK
HAMMER ENV.: S. PIERCE AND T. BROWN.

0800 - TRANSFER DRILL RIG TO T1451 NORTH AREA TO CONDUCT IN-SITU UVOST SCREENING AROUND ANOMOLY EXCAVATIONS.
- T. SPETLER PREVIOUSLY MARKED OUT CIRCULAR AREA ENCLOSING MULTIPLE EXCAVATIONS THAT UNCOVERED NUMEROUS CRUSHED AND BURIED 55 GALLON DRUMS.
- IN-SITU UVOST SCREENING IS BEING CONDUCTED AROUND THE EXTENT OF THE BURIED DRUMS AREA TO ASSESS ANY POTENTIAL ~~FM~~ JK 6/6 PETROLEUM IMPACT FROM THE CRUSHED DRUM AREA.

0820 - CONDUCT TROUBLESHOOTING REPAIRS TO UVOST SYSTEM

0845 - BEGIN IN-SITU UVOST PROBING.
- RESULTS OF UVOST SCREENING ARE TABULATED (AND FIELD NOTES CONTINUE) ON FIELD BOOK # 3

6/6/12 !/

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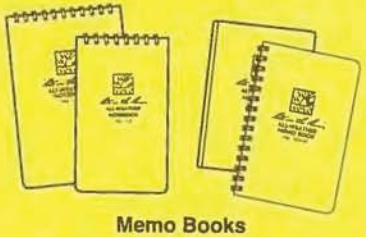
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FIELD NOTEBOOK #3-TD

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	TA-ANC. 30049 -	
	- 20000K INSURANCE -	

2 BUILDING T-1451/EAST CANAL SE/SC 15 JUNE 12

45°F PARTLY CLOUDY. PPE: LEVEL D

CONTINUED FROM FIELD NOTEBOOK #2-TD

- 1900 - NTR ARRIVES ON-SITE TO INSPECT SITE.

1905 - NTR DEPARTS SITE.

- FIELD CREW DEPARTS SITE.
- SECURED SITE FOR DAY.
- CELL #4 COMPLETED TO 5.5' - 6.2' BGS LARGE ROCK LEFT IN PLACE FROM CULVERT MATERIAL. MIXED 150# OBC AND 50# FIBER MULCH INTO 4' OF BACKFILL AND MIXED WITH EXCAVATOR BUCKET
- 18 PRIMARY AND 2 FIELD DUPLICATES COLLECTED FROM STOCKPILES AND SUBMITTED TO MOBILE LABORATORY FOR DRO/AKLOR

2 FIXED LAB SAMPLES COLLECTED FOR FIXED LAB ANALYSIS FOR DRO/AKLOR - 01-EX016 - AND 01-EX017. (01-EX080-a, 01-EX092-01)

- DONE FOR DAY

NFP 15 JUNE 12

BUILDING T-1451/EAST CANAL SE/SC 16 JUNE 12 3

45°F CLOUDY PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING - MNA TA EXCAVATION CONTINUES. SAFETY NEAR CAT 225C EXCAVATOR AND VOLVO 1206 LOADER. EYE CONTACT W/ OPERATOR, PPE - HARD HAT, VEST, SAFETY GLASSES, AND STEEL TOE BOOTS

- ATTENDEES -
  T. DOBSON, Z KNOX, J CUZZUPPO, A. MOTTLEY, Z. KASMUSSEN, AND T. SPITLER. (GRS-TV)

0830 - CALL W/ TRCH PM - DISCUSS PROGRESS OF MNA TA EXCAVATION AND STRATEGY

0830 - ARRIVE ON SITE AT RC/BLDG T-1451 AREA TO BEGIN EXCAVATION - OPERATOR GREASE AND PERFORM EQUIP. CHECKS.

0900 - REMOVE REMAINING OVERBURDEN FROM TC #5. ABOVE GEOLINER - NOT MUCH MATERIAL REMAINS.

0907 - BEGIN FILLING SUPERSACK - SYD OF CONT. SOIL FROM CELL #5 -

- 1145 - FILL TOTAL OF 9 SUPERSACKS (SYD) WITH CONTAMINATED SOIL FROM CELL #5

1150 - NTR ARRIVES ON SITE. OBSERVES CONDITION OF CELL #5 -

16 JUNE 12 Rite in the Rain

BUILDING T-1451/EAST CHNAL SI/SC — 16 JUNE 12

45°F, CLOUDY — PPE: LEVEL D

1200 - NTR DEPARTS SITE.

1205 - DEPART FOR LUNCH -

1310 - ON-SITE AT EC/BLDG T-1451 AREA -
EXCAVATION OF CELL #5 COMPLETE - 0.5-1.00' BELOW GW SURFACE - SLOUGHING SANDS ON SIDEWALLS LEAVE BOTTOM HIGHER AWAY FROM CENTER OF THE CELL.
- WILL PLACE 50# OF OBC AND 25# OF MULCH IN 1ST LIFT.

1400 - PLACE 100 LBS OF OBC AND 25# OF FIBER MULCH FERTILIZER IN 1.5 LIFT OF BACKFILL - MIX WITH EXCAVATOR IN PLACE DRY APPLIED -

1450 BACKFILL COMPLETE FOR CELL #5 - 150# OBC AND 50# OF FIBER MULCH. ≈ 9 SUPERSACKS REMOVED -

1545 - BEGIN REMOVAL OF REMAINING OVER BURDEN ON CELL #6 -

1705 - PLACE TRENCH BOX PANELS ON SOUTHSIDEWALL OF CELL #6 - GW ENCOUNTERED AT ≈ 5' BGS

1825 - NTR REQUESTS A LITTLE MORE REMOVAL OF CONT SOIL - NEXT TO CELL #5 ON EAST SIDE -
- APPROX 1' WIDE TO REMOVE.

1835 - NTR OKAYS REMOVAL OF 1' WIDE SECTION NEXT TO CELL #5. ADD BACKFILL TO CELL #6. REMOVED TO 6/16

16 JUNE 12

CONT MATERIAL TO 1' BGS - SLOUGHING SANDS ON SIDEWALLS LEAVE AT 0.5' NEAR SIDEWALLS
- NTR OKAY WITH BASE OF EXCAVATION AS IS AT 0.5' - 1.0' BELOW GW SURFACE.

1830 - BEGIN BACKFILL OF CELL #6 - ADD 50# TO 1ST LIFT -
ADD ADDITIONAL 100# AND 50#.

1915 - BACKFILL COMPLETED FOR CELL #6
- REMOVED ≈ 70-75 YDS CONTAMINATED SOIL FROM 1'-6' BGS - 1' BELOW GW SURFACE. ADDED 150# OF OBC TO 4' OF BACKFILL MATERIAL - ADDED A 50# BAG OF WOOD FIBER MULCH TO THE SOIL -
COMPLETED CELL #5 - 150# OBC AND 50# OF FIBER MULCH ADDED TO 4' OF BACKFILL AND MIXED WITH THE EXCAVATOR BUCKET. -

1930 - SECURE STOCKPILES AND DEPART SITE. DONE FOR DAY

6/16/12

Rite in the Rain

6 BUILDING T-1451 / EAST CANAL SE/SC 17 JUNE 12

40°F, CLOUDY PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING -
SUPERSACK FILLING OPERATION TODAY
- CONCRETE SETTING IN BOLLARDS AND STICK UPS -
- SAFETY AROUND EXCAVATOR / LOADER - CAT 325 C - ~~HOK~~ TO 6/17

0815 - OPERATOR AND LABORERS ON SITE TO SUPERSACK CONT SOIL IN S-YARD SUPERSACKS

0845 - FIELD PM GATHER CONCRETE MATERIAL AND SUPPLIES TO SET BOLLARDS STICKUPS IN CONCRETE. FILL WITH SAND TO W/IN 3 IN OF TOP OF BOLLARDS. THEN CAP W/ CONCRETE.

0930 - ARRIVE MW 303-38

1000 - FILL BOLLARDS 2" FROM TOP WITH SAND. FILL TOP W/ CONCRETE. SET BOLLARDS IN 6" OF CONCRETE.
WILL ASK IF FORM NEEDS TO BE SET FOR STICK-UPS - MOST WELLS IN THE AREA DO HAVE SMALL FORM SET

1030 - MOVE TO MW 303-39 -

1100 - FILL BOLLARD W/ SAND TO 1' BELOW THE TOP
- WILL COMPLETE WITH CONCRETE ONCE FORMS

17 JUNE 12

BUILDING T-1451 / EAST CANAL SE/SC 17 JUNE 12 7

45°F, CLOUDY PPE: LEVEL D

HAVE BEEN MADE.

1110 ON-SITE AT EC/BLDG T-1451 AREA -
MONITOR CONTAMINATED SOIL PLACED INTO SUPERSACKS - LOAD FRAME FOR SUPER SACKS IS BROKEN AND REQUIRES MODIFICATION.

- 1130 - FILLED AND TRANSPORTED 6 S-40 SUPERSACKS TO WMA -

1200 SECURE SITE - DEPART EC/BLDG T-1451 AREA.

- TWO S-40 SUPERSACKS WERE FILLED ON 6/16/12 AND TO 6/17 TRANSPORTED TO WMA TODAY, 6/17/12.
- ONE SET OF BOLLARDS SET IN CONCRETE, MW-303-38, WILL BUILD FORMS TO SET CONCRETE FOR STICK UPS.

17 JUNE 12

NEETH

Rite in the Rain

8 BUILDING T-1451 / EAST CANAL SE/SC 18 JUNE 12
45°F, PARTLY CLOUDY PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING -
CONTINUE EXCAVATION OF MMA TA. EXCAVATOR AND LOADER SAFETY. EQUIPMENT ON-SITE IS CAT 325 C, AND VOLVO L06 LOADER
- EYE CONTACT WITH OPERATORS, PROPER PPE
- ATTENDEES:
T. DUBSON, Z. KLINE, J. OVERLAND, H. WOTTLIN, Z. RASSMUSSEN, T. SPITZER.

0800 - ARRIVE ON-SITE - EQUIP. CHECKS. FOR EXCAVATOR AND LOADER.

0815 - BEGIN REMOVING OVERBURDEN FROM CELL #7
- PLACE IN TEMPORARY STOCKPILE - GEO TEXTILE LINER OBSERVED AT 2.5' BGS FROM WEST SIDEWALL.

0920 - CONTINUE REMOVING OVERBURDEN FROM CELL #7 - CLOSEST TO CULVERT - LARGE DIAMETER DRAIN ROCK - ENCOUNTERED ALONG WEST SIDE OF ~~CULVERT~~ TP C/LO CELL #7 - GW AT 5' BGS

1030 - EXCAVATE TO 5' BGS IN CELL - CONT. SAND ON EAST SIDE OF CELL #7 RIGHT AT GW WILL LEAVE LARGE DIAMETER DRAIN ROCK IN PLACE TO MIX WITH OBC AS IN TP C/LO CELL #4.
- WILL REMOVE CONT' SAND TO 1' ~~BGS~~ TP C/LO BELOW GW.

18 JUNE 12

BUILDING T-1451 / EAST CANAL SE/SC 18 JUNE 12
45°F, PARTLY CLOUDY PPE: LEVEL D

1115 - REMOVE CONT SOIL TO 1' BELOW GW SURFACE - TIDE VERY LOW - WILL MIX 5 BUCKETS IN WITH FILL MATERIAL
- EXCAVATION COMPLETE FOR CELL #7

1210 - ADDED 5 BUCKETS TO CELL #7 - ~40' OF FILL AND 50# BAG OF WOOD FIBER MULCH - MIX W/ EXCAVATOR BUCKET

1215 - BREAK FOR LUNCH

1325 - ARRIVE ON-SITE AT EC/BLDG T-1451 AREA
- OPERATOR (EXCAVATOR) SPREADING TOP 2' OF BACKFILL MATERIAL PLACED FROM OVERBURDEN STOCKPILE, IN VICINITY OF CELLS #2, #3, #5 AND #6 TO REDUCE OVERBURDEN STOCKPILE SIZE FOR FUTURE USE OF SPACE.

1345 - BEGIN REMOVING OVERBURDEN FROM CELL #8 - GEO LINER OBSERVED AT 2'-2.5' BGS - SECOND LINER BELOW THE 1st LINER DIPPING AT AN ANGLE CREATING A WEDGE OF CULVERT BACKFILL MATERIAL ABOVE THE CONTAMINATED SAND LAYER BELOW ~~THE~~ TP C/LO

1530 - REMOVED OVERBURDEN FROM 2.5'-3.5' BGS IN WEST PART OF CELL #8. PLACE REMOVED COBBLE/GRAVEL CULVERT BACKFILL TO 4

18 JUNE Rite in the Rain

PPA: CELL D

SEPARATE LINER NEAR CONTAMINATED SAND STOCKPILE - LARGE FRACTION OF ROCK AND COBBLE.
- MAY SUPERSACK THE ROCKY MIXED SOIL.

1635 - REMOVE CONTAMINATED SOIL FROM 3.5' BGS TO 1' BGS IN CELL #8 - TO 1' BELOW WATER LEVEL

1725 - COMPLETE EXCAVATION OF CELL #8 TO 1' BELOW WATER TABLE, BEGIN PLACING BACKFILL TO EXCAVATION.

1735 - ADD 2 BUCKETS OBC AND ~~150#~~ 25# TO 6/18 OF FIBER MULCH TO 1st LIFT OF BACKFILL

1800 - ADD 2 BUCKETS OF OBC TO 2nd LIFT OF MATERIAL - 25# OF WOOD FIBER MULCH.

1825 - ADD 1 BUCKET OF OBC TO BACKFILL MATERIAL - MIX IN PLACE WITH EXCAVATOR BUCKET.

1845 - BACKFILL COMPLETE IN CELL #8 - TOTAL OF 5 BUCKETS OF OBC - 50# OF WOOD FIBER MULCH ADDED TO 5' OF FILL MATERIAL - MIXED AND SPREAD WITH THE EXCAVATOR BUCKET.

1910 - COVERED CONT. STOCKPILE AND SECURED SITE FOR DAY.

- 18 PRIMARY AND TWO FIELD DUPLICATES WERE COLLECTED FROM STOCKPILES FOR DRO ANALYSIS AT THE MOBILE LAB. - ONE SAMPLE WAS COLLECTED FOR ANALYSIS AT THE FIXED LABORATORY: 01-EX018.

18 JUNE 12

- COMPLETED TWO CELLS #7 AND #8.
- ADDED 5 BUCKETS OF OBC AND 1 50# BAG OF WOOD FIBER MULCH TO EACH CELL.
- TIDE WAS VERY LOW TODAY. EXCAVATION OF CELL #8 WAS DEEPER THAN EXPECTED
- DONE FOR THE DAY

18 JUNE 12

NFP

Rite in the Rain

40°F, PARTLY CLOUDY PPE: LEVEL D

0700 - DAILY TAILGATE SAFETY MEETING.
- EXCAVATOR (CAT 325C) AND LOADER (VOLVO 906) SAFETY, EYE CONTACT W/ OPERATORS, PROPER PPE.
- ATTENDEE'S:
T. DOBSON, Z. KIRC, J. OVERLAND, H. WOTTON
Z. RASMUSSEN, T. SPITLER

0730 - OPERATORS DEPART FOR BLDG T-1451/EC AREA SITE - TASK #7 FURTHER EXCAVATION AND CONSTRUCTION OF MNA TA
PLAN TO START CELL #9

0815 - ARRIVE ON SITE AT TO BE EC/BLDG T-1451 AREA
START CELL #9 WILL PLACE CONT. SOIL IN 5 CY SUPERSACKS AND TRANSPORT TO WMSA.

0825 - BEGIN REMOVING OVERBURDEN FROM CELL #9 TO 1' BGS - ENCOUNTER DIESEL ODOR AT ≈ 1' BGS. -

0935 - REMOVE 1'-1.5' BGS FOR OVERBURDEN IN CELL #9
- READY TO REMOVE CONT MATERIAL -

0945 - SET UP SUPERSACK FOR LOAD FRAME

0950 - BEGIN TO REMOVE CONT SOIL FROM CELL #9 AND PLACE IN 5 YD SUPERSACKS FOR TRANSPORT TO WMSA

19 JUNE 12

40°F, PARTLY CLOUDY PPE: LEVEL D

1045 - OBSERVE GROUND WATER AT 4.5'-5' BGS

1205 - HAVE 8 5 YD SUPERSACKS LOADED.
BREAK FOR LUNCH

1310 - ON-SITE AT EC/BLDG T-1451 AREA TO CONTINUE EXCAVATION OF CELL #9. WATER CREEK AT 4'-4.5' BGS ON SOUTH SIDEWALL.
- EXCAVATOR MECHANIC ON-SITE TO CHANGE FUEL FILTER ON 325C CAT. FILTER WON'T COME OFF. WILL REPLACE LATER DATE

1335 - RESUME EXCAVATION OF CELL #9 ON EASTERN BOUNDARY OF MNA.

1345 - JOHN HIGHSTONE AND DWIGHT JOHNSON W/ SEA & LASER ENVIRONMENTAL VISIT SITE FOR 'BOW INSPECTION

1530 - CONTINUE TO EXCAVATE CELL #9 BW AT 4-4.5' - REMOVE MATERIAL MOVING EAST TO MNA BOUNDARY.
- CELL #9 WAS ADJUSTED TO MAINTAIN AN ~~EASTER~~ TO CLIP MORE UNIFORM CELL PATTERN AS THE EXCAVATION CONTINUES SOUTH TOWARDS THE CULVERTS.

1800 EXCAVATION OF CELL #9 COMPLETE -
- FINAL DEPTH APPROXIMATELY 5' BGS
- TOTAL OF 19 5-YD SUPERSACKS

19 JUNE 12

Rite in the Rain

40°F PRE: CLEARED

WERE USED TO REMOVE CONT'D SOIL. SUPERSACKS TRANSPORTED TO WMSA - TOTAL OF 37 SUPERSACKS STAGED AT WMSA.

1810 - BEGIN TO PLACE BACKFILL IN CELL #9.

1830 - 1st LIFT IN PLACE - 3 BUCKETS OF OBC AND 25# (1/2 BAG) WOOD FIBER MULCH PLACED INTO CELL #9.

1855 - PLACE 2 BUCKETS OF OBC AND 1/2 BAG OF WOOD FIBER MULCH INTO ≈ 1.5' OF LOCAL BORROW SOURCE BACKFILL MATERIAL.
- MIX IN PLACE WITH THE EXCAVATOR BUCKET.

1910 - SECURE EAST CANAL / BUILDING T-1457 AREA SITE - COVER CONT. STOCKPILE.
- COLLECTED 7 SOIL SAMPLES FROM
- STOCKPILE AND CELL #9 FOR DRO ANALYSIS AT MOBILE LAB AND FIXED COLLECTED 4 SOIL SAMPLES FROM CLEAN STOCKPILE THAT HAD RESULTS ABOVE CLEANUP LEVEL AFTER REMOVING SOIL FROM THE STOCKPILE THAT WAS INDICATED ON 6/18/12
- COLLECTED THREE SOIL SAMPLES FROM OVERBURDEN FROM CELL #9 TO SUMMIT TO MOBILE LAB. TWO SOIL SAMPLES COLLECTED FROM

19 JUNE 12

POR: CLEARED

CONTAMINATED SOIL REMOVED FROM OVERBURDEN STOCKPILE: 01-EX019, AND 01-EX020 FOR DRO ANALYSIS - PART OF 101 CONFIRMATION SAMPLES FOR MOBILE LAB SOIL SAMPLE ANALYSIS.

COLLECTED THREE SOIL SAMPLES FROM OVERBURDEN REMOVED FROM CELL #9 FOR DRO ANALYSIS BY THE MOBILE LABORATORY.

19 JUNE 12

Rite in the Rain

 BUILDING T-1451/EAST CANAL SI/SC 20 JUNE 12

45°F CLOUDY PPE: LEVEL D

- 0700 - TAILGATE SAFETY MEETING -
  DISCUSS SAFETY AROUND EXCAVATOR AND LOADER. EYE CONTACT WITH BOTH EXCAVATOR AND LOADER OPERATOR. DISCUSS SAFETY WHILE LOADING SUPERSACKS WITH FORKS ON THE LOADER. PROPER PPE
- ATTENDEES:
  T. OLSSON, Z. KIRK, J. OVERLAND, H. WOTTON, Z. RASMUSSEN, T. SPITLER.
- 0800 - PREPARE DAILY REPORTS.

1015 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA TO OBSERVE PROGRESS ON EXCAVATION OF CELL #10 IN THE MAIN TA.

1035 - DEPART SITE - MEET WITH NTR TO DISCUSS FCR FOR COFFERDAM INSTALLATION. ALSO DISCUSS SOIL TRANSPORT REQUEST TO SUBMIT TO ADEC.

1130 - BEGIN PREPARATION OF FCR FOR COFFERDAM INSTALLATION -

1300 - PREPARE PREP/INITIAL PHASE DOCUMENTS FOR DEWATERING THE EAST CANAL.

1430 - PREPARE MEETING AGENDA FOR QC MEETING TO BE HELD ON THURSDAY, 6/21/12.

20 JUNE 12

 BUILDING T-1451/EAST CANAL SI/SC 20 JUNE 12

45°F CLOUDY PPE: LEVEL D

1545 - SEND OF QC MEETING AGENDA TO TECH PM AND PROJECT MANAGER FOR REVIEW.

1600 - COMPLETE ADEC SOIL TRANSPORT REQUEST AND EMAIL TO TECH PM

1630 - COMPLETE FCR FOR NTR TO SIGN FOR COFFERDAM LOCATION ADJUSTMENT.

1710 - ARRIVE ON-SITE AT EC/BLDG T-1451
- EXCAVATION OF CELL #10 WAS COMPLETE
- OBSERVE OVER BURDEN REMOVAL IN CELL #11. GEO TEXTILE LINER WAS ENCOUNTERED IN TWO LAYERS. THE BOTTOM LINER WAS FOLDED IN MANY PLACES

1830 - REMOVED THREE 5-40 SUPERSACKS OF CONTAMINATED MATERIAL. OVERBURDEN WAS REMOVED FROM 2.5' TO 1.0' BGS IN CELL #11.

1845 - CEASE EXCAVATION IN CELL #11 - CLEAN SITE - SECURE CONT. STOCKPILE COVER

1855 - DEPART EC/BLDG T-1451 AREA SITE.

21 JUNE 12

Rite in the Rain

BUILDING T-1451/EAST CANAL SZ/SC 20 JUNE 12

45°F, CLOUDY PPE: LEVEL D

- ~~8~~ 2 TO 6/20 PRIMARY AND 1 DUPLICATE SAMPLES WERE COLLECTED FROM THE OVERBURDEN REMOVED FROM CELL #10 ~~AND #11~~ TO 6/20
ONE SOIL SAMPLE WAS COLLECTED THE EXCAVATION AREA IN CELL #10.
ONE SOIL SAMPLE (01-EX021) WAS COLLECTED FROM OVERBURDEN REMOVED FROM CELL #10 FROM MOBILE LAB SAMPLE (01-EX128-001)
- 2 SAMPLES WERE COLLECTED FROM THE OVERBURDEN REMOVED FROM ~~OVE~~ TO 6/20 CELL #11 FOR DRO ANALYSIS AT THE MOBILE LAB.
- DONE FOR DAY

20 JUNE 12

BUILDING T-1451/EAST CANAL AREA 21 JUNE 12

40°F, WIND RAIN

0700 - TAILGATE SAFETY MEETING
DISCUSS EXCAVATOR AND LOADER SAFETY, ESPECIALLY AROUND FOLKS WHEN LOADING BAGS.
- PROPER PPE DISCUSSED.
- ATTENDEES:
T. DOBSON, Z. KIRK, J. OVERLAND, M. MOTTLEY, Z. RASMUSSEN, T. SPITLER
0730 - PREPARE FOR QC MEETING.
0900 - QC MEETING - DISCUSS PRIOR WORK PROGRESS. SEE MEETING MINUTES
0935 - END DQ MEETING - DISCUSS DAY'S PLAN WITH NTR.
0945 - REVIEW PREP/INITIATE FOR DEWATERING - REVIEW DAILY REPORTS
1030 ON-SITE W/ NTR ON EC/BADGE - T. MAY AREA EXCAVATION OF CELL #11 CONTINUE, PLACE SORBENT PADS IN CELL TO COLLECT OIL PRODUCT
1045 NTR CONTACTS RPM. REQUEST MEASUREMENT OF VISIBLE FUEL PRODUCT ON WATER SURFACE IN CELL #11.

21 JUNE 12

Rite in the Rain

0955 - NTR RETURNS W/ SEA ALASKA EMPLOYEE DWIGHT JOHNSON W/ OIL-WATER INTERFACE PROBE. DJ. MEASURES AVERAGE 0.5" OF PRODUCT ON WATER SURFACE WITH PROBE. DJ HAS SORBENT PILLOWS CAN USE TO RECOVER NAPL ON WATER SURFACE. WILL RETURN W/ 4 PILLOWS.

1120 - NTR RETURNS WITH SEA ALASKA. BRING 2 BOXES OF PILLOWS - ADD PILLOWS TO EXCAVATION ~~- ADD 14 PILLOWS AND 5 - 10' SECTIONS OF~~ TO 6/21

1200 - BREAK LUNCH - DISCUSS WHAT TO DO WITH NAPL ON WATER SURFACE OF CELL #11 WITH NTR

1300 - DISCUSS WMP AND SAP TO DEAL WITH NAPL IN CELLS WITH NTR - WILL DO BEST TO CLEAN UP THE NAPL WITH SORBENTS.

1330 ARRIVE ON SITE AT EC/BLDG T-1451 AREA. PLACE 5 10' SECTIONS OF SORBENT BOOM AND SORBENT PADS TO REMOVE NAPL FROM CELL #11.

1400 - BEGIN TO PLACE BACKFILL IN CELL #11 TO MOVE NAPL TO WEST SIDE OF CELL AND COLLECT WITH SORBENTS. PLACE IN SUPERSACK

1500 - PLACE 8 BUCKETS OF OBC IN 1st LIFT OF MATERIAL - MIX IN PLACE WITH THE EXCAVATOR BUCKET

21 JUNE 12

1620 - COMPLETE BACKFILL & TREATMENT OF CELL #11. 6 BUCKETS OF OBC TO 6/21 WERE ADDED WITH 50# OF ~~BACKFILL~~ WOODFIBER MULCH TO 3.5 - 4' OF LIFT IN BACKFILL.

1650 - BEGIN EXCAVATION OF CELL #12 REMOVE OVERBURDEN SOIL FROM K'BOS

1830 - CEASE EXCAVATION OF CELL #12
- FILLED THREE 5 YD SUPERSACKS FROM CELL #12 - TRANSPORTED TO WMSA.

1850 - CLEAN UP SITE - SEWER LINE ON CONT. SCHEDULE.

1900 - DEPART SITE -
- TOTAL OF 14 5 YD SUPERSACKS REMOVED FROM CELL #11 - INCLUDING THOSE REMOVED FROM CELL #11 ON 20 JUNE 12.
- REMOVED THREE 5 YD SUPERSACKS FROM CELL #12 - STORED IN WMSA.
- RECEIVED MOBILE LAB RESULTS FROM OVERBURDEN STOCKPILE REMOVED FROM CELL #10. ONE SAMPLE (01-EXB-122-01) TO 6/21 HAD A DRO RESULT OF 265 mg/kg.

21 JUNE 12

Rite in the Rain

BUILDING T-1451 / EAST CANAL SI/SC 21 JUNE 12
45°F CLOUDY PPE LEVEL D

REMOVED SOIL FROM STOCKPILE IN THAT LOCATION - AND COLLECTED MOBILE SAMPLES (~~3~~ 3 TP 6/22) FOR DRO TO CONFIRM REMOVAL OF CONTAMINATED SOIL. ONE FIXED LAB SAMPLE WAS ALSO COLLECTED FOR DRO ANALYSIS FOR 10% CONFIRMATION OF MOBILE LAB SAMPLES FROM THE REMOVED SOIL IN THE OVERBURDEN STOCKPILE FROM - CELL #12. ONE PRIME / ONE DUPLICATE SOIL SAMPLE COLLECTED FROM OVERBURDEN SOIL IN CELL #12 FOR DRO ANALYSIS AT THE MOBILE LABORATORY.

- COMPLETED CELL #11 - STARTED CELL #12 - REMOVED THREE S-40 55. - 55 TOTAL 5C4 S2 STAGED IN WMSA.

21 JUNE 12
NTTP

BUILDING T-1451 / EAST CANAL SI/SC 22 JUNE 12
40°F, CLOUDY PPE: LEVEL D

0700 - CONDUCT DAILY TAILGATE SAFETY MEETING -

DISCUSS SAFETY NEAR EXCAVATOR AND LOADER WHILE EXCAVATING AND COMPACT SUPERSACKS.

- PROPER PPE, RESPIRATORS FOR HANDLING OBC.
- ATTENDEES:

T. DOBSON, Z. KING, J. OVERLAND, H. WATTLIN, Z. RASMUSSEN, T. SPITZER (EBS-JV)
~~B. JO~~ TP 6/22 B. CULLEN, J. PITZ (NAVFAC)

0710 - CONDUCT PREPATORY MEETING FOR DEWATERING AND COFFERDAM PLACEMENT IN EAST CANAL FOR EXCAVATION ALONG EAST BANK.

- DISCUSS AHA - PPE. AND HOW WORK WILL BE ACCOMPLISHED.

0725 - CONCLUDE MEETING - SIGN PREP DOCUMENT

0810 - SUBMIT DAILY REPORTS FOR 6/20/12 AND 6/21/12 - TO NTR, RPM AND PM'S.

0850 - ARRIVE ON SITE AT EC/BLDG T-1451 MEET TO CHAIN TRUCK

22 JUNE 12

Rite in the Rain

40°F. CLOUDY, RAIN ENT PDR: LEVEL D

0930 - GRAB BUNKER CARDS AT STORE -

0945 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA.
NTR - CULLEN AND PITZ ON SITE
- MONITORING EX. OF CELL #12. GW ENCOUNTERED AT 5' ON SSW - 4.5' ON EAST SW

1120 - EXCAVATION OF CELL #12 COMPLETE - REMOVE SOIL TO ~1' BELOW WATER TABLE. REMOVED 74 CUBIC STACKS FROM CELL #12

1210 - BREAK FOR LUNCH

1310 - CREW DEPARTS FOR EC/BLDG T-1451 TO BEGIN BACKFILL & TREATMENT OF CELL #12 IN MAIN TA. STILL 3 SUPERSACKS TO MOVE WITH LOADER

1430 - GATHER OBC - PUMPS TO DO COFFER DAM INSTALLATION

1500 - FIRST LIFT OF BACKFILL W/ 3 BUCKETS OF OBC - 75# OF WOOD FIBER MULCH.

1520 - 2nd APP OF OBC - 2 BUCKETS 25# OF WOOD FIBER MULCH
- NTR ON-SITE OBSERVING BACKFILL OPERATION

1535 - ADD LAST BUCKET OF OBC. AND MIX IN PLACE

1545 - REMOVE LARGE RUBBLE FROM BANK OF EAST CANAL PLACE IN CELL #12 PER AGREEMENT WITH NTR. RUBBLE IS GREATER THAN 2" DIAMETER

1600 - BEGIN FILLING 1 CY SUPERSACKS TO PLACE AS SANDBAGS. FOR CULVERT PLUGS AND TO PLACE

40°F. CLOUDY - RAIN ENT. PDR: LEVEL D

COFFER DAM

1630 - NTR ON-SITE - J. PITZ, B. CULLEN

~~1500~~ 1700 - BEGIN TO SET PLYWOOD AND SANDBAGS (1 CY) TO DIVERT FLOW OF WATER TO WEST CULVERT.

1800 - BOTH ENDS OF EAST CULVERT NOW BLOCKED OFF. SHOULD PREVENT THE FLOW OF WATER TO A MANAGEABLE LEVEL. USE LINER INSTEAD OF PLYWOOD.

1810 - BEGIN TO PLACE COFFERDAM SECTION IN EAST CANAL - APPEARS ONE SECTION WILL BE ADEQUATE WITH THE CURRENT TIDE LEVEL

1845 - ONE SECTION OF COFFER DAM IN PLACE AND FILLED WITH WATER.
- USE 2" PUMP TO FILL COFFER DAM SECTION.

1900 - OBSERVE WATER RUNNING UNDER CULVERT AS PUMPING OUT DAMMED SECTION OF CANAL.

1915 - NTR ON-SITE TO OBSERVE COFFER DAM SET UP. - SECURE SITE - DEPART EC/BLDG T-1451 AREA.
- NO SAMPLES COLLECTED FOR MONTH

22 JUNE 12

Rite in the Rain

LAB AS ONLY CONTAMINATED SAND WAS REMOVED FROM CELL #12.
PUMP WILL NOT BE LEFT TO RUN OVERNIGHT
NO OIL/WATER SEPARATOR INSTALLED. WILL SET IN THE MORNING (6/23/12)
- PLASTIC WATER AND 1 CY SUPERSACKS USED TO SET AS PLUGS FOR CULVERT.

22 JUNE 12

NFTP

40°F CLOUDY, PPR: LEURLD

0700- TAILGATE SAFETY MEETING -
DISCUSS SAFETY AROUND LOADER AND EXCAVATOR - EYECONTACT WITH THE OPERATORS. PROPER PPE -
- DEWATERING THE CANAL - PPE AVAILABLE
- SAFETY NEAR WATER.
- ATTENDEES:
T. DOBSON, Z. RICE, J. OUBELAND, H. WOTTON
Z. RASMUSSEN, T. SPITLER (ERS-JV)
J. PITZ (CONTRACT-NW)

0740- FINISH DAILY REPORTS - SUBMIT TO NTR, ROM, AND CONTRACTOR PMC

0750- ARRIVE ON SITE AT EC/BLDG T-1451 AREA / MAIN EXCAVATION CONTINUES. COFFERDAM MOVED WITH ~~SIT~~ TIDE TO 6'63 AS OF LAST NIGHT -

0845- COFFERDAM SET IN PLACE AND ANCHORS SET TO KEEP TRUCK MOVING
- DEWATER EXCAVATION SET OIL/WATER SEPARATOR - BEGIN TO PUMP

0930 START EXCAVATION OF CELL #13 - NEAR CULVERT
- SMALL CELL - AND REMOVE OVERBURDEN
- WATER AT 5' 3 6S -
- REMOVED ONE 5 YD SUPERSACK OF

23 JUNE Rite in the Rain

45°F, WINDY LEVEL D

CONTAMINATED MATERIAL. CELL #13 WAS 4 SMALL TRIANGLE - ALONG THE BANK OF THE EAST CANAL TO GWS B SOUTH OF CELL #10

- MOVED SITE TO MONITOR MAIN TREATMENT AREA CONSTRUCTION AND DEWATERING ACTIVITY

- 1100 - COMPLETE EXCAVATION OF CELL #13 ADD 2 BUCKETS OF OBC AND PRACTICAL BAG OF WOOD FIBER MULCH

- 1230 - BEGAN REMOVAL OF OVERBURDEN IN CELL #14 FROM 3 TO 6 FT 2.5' - 1.0' BGS -

1630 REMOVED 9 SUPER SACKS OF CONTAMIN MATERIAL AND ≈ 5 YDS OF EXCAVATED MATERIAL PLACED IN CONT. STOCKPILE

1830 - BACKFILL CELL #14 WITH 4 BUCKETS OF OBC AND 4' OF AND 50 LBS OF WOOD FIBER MULCH -

- TOTAL OF 76 SUPERSACKS STAGED IN WMSA

- EXCAVATOR MANAGED MATERIAL ON-SITE

- LOADER REMOVED FINAL 8-YD SUPERSACKS TO WMSA -

1900 - SECURE SITE, COVER STOCKPILE, DRAFT EC / BUILD T-1451 SITE. DOWN FOR DAY

[signature] 25 JUNE 12

45°F. PARTLY CLOUDY PPE: LEVEL D

0700 - CONDUCT DAILY TAILGATE SAFETY MEETING -

- CONTINUE MAIN TRA EXCAVATION. DISCUSS EXCAVATION / LOADER SAFETY - DISCUSS PPE FOR DEWATERING PPE FOR ADVANCED DRILL CREW ARRIVED SUNDAY 6/24/12.

- INSTALL RECOVERY WELLS IN AREA 303 TODAY. PROPER PPE NEAR DRILL RIG

- GEOPROBE 6620 -

ATTENDEES:

T. DOBSON, J. OVERLAND, H. WATKIN, Z. KIRK, Z. RASMUSSEN, T. SPECHT (EAS-JV)

J. PITZ (NTR, NAVFAC)

T. BROWN - E. MARSHALL (GEOPROBE)

0715 - ERIC MARSHALL NEW TO PROJECT. REVIEW AHA FOR TASK #8 AND WORK TO BE PERFORMED FOR INSTALLING RECOVERY WELLS. GO OVER SSHP. ERIC MARSHALL SIGNS AHA.

0735 - CALIBRATE PID. FRESH AIR CAL AND 100 PPM ISOBUTYLENE CAL. POST CAL BUMP WAS 99.8 PPM OKAY.

0810 - ONSITE AT RC / BLDG T-1451 AREA. EXCAVATOR 325C / LOADER VOLVO L60

[signature] 25 JUNE 12

Rite in the Rain

- BEGIN EXCAVATING CELL #15 - WITH REMOVAL OF STAINED GRAVEL SOIL ALONG EAST CANAL
- 0945 - REMOVE 3 5-YD SUPERSACKS OF CONT. MATERIAL FROM CELL #15. GW AT 3 & 4' BGS FROM EAST SW OF EXCAVATED AREA
1020 REMOVE UNMARKED MATERIAL ON SOUTH PORTION OF CELL #15. COLLECT FS 165 AT GW
1025 - COMPLETE EXCAVATION OF CELL #15 TO 0.5' TO 1.0 BELOW GW - BEGIN PLACING BACKFILL MATERIAL IN EXCAVATION -
1040 - ADD 3 BUCKETS OF OBC & 25 lb WOOD FIBER MULCH TO 1st LIFT OF BACKFILL MATERIAL
1055 - ADD 2 BUCKETS OF OBC TO BACKFILL - ADD 25 LBS WOOD FIBER MULCH TO 2nd LIFT OF BACKFILL.
1110 - BACKFILL COMPLETE FOR CELL #15 - 350 FT²
1115 - BEGIN REMOVING OVER BURDEN FROM SMALL CELL #16 - REMOVE SOD
1150 - BEGIN COLLECTING FIELD SCREENING SAMPLES FROM OVER BURDEN STOCKPILE - LESS THAN 50 YDS
1210 - WILL SUBMIT MOBILE LAB SAMPLES 01-EX137-01 AND 01-EX138-01 FROM 2 HIGHEST PID READINGS - FOR OFF ANALYSIS
BREAK FOR LUNCH.

25 JUNE 12

50°F - P. CLOUDY

STARTS w/ 01-EX136 & PRELIMINARY - 01-EX023

FS ID #	TIME	PID	MOBILE LAB	FIELD SAMPLE
FS165	1088	5.3		
FS166	1156	3.0		
FS167	1158	6.9	01-EX137-01	
FS168	1159	7.0	01-EX138-01	
FS169	1203	1.0		
FS170	1204	1.5		

Rite in the Rain

 BUILDING T-451/EAST CANAL SI/SC 25 JUNE 12

50°F, P. CLOUDY AFTERNOON TPE: LEVEL D

1350 - SUBMIT SAMPLES TO MOBILE LAB - DEPART FOR EL/BLDG T-451 AREA TO MONITOR OVER BURDEN REMOVAL FROM CELL #16.

1400 - EXCAVATOR REMOVING MATERIAL IN BASE AREA AND PLACING IN CONT. STOCKPILE TO DRAIN WATER
- GROUNDWATER AT 4' BGS FROM EAST SIDEWALL

1420 - EXCAVATION OF CELL #16 COMPLETE -

1435 - ADD 2 BUCKETS OF OBC AND 25 LBS OF WOOD FIBER MULCH TO FIRST LIFT OF BACKFILL - 1.5' LIFT - MIX W/ EXCAVATOR BUCKET

1450 - ADD 1 BUCKET OBC - 25 LBS WOOD FIBER MULCH - TO TOP OF 1st LIFT - CELL HAS LITTLE VOLUME 235 ft^2 - SLOPE LIMITS VOLUME FROM EAST TO WEST. ≈ 40-45 CY OF MATERIAL - TOTAL SURFACE AREA IS 235 ft^2

1500 - REMOVE OVERBURDEN IN CELL #17 - SQ FOOTAGE IS 195 ft^2 FOR CELL #17. VOST PLANS INDICATE NO CONTAMINATION ASSOCIATED WITH #17 - SAME AS #16.

1510 DEPART SITE FOR PHONECALL TO ATTY

1555 - RETURN TO SITE - EL/BLDG T-451 AREA. EXCAVATION OF CELL #17 NEARLY COMPLETED. GW AT 4' BGS - SAND IS SLOUGHING ON EAST SIDEWALL
- LIMIT - REMOVE TO 0.5' BELOW GW. CONTINUE SLOUGHING SAND FILLING IN THE BASE

25 JUNE 12

PICTURE #	DIRECTION	DESCRIPTION
4956	NE	CELL #15 - EXCAVATION TO 5' BGS
4957	SE	" "
4958	NW	CELL #17 - 3 BUCKETS OBC - MIX
4959	N	" " MIX OBC/WOOD MULCH
4960	S	CELL #16 - EXCAVATED TO DEPTH
4961	E	CELL #16 - EXCAVATED TO DEPTH
4962	S	" " - 1st LIFT W/ OBC
4963	E	" " 1st LIFT W/ OBC
4964	S	CELL #17 - EXCAVATED BELOW GW
4965	E	CELL #17. EXCAVATED BELOW GW
4966	S	- 3rd APP OF OBC - CELL #17
4967	E	2nd APP OF OBC CELL #17
4968	S	PARTIAL CELL #18 - GW - BELOW
4969	N	PARTIAL CELL #18 GW BELOW
4		

N 4P 25 JUNE 12

50°F, P. CLOUDY PPE: LEVEL D

1610 - EXCAVATION OF CELL #17 COMPLETED. TO 4.5' BGS. SLOUGHING SANDS DIFFICULT TO REMOVE - 5' BGS IN CENTER OF EXCAVATION.
- ADD 1ST LIFT OF BACKFILL MATERIAL

1620 - ADD 1 BUCKET OF OBC TO 25 LBS OF FIBER MULCH. - 1ST LIFT 1.5' OF MATERIAL. - VERY SMALL CELL - WITH SLOPE OF BANK TO EAST CANAL.

1630 - CELL #17 COMPLETE WITH 2 BUCKETS OF OBC AND 50 LBS WOOD FIBER MULCH. 4'-1' OF FILL MATERIAL TO SLOPE OF BANK OF EAST CANAL

1645 - BEGIN EXCAVATION OF CELL #18 ALONG BANK OF EAST CANAL - WILL EXCAVATE PARTIAL PORTION OF CELL #18 - IN ORDER TO FILL IN AREA IN CANAL CLAY.

1830 - REMOVE 5 SCY SUPERSACKS - FROM CELL #18
- GW AT 0.5' - 1.0 BELOW WATER TABLE -
WILL DO HALF OF CELL #18 TO CLOSE OFF EAST CANAL SHORE LINE.

1850 - ADD 1 BUCKET OF OBC TO 1' LIFT
- APPROXIMATE 18'x12' - 3' ON EAST TO 1' ON CANAL BANK.

1900 - ADD 1 BUCKET TO REMAINING BACKFILL TO FILL PARTIAL COMPLETE CELL #18. MIX IN PLACE

25 JUNE 12

50°F, P. CLOUDY PPE: LEVEL D

WITH THE EXCAVATION BUCKET -
- TOTAL OF 2 BUCKETS OF OBC AND & 25 LB OF WOOD FIBER MULCH ADDED TO PARTIAL COMPLETED CELL #18.

- 1910 - SEWER SITE - COVER STOCKPILE
DEPART SITE
- COMPLETED EXCAVATION AND TREATMENT OF CELLS #15, 16, AND #17. PARTIALLY COMPLETE CELL #18 - APP. HALF COMPLETE
- COLLECT 2 MOBILE LAB SAMPLES FROM OVERBURDEN REMOVED FROM CELLS #13 AND #14 FROM 6/25/12 - 01-EX157-01 AND 01-EX158-02 - FOR DRO ANALYSIS.
- DRILL CREW INSTALLED RECOVERY WELLS RW-303-01 AND RW-303-03
- IN AREA 303 - NOT COMPLETE UNTIL CONCRETE POURED FOR STICK UP AND BOLLARDS.

1930 - WORK ON DAILY REPORTS -

1945 - DRIVE FOR DAY.

25 JUNE 12

Rite in the Rain

BUILDING T-1451/EAST CANAL SE/SC — 26 JUNE 12

40°F - FOGGY - CLOUDY — PPE: LEVEL D

0700 - CONDUCT DAILY SAFETY MEETING

- DISCUSS SAFETY NEAR EXCAVATOR/LOADER.
- PROPER PPE AND EYE CONTACT WITH OPERATORS
- DISCUSS SAFETY NEAR GEOPROBE 6620 DIRECT PUSH DRILL RIG - HEARING PROTECTION AND PERSONNEL DIRECTED BY DRILL OPERATOR PROPER PPE: HARDHATS, STEEL TOE BOOTS, SAFETY GLASSES AND REFLECTIVE VESTS.
- DISCUSS GENERAL SITE SAFETY. CHECK LIST SHEET.

ATTENDERS:

T. DOBSON, J. OVERLAND, H. WATTEN, Z. RASMUSSEN
Z. KINK - ~~GF~~ TO CH2, T. SPITLER (CRS-JV)
J. PITTZ (NTR-NASRAC-NW)
T. BROWN, E. MARSHALL (GEOPROBE AK)

0730 - CALIBRATE PID - FRESH AIR CAL AND 100PPM ISOBUTYLENE SPAN GAS CAL. POST CAL BUMP = 100.1 PPM. OKAY

- SUBMIT DAILY REPORTS

0830 - CHECK IN W/ DRILL CREW, WILL COMPLETE RW-303 - AND THEN SET CONCRETE AND DEVELOP WELLS IF LOCATIONS NOT MARKED FOR MNATA M.W. WELLS.

0845 - ON-SITE AT BUILDING T-1451 SITE. REMOVE

BUILDING T-1451/EAST CANAL SE/SC — 26 JUNE 12

40°F. CLOUDY — PPE: LEVEL D

- TO RESUME EXCAVATION OF CELL #18 FROM 6/25/12 EXTENT -

0900 - BEGIN TO REMOVE OVERBURDEN FROM CELL #18 AND PLACE IN OVERBURDEN STOCKPILE.

- 1100 - CONTAMINATION INDICATED SPORADICALLY AT MULTIPLE DEPTHS THROUGHOUT THE CELL. -

1155 - SET UP S-40 SUPERSACK TO REMOVE CONT'D SOIL FROM CELL #18

- BREAK FOR LUNCH.

1300 - ARRIVE ON SITE EC/T-1451 AREA - WATER, LOADING SUPERSACK REMOVED

1.6-2.5 - OVERBURDEN -

1630 - NEARLY COMPLETED REMEDIATION OF CELL #18

- G.W AT 5' BGS IN EAST SIDEWALL - TO 3' AT BEGINNING OF PARTIAL BOUNDARY

1655 COMPLETE REMEDIATION OF CELL #18 AND INTO #19. 0.5-1.0' BELOW WATER TABLE - SLOUGHING SANDS ON SIDEWALL FILLING BASE

1700 - PHOTOS 4970 - WATER TABLE - SEE PHOTO LOG PG. 39

1710 - H. WATTEN TO APPLY OBL TO BACKFILL

Rite in the Rain

BUILDING T-1451 / EAST CANAL JI/SC — 26 JUNE 12

45°F, P. CLOUDY — PPE: LEVEL D

FSID	TIME	PID	MOBILE LAB
FS171	~~1728~~ 1723	1.8	01-EX139-01 - 1723
FS172	1728	0.9	01-EX140-01-DUP - 1730 01-EX023
FS173	1730	0.7	
FS174	1732	1.6	01-EX141-01-
FS175	1737	0.6	

26 JUNE 12

NFTT

BUILDING T-1451 / EAST CANAL — 26 JUNE 12

45°F, P. CLOUDY — PPE: LEVEL D

PICTURE #	DIRECTION	DESCRIPTION
4970	ESE	PARTIAL CELL #18 - GND
4971	S	PARTIAL CELL #18 - GND
4972	S	PARTIAL CELL #18 - OBC 1st AP
4973	S	CLOSEUP - CEL - OBC -
4974	S	#18 - 2nd LEFT OBC

26 JUNE 12

NFTT

Rite in the Rain

BLDG T-1451/EC SI/SC — 26 JUNE 12

45°F, CLOUDY — PPE: LEVEL D

CONT FROM P.37 -

IN CELL #18. ADD 2 BUCKETS OF OBC AND 25 LBS OF WOOD FIBER MULCH TO 1ST LIFT OF BACKFILL MATERIAL -

1715 BEGIN TO COLLECT FIELD SCREENING SAMPLES FOR STOCKPILED MATERIAL FROM CELLS #15, 16 & 17. & 50 CY. COLLECT 5 FIELD SCREENING SAMPLES

1740 - FINISH PID SCREENING - COLLECT 2 MOBILE LAB SAMPLES (01-EX139-01, 01-EX140-01 DUPLICATE OF 01-EX139-01 AND 01-EX141-01

- COLLECT FIXED LAB SOIL SAMPLE FROM 01-EX139-02

1800 - BACKFILL COMPLETE FOR PARTIAL CELL #18 AND INTO #19 - TOTAL OF 4 BUCKETS OF OBC AND 50 LB WOOD FIBER MULCH ADDED TO THE BACKFILL OF CELL #18 & #19.

1830 - REMOVE COFFERDAM FROM EAST CANAL AND REMOVE SAND BAGS FROM EAST CULVERT, BOTH NORTH AND SOUTH END

1900 PICK UP SITE, SECURE SITE, DEBRIEF EAST CANAL/BUILDING T-1451 AREA.

- COMPLETED CELL #18 AND PARTIAL

26 JUNE 12

BLDG T-1451/EC SI/SC — 26 JUNE 12

45°F, CLOUDY — PPE LEVEL D

OF CELL #19 - TOTAL OF 4 BUCKETS OBC AND 50 LBS WOOD FIBER MULCH

- COLLECTED 2 PRIMARY, 2 DUPLICATE (01-EX139-01, 01-EX140-01, EX-141-01) SOIL SAMPLES FOR ORO FROM OVERBURDEN SOIL STOCKPILE - 1 FIXED LAB SAMPLE FROM 01EX139-02 - FOR PRO

- DRILLERS INSTALL RW-303-04

- DEVELOP/COMPLETE MW-303-40, 41, & 42

26 JUNE 12

MEOP

Rite in the Rain

PPE: LEVEL D

0700 TAILGATE SAFETY MEETING
- DISCUSS EXCAVATION / LOADER SAFETY, PROPER PPE AND EYE CONTACT W/ OPERATORS
- DISCUSS SAFETY FOR GEOPROBE G620 DRILL RIG. PROPER PPE. INCLUDING HEARING PROTECTION. FOLLOW DIRECTION FROM DRILL RIG OPERATOR.

DISCUSS GENERAL SITE SAFETY - SEE CHECKLIST

ATTENDEES:
T. DOBSON, Z. KIRK, T. OVERLAND, H. WOTTON
Z. RASMUSSEN, T. SPITLER (RES. JV)
J. PITTZ (NAVFAC-NW)
T. BROWN, E. MARSHALL (~~GEOPROBE~~ TO 6/27) (GEOTECH)

0730 CALIBRATE PID. FRESH AIR AND 100 PPM ISOBUTYLENE - POST CAL BUMP = 100.6 PPM
OICM

0815 - ON-SITE AT EC/BLDG T-1451 -
TALK W/ TRUCK MAN ABOUT MATERIALS NEEDED FOR PROJECT FINISH. - SUPER SACKS, GRASS SEED, ETC

0851 - BEGIN TO REMOVE OVERBURDEN FROM REMAINDER OF CELL #~~10~~ 19 (W 6/27).

0930 - FISH PLANT NEEDS 540 SUPER SACKS MOVED

JH 27 JUNE 12

PPE: LEVEL D

FSID	TIME	PID	MODULE CAL	FIX
176	1221	4.3	01-EX142-01	01-EX024 01-EX025 TO DUPE ~~1300~~ 1225
177	1224	2.9		
178	1228	1.6		
179	1231	4.5	01-EX143-01	FIX MS/MSD 01-EX026
180	1234	0.8		

PHOTO LOG

PICTURE #	DIRECTION	DESCRIPTION
4975	S	CELL #19 - TO G.W - BELOW
4976	E	CELL #19 - BELOW G.W.
4977	S	CELL #19 - 1ST LIFT W/OBC
4978	E	CELL #19 - 1ST LIFT W/OBC

JH NATP 27 JUNE 12

Rite in the Rain

- H. WOTTEN, Z. GRASSMANN, T. SPITLER DEPART WITH VOLVO 120 LOADER TO MOVE DADS FOR FISH PLANT PERSONNEL

1015 - H. WOTTEN, Z. GRASSMANN, T. SPITLER ARRIVE WITH VOLVO 120 LOADER

1120 - FINISH REMOVING OVER BURDEN FROM CELL #19 - REMOVE APPROX. 15 YDS AND PLACE IN OVERBURDEN STOCKPILE FROM 2.5' BGS -

1125 - SET UP 5 YD SUPERSACKS TO REMOVE CONTAMINATED MATERIAL

1155 - FILL 3 - 5YD SUPERSACKS WITH CONT SOIL.

1200 - CREW BREAK FOR LUNCH

1215 - COLLECT FIELD SCREENING SAMPLES FROM OVERBURDEN REMOVED TODAY

- 1240 - TWO SOIL SAMPLES TO SUBMIT TO MOBILE LAB - FROM FS 176 ~~41~~ TO 6/27 01-EX142-01 AND 01-EX143-01 FROM FS 177.
FIXED LAB PRIMARY 01-EX024 AND DUPLICATE 01-EX025 FROM 01-EX142-01
FIXED LAB MS/MSD 01-EX026 FROM MOBILE LAB 01-EX143-01.

1250 - LUNCH - BREAK

JM 27 JUNE 92

1345 - SUBMIT SAMPLES 01-EX142-01 AND 01-EX143-01 FOR DRO ANALYSIS

1400 - ARRIVE ON-SITE AT EC/BLDG T-1451 AREA
CELL #19 EXCAVATED TO 0.5 - 1.0' BELOW GW - SLOUGHING ON BANDS WALL SLOUGHING INTO EXCAVATION - CLEAN EXCAVATION TO BACKFILL.

1410 BEGIN PLACING BACKFILL FROM CLEAN OVERBURDEN STOCKPILE

1425 - 1st LIFT IN PLACE, ADD 2 BUCKETS OF OBC AMENDMENT AND 25 # OF WOOD FIBER MULCH - MIX IN PLACE W/ EXCAVATOR BUCKET.

1505 - PLACE 2nd LIFT OF MATERIAL AND ADD 2 BUCKETS OF OBC W/ 25 LBS OF WOOD FIBER MULCH TO LIFT. MIX IN PLACE W/ EXCAVATOR BUCKET

1548 - BACKFILL COMPLETE FOR CELL #19
REMOVED 3 AND PARTIAL SUPER SACKS FROM PARSIN CELL 19

1600 - EXCAVATION GRADING - AREA. LOADER PLACING AND CONSOLIDATING OVERBURDEN STOCKPILE

1610 - FUEL TRUCK ARRIVES

1620 - FUEL TRUCK DEPARTS

JM 27 JUNE 92 Rite in the Rain

PPR: LENELLO

1625 - NTR ARRIVES ON SITE
1655 NTR DEPARTS SITE
1715 - FILL 1 5YD SUPERSACK FROM CONT. STOCKPILE AND TRANSPORT TO WMSA.
1730 - EXCAVATOR CONSOLIDATING OVERBURDEN STOCKPILE.
- 1800 - VISIT DRILLERS INSTALLING WELL IN ~~MAA~~ TD6/27 EAST CANAL/BUILDING T-1457 AREA -
- SEE TACKICHOS NOTES FOR WELL INFORMATION
1830 - CLEAN UP SITE - SECURE SITE
- 1900 - DONE FOR DAY.
DRILLERS INSTALLED 2 MONITORING WELLS OUTSIDE THE MAA TA.
- COLLECTED SOIL SAMPLES FROM OVERBURDEN STOCKPILE. TO SUBMIT TO MOBILE AND THE FIXED LABORATORY

27 JUNE 12

PPR: LENELLO

0700 - TAILGATE SAFETY MEETING.
- DISCUSS BACKFILL OPERATION FOR MAA TA. SAFETY NEAR EXCAVATOR AND LOADER, PROPER PPE - EYE CONTACT WITH OPERATORS.
- CONTINUE INSTALLING WELLS IN EC/BLDG T-1451 AREA

ATTENDEES:
T. DOBSON, Z. KIRK, J. OVERLAND, H. WOTTLIN
Z. RASMUSSEN, T. SPITZER
J. PITTZ (NTR, NAVFAC)
T. BROWN, E. MARSHALL (HAMMERS)

- 0730 PREPARE FOR QC MEETING
0900 - START QC MEETING - DISCUSS PAST WEEKS WORK - MAA TA EXCAVATION COMPLETE. NEED TO GRADE AND RE-SEED.
- 0930 - QC MEETING ADJOURNED
1000 - MEET WITH CITY MANAGER - DISCUSS RENTAL OF TRAILER FOR HAULING SUPERSACKS ON 6/29/12
1030 - MEET W/ ADAM TELEPHONE TO DISCUSS RENTAL OF BACKHOE
1100 - HELP MOBILE LAB BREAK DOWN

28 JUNE 12

Rite in the Rain

28 JUNE 12

- 1315 - DROP OFF MOBILE LAB GRAN AT ALASKA AIR CARGO
1500 - PERFORM VARIOUS ADMIN DUTIES
1730 - MEET WITH DRILLERS TO REVIEW MATERIALS LEFT OVER FOR MW CONSTRUCTION
1800 - ARRIVE ON-SITE AT BUILDING T-1451 SITE. OPERATOR AND LABORER HAVE REMOVED AND STAGED CONSTRUCTION EQUIPMENT IN LAYDOWN AREA.
- EXCAVATION AREA MOSTLY GRADED WITH OVERBURDEN FILL.
1900 - DEPART SITE - DRILLER CONDUCTS L/ MW IN MAIN AREA.
DONE FOR DAY

28 JUNE 12

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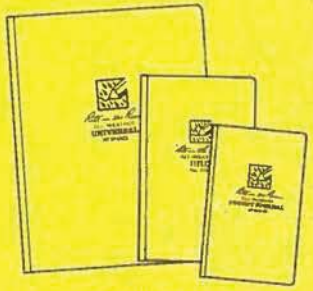
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	CONTACT #'S	
	BRIAN CULLEN : 360.531.3997	
	MERIC (COMMUNICATIONS UTILITY LOCATOR):	
	907.577.2002	

BLDG T-1451 ⅓ E. CANAL SI/SC 6 JUNE 2012
T-1451 NORTH AREA
~40°F, OVERCAST, LT. WIND PPE: LEVEL D

* NOTES CONTINUED FROM FIELD BOOK # 3.

PROBE ID	MAX. LRE (DRED)	TOP DEPTH	ADDITIONAL NOTES
UV-211	40.4% (5.4')	10'	SPIKE RANGE: 5'-6'
UV-212	36.2% (3.9')	10'	SPIKE RANGE: 1.5'-4.3'
UV-213	53.5% (1.5')	10'	SPIKE RANGE: 1.0'-2.5'
UV-214	0.9% (0.6')	10'	SPIKE IN BACKGROUND SIGNAL
UV-215	0.8% (0.2')	10'	" "
UV-216	0.5% (1.4')	10'	" "
UV-217	0.9% (3.2')	10'	" "
UV-218	1.8% (2.9')	10'	" "
UV-219	0.7% (2.2')	10'	" "
UV-220	0.9% (0.8)	10'	" "
UV-221	1.3% (0.7')	10'	" "
UV-222	1.7% (1.2')	10'	" "
UV-223	1.0% (4.0')	14'	" "
UV-224	1.5% (5.9')	14'	SPIKE RANGE: 5'-6'
UV-225	0.9% (1.1')	14'	SPIKE IN BACKGROUND SIGNAL
UV-226	1.6% (10.6')	16'	SPIKE RANGE: 10'-11'
UV-227	6.9% (17.9')	20'	SPIKE RANGE: 17'-18'
UV-228	2.5% (17.1')	20'	SPIKE RANGE: 17.0'-17.5'
UV-229	8.2% (17.2')	20'	SPIKE RANGE: 16'-18'
UV-230	10.8% (16.9')	20'	SPIKE RANGE: 16'-17.5'
UV-231	4.4% (18.4')	21'	SPIKE RANGE: 18'-19.5'
UV-232	9.0% (18.8')	21.5'	SPIKE RANGE: 18'-19'

6/6/12

BLDG T-1451 ⅓ E. CANAL SI/SC 6 JUNE 2012
T-1451 NORTH AREA
~40°F, OVERCAST, LT. WIND PPE: LEVEL D

1005 - L. BOLDRICK AND H. WOTTLEN ARRIVE ONSITE TO COLLECT IN-SITU UVOST SCREENINGS OF TEST PIT SAMPLES

1030 - LB AND HW DEPART THE SITE. RESUME IN-SITU UVOST SCREENING OF ANOMOLY AREA IN T-1451 NORTH.

1630 - B. COLLIN AND G. MAY ONSITE ~~TO EVALUATE~~ ZK 6/6 ~~ARE~~ ZK 6/6 FOR 15 MINUTES TO ASSESS IN-SITU SCREENING RESULTS OF ANOMOLY AREA.

1710 - ~~STRIKE~~ ZK 6/6 CEASE IN-SITU UVOST DRILLING. S. PEELER AND T. BROWN DEPART THE SITE.

1725 - Z. KIRK ~~OFFSI~~ ZK 6/6 TRANSITIONS TO T-1451 ⅓ E. CANAL AREA TO JOIN EXCAVATION ~~EFFORT~~ ZK 6/6 EFFORT.

- ONSITE PERSONNEL: L. BOLDRICK, H. WOTTLEN, D. OVERLAND; Z. RASMUSSEN.

1740 - PICK UP STOCKPILE LINERS FROM EQUIPMENT CONNEX

1800 - LAYOUT ~~IMPACTED STOCKPILE LINER~~ "IMPACTED SOIL" STOCK PILE LINER AT NORTHEAST CORNER OF NORTH ASPHALT PAD

- BERM LINER WITH CLEAN

6/6/12

Rite in the Rain

BLDG T-1451 & E. CANAL SE/SC 6 JUNE 2012

~40°F, OVERCAST, LT. WIND APR: LAUREL D

PROBE ID	MAX % RE (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-233	13.6% (17.6')	20'	SPIKE RANGE: 17'-18'
UV-234	16.7% (17.4')	20'	SPIKE RANGE 17'-18'

6/6/12

- FIELD NOTES (CONT.)

GRAVEL FILL MATERIAL.

1840 - DEPART THE SITE.

1930 - UPDATE PHOTO LOG.

2015 - END OF DAY

N.F.T.P

6/6/12

BLDG T-1451 & E. CANAL SE/SC 6 JUNE 12

~40°F, OVERCAST, LT WIND PPR: LAUREL D

PHOTO LOG

PHOTO #	DEFLECTION	DESCRIPTION
101-260	SW	- IN-SITU UVOST PROBING AROUND ANOMOLY EXCAVATION AREA
101-261	E	- ADVANCING PROBE NEAR FORMER ANOMOLY EXCAVATION
101-264	N	- PROBING IN BERMED AREA NORTH OF BURIED DRUM EXCAVATIONS
101-266	N	" "
101-267	NW	IN-SITU UVOST SCREENING.
101-271	N	" "
101-272	E	PROBING ALONG WEST EDGE OF BURIED DRUM EXCAVATIONS
101-273	E	" "
101-276	SW	DRILLING PROBE AT ~~5~~ 2K c/6 NW CORNER OF DRUM EXCAVATION
101-277	NE	" "
101-279	SW	" "
101-283	NW	" "
101-284	N	- SETTING UP "IMPACTED SOIL" STOCKPILE LINER

6/6/12

Rite in the Rain

6

BLDG T-1451 ⅓ E. CANAL SI/SC 6 JUNE 2012

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-285	NW	BERMING LINER WITH CLEAN GRAVEL FILL MATERIAL
101-292	S	DEPOSITING CLEAN FILL ON LINER FOR ~~BERMING THE~~ ZK 6/6 A BERM.
101-293	SSW	" "
101-294	SW	" "
101-296	SW	INSPECTING STOCKPILE LINER BERM PRIOR TO DEPOSITING MORE SOIL

N.F.T.P

6/7/12

6/6

BLDG T-1451 ⅓ E. CANAL SI/SC 7 JUNE 2012
T-1451 NORTH AREA

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

0700 - CONDUCT TASK & GATE SAFETY MEETING.

PARTICIPANTS: AHTNA: T. DOBSON, L. BOLDRICK, J. OVERLAND, Z. RASMUSSEN, H. WOTTLEN, M. SPITLER

GROSYNTEC: Z. KERR

HAMMER ENV: S. PERRER, T. BROWN

0810 - ARRIVE ONSITE TO CONTINUE IN-SITU UVOST PROBES AROUND BURIED DRUM EXCAVATION.

~~0830 - PERFORM FR~~ ZK 6/7

- ONSITE PERSONNEL: Z. KERR, S. PERRER, T. BROWN

0830 - PERFORM REPAIRS TO UVOST PROBE

0910 - RESUME UVOST PROBING.

1100 - COMPLETE IN-SITU PROBING AROUND BURIED DRUM EXCAVATION.

- EXTEND INVESTIGATION IN AREAS THAT IN-SITU UVOST READINGS INDICATED THE PRESENCE OF HYDROCARBON IMPACT (ALONG THE SOUTH EAST CORNER AND THE NORTH EDGE OF THE INVESTIGATION AREA).

1600 - T. SPITLER ONSITE TO COLLECT

6/7/12

Rite in the Rain

1/

8 BLDG T-1451 ; E. CANAL SE/SC 7th JUNE 2012

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

PROBE ID	MAX % RG (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-235	2.3% (7.3')	20'	SPIKE RANGE: 7.0'-8.5'
UV-236	1.2% (5.8')	20'	SPIKE IN BACKGROUND SIGNAL
UV-237	20.9% (18.8')	21'	SPIKE RANGE: 17.5'-19.5'
UV-238	16.3% (20.6')	23'	SPIKE RANGE: 19'-21'
UV-239	11.6% (19.0')	21'	SPIKE RANGE: 18'-20'
UV-240	8.3% (18.9')	21'	SPIKE RANGE: 18.5'-20'
UV-241	96.8% (2.8')	10'	SPIKE RANGE: 1'-4'
UV-242	1.4% (0.9')	10'	SPIKE IN BACKGROUND SIGNAL
UV-243	1.4% (0.8')	10'	" "
UV-244	0.5% (0.6')	10'	" "
UV-245	14.5% (23.3') ZK 6/7	27'	ZK 6/7 ~~22~~ SPIKE RANGE: 22'-25'
UV-246	11.9% (22.1') ZK 6/7	25'	PEAK RANGE: 21'-23'
			SECONDARY SPIKE 8.6% AT 19.3'
UV-247	5.7% (20.3')	24'	PEAK RANGE: 19'-21'
UV-248	6.2% (24.0')	26'	PEAK RANGE: 22'-25'
UV-249	3.9% (15.6')	19'	PEAK RANGE: 15'-16'

N.F.T.P

6/7/12

BLDG T-1451 ; E. CANAL SE/SC 7 JUNE 2012
T-1451 NORTH AREA

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

GPS LOCATION DATA OF IN-SITU UVOST SCREENING POINTS.

1645 - T.S. DEPARTS THE SITE.

1710 - CEASE UVOST PROBING, CLEAN UP AND DEPART THE SITE.

1800 - ZK KIRK ZK 6/7 ~~REFORM~~ ARRIVES AT THE E. CANAL SITE TO VERIFY UVOST PROBE LOCATIONS 191-210 IN RELATION TO SOUTHERN EXTENT OF PROPOSED EXCAVATION AREA.

1840 - DEPART THE SITE.

1930 - ZK 6/8 ~~UPDATE~~ TRANSFER PHOTO LOG TO EXCEL WORKSHEET

2050 - END OF DAY

N.F.T.P

6/7/12

Rite in the Rain

BLDG T-1451 & F. CANAL SE/SC 8 JUNE 2012

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING
PARTICIPANTS: AHTNA: T. DOBSON, H. LUOTTIN
M. OVERLAND, T. SPITLER, Z. RASMUSSEN
GEOSYNTEC: Z. KERR
HAMMER FIRM: S. PIERCE, T. BROWN

0720 - ARRIVE AT F. CANAL SITE.
ONSITE PERSONNEL: S. PIERCE, T. BROWN AND Z. KERR

0740 - COMMENCE IN-SITU UVOST DRILLING ZK 6/8 ALONG SOUTHERN EXTENT OF PROPOSED TREATMENT ZONE TO CONFIRM THE AREA IS ~~CLEAR OF IMPACTS~~ ZK 6/8 NOT IMPACTED

0845 - T. DOBSON ONSITE

0915 - ~~DEPART~~ ZK 6/8 CEASE UVOST PROBING AT SOUTHERN EXTENT OF TREATMENT ZONE AREA.

0930 - DEPART THE SITE. ONSITE T-1451 NORTH AREA TO ~~ASSESS~~ ZK 6/8 ASSESS COVERAGE OF UVOST LOCATIONS AROUND BURIED DRUMS EXCAVATION.
- DETERMINE LOCATIONS FOR MACROCORE BOREHOLES.

1010 - CHANGE OF PLANS: PRIOR TO

6/8/12

BLDG T-1451 & F. CANAL SE/SC 8 JUNE 2012

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

PROBE ID	MAX % RE (DEPTH)	TOP DEPTH	ADDITIONAL NOTES
UV-250	2.0% (1.2)	10'	SPIKE IN BACKGROUND SIGNAL
UV-251	0.4% (2.3')	10'	" "
UV-252	0.9% (1.0')	10'	" "
UV-253	0.8% (1.3')	10'	" "
UV-254	2.1% (0.8')	10'	" "
UV-255	1.0% (1.1')	10'	" "
UV-256	3.4% (1.4')	10'	ZK 6/8 ~~SET~~ PEAK RANGE: 1'-4'
UV-257	85.5% (5.4')	10'	PEAK RANGE: 4.5'-6.5'
~~UV-258~~	~~13.1% (5.9')~~	~~10'~~	~~PEAK RANGE: 5.5'-6.25'~~
UV-258	26.5% (6.2')	10'	PEAK RANGE: 5.0'-6.5'
UV-259	0.4% (1.2')	10'	SPIKE IN BACKGROUND ~~SIGNAL~~ ZK 6/8 SIGNAL
~~UV-260~~	ZK 6/8 ~~0.6% (5.0~~	~~10'~~	
UV-260	0.6% (5.0')	10'	SPIKE RANGE: 4.5'-5.5'
UV-261	93.8% (3.8')	8'	SPIKE RANGE: 1.5'-4.5'
UV-262	0.3% (3.3')	8'	SPIKE IN BACKGROUND SIGNAL
UV-263	1.0% (6.0')	10'	" "
UV-264	1.3% (3.8')	10'	" "
UV-265	36.7% (5.1')	10'	SPIKE RANGE: 4.5'-6'
UV-266	55.5% (5.0')	10'	SPIKE RANGE: 4'-6'
UV-267	2.0% (1.4')	10.3'	SPIKE IN BACKGROUND SIGNAL
UV-268	0.9% (1.9')	10'	" "
UV-269	1.4% (1.0')	8'	" "

6/8/12

Rite in the Rain

BLAG T-1451 & R. CANAL SE/SC 8 JUNE 2012

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

MACROCORING AT T-1451 NORTH, WELL CONTINUE TO DELINEATE EXTENT OF IMPACT AT SOUTHERN BOOMED AREA ALONG R. CANAL FIRST.

1015 - RETURN TO R. CANAL SITE TO ~~DELINEATE~~ ZK 6/8 ~~THE TOU~~ ZK 6/8 FURTHER DELINEATE THE SOUTHERN BOOMED ~~AREA~~ ZK 6/8 EXTENT WITH IN-SITU UVOST PROBES.

1040 - RESUME UVOST DRILLING.

- SPACE OUT LOCATIONS IN A 10 FOOT GRID TO COVER EXTENT OF IMPACTED SOIL THAT IS CONTRIBUTING TO AN ADDITIONAL SHEEN ~~A~~ ZK 6/8 ALONG R. CANAL SOUTH OF MAIN BOOMED AREA (SKEP 1)

1210 - DEPART THE SITE.

1340 - RETURN TO THE SITE, RESUME IN-SITU UVOST PROBING.

1500 - WHEN ~~PROBING~~ ZK 6/8 ADVANCING PROBE, UV-264, UVOST MALFUNCTIONS WHEN ~~FIBER OPTIC CABLE~~ FIBEROPTIC CABLE CONNECTING THE LASER TO THE PROBE ~~IS DAMAGED~~ ZK 6/8 SEVERS BETWEEN

6/8/12

BLAG T-1451 & R. CANAL SE/SC 8 JUNE 12

~40°F, PARTLY SUNNY, WINDY PPE: LEVEL D

TWO CONTRACTING RODS, T. BROWN AND S. PERRER DEPART THE ~~SITE~~ ZK 6/8 SITE TO REPLACE FIBEROPTIC CABLE.

1515 - T. SPEIGHT ARRIVES ONSITE TO COLLECT GPS DATA POINTS OF TODAY'S UVOST IN-SITU SCREENING LOCATIONS.

1530 - S. PERRER AND T. BROWN RETURN TO THE SITE WITH REPLACEMENT FIBEROPTIC CABLE.

1540 - RESUME IN-SITU UVOST PROBING

1545 - T. DOBSON DEPARTS THE SITE.

1645 - COMPLETE DELINEATING EXTENT OF IMPACT AT SOUTHERN BOOMED AREA (SKEP 2) WITH IN-SITU UVOST SCREENINGS.

PLUME DELINEATED ALONG NORTH AND SOUTH EDGES, AND TO THE WEST (THE CANAL). UNABLE TO DELINEATE FURTHER TO THE EAST DUE TO THE PROXIMITY OF THE ROAD AND UNKNOWN ~~UTILITY LINES~~ ZK 6/8 LOCATION OF UTILITY LINES ADJACENT TO THE ROAD.

- TRANSITION TO T-1451 NORTH AREA FOR FURTHER DELINEATION OF IMPACTED AREA AT SOUTHEAST CORNER

6/8/12

BLDG T-1451 ; E. CANAL SI/SC 8 JUNE 12

~40°F, OVERCAST, WINDY PPE: LEVEL D

OF BURIED DRUM EXCAVATION.

1700 - T. DOBSON ARRIVES ONSITE.

1750 · CEASE IN-SITU UVOST PROBING

1800 - CLEAN UP AND DEPART THE SITE.

1830 - UPDATE PHOTO LOG.

1840 · CONTINUE TRANSCRIBING PHOTO LOG TO EXCEL ~~WOR~~ ZK 6/8 FORMAT WORKSHEET.

2030 · END OF DAY

N.F.T.P

ZK 6/8/12

BLDG T-1451 ; E. CANAL SI/SC 8 JUNE 2012

~40°F, OVERCAST, WINDY PPE: LEVEL D

PROBE ID	MAX % PR (DEPTH)	TOT. DEPTH	ADDITIONAL NOTES
UV-270	ZK 6/8 ~~[illegible]~~ 1.9% (1.1')	8'	SPIKE IN BACKGROUND SIGNAL
UV-271	2.8% (1.5')	8.25'	" "
UV-272	2.7% (2.7')	8'	" "
UV-273	77.6% (4.1)	8'	SPIKE RANGE: 2.5'-5'

CEASE PROBING

PHOTO LOG (CONT)

PHOTO #	DIRECTION	DESCRIPTION
101-0347	SW	UVOST DRILLING ALONG E. CANAL AT SOUTHERN EXTENT OF PROPOSED EXCAVATION AREA
101-0348	NW	" "
101-0349	N	PLACING UVOST BORING LOCATIONS AT SEEP 2 AREA
101-0350	N	" "

N.F.T.P

ZK 6/8/12

Rite in the Rain

BLDG T-1451 & E. CANAL SI/SC — 9 JUNE 12
T-1451 NORTH AREA
~40°F, OVERCAST, WINDY — PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING.
PARTICIPANTS: AMINA · T. DOBSON, H. WOTTRICH
M. OVERLAND, T. SPEISER, Z. RASMUSSEN
GEOSINTEL: Z. KIRK
HAMMER ENV.: S. PIERCE, T. BROWN

0750 - ARRIVE AT T-1451 NORTH AREA SITE
- BEGIN MACROCORE DRILLING ~~AROUND~~ ZK 6/9
~~IMPACT~~ ZK 6/9 AT ~~IMPACTED~~ ZK 6/9 LOCATIONS NEAR
~~AT~~ ZK 6/9 SOUTHEAST CORNER OF DRUM
EXCAVATION TO CHARACTERIZE THE
EXTENT OF IMPACTED SOIL.

0810 - ADVANCE BORING B-53 AT UV-241
SAMPLES: 01-B053-01 @ 0820, 0.5-1.0'
- 01-B053-02 @ 0825, 1-2.5'
- FIXED LAB SAMPLE: 01-SB044 @ 0825
· COLLECTED MS/MSD FOR FIXED LAB
- 01-B053-03 @ 0835, 3'-4'
- DUPLICATE: 01-B053-04 @ 0840
- 01-B053-05 @ 0845, 5.5-6.5

0850 - ADVANCE BORING B-54 AT UV-269
- SAMPLES: 01-B054-01 @ 0905, 0.5-1.5
- 01-B054-02 @ 0910, 3'-4'
- 01-B054-03 @ 0915, 5'-6'

ZK 6/9

6/9/12

BLDG T-1451 & E. CANAL SI/SC — 9 JUNE 2012
T-1451 NORTH AREA
~35°F, OVERCAST, WINDY — PPE: LEVEL D

0920 - ADVANCE BORING B-55 AT UV-271
· SAMPLES: 01-B055-01 @ 0935, 1.5-2.5'
- 01-B055-02 @ 0940, 4'-5'
- 01-B055-03 @ 0945, 5'-6'

1020 - T. DOBSON ARRIVES ONSITE

1030 - ADVANCE BORING B-56
- SAMPLES: 01-B056-01 @ 1048, 5.5'-6.5'
- 01-B056-02 @ 1050, 6.5-7.5'
- 01-B056-03 @ 1053, 7.5-8.5'

1120 - ADVANCE BORING B-57
· SAMPLES: 01-B057-01 @ 1145, 4'-5'
- 01-B057-02 @ 1150, 5'-6'
- DUPLICATE: 01-B057-03 @ 1152
- 01-B057-04 @ 1155, 7-8.5'
- COLLECT FIXED LAB SAMPLE:
- 01-SB045 @ 1155
· PLUS DUPLICATE: 01-SB046 @ 1200

1210 - DEPART THE SITE

1405 - RETURN TO THE SITE. RESUME MACROCORE
BORINGS AROUND BURIED DRUM EXCAVATION

1415 - ADVANCE BORING B-58 AT UV-230
· SAMPLES: 01-B058-01 @ 1430, 14.5-15.5
- 01-B058-02 @ 1435, 16'-17.5'
- FIXED LAB: 01-SB047 @ 1435

6/9/12

Rite in the Rain

BLDG T-1451 & E. CANAL SI/SC 9 JUNE 12
T-1451 NORTH AREA
~40°F, OVERCAST, WINDY PPE: LEVEL D

- BORING B-58 (CONT.)
  - 01-B058-03 @ 1440, 18'-19'

1450 - ADVANCE BORING B-59 AT UV-234
- SAMPLES: 01-B059-01 @ 1455, 15'-16'
  - 01-B059-02 @ 1500, 17'-18'
  - DUPLICATE: 01-B059-03 @ 1505
  - 01-B059-04 @ 1510, 19'-20'

1510 - ADVANCE BORING B-60 AT UV-239
- SAMPLES: 01-B060-01 @ 1515, 17'-18'
  - 01-B060-02 @ 1520, 18.5'-19.5'
  - 01-B060-03 @ 1525, 21'-22'

1530 - CRASH MACROCORE BORINGS.

1540 - CLEAN UP THE SITE.

1545 - S. PEARCE AND T. BROWN DEPART THE SITE TO PLACE STICK-UP MONUMENT AND PROTECTIVE BOLLARDS AT WELL RW-303-02.

* LATE ENTRY * 1520 - T. DODSON ARRIVES ON SITE.

1600 - ZK AND T.D. DEPART THE SITE.

1630 - PROCESS AND DELIVER SAMPLES TO MOBILE LABORATORY.

1700 - REVIEW BORING LOGS AND FIELD NOTES.

6/9/12

BLDG T-1451 & E. CANAL SI/SC 9 JUNE 2012
T-1451 NORTH AREA
~40°F, OVERCAST, WINDY PPE: LEVEL D

1740 - TRANSCRIBE PHOTO LOGS TO FIELD FORMAT WORKSHEET.

1845 - END OF DAY

6/9/12

Rite in the Rain

~40°F, OVERCAST, WINDY PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING
- PARTICIPANTS: ALTINA: T. DOBSON, H. WOTTLING, Z. RASMUSSEN, D. OVERLAND, T. SPEILER.

0730 - T. DOBSON AND Z. KERK DISCUSS EXCAVATION AND FIELD SCREENING/SAMPLING PLAN FOR T.Z.
- FIXED LAB SAMPLES WILL BEGIN AT: 01-EX010
- MOBILE LAB SAMPLES WILL BEGIN AT: 01-EX050-01
- FIELD SCREENING SAMPLES WILL BEGIN AT: FS001.
* - FIXED AND MOBILE LAB ~~SAMPLES~~ ZK 6/11 SAMPLE NUMBERS CONTINUED FROM PREVIOUS EXCAVATION ~~WORK~~ ZK 6/11 EFFORTS.
- DECIDE TO MINIMIZE THE ~~O~~ ZK 6/11 CLEAN OVERBURDEN SOIL REMOVAL TO THE TOP ~~1 OF~~ ZK 6/11 ONE FOOT OF THE EXCAVATION TO PREVENT CONTAMINATING THE CLEAN OVERBURDEN STOCKPILE WITH IMPACTED SOILS THAT RANGE PREDOMINANTLY FROM 1 TO 2 FT BGS IN EXCAVATION AREA.

0900 - ARRIVE ONSITE. PERSONNEL: T. DOBSON, H. WOTTLING, D. OVERLAND, Z. RASMUSSEN, Z. KERK.

ZK 6/11/12

6/11/12

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

1000 - BEGIN CLEARING CLEAN STOCKPILES FROM PREVIOUS TEST PIT EXCAVATIONS FROM TREATMENT ZONE EXCAVATION AREA
1010 - B. COLLEN ARRIVES ONSITE ~~FOR 25 MINUTES~~ ZK 6/11
~~1035 - B.C. DEPARTS THE SITE~~ ZK 6/11
1020 - COMMENCE EXCAVATION OF THE TREATMENT ZONE.
- BEGINNING BY REMOVING THE TOP 1 FOOT OF CLEAN OVERBURDEN, AND STOCK-PILING THE MATERIAL AT DESIGNATED LOCATION AT NORTHWEST CORNER OF MAIN (NORTH) ASPHALT PAD.
- COLLECTING STOCKPILE SAMPLES ~~FR~~ ZK 6/11 THROUGHOUT THE PROCESS TO CONFIRM THE MATERIAL IS FREE OF CONTAMINATED SOIL.
1035 - B.C. DEPARTS THE SITE.
1210 - CEASE EXCAVATION ACTIVITIES. DEPART THE SITE
1240 - PROCESS AND DELIVER SOIL SAMPLES TO MOBILE LABORATORY
1330 - RESUME EXCAVATION

6/11/12

Rite in the Rain

~40°F, OVERCAST, LT. WIND PPE: LEVEL D

PID SCREENINGS AND SAMPLE COLLECTION TABLE

PID #	PID READING	MOBILE LAB SAMPLE	FIXED SAMPLE	TIME
FS001	5.1			1032
FS002	2.0	01-FX070-01		1040
FS003	1.1			1042
FS004	0.7		01-FX010	1058
FS005	0.2	01-FX071-01		1100
FS006	0.3			1102
FS007	0.4	01-FX032-01		1115
MOBILE DUP	0.3	01-FX033-01		1117
FS008	0.5			ZK 6/11 ~~1037~~ 1137
FS009	0.4	01-FX034-01		ZK 6/11 ~~1042~~ 1180
FS010	0.5		01-FX011	~~1100~~ 1140
FS011	0.6			1150
FS012	0.4			1152
FS013	3.5			1353
FS014	1.4	01-FX035-01		1355
FS015	0.6			1410
FS016	15.4	01-FX036-01		1420
FS017	4.7			1432
FS018	8.2			1434
FS019	1.4			1447
FS020	1.5	01-FX037-01		1450
FS021	0.4	01-FX038-01		1505

6/11/12

~40°, OVERCAST, LT. WIND PPE: LEVEL D

1400 - B. CULLEN RETURNS TO THE SITE.
- T. SPITLER ARRIVES ONSITE

1435 - B.C. DEPARTS THE SITE

1515 - B.C. RETURNS TO ~~THE~~ ZK 6/11 THE SITE FOR TWENTY MINUTES.

1550 - T. SPITLER DEPARTS THE SITE.

1710 - BC. RETURNS TO THE SITE.

1720 - BC DEPARTS THE SITE.

1800 - CRASH EXCAVATING CLEAN OVERBURDEN IN FIRST EXCAVATION CELL AT NORTHWEST CORNER OF TREATMENT ZONE BOUNDARY.
- ~~REMOV.~~ ZK 6/11 STOPPED EXCAVATION TO AVOID ENCOUNTERING IMPACTED SOILS AT THE EAST EDGE OF THE EXCAVATION AND GROUNDWATER AT THE WEST END ALONG THE CULVERTS.

1820 - SET UP AND FILL ONE 5 CUBIC YARD SUPER SACK WITH IMPACTED SOIL.

1835 - H. WOTTLEN, T. DODSON AND Z. RASMUSSEN DEPART TO STAGE SUPERSACKS AT THE HARBOR.

6/11/12

BLDG T-1451 & E. CANAL SI/SC — 11 JUNE 2012

~45°F, OVERCAST, LT. WIND — PPE: LEVEL D

PID #	TIME	PID READING	MOBILE SAMPLE	FIXED SAMPLE
FS022	1515	0.4		
FS023	1517	0.5		
FS024	1545	0.5	01-FX039-01	01-FX012
FS025	1547	0.4		
FS026	1558	0.8	01-FX040-01	
FS027	1610	0.6		
FS028	1620	0.4	~~01-FX041~~ ZK 6/11	
FS029	1622	0.5	01-FX041-01	
MOBILE DUP	1625	0.7	01-FX042-01	
FS030	1647	0.5		
FS031	1655	0.8	01-FX043-01	
FS032	1657	1.1		
FS033	1720	2.8	01-FX044-01	
FS034	1722	1.4	01-FX045-01	

N.F.T.P

6/11/12

BLDG T-1451 & E. CANAL SI/SC — 11 JUNE 2012

~45°F, ~~OVERCAST~~ PARTLY SUNNY, LT WIND — PPE: LEVEL D (ZK 6/11)

1850 - CLEAN UP THE SITE
- COVER CONTAMINATED SOIL WITH IMPERMEABLE LINER

1900 - DEPART THE SITE

1930 - PROCESS AND DELIVER SAMPLES TO MOBILE LABORATORY.

1940 - UPDATE PHOTO LOG.

* LATE ENTRY * - AT COMPLETION OF EXCAVATION EFFORTS, EXCAVATION DIMENSIONS ARE APPROXIMATELY 40 FEET WIDE BY 50' LONG AT THE NORTH WEST CORNER OF THE DETERMINED TREATMENT ZONE ~~BOUNDAR~~ (ZK 6/11) AREA.

- EXCAVATION DEPTH RANGES FROM 2.5' FEET ALONG WEST EDGE (NEAR CULVERTS) TO 1.5' FEET ALONG EAST EDGE OF EXTENT (APPROXIMATELY THE CENTER OF TREATMENT ZONE BOUNDARY)

- TWO STOCKPILES ARE STAGED NORTH OF TREATMENT ZONE AREA ON ASPHALT PAD. IMPACTED SOIL STOCKPILE STAGED AT NORTHEAST CORNER OF PAD, CLEAN SOIL STOCKPILED AT NORTHWEST CORNER OF ASPHALT PAD

2100 - ~~PAD~~ (ZK 6/11) - END OF DAY

6/11/12

Rite in the Rain

BLDG T-1451 ⅓ G. CANAL SI/SC 11 JUNE 2012

~45°F, PARTLY SUNNY, LT. WIND / PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0353	N	- CONTAMINATED SOIL STOCKPILE
101-0354	NW	- CLEAN SOIL STAGING AREA
101-0355	SSW	" "
101-0356	S	- TREATMENT BOX EXCAVATION AREA PRIOR TO COMMENCING EXCAVATION
101-0357	S	- SPRAY PAINT MARKING NORTH EDGE OF EXCAVATION.
101-0360	SE	- COMMENCING EXCAVATION ACTIVITY
101-0361	SE	" "
101-0363	SE	- TRANSFERRING SOIL TO LOADER BUCKET
101-0366	ENE	- CLEAN AND CONTAMINATED (BACKGROUND) SOIL STOCKPILES AT NORTH END OF PAD
101-0368	ENE	- DUMPING IMPACTED SOIL AT CONTAMINATED SOIL STOCKPILE
101-0370	E SE	- TRANSPORTING SOIL TO LOADER BUCKET
101-0372	SE	- SCRAPING OFF CLEAN OVERBURDEN MATERIAL
101-0373	SE	" "
101-0377	E	- DEPOSITING MATERIAL AT CONTAMINATED STOCKPILE
101-0379	E	- OVERBURDEN REMOVAL EXCAVATION AREA
101-0382	N	- INSPECTING SOIL FOR INDICATIONS THAT IMPACTED SOIL HAD BEEN ENCOUNTERED

6/11/12

BLDG T-1451 ⅓ G. CANAL SI/SC 11 JUNE 2012

~45°F, PARTLY SUNNY, LT. WIND PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0387	SW	- FILLING LOADER BUCKET
101-0388	S	- " "
101-0389	S	- " "
101-0394	SSE	- OVERSEEING EXCAVATION EFFORTS
101-0395	—	- GROUNDBREAK LINER ENCOUNTERED ALONG WEST EDGE OF EXCAVATION AT 2' BGS
101-0400	S	- OVERSEEING EXCAVATION
101-0401	NE	- SAMPLE COLLECTION/SCREENING STATION
EK 6/11 0404 101-0402	SE	- ONGOING EXCAVATION ACTIVITIES
101-0405	S	- EXCAVATION AREA, NORTHEAST CORNER OF TREATMENT ZONE AREA
101-0407	SE	- FILLING SUPERSACK WITH IMPACTED SOIL
101-0408	ESE	" "
101-0410	NW	" "
101-0411	NW	" "
101-0412	S	- FIVE CUBIC YARD SUPERSACK IN SUPPORTING STANCHIONS FOR FILLING
101-0415	NE	- LOADING SUPERSACK.
101-0416	NE	" "

N.F.T.P.

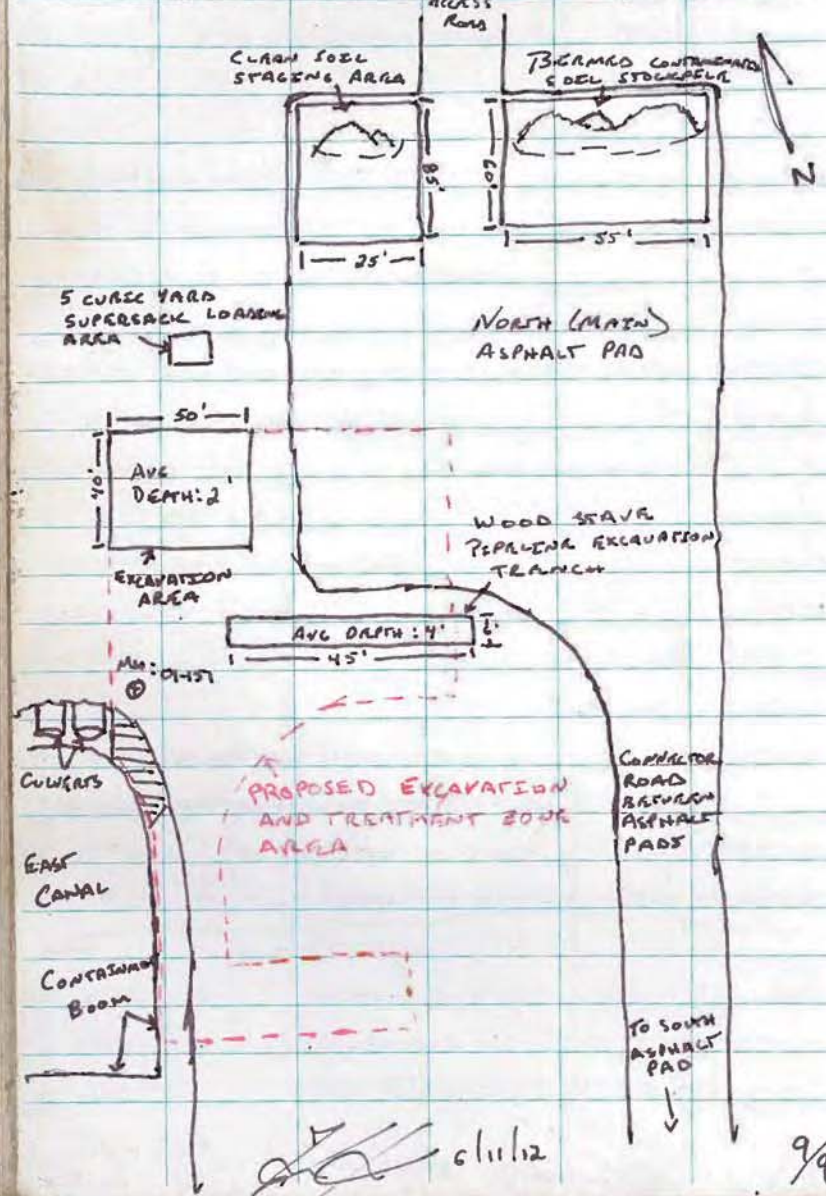
6/11/12

Rite in the Rain

BLDG T-1451 ⅓ E. CANAL SI/SC 12 JUNE 2012

~40°F, OVERCAST, CALM PPE: LEVEL D

SITE DIAGRAM AS OF END OF FIELD DAY 12 JUNE 2012



6/11/12

BLDG T-1451 ⅓ E. CANAL SI/SC 12 JUNE 12

~40°F, OVERCAST, WIND ~ PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING
- PARTICIPANTS: AHTNA: T. DOBSON, H. WOTTLEN, J. OVERLAND, T. SPITLER, Z. RASMUSSEN

0740 - CALIBRATE PID METER - Z. KIRK 6/12
FRESH AIR CAL: 0.0 PPM
SPAN CAL: 100.0 PPM
BUMP CHECK: 100.2 PPM.

0830 - ARRIVE ON SITE. PERSONNEL: T. DOBSON, J. OVERLAND, H. WOTTLEN, Z. RASMUSSEN, T. SPITLER AND Z. KIRK
- CURRENTLY WAITING ON FUELING VEHICLE TO FUEL UP EXCAVATOR.

0845 - T.S. COLLECTS GPS DATA POINTS OF EXCAVATION AREA

0850 - FUEL TRUCK ARRIVES. HOWEVER IT IS UNABLE TO FUEL VEHICLES DUE TO MALFUNCTION. FUEL TRUCK DEPARTS FOR REPAIRS

0900 - TS DEPARTS THE SITE.

0915 - J.O., H.W, AND ZR DEPART THE SITE TO CHECK ON STATUS OF FUELING TRUCK REPAIRS

0950 - JO, HW AND ZR RETURN TO THE SITE WITH FUEL CANS FOR FUELING VEHICLES.

1020 - RESUME EXCAVATION EFFORTS

6/12/12

Rite in the Rain

BLDG. T-1451 ⅓ E. CANAL SI/SC 12 JUNE 2012

~48°F, ~~OVC~~ ZIC 6/12 PARTLY CLOUDY, LT WIND PPE: LEVEL D

1025 - EXTENDING EXCAVATION EAST TOWARDS ASPHALT PAD AND EASTERN EXTENT OF TREATMENT ZONE AREA.

- ASPHALT PIECES LOADED INTO END DUMP TRUCK FOR TRANSPORTATION ~~FO~~ ZIC 6/12 OFFSITE. ASPHALT PIECES TO BE ~~DISPOSED~~ ZIC 6/12 DISPOSED OF ~~AT~~ ZIC 6/12 ON THE ISLAND IN A LOCATION CURRENTLY USED AS DISPOSAL AREA FOR ASPHALT.

1040 - B. CULLEN ONSITE TO INSPECT EXCAVATION PROGRESS.

1110 - B. C. DEPARTS THE SITE

* LATE ENTRY * 1040 - C. OHARE (NAVFAC) ONSITE WITH B.C., DEPARTS ~~AT~~ ZIC 6/12 AT 1110

1115 - FUELING TRUCK ARRIVES ONSITE.

- FUELS UP EXCAVATION VEHICLES.

1400 - EXTEND OVERBURDEN EXCAVATION TO THE SOUTH ALONG THE WEST EDGE OF THE TREATMENT ZONE AREA.

1510 - ~~EXCT~~ ZIC 6/12 BEGIN EXCAVATING FURTHER ALONG WEST EDGE OF EXCAVATION DOWN TO GROUNDWATER INTERFACE.

- EXCAVATED SOIL IS SCREENED (AND SAMPLED) IN THE FIELD ~~FOR~~ ZIC 6/12 TO DETERMINE PLACEMENT OF SOIL IN CLEAN

6/12/12

BLDG T-1451 ⅓ E. CANAL SI/SC 12 JUNE 2012

~50°F, PARTLY CLOUDY, WINDY PPE: LEVEL D

SCREENING ID	TIME	PID	MOBILE LAB SAMP	FIXED LAB SAMP
FS035	1414	0.8		
FS036	1416	1.2	01-EX046-01	
FS037	1418	0.9	01-EX047-01	
FS038	1420	0.5		
FS039	1430	2.2	01-EX048-01	
FS040	1432	0.6		
FS041	1435	3.5	01-EX049-01	
FS042	1437	1.4	01-EX050-01	
FS043	1455	2.6		
FS044	1458	2.1	01-EX051-01	
FS045	1510	1.1		
FS046	1512	0.8		
FS047	1520	1.1	01-EX052-01	
FS048	1525	1.5	01-EX053-01	01-EX013
DUPLICATES	1600	2.5	01-EX054-01	01-EX014
FS049	1602	2.1		
FS050	1605	3.1	01-EX055-01	
FS051	1610	2.7		
FS052	1620	2.4		
FS053	1630	9.0	01-EX056-01	
CELL #1 FS-1	1630	55.1		
			N.E.P.	

6/12/12

Rite in the Rain

~50°F, ZK 6/12 PARTLY CLOUDY, WINDY PPE: LEVEL D

DR CONTAMINATED STOCKPILES.

- CONFIRMATION SAMPLES BEING COLLECTED FROM THE CLEAN STOCKPILE TO VERIFY IT IS FREE OF HC IMPACTED SOIL.

1600 - B. CULLEN RETURNS TO THE SITE.

1620 - ENCOUNTER BLACK ORGANIC LAYER ZK 6/12 THAT WAS OBSERVED IN SOIL BORINGS ALONG THE CANAL.

- ZK 6/12 CEASE EXCAVATION TO TAKE A PID HEADSPACE SCREENING OF MATERIAL
  - IDENTIFIED AS: CELL #1 ES-1 (FIRST EXCAVATION AREA IS TERMED CELL #1)
  - PID RESULT IS 66.1 PPM.
    - MATERIAL IS TRANSFERRED TO CONTAMINATED PILE BASED ON PID SCREENING RESULTS

1645 - B.C. DEPARTS THE SITE.

1720 - ZK 6/12 COMPLETE EXCAVATION OF CELL #1

1740 - BRACE SOUTH WALL (FROM SLOUGHING) OF CELL #1 WITH TRENCH BOX PANEL

- ZK 6/12 CELL #1 DEMENSIONS ARE: 20' BY

6/12/12

~45°F, PARTLY CLOUDY, WINDY PPE LEVEL D.

20' BY 6' DEEP. GROUNDWATER INNUNDATED EXCAVATION TO APPROXIMATELY 6.5' BGS.

- MINOR SHEENING OBSERVED IN EXCAVATION

1750 - BEGIN FILLING CELL #1 WITH CLEAN FILL MATERIAL

1800 - APPLY OBC ZK 6/12 AMENDMENT AGENT AND ½ BAG OF FIBER MULCH TO EXCAVATION FOR MIXING WITH CLEAN BACKFILL MATERIAL

ZK 6/12 - ONE 45 LB BUCKET OF AGENT ADDED AND AGGREGATED

1825 - APPLY ½ BUCKET MORE OF OBC TO CELL #1. ZK 6/12 PERFORM ADDITIONAL AGGREGATION.

* - NOTE: PPE LEVEL REMAINS AT LEVEL D. HOWEVER, PERSONNEL APPLYING OBC AGENT (T. DOBSON AND H. NOTTEN) DON FULL FACE RESPIRATORS WHILE APPLYING AGENT.

1850 - APPLY ADDITIONAL OBC FROM SECOND BUCKET.

- CONTINUE TO BACKFILL EXCAVATION AND MIX WITH CLEAN FILL MATERIAL

1915 - COMPLETE BACKFILLING EFFORTS

6/12/12

Rite in the Rain

BLDG T-1451 ⅜ R. CANAL SI/SC 12 JUNE 2012

~45°F, PARTLY CLOUDY, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0436	SE	- HAULING BROKEN ASPHALT PIECES OFFSITE
101-0439	S	- REMOVING ASPHALT ALONG EAST EDGE
101-0443	S	- EXPANDING EXCAVATION IN CELL #1
101-~~0444~~ 0445	S	" "
101-0449	SE	- GROUNDWATER ~~EMBANKMENT~~ ZK 6/12 ENTERFACE ENCOUNTERED
101-0455	NE	- EXCAVATING CELL #1
101-0458	E	" "
101-0462	S	- TRANSFERRING TRENCH BOX PANEL
101-0463	SW	" "
101-0467	NW	" "
101-0468	NW	INSERTING PANEL ALONG SOUTH EDGE TO IMPROVE SLOUGHING.
101-0469	SE	" "
101-0473	NE	- BACKFILLING EXCAVATION WITH CLEAN FILL
101-0474	NE	" "
101-0476	E	- MIXING CLEAN FILL IN CELL #1
101-0477	SE	" "
101-0484	SW	- DONNING RESPIRATORS TO APPLY OBC AGENT
101-0488	S	- ZK 6/12 ~~M~~ APPLYING FIBER MULCH TO MIX WITH FILL
101-0492	SW	- APPLYING OBC AGENT TO MIX WITH FILL
101-0495	SW	- " "
101-0496	SW	- " "
101-0498	SW	- " "

6/12/12

BLDG T-1451 ⅜ R. CANAL SI/SC 12 JUNE 2012

~45°F, PARTLY CLOUDY, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0499	SW	APPLYING OBC AGENT WITH RESPIRATORS
101-0502	S	- MIXING CLEAN FILL AND OBC AGENT.
101-0505	SSW	- APPLYING ADDITIONAL OBC AGENT
101-0506	SW	- " "
101-0507	—	- SHEEN OBSERVED ON PONDED WATER INFILTRATING INTO CELL #1 EXCAVATION
101-0508	SW	- CELL #1 FOLLOWING COMPLETION OF BACKFILLING.

ZK 6/12/12

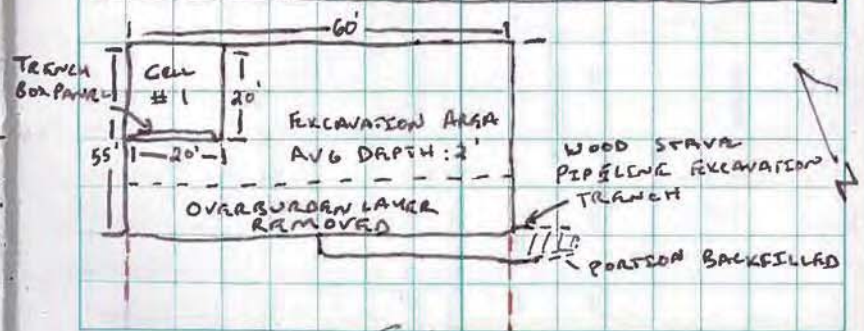
1920 - CLEAN UP AND DEPART THE SITE.

1935 - PROCESS AND DELIVER SAMPLES TO MORELE LABORATORY

2000 - UPDATE PHOTO LOG.

2030 - END OF DAY

SITE DIAGRAM ZK 6/12 ~~#~~ OF EXCAVATION AREA



6/12/12

BLDG T-1451 ½ FL. CANAL SE/SC 13 JUNE 2012

~40°F, OVERCAST, WENDY PPE: LEVEL D

0700 · CONDUCT TAILGATE SAFETY MEETING:

PARTICIPANTS: ~~T.D.~~ ZK 6/13 ANTHA: T. DOBSON

J. OVERLAND, H. WOTTLEN, Z. RASMUSSEN

T. SPITLER

GEOSYNTEC: Z. KERK

0740 · CALIBRATE PID METER Z. KERK 6/13

FRESH AIR CAL: 0.0 PPM

SPAN (ISOBUTYLENE 100 PPM) CAL: 100.0 PPM

BUMP CHECK: 100.8 PPM

0810 - ARRIVE ONSITE. WARM UP EXCAVATION EQUIPMENT. ~~B~~ ZK 6/13

- ONSITE PERSONNEL: H. WOTTLEN, J. OVERLAND, Z. RASMUSSEN AND Z. KERK

0830 - RESUME EXCAVATION ACTIVITIES

- COMMENCE EXCAVATING CELL #2 (ADJACENT TO THE EAST OF CELL #1

0845 - T. DOBSON ARRIVES ONSITE.

0915 - T. SPITLER ONSITE TO COLLECT GPS POINTS OF EXCAVATION AREA.

0930 · B. CULLEN ONSITE TO ASSESS EXCAVATION PROGRESS

1030 · TWO HEADSPACE SCREENING SAMPLES COLLECTED FROM ~~ANSTAL~~ 6/13 APPROXIMATE 1 CUBIC YARD PILE IN CLEAN SOIL

6/13/12

BLDG T-1451 ½ FL. CANAL SE/SC 13 JUNE 2012

~40°F, PARTLY SUNNY, WENDY PPE: LEVEL D

SCREENING ID	TIME	PID	MORELE SAMPLE	FIXED SAMPLE
FS054	0850	0.8		
FS055	0852	1.6	01-FX057-01	
CELL #2 FS1	0904	8.2		
ZK 6/13 FS056 ~~FS058~~	ZK 6/13 0925 ~~0937~~	0.1	01-FX058-01	
FS057	0927	0.4		
FS058	0937	0.5	01-FX059-01	
FS059	0955	ZK 6/13 ~~3.0~~ 0.6	ZK 6/13 ~~01-FX059-01~~	
FS060	0957	3.0	01-FX060-01	
FS061	1008	78.7	01-FX061-01	
FS062	1010	69.1	01-FX062-01	
FS063	1035	48.7	01-FX063-01	
FS064	1037	2.7	01-FX064-01	
FS065	1110	20.6	01-FX065-01	01-FX015
FS066	1113	5.9	01-FX066-01	
MORELE DUP	1115	7.9	01-FX067-01	
FS067	1145	10.0	01-FX068-01	
FS068	1147	24.4	01-FX069-01	
MORELE DUP	1150	17.9	01-FX070-01	
FS069	1325	2.5	01-FX071-01	
FS070	1650	208.5		COLLECTED FROM CONTAMINATED SOIL STOCKPILE AREA.
FS071	1653	228.1	01-FX072-01	
FS072	1705	145.9		
FS073	1707	118.8	01-FX073-01	

6/13/12 Rite in the Rain

BLDG T-1451 & E. CANAL SI/SC 13 JUNE 2012

~40°F, PARTLY SUNNY, WINDY PPE: LEVEL D

STAGING AREA ~~to~~ EK 6/13 REPORTED ELEVATED PID READINGS (78.7 ppm & 69.1 RESPECTIVELY)

- SUBMITTED SOIL FROM SCREENING LOCATIONS FOR MOBILE LABORATORY ANALYSES AND ~~HAD STOCKP~~ EK 6/13 TRANSFERRED STOCKPILE TO CONTAMINATED SOIL STOCKPILE AREA.

1040 - B. CULLEN DEPARTS THE SITE.

~~1050~~ EK 6/13 - FOLLOWING REMOVAL OF 1 CUBIC YARD OF "SUSPECT IMPACTED" SOIL, COLLECT HEADSPACE ~~SAMPLES~~ EK 6/13 SCREENINGS AND SOIL SAMPLES UNTIL SCREENINGS ~~SUGGEST~~ EK 6/13 INDICATE THAT IMPACTED SOIL HAS BEEN REMOVED

1340 - ~~BASED ON MULTIPLE~~ EK 6/13 DETERMINE THAT THE CLEAN SOIL STOCKPILE AREA IS FREE OF CONTAMINATED SOIL FROM THE 1 CUBIC YARD OF IMPACTED MATERIAL FOLLOWING REMOVAL AND BASED ON MULTIPLE SOIL SCREENINGS (AND SAMPLES) TAKEN FROM FOOTPRINT (SCREENINGS FS063 - FS069)

1410 - B. CULLEN ~~ART~~ EK 6/12 RETURNS TO THE SITE

1430 - COMPLETE EXCAVATION OF CELL #2. DEPTH: 6' BGS

6/13/12

BLDG T-1451 & E. CANAL SI/SC 13 JUNE 12

~45°F, OVERCAST, WINDY PPE: LEVEL D

1430 - SET IN TRENCH BOX BANKS ALONG SOUTH EDGE OF CELL #2

1440 - BEGIN BACKFILLING CELL #2 WITH CLEAN FILL MATERIAL

1500 - T. DOBSON AND H. WOTTEN DON FULL FACE RESPIRATORS AND APPLY OBC ~~AGENTS~~ EK 6/13 AGENT.

- DUMP 45 EK 6/13 LB BUCKET OF OBC AND APPROXIMATELY 25 LBS OF FIBER MULCH ADDED TO CELL #2 FOR MIXING.

1525 - AFTER MIXING THE AGENT ~~INTO~~ EK 6/13 IN THE FILL MATERIAL, APPLY SECOND 45 LB BUCKET OF OBC AGENT AND ADDITIONAL 25 LBS OF MULCH.

- COVER WITH ADDITIONAL CLEAN FILL MATERIAL AND ~~AGITATE~~ EK 6/13 MIX WITH 3RD OBC ~~AGENT~~ EK 6/13 BUCKET

1540 - B.C. DEPARTS THE SITE.

1620 - COMPLETE BACKFILLING OF CELL #2

1625 - BEGIN EXCAVATION AT CELL #3 (ADJACENT TO THE EAST OF CELL #2) AT NORTH EAST CORNER OF EXCAVATION/TREATMENT ZONE AREA

1705 - BC RETURNS TO THE SITE.

~~1710~~ EK 6/13 * LATE ENTRY * - 1645 - COLLECT FIELD SCREENING SAMPLES FROM CONTAMINATED STOCKPILE

6/13/12

Rite in the Rain

BLDG T-1451 & E. CANAL SE/SC 13 JUNE 2012

~40°F, OVERCAST, WINDY PPE: LEVEL D.

FOR CHARACTERIZATION PURPOSES

1720 - BC DEPARTS THE SITE

1750 - INSERT ~~3RD~~ 2ND/3 THIRD TRENCH BOX PANEL BETWEEN CELLS #2 AND #3 TO PREVENT SLOUGHING

1800 - CONTINUE EXCAVATION.

1820 - INSTALL 4TH TRENCH BOX PANEL ALONG SOUTH EDGE OF CELL #3.

1830 - CLEAN UP THE SITE. COVER CONTAMINATED SOIL STOCKPILE WITH IMPERMEABLE LINER.

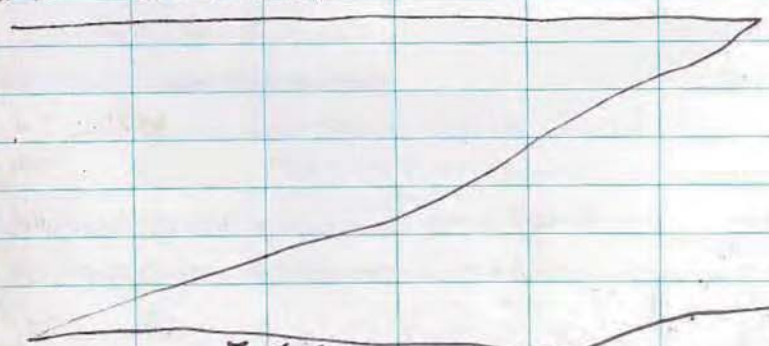
1845 - DEPART THE SITE

1900 - PROCESS AND DELIVER DAY'S SAMPLES TO MOBILE LABORATORY

1915 - PREPARE COC AND FIXED LAB SAMPLES FOR TRANSPORT ON THURSDAY FLIGHT.

1930 - UPDATE PHOTO LOG

2045 - END OF DAY.



6/13/12

BLDG T-1451 & E. CANAL SE/SC 13 JUNE 12

~40°F, OVERCAST, WINDY PPE: LEVEL D

Photo #	Direction	Description
101-0517	N	- EXCAVATING CELL #2
101-0518	N	- CELL #2 EXCAVATION
101-0525	E	- " "
101-0527	SE	- MEASURING DEPTH IN CELL #2
101-0528	NE	- REMOVING CONTAMINATED SOIL FROM - CELL #2.
101-0533	ESE	- COMPLETING CELL #2 EXCAVATION
101-0535	—	· REMOVING CLEAN OVERBURDEN · OVERLAYING CONTAMINATED SOIL.
101-0536	NW	" "
101-0537	SE	- TRANSPORTING TRENCH BOX PANEL.
101-0538	SE	· CELL #2 WITH TRENCH BOX PANEL ALONG SOUTH EDGE TO IMPEDE SLOUGHING
101-0539	S	- BACKFILLING CELL #2 WITH CLEAN SOIL
101-0541	S	- SPREADING MULCH AND OBC AGENT
101-0542	SSW	- MIXING CLEAN SOIL WITH MULCH AND OBC AGENT
101-0543	SSW	" "
101-0544	S	- CELL #2 COMPLETED
101-0545	SW	- INSTALLING PANEL BETWEEN CELLS #2 AND #3
101-0546	SW	· INSTALLING 4TH TRENCH BOX PANEL · ALONG SOUTH EDGE OF CELL #3

6/13/12

Rite in the Rain

BLDG T-1451 & E. CANAL SI/SC 14 JUNE 12

~35°F, OVERCAST, STRONG WINDS, RAIN PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING
PARTICIPANTS: ADTNA: T. DOBSON,
T. SPEILER, H. WOTTLIN, Z. RASMUSSEN, D. OVERLAND
GROSYNTEK: Z. KIRK

0730 - CALIBRATE PID METER ZK 6/14/12
FRESH AIR CAL: 0.0 PPM
SPAN CAL: 100.0 PPM
BUMP CHECK = 99.7 PPM

0745 - ARRIVE ONSITE. PERSONNEL:
D. OVERLAND, Z. RASMUSSEN, H. WOTTLIN
AND Z. KIRK
- WARM UP EQUIPMENT AND PULL
BACK ~~CONT~~ ZK 6/14 LINER COVER OVER
CONTAMINATED STOCKPILE AND
SECURE IT.

0750 ZK 6/14 ~~0850~~ - RESUME EXCAVATING CELL #3

0900 - COMPLETE EXCAVATION OF CELL #3
- BEGIN BACKFILLING WITH CLEAN
FILL SOIL.

0900 - APPLY FIRST 45 LB BUCKET OF OBC
AGENT AND 25 LBS OF FIBER MULCH
TO MIX WITH CLEAN FILL.
- MIX OBC AGENT AND FILL.

0930 - APPLY 2ND 45 LB BUCKET OF OBC

6/14/12

BLDG T-1451 & E. CANAL SI/SC 14 JUNE 12

~35°F, OVERCAST, STRONG WIND, RAIN PPE: LEVEL D

AND 25 LBS OF MULCH.

0945 - ADDITIONAL FILL MATERIAL ADDED.

1000 - APPLY 3RD BUCKET OF OBC
AGENT.

1015 - MIX SOIL AND CONTINUE ADDING
CLEAN FILL ~~TO~~ ZK 6/14 UP TO SURFACE
GRADE (REVIEW WITH CELLS #1 AND #2.

1100 - T. DOBSON ARRIVES ONSITE

1105 - COMPLETE BACKFILLING OF CELL #3

1120 - COVER UP CONTAMINATED SOIL
STOCKPILE WITH IMPERMEABLE
PROTECTIVE LINER TO COVER
FROM THE WEATHER.

1130 - DEPART THE SITE

1230 - DUE TO COMING INCLEMENT
WEATHER DETERMINE THAT CONDITIONS
MAY BECOME UNSUITABLE OR
UNSAFE ~~FOR~~ ZK 6/14 TO CONTINUE EXCAVATING
- DECIDE TO STOP EXCAVATION
FOR THE DAY.

1300 - DROP OFF HAZMAT MATERIALS
LEFT BY HAMMER ENV AT AIRPORT
FOR SHIPMENT OUT ON TODAY'S
~~AA~~ ZK 6/14 FLIGHT.

6/14/12

Rite in the Rain

BLDG T-1451 & E. CANAL SI/SC 14 JUNE 2012

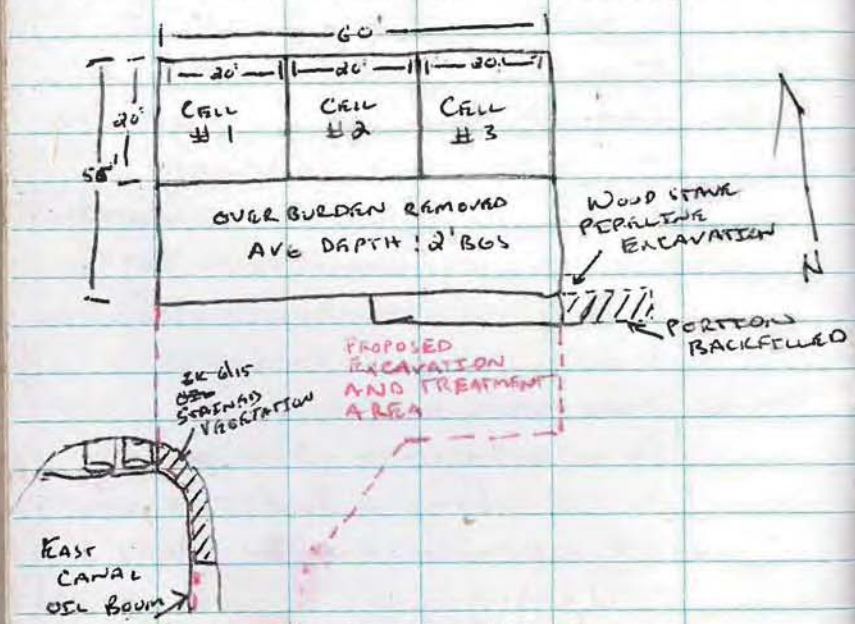
~40°F, OVERCAST, STRONG WIND, RAIN PPE: LEVEL D

1400 - RETURN TO THE SITE TO ~~FURTHER~~ ZK 6/14 APPLY ADDITIONAL WEIGHTS TO HOLD DOWN CONTAMINATED STOCKPILE LINER.

1430 - DEPART THE SITE TO SEARCH HANGAR FOR SPARE 55 GALLON DRUMS ~~FOR CONTAINING~~ ZK 6/14 TO CONTAIN THE TREATED WATER FROM THE CONTAMINATED STOCKPILE.

1500 - END OF DAY

SITE DIAGRAM AS OF END OF DAY 6/14/12



6/14/12

BLDG T-1451 & E. CANAL SI/SC 15 JUNE 12

~ PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING: PARTICIPANTS -
ARTNA: T. DOBSON, H. WOTTLEN, Z. RASMUSSEN, J. OVERLAND, ~~GREG~~ ZK 6/14 T. SPETLER
GROSYNTEC: Z. KERR

0730 - CALIBRATE PID METER Z. KERR 6/15
FRESH AIR CAL: 0.0 PPM
SPAN CAL: 100.0 PPM
BUMP CHECK: 99.7 PPM

0800 - Z. RASMUSSEN, T. DOBSON AND Z. KERR PICK UP ADDITIONAL LINER MATERIAL TO EXTEND CLEAN SOIL STAGING AREA.

0825 - PICK UP ADDITIONAL FIBER MULCH

0840 - ARRIVE ON SITE. PERSONNEL ALREADY ON SITE: J. OVERLAND AND H. WOTTLEN

0845 - EXCAVATING CLEAN OVERBURDEN IN CELL #4 (ADJACENT TO THE SOUTH OF CELL #1).

1000 - CONTINUE EXCAVATION IN CELL #4 FURTHER DOWN TO 1' BELOW GW.

1115 - ENCOUNTER ~~SOIL THAT~~ ZK 6/14 SOIL THAT IS MIXED WITH CLEAN FILL MATERIAL AND IMPACTED NATIVE SANDS.

6/15/12

Rite in the Rain

BLDG T-1451 ¾ E. CANAL SI/SC 15 JUNE 2012

~40°F, OVERCAST, STRONG WINDS PPE: LEVEL D

SCREENING ID	TIME	PID	MOBILE LAB	FIXED LAB
FS074	0908	0.1		
FS075	0910	0.1		
FS076	0918	1.2	ZK 6/15 01-FX074-01 ~~01-FX074-01~~	
FS077	0920	0.1		
ZK 6/15 CAL #4 FS-1 ~~FS078~~	0921	0.8	ZK 6/15 01-FX075-01 ~~01-FX075-01~~	
FS078	0925	0.1		
FS079	0935	0.2		
FS080	0937	0.4	ZK 6/15 01-FX076-01 ~~01-FX066-01~~	
FS081	0950	2.6	ZK 6/15 01-FX077-01 ~~01-FX067-01~~	
FS082	0952	1.8		
FS083	1000	0.3		
FS084	1002	0.1	ZK 6/15 01-FX078-01 ~~01-FX068-01~~	
MOBILE DUPLICATE	1005	0.3	ZK 6/15 01-FX079-01 ~~01-FX069-01~~	
FS085	1025	0.0	ZK 6/15 01-FX080-01 ~~01-FX070-01~~	01-FX016
FS086	1038	0.8		
FS087	1040	0.9		
FS088	1050	0.3		
FS089	1100	1.0	01-FX081-01	
FS090	1105	1.1	01-FX082-01	
FS091	1115	0.3		
FS092	1118	2.4	01-FX083-01	
FS093	1150	8.0	01-FX084-01	
FS094	1155	52.5	01-FX085-01	

6/15/12

BLDG T-1451 ¾ E. CANAL SI/SC 15 JUNE 12

~40°F, OVERCAST, HIGH WINDS PPE: LEVEL D

ZK 6/15 ~~SCREENING~~ SCREENING	TIME	PID	MOBILE LAB	FIXED LAB
FS095	1205	16.7	01-FX086-01	
FS096 (CONT. PERIM.)	1425	170.1		
FS097 (CONT. PERIM.)	1430	86.6		
FS098 (CONT. AREA)	1455	4.3	01-FX087-01	
FS099 (CONT. AREA)	1458	3.1	01-FX088-01	
FS100 (CONT. AREA)	1500	208.4		

- FOLLOWING SAMPLES COLLECTED FROM ~~NORTH~~ ZK 6/15 PERIMS STAGED AT NORTH SIDE OF CONTAMINATED AREA.

SCREENING	TIME	PID	MOBILE LAB	FIXED LAB
FS101	1540	30.3	01-FX089-01	
MOBILE DUP.	1543	12.5	01-FX090-01	
FS102	1545	19.8		
FS103	1548	80.3	01-FX091-01	
FS104	1553	190.4		
FS105	1555	40.4	01-FX092-01	01-FX017
FS106	1600	86.6		
FS107	1603	150.6		

N.F.T.P

6/15/12

Rite in the Rain

48 BLDG T-1451 ⅜ FT. CANAL SE/SC 15 JUNE 12
~45° OVERCAST, WINDY PPE: LEVEL D
- STAGE MIXED SOIL IN A SEPARATE STOCKPILE WITHIN CONTAMINATED STOCKPILE LINER FOR ~~SCREENING~~ ZK 6/15 DETERMINATION BASED ON SCREENING RESULTS. FIRST SOIL SCREENING FROM THIS STOCKPILE: FS096
1425 - REMOVE TRENCH BOX PANEL SEPARATING CELLS #1 AND #4 WHILE COMPLETING CELL #4 EXCAVATION.
1450 - COLLECT SCREENING SAMPLES FROM NORTH SIDE OF CONTAMINATED STOCKPILE FROM ZK 6/15 "SUSPECT" ZK 6/15 SOIL PILES TO VERIFY ~~[illegible]~~ ZK 6/15 WHETHER THE SUSPECT PILES ARE IMPACTED WITH DRO. ~~B. COLLEN ONSITE~~ ZK 6/15
- SCREENINGS: FS098 - FS100 TAKEN FROM NORTH PILES IN CONTAMINATED STOCKPILE AREA. B. COLLEN ONSITE.
1525 - BASED ON RESULTS OF SCREENINGS FS098 AND FS099, WILL COLLECT ADDITIONAL SCREENINGS TO DELINEATE UNIMPACTED SOIL PILES IN THE CONTAMINATED SOIL ZK 6/15 STAGING AREA. B.C. DIRECTED THE STAGING
1530 - SOIL SLOUGHING PROTECTION (TRENCH BOX PANELS AND SHEETING) PLACED IN CELL #4 SOUTH B

6/15/12 4/7

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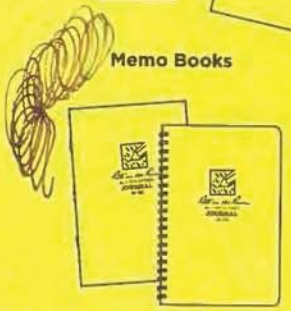
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Building T-1451 & East Canal
Site Investigation/
Characterization
Field Notebook #3

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Project Adak - 20171

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	End initials	
	EC/T-1451 North Area	
	01-EX-607 X	
	01-B029-01 > full ~~on~~ site	
	007 ML - 0	

Adak - 20171 5.29.12

- Lauren Boldrick - LBoldrick
- Lauren Boldrick, Herb Wottlin, Jon Overland, & Tim Dobson
- Tom Spittler
- 325 C excavator
- Level D PPE
- Slight wind, light rain

0830: final notes & measurements on North Area TP6. Take DRO/RRO & GRO/BTEX from NE corner. (5.29.12/0835) for mobile lab sampling. Exposed fresh surface for sampling. Dug 12" into NE corner/sidewall w/ shovel. Contamination approx. 6" band in NE corner above oxized layer. Progressively thins west.

09:10 Begin TP7. See Test Pit Log. Dug up 3 pipes. Took 2 field screenings. No indications of contamination, so no lab samples taken. J.O. filled in TP7, will move onto fill in TP6 before →

Adak - 20171 5.29.12

beginning TP8. Took photos 100-4842-44. Piping, west view & north view.

0945: TP8 source/anomaly was an overgrown flush-mount monitoring well. New TP8 location (formerly proposed #9) will be investigated accordingly.

10:15: Begin TP 8. Found old grate (18"x12") at ~5' depth. 8' length of 1" diameter pipe found at 4.5' depth. More pipe encountered at 5.5'. End of test pit at 6'. Took 4 field screening samples. No analytical. Fill test pit.

11:40: Begin TP9. Encounter sheet metal at 6" bgs. Encounter crushed drums at 8" bgs. Approximately 50 drums exposed, before 6 feet bgs.
Test pit 9 dimensions: 11 x 9
N W
→

Rite in the Rain

Adak 5.29.12

1210: Lunch

1315: Decide to discontinue digging on TP9, to discuss what to do about drum debris (4857 - drum debris pile) photo: 100-4855, 100-4856. Take field screening samples 1-3. ~~[illegible]~~ ~~full analytical~~

1340: Begin TP 10. Anticipating similar drum encounter in TP10. Found contamination. Taking full suite sample to characterize contamination. At 3' bgs. Taking ~~3~~ field screening samples. FS taken on east, south and west sidewalls. Took ~~Ex~~ 01-EX001 at 1431, DRO/RRO, ~~GRO/BTEX~~, ~~JB~~ VOCs/GRO, PAH, PCBs, RCRA Metals

1500: JD filling TP10 according to instructions from NTR, leaving TP9 open/exposed until QC scheduled for 5.31.12.

→

Adak 5.29.12

Note: took pictures 100-4860 - (~~of~~ base of TP10), 4861 - base view of TP10.

1510: Begin TP11 (anomaly 15). Photos 100-4862 & 100-4863 show drum w/ ~~tar~~ & base of TP11. Took field screenings on north and west sidewalls. Encountered several drums at 2" - 2' bgs. Took sample ~~01-EX002~~ 01-EX011-03 for DRO/RRO, ~~VOCs~~ BTEX/GRO, ~~PAH~~, ~~RCRA & PCBs~~ ~~JB~~ ~~JB~~

1540: Begin TP12. Unearthed drums within first 6" bgs. Encountered piping at ~1' bgs. Take 3 field screenings from base, north side wall and west side wall. Photos 100-4869 & 100-4870 from west side wall, of TP12.

1410: Begin TP13 at Anomaly 17. At 18" bgs, found buried steel cable. No staining, odor, etc. NTR onsite, agreed no further

~~Return to Base~~

Adak - 20171 5.29.12

investigation neccessary.

1705: Begin TP14. Anomaly 18. Encounter 1" diameter x 2' long pipe at ~2' bgs. (2 equal pieces), found 4 bricks. No contaminant sources, so no sampling/field screening conducted.

100-4584 (south → north)

85 (east → west)

86 (close up, east → west)

↳ concrete foundation.

- possible creosote at base (on concrete foundation).

1745: Begin TP15, A & B. Found concrete foundation with rebar at TP15 site. Took samples (FS) at base of each TP. Photos 100-4585 & 100-4587 south → north, then north → south. Return excavator to overnight area, end of day. (18:30)

↓

LBoldrick

Adak - 20171 5.30.12

- Lauren Boldrick - LBoldrick
- Lauren Boldrick, Herb Wittlin, Jon Overland
- 325C Excavator
- Level D PPE
- Weather: 20 mph wind, light rain

- - - - - - -

~~0935: Return to TP6 to acquire mobile fixed lab sample. 01-EX003, 5.30.12 at 0945 collected DRO/RRO, GRO/BTEX, PAH, PCBs, RCRA metals.~~ JB

~~Sampled from NE corner at 2½' bgs. Field screening: 59 ppm.~~

↳ JB/decide to "scrap" sample

Note: From 7AM - 9:30: Morning safety meeting, worked on relocating 3 proposed wells that would be too close to high voltage lines to drill. Went over well installation SOP with geologists & drillers.

10:10: Relocate excavator to →

Adak - 20171 5.30.12

to Anomaly 31 site. This is TP16. Found compacted 3"d pipe, 4 pieces, approximately 3' in length. One compacted drum. (thus far). - Continue digging. Found several drums, pipe. Took field screenings and 1 ~~fixed~~ mobile lab sample - ~~01-EX005~~ 01-EX016-02 ~~5.27.~~ 5.30.12 1050. ~~Full suite~~ DRO/RRO & GRO/BTEX

1055: Begin TP17 at Anomaly 32. Dig to 4' depth. Encounter several drums, take ~~fixed~~ mobile lab sample - 01-~~EX006~~ EX017-04, 5.30.12 1110. ~~Full suite~~ DRO/RRO & GRO/BTEX Tom Spittler has taken photos of TP16 & 17, noting direction of photos in his field notebook.

1120: Begin TP18 at Anomaly 28. No anomaly source found in TP. Suspect old cable on surface that create geophysical signature. Since no subsurface items →

Adak - 20171 5.30.12

located, no field screenings or analytical samples taken.

11:35: Begin TP19. Found 1 drum, break for lunch. (1200)

1300: Return to TP19 and continue excavating. Found several drums. Encountered groundwater at 32" bgs (base of TP). Took ~~01-EX007~~ 01-EX019-1.5 at 1332. ~~Full suite~~ DRO/RRO & GRO/BTEX

1340: Begin TP20 - Anomaly 13. Found 1 drum at 1' bgs. Take field screening & lab sample ~~01-EX008~~ 01-EX020-1.5 at 1357. DRO/RRO & GRO/BTEX

1350: Begin TP21. - Anomaly 27. Found lots of metal debris. 300# water valve. (100-4899) Take field screenings and sample. ~~01-EX009~~ at 1412. ~~01-EX009-M1D2~~ → 01-EX021-1.5

Rite in the Rain

Adak - 20171 5.30.12

1435: Begin TP22 at Anomaly 20. Found 12' 6" diameter pipe at 6" bgs, other metal debris, degraded wooden pipe with wire wrap. Take FSI and ~~01-EX010-ML05~~ 01-EX022-1.5'. JO fills TP. GB

1500: Begin TP23. (Anomaly 25). Found 1 drum. lots of rebar concrete. Field screening & ML sample taken - ~~01-EX011-ML04~~ 01-EX023-1 at 1510. GB

1530: Begin TP24 (Anomaly 23). Found several drums. welded together likely used as a culvert. Misc. other metal debris. No samples taken as not a potential source.

1555: Hand-dug at Anomaly 21 site. @ 1" bgs - metal debris. No test pit dug. No samples taken GB

→

Adak · 20171 5.30.12

as not a potential source. Return excavator to overnight location. Assist with other field activities till end of day. (1900) RBolduck

RBolduck 5.30.12

Rite in the Rain

Adak - 20171 5.31.2012

0700: Morning safety meeting
0730-0845: Prep for QC Meeting.
0900-1000: QC Meeting
1000-1100: Fieldwork prep
1100-1120: Get to drum dump area near targets 11 & 12. Begin TP25.
1140: Encounter GW at 3.5' bgs in TP25. Sample for full suite at 8' bgs - 01-EX002 @ 1153. Mobile lab samples 01-EX025-08 @ 1153 & 01-EX026-08 @ 1200 (duplicate) for DRO/RRO & GRO/BTEX. Fill TP25 to 2' bgs, then clean fill will be used from 2' bgs - once obtained. Removed approximately 20 drums, but returned to TP when filling, according to Navy & ADEC remarks. Return to TP9 to continue excavating to GW.

1210: Continue excavating TP9. 11' bgs, rust-contaminant sludge. Photos: 100-4914-4919. Full suite

Adak - 20171 5.31.2012

sample. 01-EX003 @ 1240. Came from on top of drum, highly discolored, not an TP sidewall or base sample. Approximately 100 drums (compacted) and other misc. metal debris, have been removed from the test pit for excavation activities at this point. A PID screening was not taken in association with 01-EX003 since there was no odor and since it was not from sidewall or from the base. Collected fixed lab full suite sample from the south sidewall at 15' bgs at 1255. Collected fixed lab sample from the west side wall at 15' bgs. for full suite analysis. Also collected WSW mobile lab sample at 1300 - 01-EX009-15, for DRO/RRO, GRO/BTEX analyses. Confirmation fixed-lab/mobile lab sample collected from TP9, ~~01-EX00~~, using 01-EX009-15 and 01-EX005.

Sample: 01-EX004

Adak - 20171 5.31.12

1315: Return to quad to pack samples for plane. Go to take samples to airport. See Tim's notes re: Test pit #~~35~~ 29. Worked on MNA aerial map and cross-sections.

LBoldrick 5.31.12

EAST CANAL / BUILDING T-1451 SITE TO GLOS JUNE 12 05

- 46°F - CLOUDY

1055 ARRIVE ON SITE AT EC/BLDG T-1451 TO EXCAVATE TEST PITS FOR FURTHER UNOSI CHARACTERIZATION

- BEGIN NEXT TO B-028/UV-050
- EXCAVATE TO 1.0' BGS TO COMPOSITE SAMPLES FROM -

1120 - BEGIN EXCAVATION OF TP 26 AT B028/UV-050 -

1130 - BEGIN EXCAVATION - DIG TO 2.25' -
- ENCOUNTER WOOD STAVE PIPE AT BASE OF EXCAVATION - WILL POSTPONE TP-026 TO TRENCH EXTENT OF WOOD STAVE PIPE - AT REQUEST OF RPM -

1150 - WILL TRENCH EAST OF UV-050/B-028 TO DETERMINE EXTENT OF WOOD STAVE PIPE - PIPE HAS LIQUID WITH STRONG ODOR -

1225 - STOP EXCAVATION FOR LUNCH - PIPE EXTENDS TO THE EAST OF UV-050 ≈ 45' ~~TO~~ PAST -

LATE ENTRY TO GLOS - 1245 - L. BOLDRICK DEPARTS FOR MOBILE LAB AT 1140 TO OBTAIN 40 ML VOA VIALS TO COLLECT A LIQUID SAMPLE FROM FLUID IN THE WOOD STAVE PIPE. -

- L. BOLDRICK RETURNS - COLLECT 2 40 ML VOA

Rite in the Rain

Adak

~~06~~ TP G/S
05 JUNE 12

VIALS TO SUBMIT TO MOBILE LABORATORY
- AHTNA CIH INSTRUCTED FIELD TO CEASE EXCAVATION ~~E~~ TO G/S UNTIL LIQUID IS ANALYZED FOR COMPONENTS. - WILL COLLECT A SAMPLE OF LIQUID TO SEND TO FIXED LAB FOR FULL CHARACTERIZATION ANALYSIS.
- ~~NOTIFIED~~ TO G/S 1330 - NOTIFY NTR THAT EXCAVATION OF ~~OF~~ TO G/S WOOD STAVE PIPE TRENCHING WILL CONTINUE AFTER ANALYSIS OF SAMPLE (LIQUID) IS COMPLETE.
1400 - ARRIVE BACK ON-SITE - RECEIVE CALL FROM ERS-JV PM FOR UP-DATE ON MEETING THIS MORNING - AT 0700; DISCUSS ADDITIONAL UVOST CORRELATION BY DROPPING TEST PITS TO TEST FOR DRO - EXSITU CORRELATION AND PID READING - MOBILE LAB USED FOR DRO ANALYSIS.
LATER THAN - 1526 SUBMIT LIQUID SAMPLE TO MOBILE LABORATORY AT 1345 - JD# ~~W~~ TO G/S G-WINOOT
- - NOT A SAP TO# - FOR CHARACTERIZATION PURPOSES. -
1545 - CHECK IN W/ MOBILE LAB FOR STATUS OF LIQUID SAMPLE ANALYSIS. SHOULD RECEIVE TO G/S ~~S~~ RESULTS BY 1630. DEPART FOR FC/BLOCK 1451 AREA
1550 - ARRIVE ON SITE - NTR & RAM ON-SITE

KW
07 JUNE 12

PHOTO LOG

100-4923 - N - B831 -
100-4924 - E - B831

Rite in the Rain

05 JUNE 12

- MONITORING TEST PIT TP # ~~27~~ 28 - B010-UV-052
- EXCAVATED TO S.S BGS TO COLLECT SAMPLES FOR UVOST EX-SITU - CORRELATION,
- PID, AND MOBILE LAB SAMPLE - SAMPLE WAS HOMOGENIZED AND PLACED IN 3 SEPARATE BAGS - TO - INTERVAL SAMPLE WAS COLLECTED FROM IS 3'-4' - UVOST-052 NEXT B-010
- WITH A SPIKE AT 3.6' = 163% OHEX028 01

EX-SITU UVOST READING =

PID READING = 225.1 PPM

1730 - BACKFILL TP 28 - - WITHIN MNA -

1745 - BACKFILL COMPLETE TP # 28 -

1750 - SET UP FOR TP # 29 - NEXT TO B-025, UV-043

- PK 83% AT 4.5' - SOIL SAMPLE FOR EX-SITU UVOST READING, PID, MOBILE LAB SAMPLE AND FIXED LAB SAMPLE COLLECTED FROM 4'-5' INTERVAL - HOMOGENIZED SAMPLE

1810 COLLECT SAMPLE 01-EX029-01 FROM 4-5' BGS - EX-SITU UVOST, PID, ML, FL

EX-SITU READING =

PID = 386.2

1820 - BACKFILL TP # 29 - IN MNA TA -

- 1840 SECURE SITE - DEPART EAST CANAL/BLDG. T-1451

05 JUNE 12

Adak - 20171 6.6.12

0700: Safety meeting

0730 - 1000: Write meeting minutes, organized fixed lab samples for 6.7.12 flight.

1000: Visit T1451 North Area UVOST probe installations. (See ZK. notes)

: Return to base for data analysis.

Data Review:

Collection Point	Ex-Situ Peak	PID	Mobile Lab	Fixed Lab (to be added in future)
~~TP 01-EX028~~				
TP#28	01-EX028-01 Peak: 72.9	225.1	01-EX028-01	
TP#29	01-EX029-01 Peak: 82.1	386.2	01-EX029-01	
B#47	Peak: 80	395.8	01-B047-01	
B#48	Peak: 3.0	66.8	01-B048-01	
B#49	Peak: 60	86.3	01-B049-01	
B#50	Peak: 60	166.1	01-B050-01	
B#51	Peak: 72	152.1	01-B051-01	
B#52	Peak: 1.5	27.9	01-B052-01	
TP#27	— ?? need to check T.D.'s notebook	380.1	01-EX027-01	—

Lauren Boldrich

Rite in the Rain

Adak - 20171 June 6.12

1200 - 1300: Lunch

13:00 - 1430: Load GPS with proposed MNA excavation limits, spray-paint site with bounds for excavation activities.

1430: Assist in pipeline removal activities. Dig up at joint to cut, will drain of liquids and further excavate pipeline into MNA area.

1500: Begin pipeline excavation activities. (see pg 21 for photo log).

1515: find end of line. Begin draining line. 13 gallons removed from line by field crew using sump method. Finished at 1545.

1545 - 1605: Remove 3 sections of pipe within MNA excavation.

1605 - 1610: Remove 4th section of pipe.

1615 - 1620: Add clean fill to pipe excavation area up to MNA treatment area. →

Adak 6.6.12 - 20171

Photo Log

100 - 4937 | Face N | exposed cut joint

100 - 4938-41 | Face NE | end of pipe, drain water/product

100 - 4942-44 / Face NE / final (post drain)

100 - 4945: looking W down pipeline excavation

100 - 4946: / Face SW / picture of removal pipe sections

100 - 4947-54 / face E / removing 4th section of pipe

100 - 4955 / face E / insert wood plug into pipe.

Rite in the Rain

Adak - 20171 6.6.12

1630 - 1900: Organize and gather stockpile materials (liners etc). ~~Butte~~ Spread liners in contaminated stockpile area. Build clean berm on liner, put contaminated soil on for storage. End of day.

JBoldrick
6.6.12

Adak - 20171 6.7.12

0700 - 1100: Safety meeting, QC Meeting prep, QC Meeting, typed QC Meeting minutes, calculated excavation cubic yardage.
1100 - 1154: Field activity check-ins. See Zach Kirk's notes about ongoing delineation activities in the T14S North Area for CVOSTing. HW & ZK have been organizing cont. soil stockpiles from various MNA locations, but combined all onto contaminated soil stockpile location that has 20 mil liner. Lapsed all of the CVOST probe locations advanced in near proximity to the Seep 3 Locations, as well as the excavated pipe linear trench from 6.6.12 field activities.
1200: Break for lunch.
1300 - 1500: Assist w/ cooler, data analysis & pack. Depart for airport.

JBoldrick
6.7.12

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	BRIAN CULLEN : 360.531.3997	

~50° F, PARTLY SUNNY, LT. WIND. PPE: LEVEL D

- LOG BOOK #4 - ZK CONTINUED FROM BOOK #3 - ZK

1540 - COMMENCE BACKFILLING OF CELL #4.

1550 - FIRST APPLICATION OF OBC AGENT AND FIBER MULCH.

- 45 LB BUCKET OF OBC AND 25 LBS OF MULCH ADDED.

1555 - MIX WITH ~~ADDITIONAL~~ ZK 6/15 EXCAVATOR AND APPLY LEFT WITH CLEAN SOIL MATERIAL

1610 - 2ND APPLICATION

- 45 LB BUCKET OF OBC AND 25 LBS OF MULCH

1620 - MIX WITH EXCAVATOR AND ADD ADDITIONAL FILL

1630 - APPLY 3RD 45 LB BUCKET OF OBC AGENT

1640 - MIX AND FILL ~~EXCAVT~~ ZK 6/15 CELL #4 TO GRADE LEVEL WITH CELL #1. BC ONSITE

1700 - COMPLETE BACKFILLING OF CELL #4.

1720 - COMMENCE EXCAVATION OF CELL #5, ADJACENT TO THE EAST OF CELL #4 AND TO THE SOUTH OF CELL #2

ZK 6/15 FT

1730 - B.C. DEPARTS THE SITE.

1850 - STOP EXCAVATING.

6/15/12

~45° F, PARTLY SUNNY, WINDY PPE: LEVEL D

SCREENING	TIME	LOCATION	~~TEMP~~ ZK 6/15 PID	MOBILE LAB	FIXED LAB
FS108	1747	CLEAN FILL	1.7		
FS109	1810	" "	2.2	01-EX093-01	
CELL #5 FS.1	1832	CELL #5	5.2		
FS110	1835	CLEAN FILL	2.1		

ZK 6/15

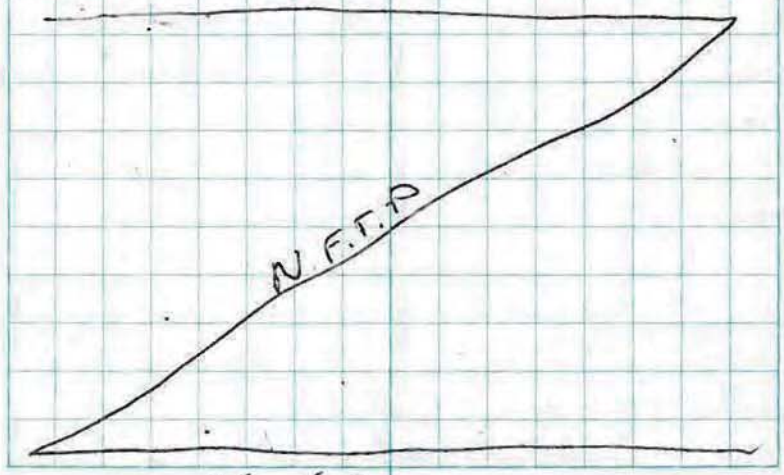
1855 - CLEAN UP THE SITE. SECURE LINER COVER OVER CONTAMINATED SOIL STOCKPILE.

1900 - DEPART THE SITE

1920 - PROCESS AND DELIVER SAMPLES TO MOBILE LABORATORY.

1945 - UPDATE PHOTO LOG

2030 - END OF DAY



6/15/12

BLDG T-1451 & E. CANAL SE/SC 15 JUNE 2012

~45°F, PARTLY SUNNY, WINDY PPE: LEVEL D

PHOTO #	DATE	DIRECTION	DESCRIPTION
101-0548	6/14	SE	- EXCAVATING CELL #3
101-0549	6/14	SE	- BACKFILLING CELL #3
101-0550	6/14	SE	- " "
101-0552	6/15	N	- EXCAVATING CELL #4
101-0554	6/15/12	N	- " "
101-0556	6/15	NE	- CLEAN AND CONTAMINATED
~~101-0557~~ ZK 6/15	~~6/15~~	.	(COVERED) STOCKPILES
101-0557	6/15	NE	- EXCAVATING CELL #4
101-0558	6/15	N	" "
101-0560	6/15	NE	" "
101-0563	6/15	S	- CELL #4 EXCAVATION
101-0564	6/15	E	- " "
101-0566	6/15	E	- " "
101-0567	6/15	E	- CELL #4 EXCAVATION AFTER REMOVING TRENCH BOX PANEL BETWEEN CELL'S #1 AND #4
101-0568	6/15	N	" "
101-0569	6/15	SE	- SLOUGHING PROTECTION ALONG SOUTH EDGE OF CELL #4
101-0571	6/15	SE	- BACKFILLING CELL #4
101-0572	6/15	E	" "
101-0573	6/15	E	- EXCAVATING CELL #5
101-0574	6/15	E	- " "

6/15/12 7/7

BLDG T-1451 & E. CANAL SE/SC 16 JUNE 12

~45°, OVERCAST, CALM PPE LEVEL D

0700 - CONDUCT FIELD SAFETY MEETING
PARTICIPANTS: ATHNA: T. DOBSON, Z. RASMUSSEN, J. OVERLAND, H. WOTTEN, T. SPELLAR
GEOSYNTEC: Z. KIRK

0820 - ARRIVE ONSITE. ONSITE PERSONNEL: J. OVERLAND, T. DOBSON, Z. KIRK

0825 - CALIBRATE PID METER - ~~ZK~~ 6/16/12
FRESH AIR CAL: 0.0 PPM
SPAN CAL: 100 PPM
BUMP CHECK: 99.3 PPM

0840 - BEGIN FILLING 5 CUBIC YARD SUPERSACKS WITH CONTAMINATED SOIL FROM CELL #5.

0930 - H. ~~WOTTEN~~ ZK 6/16 WOTTEN AND Z. RASMUSSEN ARRIVE ONSITE. BEGIN TAKING LOADED SUPERSACKS TO STAGING AREA NEAR THE PORT.
- CONTINUE EXCAVATION OF CELL #5
- ALL SOIL REMOVED IS PLACED IN 5 CUBIC YARD SUPERSACKS.

1145 - COMPLETE EXCAVATION OF CELL #5
- NINE SUPERSACKS FILLED WITH ~~MATERIAL~~ ZK 6/16 SOIL FROM ~~THE~~ ZK 6/16 THE EXCAVATION.

6/16/12 1/7

~45°, OVERCAST, LT. WIND PPE: LEVEL D

1150 - B. CULLEN ARRIVES ONSITE

* LATE ENTRY * 0940 - T. SPEELER ONSITE.

1200 - ALL DEPART THE SITE.

1315 - RETURN TO THE SITE.

1320 - COMMENCE BACKFILLING OF CELL #5 WITH CLEAN FILL MATERIAL.

1340 - T. DOBSON AND H. WOTTEN DON FULL FACE RESPIRATORS TO APPLY OBC AGENT.

1345 - APPLY 45 LBS OF OBC AGENT AND 25 LBS OF FIBER MULCH TO FIRST BACKFILL LIFT.

1350 - TURN OVER WITH EXCAVATOR AND APPLY SECOND LIFT OF CLEAN FILL SOIL.

1400 - APPLY SECOND APPLICATION OF AMMENDMENT
- 90 LBS OF OBC AGENT
- 25 LBS OF FIBER MULCH

1410 - TURN OVER WITH EXCAVATOR AND APPLY ADDITIONAL CLEAN FILL TO SURFACE GRADE LEVEL WITH ADJACENT CELLS.

1450 - COMPLETE BACKFILLING OF CELL #5

1530 - COMMENCE EXCAVATION OF CELL #6, ADJACENT THE EAST OF CELL #5 AND TO

6/16/12

~45°F, OVERCAST, LT. WIND PPE: LEVEL D

THE SOUTH OF CELL ~~#6~~ #3 ZK 6/16

1620 - STOP LOADING SUPERSACKS ~~#6~~ ZK 6/16 DUE TO DAMAGE TO SUPERSACK LOADING STANCHIONS.

ZK 6/16 ~~#6~~ REMAINING CONTAMINATED SOIL FROM CELL # 6 TRANSPORTED TO CONTAMINATED SOIL STOCKPILE AREA.

1630 - Z. RASMUSSEN DEPARTS THE SITE WITH STANCHION TO REPAIR DAMAGE.

1715 - B. CULLEN ONSITE.

~~1650 LATE~~ ZK 6/16

* LATE ENTRY ~~*~~ - 1645 - COLLECT FOUR HEADSPACE SCREENINGS FROM ONE TO TWO FEET BELOW GRADE IN CELL # 6 EXCAVATION

1830 - COMPLETE EXCAVATION OF CELL # 6. BEGIN BACKFILLING EFFORT.

1845 - APPLY FIRST AMMENDMENT OF OBC AND MULCH AND TURN WITH CLEAN SOIL
- 1 BUCKET OF OBC
- 25 LBS OF FIBER MULCH

1850 - BC DEPARTS THE SITE

1905 - SECOND APPLICATION OF AMMENDMENT

6/16/12

BLDG T-1451 ⅓ E. CANAL SE/SE 16 JUNE 2012

~45°F, OVERCAST, LT WIND PPE: LEVEL D

SURROUNDING #	TIME	LOCATION	PID	MOBILE	FIXED
CELL #6 FS-1	1645	CELL #6	149.1		
CELL #6 FS-2	1648	" "	187.7		
CELL #6 FS-3	1652	"	160.0		
CELL #6 FS-4	1655	"	149.8		

N.F.T.P

6/16/12

BLDG T-1451 ⅓ E CANAL SE/SE 16 JUNE 12

~45°F, OVERCAST, LT. WIND PPE: LEVEL D

1905 - APPLY SECOND BUCKET OF OBC AGENT AND 25 ADDITIONAL LBS OF FIBER MULCH.

1910 - TURN SOIL WITH EXCAVATOR AND ADD ADDITIONAL FILL FOR SECOND LIFT.

1915 - APPLY THIRD APPLICATION (3RD BUCKET) OF OBC AGENT.

1920 - ~~BACKFILL~~ BK 6/16 CONTINUE BACKFILLING CELL #6 TO GRADE LEVEL WITH ADJACENT CELLS

1925 - COMPLETE BACKFILLING OF CELL #6

1930 - CLEAN UP THE SITE AND STELLUTE CONTAMINATED STOCKPILE UNDER COVER.

1940 DEPART THE SITE

2000 - UPDATE PHOTO LOG

2030 - END OF DAY

N.F.T.P

6/16/12

BLDG T-1451 3 E. CANAL ST/SC 16 JUNE 2012

~40°F, OVERCAST, LT WIND PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0579	SE	COMPLETING CELL #5 EXCAVATION
101-0584	SW	- FILLING 5 CUBIC YARD SUPERSACK
101-0586	S	" "
101-0587	E	- EXCAVATING CELL #5
101-0588	SW	- REMOVING PANEL FROM NORTH EDGE OF CELL #5
101-0592	S	- FILLED 5 CUBIC YARD SUPERSACK
101-0593	SW	- CELL #5 EXCAVATION COMPLETED
101-0595	S	- " "
101-0597	S	- BACKFILLING CELL #5
101-0600	S	- TURNING SOIL WITH OBC AND MULCH
101-0602	NE	- APPLYING LEFT IN CELL #5 WITH CLEAN SOIL
101-0603	S	- APPLYING OBC AGENT TO LEFT IN CELL #5
101-0608	S	- " "
101-0609	S	- BACKFILLING TO GRADE IN CELL #5
101-0610	ENE	- EXCAVATING CELL #6
101-0611	SE	" "
101-0612	E	- REMOVING PANEL ALONG NORTH ~~EDGE~~ EK 6/16 EDGE OF CELL #6
101-0615	E	- SHEEN OBSERVED IN CELL #6 EXCAVATION
101-0616	ESE	- " "
101-0618	S	- EXCAVATING CELL #6
101-0624	ENE	- BACKFILLING ~~SH~~ EK 6/16 CELL #6
101-0626	SE	" "

6/16/12

BLDG T-1451 3 E. CANAL ST/SC 16 JUNE 12

~40°F, OVERCAST, WIND 1 PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0628	NE	- SPREADING OBC AGENT IN CELL #6
101-0629	NW	- " "
101-0630	NW	- " "
101-0631	NW	- TURNING SOIL WITH EXCAVATOR TO MIX IN OBC AND MULCH
101-0633	SW	- SPREADING SECOND APPLICATION OF OBC AGENT

N.F.T.P.

6/16/12

BLDG T-1451, J. R. CANAL SE/SC 17 JUNE 2012

~40°F, OVERCAST, CALM PPE: LEVEL D

0800 - CONDUCT TAILGATE SAFETY MEETING
PARTICIPANTS: ARTNA: T. DOBSON, H. WOTTLEN, Z. RASMUSSEN, M. OVERLAND
GEOSYNTEC: Z. KERK

0830 - M. OVERLAND, H. WOTTLEN, Z. RASMUSSEN AND Z. KERK ARRIVE ON SITE TO LOAD 5 CUBIC YARD SUPERSACKS FROM CONTAMINATED SOIL STOCKPILE.

1100 - T. DOBSON ARRIVES ON SITE

1110 - COMPLETE FILLING SUPERSACKS
- CLEAN UP AND SECURE THE SITE.

1130 - SECURE LINER COVER OVER CONTAMINATED SOIL STOCKPILE.

1210 - DEPART THE SITE

1300 - END OF DAY

N.F.T.P

6/17/12

BLDG T-1451 J. R. CANAL SE/SC 18 JUNE 2012

~50°F, PARTLY SUNNY, CALM PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING.
PARTICIPANTS: ARTNA: T. DOBSON, T. SESTLER, M. OVERLAND, H. WOTTLEN, Z. RASMUSSEN
GEOSYNTEC: Z. KERK

0800 - ARRIVE ON SITE.
: CALIBRATE PID: Z.K 6/18/12
FRESH AIR CAL: 0.0 PPM
SPAN CAL: 100.0 PPM
BUMP CHECK: 99.7 PPM

0815 - COMMENCE EXCAVATION OF CELL #7
- CLEAN ~~OVERBURDEN~~ ZK 6/18 MATERIAL FROM CELLS IS BEING PLACED IN COMPLETED CELLS #1 - #6 AS OVERBURDEN.

0830 - RESUME COLLECTION OF SOIL SCREENINGS AND SAMPLES FROM MATERIAL REMOVED FROM CELL #7

1015 - B. CULLEN ON SITE

1030 - B. CULLEN OFF SITE

1115 - COMPLETE EXCAVATION OF CELL #7.
- APPLY FIRST LIFT OF CLEAN BACKFILL.

1130 - 1st APPLICATION OF AMMENDMENT
- 2 - BUCKETS OF OBC AGENT

6/18/12

1/8

BLDG T-1451 3 FT. CANAL SF/SC 18 JUNE 12

~50°F, PARTLY SUNNY, CALM PPE: LEVEL D

SCREENING #	TIME	SOURCE	PID	MODULE	FIXED LAB
FS111 ~~6/12~~ 6/18	0835	CELL #7	3.0	01-EX094-01	
FS112	0840	"	0.4		
FS113	0842	"	0.7	01-EX095-01	
FS114	0845	"	0.3		
FS115	0847	"	0.4		
CELL #7 FS-1	0858	CELL #7 AIR	6.3	01-EX096-01	
FS116	0907	CELL #7	5.8	01-EX097-01	
FS117	0910	"	1.4	01-EX098-01	
MODULE DUP	0920	"	2.6	01-EX099-01	
FS118	0925	"	2.4	01-EX100-01	01-EX018 (MS/MSD)
CELL #7 FS-2	0942	CELL #7 EXC.	75.6	01-EX101-01	
CELL #7 FS-3	0950	"	14.9	01-EX102-01	
FS119	0952	CELL #7	8.8	01-EX103-01	
FS120	0955	"	10.0		
FS121	1008	"	11.3		
FS122	~~1000~~ 6/18 1010	"	80.1	01-EX104-01	
FS123	1045	"	13.4	01-EX105-01	
FS124	1058	"	3.1		
FS125	1350	CELL #8	42.4	01-EX106-01	
FS126	1355	"	6.8		
FS127	1405	"	3.2		
FS128	1417	"	31.9	01-EX107-01	
CELL #8 FS-1	1419	CELL #8 EXC	1464		

6/18/12

BLDG T-1451 3 FT. CANAL SF/SC 18 JUNE 12

~55°F, PARTLY SUNNY, CALM PPE: LEVEL D

- 25 LBS OF FIBER MULCH

1135 - APPLY SECOND LIFT WITH CLEAN FILL SOIL

1145 - 2ND APPLICATION OF AMMENDMENT ADDED
- 2 BUCKETS OF OBC
- 25 LBS OF FIBER MULCH

ZK 6/18 ~~1200~~ 1150 - ZK 6/18 ~~APPLY~~ MIX WITH EXCAVATOR BUCKET AND APPLY ADDITIONAL SOIL.

1200 - 3RD APPLICATION OF AMMENDMENT
1 BUCKET OF OBC

1205 - TURN SOIL AND APPLY ADDITIONAL FILL TO GRADE LEVEL WITH ADJACENT CELLS.

1345 - COMMENCE EXCAVATION OF CELL #8

1530 - LAY OUT A NEW LINER (SOUTH OF CONTAMINATED STOCKPILE AREA) FOR SUSPECT MATERIAL REMOVED DURING FINAL CELL EXCAVATIONS.
- NEW LINER IS TERMED THE ~~"INTERMEDIA~~ "INTERMEDIATE LINER".
- WELL COLLECT SCREENINGS AND SOIL SAMPLES FROM INTERMEDIATE PILE FOR CLEAN / CONTAMINATED DETERMINATION BASED ON LAB RESULTS.

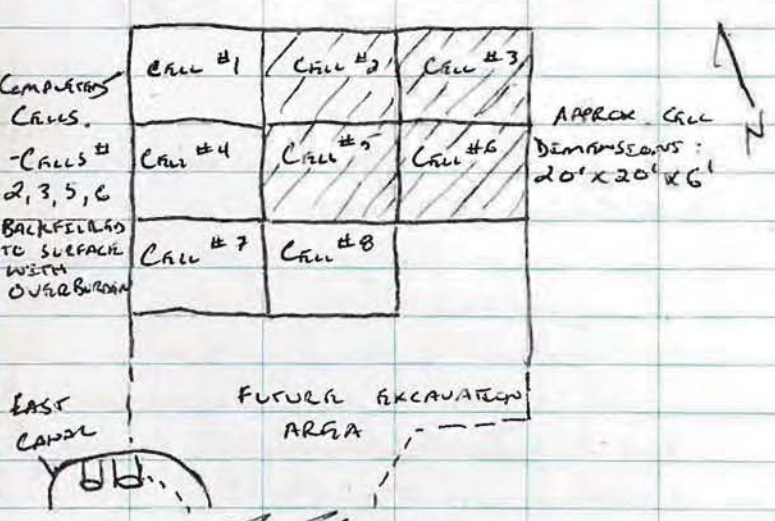
6/18/12

BLDG T-1451 & E. CANAL SE/SC 18 JUNE 2012

~55°, SUNNY, LT. WIND PPE: LEVEL D

SCREENING #	TIME	SOURCE	PID	MODEL	FIELD LAB
FS129	1435	CELL #8 EXC.	198.8	01-EX108-01	
CELL #8 FS-2	1447	CELL #8 EXC.	68.6	01-EX109-01	
FS130	1525	CELL #8	30.3		
FS131	1527	"	61.3	01-EX110-01	
FS132	1538	INTERMEDIATE	211.0	01-EX111-01	
FS133	1540	"	113.8	01-EX112-01	
MODEL DUP	1545	"	96.3	01-EX113-01	
FS134	1555	"	137.8		

SEE DIAGRAM AS OF END OF DAY 6/18/12



6/18/12

~50°F, SUNNY, WENDY PPE: LEVEL D

1600 - APPROXIMATELY 3 TO 5 CUBIC YARDS STOCKPILED IN ~~EFAR~~ ZR 6/18 INTERMEDIATE AREA FROM CELL #8

- ENCOUNTER NATIVE ~~SANDS~~ ZR 6/18 SAND IN EXCAVATION, ~~CONST. PROCEED~~ ZR 6/18 THAT CONTAMINATION HAS BEEN CONFIRMED THROUGHOUT.
  - ~~RESUME~~ EIC 6/18 TRANSFER MATERIAL TO CONTAMINATED SOIL STOCKPILE.

1715 - COMPLETE EXCAVATION OF CELL #8

1725 - BEGIN BACKFILLING CELL.
- APPLY FIRST LEFT WELL CLEAN FILL MATERIAL

1745 - 1ST APPLICATION OF AMMENDMENT ADDED
- 2 BUCKETS (45 LBS EACH) OF OBC
- 25 LBS OF FIBER MULCH

1750 - TURN AMMENDMENT AND SOIL WITH EXCAVATOR BUCKET AND ADD SECOND LEFT WITH FILL.
- B. CULLEN ARRIVES ONSITE.

1800 - 2ND APPLICATION OF AMMENDMENT ADDED:
- 2 - 45 LB BUCKETS OF OBC ACRES
- 25 LBS OF FIBER MULCH

6/18/12

BLDG T-1451 ; FE. CANAL SE/SC 18 JUNE 2012

~50°F, PARTLY CLOUDY, WINDY PPE. LEVEL D

1805 - TURN SOIL AND AGENT AND ADD ~~BR~~ ZK 6/18 THERA LEFT.

1810 - B. CULLEN DEPARTS THE SITE.

1840 - COMPLETE BACKFILLING OF CELL #8

1850 - SPREAD ADDITIONAL CLEAN MATERIAL OVER CELLS 2, 3, 5 AND 6 AS OVERBURDEN

- CLEAN UP THE SITE AND SECURE THE ~~BENTER~~ ZK 6/18 COVER OVER THE CONTAMINATED STOCKPILE.

1900 - DEPART THE SITE.

1925 - PROCESS AND DELIVER SAMPLES TO MOBILE LABORATORY.

1945 - ~~END OF DAY~~. UPDATE PHOTO LOG.

2100 - END OF DAY

N.F.T.P

6/18/12

BLDG T-1451 ; FE. CANAL SE/SC 18 JUNE 2012

~50°F, PARTLY SUNNY, WINDY PPE LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0645	S	- COMPLETED CELLS # 1 - 6
101-0646	~~S~~ SE	" "
101-0650	ESE	- CELL #7 MARKED WITH SPRAY PAINT
101-0652	E	- CELL #7 EXCAVATION
101-0659	N	" "
101-0661	SE	- CELL #7 EXCAVATION COMPLETED
101-0662	NE	- " "
101-0664	NE	- BACKFILLING CELL #7
101-0667	NW	- APPLYING OBC AGENT WITH EXCAVATOR
101-0669	NW	- APPLYING FIBER MULCH TO CELL #7
101-0674	SW	- APPLYING ADDITIONAL OBC TO CELL #7
101-0683	SE	- CELL #7 COMPLETED
101-0686	NW	- SPREADING OVERBURDEN IN CELLS # 2, 3 ~~4~~ ZK 6/18 5 AND 6
101-0687	E	"
101-0688	SE	- BEGINNING EXCAVATION AT CELL #8
101-0698	S	- STAGING SOIL IN "INTERMEDIATE" AREA
101-0699	ZK 6/18 ~~SE~~ E	- EXCAVATING CELL #8
101-0703	NW	- CELL #8 EXCAVATION COMPLETED
101-0707	S	" "
101-0708	E	- BACKFILLING CELL #8
ZK 6/18 101-~~0713~~ 0713	SW	- ADDING OBC AGENT TO EXCAVATOR BUCKET FOR DISPERSING

6/18/12

BLDG T-1451 & R. CANAL SE/SC 18 JUNE 12

~50°F, ~~OVERCAST~~ 20% CLOUDY, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0715	SW	- MIXING OBC AGENT IN EXCAVATOR BUCKET
101-0717	NW	- SPREADING OBC AND MULCH WITH EXCAVATOR
101-0720	SW	- TURNING SOIL AND OBC WITH EXCAVATOR
101-0725	NW	" "
101-0726	S	- MIXING OBC IN EXCAVATOR BUCKET

N.E.P.

6/18/12

8/8

BLDG T-1451 & R. CANAL SE/SC 19 JUNE 2012

~40°F, PARTLY SUNNY, WINDY PPE: LEVEL D

0700 - CONDUCT FIELDATE SAFETY MEETING.
PARTICIPANTS: ARTNA: T. DOBSON, T. SPEILER, H. WOTTLEN, B. RASMUSSEN, J. OVERLAND

0800 - ARRIVE ON SITE.

0815 - CALIBRATE PID - ZK 6/19/12
FRESH AIR CAL: 0.0 PPM
SPAN CAL: 99.9 PPM
BUMP CHECK: 99.7

0830 - COMMENCE EXCAVATING OF CELL #9, ADJACENT TO THE EAST OF CELL #8 AND SOUTH OF CELL #6.

0950 - BEGIN LOADING 5 CUBIC YARD SUPERSACKS WITH CONTAMINATED SOIL FROM CELL #9.

1110 - B. CULLEN ARRIVES ONSITE.

1140 - BC DEPARTS THE SITE.

1330 - BASED ON RESULTS FROM MOBILE LAB SAMPLES: -01-RX103-01
-01-RX104-01
-01-RX109-01
REMOVE SOIL FROM UNIMPACTED STAGING AREA AND TRANSFER TO CONTAMINATED STOCKPILE. COLLECT CONFIRMATION

6/19/12

1/5

BLDG T-1451 ? R. CANAL SE/SC 19 JUNE 12

~40°F, OVERCAST, WEND 4 PPE: LEVEL D

SCREENING #	TIME	SOURCE	PID	MOBILE	FIXED
CELL #9 FS-1	0845	CELL #9 EXC	28.2		
FS135	0903	CELL #9	8.1		
FS136	0910	"	12.1	01-FX114-01	
FS137	0912	"	10.2	01-FX115-01	
FS138	0945	"	21.2		
FS139	0947	"	35.8	01-FX116-01	
FS140	1340	CLEAN FILL	12.4	01-FX117-01	
FS141	1342	CLEAN FILL	14.1	01-FX118-01	
FS142	1455	"	3.7	01-FX119-01	
FS143	1457	"	5.1	01-FX120-01	01-FX019
FIXED DUP	1500	"	—		01-FX020

N.F.T.P

6/19/12

BLDG T-1451 ? R. CANAL SE/SC 19 JUNE 2012

~45°, OVERCAST, WEND 1 PPE: LEVEL D

SAMPLES FROM SOIL STOCKPILED THAT DAY (6/18/12) TO CONFIRM REMOVAL OF IMPACTED SOIL.

- SOIL SCREENING ID'S ~~SCREENING~~ ZK 6/19 FS 140 – 143

1800 · COMPLETE EXCAVATION OF CELL #9.

1810 - APPLY 1ST LIFT WITH CLEAN FILL MATERIAL.

1830 · H. WOTLIN AND T. DOBSON DON FULL FACE RESPIRATORS TO APPLY OBC AGENT.

- APPLYING OBC AGENT FROM THE EXCAVATOR BUCKET.

1840 · ~~14~~ EK 6/19 FIRST APPLICATION OF AMMENDMENT ADDED:

- 3 BUCKETS (45 LBS EACH) OF OBC AGENT
- 25 LBS OF FIBER MULCH

1845 - APPLY SECOND LIFT WITH CLEAN FILL. MIX IN WITH OBC.

- ~~MIX WITH SOIL AND~~ ZK 6/19

1855 - 2ND APPLICATION OF ~~OBC~~ ZK 6/19 AMMENDMENT

- 2-45 LB BUCKETS OF OBC

6/19/12

BLDG T-1451 & E. CANAL SE/SC 19 JUNE 12

~45°F, OVERCAST, WINDY PPE: LEVEL D

- 25 LBS OF FIBER MULCH

~~10~~ 1400 - TURN SOIL AND ADMIX WITH EXCAVATOR AND APPLY THIRD LIFT WITH FILL MATERIAL TO GRADE LEVEL WITH ADJACENT CELLS

1905 - CLEAN UP AND SECURE THE SITE.

1910 - DEPART THE SITE.

1925 - PROCESS AND DELIVER SAMPLES TO MORELLS LABORATORY.

1945 - UPDATE PHOTO LOG.

2030 - END OF DAY

N.F.T.P

6/19/12

BLDG T-1451 & E CANAL SE/SC 19 JUNE 12

~45°F, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0728	SE	- EXCAVATING CELL #9
101-0729	NW	- FILLING 5 CUBIC YARD SUPERSACKS
101-0730	NE	- EXCAVATING CELL #9
101-0732	NE	- SHOVELING IN WATER IN CELL #9
101-0735	W	- CELL #9 EXCAVATION COMPLETED
101-0736	S	" "
101-0737	E	" "
101-0739	NE	- BACKFILLING CELL #9
101-0741	SW	- MIXING OBC AND MULCH IN EXCAVATOR BUCKET
101-0744	SW	- APPLYING OBC AND MULCH FROM EXCAVATOR BUCKET
101-0747	NE	" "
101-0748	NE	" "
101-0749	SW	- TURNING SOIL AND AMMENDMENT ~~TO MIX~~ EIC 6/19 WITH EXCAVATOR BUCKET
101-0751	SW	- CELL #9 COMPLETED
101-0752	W	" "

N.F.T.P

6/19/12

BLDG T-1451 ¾ E. CANAL II/SC 20 JUNE 12

~45°F, OVERCAST, LT. WIND PPE: LEVEL D

SCREENING ID	TIME	LOCATION	PID	MOBILE	EXTRA
FS 144	0855	CLEAN PILE	0.8	01-EXT-121-01	
FS 145	0900	"	1.1		
FS 146	0950	"	0.9		
FS 147	0952	"	8.2	01-EX-122-01	
FS 148	0955	"	34.8	01-EX-123-01	
CELL #10 FS-1	1038	CELL #10 EXC.	138.7	01-EX-124-01	
FS 149	1043	CLEAN PILE	3.0		
FS 150	1045	"	12.5	01-EX-125-01	
FS 151	1047	"	13.6		
FS 152	1120	"	13.3	01-EX-126-01	
FS 153	1122	"	20.1	01-EX-127-01	
FS 154	1125	"	3.1		
FS 155	1408	"	6.7	01-EX-128-01	01-EX-021
MOBILE DUP	1405	"	4.2	01-EX-129-01	
FS 156	1825	"	12.2		
FS 157	1827	"	8.6	01-EX-130-01	
FS 158	1830	"	20.1	01-EX-131-01	

N.F.T.P

6/20/12

BLDG T-1451 ¾ E. CANAL II/SC 20 JUNE 2012

~45°F, OVERCAST, CALM PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING
PARTICIPANTS: ALTINA: T. DOBSON
H. WOTTLEN, T. SPITLER, J. OVERLAND.
GEOSYNTEC: Z. KIRK

0745 - ARRIVE ONSITE (J. OVERLAND, H. WOTTLEN
Z. KIRK, Z. RASMUSSEN)

0750 - FILL COMPLETED CELLS WITH ~~OVER~~ ZK 6/20
OVERBURDEN

0815 - CALIBRATE PID - Z. KIRK 6/20/12
- FRESH AIR CAL: 0.0 PPM
- SPAN CAL: 100.0 PPM
- BUMP CHECK: 99.7 PPM

0850 - BEGIN EXCAVATING CELL #10

~~1350~~ ZK 6/20 - ~~CLEAN~~ ZK 6/20 SOIL SCREENED AS CLEAN
FROM THE CELL IS PLACED ON
UNEMPLACED STOCKPILE TO USE AS
OVERBURDEN.

1150 - B. CULLEN ARRIVES ONSITE.

1260 - DEPART THE SITE (CALL)

1315 - RETURN TO THE SITE.

1323 - LOAD CONTAMINATED SOIL, DETECTED ~~INF~~ ZK 6/20
IN ~~SO.~~ ZK 6/20 FLOOR OF EXCAVATION ALONG
THE SOUTH EDGE OF THE CELL IN ONE
5 CUBIC YARD SUPERSACK.

6/20/12

~45° F, OVERCAST, LT WIND PPE: LEVEL D

1350 - COMPLETE EXCAVATION OF CELL #10

1410 - BEGIN BACKFILLING THE CELL WITH FILL MATERIAL

1470 - FIRST APPLICATION OF AMMENDMENT ADDED ON TOP OF FIRST 1.5' LEFT OF FILL
- 3-45 LB BUCKETS OF OBC AGENT
- 25 LBS OF FERTER MULCH

1440 - TURN OBC AND SOIL WITH EXCAVATOR BUCKET AND APPLY SECOND LIFT WITH FILL (APPROXIMATELY 1.5' FEET MORE)

1455 - SECOND AMMENDMENT
- 2-45 LB BUCKETS OF OBC
- 25 LBS OF FERTER MULCH.

1500 - TURN SOIL AND ADD ADDITIONAL 1.5' ~~OF SOIL~~ ZK 6/20 LIFT WITH FILL MATERIAL

1525 - THIRD APPLICATION OF AMMENDMENT ADDED
- 1-45 LB BUCKET OF OBC AGENT

1530 - TURN SOIL AND APPLY ADDITIONAL FILL TO GRADE LEVEL WITH ADJACENT CELLS, ~~AND OV~~ ZK 6/20 APPROXIMATELY 1.5-2' BGS.

1535 - COMPLETE BACKFILLING OF CELL #10

1540 - BEGIN EXCAVATING CELL #11 ADJACENT TO THE EAST OF CELL #10 AND SOUTH OF CELL #8

6/20/12

~45° F, OVERCAST, WINDY PPE: LEVEL D

1540 - B. CULLEN ONSITE.

1550 - BC. DEPARTS THE SITE.

1700 - T. DOBSON AND B. CULLEN ARRIVE ONSITE.

1715 - BEGIN FILLING SUPERSACKS WITH CONTAMINATED SOIL FROM CELL #4

1720 - B.C. DEPARTS THE SITE.

1845 - STOP EXCAVATION AT CELL #11

1850 - CLEAN UP AND SECURE THE SITE

ZK 6/20 ~~1800~~ 1900 - DEPART THE SITE.

ZK 6/20 ~~1815~~ 1915 - PROCESS AND DELIVER SAMPLES TO MOBILE LABORATORY.

ZK 6/20 ~~2015~~ 2015 - UPDATE PHOTO LOG.

2030 - BUILD AND POPULATE NTR VERIFICATION TABLES FOR COMPLETED MONITORING AND RECOVERY WELLS AND COMPLETED TREATMENT CELLS

2130 END OF DAY

N.F.T.P.

6/20/12

30 BLDG T-1451 3 FR. CANAL SI/SC 20 JUNE 12

~45°, OVERCAST, WINDY PPE: LEVEL D

Photo #	Direction	Description
101-0755	E	- ADDING ADDITIONAL CLEAN FILL TO CELLS # 7, 8 AND 9
101-0757	NE	- BEGINNING EXCAVATION OF CELL #10
101-0758	E	- EXCAVATING CELL #10
101-0761	SE	- " "
101-0762	SE	- CELL #10 COMPLETED
101-0763	NW	- " "
101-0764	S	- TRANSFERRING TRENCH BOX PANEL TO SOUTH EDGE OF CELL # 10
101-0765	S	- CELL #10 COMPLETED
101-0766	SE	- BACKFILLING CELL #10 WITH CLEAN FILL ZK 6/21
101-0768	NW	- " "
101-0769	NW	- " "
101-0771	NE	" "
101-0773	NW	- APPLYING OBC AND MULCH TO CELL
101-0779	S	- TURNING SOIL AND OBC AGENT
101-0780	S	- " "
101-0784	SE	- COMMENCING EXCAVATION AT CELL #11
101-0785	S	- CELL #10 BACKFILL COMPLETED
101-0786	NE	- " "
101-0787	N	- EXCAVATING CELL #11.

N.F.I.P

6/20/12 5/5

BLDG T-1451 3 FR. CANAL SI/SC 21 JUNE 12

~40°F, OVERCAST, HIGH WIND, RAIN PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING

PARTICIPANTS: ADTUNA: T. DOBSON, T. SPITLER, J. OVERLAND, Z. RASMUSSEN, H. WOETLENI

GEOSYNTEC: Z. KIRK

0735 - ARRIVE ONSITE: JO, Z.R, H.W, ZK

0740 - CALIBRATE PID Z. KIRK 6/21/12

FRESH AIR CAL

SPAN CAL

BUMP CHECK

0755 - RESUME EXCAVATION OF CELL # 11.

- CONTAMINATED SOIL EXCAVATED FROM CELL #11 BEING PLACED DIRECTLY INTO 5 CUBIC YARD SUPER SACKS.

1030 - T. DOBSON AND B. CULLEN ARRIVE ONSITE.

- BC EXPRESSES ~~CONCERN OVER~~ ZK 6/21 CONCERN FOR ~~VISIBLE~~ FREE PRODUCT FLOATING ON SURFACE OF ~~FREE~~ ZK 6/21 WATER IN TREATMENT CELL. BC ~~PROPOSES~~ ZK 6/21 REQUESTS THE DEPLOYMENT OF SORBENTS TO TAKE UP ~~SOME~~ ZK 6/21 THE PRODUCT FLOATING ON THE SURFACE.

1100 - TD DEPLOYS SORBENT MATERIAL TO THE STANDING WATER IN THE CELL TO ~~ABSORB~~ ZK 6/21 ABSORB THE FREE PRODUCT.

1215 - COMPLETE EXCAVATION OF CELL # 11

6/21/12 1/4

BLDG T-1451 ¾ FE. CANAL ST/SC 21 JUNE 12

~40°F, OVERCAST, STRONG WIND PPE: LEVEL D

1400 - BEGIN BACKFILLING CELL #11

1415 - B. CULLEN RETURNS TO THE SITE.

1450 BC. DEPARTS THE SITE

1505 - APPLY FIRST TREATMENT CELL AMMENDMENT
- 3-45 LB BUCKETS OF OBC AGENT
- 25 LBS OF FIBER MULCH

1510 - TURN SOIL WITH EXCAVATOR AND ADD SECOND LIFT WITH CLEAN FILL (APPROXIMATELY 1.5')

1530 - SECOND APPLICATION OF AMMENDMENT ADDED WITH EXCAVATOR BUCKET
- 2-45 LBS OF OBC AGENT
- 25 LBS OF FIBER MULCH.

1545 - RECEIVED SAMPLE RESULTS FROM MOBILE LABORATORY FOR SAMPLES COLLECTED ON 20 JUNE. ONE SAMPLE, 01-EX122-01 EXCEEDED THE CLEANUP LEVEL OF 230 mg/kg
- DRO AT 01-EX122-01 WAS 253 mg/kg
- EXCAVATED SOIL FROM CLEAN STOCKPILE WHERE 01-EX122-01 WAS COLLECTED AND ~~RESAMPLED~~ EK 6/21 COLLECTED SAMPLES TO CONFIRM THAT CONTAMINATED SOIL

6/21/12

BLDG T-1451 ¾ FE. CANAL ST/SC 21 JUNE 12

~40°F, OVERCAST, STRONG WIND PPE: LEVEL D

WAS REMOVED

1600 - THIRD APPLICATION OF AMMENDMENT ADDED WITH EXCAVATOR BUCKET
- 1-45 LB BUCKET OF OBC.

1605 - SOIL AND OBC TURNED WITH ~~EXC~~ ZK 6/21 EXCAVATOR.

1610 - LAST LIFT APPLIED WITH CLEAN FILL TO GRADE LEVEL WITH ADJACENT CELLS.

1620 - COMPLETE EXCAVATION OF CELL #11.

1630 - BEGIN EXCAVATING CELL #12
- B. CULLEN RETURNS TO THE SITE.
- TOP LAYER OF SOIL (APPROX 1' BGS) IN CELL #12 SCREENED AND PLACED IN OVERBURDEN STOCKPILE (CLEAN STOCKPILE)

1645 - BC DEPARTS THE SITE.

1840 - STOP EXCAVATING ACTIVITIES

1900 - CLEAN UP AND SECURE THE SITE. DEPART THE SITE.

1925 - PROCESS AND DELIVER SAMPLES TO MOBILE LAB.

1935 - UPDATE PHOTO LOG

2000 - END OF DAY

6/21/12

BLDG T-1451 & E. CANAL SI/SC 21 JUNE 12

~40°F, OVERCAST, STRONG WINDS PPE: LEVEL D

SCREENING ID	TIME	LOCATION	PID	MODEL	FIXED
FS159	1610	CURAN PIT	2.0	01-FX132-01	
FS160	1612	"	7.9	01-FX133-01	
FS161	1615	"	2.4	01-FX134-01	
FS162	1700	"	3.1	01-FX135-01	01-FX022
BK 6/21 MOBILE ~~FS163~~ DUP	1705	"	3.7	01-FX136-01	
FS163	1710	"	5.5		
FS164	1736	"	8.7		

BK 6/21

PHOTO LOG CONT.

PHOTO #	DIRECTION	DESCRIPTION
101-0789	SW	CELL # 11 EXCAVATION COMPLETED
101-0790	E	" "
101-0791	SE	BACKFILLING CELL # 11
101-0792	SW	" "
101-0793	E	" "
101-0795	SW	MIXING OBC AND MULCH IN EXCAVATOR BUCKET
BK 6/21 ~~101~~		
101-0798	NW	APPLYING OBC AND ~~AND~~ CR 6/21 MULCH TO CELL # 11
101-0799	NW	" "
101-0801	S	CELL # 11 COMPLETED
101-0802	NW	" "
101-0803	SE	REMOVING OVERBURDEN IN CELL # 12
101-0804	N	" "

6/21/12

BLDG T-1451 & E. CANAL SI/SC 22 JUNE 12

~45°F, OVERCAST, LT. WIND PPE: LEVEL D

0700 - CONDUCT RAILGATE SAFETY MEETING
PARTICIPANTS: ANTHA: T. DOBSON, T. SPEILER
H. WOTTLEN, D. OVERLAND, Z. RASMUSSEN
NAVFAC: B. CULLEN, J. PITZ
GEOSYNTEC: Z. KERK

0730 CONDUCT PREPATORY MEETING FOR COFFER DAM INSTALLATION.

0800 - ARRIVE ONSITE: H. WOTTLEN, T. SPEILER, D. OVERLAND, Z. RASMUSSEN Z. KERK

0820 - RESUME EXCAVATION OF CELL # 12

0930 - B. CULLEN AND D. PITZ ARRIVE ONSITE.

0945 - T. DOBSON ARRIVES ONSITE

1015 - BC AND D.P DEPART THE SITE.

1115 - COMPLETE EXCAVATION OF CELL # 12

1205 - BEGIN BACKFILLING CELL # 12.

1215 - STOP BACKFILLING ACTIVITIES. DEPART THE SITE.

1330 - RESUME BACKFILLING EFFORTS.

1400 - T. DOBSON, H. WOTTLEN AND T. SPEILER DEPART THE SITE TO PROCURE ADDITIONAL OBC AGENT FOR CELL # 12 AND EQUIPMENT FOR SETTING UP COFFER DAM

6/22/12

BLDG T-1451 3 R. CANAL SI/SC 22 JUNE 12

~45°F, OVERCAST, WINDY, RAIN PPE: LEVEL D

1450 - H.W, T.D AND T.S RETURN TO THE SITE.

1455 - APPLY 1ST APPLICATION OF AMMENDMENT
- 3-45LB BUCKETS OF OBC
- 25LBS OF FIBER MULCH

1500 - TURN SOIL WITH EXCAVATOR. AND APPLY ADDITIONAL LEFT WITH CLEAN FILL.
- J. PITZ ARRIVES ON SITE

1520 - APPLY SECOND ~~LEFT WITH~~ ZK 6/22 AMMENDMENT APPLICATION
- 2-45 LB BUCKETS OF OBC AGENT
- 25 LBS OF FIBER MULCH.

1530 - TURN WITH EXCAVATOR AND ADD ADDITIONAL FILL

1540 - H. WOTTLIN AND Z. KIRK DEPART THE SITE TO PROCURE 1 CUBIC YARD SUPERSACK RACK AND LIFTING CHAINS.

1555 - ZK AND H.W. RETURN TO THE SITE. EXCAVATOR IS COMPLETING BACKFILLING OF CELL #12.
- ~~CH~~ ZK 6/22 - FILL ONE 1 CUBIC YARD SUPERSACK WITH CLEAN FILL MATERIAL.

6/22/12

BLDG T-1451 3 E. CANAL SI/SC 22 JUNE 12

~45°F, OVERCAST, WINDY, RAIN PPE: LEVEL D.

TO USE AS BRACE FOR PLYWOOD DAM AT ~~EAST~~ ZK 6/22 EAST CULVERT
- J. PITZ OFFSITE.

1615 - BEGIN SETTING PLYWOOD DAM ALONG EAST ~~EAST~~ CULVERT AT NORTH END OF CULVERTS TO IMPEDE WATER FLOW INTO EXCAVATION AREA.

ZK 6/20 ~~16~~ 1715 - UNABLE TO SET THE DAM WITH PLYWOOD DUE TO ~~FAILURE~~ ZK 6/22 ~~TO~~ ZK 6/22 INABILITY TO COMPLETELY SEAL WATER FLOW.

1730 - EFFECTIVELY SEAL CULVERT WITH THE PLACEMENT OF LINER OVER THE CULVERT OPENING, WEIGHTED DOWN WITH THE SUPERSACK.

1800 - CLOSE UP SOUTH END OF EAST ~~CULVERT~~ ZK 6/22 CULVERT

1830 - INSTALL COFFER DAM FROM BLOCKED OFF EAST CULVERT EXTENDING 65' SOUTH ALONG EXCAVATION AREA.
- DEWATER EXCAVATION AREA.

1900 - DEPART THE SITE

2000 - END OF DAY

6/22/12

BLDG T-1451 & E. CANAL SE/SC 22 JUNE 12

~45°F, OVERCAST, WINDY, RAIN PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0805	SE	- EXCAVATING CELL #12
101-0807	NE	- COMPLETING CELL #12 EXCAVATION
101-0808	N	- CELL #12 EXCAVATION COMPLETED
102-0810	S	" "
101-0815	E	- BACKFILLING CELL #12
101-0818	W	- APPLYING OBC AND MULCH TO CELL #12
101-0819	~~W~~ ESE	- ATTEMPTING TO ~~INSTALL~~ DAM EAST CULVERT WITH PLYWOOD BOARD AND SANDBAGS
101-0821	SW	" "
101-0822	W	" "
101-0823	S	- FILLING COFFER DAM WITH WATER PUMPED FROM EXCAVATION SIDE OF DAM
101-0824	S	" "
101-0825	SE	" "
101-0826	~~SE~~ S	" "
101-0828	E	- COFFER DAM INSTALLED
101-0829	E	" "
101-0830	NE	" "
101-0831	NE	" "
101-0832	SE	- COMPLETED CELLS #1-12
101-0833	S	" "

N.F.T.P

6/22/12

4/4

BLDG T-1451 & E. CANAL SE/SC 23 JUNE 12

~45°F, OVERCAST, WINDY, RAIN PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING
PARTICIPANTS: AMTNA: T. DOBSON, H. WOTTLIN, D. OVERLAND, Z. RASMUSSEN, T. SPEIGER
NAVFAC: D. PITZ
GROSUNFRE: Z. KERK

0800 - ARRIVE ON SITE
- CALIBRATE PID - Z. KERK 6/23/12
FRESH AIR CAL: 0.0 PPM
SPAN CAN: 100.0 PPM
BUMP CHECK: 99.7 PPM

0815 - PLACE SAND BAGS ALONG SOUTH SECTION OF EAST CULVERT TO IMPEDE WATER LEAKING BY BENEATH THE CULVERT

0830 - SECURE COFFER DAM TO BANK WITH STAKES

0840 - INSTALL 55 GALLON DRUM IN DEWATERING SIDE OF COFFER DAM FOR A SUMP

0850 - BEGIN EXCAVATION OF CELL #13 (TRIANGULAR SHAPED CELL ALONG CANAL EDGE, APPROXIMATELY 10'x15'x12'

0900 - D. PITZ ARRIVES ONSITE

6/23/12

1/5

BLDG T-1451 ⅓ E. CANAL SE/SC 23 JUNE 12

~45°F, OVERCAST, WINDY, LT RAIN PPE: LEVEL D

0930 - REMOVE CLEAN TOP SOIL FROM CELL #13 BEFORE EXCAVATING CONTAMINATED SOIL INTO 5 CUBIC YARD SUPERSACKS

1035 - COMPLETE EXCAVATION OF CELL #13

1045 - BEGIN BACKFILLING THE CELL

1115 - APPLY 1ST APPLICATION OF AMMENDMENT
- 1-45LB BUCKET OF ~~BC~~ OBC
- APPROXIMATELY 10 LBS OF FIBER MULCH

1120 - TURN SOIL WITH EXCAVATOR AND APPLY ADDITIONAL FILL MATERIAL

1130 - SECOND APPLICATION OF AMMENDMENT
- 1-45LB BUCKET OF OBC
- APPROXIMATELY 10 LBS OF FIBER MULCH

1135 - TURN SOIL AND ADD ZK 6/23 ADDITIONAL FILL.

1140 - COMPLETE BACKFILLING OF CELL #13

1145 - BEGIN EXCAVATION OF CELL #14 ADJACENT TO ~~THE~~ ZK 6/23 THE EAST OF CELL #13 AND SOUTH OF CELL #11.

1400 - B. CULLEN ON SITE FOR 15 MINUTES.

1710 - COMPLETE EXCAVATION OF CELL #14.

1720 - BEGIN BACKFILLING THE CELL.

1725 - FIRST APPLICATION OF AMMENDMENT
2-45LB BUCKETS OF OBC

ZK 6/23

BLDG T-1451 ⅓ E. CANAL SE/SC 23 JUNE 12

~45°F, OVERCAST, WINDY PPE: LEVEL D

- APPROXIMATELY 15 POUNDS OF FIBER MULCH

1730 - TURN SOIL AND APPLY ADDITIONAL FILL MATERIAL

1740 - SECOND APPLICATION OF ~~AMMT~~ ZK 6/23 AMMENDMENT
- 2-45LB BUCKETS OF OBC
- APPROXIMATELY 20 LBS OF FIBER MULCH

1745 - TURN SOIL AND ADD ADDITIONAL FILL TO GRADE LEVEL WITH ADJACENT CELLS.

1810 - COMPLETE BACKFILLING OF CELL #14
- TRANSFER REMAINING SUPERSACKS FROM SITE TO STAGING AREA NEAR THE PORT.

1900 - STOP WORK AT THE SITE.
- SECURE ~~THE~~ ZK 6/23 AND CLEAN UP AND DEPART THE SITE

1915 - END OF DAY

N.F.T.P.

BLDG T-1451 & E. CANAL SI/SC ZK 6/23 23 JUNE 12

~45°, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0834	W	- SETTING UP SUMP PUMP TO DEWATER DAMMED SECTION OF CANAL
101-0835	SW	- BLOCKED OFF ~~EAST CULVERT~~ ZK 6/23 NORTH END OF EAST CANAL.
101-0837	NE	- BEGINNING EXCAVATION AT CELL #13
101-0839	S	- " "
101-0842	NW	- EXCAVATING AT CELL #13 IN STAINED VEGETATION AREA
101-0844	SE	- " "
101-0845	NW	- " "
101-0847	SE	- CELL #13 EXCAVATION COMPLETED
101-0848	SE	- BACK FILLING CELL #13
101-0850	SE	- " "
101-0851	NE	- POURING OBC INTO EXCAVATOR BUCKET FOR MIXING.
101-0852	NE	- APPLYING OBC AND FIBER MULCH WITH EXCAVATOR BUCKET.
101-0854	NW	- " "
101-0855	E	- BEGINNING EXCAVATION AT CELL #14
101-0858	N	- " "
101-0859	SE	- EXCAVATING CELL #14
101-0862	SW	- " "
101-0863	E	- CONTAMINATED SOIL FROM CELL #14

6/23/12 4/5

BLDG T-1451 & E. CANAL SI/SC 23 JUNE 12

~45°F, OVERCAST, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0864	E	- REMOVING CONTAMINATED SOIL FROM CELL #14
101-0866	N	- " "
101-0867	S	- CELL #14 EXCAVATION COMPLETED
101-0868	E	- " "
101-0870	SE	- BACKFILLING CELL #14
101-0871	SW	- " "
101-0872	SE	- APPLYING OBC TO CELL #14
101-0873	SE	- " "
101-0874	W	- COMPLETED CELLS #13 AND 14
101-0875	W	- " "

NFTP.

6/23/12 5/5

BLDG T-1451 3 R. CANAL SI/SC 25 JUNE 12
AREA 303

~45°F, PARTLY CLOUDY, WINDY PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING:
- PARTICIPANTS: AHTNA - T. DOBSON, T. SPEITLER, J. OVERLAND, Z. RASMUSSEN, H. WOTTLEN
- NAVFAC: J. PITZ
- HAMMAR ENV.: T. BROWN, E. MARSHALL
- GEOSYNTEC: Z. KERK

0730 - CONDUCT PREPATORY MEETING WITH E. MARSHALL FOR THE INSTALLATION OF MONITORING WELLS TASK.

0800 - DRILLERS MAKE PREPARATIONS AND GATHER EQUIPMENT FOR DRILLING RECOVERY WELLS IN AREA 303

0920 - BEGIN STAGING DRILLING EQUIPMENT AT LOCATION OF RW-303-01 WELL.

0950 - ARRIVE ON SITE AT RW-303-01 LOCATION.
- ONSITE PERSONNEL: T. BROWN, E. MARSHALL AND Z. KERK

1000 - BEGIN DRILLING RECOVERY WELL: RW-303-01

1115 - J. PITZ ARRIVES ONSITE.

1145 - SET THE WELL CASING.

1150 - J. PITZ PREPARES THE SITE.

1430 - WELL RW-303-01 COMPLETED

ZK 6/25 ~~1500~~ - WELL SPECIFICATIONS
- TOTAL DEPTH: 25.5'

6/25/12 1/

BLDG T-1451 3 R. CANAL SI/SC 25 JUNE 12
AREA 303

~45°F, ~~PARTLY~~ SUNNY, WINDY PPE: LEVEL D

- WELL TYPE: RECOVERY
- SCREEN INTERVAL: 15' - 25'
- PEA GRAVEL PACK: 13' - 25.5'
- BENTONITE SEAL: 2' - 13'
- STICK UP HEIGHT: 3.5' ABOVE GROUND SURFACE
- WELL CASING HEIGHT: 3' AGS
- BAGS OF ZK 6/25 PEA GRAVEL USED: 6
- BAGS OF BENTONITE USED: 9

1500 - TRANSITION TO WELL RW-303-03 LOCATION. DRILL AUGER FLIGHTS

1545 - COMMENCE DRILLING AT RW-303-03 LOCATION.

1610 - ENCOUNTER GW AT ZK 6/25 ~~44~~ ZK 6/25 ~~15'~~ BGS. 20' BGS

1630 - SET ZK 6/25 ~~WELL CASING &~~ SCREEN FROM 17 TO 27'

1640 - SET WELL CASING. POUR IN GRAVEL PACK AND BENTONITE SEAL WHILE REMOVING AUGER FLIGHTS.

1715 - COMPLETE FILLING OF WELL WITH BENTONITE SEAL
- DRILL AUGER FLIGHTS
- INSTALL STICK UP MONUMENT AND PROTECTIVE BOLLARDS

1730 - CLEAN UP WORKSITE.

6/25/12 2/

 BLDG T-1451 3 E. CANAL SE/SE 25 JUNE 2012

~50°F, CLEAR, WINDY PPE: LEVEL D

- ~~MONITORING~~ ZK 6/25 RECOVERY WELL RW-303-03.

SPECIFICATIONS:

- TYPE: RECOVERY
- TOTAL DEPTH: 27.5'
- SCREEN INTERVAL: 17'-27'
- GRAVEL PACK: 15'-27.5'
- BENTONITE SEAL: 3'-15'
- STICK UP HEIGHT: 3.5'
- WELL CASING HEIGHT: 3'
- BAGS OF 8/16 GRAVEL USED: 8
- BAGS OF BENTONITE USED: 7

1800 - DEPART THE SITE.

1815 - INVENTORY SUPPLIES AND BAG UP WASTE MATERIALS

1820 - LOAD WORK VEHICLE WITH SUPPLIES FOR ZK 6/25 LAST RECOVERY WELL FOR TOMORROW

1900 - REVIEW FIELD DATA SHEETS.

1930 - UPDATE PHOTO LOG.

~50°, CLEAR, WINDY PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0944	S	- DRILLING WELL RW-303-01
101-0945	NW	- DRILLING WELL RW-303-03
101-0946	W	- " "
101-0948	N	- " "
101-0952	W	- REMOVING ~~WELL~~ ZK 6/25 AUGER FLIGHTS
101-0953	W	- MEASURING GRAVEL PACK DEPTH
101-0955	N	- INSTALLING PROTECTIVE BOLLARDS AND DECONNING AUGER FLIGHTS
101-0956	NW	- COMPLETED WELL RW-303-03
101-0957	N	- " "
101-0958	NE	- COMPLETED WELL RW-303-01
101-0959	SE	- " "

N.F.T.P.

clas/.a

BLDG T-1451 3 E. CANAL SE/SE 26 JUNE 2012

~45°F, OVERCAST, CALM, LT. RAIN PPE: LEVEL D

0700 · CONDUCT TAILGATE SAFETY MEETING

PARTICIPANTS: ARCADIS: T. BOBSIN, J. OVERLAND

H. WOTTEN, Z. RASMUSSEN

NAVFAC: J. PETTZ

HAMMER ENV. T. BROWN, E. MARSHALL

GEOSYNTEC: Z. KERK

0800 MOBILIZE DRILLING EQUIPMENT TO

RW-303-04 LOCATION.

1000 - BEGIN DRILLING WELL # RW-303-04

1045 - SET WELL CASING. SCREEN DEPTH

AT 26' BGS. ENCOUNTERED GW AT

19' BGS.

1055 - BEGIN POURING GRAVEL PACK AND

BENTONITE SEAL WHILE REMOVING AUGER

FLIGHTS.

1110 - J. PETTZ ONSITE TO OVERSEE WELL

INSTALLATION.

1140 · J. P. DEPARTS THE SITE

1150 - COMPLETE SETTING OF BENTONITE SEAL

TO ~~[illegible]~~ ZK 6/26 WITHIN 2' OF SURFACE.

1155 · DECON AUGER FLIGHTS AND INSTALL

STICK UP CASING AND BOLLARDS.

- FIELD NOTES CONTINUED ON FIELD BOOK #5-22

ZK 6/26

6/26/12

1/

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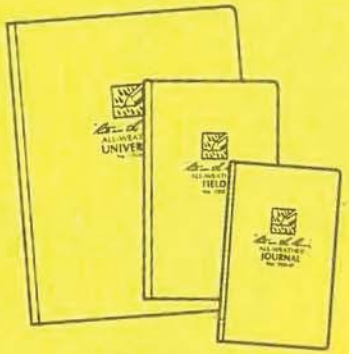

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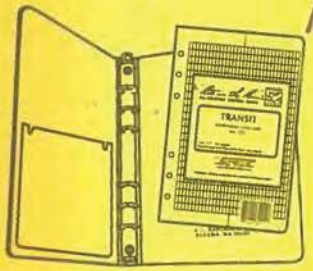

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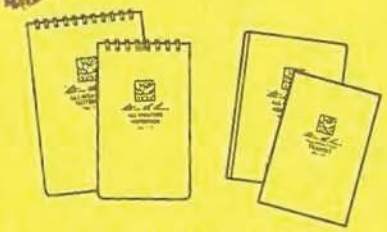

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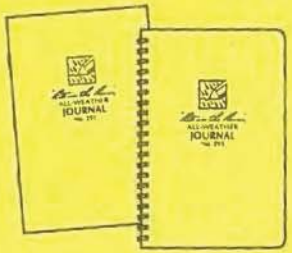

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BLDG T-1451 3 E. CANAL SE/SC · 26 JUNE 12

~45°F, OVERCAST, LT. ~~BR~~ ZK 6/26 WIND PPE: LEVEL D

— FIELD NOTES CONTINUED FROM FIELD BOOK #4.

- WELL RW-303-04 SPECIFICATIONS
  - TOTAL DEPTH: 26.5'
  - WELL TYPE: RECOVERY
  - SCREEN INTERVAL: 16'-26'
  - GRAVEL PACK: 14'-26.5'
  - BENTONITE SEAL: 2'-14'
  - STICK UP HEIGHT: 3.5'
  - CASING HEIGHT: 3'
  - BAGS OF PEA GRAVEL USED: 8.
  - BAGS OF BENTONITE USED: 8

1330 - MOBILIZE EQUIPMENT FOR DEVELOPING ~~AND~~ ZK 6/26 THE MONITORING AND RECOVERY WELLS AND POURING THE CONCRETE BASES AROUND THE WELLS.

1500 - DEVELOP WELL MW-303-40
- SEE WELL DEVELOPMENT FORM FOR DETAILS
- DTW: 28.32'
- TOTAL DEPTH: 33.10'

1555 - DEVELOP WELL MW-303-41
- DTW: 27.47'
- TOTAL DEPTH: 33.05'

6/26/12

BLDG T-1451 3 E. CANAL SE/SC 26 JUNE 12

~45°F, OVERCAST, LT. WIND PPE: LEVEL D

- SEE WELL DEVELOPMENT FORM FOR FURTHER DETAILS

1700 - DEVELOP WELL MW-303-42
- DTW: 27.73'
- TOTAL DEPTH: 33.55'
- SEE WELL DEVELOPMENT FORM FOR FURTHER DETAILS

1745 - FINISH SETTING CONCRETE BASE AT WELL MW-303-42

1800 - STAGE MATERIALS AT NEXT MONITORING WELL LOCATIONS.

1815 - REFRESH ADDITIONAL CONCRETE FOR WELL BASES.

1830 - DEPART FOR SITE.

1850 - REVIEW FIELD DATA SHEETS

1900 - UPDATE PHOTO LOG.

1945 - UPDATE NTR VERIFICATION SPREADSHEETS FOR COMPLETED MONITORING WELLS AND TREATMENT ZONE CELLS.

2015 - END OF DAY

N.F.T.P.

6/26/12

BLDG T-1456 ⅓ E. CANAL SE/SC 26 JUNE 12

~45°F, OVERCAST, LT. WIND PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0960	NW	- DRILLING WELL ~~MW-303~~ ZK 6/26 RW-303-04
101-0961	N	- " "
101-0962	SW	- " "
101-0963	SW	- REMOVING AUGER FLIGHTS
101-0964	NW	- MEASURING GRAVEL PACK IN WELL CASING
101-0965	NW	- COMPLETED WELL CASING FOR RW-303-04.
~~101-0966~~ ZK 6/26	~~SW~~	
101-0966	SW	- INSTALLING PROTECTIVE BOLLARDS.

6/26/12 4/4

BLDG T-1451 ⅓ E. CANAL SE/SC 27 JUNE 2012

~50°F, SUNNY, LT. WIND PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING
PARTICIPANTS: AHNA: T. DOBSON, T. SPEILER, J. OVERLAND, H. WOTTEN, Z. RASMUSSEN
NAVFAC: J. REITZ
HAMMER BROS: R. MARSHALL, T. BROWN
GROUNTRE: Z. KIRK

0800 Z. KIRK, T. BROWN AND R. MARSHALL MOBILIZE TO PREVIOUSLY INSTALLED MONITORING WELLS AND RECOVERY WELLS TO DEVELOP REMAINING WELLS
- TRANSFER SOIL CUTTINGS FROM THE WELLS TO EXCAVATOR BUCKET TO BE DEPOSITED AT THE MAIN SOIL STOCKPILES.

0920 - DEVELOP WELL MW-303-39
- DTW: ~~29.84~~ ZK 6/27 26.63'
- TOTAL DEPTH: ~~26~~ ZK 6/27 29.84
- SEE WELL DEVELOPMENT FORM FOR DETAILS

0945 - DEVELOP WELL MW-303.38
DTW: 28.99
TOTAL DEPTH: 29.73
- PURGED DRY THREE TIMES BEFORE COMPLETING DEVELOPMENT
- WELL RECHARGED INSTANTLY

6/27/12 1/

BLDG T-1451 ⅓ E CANAL SS/SC 27 JUNE 12

~50°F, OVERCAST, LT WIND - PPE: LEVEL D

- SEE WELL DEVELOPMENT FORM FOR FURTHER DETAILS FOR WELL MW-303-38.

1025 - DEVELOP WELL MW-303-43
DTW (FINAL): 21.57
FINAL TOTAL DEPTH: 32.83
- SEE DEVELOPMENT FORM FOR FURTHER DETAILS

1110 - DEVELOP WELL RW-303-02
~~FINAL~~ DTW: ZK 6/27 ~~14.61~~ 13.97
FINAL TOTAL DEPTH: 17.55
SEE DEVELOPMENT FORM.

1140 - DEVELOP WELL RW-303-03
DTW: 24.71
FINAL TOTAL DEPTH: 30.24
- SEE DEVELOPMENT FORM.

1330 - DEVELOP WELL RW-303-04
DTW: 21.03'
FINAL TOTAL DEPTH: 27.75
SEE DEVELOPMENT FORM

1440 - DEVELOP WELL RW-303-01
DTW: 26.85
FINAL TOTAL DEPTH: 28.10
- SEE DEVELOPMENT FORM

6/27/12

BLDG T-1451 ⅓ E. CANAL SS/SC 27 JUNE 12

~55°F, SUNNY, LT. WIND PPE: LEVEL D

1500 - COMPLETE WELL DEVELOPMENT ACTIVITIES.
- MOBILIZE WELL INSTALLATION EQUIPMENT TO E. CANAL TREATMENT ZONE SITE.

1545 - BEGIN DRILLING WELL MW-5008
- SOIL CUTTINGS DISPOSED OF IN CONTAMINATED SOIL STOCKPILE
- SEE WELL CONSTRUCTION LOG FOR DETAILS.
- WELL SPECIFICATIONS: MW-5008
  - TOTAL DEPTH: 14.5
  - DEPTH TO GW: ~7'
  - SCREEN INTERVAL: 4' - 14'
  - SAND PACK: 2.5' - 14.5'
  - BENTONITE SEAL: 1' - 2.5'
  - BAGS OF SILICA SAND USED: 5.5
  - BAGS OF BENTONITE USED: 0.5

1735 - DRILL WELL MW-5005
- SOIL CUTTINGS TRANSFERRED TO CONTAMINATED SOIL STOCKPILE
- SEE WELL CONSTRUCTION LOG FOR DETAILS

6/27/12

~60°F, SUNNY, LT. WIND PPE: LEVEL D

WELL SPECIFICATIONS: MW-5005

- TOTAL DEPTH: 13.5'
- DEPTH TO GW: ~6'
- SCREEN INTERVAL: 3'-13'
- SAND PACK: 2'-13.5'
- BENTONITE SEAL: 0.5'-2.0'
- BAGS OF SILICA SAND USED: 5
- BAGS OF BENTONITE USED: 1

1840 - CEASE WELL INSTALLATION ACTIVITIES. CLEAN UP AND SECURE THE SITE.

1850 - DEPART THE SITE.

1900 - REVIEW FIELD DATA SHEETS

1920 - UPDATE PHOTO LOG

6/27/12

4/

~60°F, SUNNY, LT. WIND PPE: LEVEL D

PHOTO #	DIRECTION	DESCRIPTION
101-0968	SW	- SETTING WELL CASING AT MW-5008
101-0969	SW	- REMOVING AUGER FLIGHTS, WELL MW-5008
101-0970	NW	- " "
101-0971	W	- POURING SAND PACK
101-0972	N	- INSTALLING PROTECTIVE BOLLARDS
101-0973	SE	- DRILLING WELL MW-5005
101-0974	N	- " "
101-0975	S	- REMOVING ~~FENCE~~ ZIC 6/27 LAST AUGER FLIGHT.
101-0976	SW	- SETTING STICK UP ~~PA~~ ZIC 6/27 CASING

N.F.T.P

10 BLDG T-1451 & E. CANAL SE/SC 28 JUNE 12

~45°F, OVERCAST, WINDY, LT. RAIN PPE: LEVEL D

0700 - CONDUCT TAILGATE SAFETY MEETING

PARTICIPANTS: ANTHA T. DOBSON, M. VOTTLER, T. SPEELER, D. OVERLAND, Z. RASMUSSEN

NAVFAC: D. PETTZ

HAMMER ENV.: T. BROWN, E. MARSHALL

CORDSYNERGY: Z. KIRK

0800 MOBILIZE DRILLING EQUIPMENT TO THE SITE.

0845 - BEGIN DRILLING WELL MW-5006

- SOIL CUTTINGS TRANSFERRED TO CONTAMINATED SOIL STOCKPILE
- SEE WELL CONSTRUCTION LOG FOR DETAILS.

WELL SPECIFICATIONS MW-5006

- TOTAL DEPTH: 11.75'
- DEPTH TO GW: 4.5'
- SCREEN INTERVAL: 1.5'-11.5'
- SAND PACK: 1.25'-11.75'
- BENTONITE SEAL: 0.5'-1.25'
- BAGS OF SELECA SAND USED: 4
- BAGS OF BENTONITE USED: 0.5

1010 - COMPLETE INSTALLATION OF WELL MW-5006

1020 - BEGIN DRILLING WELL MW-5007

- SEE WELL CONSTRUCTION LOG FOR DETAILS

6/28/12 1/

BLDG T-1451 & E. CANAL SE/SC 28 JUNE 12

~45°F, OVERCAST, LT. WIND PPE: LEVEL D

- SOIL CUTTINGS PLACED IN CONTAMINATED SOIL STOCKPILE.

1022 - D. PETTZ ARRIVES ON SITE.

1035 - ENCOUNTER GW AT 5.5' BGS

- SEE WELL CONSTRUCTION LOG FOR DETAILS

- WELL SPECIFICATIONS: MW-5007
  - WELL DEPTH: 12.5'
  - DEPTH TO GROUNDWATER: 5.5'
  - SCREEN INTERVAL: 2'-12'
  - SAND PACK: 1.5'-12.5'
  - BENTONITE SEAL: 0.5'-1.5'
  - BAGS OF SELECA SAND USED: 5
  - BAGS OF BENTONITE USED: 0.5

1115 - INSTALL STICK UP AND PROTECTIVE BOLLARDS

1130 - MP DEPARTS THE SITE.

1135 - COMPLETE INSTALLATION OF WELL MW-5007

1200 - BEGIN DRILLING WELL MW-5004

- SOIL CUTTINGS PLACED IN CONTAMINATED SOIL STOCKPILE.
- ENCOUNTER GW ~~FOR~~ BK 6/28 4' BGS.
- SEE WELL CONSTRUCTION LOG FOR DETAILS

6/28/12 2/

BLDG T-1451 / 3 R. CANAL SI/SC 28 JUNE 12

~50°F, PARTLY SUNNY, WINDY PPE: LEVEL D

WELL SPECIFICATIONS:

- WELL DEPTH: 11.5'
- DEPTH TO GW: 4.0'
- SCREEN INTERVAL: 1'-11'
- SAND PACK: 0.75'-11.5'
- BENTONITE SEAL: 0.25-0.75'
- BAGS OF SILICA SAND USED: 5
- BAGS OF BENTONITE USED: 0.5

1255 - COMPLETE WELL INSTALLATION

1530 - BEGIN DRILLING WELL MW-5000

- SOIL CUTTINGS PLACED IN CONTAMINATED STOCKPILE.
- SEE WELL CONSTRUCTION LOG FOR DETAILS
- ~~GW FOUND AT~~ BIC 6/28

WELL SPECIFICATIONS: MW-5000

- TOTAL DEPTH: 12.5'
- DEPTH TO GW: 6'
- SCREEN INTERVAL: 2'-12'
- SAND PACK: 1.5'-12.5'
- BENTONITE SEAL: 0.5'-1.5'
- BAGS OF SILICA SAND USED: 4.5
- BAGS OF BENTONITE USED: 0.5

1630 - COMPLETE INSTALLATION OF WELL MW-5000

6/28/12

BLDG T-1451 / EC SI/SC 29 JUNE 12

45°F, P. CLOUDY PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING

- DOBSON, J. OVERLAND, K. MOTTLEW - Z. RASMUSSEN
- T. STITLER (FTES)
- J. PITTZ - CRANFEAC - NTH
- T. BROWN, R. MARSHALL - UA

0805 - ARRIVE ON-SITE AT EC / BLDG T-1451 AREA TO INSTALL REMAINING WELLS IN MWA TA

0810 - BEGIN INSTALL OF MW-5003

- SOIL CUTTINGS PLACED IN GRAY STOCKPILE BELOW -
- SEE WELL CONSTRUCTION LOG

0820 - GW AT 3.5' BGS

- SEE WELL CONSTRUCTION LOG

WELL SPECS: MW-5003

TOTAL WELL DEPTH = 11.5' BGS

DEPTH TO GW: 3.5' BGS

SCREEN INTERVAL: 1'-11'

SAND PACK - 0.25'-11.5'

BENTONITE SEAL - 0.25'-0.75'

SAND - 4.25 BAGS

BENTONITE - 0.5 BAGS

0950 - COMPLETE MW-5003

1000 - GATHER MATERIALS FROM MW-5002

29 JUNE 12

1040 - BEGIN INSTALLATION OF MW-5002
1045 - GW AT 5' BGS
SEE WELL CONSTRUCTION LOG
1100 ~~1055~~ TOLCHA J. PITZ ON SITE.
WELL SPECIFICATIONS
TOTAL DEPTH 12.0' BGS
DEPTH TO GW 5' BGS
SCREEN INTERVAL 1.5' BGS - 11.5' BGS
SAND PACK - 1' BGS - 12' BGS
BENTONITE SEAL 0.25' - 1.0' BGS
BAGS OF SILICA SAND - 3.5 BAGS
BAGS OF BENTONITE - 0.5 BAGS
1145 - COMPLETE INSTALLATION OF MW-5002
1200 - BREAK LUNCH - NTH DRILLERS
1340 - BACK ON SITE AT FEC/BLDG T-1451
1355 - BEGIN DRILLING MW-5001
1410 - GW AT 6' BGS
SEE WELL CONSTRUCTION LOG
TOTAL DEPTH OF WELL = 13.5' BGS
DEPTH TO GW - 6' BGS
SCREEN INTERVAL 3' - 13' BGS
SAND PACK - 2' - 13.5' BGS
BENTONITE SEAL 0.5 - 2' BGS
BAGS OF SILICA SAND USED - 4.5
[signature] 29 JUNE 12

PHOTO #	DIRECTION	DESCRIPTION
4981	N	MW-5003
4982	W	MW-5003
4983	E	MW-5002
4984	N	MW-5002
4985	E	MW-~~5002~~ TO 5001
4986	S	MW-5001

29 JUNE 12
[signature] NTP

40°F, RAIN, CLOUDY PPE: LEVEL D

BAGS OF BENTONITE USED - 0.75

1525 - FINISH INSTALLATION OF MW-5001

~~1445~~ 1640 - AFTER MEASURING WELL MW-5006 FOR THE WATER LEVEL TO INSTALL ~~MW-5008~~ TO 6/29 MW-5001. THE WATER LEVEL IN MW-5006 WAS AT 3.95' BGS - THE SCREENED INTERVAL IS FROM 4'-14' BGS - DECIDED TO ADJUST THE SCREEN BY PULLING THE SCREEN 1' UP. THIS STILL LEAVES 0.5 OF FILTER PACK, SAND PACK ABOVE THE SCREEN INTERVAL. - ~~PULLED~~ 6/29 - CUT STICKUP TO 36" - WAS 32.5" ABOVE SURFACE PULLED TO ~~3~~ 14.5' AND CUT AT 36" -

1700 - DEPART EC/BLDG T-1451 - DROP OFF WELL INSTALLATION GEAR - DRILLERS PREPARE FOR MACRO CORE SAMPLING.

1725 - RETURN TO EC/BLDG T-1451 AREA - HELP LOAD 1 1/2 SUPER SACKS -

1900 - TOTAL OF 37 1 1/2 SUPER SACKS LOADED 29 STAGED IN WARSA STORAGE SITE - DEPART EC/BLDG T-1451 AREA

1920 DONE FOR DAY

21 JUNE 12

PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING
- DISCUSS HEAT RELATED SAFETY
- DISCUSS SAFETY AROUND DRILL RIG
- GENERAL SITE SAFETY

ATTENDEES:
T. DOBSON, J. OVERLAND, H. WATTLES, Z. RASMUSSEN
T. SPITLER (ARS)
J. PITTZ (NAVFAC)
T. BROWN, R. MARSHALL (CHAMPS)

0720 - CALIBRATE PID, FLESHAIR, 100PPM
ISOBUTYLENE, FOR CAL BELOW = 100.8 PPM

0815 - ARRIVE ON SITE EC/BLDG T-1451 AREA TO ADVANCE SOIL BORINGS B-61, B-62 B-63 IN STEP 2 AREA. HAMMER ON-SITE

0835 - BEGIN BORING B-61 -
TOTAL DEPTH 10 - NEAR UV-177/UV-257

0920 - FINISH BORING B-61

0925 - ADVANCE BORING B-62

1010 - COMPLETE BORING B-62 - 0-10'

1015 - START BORING B-63
PICK 4987-4989 - B-61 & B6 MACRO CORES

1030 - FINISH BORING B-63

1032 - START BORING B-64

TO 6/30 ~~1035~~ 1105 - END B-64

30 JUNE 12

30 JUNE

	ID	TIME	
BG1	01-~~SB048~~	0855	
	01-SB049	0900	
	01-~~SB048~~ SB050	0915	
	01-SB051	0920	
BG2	01-SB052	TO 0/30 ~~1050~~ 0955	
	01-SB053	1010	
BG3	01-SB054 SB055	1025	
	02-~~SB054~~ TO 1/30 SB056	1030	
BG4	01-~~SB055~~ TO 1/30 SB057	1050	
	01-~~SB056~~ TO 1/30 SB058	1055	
	01-~~SB057~~ TO 1/30	1100	
DUP	02-SB059	~~1130~~ 1103	FIELD DUPLICATE
	02-SB060	1105	

30 JUNE

NKP

30 JUNE

	Pinto	Quad
4987		B-61 ; BG2 MARROCOLLO
4988		BG1 BG2 MARROCOLLO
4989		BG1-BG2 ~~BG3~~ TO 1/30 - MARRO COL
4990		B-63 MARRO COL
4991		B-63 MARROCOL
4992		B-63 BG4 - MARROCOL
4993		B-63 - BG4 MARROCOLL

30 JUNE

NKP

BLDG T-1451/EC SE/SC 6/30/12

45°F CLOUDY PDF CLOUDED

1130 - COMPLETE BORING TASK FROM SHEET - ADVANCED 4 MACRO CORE BORINGS AND COLLECT 12 PRIMARY SOIL SAMPLES AND 1 FIELD DUPLICATE FOR SUBMITTAL TO FIXED LAB FOR DATA ANALYSIS -

1145 - OBSERVE SUPER SACKING OPERATION -

1200 - BREAK FOR LUNCH

1300 - BACK ON-SITE AT EC/BLDG T-1451 - CONTINUE FILLING / TRANSPORTING CONT. SOIL IN 1 CY SUPERSACKS FROM CONT. STOCKPILE TO LOMSA

1330 - DRILLERS TRANSPORT GEOPROBE 6620 DRILL RIG TO AK AIR FOR SHIPMENT OFF ISLAND ON 7/1/12

- 1810 - FILLED TOTAL OF 51 1 YD SUPER SACKS AND TRANSPORTED TO LOMSA
- TOTAL OF 88 1 CY SACKS FILLED FROM CONT. STOCKPILE

1900 - SECURED SITE - DEPART -

DONE FOR DAY

DRILLERS POURED CONCRETE ON AREA 303 WELLS - AND 2 WELLS IN EC/BLDG T-1451 AREA, 7 STILLS

30 JUNE 12

45°F CLOUDY PARTIALLY CLOUDED

REMAIN TO BE COMPLETED.

-

30 JUNE 12

NTSP

48°F, P, CLOUDY PRE: [illegible]

1200 - TAILGATE SAFETY MEETING
- DISCUSS LOADER SAFETY WITH FORKS - MOVE SUPERSACKS
- ATTENDEES:
T. DOBSON, J. OVERLAND, M. WITTICH
Z. RASMUSSEN (AFES)

1330 HELD HAMMER NOW GEAR TO ALASKA AIR CARGO

1430 - COMMENCE MOVE GEAR

1545 - DROP OFF SAMPLE COOLER AT ALASKA AIR CARGO

1630 - CREW RETURNS FROM GATHERING SUPERSACKS AROUND MONITORING/RECOVERY WELLS -

1730 - ARRIVE ON SITE AT EC/BLDG T-1451 TO DEVELOP MONITORING WELLS -

1830 - BEGIN DEVELOPING MW-5008 -

1840 - PUMPED APPROX. 20 GALLONS FROM MW-5008
- WATER MOSTLY CLEAR TO UNAIDED EYE. CLEAR DEVELOPMENT. SEE LOG
- DRILLERS DEMOB TODAY. LOADER WAS USED TO TRANSPORT GEAR TO ALASKA AIR CARGO.
- CREW GATHERED SUPERSACKS

1 JULY 12

PRE [illegible] TO 7/1 PDR: [illegible]

FROM AREA 303 THAT WERE FILLED WITH DRILL CUTTINGS FROM RECOVERY AND MONITORING WELL INSTALLATIONS
- FOUR PARTIAL SUPER SACKS WERE COLLECTED
- DONE FOR DAY

1 JULY 12

BLDG T-1451 / RL 52/SC — 2 JULY 12

40°F cloudy (42) — PRE: LEVEL D

0700 - TAILGATE SAFETY MEETING -
DISCUSS BACKHOE AND LOADER SAFETY
- B48 CONTACT W/ OPERATOR —
PROPER PPE
- WIND GUST SUDDEN STOP CHECK

ATTENDEES:
T. NELSON, J. OVERLAND, H. WHITCHAN, Z. ANDERSEN
T. SPITLER (AES)
J. PITZ (NTR, NAVFAC)

0730 - ONSITE BLDG T-1451 AREA TO FILL
AND TRANSPORT SUPERSACKS.
- 88 BAGS STAGED - FILL PARTIALS : 4 BAGS
PARTIAL 11
FULL - ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ BEFORE LUNCH
0879 1364 ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ ~~HHT~~ - 60 BAGS
1000 - BREAK FOR FUEL
1020 - START BAGGING AGAIN
1110 - J. PITZ ARRIVES ONSITE
1145 - NTR PITZ DEPARTS
1200 BREAK FOR LUNCH
1300 - TRUCK ON SITE TO CONTINUE SUPER SACKING
140 BAGS
1850 - STOP SUPER SACKING OPERATIONS -
FILLED 88 - 1 CY SUPER SACKS

2 JULY 12

BLDG T-1451 / RL 52/SC — 2 JULY 12

48°F cloudy, windy — PRE: LEVEL D

1900 - SECURE SITE - DONE FOR THE DAY

45°F MOSTLY CLOUDY PPE: LEVEL D

0700 - MORNING SAFETY MEETING
DISCUSS BACKHOE / LOADER SAFETY
- PROPER PPE, EYE CONTACT WITH OPERATOR
ATTENDEES
T. DOBSON, J. OVERLAND, M. WATTLIN, Z. RASMUSSEN, T. SPITLER
J. PITTZ (NRA/NAVFAC)

0735 - ON-SITE -

0850 - COMPLETE SUPERSACKING: LETTER
~~IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII~~

1200 - 42 BAGS BY LUNCH. BREAK FOR LUNCH

1315 - BACK ON SITE AT EC/BLDG T-1451 AREA TO FILL: TRANSPORT
~~IIII IIII IIII~~ TO
~~IIII IIII IIII~~ IIII

1855 - TRANSPORT SUPERSACKS TO WMSA. TOTAL OF 84 SUPERSACKS COMPLETED TODAY.
CLEAN SITE - ~~SECUR~~ SECURE SITE AND DEPART.

1900 - DONE FOR THE DAY.

3 JUNE 12

PPE: LEVEL D

0700 - DAILY TAILGATE SAFETY MEETING
DISCUSS BACKHOE / LOADER SAFETY
- EYE CONTACT WITH OPERATOR, PROPER PPE
- DISCUSS GENERAL SITE SAFETY
ATTENDERS:
T. DOBSON, J. OVERLAND, M. WATTLIN, T. SPITLER
Z. RASMUSSEN (CARS)
J. ~~SP~~ PITTZ (NAVFAC-NW)

0745 - ON SITE AT EC/BLDG T-1451 AREA

0805 - BEGIN SUPERSACKING
~~IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII~~

1140 - BREAK FOR LUNCH

1245 - BACK ON SITE TO SUPERSACK
~~IIII IIII IIII IIII IIII IIII~~

1840 - FILL TOTAL OF 80 SUPERSACKS
- TRANSPORTED 20 TO WMSA BEFORE TRAILER TIRE FAILED. STAGED BAGS ON SITE ON ASPHALT

1900 - SECURE SITE - DEPART SITE
DOWNTOWN DAY

4 JUNE 12
NFETP

45°F, RAIN

0700 - DAILY TAILGATE SAFETY MEETING
DISCUSS SAFETY NEAR BACKHOE WHILE LOADING SUPER SACKS. PROPER PPE HARD HATS, SAFETY VESTS, SAFETY GLASSES AND STEEL TOED BOOTS
DISCUSS ~~SAFETY~~ TO 7/5 DISCUSS SAFETY NEAR FRONT END LOADER MOVING SUPERSACKS

ATTENDEES:
T. DOBSON, J. OVERLAND, H. WOTTLIN, Z. RASMUSSEN
T. SPITLER (AES)
J. PITTZ (NAVFAC, NTR)

0900 - QC MEETING - DISCUSS LAST WEEKS WORK PERFORMED -
- STEP MEETING MINUTES -
0910 - CONCLUDE CONFERENCE CALL
1000 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA
- SUPER SACK OPS CONTINUE -
1010 - T. SPITLER DEPARTS TO PULL CONCRETE FORMS FROM RECOVERY/MONITOR WELLS IN AREA 303
~~HH HH HH HH HH~~
1105 - NTR ON-SITE
1130 - DEPART SITE W/ T. SPITLER TO DISCUSS CONCRETE FOR STICKUPS. T. SPITLER WILL BUILD FORMS FOR MNA WELLS AND

SJULY12

45°F RAIN DOPE: LEVELD

PLACE CONCRETE THE NEXT TWO DAYS
1200 - BREAK FOR LUNCH
1300 - ON-SITE AT EC/BLDG T-1451
AREA TO SUPER SACK REMAINING CONT. SOIL IN STOCKPILE.
1530 - FILL 16 BAGS - CONT. SOIL
NO FILLED IN SUPERSACKS -
TOTAL OF 41 SUPER SACKS FILLED
NO SACKS TRANSPORTED TO WMSA.
- BEGIN REMOVING BERMED MATERIAL AND PLACING CONT STOCKPILE LINER IN SUPER SACKS.
1650. REMOVED BERMED MATERIAL AND PLACED CONT. LINER IN SUPER SACKS
1730 REMOVED STOCKPILE COVER AND OTHER DEBRIS - PLACED IN SUPER SACKS.
1745 - PICK UP REPLACEMENT LOADER KEY FROM ALASKA AIR CARGO
1830 - PICK UP DEBRIS ON EAST CANAL / BLDG T-1451 SITE.
1900 - DEPART SITE.
DONE FOR DAY

NFTP SJULY12

30 BLDG T-1451/EC SITE 6 JULY 12

48°F, RAIN CLOUDY TPE. LEVEL 1

0700 - DAILY TAILGATE SAFETY MEETING -
- DISCUSS - LOADER SAFETY WITH FORKS
- UNLOADING, HOOKING BAGS, PINCH POINTS. - GENERAL SAFETY FOR THE SITE - SECURITY, BREAKS MEETING POINTS FOR EQ/TSUNAMI

ATTENDERS:
T. DOBSON, J. OVERLAND, T. SPITZER (AJES)
J. PITTZ (NAN FOC, INTR)

0800 - START TRANSPORT OF SUPER SACKS FROM EC/BLDG T-1451 AREA TO THE WMSA.

1200 - TRANSPORT 56 BAGS - BREAK FOR LUNCH

1315 - BACK ON SITE AT EC/BLDG T-1451 AREA TO TRANSPORT SUPERSACKS TO WMSA

1645 - FINISH TRANSPORT OF SUPER SACKS TO WMSA. TOTAL OF 102 SUPERSACKS TRANSPORTED TO WMSA.

1700 - DROP OFF TRAILER TO CITY OF ARAK SHOP (FORMER BLDG T-1451)

1730 - CLEAN UP EC/BLDG T-1451 AREA SITE FROM DAYS ACTIVITIES.

1800 - COLLECT PURGE WATER DRUM (35 GALLONS)

6 JULY 12

BLDG T-1451/EC SITE 6 JULY 12

TRIP	BAGS
1	8
2	8
3	8
4	8
5	8
6	8
7	8
8	8
9	8
10	8
11	8
12	8
13	6
	102 BAGS

6 JULY 12

BLDG T-1451 / EC SI & SC — 06 JULY 12

45°F CLOUDY — PPE: LEVEL D

FROM WELLS DEVELOPED IN AREA 303 (MW-303-41 & MW-303-42)

1830 - TRANSPORT REMAINING EQUIPMENT TO LAYDOWN AREA. SUPERSACK FRAMES, PALLETS TP2/6 - PALLETS, AND SUPERSACKS.

1900 - PLACE EDW IN 2-1 CY SUPERSACKS TO INCLUDE WELL CONSTRUCTION MATERIAL, PPE, AND GENERAL CONSTRUCTION DEBRIS.

BLDG T-1451/EC SI/SC — 7 JULY 12

45°F, RAIN — DPE: LEVEL D

0700 - DAILY SAFETY MEETING - DISCUSS EXCAVATION SAFETY - TO BACKFILL ANOMALY IN N.V. TEST PITS.

ATTENDERS: T. DOBSON, J. CUMBERLAND, T. SPITZER

0800 - ON-SITE AT EC / BLDG T-1451 NORTH AREA.

0805 - BACKFILL TP#1 - ONE 55 GALLON CULVERT DRUM. DETERIORATED AND FILLED WITH SAND. DECIDE TO BACKFILL AND BURY DRUM. THERE IS NO WAY TO SEPARATE THE DRUM AS IT FALLS APART FROM MOVEMENT W/ EXCAVATOR BUCKET. BACKFILL COMPLETE

0815 - BACKFILL TP#4 - REMOVE 2.5 55 GALLON DRUMS FOR DISPOSAL - THEY WERE WELDED TOGETHER FOR CULVERT PIPE.

0830 - TP#4 BACKFILL COMPLETE

0835 - BACKFILL TP#2 - DETERIORATED METAL DRUM - NO WAY TO SEPARATE DRUM

0840 - BACKFILL TP#3 - SMALL METAL DEBRIS MIXED WITH EXCAVATED SOILS

7 JULY 12

 BLDG T-1451/EC SI/SC 7 JULY 12

0905 - BACKFILL OF REMAINING ANOMALY TEST PITS COMPLETE.
T. SPITLER TO APPLY GRASS SEED ON EXCAVATED AREA IN EC/BLDG T-1451 NORTH AREA.

0910 - T. OPERATORS WILL PLACE TOPSOIL ALONG EAST CANAL BANK -

1015 - T. SPITLER SEEDED EC/BLDG T-1451 NORTH AREA

1115 - SET UP TO TREAT 35 GALLON DRUM OF DRUM OF WELL TP #1 PURGE WATER THROUGH ABSORBENT WATER SEPARATOR IN GRASSY SWALE BLDG T-1451/EC AREA

1120 - COMPLETE TREATMENT OF 35 GALLONS OF PURGE WATER FROM AREA 303 WELLS

1140 - BREAK LUNCH

1250 - ONSITE EC/BLDG T-1451 AREA

1330 - WALK EXCAVATOR BACK TO REAR AL DROP OFF SPOT.

1345 - PARK EXCAVATOR.

1400 - BACK ON SITE EC/BLDG T-1451 AREA TO DEVELOP MW-5005

1410 - BEGIN PURGE MW-5005

1430 - CLEAR PURGING, RUNNING CLEAR 40 GALLONS REMOVED

7 JULY 12

PHOTO -	DIRECTION	DESCRIPTION
4994	N	TP #1. ONE 55GAL DRUM - BURIED
4995	NW	TP #1 - 1 55GAL DRUM - FILLED W/ SAND - BURIED
4996	CLOSEUP	TP #1 - CLOSE UP OF DRUM
4997	SE	TP #4 - DRUMS REMOVED - 2.5 - READY TO BACKFILL
~~4998~~	~~S~~ TP 1/4	
4998	S	TP #4 - READY TO BACKFILL
4999	W	TP #4 - 2.5 DRUMS TO DISPOSE
~~5000~~ TP 1/4	~~W~~ TP 1/2	
5000		TP #4 - 2.5 DRUMS - TO DISPOSE.
5001	S	TP #4 - BACKFILLED

BLDG T-1451 / EC 52/SC — 7 JULY 12

45°F, RAIN — PPE: LEVEL D

1500 - SETUP TO PURGE MW-5001

1520 - BEGIN PURGE

1555 - CEASE DEVELOPMENT, 50 GAL FOR MW-5001

1745 - SET UP WELL MW-5007 FOR DEVELOPMENT

1755 - BEGIN PURGE

1830 - CEASE DEVELOPMENT OF MW-5007, 50 GAL

1845 - DECON PUMP IN ALKNOX WASH AND RINSE

1910 - SECURE SITE, STAGE ABSORBENT IN DRUM FOR FURTHER DEVELOPMENT ACTIVITIES

- PARKED FRONT END LOADER, END DUMP TRUCK, AND JOHN DEERE TRACTOR IN PROVIDED STORAGE AREA FOR EITHER FUTURE WORK OR AWAIT BARGE TRANSAKT

-

7 JULY 12

45°F RAIN — PPE: LEVEL D

0800 - DAILY TAILGATE SAFETY MEETING

- DISCUSS TOWING WHITE END DUMP TRUCK TO STORAGE AREA ACROSS FROM THE CITY OF ADAK MAINTENANCE FACILITY

- ATTENDEES:

T. DOBSON, J. OVERLAND CAES

~~1035~~ 0815 ARRIVE ON SITE AT EC/BLDG T-1451

0820 NORTH AREA TO TOW DUMP TRUCK

0840 - TOW COMPLETE, VEHICLE STORED ACROSS FROM CITY OF ADAK VEHICLE MAINTENANCE FACILITY.

1035 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA TO DEVELOP MNA MONITORING WELLS.

1105 - BEGIN DEVELOPING MW-5004

1155 - CEASE PURGING - WATER CLEAR - SLIGHT TURBIDITY AFTER 45 GAL

1250 - BEGIN DEVELOPMENT OF MW-5003

1310 - PURGE CLEAR - CEASE DEVELOPMENT

1330 DEPART SITE

1345 - ARRIVE AK AIR CARGO STAND 210. BREAK FOR LUNCH

1400 - ON SITE EC/BLDG T-1451 TO DEVELOP MNA WELLS

8 JULY 12

 BLDG T-1451/EC SI/SC 8 JULY 12

45°F, RAIN PDIE: LEVELD

1522 - BEGIN PURGE MW-5002

1545 - CEASE PURGE OF MW-5002 - CLEAR, 40 GALLONS DEVELOPED

1635 - START DEVELOPMENT OF MW-5000

1740 - CEASE DEVELOPMENT OF MW-5000
85 GALLONS PURGED. SLIGHT TURBIDITY WATER CLEAR.
- FREE PRODUCT ON SURFACE WHEN DEVELOPMENT BEGAN

- 1800 - CLEAN UP SITE FROM DEVELOPMENT ACTIVITIES

1830 - STORE GEAR IN CONTAINERS AT CAMPTOWN AREA

1900 - DONE FOR DAY.

8 JULY 12

BLDG T-1451/EC SI/SC 9 JULY 12

45°F, WINDY, SCATTER SHOWER

0700 - DAILY SAFETY MEETING
DISCUSS GENERAL SITE SAFETY
- SET CONCRETE FORMS -
- DEVELOP MONITORING WELLS IN MAIN FA.

0830 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA TO DEVELOP MW-5000 -

0905 - BEGIN DEVELOPING MW-5006 -

0920 - CEASE DEVELOPMENT OF MW-5006
WATER CLEAR, PURGE 40 GALLONS

0940 - CLEAN UP AREA FROM DEVELOPMENT ACTIVITIES. DEPART SITE.

1000 - PROJECT MANAGEMENT ACTIVITIES
- TOM SPITLER WORKING ON CONCRETE FORMS FOR STICK UP BASES. BUILD AND SET ~~BUILD~~ TP 6/7 FORMS IN PLACE.

- 1150 - SUBMIT AC MEETING MINUTES TO DMS FOR REVIEW

- 1300 - TREAT ~~MW-505~~ TO MW RW-303-02 WELL DEVELOPMENT WATER WITH ABSORBENT W- ~~AB~~ TP 6/9. SLIGHT SHEEN ON WATER SURFACE THAT LOOKS ORGANIC IN NATURE - NOT COLORFUL.

1330 - TREATED 55 GALLON DRUM OF WATER.

9 JULY 12

 BLDG T-1451/EC SR/SC 9 JULY 12

45°F, WINDY/CLOUDY PPE: LEVEL D

1200 - BEGIN DEMOB ACTIVITIES TO PACK FOR DEMOBILIZE
- AND PLACE IN CONNEX

1600 - PLACE SAMPLE WASTE TO INCINERATOR MAKE
CORE SAMPLES AND LAB DEBRIS INTO
5-CY SUPERSACKS FOR OFF-SITE DISPOSAL

1700 - FINISH DEALING WITH WASTE

1800 - PACK LESS NEEDED FIELD GEAR IN
CONNEX THAT WON'T BE USED UNTIL THE
POSSIBLE SECOND FIELD EFFORT

1900 - DONE FOR DAY

9 JULY 12

BLDG T-1451/EC SR/SC 10 JULY 12

45°F: SCATTERED SHOWERS PPE: LEVEL D

0700 - TAILGATE SAFETY MEETING -
- DISCUSS CONCRETE WORK FOR STILLWELLS
- GENERAL SITE SAFETY ON CHERNOFF
STREET.

ATTENDEES:
T. DODSON, T. SPITLER (ARS)
J. PATTZ (NAVFAC, NTR)

0715 - DISCUSS JOB WITH JOHN RITTER -
DO PUNCH LIST STARTS TODAY (7/10)
OR TOMORROW (7/11)

0800 - PREPARE FOR CONCRETE OF STILLWELLS

0825 - ON-SITE AT EC/BLDG T-1451 AREA
TO CONCRETE STILLWELLS

1240 - BREAK FOR LUNCH -
POURED CONCRETE AROUND 7 STILLWELLS

1400 - PREPARE GEAR FOR PLACEMENT IN
CONNEX

1600 - DRY OFF GEAR AT CONEX

1630 - ON-SITE AT EC/BLDG T-1451 AREA -
TO CONCRETE STILLWELLS.

1836 - DEMOB EC/BLDG T-1451 AREA AFTER
CLEAN UP OF CONCRETE ACTIVITIES.

1900 - DISPOSE OF SAMPLING WASTE IN 5YD
SUPER SACKS AT WMTA

10 JULY 12

- CONCRETE WAS SET FOR MW-5000, 5001, 5003, 5004, 5005, 5006, 5007, AND 5008 MW-5002 STICKUP HAD STANDING WATER SO CONCRETE COULD NOT BE POURED FILLED BOLLARD WITH CONCRETE FOR 5000, -5008 - WELLS IN EC/BLDG T-1451 AREA

0700 - TAILGATE SAFETY MEETING
DISCUSS CONCRETE FOR MONITORING WELLS, PPE - SAFETY GLASSES - GLOVES
0800 - FINISH CONCRETE FOR AREA 303 WELLS, PARAMEDIC GEAR
1200 - FINISH CONCRETE FOR AREA 303 WELLS, CONCRETE BOLLARDS BASES FOR MW-303-39 AND MW-303-42 AS THEY ARE TWO WELLS IN TRAFFIC AREAS.
- BREAK LUNCH
1345 - TRANSFER PURGE WATER FROM MW-303-38 AND 39 TO SMALLER 35 GALLON DRUM FROM 55 GALLON DRUM TO DISCHARGE THROUGH ABSORBENT W
- NO PETROLEUM SHEEN ON SURFACE
- ORGANIC - COLORS SHEEN ON SURFACE
1430 - ARRIVE ON SITE AT EC/BLDG T-1451 AREA TO DISCHARGE PURGE WATER THROUGH ABSORBENT W - JOHN PITTS ARRIVES ON-SITE WILL DO PURGE CUT ITEMS THIS AFTERNOON
1500 - T. SPECKER FILLS REMAINING BOLLARD WITH CONCRETE IN AREA 303 AND

THE MANA TA WELLS.

-1510. MOVE CONSTRUCTION GEAR TO CONTRA WITH TOM SPITLER.

1535. PROJECT MANAGEMENT CHECK RMAN

1615 - MEET WITH J. PITZ TO DO PUNCH LIST ITEM LIST. SEE PAGE 45

1720 - COMPLETE CHECKOFF'S WITH JOHN PITZ SEE PAGE 45

1800 - CONTINUE TO MOVE GEAR FROM RENTAL UNIT TO CONTR.

1900 - DONE FOR DAY

11 JULY 12

AREA 503 WELLS - CHECKED OFF - GPS COORDINATES WILL BE COMPLETED

CHECK OFF

EAST CANAL / BUILDING T-1451 NORTH AREA COMPLETE. CHECKED OFF AFTER WOOD PROBES PUNCHED

EAST CANAL / BUILDING T-1451 AREA -

- WELLS TO BE GPS'D, PLUG REMAINING WOOD PROBES
- MANA AREA NEEDS TO BE SEEDED AFTER RAIN FROM PREVIOUS 3 DAYS DRY'S OUT DUE TO STANDING WATER IN MANY AREAS

11 JULY 12

 BLDG T-1451 / EAST CANAL SITE 12/07/2012

0700 - MORNING SAFETY MEETING
- GENERAL SITE SAFETY
- COMPLETE SEEDING OF MNA. AND PLUG REMAINING UROX PROBES IN EC/BLDG T-1451 NORTH AREA
- 0700 - QC MEETING -
J. OAKLY, T. DOBSON, J. PITTZ, GUY LAMPTON AND MEGHAN DOLEA
0915 - MEETING CONCLUDED.
0940 - MOVE TO 8/12 TO CABIN AREA 304 MW'S & RW'S
1015 - ON-SITE EC/BLDG T-1451 MEA TO HELP T. SPITLER WITH SEEDING OF MNA
1045 - SEEDING COMPLETED.
1230 - BENTONITE COMPLETE FOR EC/BLDG T-1451 ~~NORTH~~ TO 7/12/12 NORTH AREA AND EC/BLDG T-1451 AREA FOR UROX PROBES
1330 - DROP OFF FREIGHT AT ALASKA AIR CARGO
1355 - ARRIVE ON SITE AT EC/BLDG T-1451 NORTH AREA TO TAKE PHOTOS OF BACKFILLED DRUM AREA
1405 - ARRIVE AT EC/BLDG T-1451 AREA TO OBSERVE T. SPITLER DO MNA MONITORING WELLS.
1440 - DEPART TO PACK REMAINING GEAR AND READY FOR DEPARTURE FOR FLIGHT TO ANCHORAGE.

PHOTO LOG	DIR	DESCRIPTION
S002	S	SEEDING MNA AREA
S003	E	SEEDING MNA AREA
S004	N	SEED AREA NEAR MW-S000
S005	SE	CRUSHED DRUM AREA EXCAVATION
S006	NE	CRUSHED DRUM AREA EXCAVATION
S007	W	GPS MW-S002

Building T-1451 and East Canal Site Investigation/ Characterization
Adak, AK
FIELD CHANGE REQUEST

Project:	Contract No.:	Field Change No.:
Building T-1451 and East Canal Site Investigation/ Characterization Adak, AK	N62473-07-D-3219	01

To: Brain Cullen, NTR	Dept.: NAVFAC-NW	Location: Adak, AK	Date: 6/20/12
Re: ☐ Drawing No.:	Rev No.:	Title:	
☐ Spec No.:	Rev No.:	Title:	
☒ Other: Change how cofferdam will be placed to dewater excavation area along East Canal			

1. Description (Items involved; submit sketch if applicable:

Place the cofferdam in two locations along the bank of the East Canal. The first placement will be next to the southern end of the culvert and extending to the southeast the length of the cofferdam to the east bank of the East Canal. The excavation of the MNA treatment area will extend along the bank of the East Canal to the area that is isolated by the cofferdam.

The second placement for the cofferdam will begin at the point of the completed excavation on the bank of the East Canal from the first placement and extend in a crescent shape to include the remaining bank of the East Canal that will be excavated as part of the MNA treatment area.

A sketch of the two placements is included with this field change request.

2. Reason for change (If from disposition of nonconformance report, list report number):

The change in cofferdam placement is intended to reduce the volume of water that would need to be pumped from the north end of the culverts in the East Canal if both culverts were plugged as specified in the initial cofferdam design in the SAP.

3. Recommended Disposition: ☒ Minor Change ☐ Major Change

Describe details:

The same cofferdam, sump and pumps will be used to complete the dewatering of the MNA treatment area excavation along the east bank of the East Canal. Only the placement of the cofferdam will change from the initial design in the SAP.

4. Field Project Manager(Signature):	Date:	Navy Technical Representative (Signature):	Date:
	6/20/12	Brian Cullen NTR	6/20/12

Technical Project Manager (Signature)	Date:

Technical Project Manager signs and transmits to Field Project Manager with copies to:

☒ ERS-JV Project Manager (Howard Wittenburg):

☒ ERS-JV Technical Project Manager (Jamie Oakley):

☒ Navy Remedial Project Manager (Grady May):

☒ Navy Technical Representative (Brian Cullen):

☒ ADEC Environmental Program Specialist. (Guy Warren)

Attachments:

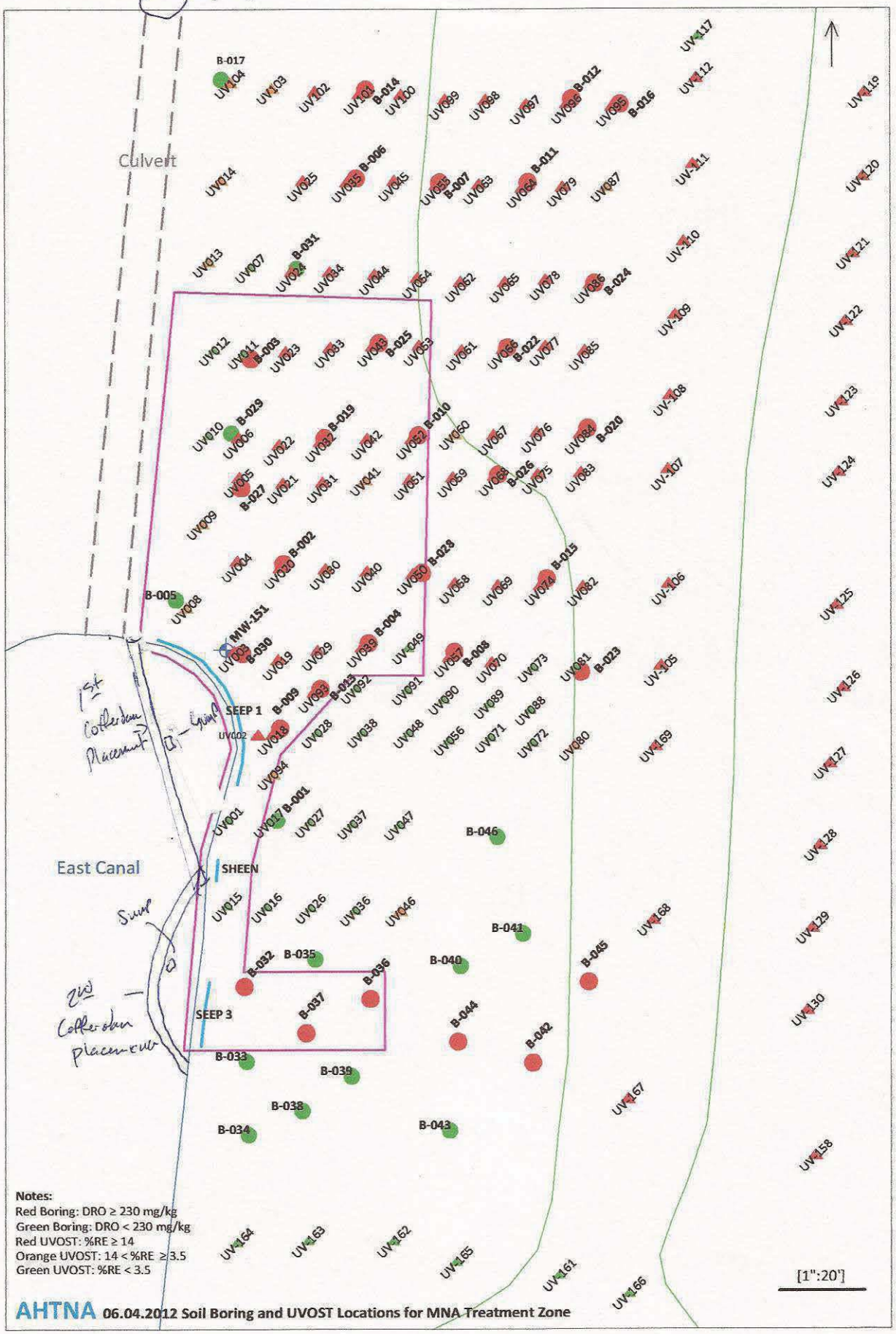
☐ Approval correspondence (including electronic mail copies)

☒ Drawings

☐ Specifications

☐ Other

plug the east culvert, leave west culvert open



Notes:
Red Boring: DRO ≥ 230 mg/kg
Green Boring: DRO < 230 mg/kg
Red UVOST: %RE ≥ 14
Orange UVOST: 14 < %RE ≥ 3.5
Green UVOST: %RE < 3.5

AHTNA 06.04.2012 Soil Boring and UVOST Locations for MNA Treatment Zone

May 28, 2012
Non-conformance / Corrective Action Memo
Building T-1451 and East Canal Site Investigation/ Characterization Adak, AK
ERS-JV / Ahtna Engineering Services
Contract No. N62473-07-D-3219
Contract Task Order JP01
Task #4 - Direct Push Drilling, UVOST Investigation, and Subsurface sampling
Nonconformance Memo: 001
Re: Primary/duplicate soil sample labeling error

Nonconforming Item: It was discovered on Friday 5/25/12 after speaking with the fixed project laboratory that labels for soil samples collected and shipped on Sunday May 20, 2012 to the fixed laboratory were mislabeled prior to shipment. Soil samples and field duplicates were collected and submitted to TestAmerica- Seattle, for analysis by Method AK102, for comparison of the laboratory analytical results for DRO with the UVOST screening tool data. This data is being utilized to evaluate correlations between analytical data and the UVOST relative emittance values. These soil samples would have been analyzed by the Adak mobile laboratory; however, the mobile laboratory was not operating at the time the samples were collected and ready for analysis. Therefore the soil samples were initially labeled with sample ID nomenclature reserved for the Adak mobile laboratory, but then relabeled for the nomenclature reserved for the fixed laboratory. Upon receipt of laboratory results it was observed that the primary and field duplicate sample pairs had significantly different results than expected. Primary sample 01-SB009 had a DRO result of 82 mg/kg and its duplicate sample 01-SB010 had a DRO result of 26,000 mg/kg. Primary sample 01-SB014 had a DRO result of 34,000 mg/kg and its duplicate sample 01-SB015 had a DRO result of 97 mg/kg. Upon visual examination of the soil containers by TA-Seattle, the laboratory indicated that the primary sample jars appeared to have been mislabeled based on the color and soil texture observed in the soil sample containers. For the purposes of the correlation data it is assumed that the correct sample duplicate pairs are as follows:

Primary Sample SB-009 =82 mg/kg DRO/Duplicate Sample 01-SB015 = 97 mg/kg DRO
Primary Sample SB-014 =34,000 mg/kg DRO/Duplicate Sample 01-SB010 = 26,000 mg/kg DRO

Root Cause: The root cause of the labeling error was determined to be haste by the field team in order to meet the shipping deadline to the analytical laboratory.

Corrective Action: The discrepancy has been documented and quality control measures of triple checks before sample submittal have been incorporated prior to sample submittal to the mobile laboratory and the fixed laboratory. The field team has been made aware of the importance of accurate labeling procedures and the required quality control measures. The attached signature sheet attests to the fact that the field team is cognizant of the issue and the required corrective action.

Tim Dobson
On-site Quality Control Manager/Field Project Manager
Ahtna Engineering Services (ERS-JV)

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-001

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 5/28/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 2
# of Samples 0
Test Pit Width (ft) 3
Depth to GW
Total Depth 3.5 feet bgs
Ground Elevation
X/Y Coordinates 3134452.29/316534.53
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter 2 welded 55-gal metal drums

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Gray; fine to medium SAND; with silt; non plastic plasticity; firm; moist; iron oxide staining
2.5		4.2				

Bottom of test pit at 3.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-002

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 5/28/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 5
# of Samples 0
Test Pit Width (ft) 10
Depth to GW
Total Depth 3.5 feet bgs
Ground Elevation
X/Y Coordinates 3134648.87/316496.52
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter 55-gal metal drum at 2.5' bgs

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						ORGANICS
						Gray; SANDY GRAVEL; with cobbles; moist
						Gray brown; fine to medium SAND; trace silt
2.5						
		2.3				

Bottom of test pit at 3.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-003

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 5/28/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 8
# of Samples 0
Test Pit Width (ft) 5
Depth to GW
Total Depth 5 feet bgs
Ground Elevation
X/Y Coordinates 3134707.59/316522.1
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter 55-gal metal drums observed at 2.5'bgs

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						ORGANICS
						Gray brown; fine to medium SAND; with silt; moist
2.5						
		3.2				
5.0						

Bottom of test pit at 5.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-004

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 5/28/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 8
# of Samples 0
Test Pit Width (ft) 5
Depth to GW
Total Depth 4 feet bgs
Ground Elevation
X/Y Coordinates 3134587.6/316608.84
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter 2 sets of 2 welded 55-gal metal drums

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						
2.5		3.1				Gray brown; fine to medium SAND; trace silt; non plastic plasticity; moist

Bottom of test pit at 4.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-005

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 5/28/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 15
# of Samples 0
Test Pit Width (ft) 15
Depth to GW
Total Depth 20 feet bgs
Ground Elevation
X/Y Coordinates 3134795.9/316696.29
Datum NAD 1983, ASP Zone 10

Extra Field Notes: No object found in excavation.

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Dark brown Brown gray; fine to medium SAND; trace fine gravel; non plastic plasticity; moist; no odor
2.5						
5.0						
7.5						
10.0						
12.5						
15.0						

TEST PIT LOG

Project Number: 20171

Page Number: 2

Test Pit ID: TP-005

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 5/28/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 15
# of Samples 0
Test Pit Width (ft) 15
Depth to GW
Total Depth 20 feet bgs
Ground Elevation
X/Y Coordinates 3134795.9/316696.29
Datum NAD 1983, ASP Zone 10

Extra Field Notes: No object found in excavation.

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
15.0						
17.5						
20.0		3.3				

Bottom of test pit at 20.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-006

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 5/28/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 15
# of Samples 1
Test Pit Width (ft) 20
Depth to GW
Total Depth 3.5 feet bgs
Ground Elevation
X/Y Coordinates 3134854.23/316691.57
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter 2 sections of metal pipe (2-3' in length)

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Dark brown; ORGANICS
						Dark grayish brown; fine to medium SAND; moist; iron oxide staining
			01-EX006-02			Medium to coarse SAND; with gravel; moist
2.5						Brown; SAND; trace silt; loose; moist

Bottom of test pit at 3.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-007

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/29/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 10
# of Samples 0
Test Pit Width (ft) 12
Depth to GW
Total Depth 2.5 feet bgs
Ground Elevation
X/Y Coordinates 3134786.12/316772.05
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter 3 sections of metal pipe (2'-3' length)

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Dark brown; fine GRAVELLY ORGANICS
		2.4				Brown gray; medium SAND; with fine gravel; loose; moist; trace silt
2.5		3.6				

Bottom of test pit at 2.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-008

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/29/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 17
# of Samples 0
Test Pit Width (ft) 21
Depth to GW
Total Depth 6 feet bgs
Ground Elevation
X/Y Coordinates 3135014.41/316873.86
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Piping found at 4.5' and 5.5'. All piping 1" diameter.

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Gray brown; fine to medium SAND; trace cobbles; loose; moist; no odor; no staining
		2.1				
2.5		1.9				
		2.1				
		1.4				
5.0						

Bottom of test pit at 6.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-009

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/31/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 9
# of Samples 5
Test Pit Width (ft) 11
Depth to GW
Total Depth 17 feet bgs
Ground Elevation
X/Y Coordinates 3134916.46/317056.47
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter approximately 100 55-gal metal drums removed from test pit area in addition to other miscellaneous metal debris.

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Dark brown gray; fine to medium SAND; with gravel; moist; no odor; no staining; trace silt
		1.2				
2.5						
		0.8				
		0.9				
5.0						
7.5						
						Iron oxide staining; drum debris from 1'-14' bgs
10.0						
			01-EX003			
12.5						
		5.2				
15.0		4.3				

TEST PIT LOG

Project Number: 20171

Page Number: 2

Test Pit ID: TP-009

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/31/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 9
# of Samples 5
Test Pit Width (ft) 11
Depth to GW
Total Depth 17 feet bgs
Ground Elevation
X/Y Coordinates 3134916.46/317056.47
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter approximately 100 55-gal metal drums removed from test pit area in addition to other miscellaneous metal debris.

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
15.0			01-EX004 01-EX005 01-EX009-15			
		353.1				
			01-EX006			Bottom of test pit at 17.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-010

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/29/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 7
# of Samples 1
Test Pit Width (ft) 7
Depth to GW
Total Depth 3 feet bgs
Ground Elevation
X/Y Coordinates 3134940.63/316950.77
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter numerous compacted 55-gal metal drums

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0		233.3				Brown gray; fine to medium SAND; with gravel; moist; hydrocarbon odor; hydrocarbon staining; sheen present with a dark liquid with strong hydrocarbon odor.
		94.7				
2.5		95.6	01-EX001			

Bottom of test pit at 3.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-011

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/29/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 10
# of Samples 1
Test Pit Width (ft) 10
Depth to GW
Total Depth 4 feet bgs
Ground Elevation
X/Y Coordinates 3134806.95/317037.28
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter numerous compacted 55-gal metal drums

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0		0.9 1.2				Brown; medium SAND; trace silt; loose to medium dense; moist; intermittent light gray sand lenses present
2.5			01-EX011-03			

Bottom of test pit at 4.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-012

Project Name Building T-1451/East Canal SI/SC
Client NAVFAC NW
Date 5/29/2012
Equipment 325 Caterpillar Excavator
Test Pit Length (ft) 10
Test Pit Width (ft) 16
Total Depth 10 feet bgs
X/Y Coordinates 3134813.7/317095.48

Site East Canal/Bldg T-1451 North Area
Field Scientist/Engineer Lauren Boldrick
Weather
Sample Method
# of Samples 0
Depth to GW
Ground Elevation
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter compacted 55-gal metal drums in first 6"; 3"-diameter pipe approximately 6' long, reached depth below drum layer

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown; SILTY medium SAND; trace silt and cobbles; loose; moist
		0.9				
2.5						
		0.7				
		0.8				
5.0						
7.5						
10.0						

Bottom of test pit at 10.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-013

Project Name Building T-1451/East Canal SI/SC
Client NAVFAC NW
Date 5/29/2012
Equipment 325 Caterpillar Excavator
Test Pit Length (ft) 10
Test Pit Width (ft) 10
Total Depth 2.5 feet bgs
X/Y Coordinates 3134877.37/317125.52

Site East Canal/Bldg T-1451 North Area
Field Scientist/Engineer Lauren Boldrick
Weather
Sample Method
# of Samples 0
Depth to GW
Ground Elevation
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Found braided steel cable at 18" bgs, no visual or olfactory indications of petroleum contamination.

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						
2.5						Brown; fine to medium SAND; loose; moist

Bottom of test pit at 2.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-014

Project Name Building T-1451/East Canal SI/SC
Client NAVFAC NW
Date 5/29/2012
Equipment 325 Caterpillar Excavator
Test Pit Length (ft) 10
Test Pit Width (ft) 10
Total Depth 2.5 feet bgs
X/Y Coordinates 3134792.72/317235.04

Site East Canal/Bldg T-1451 North Area
Field Scientist/Engineer Lauren Boldrick
Weather
Sample Method
# of Samples 0
Depth to GW
Ground Elevation
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Found 4 bricks, 1"-diameter pipe approximately 2' long in 2 equal section, hit rebar foundation of former hangar, possible creosote at base

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						
		0				Very dark brown; SANDY ORGANICS; with silt; medium dense to loose; moist; some cobbles
2.5		0				

Bottom of test pit at 2.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-015A

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/29/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 4
# of Samples 0
Test Pit Width (ft) 4
Depth to GW
Total Depth 1 feet bgs
Ground Elevation
X/Y Coordinates 3134614.86/317041.68
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Concrete foundation with rebar

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Dark brown gray; fine to medium SAND; with silt; loose
1.2						Bottom of test pit at 1.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-015B

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/29/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method
Test Pit Length (ft) 5
# of Samples 0
Test Pit Width (ft) 5
Depth to GW
Total Depth 1 feet bgs
Ground Elevation
X/Y Coordinates 3134614.86/317041.68
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter one 55-gal metal drum

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						

1.5

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-016

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/30/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 15
# of Samples 1
Test Pit Width (ft) 15
Depth to GW
Total Depth 4 feet bgs
Ground Elevation
X/Y Coordinates 3134978.38/316919.82
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter several 55-gal metal drums and 3"-diameter compacted pipe at 3' length

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown; ORGANICS; moist; roots
		1.3				Gray brown; fine to medium SAND; with silt; loose; moist; several 1' diameter boulders
		1.5	01-EX016-02			
2.5						
		0.7				

Bottom of test pit at 4.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-017

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/30/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 6
# of Samples 1
Test Pit Width (ft) 10
Depth to GW
Total Depth 4 feet bgs
Ground Elevation
X/Y Coordinates 3134975.8/316989.38
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter several 55-gal metal drums

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown; SILTY ORGANICS; medium dense; moist; roots
		1.9				Brown gray; SILTY SAND; cobbles; loose; moist; 4"-6" cobbles
2.5		0.8				
			01-EX017-04			

Bottom of test pit at 4.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-018

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Extra Field Notes: No anomaly source found

Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick

Date 5/30/2012
Weather

Equipment 325 Caterpillar Excavator
Sample Method

Test Pit Length (ft) 5
# of Samples 0

Test Pit Width (ft) 8
Depth to GW

Total Depth 3 feet bgs
Ground Elevation

X/Y Coordinates 3134828.69/316938.47
Datum NAD 1983, ASP Zone 10

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown; SILTY ORGANICS
2.5						Brown; fine to medium SAND; with silt and gravel; moist

Bottom of test pit at 3.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-019

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/30/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 9
# of Samples 1
Test Pit Width (ft) 12
Depth to GW
Total Depth 3 feet bgs
Ground Elevation
X/Y Coordinates 3134825.75/316998.38
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter several 55-gal metal drums

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown; SILTY fine to medium SAND; medium dense; moist; no odor; iron oxide staining
		0.2	01-EX019-1.5			
2.5		0.2				
		0.1				Bottom of test pit at 3.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-020

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Extra Field Notes: Encounter one 55-gal metal drum

Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick

Date 5/30/2012
Weather

Equipment 325 Caterpillar Excavator
Sample Method Sample spoon

Test Pit Length (ft) 3
# of Samples 1

Test Pit Width (ft) 9
Depth to GW

Total Depth 1.5 feet bgs
Ground Elevation

X/Y Coordinates 3134717.16/316921.16
Datum NAD 1983, ASP Zone 10

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						ORGANICS Gray brown; fine to medium SAND; with silt; loose to medium dense; moist; no odor; no staining
		0	01-EX020-1.5			Bottom of test pit at 1.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-021

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/30/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 10
# of Samples 1
Test Pit Width (ft) 8
Depth to GW
Total Depth 2.5 feet bgs
Ground Elevation
X/Y Coordinates 3134755.89/316846.22
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter 300# water main valve (6"-diameter), 5' long, several drums

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown gray; fine to medium SAND; with cobbles; medium dense; moist; no odor; no staining
		1.9	01-EX021-1.5			
2.5		1.4				

Bottom of test pit at 2.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-022

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/30/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 3
# of Samples 1
Test Pit Width (ft) 8
Depth to GW
Total Depth 1.5 feet bgs
Ground Elevation
X/Y Coordinates 3134731.46/316821.29
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter metal debris/old drum, 12'x6"-diameter water pipe that matches to valve found in TP-021.

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Gray brown; fine to medium SAND; with silt and cobbles; medium dense; moist
		0.3	01-EX022-1.5			

Bottom of test pit at 1.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-023

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/30/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 4
# of Samples 1
Test Pit Width (ft) 10
Depth to GW
Total Depth 2.5 feet bgs
Ground Elevation
X/Y Coordinates 3134584.07/316820.77
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter rebar, marsten matting, one 55-gal metal drum

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown; fine to medium SAND; with gravel; medium dense; moist
		0	01-EX023-01			
2.5		0				

Bottom of test pit at 2.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-024

Project Name Building T-1451/East Canal SI/SC
Client NAVFAC NW
Date 5/30/2012
Equipment 325 Caterpillar Excavator
Test Pit Length (ft) 4
Test Pit Width (ft) 10
Total Depth 4 feet bgs
X/Y Coordinates 3134517.31/316593.73

Site East Canal/Bldg T-1451 North Area
Field Scientist/Engineer Lauren Boldrick
Weather
Sample Method
# of Samples 0
Depth to GW
Ground Elevation
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter 55-gal metal drums welded together (former culvert), 2"-diameter pipe at 10' long

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown gray; fine to medium SAND; with silt and gravel; loose to medium dense; moist
2.5						Gray; fine to medium SAND; moist

Bottom of test pit at 4.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-025

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 5/31/2012
Weather
Equipment 325 Caterpillar Excavator
Sample Method Sample spoon
Test Pit Length (ft) 12
# of Samples 3
Test Pit Width (ft) 20
Depth to GW 4.5 feet bgs
Total Depth 9 feet bgs
Ground Elevation
X/Y Coordinates 3134901.978/316989.326
Datum NAD 1983, ASP Zone 10

Extra Field Notes: Encounter numerous compacted 55-gal metal drums

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown; ORGANICS; with sand and silt; roots
						Brown; fine to medium SAND; moist; hydrocarbon odor
2.5		3.4				
5.0						
						Gray; fine to medium SAND; hydrocarbon odor; hydrocarbon staining; weathered-diesel contaminated soil appearance
7.5			01-EX002 01-EX025-08 01-EX026-08			

Bottom of test pit at 9.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-026

Project Name Building T-1451/East Canal SI/SC

Site East Canal/Bldg T-1451 North Area

Extra Field Notes: Hit stave pipe, test pit aborted

Client NAVFAC NW

Field Scientist/Engineer Tim Dobson

Date 6/5/2012

Weather

Equipment

Sample Method

Test Pit Length (ft)

# of Samples 1

Test Pit Width (ft)

Depth to GW

Total Depth 2.25 feet bgs

Ground Elevation

X/Y Coordinates /

Datum

DEPTH (ft) 0.0	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-027

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Extra Field Notes: SB-031Sample correlation

Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick

Date 6/5/2012
Weather

Equipment 325 Caterpillar Excavator
Sample Method Sample spoon

Test Pit Length (ft) 3
# of Samples 2

Test Pit Width (ft) 3
Depth to GW

Total Depth 5.5 feet bgs
Ground Elevation

X/Y Coordinates /
Datum

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown; SANDY ORGANICS; silt; soft; moist; some gravel and cobbles
						Light brown; SANDY medium to coarse GRAVEL; silt; moist
2.5						
						Light gray; fine to medium SANDY GRAVEL; moist to wet; geomembrane encountered at 4' bgs
						Gray; fine to medium subangular SAND; dense; wet
		300.1				
5.0						

Bottom of test pit at 5.5 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-028

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Extra Field Notes: UV-060Sample correlation

Client NAVFAC NW
Field Scientist/Engineer Tim Dobson

Date 6/5/2012
Weather

Equipment 325 Caterpillar Excavator
Sample Method Sample spoon

Test Pit Length (ft) 3
# of Samples 2

Test Pit Width (ft) 3
Depth to GW

Total Depth 4 feet bgs
Ground Elevation

X/Y Coordinates /
Datum

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Brown; ORGANICS
						Brown; SANDY medium to coarse GRAVEL; silt; dense; moist
2.5						Gray; fine to medium subangular SAND; dense
		225.1				

Bottom of test pit at 4.0 feet.

TEST PIT LOG

Project Number: 20171

Page Number: 1

Test Pit ID: TP-029

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Extra Field Notes: UV-052Sample correlation

Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick

Date 6/5/2012
Weather

Equipment 325 Caterpillar Excavator
Sample Method Sample spoon

Test Pit Length (ft) 3
# of Samples 2

Test Pit Width (ft) 3
Depth to GW

Total Depth 5 feet bgs
Ground Elevation

X/Y Coordinates /
Datum

DEPTH (ft)	GROUNDWATER LEVEL	PID (ppm)	ANALYTICAL SOIL SAMPLE ID	CAVING	SOIL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0.0						Dark brown Light brown Gray; fine to medium subangular SAND; dense; moist to wet; hydrocarbon odor; sheen and product on groundwater
2.5						
		386.2				
5.0						

Bottom of test pit at 5.0 feet.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-001

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/20/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 15 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134269.804/316113.053
Ground Elevation 2.494 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-017

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 2.494 feet, mean sea level.***
		39/60					Dark gray; fine to medium SAND; soft; moist; no odor
5			▽	0.0	8:50:00 AM	01-SB001	
		56/60				01-SB002	
				0	9:02:00 AM		
10							Dark gray; fine to medium SAND; trace fine gravel; moist; no odor
		57/60		1.1			
15							

End of Boring: 15 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-002

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/20/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 15 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134273.209/316172.9599
Ground Elevation 3.848 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-020

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 3.848 feet, mean sea level.***
		40/60					Brown; SILTY fine to coarse angular GRAVEL; strong cementation; moist; geomembrane encountered at 2.5'
5			▽	131.5	9:35:00 AM	01-SB003	Dark gray; fine to medium SAND; moist; hydrocarbon odor; strong hydrocarbon odor starting at 3'
		57/60				01-SB004	
				4.5	9:40:00 AM		
10							
		34/30					
				2.8	9:50:00 AM	01-SB005	
		29/30					
15							

End of Boring: 15 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-003

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/20/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 15 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134263.937/316222.745
Ground Elevation 4.22 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-011

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.22 feet, mean sea level.***
		38/60					Dark brown; SANDY SILT; with gravel; moist Light brown; SILTY medium to coarse subangular GRAVEL; high plasticity; dense; moist
5		98/60	▽	35.3	10:20:00 AM	01-SB006	Dark gray; fine to medium SAND; wet; hydrocarbon odor; hydrocarbon staining; sheen
				3.5	10:30:00 AM	01-SB007	
10		47/60					
15				0.7	10:35:00 AM	01-SB008	

End of Boring: 15 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-004

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/20/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 15 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134291.735/316154.021
Ground Elevation 4.167 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-039

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.167 feet, mean sea level.***
		42/60					Brown; SANDY SILT; with gravel; firm; moist; no odor
				130	11:10:00 AM	01-SB009 01-SB010	Dark gray; fine to medium SAND; trace gravel; soft to firm; moist; hydrocarbon odor
5			▽			01-SB011	
		57/60		121	11:20:00 AM		
10				3.5	11:25:00 AM	01-SB012	
		57/60					
15							

End of Boring: 15 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-005

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/20/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 10 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134250.57/316163.122
Ground Elevation 4.16 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-008

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.16 feet, mean sea level.***
		34/60					Light brown; SILT; with gravel; medium plasticity; dense; moist
							Brown; SILTY medium to coarse angular GRAVEL; strong cementation; moist; geomembrane at 2' bgs
5			▽	1.3	12:05:00 PM	01-SB013	Brown; medium subangular GRAVELLY fine to medium SAND; moist; hydrocarbon odor
		50/60				01-SB014 01-SB015	Dark gray; fine to medium SAND; wet
				2.2	12:10:00 PM		
10							

End of Boring: 10 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-006

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/20/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 10 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134288.486/316264.2235
Ground Elevation 4.754 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-035

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.754 feet, mean sea level.***
		45/60					Brown; SILTY fine to medium angular GRAVEL; medium plasticity; strong cementation; moist Dark brown; SAND; with gravel; moist Dark gray; fine to medium SAND; with gravel; soft; moist; hydrocarbon odor
5		55/60	▽	154.2		01-SB016	
10				3.2		01-SB017	

End of Boring: 10 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-007

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/25/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134309.19/316262.285
Ground Elevation 7.47 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-055

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 7.47 feet, mean sea level.***
		49/60					
				0.1	9:15:00 AM	01-B007-01	Brown; SILTY fine to coarse subangular GRAVEL; trace sand; medium plasticity; moist Dark gray; fine to medium SAND; soft; moist; hydrocarbon odor; wet at 5' bgs decomposition odor at 10' bgs
5				90	9:20:00 AM	01-B007-02	
		49/60	▽			01-B007-03	
				40.3	9:30:00 AM		
10							
		/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-008

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/25/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134312.148/316151.778
Ground Elevation 7.398 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-057

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 7.398 feet, mean sea level.***
		44/60					Brown; SILTY SAND; organics; moist; roots
				43.4	9:55:00 AM	01-B008-01	
						01-B008-02	Dark gray; fine to medium SAND; soft; moist; hydrocarbon odor; wet at 5' bgs
5			▽	79	10:00:00 AM		decomposition odor at 10' bgs
		49/60					
				5.8	10:10:00 AM	01-B008-03	
10							
		28/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-009

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/25/2012
Weather 40°F, overcast, light wind
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 12.5 feet bgs
Depth to GW 1.2 feet bgs
X/Y Coordinates 3134270.893/316133.685
Ground Elevation 2.989 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-018

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 2.989 feet, mean sea level.***
		35/60	▽	16.2	10:45:00 AM	01-B009-01	Brown; medium subangular GRAVELLY fine to medium SAND; loose; moist; no odor Dark gray; medium SAND; soft; wet; hydrocarbon odor; hydrocarbon odor not present below 7' bgs
5		57/60		52.7	10:48:00 AM	01-B009-02	
10		28/30		1.7	10:55:00 AM	01-B009-03 01-B009-04	

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-010

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/25/2012
Weather 45°F, overcast, light wind
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134303.4/316202.778
Ground Elevation 7.364 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-052

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 7.364 feet, mean sea level.***
		45/60					Light brown; GRAVELLY SAND; loose; moist; organic odor
				122.2	11:20:00 AM	01-B010-01	Dark gray; medium SAND; soft; moist; organic odor; strong hydrocarbon odor at 2.5'bs wet at 5' bgs decomposition odor at 7.5' bgs
5		57/60	▽				
				4.9	11:26:00 AM	01-B010-02 01-SB018	
10		28/30		15.3	11:40:00 AM	01-B010-03	

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-011

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/25/2012
Weather 45°F, partly sunny, light wind
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 4 feet bgs
X/Y Coordinates 3134329.328/316261.681
Ground Elevation 5.416 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-064

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.416 feet, mean sea level.***
		40/60		3.7	2:20:00 PM	01-B011-01	Light gray brown; fine to medium SANDY fine to medium subangular GRAVEL; dense; moist; no odor
5			▽	163.4	2:25:00 PM	01-B011-02 01-SB019	Dark gray; SAND; trace gravel; soft; moist; hydrocarbon odor; wet at 5' bgs
		57/60		4.2	2:30:00 PM	01-B011-03	
10		44/30					
				1.6	2:40:00 PM	01-B011-04	Last foot of core lost during extraction

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-012

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/25/2012
Weather 45°F, overcast, light wind
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134339.758/316281.378
Ground Elevation 5.79 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-096

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.79 feet, mean sea level.***
		44/60					Light gray brown; medium subangular GRAVELLY medium to coarse SAND; moist; no odor
				27.3	3:00:00 PM	01-B012-01	
						01-B012-02	Dark gray; medium SAND; trace gravel; soft; moist; wet at 5' bgs no hydrocarbon odor present below 10' bgs
5			▽	123.4	3:05:00 PM	01-B012-03	
		57/60					
				100.5	3:10:00 PM		
10				3.6	3:15:00 PM	01-B012-04	
		38/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-013

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/25/2012
Weather 40°F, overcast, light wind
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 4.5 feet bgs
X/Y Coordinates 3134280.423/316143.396
Ground Elevation 4.099 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-093

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.099 feet, mean sea level.***
		37/60					Red brown; GRAVELLY SAND; with silt; moist; iron oxide staining
				20.1	3:40:00 PM	01-B013-01	Brown; SANDY GRAVEL; organics; strong cementation; moist; no odor; geomembrane layer at 1.5' bgs
						01-B013-02	Dark gray; medium SAND; soft; moist; no odor; wet at 4.5' bgs
5			▽	24.7	3:50:00 PM		no hydrocarbon odor below 5' bgs
		48/60				01-B013-03	
				3.1	3:55:00 PM	01-B013-04 01-B013-05	
10				1.8	3:57:00 PM		
		32/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-014

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/25/2012
Weather 40°F, overcast, light wind
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134300.995/316283.494
Ground Elevation 5.44 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-101

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.44 feet, mean sea level.***
		45/60					Dark brown; SANDY SILT; with organics; medium plasticity; soft; moist; no odor
				1.1	4:25:00 PM	01-B014-01	
						01-B014-02	Light reddish brown; SILTY medium to coarse angular GRAVEL; medium plasticity; moist; no odor
5				107.7	4:30:00 PM		Dark brown; SILT; with sand; medium plasticity; moist; hydrocarbon odor
		51/60	▽			01-B014-03	Dark gray; fine to medium SAND; soft; moist; hydrocarbon odor; wet at 5' bgs
				87.8	4:32:00 PM	01-B014-04	trace gravels at 8' bgs
10				3.6	4:40:00 PM		
		32/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-015

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/25/2012
Weather 40°F, overcast, calm
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 10 feet bgs
Depth to GW 4.5 feet bgs
X/Y Coordinates 3134333.392/316168.506
Ground Elevation 5.646 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-074

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.646 feet, mean sea level.***
		42/60		2.3	5:15:00 PM	01-B015-01	Dark brown; medium angular GRAVELLY fine to medium SAND; moist; no odor; some fractured rock
5			▽	71.3	5:20:00 PM	01-B015-02 01-SB020	Dark gray; medium SAND; soft; moist; hydrocarbon odor; strong hydrocarbon odor at 2.5' bgs wet at 4.5' bgs
		48/60				01-B015-03	
				112.9	5:25:00 PM	01-B015-04	
10				12.7	5:30:00 PM		

End of Boring: 10 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-016

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/26/2012
Weather 40°F, overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 7
Total Depth 12.5 feet bgs
Depth to GW 4.5 feet bgs
X/Y Coordinates 3134350.259/316280.623
Ground Elevation 5.919 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-095

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.919 feet, mean sea level.***
		45/60		32.3	8:50:00 AM	01-B016-01 01-B016-02 01-SB021	Light grayish brown; SANDY fine to coarse subangular GRAVEL; dry; no odor Dark gray; fine to medium SAND; soft; moist; hydrocarbon odor; strong hydrocarbon odor at 3' bgs wet at 4.5' bgs decomposition odor at 7' bgs
5		49/60	▽	82.3	8:57:00 AM	01-B016-03	
				62	9:00:00 AM	01-B016-04	
10		30/30		3	9:05:00 AM	01-B016-05	
				8.7	9:09:00 AM	01-B016-06	***End of Boring: 12.5 feet bgs.***

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-017

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/26/2012
Weather 40°F, overcast, light wind
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134259.372/316284.7706
Ground Elevation 4.599 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-104

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.599 feet, mean sea level.***
		39/60					Brown; SILT; organics; medium plasticity; firm
				1.2	9:30:00 AM	01-B017-01	Light brown; SILTY medium to coarse angular GRAVEL; medium plasticity; no odor; geomembrane encountered at 2.5' bgs
						01-B017-02	wet at 5' bgs
5			▽	1	9:34:00 AM		
		39/60					Black; ORGANICS; wet; organic odor; decomposed organic material
				1.2	9:41:00 AM	01-B017-03	Dark gray; fine to medium SAND; soft; wet; no odor
10							
		29/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-018

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/26/2012
Weather 40°F, overcast, light wind
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134265.66/316242.953
Ground Elevation 4.04 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-007

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.04 feet, mean sea level.***
		30/60					Brown; SILT; organics; medium plasticity; moist; no odor
				1	10:06:00 AM	01-B018-01	Light brown; SILTY medium to coarse subangular GRAVEL; trace sand; medium plasticity
						01-B018-02	
5				1	10:09:00 AM		
		51/60	▽			01-B018-03	Dark gray; fine to medium SAND; soft; wet; no odor
				1.2	10:15:00 AM		
10							
		38/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-019

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/26/2012
Weather 35°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 6
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134282.136/316203.4229
Ground Elevation 4.235 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-032

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.235 feet, mean sea level.***
		38/60					Brown; SANDY SILT; with gravel; low plasticity; dense to firm
				36	10:40:00 AM	01-B019-01	Dark gray; fine to medium SAND; moist; hydrocarbon odor; strong hydrocarbon odor at 2' bgs
						01-B019-02 01-B019-03	wet at 5' bgs
5			▽	74.4	10:44:00 AM	01-B019-04	decomposition odor at 6' bgs
		48/60				01-SB022 01-B019-05	
				88.7	10:50:00 AM		
10				10.8	10:55:00 AM		SANDY GRAVEL; lense
		36/30					Dark gray; SAND; moist; hydrocarbon odor

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-020

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/26/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 7
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134342.781/316203.924
Ground Elevation 4.52 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-084

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.52 feet, mean sea level.***
		48/60		2	11:30:00 AM	01-B020-01	Gray; SANDY fine to coarse subangular GRAVEL; strong cementation; dry; no odor
						01-B020-02	Dark gray; medium SAND; soft; moist; hydrocarbon odor; wet at 5' bgs
				78.9	11:31:00 AM		
5			▽			01-B020-03 01-B020-04 01-SB023	no hydrocarbon odor below 8' bgs
		48/60					
				83.2	11:34:00 AM	01-B020-05	
				8.8	11:45:00 AM	01-B020-06	
10							
		34/30					
				4.4	11:46:00 AM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-021

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Extra Field Notes: X/Y coordinates in , UV-098

Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk

Date 5/28/2012
Weather 40°F, overcast, light wind

Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push

Boring Size 2"
Hammer Drop

Sample Method Macro Core
# of Samples 5

Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs

X/Y Coordinates /
Ground Elevation feet

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: feet, .***
		45/60		0.4	8:55:00 AM	01-B021-01	Light brown gray; medium SANDY coarse subrounded GRAVEL; strong cementation; moist; no odor
				125.4	9:00:00 AM	01-B021-02 01-B021-03	Gray; fine to medium SAND; trace gravel; soft; hydrocarbon odor; wet at 5' bgs
5			▽			01-B021-04	decomposition odor at 7' bgs
		55/60		112.7	9:05:00 AM		
						01-B021-05	
10				8.6	9:10:00 AM		
		34/30					Last foot of core lost during extraction

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-022

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/28/2012
Weather 40°F, overcast, windy, raining
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134324.813/316223.836
Ground Elevation 5.323 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-066

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.323 feet, mean sea level.***
		40/60		1.1	9:40:00 AM	01-B022-01	Light brown; SILTY coarse subangular GRAVEL; strong cementation; moist; no odor Light brown gray; fine SANDY coarse subangular GRAVEL; trace silt; strong cementation; dry; no odor; hydrocarbon odor at 1.5' bgs
5		55/60	▽	141.1	9:45:00 AM	01-B022-02 01-SB024 01-B022-03	Gray; fine to medium SAND; soft; moist; hydrocarbon odor; wet at 5' bgs decomposition odor at 7' bgs
				102.1	9:50:00 AM	01-B022-04	
10		38/30		13.2	9:55:00 AM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-023

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/28/2012
Weather 40°F, overcast, windy, raining
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134341.435/316149.399
Ground Elevation 5.11 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-081

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.11 feet, mean sea level.***
		41/60		5.9	10:20:00 AM	01-B023-01	Dark brown; SILTY coarse subrounded GRAVEL; with fine sand; medium plasticity; moist; no odor Dark gray; medium SAND; trace gravel; soft; moist; no odor; wet at 5' bgs
5			▽	1.7	10:25:00 AM	01-B023-02 01-B023-03	
		44/60		0.9	10:35:00 AM	01-B023-04	
10		36/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-024

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/28/2012
Weather 40°F, overcast, windy, raining
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134345.128/316239.135
Ground Elevation 4.346 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-086

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.346 feet, mean sea level.***
		47/60					Light gray brown; SILTY fine to coarse subangular GRAVEL; trace fine sand; strong cementation; dry; no odor
				0.7	11:05:00 AM	01-B024-01	
						01-B024-02	Dark gray; fine to medium SAND; trace gravel; soft; moist; hydrocarbon odor; wet at 5' bgs
5			▽	133.8	11:08:00 AM	01-B024-03 01-SB025	organic odor at 6' bgs
		50/60					
				224.2	11:12:00 AM	01-B024-04	
10				3.6	11:17:00 AM		
		40/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-025

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/28/2012
Weather 40°F, overcast, strong winds, raining
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 4 feet bgs
X/Y Coordinates 3134294.308/316224.468
Ground Elevation 4.5338 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-043

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.5338 feet, mean sea level.***
		35/60					Brown; SILT; trace gravel; medium plasticity; firm to dense; moist; organic odor
				32.5	2:15:00 PM	01-B025-01	Light brown; SILTY coarse angular GRAVEL; medium plasticity; strong cementation; moist; organic odor
5			▽	113.2	2:18:00 PM	01-B025-02 01-B025-03	Dark gray; fine to medium SAND; trace gravel; moist; hydrocarbon odor; roots noted at 1.5'; organic odor noted at 6.5'
		50/60				01-B025-04	
				103	2:25:00 PM	01-B025-05	
10		34/30		20	2:30:00 PM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-026

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/28/2012
Weather 40°F, overcast, strong winds, raining
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 4 feet bgs
X/Y Coordinates 3134322.653/316194.13
Ground Elevation 5.068 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-068

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.068 feet, mean sea level.***
		46/60					Reddish brown; SILTY coarse subangular GRAVEL; low plasticity; strong cementation
				53.1	2:47:00 PM	01-B026-01	
						01-B026-02	Dark gray; fine to medium SAND; trace gravel; firm; moist; hydrocarbon odor
5			▽	127	2:49:00 PM	01-B026-03	
		54/60				01-B026-04 01-SB026	
				105.1	2:52:00 PM		
10				2.6	2:57:00 PM		
		41/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-027

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/28/2012
Weather 40°F, overcast, strong winds, raining
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 12.5 feet bgs
Depth to GW 4 feet bgs
X/Y Coordinates 3134263.097/316193.793
Ground Elevation 4.213 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-005

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.213 feet, mean sea level.***
		42/60					Brown; SILT; with gravel; medium plasticity; moist; organic odor
				1.5	3:20:00 PM	01-B027-01	Light brown; SILTY coarse angular GRAVEL; strong cementation; moist
5			▽			01-B027-02	Dark gray; fine to medium SAND; firm; moist; hydrocarbon odor at 4' bgs
		50/60		1.7	3:22:00 PM	01-B027-03	
				89.4	3:28:00 PM	01-B027-04	
10							
		24/30		28.2	3:30:00 PM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-028

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/28/2012
Weather 40°F, overcast, strong winds, raining
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 8
Total Depth 12.5 feet bgs
Depth to GW 4 feet bgs
X/Y Coordinates 3134303.55/316171.148
Ground Elevation 7.226 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-050

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 7.226 feet, mean sea level.***
		46/60		6	3:45:00 PM	01-B028-01	Reddish brown; SILT; with gravel; medium plasticity; strong cementation; moist; organic odor
			▽	109	3:50:00 PM	01-B028-02 01-B028-03	Dark gray; fine to medium SAND; firm; moist; hydrocarbon odor; wet at 4' bgs
5						01-B028-04 01-SB027 01-SB028	organic odor at 6' bgs hydrocarbon odor diminishes at 9' bgs
		55/60		142.6	3:50:00 PM	01-B028-05	
10				2.8	4:05:00 PM	01-B028-06	
		38/35		5.8	4:15:00 PM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-029

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/29/2012
Weather 40°F, overcast, windy, raining
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 4.5 feet bgs
X/Y Coordinates 3134262.959/316203.05
Ground Elevation 4.298 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-006

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.298 feet, mean sea level.***
		45/60					Brown; SANDY SILT; with gravel; medium plasticity; soft; moist; organic odor
				0.1	9:00:00 AM	01-B029-01	Light brown; SILTY coarse angular GRAVEL; medium plasticity; strong cementation; moist; organic odor
						01-B029-02	
5			▽	0.3	9:10:00 AM		Dark gray; fine to medium SAND; firm; wet; organic odor; hydrocarbon odor at 5' bgs
		55/60				01-B029-03	organic odor at 6.5' bgs
						01-B029-04	shale hash band at 8.5' bgs
				15.8	9:30:00 AM	01-B029-05	trace small rounded gravel at 9' bgs
10				0.8	9:35:00 AM		
		38/36					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-030

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/29/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 4.5 feet bgs
X/Y Coordinates 3134261.877/316152.964
Ground Elevation 3.797 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-003

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 3.797 feet, mean sea level.***
		40/60		9.3	10:50:00 AM	01-B030-01	Brown; SANDY SILT; with fine gravel; medium plasticity; soft; moist; organic odor Light reddish brown; SILTY fine to coarse angular GRAVEL; medium plasticity; strong cementation; moist; organic odor
5		50/60	▽	1.4	10:55:00 AM	01-B030-02 01-B030-03 01-SB029	Dark gray; fine to medium SAND; firm; wet; hydrocarbon odor; geomembrane encountered at 5' bgs organic odor at 7' bgs
				67.7	11:05:00 AM		
10		35/30		3.9	11:10:00 AM	01-B030-04	

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-031

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 5/29/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 4.5 feet bgs
X/Y Coordinates 3134275.394/316242.088
Ground Elevation 4.458 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-024

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.458 feet, mean sea level.***
		40/60		81.3	11:50:00 AM	01-B031-01	Brown; SANDY SILT; organics; medium plasticity; moist; organic odor Light brown; SILTY coarse angular GRAVEL; medium plasticity; strong cementation; organic odor
5			▽	2.1	11:35:00 AM	01-B031-02	
		50/60		20.2	11:40:00 AM	01-B031-03 01-B031-04	Dark gray; fine to medium SAND; firm; wet; hydrocarbon odor; organic odor at 7' bgs
10		28/30		4.6	11:55:00 AM	01-B031-05	

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-032

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/1/2012
Weather 45°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 6
Total Depth 12.5 feet bgs
Depth to GW 4 feet bgs
X/Y Coordinates 3134262.965/316071.0289
Ground Elevation 4.604 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-191

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.604 feet, mean sea level.***
		43/60		242	5:00:00 PM	~~01-B032-01~~ 01-B032-02	Fine to medium SAND; firm; moist; organic odor Dark gray; fine to medium SAND; organics; firm; hydrocarbon odor; trace shell hash
5			▽	64.8	5:05:00 PM	01-B032-03 01-B032-04	
		57/60		73	5:10:00 PM	01-B032-05 01-B032-06	
10				2.9	5:16:00 PM		
		44/30		2.7	5:18:00 PM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-033

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/1/2012
Weather 45°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 6
Total Depth 13 feet bgs
Depth to GW 2 feet bgs
X/Y Coordinates 3134264.239/316057.18
Ground Elevation 4.515 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-210

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.515 feet, mean sea level.***
		40/60					Brown; SILTY SAND; organics; firm; moist; organic odor
			▽	2.1	5:25:00 PM	01-B033-01	Grayish brown; fine to medium SAND; firm; moist; organic odor; trace shell hash at 5' bgs
						01-B033-02	
						01-B033-03	trace small rounded gravel at 10' bgs
5				1.1	5:30:00 PM	01-B033-04	
		55/60				01-SB030 01-B033-05	
				1.3	5:35:00 PM		
10				0.9	5:37:00 PM		
		50/36					
				1.7	5:45:00 PM		

End of Boring: 13 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-034

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/1/2012
Weather 45°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 4 feet bgs
X/Y Coordinates 3134265.223/316040.165
Ground Elevation 5.288 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-209

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.288 feet, mean sea level.***
		43/60					Brown; SILTY fine to medium SAND; organics; soft; moist; organic odor
				0.6	5:54:00 PM	01-B034-01	Dark brownish gray; fine to medium SAND; trace fine to medium gravel; firm; moist; organic odor; trace shell hash at 4' bgs
						01-B034-02	
						01-B034-03	
5			▽	0.5	5:56:00 PM	01-B034-04 01-B034-05	
		55/60					
				0.4	5:58:00 PM		
10				0.4	6:02:00 PM		
		36/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-035

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather cloudy, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 3.5 feet bgs
X/Y Coordinates 3134280.876/316080.722
Ground Elevation 6.189 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-192

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.189 feet, mean sea level.***
		37.5/60					Brown; SANDY ORGANICS; moist; no odor; no staining
				0.1	9:08:00 AM	01-B035-01	
						01-B035-02	Brownish gray; fine to medium SAND; loose; moist; no odor
			▽				
5				0.2	9:10:00 AM	01-B035-03	
		54/60					Gray; fine to medium SAND; dense; wet; no odor; occasional fine gravel at 10.5' bgs
				0.1	9:12:00 AM		
10						01-B035-04 01-B035-05	
		30/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-036

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather windy, overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 8
Total Depth 12.5 feet bgs
Depth to GW 3.7 feet bgs
X/Y Coordinates 3134290.649/316071.6749
Ground Elevation 6.583 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-194

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.583 feet, mean sea level.***
		40/60		0.2	9:33:00 AM	01-B036-01	Brown; SANDY ORGANICS; with fine gravel; loose; moist
			▽	66.2	9:35:00 AM	01-B036-02 01-SB031	Gray; fine to medium SAND; dense; moist to wet; hydrocarbon odor; occasional brown medium to coarse sand lenses below 10' bgs with hydrocarbon odor in coarse lenses
5						01-B036-03	
		53/60		92.3	9:40:00 AM	01-B036-04	
10				2.8	9:47:00 AM	01-B036-05	
		30/30		1.2	9:50:00 AM	01-B036-06 01-B036-07	
				1.4	9:57:00 AM		***End of Boring: 12.5 feet bgs.***
				0.9	10:00:00 AM		

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-037

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather 30 mph wind, overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 6
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134277.676/316060.7085
Ground Elevation 4.125 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-193

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.125 feet, mean sea level.***
		43/60					Brown; SANDY ORGANICS; medium dense
				40.2	10:10:00 AM	01-B037-01	Gray; fine to medium SAND; medium dense; moist to wet; hydrocarbon odor; strong hydrocarbon odor at 4.5' bgs
						01-B037-02	
5			▽	59.1	10:12:00 AM	01-B037-03	
		56/60				01-B037-04	
				2.1	10:15:00 AM	01-B037-05 01-B037-06	
10				2.1	10:20:00 AM		
		30/29					
				0.9	10:25:00 AM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-038

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather 30 mph wind, overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134277.535/316046.084
Ground Elevation 6.568 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-208

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.568 feet, mean sea level.***
		51/60					Brown; SANDY ORGANICS; medium dense; moist
				0.4	10:38:00 AM	01-B038-01	
						01-B038-02	Gray brown; medium subangular SAND; medium dense; moist to wet; no odor; slight hydrocarbon odor at 6.5' bgs sand becomes more loose with depth
5			▽	0.2	10:40:00 AM	01-B038-03	
		55/60					
				0.2	10:42:00 AM	01-B038-04	
10				0.2	10:50:00 AM	01-B038-05	
		26/30					
				0.3	10:52:00 AM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-039

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather 30+ mph wind, overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 6
Total Depth 12.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134292.509/316058.0372
Ground Elevation 6.489 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-207

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.489 feet, mean sea level.***
		42/60					Brown; SANDY ORGANICS; loose; moist
				0.4	11:05:00 AM	01-B039-01	
						01-B039-02 01-SB032	Gray brown; fine to medium SAND; medium dense; moist to wet; no odor; fine sand diminishes with depth
5			▽	0.3	11:07:00 AM	01-B039-03	
		56/60				01-B039-04	
				0.4	11:10:00 AM		
10				0.3	11:25:00 AM	01-B039-05	
		28/30					
					11:27:00 AM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-040

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather 30+ mph wind, overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 6
Total Depth 12.5 feet bgs
Depth to GW 5.5 feet bgs
X/Y Coordinates 3134311.75/316095.4148
Ground Elevation 6.301 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-196

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.301 feet, mean sea level.***
		43/60					Brown; SANDY ORGANICS; trace gravel; moist
				0.8	11:37:00 AM	01-B040-01	Gray brown; medium subangular SAND; medium dense; moist to wet; no odor
						01-B040-02	
5				0.8	11:40:00 AM	01-B040-03	
		56/60	▽			01-B040-04 01-B040-05	
				1.2	11:42:00 AM	01-B040-06	
10				1.1	11:50:00 AM		
		30/30					
				1.1	11:52:00 AM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-041

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather windy and overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 12.5 feet bgs
Depth to GW
X/Y Coordinates 3134329.401/316087.843
Ground Elevation 7.874 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-200

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 7.874 feet, mean sea level.***
		43/60					Brown; SANDY ORGANICS; medium dense; moist
				0.4	1:45:00 PM	01-B041-01	
						01-B041-02	Gray brown; fine to medium SAND; medium dense; moist to wet
5				0.2	1:47:00 PM	01-B041-03	
		55/60				01-B041-04	
				0.4	1:50:00 PM	01-B041-05	
10				1.1	1:58:00 PM		
		/					
					2:00:00 PM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-042

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather windy and overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 7
Total Depth 12.5 feet bgs
Depth to GW
X/Y Coordinates 3134311.689/316078.8194
Ground Elevation 6.357 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-203

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.357 feet, mean sea level.***
		50/60					Brown; SANDY ORGANICS; medium dense
				0.7	2:10:00 PM	01-B042-01	Brown; fine to medium SAND; loose; moist; hydrocarbon odor
						01-B042-02	
5				0.6	2:12:00 PM	01-B042-03 01-SB033	Gray; fine to medium SAND; medium dense; moist
		53/60				01-B042-04	
				83.1	2:15:00 PM		
10				2.2	2:20:00 PM	01-B042-05 01-B042-06	
		38/30					
				4.4	2:22:00 PM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-043

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather windy and overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 12.5 feet bgs
Depth to GW
X/Y Coordinates 3134312.543/316041.406
Ground Elevation 7.187 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-205

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 7.187 feet, mean sea level.***
		55/60					Brown; SANDY ORGANICS; moist; no odor
				0.7	2:30:00 PM	01-B043-01	Gray brown; fine to medium SAND; medium dense; moist; no odor; becoming wet towards end of boring
						01-B043-02	
5				0.8	2:33:00 PM	01-B043-03	
		55/60				01-B043-04	
				1	2:35:00 PM		
10				0.7	2:40:00 PM		
		33/30					

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-044

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather windy and overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 8
Total Depth 12.5 feet bgs
Depth to GW
X/Y Coordinates 3134313.998/316062.405
Ground Elevation 6.692 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-206

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.692 feet, mean sea level.***
		47/60					Brown; SANDY ORGANICS; loose; moist
				0.4	2:55:00 PM	01-B044-01	Brown; fine to medium SAND; medium dense; moist; no odor
						01-B044-02 01-SB034	
5				117.9	2:56:00 PM	01-B044-03	Gray; fine to medium SAND; medium dense; moist; hydrocarbon odor; hydrocarbon odor diminishes at 6.5' bgs
		55/60				01-B044-04	
				133.3	2:57:00 PM		
10				5.2	3:02:00 PM	01-B044-05	
		27/30				01-SB035 01-B044-06	
				1.9	3:05:00 PM		
				11.4	3:08:00 PM		***End of Boring: 12.5 feet bgs.***

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-045

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather windy and overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 6
Total Depth 12.5 feet bgs
Depth to GW
X/Y Coordinates 3134344.08/316076.35
Ground Elevation 7.364 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-201

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 7.364 feet, mean sea level.***
		46/60					Brown; SANDY ORGANICS; dense; moist
				1.5	3:15:00 PM	01-B045-01	Gray brown; fine to medium SAND; medium dense; moist; hydrocarbon odor
						01-B045-02	
5				0.3	3:17:00 PM	01-B045-03	
		55/60				01-B045-04 01-B045-05	
				90.6	3:19:00 PM	01-B045-06	
10				2.1	3:25:00 PM		
		27/30					
				1.8	3:30:00 PM		

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-046

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Lauren Boldrick
Date 6/2/2012
Weather windy and overcast
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 8
Total Depth 12.5 feet bgs
Depth to GW
X/Y Coordinates 3134323.73/316110.16
Ground Elevation 7.276 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-199

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 7.276 feet, mean sea level.***
		47/60					Brown; SANDY ORGANICS; moist
				2.1	3:35:00 PM	01-B046-01	Gray; fine to medium SAND; medium dense; moist; no odor
						01-B046-02 01-SB036	
5				1.8	3:40:00 PM	01-SB037 01-B046-03	
		56/60				01-B046-04 01-B046-05	
				2.2		01-B046-06	
10				2.6			
		30/30					
				2.3			

End of Boring: 12.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-047

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/4/2012
Weather 45°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 8 feet bgs
Depth to GW 6.5 feet bgs
X/Y Coordinates 3134272.588/316172.5334
Ground Elevation 7.696 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-020

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 7.696 feet, mean sea level.***
		46/60		395.8	2:57:00 PM		No core retrieved from 0 to 3' bgs
5			▽			01-B047-01 01-SB038	Dark gray; fine to medium SAND; soft; moist; hydrocarbon odor; core collected from 3'-8' bgs; soil becomes firm at 6.5' bgs with a decomposition odor

End of Boring: 8 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-048

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/4/2012
Weather 45°F, partly sunny, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 8 feet bgs
Depth to GW 5.5 feet bgs
X/Y Coordinates 3134258.814/316263.334
Ground Elevation 4.122 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-014

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.122 feet, mean sea level.***
		41/60					No core retrieved from 0 to 3' bgs
5			▽				Light brown; SILTY coarse angular GRAVEL; medium plasticity; strong cementation; moist; organic odor; core retrieved from 3'-8' bgs
				66.8	3:40:00 PM	01-B048-01 01-SB039	Black; fine SAND; wet; organic odor Dark gray; fine to medium SAND; wet; organic odor

End of Boring: 8 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-049

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/4/2012
Weather 40°F, overcast, high winds
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 7.5 feet bgs
Depth to GW 6.5 feet bgs
X/Y Coordinates 3134282.168/316202.186
Ground Elevation 4.189 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-032

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.189 feet, mean sea level.***
5		45/60	▽	86.3	4:16:00 PM	01-B049-01 01-SB040	No core retrieved from 0 to 2.5' bgs Dark gray; fine to medium SAND; soft; moist; hydrocarbon odor; core retrieved from 2.5'-7.5' bgs soil becomes firm at 6.5' bgs with decomposition od or at 7' bgs

End of Boring: 7.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-050

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/4/2012
Weather 40°F, overcast, high winds
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 7 feet bgs
Depth to GW 6 feet bgs
X/Y Coordinates 3134288.486/316264.2235
Ground Elevation 4.171 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-093

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.171 feet, mean sea level.***
		45/60		166.1	4:50:00 PM		No core retrieved from 0 to 2' bgs
5			▽			01-B050-01 01-SB041	Dark gray; fine to medium SAND; soft; moist; hydrocarbon odor; core retrieved from 2'-7' bgs soil becomes firm at 6' bgs with a decomposition odor at 6.5' bgs

End of Boring: 7 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-051

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/4/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 7 feet bgs
Depth to GW 6.5 feet bgs
X/Y Coordinates 3134291.735/316154.021
Ground Elevation 4.167 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-039

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.167 feet, mean sea level.***
5		46/60	▽	152.1	5:15:00 PM	01-B051-01 01-SB042	No core retrieved from 0 to 2' bgs Dark gray; fine to medium SAND; soft; moist; hydrocarbon odor; core retrieved from 2'-7' bgs organic odor at 6' bgs soil becomes firm at 6.5' bgs

End of Boring: 7 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-052

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/4/2012
Weather 45°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 7 feet bgs
Depth to GW 4.5 feet bgs
X/Y Coordinates 3134261.014/316286.26
Ground Elevation 4.599 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-104

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.599 feet, mean sea level.***
		25/60		27.9	5:40:00 PM		No core retrieved from 0 to 2' bgs
5			▽			01-B052-01 01-SB043	Light brown; SILTY coarse angular GRAVEL; medium plasticity; strong cementation; moist; organic odor; core retrieved fron 2'-7' bgs Gray; SILTY SAND; medium to coarse gravel; wet; organic odor; iron oxide staining

End of Boring: 7 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-053

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/9/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 6
Total Depth 10 feet bgs
Depth to GW 4 feet bgs
X/Y Coordinates 3134844.961/316894.609
Ground Elevation 4.578 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-241

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.578 feet, mean sea level.***
		40/60		0.3	8:20:00 AM	~~01-B053-01~~ 01-B053-02 01-SB044	Brown; SILTY fine to medium SAND; organics; moist; organic odor Gray; medium SAND; moist to wet; hydrocarbon odor; trace shell hash at 5' bgs
5			▽	229.1	8:25:00 AM	01-B053-03 01-B053-04	organic decomposition odor at 5.5' bgs
		57/60		377.9	8:35:00 AM	01-B053-05	
10				6	8:45:00 AM		

End of Boring: 10 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-054

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/9/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 10 feet bgs
Depth to GW 1.5 feet bgs
X/Y Coordinates 3134817.511/316883.093
Ground Elevation 3.004 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-269

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 3.004 feet, mean sea level.***
		50/60	▽	0.7	9:05:00 AM	01-B054-01	Brown; SILTY fine to medium SAND; organics; soft; moist; organic odor Dark gray; medium SAND; firm; wet; organic odor; iron oxide staining; trace shell hash at 5' bgs
5				0.9	9:10:00 AM	01-B054-02	
		45/60		1	9:15:00 AM	01-B054-03	
10							

End of Boring: 10 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-055

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/9/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 10 feet bgs
Depth to GW 2.5 feet bgs
X/Y Coordinates 3134819.456/316906.101
Ground Elevation 4.677 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-271

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 4.677 feet, mean sea level.***
		42/60					Dark brown; SANDY SILT; medium plasticity; medium stiff to dense; moist; organic odor
			▽	0.4	9:35:00 AM	01-B055-01	Reddish brown; SILTY SAND; fine gravel; soft; wet; organic odor
5				0.6	9:40:00 AM	01-B055-02	Dark gray; medium SAND; stiff; wet; organic odor; iron oxide staining; trace shell hash from 5.5' bgs to 10' bgs
		57/60				01-B055-03	
				0.4	9:45:00 AM		
10							

End of Boring: 10 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-056

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/9/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 15 feet bgs
Depth to GW 5.5 feet bgs
X/Y Coordinates 3134845.099/316929.465
Ground Elevation 8.07 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10,

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 8.07 feet, mean sea level.***
		30/60					Dark gray; ORGANICS medium SAND; with gravel; soft; moist; organic odor Brown; SILTY SAND; with gravel; medium stiff; moist; organic odor
5							Brown; SANDY SILT; trace organics; medium plasticity; soft; moist; organic odor
		48/60	▽	1	10:48:00 AM	01-B056-01	Dark gray; medium SAND; very stiff; wet; organic odor
						01-B056-02	
						01-B056-03	
				1.4	10:50:00 AM		
10							
		55/60					
				2.3	10:53:00 AM		
15							

End of Boring: 15 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-057

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/9/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 6
Total Depth 10 feet bgs
Depth to GW 5.5 feet bgs
X/Y Coordinates 3134874.62/317126.6687
Ground Elevation 17.361 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10,

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 17.361 feet, mean sea level.***
		25/60					Brown; SILTY SAND; with gravel; stiff; moist; organic odor Brown; fine to medium SAND; trace fine gravel; stiff; moist
5				2.4	11:45:00 AM	01-B057-01	
		50/60	▽			01-B057-02 01-B057-03	Dark gray; fine to medium SAND; trace fine gravel; stiff; wet; organic odor
				1.7	11:50:00 AM	01-B057-04 01-SB045 01-SB046	
10				1.4	11:55:00 AM		

End of Boring: 10 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-058

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/9/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 19 feet bgs
Depth to GW 18 feet bgs
X/Y Coordinates 3134940.418/317061.879
Ground Elevation 17.818 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-230

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 17.818 feet, mean sea level.***
							Discrete-sampled boring from 14' to 19' bgs only.
5							
10							
15		48/60		0.2	2:30:00 PM	01-B058-01	Dark gray; fine to medium SAND; stiff; moist; organic odor; hydrocarbon odor at 16' bgs 1/4-inch bands of shell hash throughout boring
			▽	206.1	2:35:00 PM	01-B058-02 01-SB047	
						01-B058-03	Dark gray; fine to medium SAND; firm; wet; organic odor
				3.4	2:40:00 PM		***End of Boring: 19 feet bgs.***

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-059

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/9/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 20 feet bgs
Depth to GW 16 feet bgs
X/Y Coordinates 3134981.985/317033.3895
Ground Elevation 18.111 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-234

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 18.111 feet, mean sea level.***
							Discrete-sampled boring from 15' to 20' bgs
5							
10							
15							
			▽	279.9	2:55:00 PM	01-B059-01	Dark gray; fine to medium SAND; stiff; moist; hydrocarbon odor; 1/8-inch bands of shell hash throughout boring
				399.4	3:00:00 PM	01-B059-02 01-B059-03	trace fine rounded gravel at 18' bgs decomposition odor at 19' bgs
20						01-B059-04	
				57.5	3:10:00 PM		***End of Boring: 20 feet bgs.***

SOIL BORING LOG

Project Number: 20171

Page Number: 2

Boring Number: SB-059

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/9/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 20 feet bgs
Depth to GW 16 feet bgs
X/Y Coordinates 3134981.985/317033.3895
Ground Elevation 18.111 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-234

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
							Top of Boring: 18.111 feet, mean sea level.
		45/60					

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-060

Project Name Building T-1451/East Canal SI/SC
Site East Canal/Bldg T-1451 North Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/9/2012
Weather 40°F, overcast, windy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 3
Total Depth 22 feet bgs
Depth to GW 19 feet bgs
X/Y Coordinates 3135025.967/317011.308
Ground Elevation 20.535 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-239

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 20.535 feet, mean sea level.***
5							Discrete-sampled boring from 17' to 22' bgs
10							
15							
		45/60		272.1	3:15:00 PM	01-B060-01	Dark gray; fine to medium SAND; stiff; moist; no odor; hydrocarbon odor at 18.5' bgs
20			▽			01-B060-02	
				363.3	3:20:00 PM		
						01-B060-03	
				22.3	3:25:00 PM		***End of Boring: 22 feet bgs.***

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-061

Project Name Building T-1451/East Canal SI/SC
Site Seep 2
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 6/30/2012
Weather 45°F, cloudy
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 4
Total Depth 10.5 feet bgs
Depth to GW 5.5 feet bgs
X/Y Coordinates 3134268.504/315898.7233
Ground Elevation 6.194 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-177

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.194 feet, mean sea level.***
		46/60					Brown; fine to medium SAND; organics; with gravel Brown gray; fine to medium SAND; medium dense; moist to wet; hydrocarbon odor from 4' to 6' bgs
				3.1	8:55:00 AM	01-SB048	
5						01-SB049	
		50/60	▽			01-SB050	
				58.6	9:00:00 AM	01-SB051	
10				76.7	9:15:00 AM		
				6.3	9:20:00 AM		***End of Boring: 10.5 feet bgs.***

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-062

Project Name Building T-1451/East Canal SI/SC
Site Seep 2
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 6/30/2012
Weather
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 10.5 feet bgs
Depth to GW 5.5 feet bgs
X/Y Coordinates 3134302.96/315868.9838
Ground Elevation 5.817 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-263

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 5.817 feet, mean sea level.***
		48/60					Brown gray; SANDY subangular GRAVEL; dense; dry; no odor Brown gray; fine to medium SAND; medium dense; dry to wet; no odor
				2.9	9:35:00 AM	01-SB052	
5						01-SB053	
		49/60	▽	2.4	10:00:00 AM		
				5.5	10:10:00 AM		
10							

End of Boring: 10.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-063

Project Name Building T-1451/East Canal SI/SC
Site Seep 2
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 6/30/2012
Weather
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 2
Total Depth 10.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134287.754/315925.7728
Ground Elevation 6.403 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-178

DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.403 feet, mean sea level.***
		50/60					Brown gray; SANDY angular GRAVEL; dense; dry; no odor Brown gray; fine to medium SAND; medium dense; dry to wet; no odor
				2.9	10:25:00 AM	01-SB054	
5			▽				
		49/60				01-SB055	
				2.7	10:30:00 AM		
10							

End of Boring: 10.5 feet bgs.

SOIL BORING LOG

Project Number: 20171

Page Number: 1

Boring Number: SB-064

Project Name Building T-1451/East Canal SI/SC
Site Seep 2
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 6/30/2012
Weather
Drilling Company Hammer Environmental
Rig Type GP 6620 - direct push
Boring Size 2"
Hammer Drop
Sample Method Macro Core
# of Samples 5
Total Depth 10.5 feet bgs
Depth to GW 5 feet bgs
X/Y Coordinates 3134311.394/315900.521
Ground Elevation 6.897 feet

Extra Field Notes: X/Y coordinates in NAD 1983, ASP Zone 10, UV-265

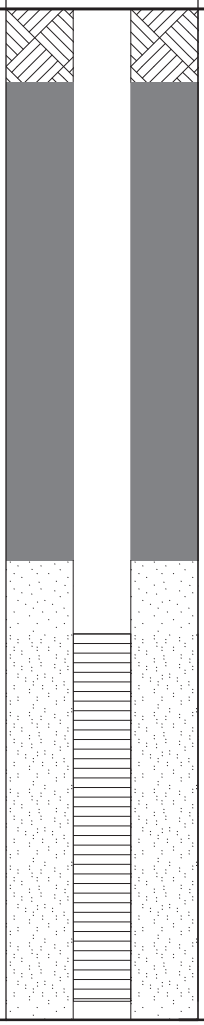
DEPTH (ft)	BLOW COUNT	RECOVERED LENGTH (in) / DRIVEN LENGTH (in)	WATER LEVEL	PID (ppm)	SCREENING TIME	ANALYTICAL SOIL SAMPLE ID	SOIL DESCRIPTION AND NOTES (color, soil type and description, density, plasticity, cohesiveness, moisture content, fracturing, weathering, depositional environment, stratigraphic unit and additional notes)
0							***Top of Boring: 6.897 feet, mean sea level.***
		48/60					Brown gray; SANDY subangular GRAVEL; dense; dry; no odor Brown gray; fine to medium SAND; medium dense; moist to wet; hydrocarbon odor from 4'-7' bgs
				1.9	10:50:00 AM	01-SB056	
5						01-SB057	
		47/60	▽	52.3	10:55:00 AM	01-SB058 01-SB059	
						01-SB060	
				56.4	11:00:00 AM		
10							
				2.9	11:05:00 AM		***End of Boring: 10.5 feet bgs.***

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-303-38	1

Project Name Building T-1451/East Canal SI/SC
Site Area 303
Extra Field Notes:
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Depth from TOC: 30.5'
Date 6/25/2012
Weather 50 F, sunny, light wind
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 10 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 27.5 feet bgs
Depth to GW 24.71 feet from TOC
X/Y Coordinates 316104.386 / 3134424.105
Elevation 27.676 feet

DEPTH (ft)	WELL DESCRIPTION	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0-2' bgs	brown; Organic soil with sand; moist; med. dense. brown; fine to medium grained; sand; moist to wet; med. dense.
5	BENTONITE SEAL 2'-15' bgs	
10		
15		
20	*GROUNDWATER: 24.71'* GRAVEL PACK FILTER 15'-27.5' bgs SCREEN FROM 17'-27' bgs	
25		



Bottom of borehole at 27.5 feet.

MONITORING WELL CONSTRUCTION LOG

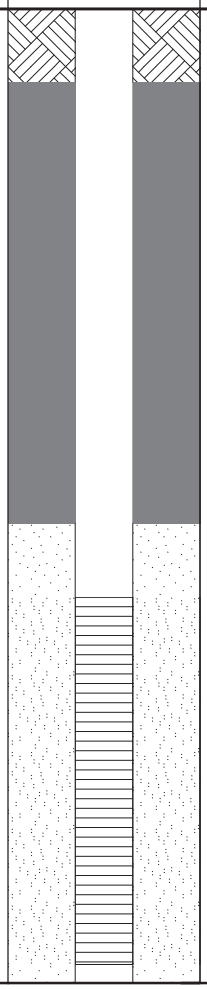
Project Number	Well Number	Sheet
20171	MW-303-39	1

Project Name Building T-1451/East Canal SI/SC
Client NAVFAC NW
Date 6/26/2012
Drilling Company Hammer Environmental
Boring Size 10 inch
Sample Method hollow-stem auger
Total Depth 26.5 feet bgs
X/Y Coordinates 316313.421 / 3134559.379

Site Area 303
Field Scientist/Engineer Zachary Kirk
Weather 45 F, overcast, light wind
Rig Type Geoprobe 6620
Hammer Drop N/A
# of Samples 0
Depth to GW 21.05 feet from TOC
Elevation 23.428 feet

Extra Field Notes:

Depth from TOC: 29.5'

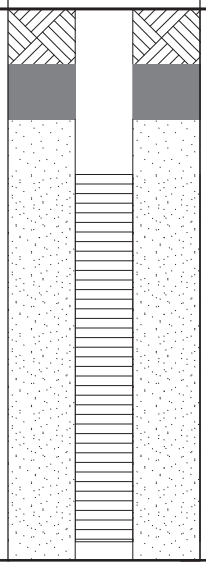
DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0-2' bgs		brown; Organic soil with sand; moist; med. dense. brown; fine to medium grained; sand; moist to wet; med. dense.
5			
	BENTONITE SEAL 2'-14' bgs		
10			
15			
	GROUNDWATER: 21.05'		
20	SCREEN FROM 16'-26' bgs GRAVEL PACK FILTER 14'-26.5' bgs		
25			

Bottom of borehole at 26.5 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-303-40	1

Project Name Building T-1451/East Canal SI/SC
Site Area 303
Extra Field Notes:
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Depth from TOC: 18'
Date 6/2/2012
Weather 45 F, overcast, wind 10-20 mph
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 10 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 15 feet bgs
Depth to GW 14.61 feet from TOC
X/Y Coordinates 317664.9506 / 3135240.062
Elevation 17.676 feet

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0.0'-1.5' bgs BENTONITE SEAL 1.5'-3.0' bgs		brown; Organic soil with sand; moist; med. dense. dark brown; fine to medium grained; sand; moist; med. dense.
5	GRAVEL PACK FILTER 3.0'-15.0' bgs		
10	SCREEN FROM 4.5'-14.5' bgs *GROUNDWATER: 14.61'*		
15			

Bottom of borehole at 15.0 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-303-41	1

Project Name Building T-1451/East Canal SI/SC
Site Area 303
Extra Field Notes:

Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Total Depth from TOC: 28.5'

Date 6/25/2012
Weather 45 F, partly cloudy, light wind

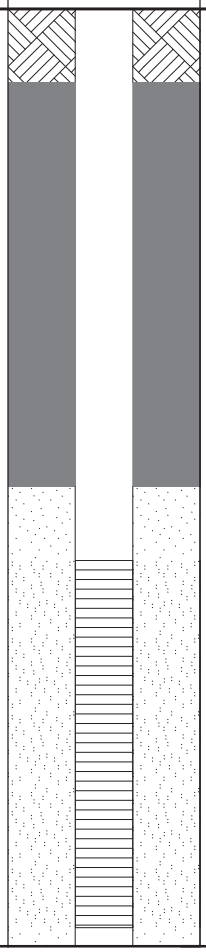
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620

Boring Size 10 inch
Hammer Drop N/A

Sample Method hollow-stem auger
# of Samples 0

Total Depth 25.5 feet bgs
Depth to GW 26.89 feet from TOC

X/Y Coordinates 317719.9421 / 3135452.066
Elevation 30.725 feet

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0-2' bgs		brown; Organic soil with sand; moist; med. dense. dark brown; fine to medium grained; sand; moist to wet; med. dense; organic odor.
5			
	BENTONITE SEAL 2'-13' bgs		
10			
15			
	SCREEN FROM 15'-25' bgs		
	SAND PACK FILTER 13'-25.5' bgs		
20			
	GROUNDWATER: 26.89'		
25			

Bottom of borehole at 25.5 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
	MW-303-42	1

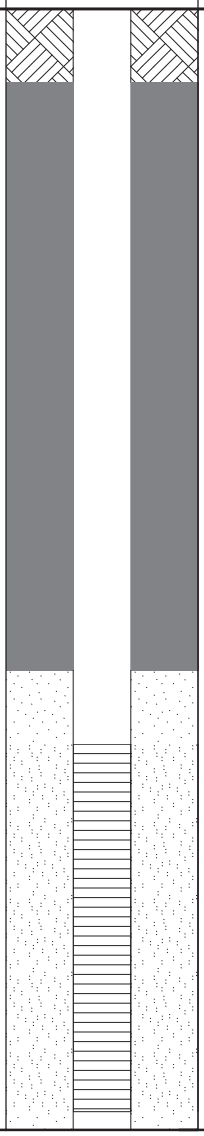
Project Name Building T-1451/East Canal SI/SC
Client NAVFAC NW
Date 5/31/2012
Drilling Company Hammer Environmental
Boring Size 8 inch
Sample Method hollow-stem auger
Total Depth 30.5 feet bgs
X/Y Coordinates 317718.63 / 3135454.09

Site Area 303
Field Scientist/Engineer Zachary Kirk
Weather 40 F, overcast, light wind
Rig Type Geoprobe 6620
Hammer Drop N/A
# of Samples 0
Depth to GW 27.47 feet from TOC
Elevation 32.129 feet

Extra Field Notes:

Depth from TOC: 33.5'

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0-2' bgs		brown; Organic soil with sand; moist; med. dense. dark brownish gray; fine to medium grained; sand; moist to wet; med. dense.
5	BENTONITE SEAL 2'-18' bgs		
10			
15			
20	SAND PACK FILTER 18'-30.5' bgs		
	GROUNDWATER: 27.47'		
25	SCREEN FROM 20'-30' bgs		
30			

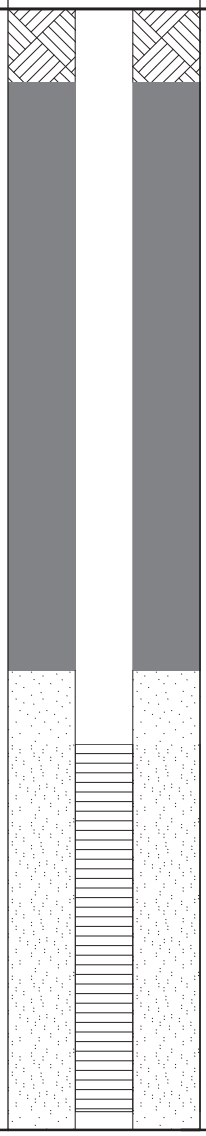


Bottom of borehole at 30.5 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-303-43	1

Project Name Building T-1451/East Canal SI/SC
Site Area 303
Extra Field Notes:
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Depth from TOC: 33.5
Date 5/31/2012
Weather 40 F, overcast, winds 10-20 mph
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 30.5 feet bgs
Depth to GW 27.73 feet from TOC
X/Y Coordinates 317539.33 / 3135646.5
Elevation 32.496 feet

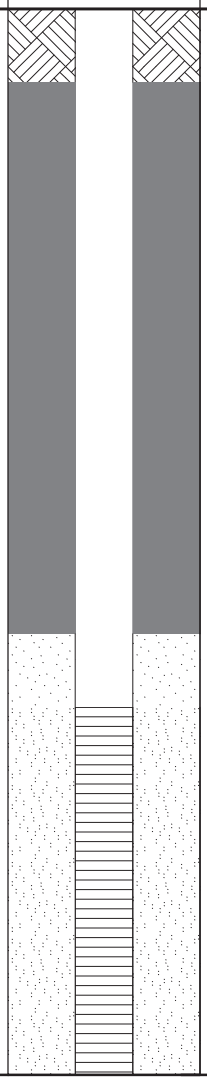
DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0-2' bgs		brown; Organic soil with sand; moist; med. dense. dark brownish gray; fine to medium grained; sand; moist to wet; med. dense.
5			
	BENTONITE SEAL 2'-18' bgs		
10			
15			
20	SAND PACK FILTER 18'-30.5' bgs		
25	SCREEN FROM 20'-30' bgs *GROUNDWATER: 27.73'*		
30			

Bottom of borehole at 30.5 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-303-44	1

Project Name Building T-1451/East Canal SI/SC
Site Area 303
Extra Field Notes:
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Depth from TOC: 32'
Date 5/30/2012
Weather 40 F, rain, winds 10-20 mph
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 29 feet bgs
Depth to GW 28.33 feet from TOC
X/Y Coordinates 317665.13 / 3135241.29
Elevation 32.906 feet

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0-2' bgs		brown; Organic soil with sand; moist; med. dense. reddish brown; fine to medium grained; sand; moist; med. dense.
5			gray; fine to medium grained; sand; moist to wet; med. dense.
10	BENTONITE SEAL 2'-17' bgs		
15			
20			
25	SAND PACK FILTER 17'-29' bgs SCREEN FROM 19'-29' bgs *GROUNDWATER: 28.33'*		

Bottom of borehole at 29.0 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-303-45	1

Project Name Building T-1451/East Canal SI/SC
Site Area 303
Extra Field Notes:

Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Depth from TOC: 32.78

Date 6/2/2012
Weather 40 F, Partly cloudy with light winds

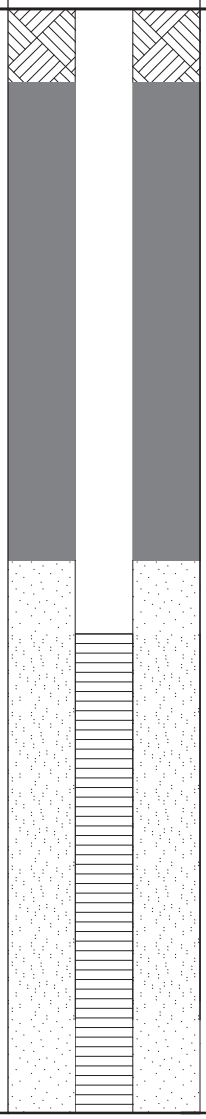
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620

Boring Size 8 inch
Hammer Drop N/A

Sample Method hollow-stem auger
# of Samples 0

Total Depth 29.78 feet bgs
Depth to GW 28.99' from TOC

X/Y Coordinates 317558.5 / 3135243.98
Elevation 33.10 feet

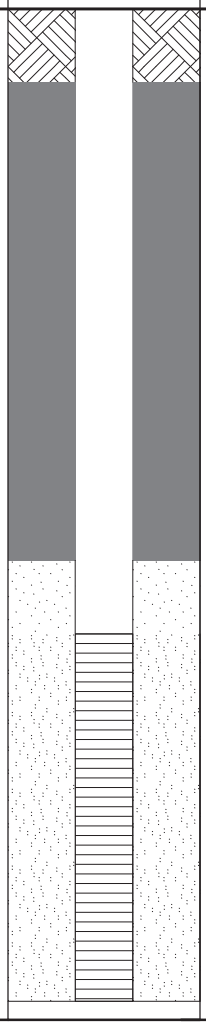
DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0-2' bgs		brown; Organic soil with sand; moist; med. dense. gray; fine to medium grained; sand; moist to wet; med. dense.
5			
	BENTONITE SEAL 2'-15' bgs		
10			
15			
20	SAND PACK FILTER 15'-27.5' bgs SCREEN FROM 17'-27' bgs		
25	*GROUNDWATER: 28.99'*		
30			

Bottom of borehole at 29.78 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-303-46	1

Project Name Building T-1451/East Canal SI/SC
Site Area 303
Extra Field Notes:
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Depth from TOC: 30.5'
Date 5/31/2012
Weather 40 F, Overcast, winds 10-20 mph
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 27.5 feet bgs
Depth to GW 26.63 from TOC
X/Y Coordinates 317415.33 / 3135040.89
Elevation 31.401 feet

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0-2' bgs		brown; Organic soil with sand; moist; med. dense. dark grayish brown; fine to medium grained; sand; moist; med. dense.
5			
	BENTONITE SEAL 2'-15' bgs		
10			
15			
	SAND PACK FILTER 15'-27' bgs SCREEN FROM 17'-27' bgs		
20	*GROUNDWATER: 26.63'*		
25			

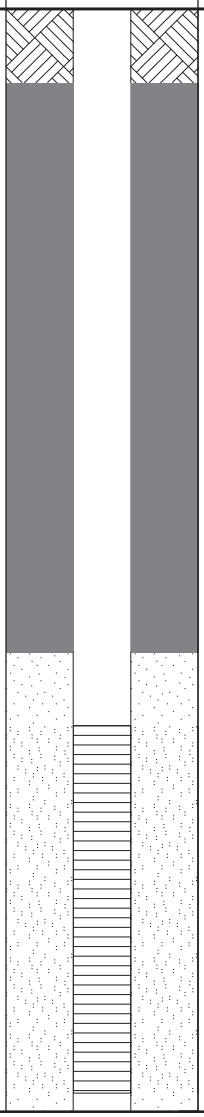
Bottom of borehole at 27.5 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-303-47	1

Project Name Building T-1451/East Canal SI/SC
Site Area 303
Extra Field Notes:
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Depth from TOC: 33'
Date 6/1/2012
Weather 45 F, ovrcast, winds 10-20 mph
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 30 feet bgs
Depth to GW 21.57 feet from TOC
X/Y Coordinates 317577.98 / 3135810.64
Elevation 27.129 feet

DEPTH (ft)	WELL DESCRIPTION	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0-2' bgs	brown; Organic soil with sand; moist; med. dense. gray; sandy gravel; dry; loose.
		brownish gray; fine to medium grained; sand; moist to wet; med. dense.
5		
	BENTONITE SEAL 2'-17.5' bgs	
10		
15		
	GROUNDWATER: 21.57'	
20		
	SAND PACK FILTER 17.5'-30' bgs	
25	SCREEN FROM 19.5'-29.5' bgs	
30		



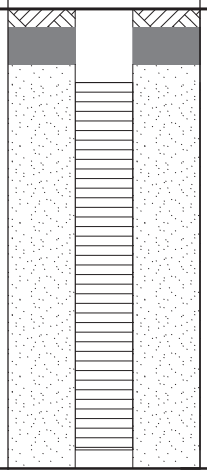
Bottom of borehole at 30.0 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-1451-1	1

Project Name Building T-1451/East Canal SI/SC
Site MNA Treatment Area
Extra Field Notes:
Depth from TOC: 15.5'

Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/28/2012
Weather 50 F, partly sunny, winds 10-20 mph
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 12.5 feet bgs
Depth to GW 6.87 feet from TOC
X/Y Coordinates 316310.689 / 3134267.288
Elevation 6.564 feet

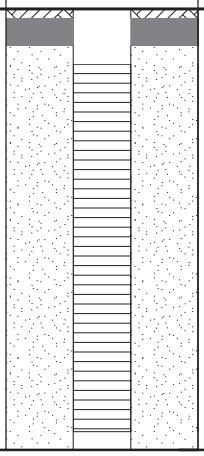
DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0'-0.5' bgs BENTONITE SEAL 0.5'-1.5' bgs *GROUNDWATER: 6.87'*		brown; silty gravel; dry; dense. gray; fine to medium grained; sand; moist to wet; med. dense; hydrocarbon odor with organic material at 5' bgs.
5	SAND PACK FILTER 1.5'-12.5' bgs		
	SCREEN FROM 2'-12' bgs		
10			

Bottom of borehole at 12.5 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-1451-2	1

Project Name Building T-1451/East Canal SI/SC
Site MNA Treatment Area
Extra Field Notes:
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Depth from TOC: 15'
Date 6/29/2012
Weather 40 F, rain
Drilling Company Hammer Environmental
Rig Type Geprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 12 feet bgs
Depth to GW 6.45 feet from TOC
X/Y Coordinates 316147.804 / 3134266.746
Elevation 6.235 feet

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0.0-0.25' bgs BENTONITE SEAL 0.25-1.0' bgs *GROUNDWATER: 6.45'*		BACKFILL; grayish brown; sandy gravel with silt; dry to moist; dense.
5	SAND PACK FILTER 1.0-12.0' bgs SCREEN FROM 1.5'-11.5' bgs		gray;fine to medium grained; sand; wet; med. dense; slight hydrocarbon odor at 5'-6' bgs
10			

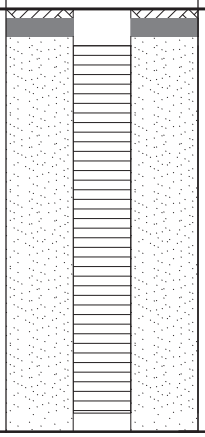
Bottom of borehole at 12.0 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-1451-3	1

Project Name Building T-1451/East Canal SI/SC
Site MNA Treatment Area
Extra Field Notes:
Depth from TOC: 14.5'

Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 6/29/2012
Weather 40 F, cloudy, wind 5-15 mph
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 11.5 feet bgs
Depth to GW 5.73 feet from TOC
X/Y Coordinates 316067.421 / 3134265.256
Elevation 5.091 feet

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0.0'-0.25' bgs BENTONITE SEAL 0.25'-0.75'		BACKFILL; grayish brown; sandy gravel with silt; moist; dense.
	GROUNDWATER: 5.73'		
5	SAND PACK FILTER 0.75'-11.5' bgs		gray; fine to medium grained; sand; wet; med. dense.
	SCREEN FROM 1'-11' bgs		
10			

Bottom of borehole at 11.5 feet.

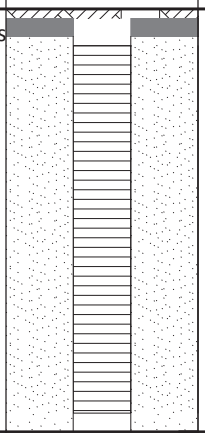
MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-1451-4	1

Project Name Building T-1451/East Canal SI/SC
Site MNA Treatment Area
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/28/2012
Weather 45 F, overcast, light wind
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 11.5 feet bgs
Depth to GW 6.59 feet from TOC
X/Y Coordinates 315974.923 / 3134261.208
Elevation 5.991 feet

Extra Field Notes:

Depth from TOC: 14.5'

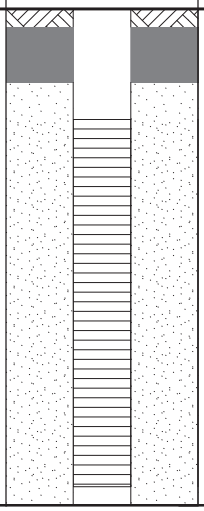
DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0.0'-0.25' bgs BENTONITE SEAL 0.25'-0.75' bgs *GROUNDWATER: 6.59'* SAND PACK FILTER 0.75'-11.5' bgs SCREEN FROM 1'-11' bgs		brown; Organic soil with sand; moist; med. dense. gray; fine to medium grained; sand; moist to wet; med. dense.
5			
10			

Bottom of borehole at 11.5 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-1451-5	1

Project Name Building T-1451/East Canal SI/SC
Site MNA Treatment Area
Extra Field Notes:
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Depth from TOC: 16.5'
Date 6/27/2012
Weather 55 F, sunny, light wind
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 13.5 feet bgs
Depth to GW 7.23 feet from TOC
X/Y Coordinates 316326.455 / 3134430.916
Elevation 7.502 feet

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0.0'-0.5' bgs BENTONITE SEAL 0.5'-2.0' bgs		brown; Organic soil with sand; moist; med. dense. gray; fine to medium grained; sand; moist to wet; med. dense; hydrocarbon odor.
5	*GROUNDWATER: 7.23'*		
	SAND PACK FILTER 2.0'-13.5' bgs		
10	SCREEN FROM 3'-13' bgs		

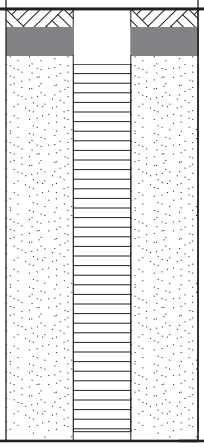
Bottom of borehole at 13.5 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-1451-6	1

Project Name Building T-1451/East Canal SI/SC
Site MNA Treatment Area
Extra Field Notes:
Depth from TOC: 14.75'

Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Date 6/28/2012
Weather 45 F, overcast, winds 10-20 mph
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 11.75 feet bgs
Depth to GW 5.26 feet from TOC
X/Y Coordinates 316208.612 / 3134428.82
Elevation 6.148 feet

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0.0'-0.5' bgs BENTONITE SEAL 0.5'-1.25' bgs *GROUNDWATER: 5.26'*		brown; Organic soil with sand; moist; med. dense. dark gray; fine to medium grained; sand; moist to wet; med. dense; hydrocarbon odor.
5			
	SCREEN FROM 1.5'-11.5' bgs		
10	SAND PACK FILTER 1.25'-11.75' bgs		

Bottom of borehole at 11.75 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-1451-7	1

Project Name Building T-1451/East Canal SI/SC
Site MNA Treatment Area
Extra Field Notes:
Depth from TOC: 15.5'

Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk

Date 6/28/2012
Weather 50 F, partly sunny, light wind

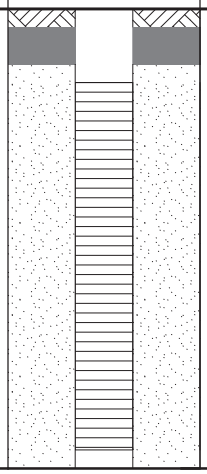
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620

Boring Size 8 inch
Hammer Drop N/A

Sample Method hollow-stem auger
# of Samples 0

Total Depth 12.5 feet bgs
Depth to GW 6.89 feet from TOC

X/Y Coordinates 316104.386 / 3134424.105
Elevation 7.331 feet

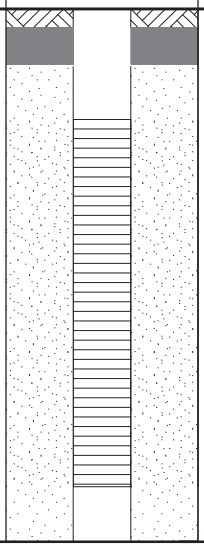
DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0.0'-0.5' bgs BENTONITE SEAL 0.5'-1.5' bgs *GROUNDWATER: 6.89'*		brown; Organic soil with sand; moist; med. dense. dark gray; fine to medium grained; sand; moist to wet; med. dense; hydrocarbon odor.
5			
	SAND PACK FILTER 1.5'-12.5' bgs SCREEN FROM 2'-12' bgs		
10			

Bottom of borehole at 12.5 feet.

MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-1451-8	1

Project Name Building T-1451/East Canal SI/SC
Site MNA Treatment Area
Extra Field Notes:
Client NAVFAC NW
Field Scientist/Engineer Zachary Kirk
Depth from TOC: 17.5'
Date 6/27/2012
Weather 50 F, sunny, light wind
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method GP 6620 - hollow-stem auger
# of Samples 0
Total Depth 14.5 feet bgs
Depth to GW 6.99 feet bgs
X/Y Coordinates 316313.421 / 3134559.379
Elevation 8.069 feet

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0.0-1.0' bgs BENTONITE SEAL 1.0'-2.5' bgs		brown; Organic soil with sand; moist; med. dense. dark gray; fine to medium grained; sand; moist to wet; med. dense.
	GROUNDWATER: 6.99'		
5			
	SAND PACK FILTER 2.5'-14.5' bgs		
10			
	SCREEN FROM 3'-13' bgs		

Bottom of borehole at 14.5 feet.

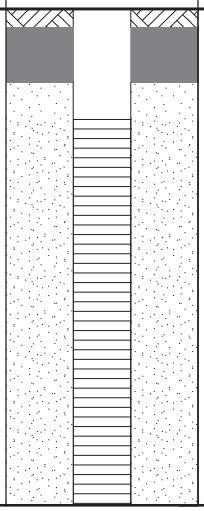
MONITORING WELL CONSTRUCTION LOG

Project Number	Well Number	Sheet
20171	MW-1451-9	1

Project Name Building T-1451/East Canal SI/SC
Site MNA Treatment Area
Client NAVFAC NW
Field Scientist/Engineer Tim Dobson
Date 6/28/2012
Weather 40 F, cloudy, light wind
Drilling Company Hammer Environmental
Rig Type Geoprobe 6620
Boring Size 8 inch
Hammer Drop N/A
Sample Method hollow-stem auger
# of Samples 0
Total Depth 13.5 feet bgs
Depth to GW 8.98 feet from TOC
X/Y Coordinates 316210.319 / 3134279.071
Elevation 9.905 feet

Extra Field Notes:

Depth from TOC: 16.5'

DEPTH (ft)	WELL DESCRIPTION	WELL GRAPHIC	SOIL DESCRIPTION AND NOTES (color, soil type, moisture, lithology notes)
0	CONCRETE/BACKFILL SURFACE SEAL 0.0'-0.5' bgs BENTONITE SEAL 0.5'-2.0' bgs		brown; Organic soil with sand; moist; med. dense. gray; fine to medium grained; sand; moist to wet; med. dense; hydrocarbon odor.
	SCREEN FROM 3'-13' bgs		
5	*GROUNDWATER: 8.98'*		
	SAND PACK FILTER 2.0'-13.5' bgs		
10			

Bottom of borehole at 13.5 feet.

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/18/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	01
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJECT MANA ER	Tim Dobson

AM EAT ER	PM EAT ER	MA TEMP	M N TEMP
Partly Cloudy	Partly Cloudy	45	38

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
1	Mobilization/Equipment Management	AES	2x12	aborer	24
3	Building T-1451 and East Canal North Area	AES	2x12	eophysics Tech Scientist	24
4	Building T-1451 and East Canal Area	AES	3x12	Scientist	36
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☒ ES	☐ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	108
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	0
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	108

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used.	
4	erified appropriate PPE was being used. Present for safety briefing for use of drill rig for all personnel present.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	EM-61 metal detector	8
4	E	eoprobe 6620 direct push drilling rig	4

Schedule Activity No.	REMARKS
3	Survey corners and grid established. irst survey lane completed with EM-61.
4	Established 20 foot grid spacing for initial OST probing. rid was adjusted as contamination was encountered. Completed 11 OST probes.

5/18/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/18/2012
REPORT NO	1

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
3	Digital eophysical Survey	N/A
4	OST nvestigation	N/A

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
3	Digital eophysical Survey	N/A
4	OST nvestigation	N/A

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork ocation and ist of Personnel Present
3	Survey area defined initial run performed with EM-61. Daily check to known metal object performed by eophysics Survey Tech verified by QCM. ocation is the Building T-1451/East Canal North Area. Personnel nclude 1 eophysics Survey Tech and 1 Scientist ERS-J
4	20 foot grid established. 11 OST probes completed. . Calibration performed before each OST probe push. Test performed by OST operator and verified by QCM. ocation is the Building T-1451/East Canal Area. Personnel include: 3 Scientists ERS-J and 2 Drillers ammer Env.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description
	N/A		

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP.
4	ork performed conforms with the approved SAP

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

5/18/2012

A T OR ED QC MANA ER AT S TE DATE

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/19/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	02
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
S PER NTENDENT	Tim Dobson

AM EAT ER	PM EAT ER	MA TEMP	M N TEMP
Partly Cloudy	Partly Cloudy	45	38

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
1	Mobilization/Equipment Management	AES	2x12	aborer	24
3	Building T-1451 and East Canal North Area	AES	2x12	eophysics Tech Scientist	24
4	Building T-1451 and East Canal Area	AES	3x12	Scientist	36
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☒ ES	☐ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	108
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	108
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	216

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used.	
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	EM-61 metal detector	12
4	E	eoprobe 6620 direct push drill rig	12

Schedule Activity No.	REMARKS
3	nstalled extra flags to improve lane control. Collected data with EM-61 metal detector for a total of25 of the survey area.
4	Continued OST probing along the East Canal. 20 foot grid was maintained to determine the optimal dimensions for the MNA treatment area. 28 OST probes were completed.
	ield Crew watched Adak O safety awareness video as part of tailgate safety meeting.

CONTRACTOR/S PER NTENDENT — DATE 5/19/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/19/2012
REPORT NO	02

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork ocation and ist of Personnel Present
3	25 of initial run performed with EM-61. Daily check to known metal object performed by eophysics Survey Tech verified by QCM. ocation is the Building T-1451/East Canal North Area. Personnel nclude 1 eophysics Survey Tech and 1 Scientist ERS-J
4	20 foot grid established. 28 OST probes completed. . Calibration performed before each OST probe push. Test performed by OST operator and verified by QCM. ocation is the Building T-1451/East Canal Area. Personnel include: 3 Scientists ERS-J and 2 Drillers ammer Env.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description
	N/A

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP
4	ork performed conforms with the approved SAP.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE: 5/19/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/20/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	03
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Cloudy
PM EAT ER	Partly Cloudy
MA TEMP	45
M N TEMP	38

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
1	Mobilization/Equipment Management	AES	2x12	aborer	24
3	Building T-1451 and East Canal North Area	AES	2x12	eophysics Tech Scientist	24
4	Building T-1451 and East Canal Area	AES	3x12	Scientist	36
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	108
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	216
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	324

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used.	
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	EM-61 metal detector	12
4	E	eoprobe 6620 direct push drill rig	12

Schedule Activity No.	REMARKS
3	Collected data with EM-61 metal detector for a total of 60 completion of the survey area.
4	Advanced 6 soil borings in the Building t-1451/East Canal Area. Collected 15 primary soil samples 2 field duplicates and 1 MS/MSD for OST correlation data. Continued OST probing along the East Canal after soil borings were completed. 20 foot grid was maintained to determine the optimal dimensions of the MNA treatment area. A total of 9 OST probes were completed.

CONTRACTOR/S PER NTENDENT — DATE 5/20/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/20/2012
REPORT NO	03

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
		N/A
		N/A

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	60 of initial run performed with EM-61. Daily check to known metal object performed by geophysical survey tech ERS-J and verified by QCM. ocation is the Building T-1451/East Canal North Area. Personnel nclude 1 geophysical survey tech and 1 scientist ERS-J .
4	20 foot grid maintained for OST nvestigation. 6 soil borings were installed and 15 primary 2 field duplicate and 1 MS/MSD soil samples were collected for OST correlation data. A Total of 9 OST probes were completed after soil borings were completed. Calibration performed before each OST probe push. Test performed by OST operator and verified by QCM. ocation is the Building T-1451/East Canal Area. Personnel include:3 Scientists ERS-J and 2 drillers ammer Env. .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description
	N/A

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP.
4	ork performed conforms with the approved SAP.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 5/20/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/21/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	04
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson

AM EAT ER	PM EAT ER	MA TEMP	M N TEMP
Partly Cloudy	Partly Cloudy	45	38

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
1	Mobilization/Equipment Management	AES	2x12	aborer	24
3	Building T-1451 and East Canal North Area	AES	2x12	eophysics Tech Scientist	24
4	Building T-1451 and East Canal Area	AES	3x12	Scientist	36
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☒ ES	☐ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	108
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	324
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	432

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used.
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	EM-61 metal detector	12
4	E	eoprobe 6620 direct push drill rig	12

Schedule Activity No.	REMARKS
3	Collected data with EM-61 metal detector for a total of 80 completion of the survey area.
4	Continued OST probing along the East Canal within 20 foot grid spacing to determine optimal dimensions of MNA treatment area. A total of 31 OST probes were completed.

CONTRACTOR/S PER NTENDENT — DATE 5/21/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/21/2012
REPORT NO	04

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
		N/A
		N/A

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☐ NO ☒

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	80 of initial run performed with EM-61. Daily check to known metal object performed by eophysics Survey Tech and verified by QCM. ocation is the Building T-1451/East Canal North Area. Personnel nclude 1 eophysics Survey Tech and 1 scientist ERS-J
4	20 foot grid maintained for OST nvestigation along East Canal to determine optimal design for the MNA treatment area. Total of 31 OST probes were completed. Calibration performed before each OST probe push. Test performed by OST operator and verified by QCM. ocation is the Building T-1451/East Canal Area. Personnel include: 2 scientists ERS-J and 2 drillers ammer Env. .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description
	N/A

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP.
4	t was observed that the soil sample nomenclature for the 15 primary 2 field duplicate and 1 MS/MSD soil samples collected from 6 soil borings completed on 5/20/12 was not in accordance with the nomenclature as specified in S 27 in the approved SAP after the soil samples were submitted to the off-site project laboratory. The correct soil sample nomenclature was submitted to the off-site project laboratory and will be incorporated into the laboratory report for compliance with the specifications in S 27 of the SAP. The NTR was promptly made aware of the corrective action and approved the corrective action performed by the contractor. See attached document for nomenclature correction.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 5/21/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE 5/21/2012

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/22/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	05
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Cloudy
PM EAT ER	Partly Cloudy
MA TEMP	45
M N TEMP	38

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
1	Mobilization/Equipment Management	AES	3x12	aborer	36
3	Building T-1451 and East Canal North Area	AES	2x12	eophysics Tech Scientist	24
4	Building T-1451 and East Canal Area	AES	3x12	Scientist	36
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	120
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	440
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	560

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used.	
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	EM-61 metal detector	12
4	E	eoprobe 6620 direct push drill rig	12

Schedule Activity No.	REMARKS
3	Collected data with EM-61 metal detector for a total of 80 completion of the survey area. The corner stake for the S corner of the survey was moved further south at the request of the Navy to extend survey coverage with the EM-61 closer to the north end of the culverts in the East canal/Building T-1451 North Area. Total acreage for the survey area was not affected and remains a total of 10 acres.
4	Continued OST probing along the East Canal within 20 foot grid spacing to determine optimal dimensions of MNA treatment area. 150 x 80 grid completed for the MNA treatment zone with a total of 104 OST probes. An additional 10 OST probes were advanced at the request of Navy scientist to further delineate the extent of petroleum contamination upgradient and east of the East Cana 20 feet from the last eastern transect for the MNA treatment area grid. Two OST probes were advanced 300 feet south of the culverts in East Canal to investigate petroleum staining observed on the canal bank. A total of 36 OST probes were completed today.

5/22/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/22/2012
REPORT NO	05

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
		N/A
		N/A

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	80 of initial run performed with EM-61. Daily check to known metal object performed by eophysics Survey Tech and verified by QCM. ocation is the Building T-1451/East Canal North Area. Personnel nclude 1 eophysics Survey Tech and 1 scientist ERS-J
4	20 foot grid maintained for OST nvestigation along East Canal to determine optimal design for the MNA treatment area. Total of 36 OST probes were completed. Calibration performed before each OST probe push. Test performed by OST operator and verified by QCM. ocation is the Building T-1451/East Canal Area. Personnel include: 2 scientists ERS-J and 2 drillers ammer Env. .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description
	N/A

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	The corner stake for the S corner of the survey was moved further south at the request of the Navy to extend survey coverage with the EM-61 closer to the north end of the culverts in the East canal/Building T-1451 North Area. Total acreage for the survey area was not affected and remains a total of 10 acres. This action was approved by the Navy RPM and does not warrant a DCN as total acreage for the survey area remains 10 acres. ork performed conforms with the approved SAP.
4	ork performed conforms with the approved SAP. Observed in QC report 04 5/22/12 that ORK COMP ES T SA ET REQ REMENTS was checked NO instead of ES . ork performed did comply with safety requirements. The ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE box should have been checked NO to comply with the incorrect soil sample nomenclature correction for soil samples submitted to the fixed project laboratory on Sunday 5/20/12.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE: 5/22/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/23/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	06
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Cloudy
PM EAT ER	Partly Cloudy
MA TEMP	45
M N TEMP	38

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area	AES	2x12	eophysics Tech Scientist	24
4	Building T-1451 and East Canal Area	AES	3x12	Scientist	36
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x16	Operator	16
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x16	aborer	16
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x6	aborer	6
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x6	Dump truck driver	6

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 128
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 568
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 696

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used.
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig
6	Monitored backfill material production for safety near excavator and appropriate PPE.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	EM-61 metal detector	12
4	E	eoprobe 6620 direct push drill rig	12
6 and 7	AES	Caterpillar 325C excavator	16
6 and 7	AES	MC end dump truck	

Schedule Activity No.	REMARKS
3	eophysical survey 98 completed. Two areas remain to be surveyed that amount to a small fraction of an acre. eophysicist review is pending to identify 25 anomalies for initial investigation by digging test pits with the excavator to determine if an anomaly is a source of contamination.
4	OST investigation continued in in the East Canal/Building T-1451 Area to potentially delineate the outer perimeter of the petroleum contamination north east and south of the MNA treatment area grid in the East Canal/Building T-1451 Area. An additional 29 OST probes were advanced for a total of 39 OST probes used to define additional petroleum source area as a replacement for the1 500 ft^2 of trenching initially proposed in the SO .
6 and 7	Operator produced approximately 100 cy of backfill material at the local backfill source near inger Bay. Dump truck delivered approximately 20 -25 cy of backfill material to staging area in the East Canal/Building T-1451 Area. Dump truck had mechanical failure at 1730 potentially repairable.

CONTRACTOR/S PER NTENDENT — DATE: 5/23/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/23/2012
REPORT NO	06

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
6	Excavation Trenching and oading.	N/A
7	mport Clean Native Backfill Material amend Native backfill and construct MNA treatment area	N/A

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
6	Excavation Trenching and oading.	N/A
7	mport Clean Native Backfill Material amend Native backfill and construct MNA treatment area	N/A

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	98 of initial run performed with EM-61. Daily check to known metal object performed by eophysics Survey Tech and verified by QCM. ocation is the Building T-1451/East Canal North Area. Personnel nclude 1 eophysics Survey Tech and 1 scientist ERS-J
4	Additional OST probing performed to potentially delineate the extent of petroleum contamination in the East Canal/Building T-1451 Area. 29 OST probes were completed today. Calibration performed before each OST probe push. Test performed by OST operator and verified by QCM. ocation is the Building T-1451/East Canal Area. Personnel include: 2 scientists ERS-J and 2 drillers ammer Env. .
6 and 7	Equipment operator began producing backfill material at the local borrow source for use in the East Canal/Building T-1451 Areas. Daily check of equipment performed by operator. D O is excavation and import native backfill. Personnel include: 1 operator 1 dump truck driver and 1 laborer ERS-J

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description
	N/A

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP.
4	ork performed conforms with the approved SAP.
6 and 7	ork performed conforms with the approved SAP.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 5/23/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/24/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	07
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy
PM EAT ER	Cloudy
MA TEMP	40
M N TEMP	35

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area	AES	1x12	eophysics Tech	12
4	Building T-1451 and East Canal Area	AES	3x12	Scientist	36
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x12	Operator	12
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x12	aborer	12

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	664
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	792

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used.	
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig	
6	Monitored backfill material production for safety near excavator and appropriate PPE.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	EM-61 metal detector	2.5
4	E	eoprobe 6620 direct push drill rig	12
6 and 7	AES	Caterpillar 325C excavator	12

Schedule Activity No.	REMARKS
3	nitial geophysical survey 100 completed. eophysicist review is pending to identify 25 anomalies for initial investigation by digging test pits with the excavator to determine if an anomaly is a source of contamination.
4	OST investigation continued in in the East Canal/Building T-1451 Area to potentially delineate the outer perimeter of the petroleum contamination north east and south of the MNA treatment area grid in the East Canal/Building T-1451 Area. An additional 34 OST probes were advanced for a total of 73 OST probes used to define additional petroleum source area as a replacement for the1 500 ft^2 of trenching initially proposed in the SO .
6 and 7	Operator has produced approximately 500 cy of backfill material at the local backfill source near inger Bay.

CONTRACTOR/S PER NTENDENT — DATE: 5/24/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/24/2012
REPORT NO	07

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	100 of initial survey completed with EM-61 awaiting review of data by geophysicist. Daily check to known metal object performed by eophysics Survey Tech and verified by QCM. ocation is the Building T-1451/East Canal North Area. Personnel nclude 1 eophysics Survey Tech and 1 scientist ERS-J
4	Additional OST probing performed to potentially delineate the extent of petroleum contamination in the East Canal/Building T-1451 Area. 34 OST probes were completed today. Calibration performed before each OST probe push. Test performed by OST operator and verified by QCM. ocation is the Building T-1451/East Canal Area. Personnel include: 2 scientists ERS-J and 2 drillers ammer Env. .
6 and 7	Equipment operator continued producing backfill material at the local borrow source for use in the East Canal/Building T-1451 Areas. Daily check of equipment performed by operator. D O is excavation and import native backfill. Personnel include: 1 operator and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description
	N/A

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP.
4	ork performed conforms with the approved SAP.
6 and 7	ork performed conforms with the approved SAP.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 5/24/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/25/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	08
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Cloudy
PM EAT ER	Cloudy
MA TEMP	40
M N TEMP	35

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area	AES	1x12	eophysics Tech	12
4	Building T-1451 and East Canal Area	AES	3x12	Scientist	36
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x12	Operator	12
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x12	aborer	12

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	

TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
C M AT E TOTA O ORK O RS ROM PRE O S REPORT	776
TOTA ORK O RS ROM START O CONSTR CT ON	872

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
3	No work was performed for this task on-site.	
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig	
6	Monitored backfill material production for safety near excavator and appropriate PPE.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	EM-61 metal detector	0
4	E	eoprobe 6620 direct push drill rig	12
6 and 7	AES	Caterpillar 325C excavator	12

Schedule Activity No.	REMARKS
3	nitial geophysical survey 100 completed. eophysicist review is pending to identify 25 anomalies for initial investigation by digging test pits with the excavator to determine if an anomaly is a source of contamination.
4	Nine soil borings were completed and 34 subsurface soil samples were collected in the East Canal/Building T-1451 Area to correlate the OST data and define the vertical extent of contamination in the MNA treatment area grid in the East Canal/Building T-1451 Area. Three soil samples were collected to submit to the fixed laboratory for 10 confirmation in accordance with the SAP.
6 and 7	Operator has produced approximately 600 cy of backfill material at the local backfill source near inger Bay.
	Cumulative and total work hours were incorrectly added for the 5/22/12 5/23/12 and 5/24/12 contractor daily reports. The correction for cumulative and total work hours are as follows: 5/22/12 - 432 cumulative hours and 552 total hours 5/23/12- 552 cumulative hours and 680 total hours 5/24/12- 680 cumulative hours and 776 total hours. Cumulative and total work hours are now current and correct to date 5/25/12.

CONTRACTOR/S PER NTENDENT — DATE: 5/25/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/25/2012
REPORT NO	08

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
4	Direct push drilling and subsurface sampling	

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
4	Direct push drilling and subsurface sampling	

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	100 of initial survey completed with EM-61 awaiting review of data by geophysicist. ocation is the Building T-1451/East Canal North Area. Personnel nclude 1 eophysics Survey Tech ERS-J
4	Completed 9 soil borings and collected 34 subsurface soil samples analyzed for DRO by the mobile laboratory from the MNA treatment area to correlate OST data and define vertical and horizontal extent of contamination in the MNA treatment area. Three soil samples were collected for DRO analysis for submittal to the fixed project laboratory to comply with 10 analysis of soil samples analyzed by the mobile laboratory in accordance with the approved SAP. ocation is the Building T-1451/East Canal Area. Personnel include: 3 scientists ERS-J and 2 drillers ammer Env. .
6 and 7	Equipment operator continued producing backfill material at the local borrow source for use in the East Canal/Building T-1451 Areas. Daily check of equipment performed by operator. D O is excavation and import native backfill. Personnel include: 1 operator and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description
	N/A

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	No work performed on-site for this task.
4	ork performed conforms with the approved SAP.
6 and 7	ork performed conforms with the approved SAP.
	The preparatory and initial phase meeting for direct push drilling and subsurface sampling as part of Task 4 was scheduled for Thursday 5/24/12 but was rescheduled to be held on riday 5/25/12. Checklists for the preparatory/initial meeting for direct push drilling and subsurface sampling were included with the daily contractor and contractor quality control reports submitted on riday 5/25/12 for work completed 5/24/12. The preparatory phase checklist submitted for 5/24/12 was dated 5/24/12. The initial phase checklist sheet submitted for 5/24/12 was dated 5/25/12. The meeting was held today riday 5/25/12.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 5/25/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/26/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	09
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy
PM EAT ER	Rain
MA TEMP	40
M N TEMP	35

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area	AES	1x12	eophysics Tech	12
4	Building T-1451 and East Canal Area	AES	3x12	Scientist	36
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x12	Operator	12
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x12	aborer	12

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	

TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
C M AT E TOTA O ORK O RS ROM PRE O S REPORT	872
TOTA ORK O RS ROM START O CONSTR CT ON	968

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
3	No work was performed for this task on-site.
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig
6	Monitored backfill material production for safety near excavator and appropriate PPE.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	EM-61 metal detector	0
4	E	eoprobe 6620 direct push drill rig	12
6 and 7	AES	Caterpillar 325C excavator	12

Schedule Activity No.	REMARKS
3	nitial geophysical survey 100 completed. eophysicist review is pending to identify 25 anomalies for initial investigation by digging test pits with the excavator to determine if an anomaly is a source of contamination.
4	ive soil borings were completed and 23 subsurface soil samples were collected in the East Canal/Building T-1451 Area to correlate the OST data and define the vertical extent of contamination in the MNA treatment area grid in the East Canal/Building T-1451 Area. Three soil samples were collected to submit to the fixed laboratory for 10 confirmation in accordance with the SAP. Additional OST probes were advanced in the southern portion of the East Canal/Building T-1451 Area to delineate the southern fuel seep. Contamination appears to parallel the canal approximately 80 feet to 100 feet east of East Canal and then turns into the canal where it is observed as a stain on the bank of the canal approximately 300 feet south of the downstream end of the culverts in East Canal. A total of 8 OST probes were advanced before dismantling the unit to ship out on tomorrows flight.
6 and 7	Operator has produced approximately 750 cy of backfill material at the local backfill source near inger Bay.

5/26/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/26/2012
REPORT NO	09

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	100 of initial survey completed with EM-61 awaiting review of data by geophysicist. ocation is the Building T-1451/East Canal North Area. Personnel nclude 1 eophysics Survey Tech ERS-J
4	Completed 5 soil borings and collected 23 subsurface soil samples analyzed for DRO by the mobile laboratory from the MNA treatment area to correlate OST data and define the vertical and horizontal extent of contamination in the MNA treatment area. Three soil samples were collected for DRO analysis for submittal to the fixed project laboratory to comply with 10 analysis of soil samples analyzed by the mobile laboratory in accordance with the approved SAP. ocation is the Building T-1451/East Canal Area. Personnel include: 3 scientists ERS-J and 2 drillers ammer Env. .
6 and 7	Equipment operator continued producing backfill material at the local borrow source for use in the East Canal/Building T-1451 Areas. Daily check of equipment performed by operator. D O is excavation and import native backfill. Personnel include: 1 operator and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description
	N/A

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	No work performed on-site for this task.
4	ork performed conforms with the approved SAP.
6 and 7	ork performed conforms with the approved SAP.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 5/26/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/28/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	10
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson

AM EAT ER	PM EAT ER	MA TEMP	M N TEMP
Cloudy	Rain	40	35

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area	AES	1x12	eophysics Tech	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x3	Operator	3
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x3	aborer	3
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x3	Scientist	3
4	Building T-1451 and East Canal Area	AES	2x12	Scientist	24
4	Building T-1451 and East Canal Area	AES	1x9	Scientist	9
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x9	Operator	9
6 and 7	ocal Borrow Source Backfill Material Production	AES	1x9	aborer	9

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	968
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	1064

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used during excavation activities.	
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig	
6	Monitored backfill material production for safety near excavator and appropriate PPE.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	Caterpillar 325C excavator	3
4	E	eoprobe 6620 direct push drill rig	10
6 and 7	AES	Caterpillar 325C excavator	9

Schedule Activity No.	REMARKS
3	nitial geophysical survey 100 completed in the East Canal/Building t-1451 North Area. eophysicist review identified 20 of 25 anomalies for initial investigation by digging test pits with the excavator to determine if an anomaly is a source of contamination. Excavated 6 anomalies anomalies 1-5 identified as55 gal steel drums welded together most likely used for culvert pipes. P D screening visual and olfactory observations did not indicate drums are a source of contamination for anomalies 1-5. Anomaly 6 was discovered to be a 2.5 long metal pipe at 2 bgs. The metal pipe maybe associated with a former fuel piping system. A gray layer of fine to medium sand was observed from 1.5 to 2 bgs with visible and olfactory petroleum contamination in the northeast corner of the test pit approximately 15 east of the steel pipe. The layer of contamination appears to reduce in thickness from the NE corner to the west at the metal pipe location. A soil sample will be collected for DRO/RRO and RO/BTE for analysis by the mobile laboratory. The petroleum contamination observed at anomaly 6 will be further investigated with the OST screening tool as well as direct push soil borings to determine the extent of petroleum contamination associated with the area surrounding anomaly 6.
4	Eight soil borings were completed with 37 subsurface soil samples collected in the East Canal/Building T-1451 Area to correlate the OST data and define the vertical extent of contamination in the MNA treatment area grid in the East Canal/Building T-1451 Area. Three primary one field duplicate and one MS/MSD soil samples were collected to submit to the fixed laboratory for 10 confirmation in accordance with the SAP. A total of 28 soil borings have been completed to determine the optimal design for the MNA treatment area to reduce contaminated groundwater contamination contributing sheen on the East Canal.
6 and 7	Operator has produced approximately 750 cy of backfill material at the local backfill source near inger Bay.

CONTRACTOR/S PER NTENDENT — DATE 5/28/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/28/2012
REPORT NO	10

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
3	eophysical Survey Anomaly nvestigation and Sampling	

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
3	eophysical Survey Anomaly nvestigation and Sampling	

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	100 of initial survey completed with EM-61. Six anomaly excavations were completed with test pit excavations. ocation is the East Canal/Building T-1451 North Area. Personnel nclude one geophysics survey technician one operator one laborer and one scientist ERS-J .
4	Completed eight soil borings and collected 37 subsurface soil samples analyzed for DRO by the mobile laboratory from the MNA treatment area to correlate OST data and define the vertical and horizontal extent of contamination in the MNA treatment area. Three primary one field duplicate and one MS/MSD soil samples were collected for DRO analysis for submittal to the fixed project laboratory to comply with 10 analysis of soil samples analyzed by the mobile laboratory in accordance with the approved SAP. ocation is the Building T-1451/East Canal Area. Personnel include: Two scientists on-site one scientist off-site for data analysis ERS-J and two drillers ammer Env. .
6 and 7	Equipment operator continued producing backfill material at the local borrow source for use in the East Canal/Building T-1451 Areas. Daily check of equipment performed by operator. D O is excavation and import native backfill. Personnel include: 1 operator and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description
3	Mislabeled sample Ds for two samples submitted on 5/20/2012.

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP.
4	ork performed conforms with the approved SAP. Non-Conformance Memo 001 is included for soil sample labeling error associated with soil samples submitted to the fixed project laboratory on Sunday 5/20/12. Sample quality control procedures have been explained to the field staff. Corrective action will consist of triple checks of proper sample labeling and the chain of custody form when submitting soil samples for analysis to the mobile laboratory and the fixed laboratory. Please see attached Non-Conformance Memo 001 for complete details regarding this non-conformance item.
6 and 7	ork performed conforms with the approved SAP.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE: 5/28/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/29/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	11
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy
PM EAT ER	Cloudy
MA TEMP	40
M N TEMP	35

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x12	eophysics Tech	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x12	Operator	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x12	aborer	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	2x12	Scientist	24
4	Building T-1451 and East Canal Area	AES	1x12	Scientist	12
4	Building T-1451 and East Canal Area	AES	2x12	Drill Operator Attendant	24

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	

TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
C M AT E TOTA O ORK O RS ROM PRE O S REPORT	1064
TOTA ORK O RS ROM START O CONSTR CT ON	1160

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used during excavation activities.
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig
6	No work performed for this task

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	Caterpillar 325C excavator	12
4	E	eoprobe 6620 direct push drill rig	4

Schedule Activity No.	REMARKS
3	nitial geophysical survey 100 completed in the East Canal/Building t-1451 North Area. eophysicist review identified 20 of 25 anomalies for initial investigation by digging test pits with the excavator to determine if an anomaly is a source of contamination. Excavated 9 anomalies for a total of 15 anomalies investigated total. The word anomaly will now be referred to as a target as suggested by the geophysics survey technician. Collected mobile lab sample 01-E 006-02 from freshly exposed surface from Test Pit 6 for RO/BTE and DRO/RRO. Target 8 Test Pit 7 was discovered to be 3 small diameter steel pipes approximately 2 -3 in length at a depth of 2.5 below ground surface bgs . P D screening samples were collected on opposite ends of the piping. P D screening sample readings for the two screening samples were 2.4 ppm and 3.6 ppm. There were no visible signs of staining or odor associated with the steel piping locations. A characterization soil sample was not collected for target 8. Target 9 was discovered to be a flush mount monitoring well lid covered over with overgrown vegetation. The EM-61 technician decided to discard the target and have the project geophysicist identify a replacement target to investigate for 5/30/12. Target 10 Test Pit 8 was discovered to be an 8 section of 1 diameter steel piping at 4.5 bgs. The EM-61 technician cleared the item and used a Schonstedt metal detector to investigate the base of the excavation and noted an additional metallic item was still detected below 4.5 bgs. Another section of 1 steel piping was found at 5.5 bgs. The EM-61 technician performed a sweep with the Schonstedt metal detector and did not find an indication of metal objects. our P D screening samples were collected and analyzed with the P D at 4.5 and 5.5 bgs. Readings for P D screening samples were S1= 2.1 ppm S2=1.9 ppm S3=2.1 ppm and S4=1.4 ppm. There were no signs of staining or odor associated with the two objects discovered in the test pit for anomaly 8. No characterization sample was collected. Target 11 Test Pit 9 was located on the upper north slope of the disturbed area depicted in the 1977 aerial photograph received from the Navy. The target was discovered to be layers of crushed drums first encountered at 6 bgs. The equipment operator attempted to excavate through the drums in order to find a base from which to collect P D screening samples. After removal of approximately fifty crushed drums it was decided that disposal concerns with removed drums need to be addressed. ssue will be discussed during QC meeting planned for 5/31/12. Target 12 Test Pit 10 was located in the bottom of the disturbed area southeast of Target 11. The target was discovered to be crushed drums beginning at 0.5 bgs. Excavated to 3 bgs through the crushed drums and discovered dark liquid with sheen hydrocarbon odor and stained soil within the excavation. Collected three P D screening samples on the west east and south sidewalls near the base of the excavation. P D screening sample readings for the S1=233.3 ppm west sidewall S2=94.7 ppm south sidewall and S3=95.6 ppm east sidewall . Collected full suite characterization sample 01-E 001 for submittal to the fixed project laboratory. Target 15 Test Pit 11 was located west of Target 12 in the bottom of the disturbed area. The target was discovered to be crushed drums beginning at 0.5 bgs. Excavated to 4 bgs through the crushed drums and discovered a disturbed layer of gray soil with hydrocarbon odor mixed with in the crushed drums. Collected two P D screening samples on the west and south sidewall 3 inches above the base of the excavation in a lense of gray sand with gravel. P D screening sample readings for the west sidewall and south sidewall samples were 0.9 ppm and 1.2 ppm. Collected a soil sample 01-E 011-03 from S1 south sidewall to submit to the mobile laboratory for RO/BTE and DRO/RRO due to observed odor in disturbed soil. Target 16 Test Pit 12 was located west of Target 11 on the north slope of the disturbed area. The target was discovered to be a 3 pipe at the ground surface and a layer of crushed drums 6 below the ground surface. The operator moved a bucket width down the slope from the crushed drums and was clear of the crushed drums. A wood stave pipe was exposed below the crushed drum area. P D screening samples were collected at 5 bgs on the west and south sidewalls and base of the test pit.. P D screening sample S1 from the base had a P D reading of 0.9 ppm. S2 from the west sidewall had a P D reading of 0.7 ppm. S3 from the south sidewall had a P D reading of 0.8 ppm. There was no staining or odor observed in the test pit. A soil sample was not collected from this area based on P D screening visual and olfactory observations. Target 17 Test Pit 13 was determined to be a steel braided cable located at 1.5 bgs. The EM-61 technician determined that the steel cable was the target. No further excavation was warranted at this location. Target 18 Test Pit 14 was determined to be a 1 diameter steel pipe approximately 2 long at 2.5 bgs. The base of the excavation was determined to be a concrete pad at 3 bgs. Pieces of creosote pilings were strewn across the base of the concrete pad. Two P D screening samples were collected from the base of the concrete pad both readings were 0.0. There were no visible or olfactory signs of contamination A soil sample was not collected at this location. Target 20 was discovered to be rebar within the concrete pad located south of Target 18 location was discarded. eophysicist will pick a different target to investigate for 5/30/12. Target 14 Test Pit 15 was located south of Target 18. The target was discovered to be a single compacted drum 1 bgs on the surface of the concrete pad of the former hangar. Two P D screening samples were collected at the base of the concrete. S1 had a P D reading of 1.2 and S2 had a reading of 1.5. A soil sample was not collected for this location.
4	Three soil borings were completed with 14 subsurface soil samples collected in the East Canal/Building T-1451 Area to correlate the OST data and define the vertical extent of contamination in the MNA treatment area grid in the East Canal/Building T-1451 Area. Collected one soil sample for DRO to submit to the fixed laboratory for 10 confirmation in accordance with the SAP. A total of 31 soil borings have been completed to determine the optimal design for the MNA treatment area to reduce contaminated groundwater contamination contributing sheen on the East Canal.

5/29/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/29/2012
REPORT NO	11

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
8	nstall and Develop Monitoring and Recovery ells	

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
8	nstall and Develop Monitoring and Recovery ells	

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	100 of initial survey completed with EM-61. Nine target investigations were completed with test pit excavations. ocation is the East Canal/Building T-1451 North Area. Personnel nclude one geophysics survey technician one operator one laborer and one scientist ERS-J .
4	Completed three soil borings and collected 14 subsurface soil samples analyzed for DRO by the mobile laboratory from the MNA treatment area to correlate OST data and define the vertical and horizontal extent of contamination in the MNA treatment area. One soil sample was collected for DRO analysis for submittal to the fixed project laboratory to comply with 10 analysis of soil samples analyzed by the mobile laboratory in accordance with the approved SAP. ocation is the Building T-1451/East Canal Area. Personnel include: One scientist on-site ERS-J and two drillers ammer Env. .
	Equipment operator continued producing backfill material at the local borrow source for use in the East Canal/Building T-1451 Areas. Daily check of equipment performed by operator. D O is excavation and import native backfill. Personnel include: 1 operator and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description
3	

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP.
4	ork performed conforms with the approved SAP
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 5/29/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/30/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	12
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy
PM EAT ER	Cloudy
MA TEMP	40
M N TEMP	35

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x12	eophysics Tech	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x12	Operator	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x12	aborer	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	2x12	Scientist	24
8	Area 303 monitoring well installation	AES	1x12	Scientist	12
8	Area 303 monitoring well installation	AES	2x12	Drill Operator Attendant	24

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 96
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 1256
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 1352

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used during excavation activities.
6	No work performed for this task
8	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	Caterpillar 325C excavator	10
8	E	eoprobe 6620 direct push drill rig	12

Schedule Activity No.	REMARKS
3	nitial geophysical survey 100 completed in the East Canal/Building t-1451 North Area. eophysicist review identified 25 of 25 anomalies for initial investigation by digging test pits with the excavator to determine if an anomaly is a source of contamination. Target 21 was discarded due to the nature and depth of the target see below. A new target will be identified for excavation for Thursday 5/31/2012. Excavated a total of 9 targets for a total of 24 targets investigatedl. The word anomaly will now be referred to as a target as suggested by the geophysics survey technician. Target 31 Test Pit 16 : ncovered geophysical targets of several compacted drums 4 pieces of compacted 3 diameter pipe each approximately 3 in length and several piece of 3 diameter pipe each approximately 2 in length at 1 3 bgs. P D screening samples: S1=1.3 ppm base S2=1.5 ppm north sidewall and S3=0.7 ppm west sidewall . No hydrocarbon odor staining or sheen observed. Mobile lab sample collected for DRO/RRO and RO/BTE sample D: 01-E 016-02 from S2 location. Target 32 Test Pit 17 : ncovered geophysical targets of several compacted drums at 3 bgs. P D screening samples: S1=1.9 ppm northeast base and S2=0.8 ppm south sidewall . No hydrocarbon odor staining or sheen observed. Mobile lab sample collected for DRO/RRO and RO/BTE sample D: 01-E 017-04 from S1 location. Target 28 Test Pit 18 : No geophysical targets were located. No hydrocarbon odor staining or sheen observed. No P D screening samples or lab samples were collected. Target 29 Test Pit 19 : ncovered geophysical targets of several compacted drums at from 0.5 - 1.5 bgs. Encountered groundwater at 32 bgs. P D screening samples: S1=0.2 ppm base S2=0.2 ppm north sidewall and S3=0.1 ppm south sidewall . No hydrocarbon odor staining or sheen observed. Mobile lab sample collected for DRO/RRO and RO/BTE sample D: 01-E 019-1.5 from S2 location. Target 13 Test Pit 20 : ncovered geophysical targets of a few compacted drums at 0.5 1 bgs. P D screening samples: S1=0.0 ppm base . No hydrocarbon odor staining or sheen observed. Mobile lab sample collected for DRO/RRO and RO/BTE sample D: 01-E 020-1.5 from S1 location. Target 27 Test Pit 21 : ncovered geophysical targets of several compacted drums a degraded wooden pipe with wire wrap and a former water main valve 300 lbs 6 diameter approximately 5 in length pipe at 0.5 2.5 bgs. P D screening samples: S1=1.9 ppm south sidewall and S2=1.4 ppm base . No hydrocarbon odor staining or sheen observed. Mobile lab sample collected for DRO/RRO and RO/BTE sample D: 01-E 021-1.5 from S1 location. Target 26 Test Pit 22 : ncovered geophysical targets of several compacted drums miscellaneous metal debris and former water pipeline 300lbs 6 diameter pipe approximately 12 in length note: valve from Test Pit 22 seems to match this pipe based on diameter and material at 0.5 1 bgs. P D screening samples: S1=0.3 ppm base . No hydrocarbon odor staining or sheen observed. Mobile lab sample collected for DRO/RRO and RO/BTE sample D: 01-E 022-02 from S1 location. Target 25 Test Pit 23 : ncovered geophysical targets of Marston matting one compacted drum and several pieces of rebar-concrete foundation chunks at 0.5 2 bgs. P D screening samples: S1=0 ppm base and S2=0 ppm south sidewall. No hydrocarbon odor staining or sheen observed. Mobile lab sample collected for DRO/RRO and RO/BTE sample D: 01-E 023-1 from S2 location. Target 23 Test Pit 24 : ncovered geophysical targets of several welded drums former culverts and other miscellaneous metal debris at 2.5 4.5 bgs. No P D screening samples or lab samples were collected as no potential contaminant sources were identified. No hydrocarbon odor staining or sheen observed. Target 21: No associated test pit number as no excavating required. ncovered geophysical target of one 2 approximately 10 in length pipe at 1 bgs. No P D screening samples or lab samples were collected as no potential contaminant sources were identified. No hydrocarbon odor staining or sheen observed.
4	No work performed in the East Canal/Building T-1451 Area.
8	nstalled monitoring well M -303-42 in Area 303. The screened interval is from 19 bgs to 29 bgs. Depth to water was 24.5 bgs.

5/30//2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/30/2012
REPORT NO	12

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
8	nstall and Develop Monitoring and Recovery ells	

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
8	nstall and Develop Monitoring and Recovery ells	

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	100 of initial survey completed with EM-61. An additional Nine target investigations were completed with test pit excavations. ocation is the East Canal/Building T-1451 North Area. Personnel nclude one geophysics survey technician one operator one laborer and one scientist ERS-J .
8	Completed installation of monitoring well M -303-42. ocation Area 303. Personnel include: One scientist on-site ERS-J and two drillers ammer Env. .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP.
4	ork performed conforms with the approved SAP. The preparatory and initial phase meetings held today after daily tailgate safety meeting. Preparatory phase checklist and initial phase checklists are included with today s daily contractor quality control report.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 5/30/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/31/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	13
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy
PM EAT ER	Cloudy
MA TEMP	40
M N TEMP	35

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x12	eophysics Tech	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x12	Operator	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	1x12	aborer	12
3	Building T-1451 and East Canal North Area test pit excavation	AES	2x12	Scientist	24
8	Area 303 monitoring well installation	AES	1x12	Scientist	12
8	Area 303 monitoring well installation	AES	2x12	Drill Operator Attendant	24

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 96
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 1352
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 1448

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
3	erified appropriate PPE was being used during excavation activities.
8	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
N/A	N/A	N/A

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AES	Caterpillar 325C excavator	10
8	E	eoprobe 6620 direct push drill rig	12

Schedule Activity No.	REMARKS
3	nitial geophysical survey 100 completed in the East Canal/Building t-1451 North Area. eophysicist review identified 25 of 25 anomalies for initial investigation by digging test pits with the excavator to determine if an anomaly is a source of contamination. Target 21 was discarded due to the nature and depth of the target see below. A new target will be identified for excavation for Thursday 5/31/2012. Excavated a total of 9 targets for a total of 24 targets investigated. The word anomaly will now be referred to as a target as suggested by the geophysics survey technician. During the QC meeting with the Navy and ADEC it was decided that the one remaining target left to identify and investigate would be replaced by excavating between Targets 11 and 12 in the disturbed area where the crushed drum dump has been discovered. t was decided in the QC meeting to further excavate the Target 11 test pit 9 location below the crushed drums observed on 5/30/12. t was decided that the drums could be re-buried due to the relative number of drums observed in the proximity. Test Pit 25 was excavated within the middle of the Targets 11 and 12: Crushed drums where encountered at 1 bgs Brown sand changed to gray sand at approximately 3 bgs with a strong petroleum odor. roundwater was encountered at 4.5 5.5 bgs. The excavation walls began to sluff and cave in towards the middle of the excavation. Collected P D screening sample S1 at approximately 8 feet bgs as estimated by the height of the bucket above the groundwater. P D screening sample had a result of 3.4 ppm collected characterization soil sample 01-E 002 for the full suite of analyses and mobile lab samples 01-E 025-08 and duplicate sample 01-E 026-08. Backfilled Test Pit 25 to within 2 bgs and will fill remaining 2 to the ground surface with clean backfill from the local borrow source. Test Pit 9 re-excavated after approval from the Navy and ADEC to bury removed drums during backfill in the test pit. eavily oxidized liquid was observed extruding from a crushed drum at 11 bgs. The liquid did contain odor but was suspect due to the viscous nature of the fluid. A full characterization sample was collected from the liquid mixed with the soil surrounding it sample 01-E 003. Excavation continued through the drum layer to approximately 15 -16 bgs. Collect P D screening samples: S1=14.7 ppm south sidewall S2=5.9 ppm west sidewall and S3=5.2 ppm north sidewall . Base area was highly disturbed with sloughing soil. A P D screening sample was collected for the non-representative base sample and had a reading of 353.1. Samples were submitted to the fixed laboratory for the full characterization suite of analyses from the south and west sidewalls 01-E -004 and 01-E 005. t was determined that the base sample will be submitted to the fixed project laboratory for the full characterization suite of analyses as sample 01-E 006 on the flight out on 6/3/2012.The west side wall sample was also submitted to the mobile lab for RO/BTE and DRO/RRO 01-E 009-15. The west side wall sample sent to the fixed laboratory for the full characterization suite of analyses will be amended to be analyzed for RO/BTE and DRO/RRO for confirmation of the mobile lab sample.
8	nstalled monitoring wells M -303-38 and M -303-41 in Area 303. The screened interval for M -303-39 is from17 bgs to 27 bgs. The screened interval for M -303-41 is from20 bgs to 30 bgs

5/31/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	5/31/2012
REPORT NO	13

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	100 of initial survey completed with EM-61. One test pit excavated and one test pit re-excavated for additional characterization. Excavations are complete in the East Canal/Building T-1451 North Area. ocation is the East Canal/Building T-1451 North Area. Personnel nclude one geophysics survey technician one operator one laborer and one scientist ERS-J .
8	Completed installation of monitoring well M -303-39 and M -303-41. ocation Area 303. Personnel include: One scientist on-site ERS-J and two drillers ammer Env. .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	ork performed conforms with the approved SAP.
4	ork performed conforms with the approved SAP. eld initial QC meeting with the Navy and ADEC. Discussed work completed to date in the East Canal/Building T-1451 Area East Canal/Building T-1451 North Area and Area 303. Meeting minutes will be submitted on 6/2/2012.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 5/31/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/1/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	14
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy
PM EAT ER	Cloudy
MA TEMP	40
M N TEMP	35

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area remove flagging	AES	1x12	eophysics Tech	12
4	Building T-1451 and East Canal Area soil boring-sample collection	AES	3x2	Scientist	6
4	Building T-1451 and East Canal Area soil boring-sample collection	ammer	2x2	Drill Operator Attendant	4
6 7	Excavating oading and mport Clean Native Backfill	AES	3x12	2xOperator. aborer	36
8	Area 303 monitoring well installation	AES	1x10	Scientist	10
8	Area 303 monitoring well installation	ammer	2x10	Drill Operator Attendant	20

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	88
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	1448
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	1536

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig
8	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received
6 7	N/A	olvo 20 front end loader and 12 yard dump truck.

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
6 7	AES	Caterpillar 325C excavator	10
6 7	AES	olvo 120 front end loader and 12 yard end dump truck	6
8	E	eoprobe 6620 direct push drill rig	10

Schedule Activity No.	REMARKS
4	Performed additional soil borings south of initial OST grid to collect analytical samples to submit to the mobile laboratory. Soil borings were performed to gather additional soil analytical data to determine if staining observed on the bank of the east canal is from wave action due to petroleum sheen with the rise and fall of the water level in the canal. Completed soil borings B-32 B-33 and B-34. 14 primary samples and 2 field duplicates were collected and submitted to the mobile laboratory. One confirmation sample 01-SB030 was collected from mobile lab sample 01-B033-04 to submit to the fixed laboratory.
6 7	The olvo 120 front end loader and 12 yard end dump truck were off loaded from the barge late this morning. Both the loader and the end dump truck were used to move local borrow source material from the borrow pit to the East Canal/Building T-1451 area for future use during construction of the MNA treatment area. Approximately 85 cubic yards of soil was transported to the staging area in the East Canal/Building T-1451 Area.
8	Correction for order of installed monitoring wells in Area 303. M -303-40 installed and completed on 5/30/12 incorrectly identified on the contractor production report for 5/30/12 as only M -303-42 installed that day. M -303-42 was installed 5/30/12 and completed with bollards on 5/31/12. Monitoring well M -303-39 was installed and completed on 5/31/12 but incorrectly identified as M -303-38 in the first sentence of the contractor production report for 5/31/12. The contractor quality control report for 5/31/12 has the correct well completion information for M -303-39 and M -303-41. A power line tracer was used to mark the active power line to move original planned locations for monitoring wells M -303-38 and M -303-43 as discussed in the QC meeting held on 5/31/12. M -303-41 was moved without a power line locate as the well was relocated on the opposite side of an existing fence line. A field change request form is included for relocation of Monitoring wells M -303-38 M -303-41 and M -303-42. Monitoring wells M -303-38 and M -303-43 have been installed with bollards. The screened interval for M -303-38 is from17 bgs to 27 bgs. The screened interval for M -303-43 is from19.5 bgs to 29.5 bgs. All six 2 monitoring wells installed in Area 303 have stick ups and bollards installed. inal completion for the six 2 monitoring wells are pending as concrete has not been set for he stick ups or the bollards. inal inspection and sign off for completion will be performed after the concrete has been set for all six 2 monitoring wells.

6/1/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/1/2012
REPORT NO	14

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
4	Complete three soil borings and collect 14 primary soil samples and two duplicate soil samples to the mobile laboratory for further characterization of contaminated soil south of the MNA treatment area. One sample 01-SB030 . ocation is the East Canal/Building T-1451 Area. Personnel include: 3 Scientist ERS-J and 2 drillers ERS-J ERS-J .
6 7	Excavating oading and mport Clean Native Backfill
8	nstalled monitoring wells M -303-38 and M -303-43.Still need to pour concrete on all six 2 -monitoring wells before completed and final inspection for the six 2 monitoring wells. ocation Area 303. Personnel include: 1 Scientist ERS-J and 2 drillers ERS-J

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
4	ork performed conforms with the approved SAP. Soil sampling was performed was correctly executed for submission to the mobile and fixed laboratories.
6 7	ork performed conforms with the approved SAP.
8	ork performed conforms with the approved SAP. The six 2 monitoring wells will not be complete until stick ups and bollard s are set in concrete. inal inspection is pending until all well specifications are complete.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/1/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/2/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	15
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly cloudy with sun breaks
PM EAT ER	Partly Cloudy with increasing winds gusts to 20 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
4	Building T-1451 and East Canal Area soil boring-sample collection	AES	2x8.5	Scientist	17
4	Building T-1451 and East Canal Area soil boring-sample collection	ammer	2x8.5	Drill Operator Attendant	17
6 7	Excavating oading and mport Clean Native Backfill	AES	3x12	2x Operator. x aborer	36
8	Area 303 recovery well monitoring well installation	AES	1x3	Scientist	3
8	Area 303 monitoring well installation	ammer	2x3	Drill Operator Attendant	6

JOB SAFETY			
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 79
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 1536
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 1615

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig
8	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
4		eoprobe 6620 direct push drill rig	8.5
6 7	AES	Caterpillar 325C excavator	12
6 7	AES	olvo 120 front end loader	12
6 7	AES	12 yard end dump truck	12
8	E	eoprobe 6620 direct push drill rig	3

Schedule Activity No.	REMARKS
4	Performed additional soil borings south of initial OST grid to collect analytical samples to submit to the mobile laboratory and fixed laboratory. Soil borings were performed to gather additional soil analytical data to the south of the initial OST grid. Completed 12 soil borings B-35 - B-46. 61 primary samples and 6 field duplicates were collected and submitted to the mobile laboratory. 6 primary confirmation soil samples and one field duplicate were collected to submit to the fixed laboratory for 10 confirmation of the mobile laboratory samples..
6 7	olvo 120 front end loader and the end dump truck were used to move local borrow source material from the borrow pit to the East Canal/Building T-1451 area for future use during construction of the MNA treatment area. An estimated 250 cubic yards of soil have been transported to the staging area in the East Canal/Building T-1451 Area.
8	Recovery ell R -303-02 was installed with stick up and three metal bollards. Screened interval was installed from 4.5 bgs to 14.5 bgs. ater level was recorded at 7.5 bgs. Recovery well R -303-02 not completed until concrete is set for the stick up and the three bollards.

CONTRACTOR/S PER NTENDENT — DATE: 6/2/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/2/2012
REPORT NO	15

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
4	Complete 12 soil borings collect 61 primary soil samples and six duplicate soil samples to the mobile laboratory for further characterization of contaminated soil south of the MNA treatment area. 6 primary confirmation soil samples and one field duplicate were collected to submit to the fixed laboratory for 10 confirmation of the mobile laboratory samples. ocation: East Canal/Building T-1451 Area. Personnel include: 3 Scientist ERS-J and 2 drillers ERS-J ERS-J .
6 7	Excavating oading and mport Clean Native Backfill from local borrow source to East Canal/Building T-1451 Area. Personnel include 2 operators and 1 truck driver.
8	nstalled recovery well R -303-02 near airport terminal concrete not placed for stick ups and bollard s. Concrete required on stick ups and bollard s all six 2 -monitoring wells before completed and final inspection for the six 2 monitoring wells. ocation Area 303. Personnel include: 1 Scientist ERS-J and 2 drillers ERS-J

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
4	ork performed conforms with the approved SAP. Soil sampling performed was correctly executed for submission to the mobile and fixed laboratories. 12 soil borings were advanced to further characterize the boundary of MNA treatment area to optimize the design for the treatment area.
6 7	ork performed conforms with the approved SAP.
8	ork performed conforms with the approved SAP. One 4 recovery well installed R -303-02 in Area 303. Recovery well will not be considered complete until stick ups and bollard s are set in concrete. inal inspection is pending until all well specifications are complete.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/2/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/4/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	16
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson

AM EAT ER	PM EAT ER	MA TEMP	M N TEMP
Partly cloudy with sun breaks	Partly Cloudy with increasing winds gusts to 20 mph	45	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area data compiling and reporting	AES	1x12	eophysics survey technician	12
4	Building T-1451 and East Canal Area OST probing soil boring and sample collection	AES	1x12	Scientist	12
4	Building T-1451 and East Canal Area soil boring and sample collection	AES	2x4	Scientist	8
4	Building T-1451 and East Canal Area soil boring-sample collection	ammer	2x12	Drill Operator Attendant	24
6 7	Excavating oading and mport Clean Native Backfill	AES	3x12	2x Operator. x Truck Driver	36
	Meetings and reporting	AES	2x8	Scientist	16

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	108
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	1615
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	1723

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
4		eoprobe 6620 direct push drill rig	8
4	AES	Caterpillar 325C excavator	12
6 7	AES	Caterpillar 325C excavator	12
6 7	AES	olvo 120 front end loader	12
6 7	AES	12 yard end dump truck	12

Schedule Activity No.	REMARKS
4	Performed additional OST probes to fill in data gaps just south of the MNA treatment area to investigate contamination in that area. One OST probe was advanced -190 in the seep 3 area. After direction from the Navy as discussed in 11:00 am Adak time teleconference call meeting minutes will be provided at a later date advanced 6 soil borings B-047 B-052 to perform ex-situ OST correlation with previously gathered OST probe data and analytical soil sample data collected as part of the MNA treatment area delineation design. Collected 6 homogenized soil samples for analysis at the mobile lab fixed lab P D field screening readings and ex-situ OST readings. t was noted that the Navy requested a soil boring be performed adjacent to OST probe -014 for an ex-situ OST correlation reading. owever OST probe -014 did not have an associated soil boring advanced near it for analytical soil sample results for correlation of the OST data. OST probe -104 the next probe to the north of -014 did have a soil boring B-017 advanced adjacent to it for OST correlation comparison. After speaking with RPM concerning this issue it was decided that soil boring B-052 would be advanced adjacent to -104 to meet the purposes of the ex-situ OST correlation exercise requested by the Navy.
6 7	Cat 325C excavator used to produce additional backfill material at the local borrow source. olvo 120 front end loader and the end dump truck were used to move 144 cy of local borrow source material from the local borrow pit to the East Canal/Building T-1451 area for future use during construction of the MNA treatment area. An estimated 400 cubic yards of soil have been transported to the staging area in the East Canal/Building T-1451 Area.
	Shipped soil samples 01-SB030 01-SB037 collected from 6/1/12 to 6/2/12 to TestAmerica Seattle for DRO/AK102 analysis for 10 confirmation results for soil samples analyzed by the mobile laboratory for DRO/AK102. Soil sample 01-E 006 was included in shipment for characterization suite of analyses collected on 5/31/12.

6/4/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/4/2012
REPORT NO	16

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
4	Complete 1 OST probe -190 for additional data collection near seep 3. Observed advancement of 6 soil borings for collection of homogenized soil samples for analysis at the mobile lab fixed lab P D field screening readings and ex-situ OST readings As noted in contractor report for 6/4/12 Boring B-052 was advanced adjacent to -104 next to previously advanced boring B-017 to collect required data for comparison of ex-situ and in-situ OST readings as well as past analytical soil data collected from boring B-017 that was analyzed at the mobile laboratory for DRO . Personnel include: 3 Scientist ERS-J and 2 drillers ERS-J ERS-J .
6 7	Excavating oading and mport Clean Native Backfill.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
4	ork performed was requested by the Navy during the 11:00 am teleconference call for additional OST correlation in comparison to analytical soil sample results analyzed at the mobile lab. Soil samples were collected from borings B-047 B-052 for analysis at the mobile lab fixed lab P D field screening readings and ex-situ OST readings for further correlation of OST data. Soil sampling performed was correctly executed for submission to the mobile and fixed laboratories. Six soil samples were collected from soil borings B-047 B-052 and submitted to the mobile laboratory for DRO analysis for the ex-situ OST correlation exercise requested by the Navy. Six soil samples were also collected from soil borings B-047-B-052 soil samples 01-SB038-01-SB043 for submittal to the fixed laboratory for analysis of DRO/AK102 on Thursday s 6/7/12 flight departing Adak AK.
6 7	ork performed conforms with the approved SAP.
8	

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/4/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/5/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	17
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly cloudy with winds 5015 mph
PM EAT ER	Partly Cloudy winds 10-15 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area survey crushed drum area and data reporting	AES	1x10	eophysics survey technician	10
4	Building T-1451 and East Canal Area EM-61 survey of located wood stave pipe	AES	1x2	eophysics survey technician	2
4	Building T-1451 and East Canal Area OST probing soil boring and sample collection	AES	1x12	Scientist	12
4	Building T-1451 and East Canal Area soil boring-sample collection	ammer	2x12	Drill Operator Attendant	24
6 7	Excavating oading and mport Clean Native Backfill	AES	1x4	1x Operator. x aborer	4
6 7	Excavating oading and mport Clean Native Backfill		2x12	1x Operator. x Truck Driver	24
4	Building T-1451 and East Canal Area test pit excavations for OST correlation	AES	2x8	Scientist	16
4	Building T-1451 and East Canal Area test pit excavations for OST correlation	AES	1x8	Drill Operator Attendant	8
	Meetings and reporting	AES	2x4	Scientist	8

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	

TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	108
C M AT E TOTA O ORK O RS ROM PRE O S REPORT	1723
TOTA ORK O RS ROM START O CONSTR CT ON	1831

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
4	erified appropriate PPE was being used. Observe safety around eoprobe 6620 Direct Push Drill Rig
4	Observed safety around excavator for proper PPE and worker actions.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
4		eoprobe 6620 direct push drill rig	12
4	AES	Caterpillar 325C excavator	8
6 7	AES	Caterpillar 325C excavator	4
6 7	AES	olvo 120 front end loader	12
6 7	AES	12 yard end dump truck	12

Schedule Activity No.	REMARKS next page

4	A teleconference call was held at 0700 Adak time minutes to be provided with the Navy ADEC and contractor personnel to discuss the revised MNA treatment boundary submitted to the group for review on Monday evening 6/4/2012. The proposed boundary was adjusted and agreed upon by the Navy ADEC and the contractor. As part of the meeting the Navy requested that excavations test pits be completed next to OST probes and soil borings that exhibit inconsistencies for correlation of low and high RE values when compared to analytical soil sample results provided by the mobile laboratory. The Navy requested that five test pit excavations be performed to collect a homogenized sample to be analyzed for an ex-situ OST reading a P D field screening sample a mobile lab soil sample and a fixed lab soil sample for further correlation of the OST probe results compared to analytical soil concentrations. Test pit locations were based on OST RE that did not correlate in the low and high percentages when compared to analytical soil concentrations for DRO analyzed at the mobile laboratory. OST probes and corresponding borings that were investigated are as follows: -050/B-028 -068/B-026 -052/B-010 -031/B-031 and -043/B-025. pon starting excavation of test pit 26 adjacent to -050/B-028 a wood stave pipeline was encountered at approximately 2.5 bgs. Both the Navy RPM and NTR where present when the pipeline was discovered. iquid with a strong hydrocarbon odor was observed in the pipe through an opening in the top of the pipe. Test pit excavations were ceased and trenching to investigate the extent of the pipe to the east commenced. Approximately 45 of the pipeline was exposed prior to lunch break for the crew. Discussions with the RPM and the NTR included potential sources for the pipeline. t was noted that a potential source for the pipeline could be aviation gasoline piping. The contractor called the contractor s Certified ndustrial ygienist C to ensure proper precautions were used for worker safety. The C recommended work stoppage until the liquid could be characterized. The contractor delivered a sample of the liquid 01- 001 to the mobile laboratory for analysis of DRO/RRO and RO/BTE to determine if volatile components were present in the liquid. No further excavation activities with the excavator were completed for the pipeline pending the analytical analysis of the liquid. The Navy RPM and NTR were informed of the C s decision to halt further trenching activities until the liquid sample analytical results from the mobile lab were reported. Drilling subcontractor completed 20 OST probes -191 210 adjacent to borings B-032 B-046to provide OST data correlation for soil borings completed from 6/1/12 6/2/12. Three test pits where completed to collect a homogenized sample to be analyzed for an ex-situ OST reading a P D field screening sample a mobile lab soil sample and a fixed lab soil sample for further correlation of the OST probe results compared to analytical soil concentrations. Test pit 27 was completed adjacent to -024/B to collect a soil sample from the OST probe -024 with peak RE value of 81 at 5.1 bgs. The test pit was advanced to 5.5 bgs to collect a homogenized soil sample from 4.5 to 5.5 bgs to be analyzed for an ex-situ OST reading a P D field screening sample a mobile lab soil sample and a fixed lab soil sample for further correlation of the OST probe results compared to analytical soil concentrations. The homogenized sample was separated into four samples for an ex-situ OST reading P D screening sample mobile lab sample 01-E 027-01 and fixed lab sample 01-E 007. Test Pit 28 was excavated adjacent to -052/B-010 to collect a soil sample from the OST probe -052 with a peak RE value of 163 at 3.6 bgs. The test pit was advanced to 4.5 bgs to collect a homogenized soil sample from 3.5 to 4.5 bgs for to be analyzed for an ex-situ OST reading a P D field screening sample a mobile lab soil sample and a fixed lab soil sample for further correlation of the OST probe results compared to analytical soil concentrations. The homogenized sample was separated into four samples for an ex-situ OST reading P D screening sample mobile lab sample 01-E 028-01 and fixed lab sample 01-E 008. Test Pit 29 was excavated adjacent to -043/B-025 to collect a soil sample from the OST probe -043 with a peak RE value of 88 at 4.5 bgs. The test pit was advanced to 4.0 bgs to collect a homogenized soil sample from 3.5 to 4.5 bgs to be analyzed for an ex-situ OST reading a P D field screening sample a mobile lab soil sample and a fixed lab soil sample for further correlation of the OST probe results compared to analytical soil concentrations. The homogenized sample was separated into four samples for an ex-situ OST reading P D screening sample mobile lab sample 01-E 029-01 and fixed lab sample 01-E 009.
6 7	olvo 120 front end loader and the end dump truck were used to move 110 cy of local borrow source material from the borrow pit to the East Canal/Building T-1451 area for future use during construction of the MNA treatment area. An estimated 510 cubic yards of soil have been transported to the staging area in the East Canal/Building T-1451 Area.

6/5/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/5/2012
REPORT NO	17

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
4	Complete 20 OST probes -191- 211 for additional data collection near seep 3 in the East Canal/Building T-1451 Area. OST nvestigation. Personnel include: 1 Scientist ERS-J and 2 drillers ammer . Observed excavation of test pits 26 - 29. Excavation of test pits was requested by the Navy during the 7:00 am teleconference call that included the Navy ADEC and the contractor. A wood stave pipeline was discovered while excavating test pit 26 see remarks below. Three test pits TP27-TP29 were completed after the work stoppage for trenching the discovered pipeline. Test pits were for additional OST correlation in comparison to analytical soil sample results analyzed at the mobile lab. Soil samples were collected from test pits 27- 29 for analysis at the mobile lab fixed lab P D field screening readings and ex-situ OST readings for further correlation of OST data. Soil sampling performed was correctly executed for submission to the mobile and fixed laboratories. One soil sample was collected from each test pit at the peak RE value for the adjacent OST probe and soil boring for further OST correlation to analytical soil sample results. One soil sample 01-E 027-01 01-E 028-01 and 01-E 029-01 for each test pit was submitted to the mobile laboratory for DRO analysis for the ex-situ OST correlation exercise requested by the Navy. One soil sample 01-E 007 01-E 008 and 01- 009 for each test pit was also submitted to the fixed laboratory for DRO analysis for OST correlation purposes. Personnel include: 2 Scientists ERS-J and 1 equipment operator ERS-J . Requested a rapid turnaround from the fixed project laboratory for DRO/AK102 soil samples 01-SB018 01-SB-029 the lab received on 6/1/2012 and 01-SB030 01-SB037 for DRO/AK102 samples received on 6/4/2012.
6 7	110 cy of backfill transported to the East Canal/Building T-1451Area. Excavating oading and mport Clean Native Backfill. Personnel: 2 operators and 1 truck driver.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
4	A wood stave pipe line was discovered at 2.5 bgs adjacent to test pit 26 -050/B-028 . A strong hydrocarbon odor was present in the liquid contained in the pipe. The Navy RPM requested that trenching be performed to determine the extent of the pipeline east and upgradient of the East Canal. After 45 of trenching to the east of Boring B-028 to determine the extent of the pipeline a call was made to the contractor Certified ndustrial ygienist C for the appropriate procedure to assess the hazard to worker safety as aviation gasoline was mentioned as a potential hazard for the Area 303 site north of the East Canal/Building T-1451 Area . A sample of the liquid 01- 001 in the pipe was collected and submitted to the mobile laboratory for analysis of DRO/RRO and RO/BTE . The contractor notified the RPM that trenching will not continue on the pipeline until receipt of the mobile laboratory analysis results for the liquid in the pipeline and verbal confirmation from the contractor s C .
6 7	ork performed conforms with the approved SAP.
8	

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE: 6/5/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/6/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	18
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly cloudy with winds 5-10 mph
PM EAT ER	Partly Cloudy winds 5-10 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area survey data collection and reporting	AES	1x12		12
3	Building T-1451 and East Canal North Area OST probing	AES	1x12	Scientist	12
3	Building T-1451 and East Canal North Area OST probing	ammer	2x12	Drill Operator Attendant	24
6 7	Excavating oading and mport Clean Native Backfill	AES	1x8	Operator	8
6 7	Excavating oading and mport Clean Native Backfill	AES	1x8	Truck Driver	8
6 7	Excavating oading and mport Clean Native Backfill	AES	1x8	aborer	8
4	Building T-1451 and East Canal Area water pipe removal within MNA Treatment Area	AES	2x2	Scientist	4
4	Building T-1451 and East Canal Area water pipe removal within MNA Treatment Area	AES	1x4	Operator	4
4	Building T-1451 and East Canal Area water pipe removal within MNA Treatment Area	AES	2x4	aborer	8
	Data compilation and review daily reports	AES	2x10	Scientist	20

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 108
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 1831
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 1939

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
4	Observed safety around excavator for proper PPE and worker actions.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AMMER	eoprobe 6620 direct push drill rig	12
4	AES	Caterpillar 325C excavator	2
6 7	AES	olvo 120 front end loader	12
6 7	AES	12 yard end dump truck	12

Schedule Activity No.	REMARKS
3	Drilling subcontractor completed 15 OST probes -235- -249 along the perimeter of the crushed drum area discovered as part of the geophysical investigation to investigate petroleum contamination associated with the drums. OST probes advanced along the southeast portion of the drum area had RE values ranged from 36 to 96 reflection
4	Three 10 sections and one 12 section of wood stave pipe discovered during the excavation of Test Pit 26 on 6/5/12 were removed with the Caterpillar 325C excavator after the water sample collected for analysis at the mobile lab was characterized as 96 diesel fuel in the water in the pipe. The pipe was excavated to its terminus in the MNA treatment area. Soil plugging the outlet of the pipe was removed to allow the liquid inside to drain into a hand shoveled sump lined with 6 mil plastic sheeting to collect the liquid as the pipe drained. Sorbent pads were used to collect the fuel floating on the water surface. Approximately 13 gallons of fuel/water were collected and disposed of in a 55 gallon drum present on site used to collect decontamination water during macrocore soil sampling with the eoprobe 6620 drill rig. The sections were removed one at a time using the excavator. The fourth section was removed and the remaining pipe was plugged with a wood plug provided by the NTR. The wood stave pipe open trench was backfilled with borrow source material staged on site at East Canal/Building T-1451 Area.
6 7	olvo 120 front end loader and the end dump truck were used to move 85 cy of local borrow source material from the borrow pit to the East Canal/Building T-1451 area for future use during construction of the MNA treatment area. An estimated 600 cubic yards of soil have been transported to the staging area in the East Canal/Building T-1451 Area.

CONTRACTOR/S PER NTENDENT — DATE: 6/6/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/6/2012
REPORT NO	18

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	15 OST probes -235- -249 along the perimeter of the crushed drum area to investigate petroleum contamination in that area. East Canal/Building T-1451 North Area. Personnel include: 1 Scientist ERS-J and 2 drillers ammer .
4	Removal of 42 of wood stave pipeline within the MNA treatment area seep 3 in the East. OST nvestigation. East Canal/Building T-1451 Area. Personnel: 2 scientists 1 operator and 2 laborers.
6 7	85 cy of backfill transported to the East Canal/Building T-1451Area. Excavating oading and mport Clean Native Backfill. Personnel: 1 operator and 1 truck driver.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	OST probing conforms with the approved SAP.
4	our sections of wood stave pipe within the MNA treatment area excavation footprint were removed after the water sample 01- 001 submitted to the mobile laboratory was characterized as 96 diesel fuel in the water in the pipe. A Caterpillar 325 C was used to excavate the remaining pipe west to the culvert area backfill material. All personnel wwere wearing appropriate PPE. Approximately 42 of pipeline was removed in 4 sections and wrapped in 6 mil plastic liner for future disposal. The Navy RPM and NTR were on-site during the removal of the pipeline.. t was observed in the Contractor Production Report for 6/5/12 test pit excavation information was reported incorrectly. ive test pits were to be excavated on 6/5/12 however only three were excavated due to a work stoppage after encountering a buried pipe adjacent to Test Pit 26: Corrections to the Contractor Production Report for are as follows: Test pit 27 was completed adjacent to -024/B031. The soil boring number was not included in the 6/5/12 Contractor Production Report. Test Pit 28 was not excavated adjacent to -052/B-010 as reported in the 6/5/12 Contractor Production Report. Test Pit 28 was excavated adjacent to 068/B026 to collect a soil sample from the OST probe -068 with a peak RE value of 198.5 at 3.8 bgs. The test pit was excavated to 4.25 bgs to collect a homogenized soil sample from 3.25 to 4.25 bgs. Test Pit 29 was not excavated adjacent to -043/B-025 as reported in the 6/5/12 Contractor Production Report. Test Pit 29 was excavated adjacent to 052/B010 to collect a soil sample from the OST probe -052 with a peak RE value of 163 at 3.6 bgs. The test pit was excavated to 4.0 bgs to collect a homogenized soil sample from 3.0 to 4.0 bgs.
6 7	ork performed conforms with the approved SAP. No accidents or injuries reported.
8	

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/6/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/7/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	19
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly cloudy with winds 5-10 mph
PM EAT ER	Partly Cloudy winds 5-10 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area survey data collection and reporting	AES	1x12	eophysics Tech	12
3	Building T-1451 and East Canal North Area OST probing	AES	1x12	Scientist	12
3	Building T-1451 and East Canal North Area OST probing	ammer	2x12	Drill Operator Attendant	24
6 7	Excavating oading and mport Clean Native Backfill	AES	1x12	Operator	12
6 7	Excavating oading and mport Clean Native Backfill	AES	1x7	Truck Driver	7
6 7	Excavating oading and mport Clean Native Backfill	AES	1x7	Operator	7
4	Building T-1451 and East Canal Area consolidate soil	AES	1x5	Operator	5
4	Building T-1451 and East Canal Area consolidate soil	AES	1x5	aborer	5
	QC meeting Data compilation and review travel day	AES	1x12	Scientist	12
	QC meeting Data compilation and review daily reports	AES	1x12	Scientist	12

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	108
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	1939
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2047

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
	No reported accidents or injuries

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AMMER	eoprobe 6620 direct push drill rig	12
4	AES	olvo 120 front end loader	5
6 7	AES	Caterpillar 325C excavator	12
6 7	AES	olvo 120 front end loader	7
6 7	AES	12 yard end dump truck	7

Schedule Activity No.	REMARKS
3	Drilling subcontractor completed 15 OST probes -235- -249 East Canal/Building T-1451 North Area along the perimeter of the crushed drum area discovered as part of the geophysical investigation to investigate petroleum contamination associated with the drums. OST probes advanced along the southeast portion of the drum area had RE values ranged from 1 to 96 reflection.
4	Contaminated soil generated from pipe line excavation and test pit excavations was consolidated into one location at the East Canal/Building T-1451 Area.
6 7	olvo 120 front end loader and the end dump truck were used to move 120 cy of local borrow source material from the borrow pit to the East Canal/Building T-1451 area for future use during construction of the MNA treatment area. An estimated 720 cubic yards of soil have been transported to the staging area in the East Canal/Building T-1451 Area.

CONTRACTOR/S PER NTENDENT — DATE: 6/7/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/7/2012
REPORT NO	19

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	15 OST probes -235- -249 along the perimeter of the crushed drum area to investigate petroleum contamination in that area. East Canal/Building T-1451 North Area. Personnel include: 1 Scientist ERS-J and 2 drillers ammer .
4	Consolidate contaminated material into one location from test pit excavations performed on 6/5/12. East Canal/Building T-1451 Area. Personnel: 1 operator and 1 laborer.
6 7	120 cy of backfill transported to the East Canal/Building T-1451Area. Excavating oading and mport Clean Native Backfill. Personnel: 2 operators and 1 truck driver.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	OST probing conforms with the approved SAP. ncorrectly labeled OST probes for contractor production report for 6/6/12. 24 OST probes -211- 234 were advanced along the perimeter of the crushed drum area on 6/6/12. Probe data was correctly reported at the QC meeting held this morning.
4	olvo 120 loader was used to consolidate contaminated material on site from test pit excavations into one area.
6 7	ork performed conforms with the approved SAP. No accidents or injuries reported.
	Second weekly QC meeting held on 6/7/2012 with the Navy ADEC and the contractor to discuss work accomplished 5/31/12 6/6/12 and planned activities for the next two weeks.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/7/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/8/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	20
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly cloudy with winds 5-10 mph
PM EAT ER	Partly Cloudy winds 5-10 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area survey data collection and reporting	AES	1x12	eophysics Tech	12
3	Building T-1451 and East Canal North Area OST probing	AES	1x8	Scientist	8
3	Building T-1451 and East Canal North Area OST probing	ammer	2x8	Drill Operator Attendant	16
4	Building T-1451 and East Canal Area OST probing	AES	1x4	Scientist	4
4	Building T-1451 and East Canal Area OST probing	ammer	2x4	Drill Operator Attendant	8
6 7	Excavating oading and mport Clean Native Backfill	AES	1x12	Operator	12
6 7	Excavating oading and mport Clean Native Backfill	AES	1x12	Truck Driver	12
6 7	Excavating oading and mport Clean Native Backfill	AES	1x12	Operator	12
	Data compilation and review daily reports	AES	1x12	Scientist	12

JOB SAFETY					
	AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
	ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2047
	AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
	AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2143

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
4	Observed proper PPE use by personnel performing work around eoprobe 6620 drill rig.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AMMER	eoprobe 6620 direct push drill rig	4
4	AMMER	eoprobe 6620 direct push drill rig	8
6 7	AES	Caterpillar 325C excavator	12
6 7	AES	olvo 120 front end loader	12
6 7	AES	12 yard end dump truck	12

Schedule Activity No.	REMARKS
3	Drilling subcontractor completed six OST probes -268- -273 in the East Canal/Building T-1451 North Area in the southeast corner to the south of the crushed drum area boundary where petroleum contamination was observed with previous OST probe data in that area.
4	Seventeen OST probes -250 267 advanced south of MNA treatment area associated with north-south extent of contamination associated with seep 2 and data gap resolution south of MNA treatment area.
6 7	olvo 120 front end loader and the end dump truck were used to transport 200 cy of local borrow source material from the borrow pit to the East Canal/Building T-1451 area for future use during construction of the MNA treatment area. The Caterpillar 325C excavator was used to remove and place landslide material along roadway west of the runway for use as backfill material in the MNA treatment area. An estimated 920 cubic yards of soil have been transported to the staging area in the East Canal/Building T-1451 Area.

CONTRACTOR/S PER NTENDENT — DATE 6/8/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/8/2012
REPORT NO	20

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	Six OST probes -268- -273 advanced within the south east corner south of the perimeter of the crushed drum area to investigate petroleum contamination in that area as part of substitution for trenching activities. East Canal/Building T-1451 North Area. Personnel include: 1 Scientist ERS-J and 2 drillers ammer .
4	17 OST probes -250- -267 advanced south of MNA treatment area associated with north-south extent of contamination associated with seep 2 and data gap resolution south of MNA treatment area as part of substitution for trenching activities . East Canal/Building T-1451 Area. Personnel include: 1 Scientist ERS-J and 2 drillers ammer .
6 7	200 cy of backfill transported to the East Canal/Building T-1451Area. Excavating oading and mport Clean Native Backfill. Personnel include: 2 operators and 1 truck driver.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	OST probing conforms with the approved SAP. OST probe points were used as a replacement for trenching activities to investigate contamination
4	OST probing conforms with the approved SAP. OST probe points were used as a replacement for trenching activities to investigate contamination
6 7	ork performed conforms with the approved SAP. No accidents or injuries reported.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/8/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/9/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	21
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly cloudy with winds 5-15 mph
PM EAT ER	Partly Cloudy winds 5-15 mph
MA TEMP	40
M N TEMP	35

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
3	Building T-1451 and East Canal North Area survey data collection and reporting	AES	1x12	eophysics Tech	12
3	Building T-1451 and East Canal North Area Soil Boring and soil sample collection	AES	1x12	Scientist	12
3	Building T-1451 and East Canal North Area OST probing	ammer	2x10	Drill Operator Attendant	20
	Demobilization preparation for OST	ammer	2x2	Drill Operator Attendant	4
6 7	Excavating oading and mport Clean Native Backfill	AES	1x12	Operator	12
6 7	Excavating oading and mport Clean Native Backfill	AES	1x12	Truck Driver	12
6 7	Excavating oading and mport Clean Native Backfill	AES	1x12	Operator	12
	Data compilation and review daily reports	AES	1x12	Scientist	12

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2143
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2239

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
3	Observed proper PPE use by personnel performing work around eoprobe 6620 drill rig.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
3	AMMER	eoprobe 6620 direct push drill rig	10
6 7	AES	Caterpillar 325C excavator	12
6 7	AES	olvo 120 front end loader	12
6 7	AES	12 yard end dump truck	12

Schedule Activity No.	REMARKS
3	Drilling subcontractor completed eight soil borings B53-B60 in the East Canal/Building T-1451 North Area. ive soil borings B53-B57 were completed in the southeast corner to the south of the crushed drum area boundary where petroleum contamination was observed with previous OST probe data in that area. Three soil borings B58-B60 were completed along the north perimeter of the crushed drum area where OST probes indicated petroleum contamination. 25 primary and three field duplicate soil samples were collected for DRO analysis at the mobile laboratory. Three primary and one field duplicate soil samples were collected for analysis of DRO at the fixed project laboratory.
6 7	olvo 120 front end loader and the end dump truck were used to transport 180 cy of local borrow source material from the borrow pit to the East Canal/Building T-1451 area for future use during construction of the MNA treatment area. The Caterpillar 325C excavator was used to remove and place landslide material along roadway west of the runway for use as backfill material in the MNA treatment area. An estimated 920 cubic yards of soil have been transported to the staging area in the East Canal/Building T-1451 Area.

CONTRACTOR/S PER NTENDENT — DATE 6/9/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/9/2012
REPORT NO	21

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
3	Eight soil borings B53-B50 were completed within the south east corner south of the perimeter of the crushed drum area and on the northern perimeter to investigate petroleum contamination in that area as part of substitution for trenching activities. East Canal/Building T-1451 North Area. Personnel include: 1 Scientist ERS-J and 2 drillers ammer .
6 7	180 cy of backfill transported to the East Canal/Building T-1451Area. Excavating oading and mport Clean Native Backfill. Personnel include: 2 operators and 1 truck driver.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
3	Soil boring and soil sample collection conform with the approved SAP. Three primaries 01-SB044 01-SB045 and 01-SB047 and one field duplicate 01-SB046 soil samples were collected for fixed laboratory analysis 01-SB044 was collected ass a MS/MSD sample.
6 7	oading and transport of back fill material work performed conforms with the approved SAP. No accidents or injuries reported.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/9/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/11/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	22
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly cloudy with winds 5-15 mph
PM EAT ER	Partly Cloudy winds 5-15 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
4	Building T-1451 and East Canal Area survey data collection and reporting	AES	1x12	Survey Tech/ aborer	12
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	1x12	aborer	12

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2239
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2311

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
7	Began excavation of MNA treatment area in the East Canal/Building T-1451 Area. Removed potentially clean overburden soils to a depth of 2 to 2.5 bgs in the northwest portion of the excavation boundary near the culverts west of A cross section line OST probe points 012 and 010 on the western boundary and to the east to approximately the D cross section line at OST probe points 033 and 032. Approximately 90 cubic yards of potentially clean overburden material were removed and placed in a stockpile on a liner. Approximately 10 cubic yards of contaminated material excavated from previous test pits was removed from the excavation foot print and placed in a contaminated material stockpile. Approximately 5 yards of contaminated soil was removed from the area associated with cross section D at OST probe point 032 from 1 -2 bgs and placed in a 5-yd supersack. eotextile membrane was encountered at 2 to 2.5 bgs in the entire portion of the excavation completed today. A total of 14 primary and two field duplicate soil samples were collected from the overburden stockpile for analysis by DRO/AK102 method at the mobile laboratory. Three soil samples were collected for DRO/AK102 analysis to submit to the fixed laboratory: 01-E 010 01-E 011 and 01-E 012. Soil from the overburden stockpile will be used as fill material pending results from the mobile laboratory.

6/11/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/11/2012
REPORT NO	22

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	A total of approximately 90 cubic yards of overburden soils were removed from the northwest corner MNA treatment area excavation. Approximately 15 cubic yards of contaminated material was removed from previously excavated test pits and a portion of the contaminated soil near OST probe 032 from 1 -2 bgs. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	14 primary and two field duplicate soil samples were collected for DRO/AK102 analysis at the mobile laboratory from the potentially clean overburden stockpile. Three soil samples were collected for DRO/AK102 analysis at the fixed project laboratory: 01-E 010 01-E 011 and 01-E 012.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/11/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/12/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	23
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Sunny winds 5-15 mph
PM EAT ER	Partly Sunny winds 5-15 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2311
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2383

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
7	Continue excavation of MNA treatment area in the East Canal/Building T-1451 Area. Removed asphalt within the northeast section of the MNA boundary. Removed contaminated soil along cross sections D E and encompassing OST probes 033 043 and 053 from 1.5 to 2.5 bgs. Removed contaminated soil north of OST probes 042 and 052 along cross section lines E and from 1.5 to 2 bgs. Placed approximately 15 cy of soil in contaminated stockpile. Completed excavation of 20 x 20 cell 1 in the northwest corner of the MNA treatment area near the culvert area to O11. Removed soil to 6 bgs groundwater was encountered at 5 bgs. Encountered and removed slight contamination in northeast corner of Cell 1 associated with 011 at 5.5 bgs. Backfill of cell 1 was completed with borrow source material in an initial 1.5 lift to mix 50 lbs of OBC amendment and 25 lbs of fiber mulch. Placed an additional 2.5 of backfill material with an additional 50 lbs of OBC amendment and 25 lbs of fiber mulch for a total of 4 of amended backfill with OBC amendment and fiber mulch placed to within 2 below the ground surface. Removed approximately 105 cy of material and placed in overburden and contaminated stockpiles. A total of 10 primary and one field duplicate soil samples were collected from the overburden stockpile for analysis by DRO/AK102 method at the mobile laboratory. Two soil samples were collected for DRO/AK102 analysis to submit to the fixed laboratory: 01-E 013 and 01-E 014. Soil from the overburden stockpile will be used as fill material pending results from the mobile laboratory.

CONTRACTOR/S PER NTENDENT — DATE 6/12/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/12/2012
REPORT NO	23

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	A total of approximately 105 cubic yards of overburden soil and contaminated soil were removed today and placed in stockpiles. Contaminated soil was removed from the northeast section of the MNA treatment area associated with cross section D 032 and 033 cross section E 042 and 043 and cross section 052 and 53 in the north eastern boundary of the MNA treatment area. Completed one 20 x20 treatment cell referred to as cell 1 with 100 lbs of OBC amendment and 50 lbs of fiber mulch added to 4 of backfill in the northwest corner of the MNA treatment area closest to the culverts. Amendment and fiber mulch was dry applied to borrow source material in two lifts and mixed in place with the excavator bucket as in accordance with the approved SAP. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	10 primary and one field duplicate soil samples were collected for DRO/AK102 analysis at the mobile laboratory from the overburden stockpile. Two soil samples were collected for DRO/AK102 analysis at the fixed project laboratory: 01-E 013 and 01-E 014.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/12/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/13/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	24
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Mostly Cloudy winds 5-15 mph
PM EAT ER	Mostly cloudy winds 5-15 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 2383
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 2485

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
7	Excavation and treatment of cell 2 was completed east of cell 1. eotextile was encountered in three sections from 2.5 feet bgs to 4.5 feet bgs in cell 2. Petroleum contamination was present from 3.5 to 4 feet bgs associated with cross section C in the western portion of cell 2 and 2 feet bgs in the eastern portion associated with cross section D. roundwater was encountered at 5 feet bgs. Soil was removed from 0.5 foot to 1 foot below groundwater due to sloughing sand into the excavation base. pon completion of the excavation cell 1 was backfilled with a total of 150 pounds of OBC amendment and 50 pounds of wood fiber mulch mixed into 4 feet of backfill material and placed in cell 2. A trench box panel was placed to separate the south sidewall of cell 2 and the next cell to be completed to the south. Excavation of cell 3 in the northeast corner of the MNA treatment area was started on. Removed contaminated material from 1 foot to 1.5 feet bgs to groundwater encountered at 5 to 5.5 feet bgs within the cell. Approximately 13 feet by 20 feet of the 20 feet by 20 feet of the excavation footprint for cell 3 was completed. Removed and segregated material from cell 2 and cell 3 was placed in overburden and contaminated stockpiles. A total of 15 primary and two field duplicate soil samples were collected from the overburden stockpile for analysis by DRO/AK102 method at the mobile laboratory. One soil sample was collected for DRO/AK102 analysis to submit to the fixed laboratory 01-E 015. Soil from the overburden stockpile will be used as fill material pending results from the mobile laboratory.

CONTRACTOR/S PER NTENDENT — DATE: 6/13/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/13/2012
REPORT NO	24

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Competed excavation and amendment of cell 2 with 150 lbs of OBC amendment and 50 lbs of fiber mulch added to 4 of backfill in northern portion of the treatment area between the northwest and northeast corners of the treatment area foot print. Excavation of cell 3 was initiated but not completed by the end of the work day. Removed soils were segregated and stockpiled as overburden and contaminated soil. OBC amendment and fiber mulch was dry applied to borrow source material and mixed in place with the excavator bucket as in accordance with the approved SAP in cell 2. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	15 primary and two field duplicate soil samples were collected for DRO/AK102 analysis at the mobile laboratory from the overburden stockpile. One soil sample was collected for DRO/AK102 analysis at the fixed project laboratory: 01-E 015 in accordance with the SAP.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/13/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/14/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	25
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain winds 10-20 mph
PM EAT ER	Rain winds 15-30 mph
MA TEMP	40
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x8	Scientist	16
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x8	Operator	16
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x8	aborer	16

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	48
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2485
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2533

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	5
7	AES	olvo 120 front end loader	5

Schedule Activity No.	REMARKS
7	Excavation and treatment of cell 3 was completed in the northeast corner of the MNA treatment area. Soil was removed from 0.5 foot to 1 foot below groundwater due to sloughing sand into the excavation base. pon completion of the excavation cell 3 was backfilled with a total of 150 pounds of OBC amendment and 50 pounds of wood fiber mulch mixed into 4 feet of backfill material and placed in cell 3. A trench box panel was placed to separate the south sidewall of cell 3 and the next cell to be completed to the south. Excavation of cell 4 was not attempted due to the rising water level in cells 1- 3 from the rain overnight that continued through the morning. The forecast for the afternoon called for wind gusts of 50 to 60 with rain. t was decided that the potential for an open excavation left overnight with more rain in the forecast would not be appropriate. The site was secured for deteriorating weather with sustained winds of 25-30 mph and gusts to 40 mph.

CONTRACTOR/S PER NTENDENT — DATE 6/14/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/14/2012
REPORT NO	25

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Competed excavation and treatment of cell 3 with 150 lbs of OBC amendment and 50 lbs of fiber mulch added to 4 of backfill. Cell 3 is located in the northeast corner of the MNA treatment area. Contaminated soil removed from cell 3 was placed in the temporary stockpile. OBC amendment and fiber mulch was dry applied to borrow source material and mixed in place with the excavator bucket as in accordance with the approved SAP in cell 3. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	Excavation activity was ceased after the completion of cell 3 due to rain from the previous night that continued into the afternoon. The afternoon forecast called for wind gusts of 50-60 mph which would create a stop work condition. t was decided that the potential for an open excavation left overnight with the potential for more rain in the evening would not be acceptable conditions for treated backfill material.
	QC meeting held to review work completed from 6/7/12 6/13/12. Minutes will be provided to attendees.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/14/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/15/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	26
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Mostly Cloudy winds 5-15 mph
PM EAT ER	Partly Cloudy winds 5-10 mph
MA TEMP	48
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2533
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2605

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
7	Excavation and treatment of cell 4 south of cell 1 on the west boundary of the MNA treatment area was completed in the northeast corner of the MNA treatment area. eotextile liner was encountered at 2 feet bgs roundwater was encountered at 5 feet bgs. Soil was removed to 0.5 foot to 1 foot below groundwater due to greater than 2 drain rock as part of the culvert backfill material. nformed NTR that this material would be left in place and mixed with the added OBC and backfill material. A total of 150 lbs of OBC and 50 lbs of fiber mulch were mixed with 4 of backfill material by the excavator bucket for cell 4. Excavation of cell 5 south of cell 2 in the center of the MNA treatment area was initiated by removing overburden of culvert backfill material. eotextile liner was encountered at 1.5 feet bgs in the eastern portion of cell 5 and a second liner below that was not observed in cell 4. Soil was removed to 3.5 feet to 4 feet bgs in the western portion of cell 5 and 1.5 feet bgs in the eastern portion. Removed and segregated material from cell 4 and cell 5 was placed in overburden and contaminated stockpiles. A total of 18 primary and two field duplicate soil samples were collected from the temporary stockpiles for analysis by DRO/AK102 method at the mobile laboratory. Two soil samples were collected for DRO/AK102 analysis to submit to the fixed laboratory 01-E 016 and 01-E 017. Soil from the overburden stockpile will be used as fill material pending results from the mobile laboratory.

CONTRACTOR/S PER NTENDENT — DATE 6/15/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/15/2012
REPORT NO	26

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Competed excavation and treatment of cell 4with 150 lbs of OBC amendment and 50 lbs of fiber mulch added to 4 of backfill. Cell 4 is located south of cell 1 on the western boundary of the MNA treatment area. Removed soil from 4 was placed in the temporary stockpile. OBC amendment and fiber mulch was dry applied to borrow source material and mixed in place with the excavator bucket as in accordance with the approved SAP in cell 4. Began excavation of cell 5 with removal of overburden soil from 1.5 feet bgs to 3.5 to 4 feet bgs. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	A total of 18 primary and two field duplicate soil samples were collected from the temporary stockpiles for analysis by DRO/AK102 method at the mobile laboratory. Two soil samples were collected for DRO/AK102 analysis to submit to the fixed laboratory 01-E 016 and 01-E 017. Soil from the overburden stockpile will be used as fill material pending results from the mobile laboratory.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/15/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/16/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	27
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Mostly Cloudy winds 5-15 mph
PM EAT ER	Partly Cloudy winds 5-10 mph
MA TEMP	48
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 2605
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 2677

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
7	The excavation and treatment of cell 5 south of cell 2 in the center of the MNA treatment area. Excavation of cell 5 was started on 6/15/12. Contaminated soil was encountered at 3.5 feet to 4 feet bgs in the western portion of the cell and 1.5 feet bgs in the eastern portion of cell 5. roundwater was encountered at 5 feet bgs. Soil was removed to 0.5 foot to 1 foot below groundwater due to sloughing sands on the sidewalls. A total of 150 lbs of OBC and 50 lbs of fiber mulch were mixed with 4 of backfill material by the excavator bucket in cell 5. Excavation and treatment of cell 6 was completed on the eastern boundary of the MNA treatment area. Contaminated soil was encountered from 1 foot bgs to a 1.5 feet bgs. roundwater was encountered at 5 feet bgs. Soil was removed to 0.5 foot to 1 foot below groundwater due to sloughing sands on the sidewalls. A total of 150 lbs of OBC and 50 lbs of fiber mulch were mixed with 4 of backfill material by the excavator bucket in cell 6. Removed and segregated material from cell 5 and cell 6 was placed in an overburden stockpile 5 yard supersacks and the contaminated stockpile.

CONTRACTOR/S PER NTENDENT — DATE: 6/16/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/16/2012
REPORT NO	27

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Competed excavation and treatment of cells 5 and 6 with 150 lbs of OBC amendment and 50 lbs of fiber mulch added to 4 of backfill. Cell 5 is located south of cell 2 in the center of the MNA treatment area. Removed overburden soil from cell 5 and cell 6 was placed in the temporary stockpile. Contaminated soil was placed in 5-cy supersacks and the contaminated stockpile. OBC amendment and fiber mulch was dry applied to borrow source material and mixed in place with the excavator bucket as in accordance with the approved SAP in cell 5 and cell 6. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/16/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/17/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	28
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Mostly Cloudy winds 5-15 mph
PM EAT ER	Partly Cloudy winds 5-10 mph
MA TEMP	48
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x4	Scientist	8
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x4	Operator	8
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	1x4	aborer	4

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	20
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2677
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2697

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	4
7	AES	olvo 120 front end loader	4

Schedule Activity No.	REMARKS
7	Six 5-cy supersacks were filled with petroleum contaminated soil from the temporary stockpile and transported to the waste storage management area MSA for transport off-island. Two 5 cy supersacks were filled the previous day 6/16/12 and transported to the MSA for transport off-island.

CONTRACTOR/S PER NTENDENT — DATE 6/17/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/17/2012
REPORT NO	28

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	illed six 5-cy supersacks with petroleum contaminated soil from the temporary stockpile. A total of eight 5-cy supersacks two supersacks were filled on 6/16/12 but not transported to the MSA were transported to the MSA for transport and disposal off-island. Personnel include: 2 Scientists ERS-J 2 operators ERS-J and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/17/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/18/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	29
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Cloudy winds 0-5 mph
PM EAT ER	Partly Cloudy winds 5-10 mph
MA TEMP	50
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 2697
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 2769

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
7	Completed the excavation and treatment of cell 7 south of cell 4 on the western boundary of the MNA treatment area adjacent to the culverts. Contaminated soil was encountered at 5 feet bgs in the eastern portion of the cell at groundwater level. eotextile liner was encountered at 2.5 feet bgs. Soil was removed to 0.5 foot to 1 foot below groundwater due to greater than 2 drain rock that was part of the culvert backfill material. The drain rock fraction was left in place and mixed with the initial backfill lift placed in the excavation base. A total of 225lbs of OBC and 50 lbs of fiber mulch were mixed with 4 of backfill material by the excavator bucket in cell 7. Excavation and treatment of cell 8 was completed in the center of the MNA treatment area. Contaminated soil was encountered from 3 feet bgs to 1.5 feet bgs. roundwater was encountered at 5 5 feet bgs. Soil was removed to 0.5 foot to 1 foot below groundwater due to sloughing sands on the sidewall of the excavation area. A total of 225 lbs of OBC and 50 lbs of fiber mulch were mixed with 5 of backfill material by the excavator bucket in cell 8. Removed and segregated material from cell 7 and cell 8 was placed in the overburden stockpile and the contaminated stockpile. A total of 18 primary and two field duplicate soil samples were collected from the temporary stockpiles for analysis by DRO/AK102 method at the mobile laboratory. One soil sample was collected for DRO/AK102 analysis to submit to the fixed laboratory 01-E 018. Soil from the overburden stockpile will be used as fill material pending results from the mobile laboratory.

CONTRACTOR/S PER NTENDENT — DATE: 6/18/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/18/2012
REPORT NO	29

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Competed excavation and treatment of cells 7 and 8 today. Cell 7 was excavated and treated with 225 lbs of OBC amendment and 50 lbs of fiber mulch were added to 4 feet of borrow source backfill. Cell 8 was excavated and treated with 225 lbs of OBC amendment and 50 lbs of wood fiber mulch were added to 5 feet of borrow source backfill. Removed overburden soil from cell 7 and cell 8 was placed in the temporary stockpile. Contaminated soil was placed in the temporary contaminated stockpile. OBC amendment and fiber mulch was dry applied to borrow source material and mixed in place with the excavator bucket as in accordance with the approved SAP in cell 7 and cell 8. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP. A total of 18 primary and two field duplicate soil samples were collected from the temporary stockpiles for analysis by DRO/AK102 method at the mobile laboratory. One soil sample was collected for DRO/AK102 analysis as an MS/MSD to submit to the fixed laboratory 01-E 018.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/18/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/19/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	30
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Cloudy winds 5-105 mph
PM EAT ER	Partly Cloudy winds 5-15 mph
MA TEMP	4
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2769
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2841

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
7	Completed the excavation and treatment of cell 9 south of cell 6 on the eastern boundary of the MNA treatment area. Contaminated soil was encountered at 1 foot to 1.5 feet bgs. Contaminated soil was removed to 0.5 foot to 1foot below the water table due to sloughing sand from the sidewall of the excavation. roundwater was encountered at 4.5 feet feet bgs The contaminated soil was placed in 5 cubic yard supersacks and transported to the waste management storage area to await transport and disposal. A total of 225lbs of OBC and 50 lbs approx. 1lb/32 ft^3 of backfill material of wood fiber mulch were added to the 4 foot lift of backfill material and mixed by the excavator bucket in cell 9. Mobile lab results for soil samples collected from the overburden stockpile on 6/1/8/12 indicated three soil samples with results from 240 mg/kg to 550 mg/kg for DRO. The contaminated soil was removed from the overburden soil stockpile after rreceipt of the soil sample results from the mobile lab. our P D screening samples and four soil samples were collected from the removed soil area for DRO analysis by the mobile lab following the removal of the contaminated soil from the overburden stockpile. Two soil samples were also collected for DRO analysis for submittal to the fixed lab 01-E 019 and duplicate 01-E 020 as part of the 10 confirmation of soil samples submitted to the mobile lab. Three soil samples were collected for DRO analysis by the mobile laboratory for overburden soil removed from cell 9. Soil from the overburden stockpile will be used as fill material pending the results from the mobile lab.

CONTRACTOR/S PER NTENDENT — DATE 6/19/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/19/2012
REPORT NO	30

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Competed excavation and treatment of cell 9 today. Cell 9 was backfilled with a 4 foot lift of borrow source material treated with 225 lbs of OBC amendment and 50 lbs 1lb /32ft^3 of wood fiber mulch. OBC amendment and wood fiber mulch were dry applied to the borrow source material and mixed in place with the excavator bucket in accordance with the approved SAP. Contaminated soil was placed in 5 cubic yard supersacks and transported to the waste management storage area for future transport and disposal. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP. our soil samples were collected after removal of contaminated soil from the overburden stockpile after receipt of mobile lab results for soil samples submitted on 6/18/12 indicated three soil samples had DRO results from 240 mg/kg to 550 mg/kg DRO. The removed soil was placed in the contaminated stockpile. The four soil samples were collected from the area in the overburden stockpile where contaminated soil was removed to confirm the removal of the contaminated material. A primary and a duplicate soil sample were collected from the contaminated soil removed from the overburden stockpile and will be submitted to the fixed lab for DRO analysis 01-E 019 and duplicate 01-E 020 for 10 confirmation of mobile lab soil samples. Three soil samples were collected from overburden soil removed from cell 9 for DRO analysis by the mobile lab.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/19/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/20/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	31
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Cloudy winds 5-15 mph
PM EAT ER	Partly Cloudy winds 5-15 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 2841
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 2913

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
7	Completed the excavation and treatment of cell 10 south of cell 7 on the western boundary of the MNA treatment area near the culverts. Over burden soil was removed and stockpiled. roundwater was encountered at 4.5 feet bgs Soil was removed to 1foot below the water table. Contaminated soil was encountered at 4.5 feet bgs in the southeast portion of the cell in close proximity to the stained bank of the East Canal. The contaminated soil was placed in one 5 cubic yard supersack and transported to the waste management storage area to await transport and disposal. A total of 6 buckets of OBC and 50 lbs approx. 1lb/32 ft^3 of backfill material of wood fiber mulch were added to the 4 foot lift of backfill material and mixed by the excavator bucket in cell 10. Excavation of cell 11 was initiated with removal of overburden soil from 1 foot bgs to 2.5 feet bgs. Two layers of geotextile liner were encountered at 2.5 bgs with the bottom liner dipping at an angle from east to west below the top liner. Three 5 cy supersacks were filled and transported to the waste management storage area. Seven primary and one duplicate soil samples were collected for DRO analysis by the mobile laboratory from overburden soil removed from cell 10. One soil sample was collected for DRO analysis by the mobile laboratory from the contaminated soil removed from cell 10. One soil sample 01-E 021 was collected for DRO analysis by the fixed laboratory from overburden soil removed from cell 10. Two soil samples were collected for DRO analysis by the mobile laboratory from overburden soil removed from cell 11. Soil from the overburden stockpile will be used as fill material pending the results from the mobile lab.

CONTRACTOR/S PER NTENDENT — DATE: 6/20/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/20/2012
REPORT NO	31

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Competed excavation and treatment of cell 10. Cell 10 was backfilled with a 4 foot lift of borrow source material treated with six buckets of OBC amendment and 50 lbs 1lb /32ft^3 of wood fiber mulch. OBC amendment and wood fiber mulch were dry applied to the borrow source material and mixed in place with the excavator bucket in accordance with the approved SAP. Contaminated soil was placed in one 5 cubic yard supersack and transported to the waste management storage area for future transport and disposal. Excavation of cell 11 was initiated with the removal of overburden soil and contaminated soil. Three 5 cy supersacks were filled and transported to the waste management storage area. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP. The four soil samples collected after removal of contaminated soil from the overburden stockpile on 6/19/12 all had results below the site cleanup level of 230 mg/kg. Seven primary and one field duplicate soil samples were collected for DRO analysis by the mobile laboratory from the overburden removed from cell 10. One fixed lab soil sample 01-E 021 was collected from the overburden soil removed from cell 10 for 10 confirmation of mobile lab soil samples. One soil sample was collected from contaminated soil removed from cell 10. Two soil samples were collected from overburden soil removed from cell 11 for DRO analysis by the mobile lab.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/20/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/21/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	32
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain and Partly Cloudy winds 10-20 mph
PM EAT ER	Partly Cloudy winds 10-20 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2913
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	2985

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
7	Completed the excavation and treatment of cell 11 south of cell 8 on the center of the MNA treatment area near the culverts. Over burden soil was removed and stockpiled. roundwater was encountered at 4.0 feet bgs Soil was removed to 1foot below the water table. ree product on the water surface in cell 11 was collected with sorbents and disposed of in a 5 cy supersack. Contaminated soil was encountered from 1 foot bgs to 2.5 feet bgs. The contaminated soil from cell 11 was placed in 14- 5 cubic yard supersacks and transported to the waste management storage area to await transport and disposal. A total of 6 buckets of OBC and 50 lbs approx. 1lb/32 ft^3 of backfill material of wood fiber mulch were added to 4 feet of backfill material and mixed by the excavator bucket in cell 11. Excavation of cell 12 was initiated with removal of overburden soil to 1 foot bgs to 1.5 feet bgs. Three 5 cy supersacks were filled and transported to the waste management storage area. Received mobile lab sample results for soil samples collected from the overburden stockpile submitted on 6/20/12. One soil sample 01-E 122-01 had a result of 263 mg/kg. Removed soil from the area where soil sample 01-E 122-01 was collected and retested area with three P D filed screening samples and three soil samples submitted to the mobile laboratory DRO analysis. One primary and one field duplicate soil sample were collected from the overburden removed from cell 12 for DRO analysis. A fixed lab soil sample 01-E 022 was also collected for analysis for DRO from the overburden removed from cell 12. Soil from the overburden stockpile will be used as fill material pending the results from the mobile lab.

CONTRACTOR/S PER NTENDENT — DATE: 6/21/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/21/2012
REPORT NO	32

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Competed excavation and treatment of cell 11. Cell 11 was backfilled with a 4 foot lift of borrow source material treated with six buckets of OBC amendment and 50 lbs 1lb /32ft^3 of wood fiber mulch. OBC amendment and wood fiber mulch were dry applied to the borrow source material and mixed in place with the excavator bucket in accordance with the approved SAP. Contaminated soil removed from cell 11 was placed in a total of 14 - 5 cubic yard supersacks and transported to the waste management storage area for future transport and disposal. Excavation of cell 12 was initiated with the removal of overburden soil and contaminated soil. Overburden soil was placed in the overburden stockpile. Three 5 cy supersacks were filled with contaminated soil from cell 12 and transported to the waste management storage area near the Port of Adak. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	eekly QC meeting was held at 0900. Topics for discussion included work performed to date 2 week plan for work to be completed and placement of monitoring wells for the MNA treatment area in the East Canal/Building T-1451 area site. Meeting minutes will be provided. ork performed was in accordance with the approved SAP. Received results from the mobile laboratory for soil samples collected from the overburden stockpile on 6/20/12. One soil sample 01-E 122-01 had a result of 263 mg/kg. Removed the contaminated soil from the overburden stockpile. Three P D field screening samples and three soil samples were collected and submitted to the mobile laboratory for DRO analysis after removal of the contaminated soil. One primary and one field duplicate soil samples were collected for DRO analysis by the mobile laboratory from the overburden removed from cell 12. One fixed lab soil sample 01-E 022 was collected for DRO analysis from the overburden soil removed from cell 12 for 10 confirmation of mobile lab soil samples.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/21/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/22/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	33
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain and Partly Cloudy winds 10-20 mph
PM EAT ER	Partly Cloudy winds 10-20 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
5	Coffer Dam nstallation and Dewatering	AES	2x3	Scientist	6
5	Coffer Dam nstallation and Dewatering	AES	1x3	Operator	3
5	Coffer Dam nstallation and Dewatering	AES	3x3	aborer	9
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x9	Scientist	18
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x9	Operator	18
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x9	aborer	18

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO

TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	72
C M AT E TOTA O ORK O RS ROM PRE O S REPORT	2985
TOTA ORK O RS ROM START O CONSTR CT ON	3057

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
5	Observed proper PPE use and actions by personnel performing work around excavator.	
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
5	AES	Caterpillar 325C excavator	3
7	AES	Caterpillar 325C excavator	9
7	AES	olvo 120 front end loader	9

Schedule Activity No.	REMARKS
5	nstallation of the cofferdam began by first blocking the flow of water on the north and south side of the east culvert with plastic liner and a 1 cy supersack on each end A section of cofferdam was then placed in the east canal and placed against the 1 cy supersack on the south end of the culvert to seal the dammed portion of the east bank of the canal. Placement of the oil/water separator will be completed on 6/23/12 to dewater the dammed portion along the bank for the excavation of the MNA treatment area along the bank of the canal.
7	Completed the excavation and treatment of cell 12 south of cell 9 on the eastern border of the MNA treatment area. Over burden soil was removed and stockpiled. Contaminated soil was encountered from 1 foot bgs to 1.5 feet bgs. roundwater was encountered at 5.0 feet bgs Soil was removed to 1foot below the water table. The contaminated soil from cell 12 was placed in 14- 5 cubic yard supersacks and transported to the waste management storage area to await transport and disposal. A total of 6 buckets of OBC and 50 lbs approx. 1lb/32 ft^3 of backfill material of wood fiber mulch were added to 4 feet of backfill material and mixed in place by the excavator bucket in cell 12.

CONTRACTOR/S PER NTENDENT — DATE 6/22/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/22/2012
REPORT NO	33

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
5	Coffer Dam nstallation and Dewatering	

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☒ NO ☐

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex
5	Coffer Dam nstallation and Dewatering	

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
5	The east culvert of the East Canal was blocked with plastic liner and a 1 cy supersack to divert flow of water to the west culvert. Set the first placement of the cofferdam in the East Canal. The cofferdam was filled with water to isolate the east bank of the canal for excavation and treatment of the MNA treatment area along the shoreline. The oil/water separator sump will be placed on 6/23/12 to allow for dewatering of the dammed portion of the bank area. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 1 operator ERS-J and 3 laborers ERS-J .
7	Competed excavation and treatment of cell 12 that was initiated on 6/21/12. Contaminated soil removed from cell 12 was placed in a total of 14 - 5 cubic yard supersacks and transported to the waste management storage area near the Port of Adak for future transport and disposal. Cell 12 was backfilled with a 4 foot lift of borrow source material treated with six buckets of OBC amendment and 50 lbs 1lb /32ft^3 of wood fiber mulch. OBC amendment and wood fiber mulch were applied to the borrow source material and mixed in place with the excavator bucket in accordance with the approved SAP. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP. Received results from the mobile laboratory for soil samples collected from the overburden stockpile on 6/21/12. The three soil samples collected after removal of contaminated soil from the overburden stockpile on 6/1/12 all had results below the site cleanup level of 230 mg/kg.
	.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/22/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/23/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	34
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain and Partly Cloudy winds 5-15 mph
PM EAT ER	Partly Cloudy winds 10-25 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Scientist	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	72
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3057
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3129

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
5	nstalled the oil/water separator that consisted of a 55 gallon drum with perforations to allow water to flow into the drum. The oil/water separator was laced in an excavated depression near the east culvert in the deeper part of the canal. A 2 inch water pump was used to pump water over the cofferdam to drain the area for excavation of cells along the bank of the East Canal for the MNA treatment area. Dewatering activities concurrent with excavation activities for the MNA treatment area.
7	Completed the excavation and treatment of cells 13 and 14. Cell 13 was a partial cell that was excavated and backfilled to maintain the bank of the East Canal to the south of cell 10near the culvert along the shoreline of East Canal on the border of the MNA treatment area. Over burden soil was removed and stockpiled. Contaminated soil was encountered at the groundwater interface at 5 feet bgs. Soil was removed to 1foot below the water table. The contaminated soil from cell 13 was placed in one 5 cubic yard supersack and transported to the waste management storage area to await transport and disposal. A total of 2 buckets of OBC and approximately 1lb/32 ft^3 of wood fiber mulch were added to 4 feet of backfill material and mixed in place by the excavator bucket in cell 13. Cell 14 was excavated east of partial cell 13 on the eastern border of the MNA treatment area. Overburden soil was removed and stockpiled. Contaminated soil was encountered from 1 foot bgs to 2.5 feet bgs. roundwater was the groundwater interface at 5 feet bgs. roundwater was encountered at 5.0 feet bgs Soil was removed to 1foot below the water table. The contaminated soil from cell 14 was placed in nine 5 cubic yard supersacks and transported to the waste management storage area to await transport and disposal. A total of 4 buckets of OBC andapproximately1lb/32 ft^3 of wood fiber mulch were added to 4 feet of backfill material and mixed in place by the excavator bucket in cell 14.

6/23/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/23/2012
REPORT NO	34

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
5	The oil/water separator sump placed to allow for dewatering of the dammed portion of the bank area. Dewatering activities were concurrent with excavation of the MNA treatment area. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 1 operator ERS-J and 3 laborers ERS-J .
7	Competed excavation and treatment of cell 13 and cell 14. Contaminated soil removed from cell 13 and cell 14 was placed in a total of 10 - 5 cubic yard supersacks and transported to the waste management storage area near the Port of Adak for future transport and disposal. Cell 13 and cell 14 were backfilled with a 4 foot lift of borrow source material treated with six buckets of OBC amendment and 1lb /32ft^3 of wood fiber mulch. OBC amendment and wood fiber mulch were applied to the borrow source material and mixed in place with the excavator bucket in accordance with the approved SAP. East Canal/Building T-1451 Area. Personnel include: 2 Scientists ERS-J 2 operators ERS-J 1 Survey Tech/ aborer and 1 laborer ERS-J .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/23/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/25/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	35
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Cloudy winds 5-15 mph
PM EAT ER	Partly Cloudy winds 5-15 mph
MA TEMP	50
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	1x12	Scientist	12
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24
8	Area 303 recovery well installation	eosyntec	1x12	Scientist	12
8	Area 303 recovery well installation	eotek AK	2x12	Drill Operator Attendant	24

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3129
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3225

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12
8	eotek AK	eoprobe 6620 tracked direct push drill rig	12

Schedule Activity No.	REMARKS
5	A 2 inch water pump was used to pump water over the cofferdam to drain the area for excavation of cells along the bank of the East Canal for the MNA treatment area. Dewatering activities are concurrent with excavation activities for the MNA treatment area.
7	Completed the excavation and treatment of cells 15 16 and 17 along the bank of the East Canal. Treatment cell 15 is located south of treatment cell 14. Overburden soil was removed and stockpiled. Contaminated soil was removed and placed in three 5 cubic yard supersacks then transported to the waste management storage area to await transport and disposal. Soil was removed to from 0.5 foot to 1foot below the water table due to sloughing sands from the sidewalls of the excavation. A total of 5 buckets of OBC and approximately 1lb/32 ft^3 of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell 15. Excavation and treatment of cell 16 was completed south of treatment cell 15. Over burden soil was removed and stockpiled. Soil was removed to from 0.5 foot to 1foot below the water table due to sloughing sands from the sidewalls of the excavation. A total of 3 buckets of OBC amendment and approximately 1lb/32 ft^3 of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell 16. Excavation and treatment of cell 17 was completed south of treatment cell 16. Over burden soil was removed and stockpiled. Soil was removed to from 0.5 foot to 1foot below the water table due to sloughing sands from the sidewalls of the excavation. A total of 2 buckets of OBC amendment and approximately 1lb/32 ft^3 of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell 17 Excavation and treatment of 18 was partially completed along the bank of East Canal to alleviate the need for the cofferdam and daily dewatering. Cell 18 was excavated and treated for approximately half of the surface area dimension for the cell. Contaminated soil was removed and placed in five 5 cubic yard supersacks then transported to the waste management storage area to await transport and disposal. Two buckets of OBC and approximately 1lb/32 ft^3 of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell 18.
8	Recovery wells R -303-01 and R -303-03 were installed in Area 303. ell R -303-01 was installed to a total depth of 25.5 feet bgs and well R -303-03 was installed to a total depth of 27.5 feet bgs. Protective casing and bollards were installed for each well but concrete was not placed for the wells to be complete.

CONTRACTOR/S PER NTENDENT — DATE 6/25/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/25/2012
REPORT NO	35

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
5	Continued dewatering of the dammed portion of the bank area. Dewatering activities were concurrent with excavation of the MNA treatment area. East Canal/Building T-1451 Area. Personnel include: 2 laborers AES .
7	Competed excavation and treatment of cells 15 16 17 and partial completion of cell 18long the bank of East Canal. Contaminated soil removed from cell 15 was placed in a total of three - 5 cubic yard supersacks. Contaminated soil from cell 18 was placed in five 5 cubic yard supersacks. Supersacks were transported to the waste management storage area near the Port of Adak for future transport and disposal. Please refer to the Contractor Production Report for 6/25/12 for the complete details regarding amount of OBC amendment and wood fiber mulch placed in cells 15 - 17 and partial completion of cell 18. East Canal/Building T-1451 Area. Personnel include: 1 Scientist AES 2 operators AES 1 Survey Tech/ aborer and 1 laborer AES .
8	nstall recovery wells R -303-01 and R -303-03. Area 303. Personnel include: 1 Scientist eosyntec 1 drill operator eotek AK and 1 drill attendant eotek AK .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP. Cells 16 and 17 have a smaller surface area foot print than the average 400 square feet for the cells to the north in the large area of the MNA treatment area. Cell 16 measured approximately 235 square feet and cell 17 measured approximately 195 square feet. Therefore the amount of OBC amendment added to cells 16 and 17 was reduced for these two cells. Cell 18 was partially completed to remove the need for the cofferdam and dewatering Two soil samples 01-E 137-01 and 01-E 138-01 were collected from the overburden stockpile for DRO analysis by the mobile laboratory.
8	ork performed was in accordance with the approved SAP. Recovery wells will be completed once concrete has been set for the protective casings and bollards and developed.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE: 6/25/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/26/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	36
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson

AM EAT ER	PM EAT ER	MA TEMP	M N TEMP
oggy winds 5-10 mph	Partly Cloudy winds 5-15 mph	45	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	1x12	Scientist	12
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24
8	Area 303 recovery well installation well completion well development	eosyntec	1x12	Scientist	12
8	Area 303 recovery well installation well completion	eotek AK	2x12	Drill Operator Attendant	24

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3225
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3321

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12
8	eotek AK	eoprobe 6620 tracked direct push drill rig	12

Schedule Activity No.	REMARKS
5	The cofferdam was drained and removed from the East Canal. The one cubic yard supersacks used to plug the east culvert were removed. Dewatering of the East Canal is no longer necessary to complete the excavation of the MNA treatment area.
7	Completed the excavation and treatment of the remaining portion of cell 18 partially completed on 6/25/12 . Partially completed excavation and treatment of cell 19 in the southern extent of the MNA treatment area. Overburden soil was removed and stockpiled. Contaminated soil was removed and placed in 12-5 cubic yard supersacks then transported to the waste management storage area to await transport and disposal. Soil was removed from 0.5 foot to 1foot below the water table due to sloughing sands from the sidewalls of the excavation. A total of 4 buckets of OBC amendment and approximately 1lb/32 ft^3 of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell 18 and partial cell 19.
8	Recovery well R -303-04 was installed in Area 303 to a total depth of 26.5 feet bgs. Monitoring wells M -303-40 M -303-41 and M -303-42 were completed with concrete installed on the protective casing and the three bollards as well as developed per the approved SAP.

CONTRACTOR/S PER NTENDENT

6/26/2012
DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/26/2012
REPORT NO	36

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
5	Removed the cofferdam from the East Canal and ceased dewatering activities. Dewatering of the East Canal is no longer necessary to complete the installation of the MNA treatment area. The two 1C supersacks used to plug the east side section of culvert were removed. East Canal/Building T-1451 Area. Personnel include: 1 scientist AES 1 operator and 2 laborers AES .
7	Competed excavation and treatment of cells 18 and partial completion of cell 19 in the southern section of the MNA treatment area of East Canal. Contaminated soil from cell 18 and partial cell 19 were placed in 12 5 cubic yard supersacks. Supersacks were transported to the waste management storage area near the Port of Adak for future transport and disposal. A total of 4 buckets of OBC amendment and approximately 1lb/32 ft3 of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell 18 and partial cell 19. East Canal/Building T-1451 Area. Personnel include: 1 Scientist AES 2 operators AES 1 Survey Tech/ aborer and 1 laborer AES .
8	nstalled recovery well R -303-04 to a total of depth of 26.5 bgs. Monitoring wells M -303-40 M -303-41 and M -303-42 were developed and completed with concrete placed for the protective casing and bollards. Area 303. Personnel include: 1 Scientist eosyntec 1 drill operator eotek AK and 1 drill attendant eotek AK .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP. Two primary and one duplicate soil samples 01-E 139-01 01-E 140-01 and 01-E 141-01 were collected from the overburden stockpile for DRO analysis by the mobile laboratory. One soil sample 01-E 023 was collected from the overburden stockpile for DRO analysis at the fixed lab for 10 confirmation of the mobile lab samples.
8	ork performed was in accordance with the approved SAP. Three monitoring wells were completed with concrete and developed. Remaining monitoring and recovery wells will be completed once concrete has been set for the protective casings and bollards and developed.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/26/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/27/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	37
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	oggy winds 5-10 mph
PM EAT ER	Mostly sunny winds 5-10 mph
MA TEMP	50
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	1x12	Scientist	12
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24
8	Building T-1451 and East Canal Area monitoring well installation well development	eosyntec	1x12	Scientist	12
8	Building T-1451 and East Canal Area monitoring well installation	eotek AK	2x12	Drill Operator Attendant	24

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3321
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3417

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12
8	eotek AK	eoprobe 6620 tracked direct push drill rig	12

Schedule Activity No.	REMARKS
7	Completed the excavation and treatment of the remaining portion of cell 19 partially completed on 6/26/12 . Overburden soil was removed and stockpiled. Contaminated soil was removed and placed in four 5-cubic yard supersacks then transported to the waste management storage area to await transport and disposal. Soil was removed from 0.5 foot to 1foot below the water table at 5 feet bgs due to sloughing sands from the sidewalls of the excavation. A total of 4 buckets of OBC amendment and 1lb/32 ft^3 of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in partial cell 19.
8	Monitoring wells M -303-38 M -303-39 and M -303-43 and recovery wells R -303-01 R -303-02 and R -303-03 and R -303-04 were developed in Area 303. Two monitoring wells were installed on the up-gradient portion of the MNA treatment area in the East Canal/Building T-1451 Area.

CONTRACTOR/S PER NTENDENT — DATE: 6/27/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/27/2012
REPORT NO	37

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
5	Removed the cofferdam from the East Canal and ceased dewatering activities. Dewatering of the East Canal is no longer necessary to complete the installation of the MNA treatment area. The two 1C supersacks used to plug the east side section of culvert were removed. East Canal/Building T-1451 Area. Personnel include: 1 scientist AES 1 operator and 2 laborers AES .
7	Competed excavation and treatment of cell 19 in the southern section of the MNA treatment area of East Canal. Contaminated soil from cell 19 was placed in 4 5 cubic yard supersacks. Supersacks were transported to the waste management storage area near the Port of Adak for future transport and disposal. A total of 4 buckets of OBC amendment and approximately 1lb/32 ft3 of wood fiber mulch were added to the backfill material and mixed in place by the excavator bucket in cell 19. East Canal/Building T-1451 Area. Personnel include: 1 Scientist AES 2 operators AES 1 Survey Tech/ aborer and 1 laborer AES .
8	Monitoring wells M -303-38 M -303-39 and M -303-43 and recovery wells R -303-01 R -303-02 and R -303-03 and R -303-04 were developed in Area 303. Two monitoring wells were installed on the up-gradient portion of the MNA treatment area in the East Canal/Building T-1451 Area were developed and completed with concrete placed for the protective casing and bollards. Area 303 and East Canal/Building T-1451 Area. Personnel include: 1 Scientist eosyntec 1 drill operator eotek AK and 1 drill attendant eotek AK .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP. Two soil samples 01-E 142-01 and 01-E 143-01 were collected from the overburden stockpile for DRO analysis by the mobile laboratory. Two primary and one field duplicate soil samples 01-E 024 01-E 025 and 01-E 026 were collected from the overburden stockpile for DRO analysis at the fixed lab for 10 confirmation of the mobile lab samples. Soil sample 01-E 025 was the duplicate soil sample for 01-E 024 and soil sample 01-E 026 was collected as an MS/MSD sample.
8	ork performed was in accordance with the approved SAP. The remaining three monitoring wells and the four recovery wells were developed in Area 303. Two monitoring wells were installed outside the MNA treatment area. ells will be completed once concrete has been set for the protective casing bollards and developed.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/27/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/28/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	38
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy winds 5-10 mph
PM EAT ER	Partly sunny winds 5-10 mph
MA TEMP	50
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation grading	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area MNA Treatment Area Excavation	AES	2x12	aborer	24
8	Building T-1451 and East Canal Area monitoring well installation	eosyntec	1x12	Scientist	12
8	Building T-1451 and East Canal Area monitoring well installation	ammer	2x12	Drill Operator Attendant	24
	Project Management	AES	1x12	ield PM	12

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	96
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3417
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3513

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Caterpillar 325C excavator	12
7	AES	olvo 120 front end loader	12
8	E	eoprobe 6620 tracked direct push drill rig	12

Schedule Activity No.	REMARKS
7	sed the removed burden to backfill and grade the remaining sections in the MNA treatment area that needed fill material to prep the area for reseeding. Removed and staged remaining construction equipment used during MNA treatment area excavation activities in the laydown area near the port of Adak
8	our monitoring wells were installed outside the boundary of the MNA treatment area in the East Canal/Building T-1451 Area.

CONTRACTOR/S PER NTENDENT — DATE: 6/28/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/28/2012
REPORT NO	38

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Backfill was spread and graded over the MNA treatment area excavation footprint. East Canal/Building T-1451 Area. Personnel include: 2 operators AES and 1 laborer AES .
8	our monitoring wells were installed outside the boundary of the MNA treatment are. East Canal/Building T-1451 Area. Personnel include: 1 Scientist eosyntec 1 drill operator ammer and 1 drill attendant ammer .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP.
8	ork performed was in accordance with the approved SAP. our monitoring wells were installed outside the MNA treatment area. ells will be completed once concrete has been set for the protective casing bollards and developed.
	eekly QC meeting held today

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/28/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/29/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	39
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain winds 5-10 mph
PM EAT ER	Rain winds 5-10 mph
MA TEMP	40
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area oad supersacks	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area oad supersacks	AES	2x12	aborer	24
8	Building T-1451 and East Canal Area monitoring well installation	AES	1x12	Scientist	12
8	Building T-1451 and East Canal Area monitoring well installation	ammer	2x12	Drill Operator Attendant	24

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	84
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3513
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3597

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Case 580 Backhoe	12
7	AES	olvo 120 front end loader	12
8	E	eoprobe 6620 tracked direct push drill rig	10

Schedule Activity No.	REMARKS
7	37 cy suoersacks were filled from the contaminated stockpile and transported to the aste Management Storage Area near the Port of Adak for future off-site transport and disposal.
8	Monitoring wells M -5001 M -5002 and M -5003 were installed for the MNA treatment area in the East Canal/Building T-1451 Area. M -5008 was raised one foot after it was observed from the water level reading that the groundwater was 0.05 feet above the screen interval.

CONTRACTOR/S PER NTENDENT — DATE 6/29/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/29/2012
REPORT NO	39

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Backfill was spread and graded over the MNA treatment area excavation footprint. East Canal/Building T-1451 Area. Personnel include: 2 operators AES and 1 laborer AES .
8	Two monitoring wells were installed inside the boundary of the MNA treatment area and one monitoring well was installed outside the MNA treatment area. East Canal/Building T-1451 Area. Personnel include: 1 Scientist AES 1 drill operator ammer and 1 drill attendant ammer .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP.
8	ork performed was in accordance with the approved SAP. Three monitoring wells were installed outside the MNA treatment area. ells will be completed once concrete has been set for the protective casing bollards and developed. M -5008 was raised one foot after water level measurement indicated the top of the screen interval was 0.05 inches below the groundwater level.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/29/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/30/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	40
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain winds 5-10 mph
PM EAT ER	Cloudy winds 5-10 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
4	Building T-1451 and East Canal Area soil boring	AES	1x4	Scientist	4
4	Building T-1451 and East Canal Area soil boring	ammer	2x4	Drill Operator Attendant	8
7	Building T-1451 and East Canal Area oad supersacks	AES	1x8	ield PM	8
7	Building T-1451 and East Canal Area oad supersacks	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area oad supersacks	AES	2x12	aborer	24
8	Concrete for monitoring and recovery wells	ammer	2x8	Drill Operator Attendant	16

JOB SAFETY				
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	84
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3597
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3681

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
4	E	eoprobe 6620 tracked direct push drill rig	4
7	AES	Case 580 Backhoe	12
7	AES	olvo 120 front end loader	12

Schedule Activity No.	REMARKS
4	Advanced four soil borings B-61- B-64 in the seep 2 area. Collected 12primary and one field duplicate soil samples from the soil borings for analysis of DRO/AK102 at the fixed laboratory.
7	51 cy suoersacks were filled from the contaminated stockpile and transported to the aste Management Storage Area near the Port of Adak for future off-site transport and disposal.
8	Placed concrete for stickups in Area 303 monitoring and recovery wells. Placed concrete for two stickups in the East Canal/Building T-1451 Area wells for the MNA treatment area.

CONTRACTOR/S PER NTENDENT — DATE: 6/30/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	6/30/2012
REPORT NO	40

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
4	our soil borings were advanced in the seep 2 area. 12 primary and one field duplicate soil samples were collected for DRO analysis by the fixed laboratory East Canal/Building T-1451 Area. Personnel include: 1 Scientist AES 1 drill operator ammer and 1 drill attendant ammer .
7	51 one cubic yard supersacks of soil from the contaminated soil stockpile were filled and transported to the waste management storage area near the Port of Adak for future off site transport and disposal. East Canal/Building T-1451 Area. Personnel include: 2 operators AES and 1 laborer AES .
8	Concrete was placed for the remaining stickups in Area 303 and two wells in East Canal/Building T-1451 Area. Area 303 and East Canal/Building T-1451 Area. Personnel include: 1 drill operator ammer and 1 drill attendant ammer .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
4	ork performed was in accordance with the approved SAP. Soil samples were collected and packaged in accordance with the approved SAP
7	ork performed was in accordance with the approved SAP.
8	ork performed was in accordance with the approved SAP.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 6/30/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/1/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	41
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy winds 5-10 mph
PM EAT ER	Cloudy winds 5-10 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Area 303 transport supersacks	AES	1x4	Operator	4
7	Area 303 transport supersacks	AES	2x4	aborer	8
8	Building T-1451 and East Canal Area Develop monitoring well	AES	1x1	Scientist	1

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	13
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3681
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3694

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around excavator and front end loader.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Case 580 Backhoe	
7	AES	olvo 120 front end loader	4

Schedule Activity No.	REMARKS
7	Transported four partial supersacks that were filled with drill cuttings from Area 303 monitoring and recovery well installations to the aste Management Storage Area near the Port of Adak for future off-site transport and disposal.
8	Developed monitoring well M -5008 in the East Canal/Building T-1451 Area wells for the MNA treatment area.

7/1/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/1/2012
REPORT NO	41

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	our one cubic yard supersacks of drill cutting soil from Area 303 monitoring and recovery well installations were transported to the waste management storage area near the Port of Adak for future off site transport and disposal. Area 303. Personnel include: 1 operator AES and2 laborers AES .
8	Developed monitoring well M -5008. East Canal/Building T-1451 Area. Personnel include: 1 scientist AES .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	ork performed was in accordance with the approved SAP.
8	ork performed was in accordance with the approved SAP.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/1/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/2/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	42
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain/Cloudy winds15-30 mph
PM EAT ER	Cloudy winds 15-30 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	1x12	ield PM	12
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	1x12	aborer	12
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	1x9	aborer	9

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	57
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3694
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3751

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around backhoe and front end loader.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Case 580 Backhoe	12
7	AES	olvo 120 front end loader	12
7	AES	John Deere 7800 tractor	12

Schedule Activity No.	REMARKS
7	illed a total of 80 one cy supersacks from the contaminated stockpile and transported to the aste Management Storage Area near the Port of Adak for future off-site transport and disposal.

7/2/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/2/2012
REPORT NO	42

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	illed and transported 80 one cubic yard supersacks of contaminated soil from the MNA treatment area to the waste management storage area near the Port of Adak for future off site transport and disposal. East Canal/Building T-1451 Area. Personnel include: ield PM 2 operators AES 2 laborers AES .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/2/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/3/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	43
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain/Cloudy winds15-30 mph
PM EAT ER	Cloudy winds 15-30 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	1x12	ield PM	12
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	1x12	aborer	12
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	1x9	aborer	9

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	57
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3751
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3808

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around backhoe and front end loader.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Case 580 Backhoe	12
7	AES	olvo 120 front end loader	12
7	AES	John Deere 7800 tractor	12

Schedule Activity No.	REMARKS
7	illed a total of 84 one cy supersacks from the contaminated stockpile and transported to the aste Management Storage Area near the Port of Adak for future off-site transport and disposal.

7/3/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/3/2012
REPORT NO	43

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	illed and transported 84 one cubic yard supersacks of contaminated soil from the MNA treatment area to the waste management storage area near the Port of Adak for future off site transport and disposal. East Canal/Building T-1451 Area. Personnel include: ield PM 2 operators AES 2 laborers AES .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/3/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/4/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	44
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain/Cloudy winds15-35 mph
PM EAT ER	Cloudy winds 15-35 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	1x12	ield PM	12
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	2x12	Operator	24
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	1x12	aborer	12
7	Building T-1451 and East Canal Area fill and transport supersacks	AES	1x9	aborer	5

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	53
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3808
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3861

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED ☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work around backhoe and front end loader.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Case 580 Backhoe	12
7	AES	olvo 120 front end loader	12
7	AES	John Deere 7800 tractor	12

Schedule Activity No.	REMARKS
7	illed a total of 80 one cy supersacks from the contaminated stockpile. Twenty supersacks were transported to the aste Management Storage Area near the Port of Adak for future off-site transport and disposal. A tire failure on the trailer used to transport the supersacks ceased transport activities and will resume upon repair of the trailer.

CONTRACTOR/S PER NTENDENT — DATE 7/4/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/4/2012
REPORT NO	44

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	illed 80 one cubic yard supersacks of contaminated soil from the MNA treatment area. Twenty supersacks were transported to the waste management storage area near the Port of Adak for future off site transport and disposal see remarks below . East Canal/Building T-1451 Area. Personnel include: ield PM 2 operators AES 2 laborers AES .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	A tire failure on the trailer used to transport supersacks to the MSA ceased transport activities. Supersacks were staged on the asphalt pad temporarily in the East Canal/Building T-1451 Area to await transport to the MSA.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/4/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/5/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	45
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain/Cloudy winds15-35 mph
PM EAT ER	Cloudy winds 15-35 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area fill and stage supersacks	AES	1x12	ield PM	12
7	Building T-1451 and East Canal Area fill and stage supersacks	AES	1x12	Operator	12
7	Building T-1451 and East Canal Area fill and stage supersacks	AES	2x8	aborer	16
7	Building T-1451 and East Canal Area fill and stage supersacks	AES	1x12	aborer	12
	Travel	AES	2x4	aborer	8

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	60
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3861
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3921

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work near the backhoe.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	Case 580 Backhoe	12
7	AES	olvo 120 front end loader	
7	AES	John Deere 7800 tractor	

Schedule Activity No.	REMARKS
7	illed a total of 41 one cy supersacks from the contaminated stockpile. A tire failure on the trailer used to transport the supersacks ceased transport activities and will resume upon repair of the trailer. The contaminated soil is now contained in supersacks and will be staged in the aste Management Storage Area for off-site transport and disposal. The contaminated stockpile liner overburden stockpile liner and covers were removed and placed into two 1 cubic yard supersacks. The berm material for the stockpile was removed and placed to fill low areas in the graded MNA treatment excavation footprint.

7/5/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/5/2012
REPORT NO	45

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	illed 41 one cubic yard supersacks of contaminated soil from the MNA treatment area. Contaminated stockpile liner overburden stockpile liner and covers contained in two 1 cubic yard supersacks. East Canal/Building T-1451 Area. Personnel include: ield PM 1 operator AES 3 laborers AES .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
7	Contaminated soil is now contained in supersacks and awaiting off-site transport and disposal. A total of 121 supersacks are staged in the East Canal/Building T-1451 Area awaiting transport to the MSA on riday 7/6/12.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/5/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/6/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	46
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy winds 5-10 mph
PM EAT ER	Cloudy winds 5-10 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal Area transport supersacks site cleanup	AES	1x12	ield PM	12
7	Building T-1451 and East Canal Area transport supersacks site cleanup	AES	1x12	Operator	12
7	Building T-1451 and East Canal Area transport supersacks prepare forms for concrete for well stickups.	AES	1x12	aborer	12

JOB SAFETY					
	AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	36
	ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3921
	AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
	AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3957

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work near the backhoe.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	olvo 120 front end loader	9.5
7	AES	John Deere 7800 tractor	9.5

Schedule Activity No.	REMARKS
7	oaded and Transported 102 one cy supersacks from the East Canal/Building T-1451 Area to aste Management Storage Area for off-site transport and disposal. athered remaining construction materials on the East Canal/Building T-1451 Area site and placed in the materials lay down area adjacent to the aste Management Storage Area. Staged a 35 gallon drum of well development water in the East Canal/Building T-1451 Area for treatment through Absorbent and discharge. aborer prepared forms for concrete bases for monitoring well protective casings in the MNA treatment area.

7/6/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/6/2012
REPORT NO	46

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Transported remaining 102 one cubic yard supersacks of contaminated soil removed from the MNA treatment area to the aste Management Storage Area. East Canal/Building T-1451 Area. Personnel include: ield PM 1 operator AES and 1 laborer AES .

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/6/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/7/2012	
CONTRACT NO	N62473-07-D-3219	
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization	
REPORT NO	47	
CONTRACTOR	Ahtna Engineering Services AES/ERS-J	
E D PROJCT MANA ER	Tim Dobson	

AM EAT ER	PM EAT ER	MA TEMP	M N TEMP
Cloudy winds 5-10 mph	Cloudy winds 5-10 mph	45	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
7	Building T-1451 and East Canal North Area Backfill test pit excavations	AES	1x1	ield PM	2
7	Building T-1451 and East Canal North Area Backfill test pit excavations	AES	1x1	Operator	2
7	Building T-1451 and East Canal North Area Backfill test pit excavations and seed excavated areas	AES	1x3	aborer	4
7	Building T-1451 and East Canal Area backfill and grade MNA treatment area equipment management	AES	1x11	Operator	10
8	Building T-1451 and East Canal Area develop MNA treatment area monitoring wells	AES	1x6	ield PM	6

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	24
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3957
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3981

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.
7	Observed proper PPE use and actions by personnel performing work near excavator.	

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed
7	AES	olvo 120 front end loader	7
7	AES	Cat 325 Excavator	5

Schedule Activity No.	REMARKS
7	Backfilled test pit excavations 1-4. Placed 2.5 metal drums welded together used for culvert material into a 1 cubic yard super sack for off-site disposal. Placed10 cubic yards of topsoil material along the excavated bank area of the East Canal to enhance the growth of grass in that area. Added fill to low areas of the MNA treatment area. The MNA treatment area is ready for seeding. Replaced the boulders on the south access road that were removed prior to the construction of the MNA treatment area. Returned the rented Cat 325 excavator to the owner. Stored leased olvo 120 front end loader owned nternational end dump truck and owned John Deere 7800 tractor in rented space for transport off-site at a future date.
8	Developed MNA treatment area monitoring wells M -5001 M -5005 and M -5007. ell development water was treated through an Absorbent water scrubber and discharged to a grassy surface in the East Canal/Building T-1451 area. A 35 gallon drum of well development water produced from the Area 303 monitoring wells was treated and discharged to a grassy surface in the East Canal/Building -1451 Area.

CONTRACTOR/S PER NTENDENT — DATE: 7/7/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/7/2012
REPORT NO	47

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
7	Backfill remaining test pit excavations and contain metal debris in a 1 cubic yard supersack. Reseed test pit excavation areas. East Canal/Building T-1451 North Area. Personnel include: ield PM 1 operator AES and 1 laborer AES . Transport backfill material and grade MNA treatment to prepare for reseeding. East Canal/Building T-1451 Area. Personnel include: ield PM 1 operator AES .
8	Develop MNA treatment monitoring wells M -5001 M -5005 and M -5007. East Canal/Building T-1451 Area. Personnel include: ield PM.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/7/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/8/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	48
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain winds 5-10 mph
PM EAT ER	Cloudy winds 5-10 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
8	Building T-1451 and East Canal Area develop MNA treatment area monitoring wells	AES	1x6	ield PM	6

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	6
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	3981
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	3987

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed

Schedule Activity No.	REMARKS
8	Developed MNA treatment area monitoring wells M -5000 M -5002 M -5003 and M -5004. ell development water was treated through an Absorbent water scrubber and discharged to a grassy surface in the East Canal/Building T-1451 area.

CONTRACTOR/S PER NTENDENT — DATE 7/8/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/8/2012
REPORT NO	48

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
8	Develop MNA treatment monitoring wells M -5000 M -5002 M -5003 and M -5004. East Canal/Building T-1451 Area. Personnel include: ield PM.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
8	

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/8/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/9/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	49
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Rain winds 20-40 mph
PM EAT ER	Cloudy winds 10-20 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
8	Building T-1451 and East Canal Area develop MNA treatment area monitoring wells	AES	1	ield PM	2
8	Area 303 and Building T-1451 and East Canal Area build and set concrete forms for MNA treatment area monitoring wells.	AES	1	aborer	12
	Project Management consolidate waste gear consolidation	AES	1	ield PM	10

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 24
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 3987
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 4011

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed

Schedule Activity No.	REMARKS
8	Developed MNA treatment area monitoring well M -5006. ell development water was treated through an Absorbent water scrubber and discharged to a grassy surface in the East Canal/Building T-1451 area. Treated 55 gallon drum of well development water from Area 303 recovery wells through an Absorbent water scrubber and discharged to a grassy surface in the East Canal/Building T-1451 Area. Construct and set concrete forms for protective well casings for monitoring/recovery wells in Area 303
	Consolidated soil sampling and mobile laboratory non-hazardous waste into 5 cubic yard supersacks for future off-site transport and disposal. Consolidated construction equipment into conex at the laydown area.

CONTRACTOR/S PER NTENDENT — DATE: 7/9/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/9/2012
REPORT NO	49

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
8	Develop MNA treatment area monitoring well M -5006. East Canal/Building T-1451 Area. Personnel include: ield PM.

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/9/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/10/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	50
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy winds 5-15 mph
PM EAT ER	Partly Cloudy winds 5-10 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
8	Building T-1451 and East Canal Area place concrete for MNA treatment area monitoring wells	AES	1	ield PM	8
8	Building T-1451 and East Canal Area Set concrete forms for MNA treatment area monitoring wells.	AES	1	aborer	12
	Project Management and project equipment consolidation	AES	1	ield PM	4

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 24
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 4011
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 4035

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed

Schedule Activity No.	REMARKS
8	Set forms and placed concrete for MNA treatment areas with the exception of M -5002. Standing water at the base of M -5002 prevented concrete form being set.
	Consolidated construction equipment into conex at the laydown area.

CONTRACTOR/S PER NTENDENT — DATE: 7/10/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/10/2012
REPORT NO	50

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
8	Placed concrete for MNA treatment area wells. East Canal/Building T-1451 Area. Personnel include: ield PM and aborer

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
8	Standing water at the base of monitoring well M -5002 prevented the placement of concrete for that well

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/10/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/11/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	51
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Cloudy winds 5-15 mph
PM EAT ER	Partly Cloudy winds 5-10 mph
MA TEMP	45
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
8	Area 303 and East Canal/Building T-1451 Area place concrete for remaining monitoring wells	AES	2	ield PM aborer	8
	Project equipment consolidation	AES	2	ield PM aborer	16

JOB SAFETY					
AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS	24
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT	4035
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO		
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON	4059

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed

Schedule Activity No.	REMARKS
8	Placed concrete for Area 303 monitoring and recovery wells and East Canal/Building T-1451 Area monitoring wells. All wells for Area 303 and East Canal/Building T-1451 are developed and completed with concrete.
	Consolidated construction equipment into conex at the laydown area.
	Completed walk through with NTR. Area 303 is complete. East Canal/Building T-1451 North Area and East Canal/Building T-1451 Area have remaining OST probes to be filled with bentonite by 7/12/12. The MNA treatment area in the East Canal/Building T-1451 Area remains to be seeded due to recent rains the past week. Seeding will be completed 7/12/12.

CONTRACTOR/S PER NTENDENT — DATE 7/11/2012

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/11/2012
REPORT NO	51

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
8	Placed concrete for remaining Area 303 and MNA treatment area wells. All wells are developed and completed with concrete. Area 303 and East Canal/Building T-1451 Area. Personnel include: ield PM and aborer

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS

Schedule Activity No.	Description

RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST

Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
	Check-off completed with NTR. Area 303 is complete. East Canal/Building T-1451 North Area and East Canal/Building T-1451 Area have remaining OST probes to be filled with bentonite by 7/12/12. The East Canal/Building T-1451 Area MNA treatment will be completed after reseeding has taken place due to soft conditions in the backfill material Seeding to take place on 7/12/12.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/11/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

CONTRACTOR PRODUCTION REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/12/2012
CONTRACT NO	N62473-07-D-3219
T T E AND OCAT ON	Building T-1451 and East Canal Site nvestigation and Characterization
REPORT NO	52
CONTRACTOR	Ahtna Engineering Services AES/ERS-J
E D PROJCT MANA ER	Tim Dobson
AM EAT ER	Partly Cloudy winds 5-10 mph
PM EAT ER	Mostly sunny winds 5-20 mph
MA TEMP	50
M N TEMP	40

WORK PERFORMED TODAY

Schedule Activity No.	ORK OCAT ON AND DESCR PT ON	EMP O ER	N MBER	TRADE	RS
4	East Canal/Building T-1451 North Area/ East Canal/Building T-1451 Area plug OST probe holes with bentonite	AES	2	ield PM aborer	4
7	East Canal/Building T-1451 Area seed MNA treatment area	AES	2	ield PM aborer	4
8	Area 303 and East Canal/Building T-1451 Area PS recovery and monitoring wells.	AES	1	aborer	8
	Project equipment consolidation travel	AES	1	ield PM	4

JOB SAFETY

AS A JOB SA ET MEET N E D T S DATE f ES attach copy of the meeting minutes	☐ ES	☒ NO	TOTA ORK O RS ON JOB S TE T S DATE NC CON T S EETS: 24
ERE T ERE AN OST T ME ACC DENTS T S DATE f ES attach copy of completed OS A report	☐ ES	☒ NO	C M AT E TOTA O ORK O RS ROM PRE O S REPORT: 4059
AS CRANE/MAN T/TRENC N /SCA O D/ E EC/ ORK/ A MAT ORK DONE f ES attach statement or checklist showing inspection performed.	☐ ES	☒ NO	
AS A ARDO S MATER A / ASTE RE EASED NTO T E EN RONMENT f ES attach description of incident and proposed action.	☐ ES	☒ NO	TOTA ORK O RS ROM START O CONSTR CT ON: 4083

Schedule Activity No.	ST SA ET ACT ONS TAKEN TODA /SA ET NSPECT ONS COND CTED	☒ SA ET REQ REMENTS A E BEEN MET.

EQ PMENT/MATER A RECE ED TODA TO BE NCORPORATED N JOB ND CATE SC ED E ACT T N MBER

Schedule Activity No.	Submittal	Description of Equipment/Material Received

CONSTR CT ON AND P ANT EQ PMENT ON JOB S TE TODA . ND CATE O RS SED AND SC ED E ACT T N MBER.

Schedule Activity No.	Owner	Description of Construction Equipment sed Today incl Make and Model	ours sed

Schedule Activity No.	REMARKS
4	Bentonite was placed in remaining OST probe holes in the East Canal/Building T-14521 North Area and East Canal/Building T-1451 to comply with punchlist item.
7	rass seed was spread in the MNA treatment area as drier conditions in the fill material were observed after two days of no rainfall. Some areas of standing water remain in the MNA treatment area.
8	PS coordinates were collected from the top of the well casing for the Area 303 recovery and monitoring wells and the East Canal/Building T-1451 area monitoring wells.

7/12/2012

CONTRACTOR/S PER NTENDENT DATE

CONTRACTOR QUALITY CONTROL REPORT

ATTAC ADD T ONA S EETS NECESSAR

DATE	7/12/2012
REPORT NO	52

P ASE	CONTRACT NO 62473-07-D-3219	CONTRACT T T E Building T-1451/East Canal Site nvestigation/Characterization

PREPARATORY

AS PREPARATOR P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA PREPARATOR P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

INITIAL

AS N T A P ASE ORK PRE ORMED TODA ES ☐ NO ☒

ES O T AND ATTAC S PP EMENTA N T A P ASE C ECK ST.

Schedule Activity No.	Definable eature of ork	ndex

FOLLOW-UP

ORK COMP ES T CONTRACT AS APPRO ED D R N N T A P ASE ES ☒ NO ☐

ORK COMP ES T SA ET REQ REMENTS ES ☒ NO ☐

Schedule Activity No.	Description of ork Testing Performed By hom Definable eature of ork Specification Section ocation and ist of Personnel Present
4	Bentonite was placed in remaining OST probe holes in the East Canal/Building T-14521 North Area and East Canal/Building T-1451 to comply with punch list item and NTR approval. East Canal/Building T-1451 North Area and East Canal/Building T-1451 Area. Personnel include: ield PM and aborer
7	The MNA treatment area was able to be seeded after the surface was allowed to dry from the previous three day rain event. The grass seed was generously applied by broadcasting the seed by hand. The rain event did cause some erosion/channeling in the topsoil applied along the bank of the East Canal. East Canal/Building T-1451 Area. Personnel include: ield PM and aborer.
8	Collected PS coordinates for recovery and monitoring wells in Area 303 and the monitoring wells in East canal/Building t-1451 Area. Measurements were collected from the top of the well casing at the water level measuring indication mark black hash to indicate north . Area 303 and East Canal/Building T-1451 Area. Personnel include: aborer

RE ORK TEMS DENT ED TODA NOT CORRECTED B C OSE O B S NESS		RE ORK TEMS CORRECTED TODA ROM RE ORK TEMS ST	
Schedule Activity No.	Description	Schedule Activity No.	Description

REMARKS Also Explain Any ollow- p Phase Checklist tem rom Above That as Answered NO Manuf. Rep On-Site etc.

Schedule Activity No.	Description
	Check-off completed with NTR. Area 303 is complete. East Canal/Building T-1451 North Area and East Canal/Building T-1451 Area are now complete.

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

A T OR ED QC MANA ER AT S TE — DATE 7/12/2012

NAVY QUALITY ASSURANCE REPORT

DATE

Q A T ASS RANCE REPRESENTAT E S REMARKS AND/OR E CEPT ONS TO T E REPORT

Schedule Activity No.	Description

NA Q A T ASS RANCE MANA ER — DATE

APPENDIX C

DISPOSAL DOCUMENTATION

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

Contaminated Soil Transport and Treatment Approval Form

DEC HAZARD ID #	NAME OF CONTAMINATED SITE	
3599	ADAK FORMER POWER PLANT BLDG T-1451	
SPILL LOCATION		
BUILDING T-1451 - WEST OF MAIN ROAD		
CONTAMINATED SOIL'S CURRENT LOCATION		**SOURCE OF THE CONTAMINATION**
PORT OF ADAK, STAGING AREA		UNKNOWN
TYPE OF CONTAMINATION	**ESTIMATED VOLUME**	**DATE(S) STOCKPILE GENERATED**
DRO	1,000 CY	6/12/12
POST TREATMENT ANALYSIS REQUIRED *(such as GRO, DRO, RRO, BTEX, and/or Chlorinated Solvents)*		
COMMENTS		

Facility Accepting the Contaminated Soil

NAME OF THE FACILITY	ADDRESS/PHONE NUMBER
Columbia Ridge Landfill	18177 Cedar Springs Lane, Arlington, OR 97812

Responsible Party and Contractor Information

BUSINESS/NAME	ADDRESS/PHONE NUMBER
NAVFAC-NW - Grady May	1101 Tautog Cir, Silverdale, WA 98315 / 360-396-0011

Name of the Person Requesting Approval (printed) — Title/Association

MAY.GRADY.E.1171712153 — Digitally signed by MAY.GRADY.E.1171712153 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USN, cn=MAY.GRADY.E.1171712153 Date: 2012.06.21 08:27:49 -07'00'

Signature — Date — Phone Number

DEC USE ONLY

Based on the information provided, ADEC approves transport of the above mentioned material for treatment in accordance with the approved facility operations plan. The Responsible Party or their consultant must submit to the DEC Project Manager a copy of weight receipts of the loads transported to the facility and a post treatment analytical report. The contaminated soil shall be transported as a covered load in compliance with 18 AAC 60.015.

Guy Warren — EPS IV

DEC Project Manager Name (printed) — Project Manager Title

Signature — 6/21/12 — 907 269-7528

Date — Phone Number

Rev. 10/2009

NON-HAZARDOUS WAM APPROVAL FORM

WASTE MANAGEMENT

Requested Management Facility Columbia Ridge Landfill

Profile Number 100607AK Waste Approval Expiration Date 08/14/2013

APPROVAL DETAILS

Approval Decision ☑ Approved ☐ Not Approved Profile Renewal ☐ Yes ☑ No

Management Method: Direct Landfill

Generator Name: US Navy - NAVFAC NW

Management Facility Precautions, Special Handling Procedures or Limitation on approval:

- Shall not contain free liquid
- Shipment must be scheduled into disposal facility
- Approval Number must accompany each shipment
- Waste Manifest must accompany load
- Shall not pose a dust nuisance
- Shall not pose a odor nuisance
- Analysis provided shall be representative of all material shipped under this non-hazardous waste profile
- Shall comply with applicable DOT and OSHA labeling, packaging and manifesting requirements
- Shall notify WM disposal location of changes associated with original waste generating process prior to shipment

Additional Conditions:

WM Authorization Name: Kristin Castner Title: Waste Approval Manager

WM Authorization Signature: Date: 08/15/2012

Agency Authorization (if Required): Date:

©2009 Waste Management. Inc.

WASTE MANAGEMENT

March 20, 2013

US Navy NAVFAC NW
1101 Tautog Circle, Suite 203
Silverdale, Washington 98315

CERTIFICATE OF DISPOSAL

Waste Management, Inc. dba Columbia Ridge Landfill has received NON HAZARDOUS POL Soil from US Navy NAVFAC NW for ultimate disposal at Columbia Ridge Landfill.

Dates of Disposal:	**August 2012-March 2013**
Profile #:	**100607AK**
Total Tons:	**1114.06**
Waste Type:	**POL Soils**

I certify, on behalf of the above listed facility, that the above-described non hazardous waste was managed in compliance with all applicable laws.

Kkastner

Kristin Castner
Waste Management
Waste Approvals Manager – PNW

APPENDIX D

LABORATORY RESULTS

(PROVIDED IN ELECTRONIC FORMAT)

APPENDIX E

ADEC LABORATORY DATA REVIEW CHECKLISTS

DATA VALIDATION SUMMARIES

Laboratory Data Review Checklist

Completed by: Mary Tyler

Title: Quality Specialist Date: 10/4/12

CS Report Name: **Adak Former Power Plant Bldg T-1451** Report Date:

Consultant Firm:

Laboratory Name: TestAmerica, Tacoma, WA Laboratory Report Number: **580-32969-1**

ADEC File Number: 2501.38.003.22 ADEC RecKey Number: 3399

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

   Not transferred

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

The sample IDs were changed based on an email from the client (included in the laboratory report). In addition, a sample was crossed off of the chain of custody (COC) by the laboratory, based on the email from the client.

e. Data quality or usability affected? (Please explain.)

Comments:

No

4. Case Narrative

a. Present and understandable?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No corrective actions required

d. What is the effect on data quality/usability according to the case narrative?

Comments:

None

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?
Comments:

no

6. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

      ii. All method blank results less than PQL?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

      iii. If above PQL, what samples are affected?
      Comments:

      iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
      ☐Yes ☐ No ☐NA (Please explain.) Comments:

      v. Data quality or usability affected? (Please explain.)
      Comments:

      NA

   b. Laboratory Control Sample/Duplicate (LCS/LCSD)

      i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☐
Yes ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No metals reported

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
☐Yes ☐ No ☐NA (Please explain.) Comments:

NA

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

NO

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☐Yes ☐ No ☐NA (Please explain.) Comments:

It was noted that the surrogate recoveries reported for samples 01-SB016, 01-SB010, 01-SB014 and 01-SB011 were from undiluted analyses; the concentrations of DRO in these four samples were reported from 1:5 dilutions. The surrogate recovery from the undiluted analysis of sample 01-SB011 was high and outside the method specified acceptance criteria. Since the concentration of DRO was reported from the 1:5 dilution, no qualifications were applied to the data, based on professional judgment

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

No

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No VOCs reported

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iii. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

No

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

None submitted with this data set.

i. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

Geosyntec consultants

2240 Sutherland Avenue, Suite 107
Knoxville, TN 37919
PH 865.330.0037
FAX 865.330.9949
www.geosyntec.com

Memorandum

Date: 26 September 2012

To: Jamie Oakley

Tim Dobson

From: Mary Tyler

CC: J. Caprio

Subject: Stage 4 Data Validation - Level IV Data deliverable – DRO by Method AK102– TestAmerica Work Order Number 580-32969-1 and 580-32969-1 Revision 1

SITE: Navy-EMAK-ADAK

INTRODUCTION

This report summarizes the findings of the Stage 4 data validation of fifteen solid samples and two field duplicate samples collected on May 20, 2012 as part of the Navy-EMAK-ADAK sampling event. TestAmerica Tacoma, Washington analyzed the samples. The samples were analyzed for the following test:

- ADEC* Method AK102 - Diesel Range Organics (DRO)

*ADEC-Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 4 data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The organic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Sampling and Analysis Plan (hereafter referred to as the SAP), Building T-1451 and

East Canal Site Investigation/Characterization, Adak, Alaska, April, 2012, DCN: ERS.3219.JP01.0001, as well as by the pertinent methods referenced by the data package and professional judgment.

The following samples were analyzed and validated at a Stage 4 level in the data set:

Lab ID	Client ID
580-33213-1	01-SB001
580-33213-2	01-SB002
580-33213-3	01-SB003
580-33213-4	01-SB004
580-33213-5	01-SB016
580-33213-6	01-SB006
580-33213-7	01-SB005
580-33213-8	01-SB010
580-33213-9	01-SB015

Lab ID	Client ID
580-33213-10	01-SB013
580-33213-11	01-SB014
580-33213-12	01-SB009
580-33213-13	01-SB017
580-33213-14	01-SB008
580-33213-15	01-SB012
580-33213-16	01-SB011
580-33213-17	01-SB007

The samples were received at the laboratory within 4 $\pm$ 2°C. No sample preservation issues were noted by the laboratory.

The sample IDs were changed based on an email from the client (included in the laboratory report). In addition, a sample was crossed off of the chain of custody (COC) by the laboratory, based on the email from the client.

The report and electronic data deliverable (EDD) were revised to correct the sample extraction amount and subsequent reporting limits for sample 01-SB012.

1.0 DIESEL RANGE ORGANICS (DRO)

Fifteen solid samples and two field duplicate samples were analyzed for DRO analysis per ADEC Method AK102.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Continuing Calibration Verification
⊗ Method Blank

- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate
- ✓ Target Compound Identification
- ✓ Compound Quantitation
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The DRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding times for DRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

1.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

1.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at the required frequency. The CCSs were within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

1.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported with the data. DRO was not detected in the method blanks above the detection limit (DL).

The laboratory ran continuing calibration blanks (CCBs) after the CCSs; the analyses of the CCBs are not described in the method. There were estimated concentrations of DRO in the bracketing CCBs, greater than the DL. Therefore, based on professional judgment, the estimated concentrations of DRO in the associated samples were U qualified as not detected at the limit of quantitation (LOQ).

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
01-SB004	DRO (nC10-<nC25)	3.9	J	25	U	3
01-SB013	DRO (nC10-<nC25)	11	J	22	U	3

J-estimated concentration
*Validation qualifiers are defined in Attachment 1 at the end of this report
**EDD reason codes are defined in Attachment 2 at the end of this report

1.6 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were analyzed at the proper frequency for the solid samples (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-SB016, was reported. The MS/MSD pair had high recoveries, outside the SAP specified acceptance criteria. Based on professional judgment and the amount of spike relative to the sample concentration, no qualifications were applied to the data.

1.7 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCS duplicate (LCSD) pair was analyzed. The results for the LCS/LCSD pair were within the method specified acceptance criteria for recovery and relative percent difference (RPD).

1.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria, with the following exception. It was noted that the surrogate recoveries reported for samples 01-SB016, 01-SB010, 01-SB014 and 01-SB011 were from undiluted analyses; the concentrations of DRO in

these four samples were reported from 1:5 dilutions. The surrogate recovery from the undiluted analysis of sample 01-SB011 was high and outside the method specified acceptance criteria. Since the concentration of DRO was reported from the 1:5 dilution, no qualifications were applied to the data, based on professional judgment.

1.9 Field Duplicate

Two field duplicate samples, 01-SB015 and 01-SB014, were collected with the sample set. Acceptable precision (RPD <50%) was demonstrated between the field duplicates and the original samples, 01-SB009 and 01-SB010, respectively.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	RPD	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-SB009	DRO (nC10-<nC25)	82	NA	17	NA	NA	NA
01-SB015	DRO (nC10-<nC25)	97	NA		NA	NA	NA
01-SB010	DRO (nC10-<nC25)	26000	NA	20	NA	NA	NA
01-SB014	DRO (nC10-<nC25)	34000	NA		NA	NA	NA

NA-not applicable

1.10 Target Compound Identifications

The target compound identifications were within the validation criteria. The laboratory report narrative indicated that the following samples exhibited a complex mixture of heavily weathered/degraded diesel fuel and motor oil: 01-SB003, 01-SB016, 01-SB010, 01-SB015, 01-SB014, 01-SB009, 01-SB011 and 01-SB006. Based on professional judgment, no qualifications were applied to the data for these samples.

1.11 Compound Quantitation

The compound quantitations were within the validation criteria.

1.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

1.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation. No discrepancies were identified between the Level IV report and the EDD.

DRO was requested on the COC. It was noted that the DRO results in the hardcopy report and the EDD reference both methods AK102 and AK103, diesel range organics and residual range organics, respectively. This did not have an impact on the sample results and no qualifications were applied to the data.

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* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Laboratory Data Review Checklist

Completed by: Mary Tyler

Title: Quality Specialist Date: 10/10/12

CS Report Name: **Adak Former Power Plant Bldg T-1451** Report Date:

Consultant Firm:

Laboratory Name: TestAmerica, Tacoma, WA Laboratory Report Number: **580-33213-1**

ADEC File Number: 2501.38.003.22 ADEC RecKey Number: 3399

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

   Not transferred

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

The PAH, PCB and metals analyses were cancelled by the client for sample 01-EX005. In addition, the list of analytes for the VOC analysis of sample 01-EX005 was changed to only benzene, toluene, ethylbenzene and xylenes (BTEX)

e. Data quality or usability affected? (Please explain.)

Comments:

No

4. Case Narrative

a. Present and understandable?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No corrective actions required

d. What is the effect on data quality/usability according to the case narrative?

Comments:

None

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

There were no units listed for the project action limits listed in worksheet 15 of the SAP for mercury; assuming they are mg/kg (mg/kg listed for all other tables in worksheet 15), the LOD met the project action limit.
Project action limits not met for 1,2,3-Trichloropropane, Methylene chloride or 1,2-Dichloroethane (VOCs).

e. Data quality or usability affected?

Comments:

No

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. All method blank results less than PQL?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

NA

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

The recoveries of 2-methylnaphthalene and acenaphthylene were high and outside the SAP specified acceptance criteria in the LCS for SVOCs. Since acenaphthylene was not detected in the associated samples, no qualifications were applied to the data. However, the concentrations of 2-methylnaphthalene in the associated samples were J qualified as estimated.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

NO

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)
☐Yes ☐ **No** ☐NA (Please explain.) Comments:

The surrogate recovery in sample 01-EX002 was high and outside the acceptance criteria. Since no PAHs were detected in the sample, no qualifications were applied to the data. In addition, the surrogate recoveries were high and outside the acceptance criteria in the MS/MSD pair using sample 01-EX001. Since the surrogate recovery was acceptable in sample 01-EX001, no qualifications were applied to the data.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

No

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)
☐Yes ☐ **No** ☐NA (Please explain.) Comments:

iii. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

GRO was detected in the trip blank at an estimated concentration greater than the DL and less than the LOQ.
Ethylbenzene and m,p-xylenes were detected in the trip blank at estimated concentrations greater than the DLs and less than the LOQs. In addition, benzene, methylene chloride, and toluene were detected at concentrations greater than the LOQs; the concentrations in the trip blank were 32 µg/kg, 1100 µg/kg and 150 µg/kg, respectively.

iv. If above PQL, what samples are affected?

Comments:

01-EX001, 01-EX002, 01-EX004

v. Data quality or usability affected? (Please explain.)

Comments:

The estimated concentrations of GRO greater than the DLs and less than the LOQs in the associated samples were U qualified as not detected at the LOQs. The estimated concentration of m,p-xylenes in sample 01-EX004 was U qualified as not detected at the LOQ. The estimated concentrations greater than the DLs and less than the LOQs of benzene, methylene chloride, and toluene in the associated samples were U qualified as not detected at the LOQs. The concentrations of benzene, methylene chloride, and toluene in the associated samples that were greater than the LOQs were U qualified as not detected at the trip blank concentrations

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

No

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

i. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

Geosyntec consultants

2240 Sutherland Avenue, Suite 107
Knoxville, TN 37919
PH 865.330.0037
FAX 865.330.9949
www.geosyntec.com

Memorandum

Date: 05 September 2012

To: Jamie Oakley

Tim Dobson

From: Mary Tyler

CC: J. Caprio

Subject: **Stage 4 Data Validation - Level IV Data deliverable – Metals by EPA Methods 3050B/6010B, Mercury by EPA Method 7471A, DRO by Method AK102, RRO by Method AK103, GRO by Method AK101, Polychlorinated Biphenyls by EPA Methods 3550B/8082, Polynuclear Aromatic Hydrocarbons by EPA Methods 3550B/8270C, Volatile Organic Compounds by EPA Methods 50358260B – TestAmerica Work Order Numbers 580-33213-1, 580-33213-1 Revision 1, 580-33213-1 Revision 2, 580-33213-2, 580-33213-2 Revision 1 and 580-33213-2 Revision 2**

SITE: Navy-EMAK-ADAK

INTRODUCTION

This report summarizes the findings of the Stage 4 data validation of sixteen solid samples, one field duplicate sample and one trip blank collected on May 25-31, 2012 as part of the Navy-EMAK-ADAK sampling event. TestAmerica Tacoma, Washington analyzed the samples. The samples were analyzed for the following tests:

- EPA Methods 3050B/6010B - Metals
- EPA Method 7471A - Mercury
- ADEC* Method AK102 - Diesel Range Organics (DRO)
- ADEC Method AK103 - Residual Range Organics (RRO)
- ADEC Method AK101 - Gas Range Organics (GRO)
- EPA Methods 3550B/8082 - Polychlorinated Biphenyls (PCBs)
- EPA Methods 3550B/8270C - Polynuclear Aromatic Hydrocarbons (PAHs)
- EPA Methods 5035/8260B -Volatile Organic Compounds (VOCs)

*ADEC-Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 4 data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The organic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Sampling and Analysis Plan (hereafter referred to as the SAP), Building T-1451 and East Canal Site Investigation/Characterization, Adak, Alaska, April, 2012, DCN: ERS.3219.JP01.0001, as well as by the pertinent methods referenced by the data package and professional judgment.

The inorganic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, January 2010 (OSWER 9240.1-51, EPA 540-R-10-011), the SAP, as well as by the pertinent methods referenced by the data package and professional judgment.

The following samples were analyzed and validated at a Stage 4 level in the data set:

Lab ID	Client ID
580-33213-1	01-SB018
580-33213-2	01-SB019
580-33213-3	01-SB020
580-33213-4	01-SB021
580-33213-5	01-SB022
580-33213-6	01-SB023
580-33213-7	01-SB024
580-33213-8	01-SB025
580-33213-9	01-SB026

Lab ID	Client ID
580-33213-10	01-SB027
580-33213-11	01-SB028
580-33213-12	01-SB029
580-33213-13	01-EX001
580-33213-14	01-EX002
580-33213-15	01-EX003
580-33213-16	01-EX004
580-33213-17	01-EX005
580-33213-18	AU00451

The samples were received at the laboratory within 4 $\pm$ 2°C. No sample preservation issues were noted by the laboratory.

Incorrect error corrections were observed on the chain of custody (COC). The proper procedure of a single strike-through correction and initials and date of the person making the correction was not followed.

The PAH, PCB and metals analyses were cancelled by the client for sample 01-EX005. In addition, the list of analytes for the VOC analysis of sample 01-EX005 was changed to only benzene, toluene, ethylbenzene and xylenes (BTEX).

The SAP listed 64 VOCs; total xylenes were listed in the SAP, however the laboratory reported benzene, toluene, ethylbenzene, m&p-xylenes and o-xylene. In addition, 17 PAHs were listed in the SAP; the laboratory reported 18 PAHs. 1-Methylnaphthalene was reported, but not listed in the SAP.

The laboratory report was revised/amended twice. The report was revised/amended on 8/27/12 to added VOC calculations which were later determined to be incorrect. The report was revised/amended on 9/5/12 to remove the incorrect VOC calculations and to include the following two paragraphs on the VOC analyses and VOC continuing calibration verification (CCV, form VII) forms:

> The associated samples were received in 4 oz. amber jars which contained 25 mL of field surrogated Methanol. A 1.075 mL aliquot of Methanol was taken from each sample container and diluted to a final volume of 43 mL with deionized water in a VOA vial. The aqueous extracts were analyzed using a 25 mL purge volume. This information differs from that listed on the prep worksheet in the final report.
>
> Note: Please use the raw data shown on the quant report in place of the calculated amount on form VII in the instances where there are inconsistencies. It should also be noted that the %D shown on Form VII is a true calculation based on the raw data shown on the quant report.

1.0 METALS

Four solid samples were analyzed for metals per EPA Methods 3050B/6010B (Mercury evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Initial Calibration
- ✓ Initial and Continuing Calibration Verification
- ✓ Initial and Continuing Calibration Blanks
- ⊗ Method Blank
- ⊗ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Duplicate
- ✓ Laboratory Control Sample
- ✓ Serial Dilution
- ✓ Field Duplicate
- ✓ Compound Quantitations
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding time for metals analysis of solids is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Initial Calibration

The initial calibration requirements were met for the inductively coupled plasma-atomic emission spectrometer (ICP-AES).

The reporting limit standards were within the SAP control limits.

The interference check standards (ICSA and ICSAB) met the method and SAP acceptance criteria.

1.4 Initial and Continuing Calibration Verifications (ICV and CCV)

The percent recoveries in the associated ICVs and CCVs were within the method and SAP acceptance limits.

1.5 Initial and Continuing Calibration Blanks (ICB and CCB)

The ICBs and CCBs met the method and SAP acceptance criteria.

1.6 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. Metals were not detected in the method blank above the limits of detection (LODs), with the following exceptions.

Barium and silver were detected in the method blank at estimated concentrations greater than the detection limits (DLs) and less than the limits of quantitation (LOQs). Barium was detected in the associated samples at concentrations greater than the LOQ; therefore, no qualifications were applied to the data. The estimated concentrations of silver in the associated samples were U qualified as not detected at the LOQ.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
01-EX001	Silver	0.82	J B	0.96	U	3
01-EX002	Silver	0.99	J B	1	U	3
01-EX003	Silver	0.91	J B	0.99	U	3
01-EX004	Silver	0.79	J B	0.99	U	3

J-laboratory flag indicating the result is estimated
B- laboratory flag indicating blank contamination
*Validation qualifiers are defined in Attachment 1 at the end of this report
**EDD reason codes are defined in Attachment 2 at the end of this report

1.7 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were analyzed at the proper frequency for the solid samples (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-EX001, was reported. The MS/MSD pair had recovery and relative percent difference (RPD) results within the SAP specified acceptance criteria, with the following exception. The RPD for chromium was high and

above the SAP specified acceptance criteria. In addition, a post digestion spike (PDS), using sample 01-EX001, was reported and the recoveries were within the SAP specified acceptance criteria. Therefore, based on professional judgment, the concentration of chromium in sample 01-EX001 was J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
01-EX001	Chromium	14	J	14	J	4

J-laboratory flag indicating the result is estimated

1.8 Laboratory Duplicate

A laboratory duplicate was reported using sample 01-EX001. The laboratory duplicate had RPD results within the laboratory specified acceptance criteria.

1.9 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS and one LCS/LCS duplicate (LCSD) pair were analyzed. The results for the LCS and LCS/LCSD pair were within the SAP specified acceptance criteria for recovery and RPD.

1.10 Serial Dilution

A serial dilution was not reported.

1.11 Field Duplicate

A field duplicate was not collected with the sample set.

1.12 Compound Quantitations

The compound quantitations were within the validation criteria.

1.13 Sensitivity

The samples were reported to the DLs. Estimated concentrations less than the LOQs and greater than the DLs were J flagged as estimated by the laboratory. The DLs met the project action limits listed in worksheet 15 of the SAP.

1.14 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

2.0 MERCURY

Four solid samples were analyzed for mercury per EPA Method 7471A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Initial and Continuing Calibration Verification
✓ Initial and Continuing Calibration Blanks
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
⊗ Laboratory Duplicate
✓ Laboratory Control Sample
✓ Field Duplicate
✓ Compound Quantitations
✓ Sensitivity
✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The mercury data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

2.2 Holding Times

The holding time for mercury analysis of solids is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Initial Calibration

The initial calibration requirements were met. The coefficient of determination (r^2) was greater than or equal to 0.990 for the linear calibration.

The reporting limit standard was within the SAP and method control limits.

2.4 Initial and Continuing Calibration Verifications

The percent recoveries in the associated ICVs and CCVs were within the method and SAP acceptance limits.

2.5 Initial and Continuing Calibration Blanks

The ICBs and CCBs met the method acceptance criteria.

2.6 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. Mercury was not detected in the method blank above the LOD.

2.7 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the samples (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-EX001, was reported. The MS/MSD pair had recovery and RPD results within the SAP specified acceptance criteria.

2.8 Laboratory Duplicate

A laboratory duplicate was reported using sample 01-EX001. The laboratory duplicate had a high RPD result, outside the laboratory specified acceptance criteria. Therefore, the concentration of mercury in sample 01-EX001 was J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX001	Mercury	0.026	NA	0.026	J	12

NA-not applicable

2.9 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS and one LCS/LCS duplicate (LCSD) pair were analyzed. The results for the LCS and LCS/LCSD pair were within the SAP specified acceptance criteria for recovery and RPD.

2.10 Field Duplicate

A field duplicate sample was not collected with the sample set.

2.11 Compound Quantitations

The compound quantitations were within the validation criteria.

2.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. There were no units listed for the project action limits listed in worksheet 15 of the SAP; assuming they are mg/kg (mg/kg listed for all other tables in worksheet 15), the DL met the project action limit.

2.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

3.0 DIESEL RANGE ORGANICS (DRO)

Sixteen solid samples and one field duplicate sample were analyzed for DRO analysis per ADEC Method AK102.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues

were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Initial Calibration
- ✓ Continuing Calibration Verification
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate
- ⊗ Target Compound Identification
- ✓ Compound Quantitation
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The DRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

3.2 Holding Times

The holding times for DRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

3.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

3.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

3.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported with the data. DRO was not detected in the method blanks above the DL.

3.6 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one pair per batch of 20 samples). Sample set specific MS/MSD pairs 01-SB025 and 01-EX003 were reported. The MS/MSD pairs had recovery and RPD results within the SAP and method specified acceptance criteria.

3.7 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCS/LCSD pairs were analyzed. The results for the LCS/LCSD pairs were within the method specified acceptance criteria for recovery and RPD.

3.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

3.9 Field Duplicate

A field duplicate sample, 01-SB028, was collected with the sample set. Acceptable precision (RPD <50%) was demonstrated between the field duplicate and the original sample, 01-SB027.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	RPD	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-SB027	DRO (nC10-<nC25)	42000	NA	43	NA	NA	NA
01-SB028	DRO (nC10-<nC25)	65000	NA		NA	NA	NA

NA-not applicable

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3.10 Target Compound Identifications

The target compound identifications were within the validation criteria.

The laboratory report narrative indicated that the following samples exhibited weathered or heavily weathered/degraded diesel fuel chromatographic patterns: 01-SB019, 01-SB020, 01-SB022, 01-SB023, 01-SB024, 01-SB025, 01-SB027, 01-SB029 and 01-SB028; sample 01-EX001 exhibited a weathered kerosene range product and/or weathered diesel fuel chromatographic pattern. Based on professional judgment, no qualifications were applied to the data.

For sample 01-EX003 and 01-EX004 (580-33213-16) the results in the C10-C25 range(s) are due primarily to overlap from the C25-C36 range.

In addition, the report narrative stated that the chromatographic patterns for samples 01-EX003 and 01-EX004 indicated overlap from the C25-C36 range. Based on professional judgment, the concentrations of DRO in samples 01-EX003 and 01-EX004 were J qualified as estimated.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX003	DRO	15	NA	15	J	13
01-EX004	DRO	35	NA	35	J	13

NA-not applicable

3.11 Compound Quantitation

The compound quantitations were within the validation criteria.

3.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

3.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

4.0 RESIDUAL RANGE ORGANICS (RRO)

Five solid samples were analyzed for RRO analysis per ADEC Method AK103.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Continuing Calibration Verification
⊗ Method Blank
⊗ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Surrogates
✓ Equipment Blank
✓ Field Duplicate
✓ Target Compound Identification
✓ Compound Quantitation
✓ Sensitivity
✓ Electronic Data Deliverables Review

4.1 Overall Assessment

The RRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

4.2 Holding Times

The holding times for RRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

4.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

4.4 Continuing Calibration Standard

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

4.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported with the data. RRO was not detected in the method blank in batch 680-112676 above the DL. RRO was detected in the method blank in batch 680-112675 at an estimated concentration greater than the DL and less than the LOQ. The estimated concentration of RRO in associated sample 01-EX002 was U qualified as not detected at the LOQ; RRO was detected in the other associated samples at concentrations greater than the LOQ.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX002	RRO (nC25-nC36)	14	J	28	U	3

J-laboratory flag indicating the result is estimated

4.6 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported in batch 680-112676. A sample set specific MS/MSD pair, using sample 01-EX003, was reported in batch 680-112675. The MS recovery was high and outside the SAP specified acceptance criteria; in addition, the RPD was high and outside the laboratory specified acceptance criteria. Therefore, the concentration of RRO in sample 01-EX003 was J qualified as estimated.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX003	RRO (nC25-nC36)	110	J	110	J	4

J-laboratory flag indicating the result is estimated

4.7 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCS/LCSD pairs were analyzed. The results for the LCS/LCSD pairs were within the SAP and laboratory specified acceptance criteria for recovery and RPD.

4.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

4.9 Field Duplicate

A field duplicate sample was not collected with the samples.

4.10 Target Compound Identifications

The target compound identifications were within the validation criteria.

4.11 Compound Quantitation

The compound quantitations were within the validation criteria.

4.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

4.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

5.0 GASOLINE RANGE ORGANICS (GRO)

Five solid samples and one trip blank were analyzed for GRO analysis per ADEC Method AK101.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Continuing Calibration Verification
✓ Method Blanks
⊗ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Surrogates
✓ Trip Blank
✓ Field Duplicate
✓ Target Compound Identification
✓ Compound Quantitation
✓ Sensitivity
✓ Electronic Data Deliverables Review

5.1 Overall Assessment

The GRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

5.2 Holding Times

The holding time for GRO analysis of preserved solids is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

5.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the %RSD of the calibration factor. The %RSD met the method criteria of less than or equal to 25%.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

5.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

5.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. GRO was not detected in the method blank above the DL.

5.6 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-EX001, was reported. The MSD recovery was low and outside the laboratory specified

acceptance criteria. Therefore, the concentration of GRO in sample 01-EX001 was J qualified as estimated.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX001	Gasoline Range Organics (GRO)-C6-C10)	120	J	120	J	4

J-laboratory flag indicating the result is estimated

5.7 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCSD pair was analyzed. The results for the LCSs were within the method specified acceptance criteria for recovery and RPD.

5.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria, with the following exceptions. The 4-bromofluorobenzene recoveries were high and outside the method specified acceptance criteria in sample 01-EX001 and the MS/MSD pair using this sample. Since the other surrogate (trifluorotoluene) recoveries were acceptable, no qualifications were applied to the data. In addition, the recovery of trifluorotoluene was high and outside the method specified acceptance criteria in the LCSD. Since the other surrogate recovery was acceptable, no qualifications were applied to the data.

5.9 Trip Blank

A trip blank, AU00451, accompanied the sample shipment. GRO was detected in the trip blank at an estimated concentration greater than the DL and less than the LOQ. Therefore, the estimated concentrations of GRO greater than the DLs and less than the LOQs in the associated samples were U qualified as not detected at the LOQs.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX002	Gasoline Range Organics (GRO)-C6-C10)	0.29	J	2.1	U	3
01-EX003	Gasoline Range Organics (GRO)-C6-C10)	0.99	J	2.0	U	3
01-EX004	Gasoline Range Organics (GRO)-C6-C10)	0.84	J	2.2	U	3

01-EX005	Gasoline Range Organics (GRO)-C6-C10)	0.55	J	1.9	U	3

J-laboratory flag indicating the result is estimated

5.10 Sensitivity

The samples were reported to the LOD. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

5.11 Field Duplicate

A field duplicate sample was not collected with the sample set.

5.12 Target Compound Identifications

The target compound identifications were within the validation criteria.

5.13 Compound Quantitation

The compound quantitations were within the validation criteria.

5.14 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

6.0 POLYCHLORINATED BIPHENYLS (PCBs)

Four solid samples were analyzed for PCBs per EPA Methods 3550B/8082.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Continuing Calibration Verification

- ✓ Method Blanks
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate
- ✓ Target Compound Identification
- ✓ Compound Quantitation
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

6.1 Overall Assessment

The PCB data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

6.2 Holding Times

The holding time for PCB analysis of solids is 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

6.3 Initial Calibration

Initial calibration of the target compounds was performed for the primary (quantitation) column and confirmation column as required by this method. The %RSDs were less than or equal to 20% or the coefficient of determination (r2) was greater than or equal to 0.990 for the curve fit calibrations.

Initial calibration verification (ICV) was performed at the required frequency. The ICV met the laboratory acceptance criteria, with the following exceptions. The ICV criterion was not met for PCB 1232 on one of the columns. Since the ICV met the criteria on the other column, no qualifications were applied to the data.

6.4 Continuing Calibration Verification

Continuing calibration was performed at required frequency. The percent differences of calibration factors in continuing calibration verification standards were within the SAP 20% D limits.

6.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. PCBs were not detected in the method blank above the LODs.

6.6 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-EX002, was reported. The MS/MSD pair had recovery and RPD results within the SAP specified acceptance criteria.

6.7 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was analyzed. The results for the LCS were within the SAP specified acceptance criteria for recovery.

6.8 Surrogate

The surrogate recoveries were within the SAP specified acceptance criteria, with the following exception. The decachlorobiphenyl recovery in sample 01-EX001 was low and outside the SAP specified acceptance criteria. Since the other surrogate (tetrachloroxylene) recovery was acceptable, no qualifications were applied to the data.

6.9 Field Duplicate

A field duplicate sample was not collected with the sample set.

6.10 Target Compound Identifications

The target compound identifications were within the validation criteria.

6.11 Compound Quantitation

The compound quantitations were within the validation criteria.

6.12 Sensitivity

The samples were reported to the DLs. The DLs met the project action limits listed in worksheet 15 of the SAP.

6.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

7.0 SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

Four solid samples were analyzed for SVOCs (polynuclear aromatic hydrocarbons, PAHs) per EPA Methods 3550B/8270C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Instrument Performance Check
✓ Initial Calibration
✓ Continuing Calibration Verification
✓ Blanks
⊗ Matrix Spike/Matrix Spike Duplicate
⊗ Laboratory Control Sample
✓ Surrogates
✓ Field Duplicate
✓ Internal Standards
✓ Target Compound Identifications
✓ Target Compound Quantitations
✓ Sensitivity

✓ Electronic Data Deliverables Review

7.1 Overall Assessment

The SVOC data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

7.2 Holding Times

The holding time for SVOC analysis of solids is 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

7.3 Instrument Performance Check

An instrument performance check sample (tune standard) was analyzed at the beginning of each 12-hour period during sample analysis. The samples were analyzed within the 12-hour period. All ion abundance criteria were met for decafluorotriphenylphosphine (DFTPP).

Method 8270C describes the analysis of a standard to assess the gas chromatography (GC) column performance and injection port inertness; analysis of this standard was not documented in the data package. Based on professional judgment, no qualifications were applied to the data.

7.4 Initial Calibration

Appropriate initial calibrations were performed for each analyte. Based on the method of calibration, the laboratory calculated the percent relative standard deviation (%RSD) of the relative response factors (RRFs). The %RSDs of the calibration check compounds (CCCs) met the method criteria of less than or equal to 30% and the minimum average RRFs for the system performance check compounds (SPCCs) met the method criteria.

For the target analytes, the average RRFs were within the method (15% RSD), and/or validation (20% RSD for compounds not considered poor responders, 40% for poor responders) criteria for the compounds or the coefficient of determination (r2) was greater than or equal to 0.990 for the curve fit calibrations.

Initial calibration verification (ICV) was performed at the required frequency. The ICV met the laboratory acceptance criteria.

7.5 Continuing Calibration Verification

For the target analytes, the CCV was performed at the required frequency. The CCV RRFs met the method and validation criteria.

The percent differences (%Ds) between the RRFs in the initial and continuing calibration standards for the target analytes were within the method acceptance criteria of less than or equal to 20% for CCCs and the validation criteria of 40% difference for poor performing compounds and 25% difference for the non-CCC compounds.

7.6 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. SVOCs were not detected in the method blank above the LODs.

7.7 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-EX001, was reported. The recovery and RPD were high and outside the laboratory specified acceptance criteria for the PAHs with the exception of indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene. Therefore, the detected concentrations were J qualified as estimated for the PAHs except indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene.

Client Sample ID	Compound	Laboratory Concentration (µg/kg)	Laboratory Flag	Validation Concentration (µg/kg)	Validation Qualifier	Reason Code
01-EX001	1-Methylnaphthalene	2500	J	2500	J	4
01-EX001	2-Methylnaphthalene	3700	Q J	3700	J	4
01-EX001	Acenaphthene	190	J	190	J	4
01-EX001	Anthracene	81	J	81	J	4
01-EX001	Benzo[a]anthracene	160	J	160	J	4
01-EX001	Benzo[a]pyrene	140	M J	140	J	4
01-EX001	Benzo[b]fluoranthene	130	M J	130	J	4
01-EX001	Benzo[k]fluoranthene	45	J	45	J	4

Client Sample ID	Compound	Laboratory Concentration (µg/kg)	Laboratory Flag	Validation Concentration (µg/kg)	Validation Qualifier	Reason Code
01-EX001	Chrysene	200	J	200	J	4
01-EX001	Fluoranthene	230	J	230	J	4
01-EX001	Fluorene	230	J	230	J	4
01-EX001	Naphthalene	1200	J	1200	J	4
01-EX001	Phenanthrene	410	J	410	J	4
01-EX001	Pyrene	320	J	320	J	4

J-laboratory flag indicating the result is estimated
M- laboratory flag indicating manual integration compound
Q- laboratory flag indicating one or more quality control criteria failed

7.8 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was analyzed. The results for the LCS were within the SAP specified acceptance criteria for recovery, with the following exceptions. The recoveries of 2-methylnaphthalene and acenaphthylene were high and outside the SAP specified acceptance criteria. Since acenaphthylene was not detected in the associated samples, no qualifications were applied to the data. However, the concentrations of 2-methylnaphthalene in the associated samples were J qualified as estimated.

Client Sample ID	Compound	Laboratory Concentration (µg/kg)	Laboratory Flag	Validation Concentration (µg/kg)	Validation Qualifier	Reason Code
01-EX001	2-Methylnaphthalene	3700	Q J	3700	J	5
01-EX003	2-Methylnaphthalene	13	J Q	13	J	5

J-laboratory flag indicating the result is estimated
Q- laboratory flag indicating one or more quality control criteria failed

7.9 Surrogate

The surrogate recoveries were within the method and SAP specified acceptance criteria, with the following exceptions. The surrogate recovery in sample 01-EX002 was high and outside the acceptance criteria. Since no PAHs were detected in the sample, no qualifications were applied to the data. In addition, the surrogate recoveries were high and outside the acceptance criteria in the MS/MSD pair using sample 01-EX001. Since the surrogate recovery was acceptable in sample 01-EX001, no qualifications were applied to the data.

7.10 Field Duplicate

A field duplicate sample was not collected with the sample set.

7.11 Internal Standards

The internal standard areas and retention times were within the method acceptance limits.

7.12 Target Compound Identifications

The target compound identifications were within the validation criteria.

7.13 Compound Quantitation

The compound quantitations were within the validation criteria.

7.14 Sensitivity

The samples were reported to the DLs. Estimated concentrations less than the LOQs and greater than the DLs were J flagged as estimated by the laboratory. The DLs met the project action limits listed in worksheet 15 of the SAP. A project action limit was not listed in worksheet 15 for 1-methylnaphthalene.

7.15 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

8.0 VOLATILE ORGANIC COMPOUND ANALYSIS (VOCs)

One solid sample was analyzed for BTEX and four solid samples and one trip blank were analyzed for VOCs per EPA Methods 5035/8260B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Instrument Performance Check
- ✓ Initial Calibration
- ✓ Continuing Calibration Verification
- ✓ Method Blanks
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ⊗ Trip Blank
- ✓ Field Duplicate
- ✓ Internal Standards
- ✓ Target Compound Identifications
- ✓ Target Compound Quantitations
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

8.1 Overall Assessment

The VOC data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

8.2 Holding Times

The holding time for a solid sample collected in a Terracore sampler (before the sample is added to methanol or sodium bisulfate) is 48 hours; the holding time for a volatile analysis on a preserved solid sample is 14 days from sample collection (with the exception of Terracore added to water – 48 hours). The holding times were met for the sample analyses.

8.3 Instrument Performance Check

An instrument performance check sample (tune standard) was analyzed at the beginning of each 12-hour period during sample analysis. The samples were analyzed within the 12-hour period. All ion abundance criteria were met for bromofluorobenzene (BFB).

8.4 Initial Calibration

Appropriate initial calibrations were performed for each analyte. Based on the method of calibration, the laboratory calculated %RSD of the RRFs. The %RSDs of the CCCs met the method criteria of less than or equal to 30% and the minimum average RRFs for the SPCCs met the method criteria.

For the target analytes, the average RRFs were within the laboratory (15% RSD) and validation criteria for the target compounds or the coefficient of determination (r^2) was greater than or equal to 0.990 for the curve fit calibrations.

Initial calibration verification (ICV) was performed at the required frequency. The ICV met the SAP criteria.

8.5 Continuing Calibration Verification

For the target analytes, the CCV was performed at the required frequency. The CCV RRFs met the method and validation criteria.

The %Ds between the RRFs in the initial and continuing calibration standards for the target analytes were within the method acceptance criteria of less than or equal to 20% for CCCs, the SAP criteria of 20% for the non-CCC compounds and the validation criteria of 40% difference for poor performing compounds and 25% difference for the non-CCC compounds, with the following exception.

The %D for 2,2-dichloropropane was 31%, with a high bias. Since 2,2-dichloropropane was not detected in the associated samples, no qualifications were applied to the data.

8.6 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported with the data. VOCs were not detected in the method blank above the LODs. An estimated concentration of acetone was reported for the method blank in batch 112536. Since estimated concentrations of acetone were not reported in the associated samples, no qualifications were applied to the data.

8.7 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample

01-EX005, was reported with the BTEX data. A sample set specific MS/MSD pair, using sample 01-EX004, was reported with the VOC data. The MS/MSD pairs had recovery and RPD results within the SAP specified acceptance criteria, with the following exceptions.

The MS/MSD using sample 01-EX004 had high recoveries of bromochloromethane and 1,1,1-trichloroethane, both outside the SAP specified acceptance criteria. Since bromochloromethane and 1,1,1-trichloroethane were not detected in sample 01-EX004, no qualifications were applied to the data.

8.8 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS and one LCS/LCSD pair were analyzed. The results for the LCS and LCS/LCSD pair were within the SAP specified acceptance criteria for recovery and RPD.

8.9 Surrogates

The surrogate recoveries were within the SAP specified acceptance criteria.

8.10 Trip Blank

A trip blank, AU00451, accompanied the sample shipment. Ethylbenzene and m,p-xylenes were detected in the trip blank at estimated concentrations greater than the DLs and less than the LOQs. Therefore, the estimated concentration of m,p-xylenes in sample 01-EX004 was U qualified as not detected at the LOQ. The concentrations of ethylbenzene and m,p-xylenes in the other associated samples were either not detected or detected above the LOQs.

In addition, benzene, methylene chloride, and toluene were detected at concentrations greater than the LOQs; the concentrations in the trip blank were 32 µg/kg, 1100 µg/kg and 150 µg/kg, respectively. Therefore, the estimated concentrations greater than the DLs and less than the LOQs of benzene, methylene chloride, and toluene in the associated samples were U qualified as not detected at the LOQs. The concentrations of benzene, methylene chloride, and toluene in the associated samples that were greater than the LOQs were U qualified as not detected at the trip blank concentrations.

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Client Sample ID	Compound	Laboratory Concentration (µg/kg)	Laboratory Flag	Validation Concentration (µg/kg)	Validation Qualifier	Reason Code
01-EX005	Benzene	2.2	J	7.6	U	3
01-EX005	Toluene	11	J	19	U	3
01-EX004	m,p-Xylene	11	J	22	U	3
01-EX001	Toluene	15	J	18	U	3
01-EX002	Benzene	4.6	J	8.6	U	3
01-EX002	Toluene	17	J	21	U	3
01-EX003	Methylene Chloride	14	J	20	U	3
01-EX004	Toluene	10	J	22	U	3
01-EX001	Benzene	8.6	NA	32	U	3
01-EX001	Methylene Chloride	27	NA	1100	U	3
01-EX002	Methylene Chloride	130	NA	1100	U	3
01-EX004	Methylene Chloride	26	NA	1100	U	3

J-laboratory flag indicating the result is estimated
NA-not applicable

8.11 Field Duplicate

A field duplicate sample was not collected with the sample set.

8.12 Internal Standards

The internal standard areas and retention times (RTs) were within method limits.

8.13 Target Compound Identifications

The target compound identifications were within the validation criteria.

8.14 Compound Quantitation

The compound quantitations were within the validation criteria.

8.15 Sensitivity

The samples were reported to the DLs. Estimated concentrations less than the LOQs and greater than the DLs were J flagged as estimated by the laboratory. The DLs met the project action limits listed in worksheet 15 of the SAP, with the following exceptions.

Compound	SAP Project Action Limit (mg/kg)	Limit of Detection (mg/kg)
1,2,3-Trichloropropane	0.00053	0.030
Methylene chloride	0.016	0.030
1,2-Dichloroethane	0.016	0.030

Since methylene chloride was detected in the associated samples above the LOQ, this deviation does not have an impact on the data. Additionally, the sample specific DLs for 1,2-dichloroethane were less than or equal to the SAP project action limit; therefore, this deviation does not have an impact on the data.

Project action limits were not listed for several compounds, including o-xylene and m&p-xylenes. The DLs for o-xylene and m&p-xylenes met the project action limit listed for total xylenes.

8.16 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Laboratory Data Review Checklist

Completed by: Mary Tyler

Title: Quality Specialist Date: 10/10/12

CS Report Name: **Adak Former Power Plant Bldg T-1451** Report Date:

Consultant Firm:

Laboratory Name: TestAmerica, Tacoma, WA Laboratory Report Number: **580-33219-1**

ADEC File Number: 2501.38.003.22 ADEC RecKey Number: 3399

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

   Not transferred

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

The report narrative indicated that tape was added to the tared, methanol preserved containers for VOCs and GRO analyses. Based on professional judgment, no qualifications were applied to the data due on the amount of sample collected for these analyses.

e. Data quality or usability affected? (Please explain.)
Comments:

No

4. Case Narrative
a. Present and understandable?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No corrective actions required

d. What is the effect on data quality/usability according to the case narrative?
Comments:

None

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

There were no units listed for the project action limits listed in worksheet 15 of the SAP for mercury; assuming they are mg/kg (mg/kg listed for all other tables in worksheet 15), the LOD met the project action limit.
Project action limits not met for 1,2,3-Trichloropropane, Methylene chloride or 1,2-Dichloroethane (VOCs).

e. Data quality or usability affected?

Comments:

no

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. All method blank results less than PQL?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

NA

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

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iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☐**Yes** ☐ ☐NA (Please explain.) Comments:

.

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

NO

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

No

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)
☐Yes ☐ **No** ☐NA (Please explain.) Comments:

iii. All results less than PQL?
☐Yes ☐ **No** ☐NA (Please explain.) Comments:

GRO was detected in the trip blank at an estimated concentration greater than the DL and less than the LOQ.
Acetone, ethylbenzene and o-xylene were detected in the trip blank at estimated concentrations greater than the DLs and less than the LOQs. In addition, benzene, m,p-xylenes, methylene chloride, and toluene were detected at concentrations greater than the LOQs.

iv. If above PQL, what samples are affected?

01-EX006

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

The concentration of methylene chloride in the associated sample was J qualified as estimated.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

Field duplicate submitted in lab reports 580-32969, 580-33213, 580-33222, 580-33365, 580-33737, 580-33485 and 580-33621.

ii. Submitted blind to lab?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

i. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?
      ☐ **Yes** ☐ No ☐ NA (Please explain.) Comments:

Geosyntec consultants

2240 Sutherland Avenue, Suite 107
Knoxville, TN 37919
PH 865.330.0037
FAX 865.330.9949
www.geosyntec.com

Memorandum

Date: 4 September 2012

To: Jamie Oakley

Tim Dobson

From: Mary Tyler

CC: J. Caprio

Subject: **Stage 4 Data Validation - Level IV Data deliverable – Metals by EPA Methods 3050B/6010B, Mercury by EPA Method 7471A, DRO by Method AK102, RRO by Method AK103, GRO by Method AK101, Polychlorinated Biphenyls by EPA Methods 3550B/8082, Polynuclear Aromatic Hydrocarbons by EPA Methods 3550B/8270C, Volatile Organic Compounds by EPA Methods 50358260B – TestAmerica Work Order Number 580-33219-1, 580-33219-1 Revision 1 and 580-33219-1 Revision 2**

SITE: Navy-EMAK-ADAK

INTRODUCTION

This report summarizes the findings of the Stage 4 data validation of one solid sample and one trip blank collected on May 31, 2012 as part of the Navy-EMAK-ADAK sampling event. TestAmerica, Tacoma, Washington analyzed the samples. The samples were analyzed for the following tests:

- EPA Methods 3050B/6010B - Metals
- EPA Method 7471A - Mercury
- ADEC* Method AK102 - Diesel Range Organics (DRO)
- ADEC Method AK103 - Residual Range Organics (RRO)
- ADEC Method AK101 - Gas Range Organics (GRO)
- EPA Methods 3550B/8082 - Polychlorinated Biphenyls (PCBs)
- EPA Methods 3550B/8270C - Polynuclear Aromatic Hydrocarbons (PAHs)
- EPA Methods 5035/8260B -Volatile Organic Compounds (VOCs)

*ADEC-Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 4 data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The organic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Sampling and Analysis Plan (hereafter referred to as the SAP), Building T-1451 and East Canal Site Investigation/Characterization, Adak, Alaska, April, 2012, DCN: ERS.3219.JP01.0001, as well as by the pertinent methods referenced by the data package and professional judgment.

The inorganic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, January 2010 (OSWER 9240.1-51, EPA 540-R-10-011), the SAP, as well as by the pertinent methods referenced by the data package and professional judgment.

The following samples were analyzed and validated at a Stage 4 level in the data set:

Lab ID	Client ID
580-33219-1	01-EX006

Lab ID	Client ID
580-33219-2	AU00451-1

The samples were received at the laboratory within 4 $\pm$ 2°C. No sample preservation issues were noted by the laboratory.

Incorrect error corrections were observed on the chain of custody (COC). The proper procedure of a single strike-through correction and initials and date of the person making the correction was not followed.

The report narrative indicated that tape was added to the tared, methanol preserved containers for VOCs and GRO analyses. Based on professional judgment, no qualifications were applied to the data due on the amount of sample collected for these analyses.

The SAP listed 64 VOCs; total xylenes were listed in the SAP, however the laboratory reported m&p-xylenes and o-xylene. In addition, 17 PAHs were listed in the SAP; the laboratory reported 18 PAHs. 1-Methylnaphthalene was reported, but not listed in the SAP.

The laboratory report was revised/amended twice. The report was revised/amended on 8/27/12 to note in the narrative that since an aliquot for the dry weight analysis was not provided for sample

AU00451-1, the results were reported on a reported wet weight basis. The laboratory also added VOC calculation to the first revised/amended report which were later determined to be incorrect. The report was revised/amended on 9/5/12 to remove the incorrect VOC calculations and to include the following two paragraphs on the VOC analyses and VOC continuing calibration verification (CCV, form VII) forms:

> The associated samples were received in 4 oz. amber jars which contained 25 mL of field surrogated Methanol. A 1.075 mL aliquot of Methanol was taken from each sample container and diluted to a final volume of 43 mL with deionized water in a VOA vial. The aqueous extracts were analyzed using a 25 mL purge volume. This information differs from that listed on the prep worksheet in the final report.
>
> Note: Please use the raw data shown on the quant report in place of the calculated amount on form VII in the instances where there are inconsistencies. It should also be noted that the %D shown on Form VII is a true calculation based on the raw data shown on the quant report.

1.0 METALS

One solid sample was analyzed for metals per EPA Methods 3050B/6010B (Mercury evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Initial Calibration
- ✓ Initial and Continuing Calibration Verification
- ✓ Initial and Continuing Calibration Blanks
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Duplicate
- ✓ Laboratory Control Sample
- ✓ Serial Dilution
- ✓ Field Duplicate
- ✓ Compound Quantitations
- ✓ Sensitivity

✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding time for metals analysis of solids is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Initial Calibration

The initial calibration requirements were met for the inductively coupled plasma-atomic emission spectrometer (ICP-AES).

The reporting limit standards were within the SAP control limits.

The interference check standards (ICSA and ICSAB) met the method and SAP acceptance criteria.

1.4 Initial and Continuing Calibration Verifications (ICV and CCV)

The percent recoveries in the associated ICVs and CCVs were within the method and SAP acceptance limits.

1.5 Initial and Continuing Calibration Blanks (ICB and CCB)

The ICBs and CCBs met the method and SAP acceptance criteria.

1.6 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. Metals were not detected in the method blank above the detection limit (DLs).

1.7 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were not reported.

1.8 Laboratory Duplicate

A laboratory duplicate was not reported.

1.9 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS and one LCS/LCS duplicate (LCSD) pair were analyzed. The results for the LCS and LCS/LCSD pair were within the SAP specified acceptance criteria for recovery and relative percent difference (RPD).

1.10 Serial Dilution

A serial dilution was not reported.

1.11 Field Duplicate

A field duplicate was not collected with the sample set.

1.12 Compound Quantitations

The compound quantitations were within the validation criteria.

1.13 Sensitivity

The samples were reported to the DLs. Estimated concentrations less than the LOQs and greater than the detection limits (DLs) were J flagged as estimated by the laboratory. The DLs met the project action limits listed in worksheet 15 of the SAP.

1.14 Electronic Data Deliverables (EDD) Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

2.0 MERCURY

One solid sample was analyzed for mercury per EPA Method 7471A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Initial and Continuing Calibration Verification
✓ Initial and Continuing Calibration Blanks
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
⊗ Laboratory Duplicate
✓ Laboratory Control Sample
✓ Field Duplicate
✓ Compound Quantitations
✓ Sensitivity
✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The mercury data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

2.2 Holding Times

The holding time for mercury analysis of solids is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Initial Calibration

The initial calibration requirements were met. The coefficient of determination (r^2) was greater than or equal to 0.990 for the linear calibration.

The reporting limit standard was within the SAP control limits.

2.4 Initial and Continuing Calibration Verifications

The percent recoveries in the associated ICVs and CCVs were within the method and SAP acceptance limits.

2.5 Initial and Continuing Calibration Blanks

The ICBs and CCBs met the method acceptance criteria.

2.6 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. Mercury was not detected in the method blank above the DL.

2.7 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the samples (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-EX006, was reported. The MS/MSD pair had recovery and RPD results within the SAP specified acceptance criteria.

2.8 Laboratory Duplicate

A laboratory duplicate was reported, using sample 01-EX006. The laboratory duplicate had a high RPD result, outside the laboratory specified acceptance criteria. Therefore, the concentration of mercury in sample 01-EX006 was J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
01-EX006	Mercury	0.012	J	0.012	J	12

J-laboratory flag indicating the result is estimated
*Validation qualifiers are defined in Attachment 1 at the end of this report
**EDD reason codes are defined in Attachment 2 at the end of this report

2.9 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS and one LCS/LCSD pair were analyzed. The results for the

LCS and LCS/LCSD pair were within the SAP specified acceptance criteria for recovery and RPD.

2.10 Field Duplicate

A field duplicate sample was not collected with the sample set.

2.11 Compound Quantitations

The compound quantitations were within the validation criteria.

2.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. There were no units listed for the project action limits listed in worksheet 15 of the SAP; assuming they are mg/kg (mg/kg listed for all other tables in worksheet 15), the LOD met the project action limit.

2.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation processccs. No discrepancies were identified between the Level IV report and the EDD.

3.0 DIESEL RANGE ORGANICS (DRO)

One solid sample was analyzed for DRO analysis per ADEC Method AK102.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Initial Calibration
- ✓ Continuing Calibration Verification
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates

- ✓ Field Duplicate
- ✓ Target Compound Identification
- ✓ Compound Quantitation
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The DRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

3.2 Holding Times

The holding times for DRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

3.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

3.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at the required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

3.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. DRO was not detected in the method blank above the DL.

3.6 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported.

3.7 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCSD pair was analyzed. The results for the LCS/LCSD pair were within the method specified acceptance criteria for recovery and RPD.

3.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

3.9 Field Duplicate

A field duplicate sample was not collected with the sample set.

3.10 Target Compound Identifications

The target compound identifications were within the validation criteria. The laboratory report narrative indicated that sample 01-EX006 exhibited a heavily weathered/degraded diesel fuel chromatographic pattern. Based on professional judgment, no qualifications were applied to the data.

3.11 Compound Quantitation

The compound quantitations were within the validation criteria.

3.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

3.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

4.0 RESIDUAL RANGE ORGANICS (RRO)

One solid sample was analyzed for RRO analysis per ADEC Method AK103.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Continuing Calibration Verification
⊗ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Surrogates
✓ Field Duplicate
✓ Target Compound Identification
✓ Compound Quantitation
✓ Sensitivity
✓ Electronic Data Deliverables Review

4.1 Overall Assessment

The RRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

4.2 Holding Times

The holding times for RRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

4.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

4.4 Continuing Calibration Standard

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

4.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. RRO was detected in the method blank at an estimated concentration greater than the DL and less than the limit of quantitation (LOQ). Therefore, the estimated RRO concentration in the associated sample was U qualified as not detected at the LOQ.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX006	RRO (nC25-nC36)	21	J M	31	U	3

J-laboratory flag indicating the result is estimated
M-laboratory flag indicating manual integration

4.6 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported

4.7 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCSD pair was analyzed. The results for the LCS/LCSD pair were within the SAP and laboratory specified acceptance criteria for recovery and RPD.

4.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

4.9 Field Duplicate

A field duplicate sample was not collected with the sample set.

4.10 Target Compound Identifications

The target compound identifications were within the validation criteria.

4.11 Compound Quantitation

The compound quantitations were within the validation criteria.

4.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

4.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

5.0 GASOLINE RANGE ORGANICS (GRO)

One solid sample and one trip blank were analyzed for GRO per ADEC Method AK101.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Initial Calibration
- ✓ Continuing Calibration Verification
- ✓ Method Blanks
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Trip Blank
- ✓ Field Duplicate

- ✓ Target Compound Identification
- ✓ Compound Quantitation
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

5.1 Overall Assessment

The GRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

5.2 Holding Times

The holding time for GRO analysis of preserved solids is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

5.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the %RSD of the calibration factor. The %RSD met the method criteria of less than or equal to 25%. The

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

5.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at the required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

5.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. GRO was not detected in the method blank above the DL.

5.6 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported

5.7 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCSD pair was analyzed. The results for the LCS/LCSD pair were within the method specified acceptance criteria for recovery and RPD.

5.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

5.9 Trip Blank

A trip blank, AU00451-1, accompanied the sample shipment. GRO was detected in the trip blank at an estimated concentration greater than the DL and less than the LOQ. Since GRO was detected at a concentration greater than the LOQ in the associated sample, no qualifications were applied to the data. .

5.10 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

5.11 Field Duplicate

A field duplicate sample was not collected with the sample set.

5.12 Target Compound Identifications

The target compound identifications were within the validation criteria.

5.13 Compound Quantitation

The compound quantitations were within the validation criteria.

5.14 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

6.0 POLYCHLORINATED BIPHENYLS (PCBs)

One solid sample was analyzed for PCBs per EPA Methods 3550B/8082.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Initial Calibration
- ✓ Continuing Calibration Verification
- ✓ Method Blanks
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate
- ✓ Target Compound Identification
- ✓ Compound Quantitation
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

6.1 Overall Assessment

The PCB data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

6.2 Holding Times

The holding time for PCB analysis of solids is 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

6.3 Initial Calibration

Initial calibration of the target compounds was performed for the primary (quantitation) column and confirmation column as required by this method. The %RSDs were less than or equal to 20%

or the coefficient of determination (r2) was greater than or equal to 0.990 for the curve fit calibrations.

Initial calibration verification (ICV) was performed at the required frequency. The ICV met the laboratory acceptance criteria, with the following exception. The ICV criterion was not met for PCB 1232 on one of the columns. Since the ICV met the criteria on the other column, no qualifications were applied to the data.

6.4 Continuing Calibration Verification

Continuing calibration was performed at the required frequency. The percent differences of calibration factors in the continuing calibration verification standards were within the SAP 20% D limits.

6.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. PCBs were not detected in the method blank above the LODs.

6.6 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported.

6.7 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was analyzed. The results for the LCS were within the SAP specified acceptance criteria for recovery.

6.8 Surrogate

The surrogate recoveries were within the SAP specified acceptance criteria.

6.9 Field Duplicate

A field duplicate sample was not collected with the sample set.

6.10 Target Compound Identifications

The target compound identifications were within the validation criteria.

6.11 Compound Quantitation

The compound quantitations were within the validation criteria.

6.12 Sensitivity

The samples were reported to the DLs. The DLs met the project action limits listed in worksheet 15 of the SAP.

6.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

7.0 SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)

One solid sample was analyzed for SVOCs per EPA Methods 3550B/8270C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Instrument Performance Check
- ✓ Initial Calibration
- ✓ Continuing Calibration Verification
- ✓ Blanks
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate
- ✓ Internal Standards
- ✓ Target Compound Identifications
- ✓ Target Compound Quantitations
- ✓ Sensitivity

✓ Electronic Data Deliverables Review

7.1 Overall Assessment

The SVOC data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

7.2 Holding Times

The holding time for SVOC analysis of solids is 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

7.3 Instrument Performance Check

An instrument performance check sample (tune standard) was analyzed at the beginning of each 12-hour period during sample analysis. The samples were analyzed within the 12-hour period. All ion abundance criteria were met for decafluorotriphenylphosphine (DFTPP).

Method 8270C describes the analysis of a standard to assess the gas chromatography (GC) column performance and injection port inertness; analysis of this standard was not documented in the data package. Based on professional judgment, no qualifications were applied to the data.

7.4 Initial Calibration

Appropriate initial calibrations were performed for each analyte. Based on the method of calibration, the laboratory calculated the percent relative standard deviation (%RSD) of the relative response factors (RRFs). The %RSDs of the calibration check compounds (CCCs) met the method criteria of less than or equal to 30% and the minimum average RRFs for the system performance check compounds (SPCCs) met the method criteria.

For the target analytes, the average RRFs were within the method (15% RSD), and/or validation (20% RSD for compounds not considered poor responders, 40% for poor responders) criteria for the compounds or the coefficient of determination (r2) was greater than or equal to 0.990 for the curve fit calibrations.

Initial calibration verification (ICV) was performed at the required frequency. The ICV met the laboratory acceptance criteria.

7.5 Continuing Calibration Verification

For the target analytes, the CCV was performed at the required frequency. The CCV RRFs met the method and validation criteria.

The percent differences (%Ds) between the RRFs in the initial and continuing calibration standards for the target analytes were within the method acceptance criteria of less than or equal to 20% for CCCs and the validation criteria of 40% difference for poor performing compounds and 25% difference for the non-CCC compounds.

7.6 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. SVOCs were not detected in the method blank above the DLs.

7.7 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported.

7.8 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was analyzed. The results for the LCS were within the SAP specified acceptance criteria for recovery, with the following exceptions. The recoveries of 2-methylnaphthalene and acenaphthylene were high and outside the SAP specified acceptance criteria. Since 2-methylnaphthalene and acenaphthylene were not detected in the associated sample, no qualifications were applied to the data.

7.9 Surrogate

The surrogate recoveries were within the method and SAP specified acceptance criteria.

7.10 Field Duplicate

A field duplicate sample was not collected with the sample set.

7.11 Internal Standards

The internal standard areas and retention times were within the method acceptance limits.

7.12 Target Compound Identifications

The target compound identifications were within the validation criteria.

7.13 Compound Quantitation

The compound quantitations were within the validation criteria.

7.14 Sensitivity

The samples were reported to the DLs. Estimated concentrations less than the LOQs and greater than the DLs were J flagged as estimated by the laboratory. The DLs met the project action limits listed in worksheet 15 of the SAP. A project action limit was not listed in worksheet 15 for 1-methylnaphthalene.

7.15 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

8.0 VOLATILE ORGANIC COMPOUND ANALYSIS (VOCs)

One solid sample sample and one trip blank were analyzed for VOCs per EPA Methods 5035/8260B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Instrument Performance Check
✓ Initial Calibration
✓ Continuing Calibration Verification
✓ Method Blanks
⊗ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Surrogates
✓ Trip Blank

- ✓ Field Duplicate
- ✓ Internal Standards
- ✓ Target Compound Identifications
- ✓ Target Compound Quantitations
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

8.1 Overall Assessment

The VOC data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

As noted in the Executive Summary (above), the report narrative indicated that tape was added to the tared, methanol preserved containers. Based on professional judgment, no qualifications were applied to the data due on the amount of sample collected for these analyses.

8.2 Holding Times

The holding time for a solid sample collected in a Terracore sampler (before the sample is added to methanol or sodium bisulfate) is 48 hours; the holding time for a volatile analysis on a preserved solid sample is 14 days from sample collection (with the exception of Terracore samples added to water – 48 hours). The holding times were met for the sample analyses.

8.3 Instrument Performance Check

An instrument performance check sample (tune standard) was analyzed at the beginning of each 12-hour period during sample analysis. The samples were analyzed within the 12-hour period. All ion abundance criteria were met for bromofluorobenzene (BFB).

8.4 Initial Calibration

Appropriate initial calibrations were performed for each analyte. Based on the method of calibration, the laboratory calculated %RSD of the RRFs. The %RSDs of the CCCs met the method criteria of less than or equal to 30% and the minimum average RRFs for the SPCCs met the method criteria.

For the target analytes, the average RRFs were within the laboratory (15% RSD) and validation criteria for the target compounds or the coefficient of determination (r^2) was greater than or equal to 0.990 for the curve fit calibrations.

Initial calibration verification (ICV) was performed at the required frequency. The ICV met the SAP criteria.

8.5 Continuing Calibration Verification

For the target analytes, the CCV was performed at the required frequency. The CCV RRFs met the method and validation criteria.

The %Ds between the RRFs in the initial and continuing calibration standards for the target analytes were within the method acceptance criteria of less than or equal to 20% for CCCs, the SAP criteria of 20% for the non-CCC compounds and the validation criteria of 40% difference for poor performing compounds and 25% difference for the non-CCC compounds.

8.6 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. VOCs were not detected in the method blank above the DLs, with the following exception. An estimated concentration of methylene chloride, greater than the DL and less than the LOQ was reported for the method blank in batch 112641. Methylene chloride was also detected in both samples; since the concentrations were greater than the LOQs, no qualifications were applied to the data.

8.7 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-EX006, was reported. The MS/MSD pair had recovery and RPD results within the SAP specified acceptance criteria, with the following exceptions.

The recoveries of the following compounds were high and outside the SAP specified acceptance criteria in the MS/MSD pair.

1,1,1-Trichloroethane	2,2-Dichloropropane	Chloroethane
1,1-Dichloroethane	Benzene	Chloroform
1,1-Dichloroethene	Bromochloromethane	cis-1,2-Dichloroethene

Methylene Chloride	Trichloroethene	Vinyl chloride
trans-1,2-Dichloroethene	Trichlorofluoromethane	

Since methylene chloride was the only compound noted above that was detected in sample 01-EX006, the concentration of methylene chloride was J qualified as estimated in sample 01-EX006.

Sample ID	Compound	Laboratory Concentration (µg/kg)	Laboratory Flag	Validation Concentration (µg/kg)	Validation Qualifier	Reason Code
01-EX006	Methylene Chloride	79	B J	79	J	4

B-laboratory flag indicating blank contamination
J-laboratory flag indicating the result is estimated

8.8 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was analyzed. The results for the LCS were within the SAP specified acceptance criteria for recovery.

8.9 Surrogates

The surrogate recoveries were within the SAP specified acceptance criteria.

8.10 Trip Blank

A trip blank, AU00451-1, accompanied the sample shipment. Acetone, ethylbenzene and o-xylene were detected in the trip blank at estimated concentrations greater than the DLs and less than the LOQs. Since acetone, ethylbenzene and o-xylene were not detected above the DLs in the associated sample, no qualifications were applied to the data. .

In addition, benzene, m,p-xylenes, methylene chloride, and toluene were detected at concentrations greater than the LOQs; the concentrations in the trip blank were 37 µg/kg, 91 µg/kg, 1500 µg/kg and 200 µg/kg, respectively. Since benzene, m,p-xylenes and toluene were not detected in the associated sample, no qualifications were applied to the data. Based on professional judgment, the concentration of methylene chloride in the associated sample was J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (µg/kg)	Laboratory Flag	Validation Concentration (µg/kg)	Validation Qualifier	Reason Code
01-EX006	Methylene Chloride	79	B J	79	J	3

B-laboratory flag indicating blank contamination
J-laboratory flag indicating the result is estimated

8.11 Field Duplicate

A field duplicate sample was not collected with the sample sets.

8.12 Internal Standards

The internal standard areas and retention times were within method limits.

8.13 Target Compound Identifications

The target compound identifications were within the validation criteria.

8.14 Compound Quantitation

The compound quantitations were within the validation criteria.

8.15 Sensitivity

The samples were reported to the DLs. Estimated concentrations less than the LOQs and greater than the DLs were J flagged as estimated by the laboratory. The DLs met the project action limits listed in worksheet 15 of the SAP, with the following exceptions.

Compound	SAP Project Action Limit (mg/kg)	Limit of Detection (mg/kg)
1,2,3-Trichloropropane	0.00053	0.030
Methylene chloride	0.016	0.030
1,2-Dichloroethane	0.016	0.030

Since methylene chloride was detected in the associated samples above the LOQ, this deviation does not have an impact on the data. Additionally, the sample specific DLs for 1,2-dichloroethane were less than or equal to the SAP project action limit; therefore, this deviation does not have an impact on the data.

Project action limits were not listed for several compounds, including o-xylene and m&p-xylenes. The LODs for o-xylene and m&p-xylenes met the project action limit listed for total xylenes.

8.16 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the Level IV report and the EDD.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Laboratory Data Review Checklist

Completed by: Mary Tyler

Title: Quality Specialist Date: 10/10/12

CS Report Name: **Adak Former Power Plant Bldg T-1451** Report Date:

Consultant Firm:

Laboratory Name: TestAmerica, Tacoma, WA Laboratory Report Number: **580-33322-1**

ADEC File Number: 2501.38.003.22 ADEC RecKey Number: 3399

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

   Not transferred

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

e. Data quality or usability affected? (Please explain.)
Comments:

No

4. Case Narrative
a. Present and understandable?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No corrective actions required

d. What is the effect on data quality/usability according to the case narrative?
Comments:

None

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?

Comments:

No

6. <u>QC Samples</u>

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. All method blank results less than PQL?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

NA

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No metals reported

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

NO

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

No

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No volatiles analyses

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

iii. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

i. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

Geosyntec consultants

2240 Sutherland Avenue, Suite 107
Knoxville, TN 37919
PH 865.330.0037
FAX 865.330.9949
www.geosyntec.com

Memorandum

Date: 04 September 2012

To: Jamie Oakley

Tim Dobson

From: Mary Tyler

CC: J. Caprio

Subject: Stage 4 Data Validation - Level IV Data deliverable – DRO by Method AK102– TestAmerica Work Order Number 580-33322-1

SITE: Navy-EMAK-ADAK

INTRODUCTION

This report summarizes the findings of the Stage 4 data validation of seven solid samples and one field duplicate sample collected on June 1-2, 2012 as part of the Navy-EMAK-ADAK sampling event. TestAmerica Tacoma, Washington analyzed the samples. The samples were analyzed for the following tests:

- ADEC* Method AK102 - Diesel Range Organics (DRO)

*ADEC-Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 4 data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The organic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Sampling and Analysis Plan (hereafter referred to as the SAP), Building T-1451 and East Canal Site Investigation/Characterization, Adak, Alaska, April, 2012, DCN:

ERS.3219.JP01.0001, as well as by the pertinent methods referenced by the data package and professional judgment.

The following samples were analyzed and validated at a Stage 4 level in the data set:

Lab ID	Client ID
580-33213-1	01-SB018
580-33213-2	01-SB019
580-33213-3	01-SB020
580-33213-4	01-SB021

Lab ID	Client ID
580-33213-5	01-SB022
580-33213-6	01-SB023
580-33213-7	01-SB024
580-33213-8	01-SB025

The samples were received at the laboratory within 4 $\pm$ 2°C. No sample preservation issues were noted by the laboratory.

Incorrect error corrections were observed on the chain of custody (COC). The proper procedure of a single strike-through correction and initials and date of the person making the correction was not followed.

1.0 DIESEL RANGE ORGANICS (DRO)

Seven solid samples and one field duplicate sample were analyzed for DRO analysis per ADEC Method AK102.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Continuing Calibration Verification
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Surrogates
✓ Field Duplicate
⊗ Target Compound Identification
✓ Compound Quantitation
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The DRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding times for DRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

1.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

1.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

1.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported with the data. DRO was not detected in the method blanks above the detection limit (DL).

1.6 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were not reported.

1.7 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCS/LCS duplicate (LCSD) pairs were analyzed. The results for the LCS/LCSD pairs were within the method specified acceptance criteria for recovery and relative percent difference (RPD).

1.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

1.9 Field Duplicate

A field duplicate sample, 01-SB036, was collected with the sample set. Acceptable precision (RPD <50%) was demonstrated between the field duplicate and the original sample, 01-SB037.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	RPD	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-SB036	DRO (nC10-<nC25)	3.4	J	NC	NA	NA	NA
01-SB037	DRO (nC10-<nC25)	1.9	J		NA	NA	NA

NA-not applicable
NC-not calculable

1.10 Target Compound Identifications

The target compound identifications were within the validation criteria. The laboratory report narrative indicated that the following samples exhibited weathered or heavily weathered/degraded diesel fuel chromatographic patterns: 01-SB019, 01-SB021, 01-SB022 and 01-SB023. Based on professional judgment, no qualifications were applied to the data for these samples.

In addition, sample 01-SB018 exhibited what the laboratory described as most closely resembled biogenic interference. Based on professional judgment, the result was J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
01-SB030	DRO (nC10-<nC25)	15	NA	15	J	13

NA-not applicable
*Validation qualifiers are defined in Attachment 1 at the end of this report
**EDD reason codes are defined in Attachment 2 at the end of this report

1.11 Compound Quantitation

The compound quantitations were within the validation criteria.

1.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the detection limit (DL) were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

1.13 Electronic Data Deliverables (EDD) Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation. No discrepancies were identified between the Level IV report and the EDD.

DRO was requested on the COC. It was noted that the DRO results in the hardcopy report and the EDD reference both methods AK102 and AK103, diesel range organics and residual range organics, respectively. This did not have an impact on the sample results and no qualifications were applied to the data.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Laboratory Data Review Checklist

Completed by: Mary Tyler

Title: Quality Specialist Date: 10/10/12

CS Report Name: **Adak Former Power Plant Bldg T-1451** Report Date:

Consultant Firm:

Laboratory Name: TestAmerica, Tacoma, WA Laboratory Report Number: **580-33336-1**

ADEC File Number: 2501.38.003.22 ADEC RecKey Number: 3399

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

   Not transferred

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

The laboratory narrative noted that the container label for sample 01-SB038 listed a sampling time of 1452; the COC listed a time of 1515. The sample was logged in according to the COC.

e. Data quality or usability affected? (Please explain.)
Comments:

No

4. Case Narrative
a. Present and understandable?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No corrective actions required

d. What is the effect on data quality/usability according to the case narrative?
Comments:

None

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?

y

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?
Comments:

No

6. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

      ii. All method blank results less than PQL?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

      iii. If above PQL, what samples are affected?
      Comments:

      iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

      v. Data quality or usability affected? (Please explain.)
      Comments:

      NA

   b. Laboratory Control Sample/Duplicate (LCS/LCSD)

      i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No metals reported

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

NO

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

No

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No volatiles analyses

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

iii. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

No

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

i. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?
      ☐ **Yes** ☐ No ☐ NA (Please explain.) Comments:

Geosyntec consultants

2240 Sutherland Avenue, Suite 107
Knoxville, TN 37919
PH 865.330.0037
FAX 865.330.9949
www.geosyntec.com

Memorandum

Date: 05 September 2012

To: Jamie Oakley

Tim Dobson

From: Mary Tyler

CC: J. Caprio

Subject: Stage 4 Data Validation - Level IV Data deliverable –DRO by Method AK102 – TestAmerica Work Order Number 580-33336-1

SITE: Navy-EMAK-ADAK

INTRODUCTION

This report summarizes the findings of the Stage 4 data validation of nine solid samples collected on June 4-5, 2012 as part of the Navy-EMAK-ADAK sampling event. TestAmerica Tacoma, Washington analyzed the samples. The samples were analyzed for the following test:

- ADEC* Method AK102 - Diesel Range Organics (DRO)

*ADEC-Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 4 data validation covering the quality control (QC) parameters listed below, the data are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The organic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Sampling and Analysis Plan (hereafter referred to as the SAP), Building T-1451 and East Canal Site Investigation/Characterization, Adak, Alaska, April, 2012, DCN:

ERS.3219.JP01.0001, as well as by the pertinent methods referenced by the data package and professional judgment.

The following samples were analyzed and validated at a Stage 4 level in the data set:

Lab ID	Client ID
580-33336-1	01-EX007
580-33336-2	01-EX008
580-33336-3	01-EX009
580-33336-4	01-SB038
580-33336-5	01-SB039

Lab ID	Client ID
580-33336-6	01-SB040
580-33336-7	01-SB041
580-33336-8	01-SB042
580-33336-9	01-SB043

The samples were received at the laboratory within 4 $\pm$ 2°C. No sample preservation issues were noted by the laboratory.

Incorrect error corrections were observed on the chain of custody (COC). The proper procedure of a single strike-through correction and initials and date of the person making the correction was not followed. In addition, no analyses were marked on the COC; the samples were analyzed for DRO.

The laboratory narrative noted that the container label for sample 01-SB038 listed a sampling time of 1452; the COC listed a time of 1515. The sample was logged in according to the COC.

1.0 DIESEL RANGE ORGANICS (DRO)

Nine solid samples were analyzed for DRO analysis per ADEC Method AK102.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Initial Calibration
- ✓ Continuing Calibration Verification
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate

⊗ Target Compound Identification
✓ Compound Quantitation
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The DRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding times for DRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

1.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

1.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

1.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported with the data. DRO was not detected in the method blanks above the detection limit (DL).

1.6 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were not reported.

1.7 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCS/LCS duplicate (LCSD) pairs were analyzed. The results for the LCS/LCSD pairs were within the method specified acceptance criteria for recovery and relative percent difference (RPD).

1.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

1.9 Field Duplicate

A field duplicate sample was not collected with the sample set.

1.10 Target Compound Identifications

The target compound identifications were within the validation criteria. The laboratory report narrative indicated that the following samples exhibited heavily weathered/degraded diesel fuel chromatographic patterns: 01-EX007, 01-EX008, 01-EX009, 01-SB038, 01-SB040, 01-SB041 and 01-SB042. Based on professional judgment, no qualifications were applied to the data for these samples.

In addition, the laboratory report narrative indicated that the following samples exhibited a complex mixture of heavily weathered diesel fuel and motor oil: 01-SB039 and 01-SB043. Based on professional judgment, the concentrations of DRO in these two samples were J qualified as estimated.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-SB039	DRO (nC10-<nC25)	4900	NA	4900	J	13
01-SB043	DRO (nC10-<nC25)	660	NA	660	J	13

NA-not applicable

1.11 Compound Quantitation

The compound quantitations were within the validation criteria.

1.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

1.13 Electronic Data Deliverables Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process and the automated data review process. No discrepancies were identified between the Level IV report and the EDD.

DRO was requested on the COC. It was noted that the DRO results in the hardcopy report and the EDD reference both methods AK102 and AK103, diesel range organics and residual range organics, respectively. This did not have an impact on the sample results and no qualifications were applied to the data.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Laboratory Data Review Checklist

Completed by: Mary Tyler

Title: Quality Specialist Date: 10/10/12

CS Report Name: **Adak Former Power Plant Bldg T-1451** Report Date:

Consultant Firm:

Laboratory Name: TestAmerica, Tacoma, WA Laboratory Report Number: **580-33365-1**

ADEC File Number: 2501.38.003.22 ADEC RecKey Number: 3399

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

   Not transferred

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☐Yes ☐ **No** ☐NA (Please explain.) Comments:

   It was noted that no analyses were marked on the chain of custody (COC). According to the report narrative, the client notified the laboratory and indicated that the samples should be analyzed by AK102 for DRO.

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐Yes ☐ **No** ☐NA (Please explain.) Comments:

   1°C, slightly outside 4 ± 2°C. Based on professional judgment, no qualifications were applied to the data.

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected? (Please explain.)
Comments:

No

4. Case Narrative
a. Present and understandable?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No corrective actions required

d. What is the effect on data quality/usability according to the case narrative?
Comments:

None

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

It was noted that no analyses were marked on the chain of custody (COC). According to the report narrative, the client notified the laboratory and indicated that the samples should be analyzed by AK102 for DRO.

b. All applicable holding times met?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?
Comments:

No

6. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

      ii. All method blank results less than PQL?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

      iii. If above PQL, what samples are affected?
      Comments:

      iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

      v. Data quality or usability affected? (Please explain.)
      Comments:

      NA

   b. Laboratory Control Sample/Duplicate (LCS/LCSD)

      i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No metals reported

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

NO

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

No

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No volatiles analyses

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

iii. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

DRO detected above the LOQ in the field duplicate and not detected in the original sample.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

The undetected value of DRO in the field duplicate was UJ qualified as estimated less than the DL and the concentration of DRO in sample 01-SB045 was J qualified as estimated.

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

i. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?
      ☐ **Yes** ☐ No ☐ NA (Please explain.) Comments:

Geosyntec consultants

2240 Sutherland Avenue, Suite 107
Knoxville, TN 37919
PH 865.330.0037
FAX 865.330.9949
www.geosyntec.com

Memorandum

Date: 05 September 2012

To: Jamie Oakley

Tim Dobson

From: Mary Tyler

CC: J. Caprio

Subject: Stage 4 Data Validation - Level IV Data deliverable –DRO by Method AK102 – TestAmerica Work Order Number 580-33365-1

SITE: Navy-EMAK-ADAK

INTRODUCTION

This report summarizes the findings of the Stage 4 data validation of three solid samples and one field duplicate sample collected on June 9, 2012 as part of the Navy-EMAK-ADAK sampling event. TestAmerica, Tacoma, Washington analyzed the samples. The samples were analyzed for the following test:

- ADEC* Method AK102 - Diesel Range Organics (DRO)

*ADEC-Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 4 data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The organic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Sampling and Analysis Plan (hereafter referred to as the SAP), Building T-1451 and East Canal Site Investigation/Characterization, Adak, Alaska, April, 2012, DCN:

ERS.3219.JP01.0001, as well as by the pertinent methods referenced by the data package and professional judgment.

The following samples were analyzed and validated at a Stage 4 level in the data set:

Lab ID	Client ID
580-33365-1	01-SB044
580-33365-2	01-SB045

Lab ID	Client ID
580-33365-3	01-SB046
580-33365-4	01-SB047

The samples were received at the laboratory at 1°C, slightly outside 4 ± 2°C. Based on professional judgment, no qualifications were applied to the data. No sample preservation issues were noted by the laboratory.

It was noted that no analyses were marked on the chain of custody (COC). According to the report narrative, the client notified the laboratory and indicated that the samples should be analyzed by AK102 for DRO.

1.0 DIESEL RANGE ORGANICS (DRO)

Three solid samples and one field duplicate sample were analyzed for DRO analysis per ADEC Method AK102.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Continuing Calibration Verification
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Surrogates
✓ Field Duplicate
⊗ Target Compound Identification
✓ Compound Quantitation
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The DRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding times for DRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

1.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

1.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

1.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. DRO was not detected in the method blank above the detection limit (DL).

1.6 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were analyzed at the proper frequency for the solid samples (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-SB044, was reported. The MS/MSD pair had high recovery results, outside the SAP specified acceptance criteria. Based on

professional judgment, no qualifications were applied to the data due to the sample concentration relative to the spike amount.

1.7 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCS duplicate (LCSD) pair was analyzed. The results for the LCS/LCSD pair were within the method specified acceptance criteria for recovery and relative percent difference (RPD).

1.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

1.9 Field Duplicate

A field duplicate sample, 01-SB045, was collected with the sample set. Acceptable precision (RPD <50%) was not demonstrated between the field duplicate and the original sample, 01-SB046. Therefore, the undetected value of DRO in the field duplicate was UJ qualified as estimated less than the DL and the concentration of DRO in sample 01-SB045 was J qualified as estimated

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	RPD	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-SB045	DRO (nC10-<nC25)	200	NA	NC	200	J	7
01-SB046	DRO (nC10-<nC25)	7.7	U		7.7	UJ	7

NA-not applicable

1.10 Target Compound Identifications

The target compound identifications were within the validation criteria. The laboratory report narrative indicated that the following samples exhibited weathered/degraded kerosene range product and/or heavily weathered/degraded diesel fuel: 01-SB044, 01-SB045 and 01-SB047. Based on professional judgment, no qualifications were applied to the data for these samples.

In addition, the report narrative indicated that sample 01-SB046 exhibited what the laboratory described as heavily weathered/degraded diesel fuel and/or weathered/degraded kerosene range

product. Since the result for DRO in this sample was not detected above the LOD, no qualifications were applied to the data.

1.11 Compound Quantitation

The compound quantitations were within the validation criteria.

The laboratory J flagged as estimated the concentration in sample 01-SB044; no reason for estimating the result was given. Based on professional judgment, the result in sample 01-SB044 is not considered estimated, so no qualifications were applied to the data.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
01-SB044	DRO (nC10-<nC25)	22000	J	22000	NA	13

J-laboratory flag indicating the result is estimated
NA-not applicable
*Validation qualifiers are defined in Attachment 1 at the end of this report
**EDD reason codes are defined in Attachment 2 at the end of this report

1.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

1.13 Electronic Data Deliverables (EDD) Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process and the automated data review process. No discrepancies were identified between the Level IV report and the EDD.

DRO was requested on the COC. It was noted that the DRO results in the hardcopy report and the EDD reference both methods AK102 and AK103, diesel range organics and residual range organics, respectively. This did not have an impact on the sample results and no qualifications were applied to the data.

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Laboratory Data Review Checklist

Completed by: Mary Tyler

Title: Quality Specialist Date: 10/10/12

CS Report Name: **Adak Former Power Plant Bldg T-1451** Report Date:

Consultant Firm:

Laboratory Name: TestAmerica, Tacoma, WA Laboratory Report Number: **580-33485-1**

ADEC File Number: 2501.38.003.22 ADEC RecKey Number: 3399

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

   Not transferred

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected? (Please explain.)
Comments:

No

4. Case Narrative
a. Present and understandable?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No corrective actions required

d. What is the effect on data quality/usability according to the case narrative?
Comments:

None

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?

Comments:

No

6. <u>QC Samples</u>

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. All method blank results less than PQL?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

NA

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No metals reported

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

NO

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

No

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No volatiles analyses

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

iii. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

No

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

i. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

Geosyntec consultants

2240 Sutherland Avenue, Suite 107
Knoxville, TN 37919
PH 865.330.0037
FAX 865.330.9949
www.geosyntec.com

Memorandum

Date: 05 September 2012

To: Jamie Oakley

Tim Dobson

From: Mary Tyler

CC: J. Caprio

Subject: Stage 4 Data Validation - Level IV Data deliverable –DRO by Method AK102 – TestAmerica Work Order Number 580-33485-1

SITE: Navy-EMAK-ADAK

INTRODUCTION

This report summarizes the findings of the Stage 4 data validation of seven solid samples and one field duplicate sample collected on June 11-15, 2012 as part of the Navy-EMAK-ADAK sampling event. TestAmerica, Tacoma, Washington analyzed the samples. The samples were analyzed for the following test:

- ADEC* Method AK102 - Diesel Range Organics (DRO)

*ADEC-Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 4 data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The organic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Sampling and Analysis Plan (hereafter referred to as the SAP), Building T-1451 and East Canal Site Investigation/Characterization, Adak, Alaska, April, 2012, DCN:

ERS.3219.JP01.0001, as well as by the pertinent methods referenced by the data package and professional judgment.

The following samples were analyzed and validated at a Stage 4 level in the data set:

Lab ID	Client ID
580-33485-1	01-EX010
580-33485-2	01-EX011
580-33485-3	01-EX012
580-33485-4	01-EX013

Lab ID	Client ID
580-33485-5	01-EX014
580-33485-6	01-EX015
580-33485-7	01-EX016
580-33485-8	01-EX017

The samples were received at the laboratory within 4 $\pm$ 2°C. No sample preservation issues were noted by the laboratory.

Incorrect error corrections were observed on the chain of custody (COC). The proper procedure of a single strike-through correction and initials and date of the person making the correction was not followed.

1.0 DIESEL RANGE ORGANICS (DRO)

Seven solid samples and one field duplicate sample were analyzed for DRO per ADEC Method AK102.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Initial Calibration
✓ Continuing Calibration Verification
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Surrogates
✓ Field Duplicate
⊗ Target Compound Identification
✓ Compound Quantitation
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The DRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding times for DRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

1.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

1.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

1.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. DRO was not detected in the method blank above the detection limit (DL).

1.6 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were not reported.

1.7 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCS duplicate (LCSD) pair was analyzed. The results for the LCS/LCSD pair were within the method specified acceptance criteria for recovery and relative percent difference (RPD).

1.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

1.9 Field Duplicate

A field duplicate sample, 01-EX014, was collected with the sample set. Acceptable precision (RPD <50%) was demonstrated between the field duplicate and the original sample, 01-EX013.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	RPD	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX013	DRO (nC10-<nC25)	79	NA	32	NA	NA	NA
01-EX014	DRO (nC10-<nC25)	57	NA		NA	NA	NA

NA-not applicable

.

1.10 Target Compound Identifications

The target compound identifications were within the validation criteria, with the following exception.

The report narrative indicated that sample 01-EX010 exhibited what the laboratory described as a complex mixture of heavily weathered/degraded diesel fuel and overlap from the C25-C36 range. Based on professional judgment, the concentration of DRO in sample 01-EX010 was J qualified as estimated.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
01-EX010	DRO	130	NA	130	J	13

NA-not applicable
* Validation qualifiers are defined in Attachment 1 at the end of this report
**Reason codes are defined in Attachment 2 at the end of this report

In addition, the laboratory report narrative indicated that the following samples exhibited heavily weathered/degraded diesel fuel chromatographic patterns: 01-EX013, 01-EX014, 01-EX015 and 01-EX017. Based on professional judgment, no qualifications were applied to the data for these samples.

1.11 Compound Quantitation

The compound quantitations were within the validation criteria.

1.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

1.13 Electronic Data Deliverables (EDD) Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process and the automated data review process. No discrepancies were identified between the Level IV report and the EDD.

DRO was requested on the COC. It was noted that the DRO results in the hardcopy report and the EDD reference both methods AK102 and AK103, diesel range organics and residual range organics, respectively. This did not have an impact on the sample results and no qualifications were applied to the data.

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* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Laboratory Data Review Checklist

Completed by: Mary Tyler

Title: Quality Specialist Date: 10/10/12

CS Report Name: **Adak Former Power Plant Bldg T-1451** Report Date:

Consultant Firm:

Laboratory Name: TestAmerica, Tacoma, WA Laboratory Report Number: **580-33621-1**

ADEC File Number: 2501.38.003.22 ADEC RecKey Number: 3399

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

   Not transferred

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☐ **Yes** ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected? (Please explain.)
Comments:

No

4. Case Narrative
a. Present and understandable?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No corrective actions required

d. What is the effect on data quality/usability according to the case narrative?
Comments:

None

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?

Comments:

No

6. <u>QC Samples</u>

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. All method blank results less than PQL?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

NA

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No metals reported

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

NO

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

No

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No volatiles analyses

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

iii. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

No

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

i. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

Geosyntec consultants

2240 Sutherland Avenue, Suite 107
Knoxville, TN 37919
PH 865.330.0037
FAX 865.330.9949
www.geosyntec.com

Memorandum

Date: 05 September 2012

To: Jamie Oakley

Tim Dobson

From: Mary Tyler

CC: J. Caprio

Subject: Stage 4 Data Validation - Level IV Data deliverable –DRO by Method AK102 – TestAmerica Work Order Number 580-33621-1

SITE: Navy-EMAK-ADAK

INTRODUCTION

This report summarizes the findings of the Stage 4 data validation of four solid samples and one field duplicate sample collected on June 18-21, 2012 as part of the Navy-EMAK-ADAK sampling event. TestAmerica, Tacoma, Washington analyzed the samples. The samples were analyzed for the following test:

- ADEC* Method AK102 - Diesel Range Organics (DRO)

*ADEC-Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 4 data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The organic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Sampling and Analysis Plan (hereafter referred to as the SAP), Building T-1451 and East Canal Site Investigation/Characterization, Adak, Alaska, April, 2012, DCN:

ERS.3219.JP01.0001, as well as by the pertinent methods referenced by the data package and professional judgment.

The following samples were analyzed and validated at a Stage 4 level in the data set:

Lab ID	Client ID
580-33621-1	01-EX018
580-33621-2	01-EX019
580-33621-3	01-EX020

Lab ID	Client ID
580-33621-4	01-EX021
580-33621-5	01-EX022

The samples were received at the laboratory within 4 $\pm$ 2°C. No sample preservation issues were noted by the laboratory.

1.0 DIESEL RANGE ORGANICS (DRO)

Four solid samples and one field duplicate were analyzed for DRO per ADEC Method AK102.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Initial Calibration
✓ Continuing Calibration Verification
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Surrogates
✓ Field Duplicate
⊗ Target Compound Identification
✓ Compound Quantitation
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The DRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as

estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding times for DRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

1.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

1.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

1.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. DRO was not detected in the method blank above the detection limit (DL).

1.6 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were analyzed at the proper frequency for the solid samples (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-EX018, was reported. The MS/MSD pair had recovery and relative percent difference (RPD) results within the SAP specified acceptance criteria.

1.7 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCS duplicate (LCSD) pair was analyzed. The results for the LCS/LCSD pair were within the method specified acceptance criteria for recovery and RPD.

1.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria.

1.9 Field Duplicate

A field duplicate sample, 01-EX020, was collected with the sample set. Acceptable precision (RPD <50%) was demonstrated between the field duplicate and the original sample, 01-EX019.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	RPD	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX019	DRO (nC10-<nC25)	150	NA	22	NA	NA	NA
01-EX020	DRO (nC10-<nC25)	120	NA		NA	NA	NA

NA-not applicable

.

1.10 Target Compound Identifications

The target compound identifications were within the validation criteria. The report narrative indicated that the following samples exhibited heavily weathered/degraded diesel fuel chromatographic patterns and/or a mineral/transformer oil range products and possible biogenic interferences: 01-EX018, 01-EX019, 01-EX020, 01-EX021 and 01-EX022. Based on professional judgment, the concentraions of DRO in these samples were J qualified as estimated.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX018	DRO (nC10-<nC25)	66	NA	66	J	13
01-EX019	DRO (nC10-<nC25)	150	NA	150	J	13
01-EX020	DRO (nC10-<nC25)	120	NA	120	J	13
01-EX021	DRO (nC10-<nC25)	29	NA	29	J	13
01-EX022	DRO (nC10-<nC25)	140	NA	140	J	13

NA-not applicable

1.11 Compound Quantitation

The compound quantitations were within the validation criteria.

1.12 Sensitivity

The samples were reported to the DL. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

1.13 Electronic Data Deliverables (EDD) Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process and the automated data review process. No discrepancies were identified between the Level IV report and the EDD.

DRO was requested on the chain of custody (COC) and reported. It was noted that the DRO results in the hardcopy report and the EDD reference both methods AK102 & AK103, diesel range organics and residual range organics. This did not have an impact on the sample results and no qualifications were applied to the data.

---

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Laboratory Data Review Checklist

Completed by: Mary Tyler

Title: Quality Specialist Date: 10/10/12

CS Report Name: Report Date:

Consultant Firm:

Laboratory Name: TestAmerica, Tacoma, WA Laboratory Report Number: **580-33737-1**

ADEC File Number: ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☐Yes ☐ No ☐**NA** (Please explain.) Comments:

   Not transferred

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐Yes ☐ **No** ☐NA (Please explain.) Comments:

   The samples were received at the laboratory at 1.1°C, slightly outside the SAP criteria of 4 ± 2°C. Based on professional judgment, no qualifications were applied to the data.

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      ☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected? (Please explain.)
Comments:

No

4. Case Narrative
a. Present and understandable?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. Discrepancies, errors or QC failures identified by the lab?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. Were all corrective actions documented?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No corrective actions required

d. What is the effect on data quality/usability according to the case narrative?
Comments:

None

5. Samples Results
a. Correct analyses performed/reported as requested on COC?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?

Comments:

No

6. <u>QC Samples</u>

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. All method blank results less than PQL?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iii. If above PQL, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

NA

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No metals reported

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
☐Yes ☐ No ☐**NA** (Please explain.) Comments:

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

NO

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
☐**Yes** ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)
☐Yes ☐ **No** ☐NA (Please explain.) Comments:

The surrogate recovery in sample 01-SB057 was high and outside the method specified acceptance criteria. Therefore, the concentration of DRO in sample 01-SB057 was J qualified as estimated.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

The concentration of DRO in sample 01-SB057 was J qualified as estimated.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

No volatiles analyses

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

iii. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

ii. Submitted blind to lab?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ **No** ☐NA (Please explain.) Comments:

i. All results less than PQL?

☐Yes ☐ No ☐**NA** (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐**Yes** ☐ No ☐NA (Please explain.) Comments:

Geosyntec consultants

2240 Sutherland Avenue, Suite 107
Knoxville, TN 37919
PH 865.330.0037
FAX 865.330.9949
www.geosyntec.com

Memorandum

Date: 05 September 2012

To: Jamie Oakley

Tim Dobson

From: Mary Tyler

CC: J. Caprio

Subject: Stage 4 Data Validation - Level IV Data deliverable –DRO by Method AK102 – TestAmerica Work Order Number 580-33737-1

SITE: Navy-EMAK-ADAK

INTRODUCTION

This report summarizes the findings of the Stage 4 data validation of fifteen solid samples and two field duplicate samples collected on June 26-30, 2012 as part of the Navy-EMAK-ADAK sampling event. TestAmerica Seattle, Tacoma, Washington analyzed the samples. The samples were analyzed for the following test:

- ADEC* Method AK102 - Diesel Range Organics (DRO)

*ADEC-Alaska Department of Environmental Conservation

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 4 data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The organic data were reviewed based on USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008 (USEPA-540-R-08-01), the Sampling and Analysis Plan (hereafter referred to as the SAP), Building T-1451 and East Canal Site Investigation/Characterization, Adak, Alaska, April, 2012, DCN:

ERS.3219.JP01.0001, as well as by the pertinent methods referenced by the data package and professional judgment.

The following samples were analyzed and validated at a Stage 4 level in the data set:

Lab ID	Client ID
580-33737-1	01-EX023
580-33737-2	01-EX024
580-33737-3	01-EX025
580-33737-4	01-EX026
580-33737-5	01-SB048
580-33737-6	01-SB049
580-33737-7	01-SB050
580-33737-8	01-SB051
580-33737-9	01-SB052

Lab ID	Client ID
580-33737-10	01-SB053
580-33737-11	01-SB054
580-33737-12	01-SB055
580-33737-13	01-SB056
580-33737-14	01-SB057
580-33737-15	01-SB058
580-33737-16	01-SB059
580-33737-17	01-SB060

The samples were received at the laboratory at 1.1°C, slightly outside the SAP criteria of 4 ± 2°C. Based on professional judgment, no qualifications were applied to the data. No sample preservation issues were noted by the laboratory.

1.0 DIESEL RANGE ORGANICS (DRO)

Fifteen solid samples and two field duplicate samples were analyzed for DRO per ADEC Method AK102.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Initial Calibration
✓ Continuing Calibration Verification
⊗ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
⊗ Surrogates
✓ Field Duplicate
⊗ Target Compound Identification
✓ Compound Quantitation
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The DRO data reported in this package are considered to be usable for meeting project objectives. The results are considered to be valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%.

1.2 Holding Times

The holding times for DRO analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

1.3 Initial Calibration

Appropriate initial calibration was performed. The laboratory calculated the percent relative standard deviation (%RSD) of the calibration factor. The %RSD met the method criteria of less than or equal to 25% or the curve fit regression coefficient, r^2, was $\geq$0.995.

Initial calibration verification (ICV) was performed at the required frequency; this is defined as the calibration verification standard (CVS) in the method. The ICV met the method criteria of 75-125% recovery and the SAP criteria of 25% difference.

1.4 Continuing Calibration Standard (CCS)

Continuing calibration verification was performed at required frequency. The CCS was within the method criteria of 75-125% recovery and SAP criteria of 25% difference.

1.5 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported with the data. DRO was detected in the method blank at an estimated concentration greater the detection limit (DL) and less than the limit of quantitation (LOQ), at a concentration of 4.45 mg/kg. Therefore, the estimated concentrations in the associated samples greater the DL and less than the LOQ were U qualified as not detected at the LOQ.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
01-EX023	DRO (nC10-<nC25)	11	J	21	U	3
01-EX026	DRO (nC10-<nC25)	15	J	21	U	3
01-SB048	DRO (nC10-<nC25)	6.7	J	21	U	3
01-SB051	DRO (nC10-<nC25)	10	J	25	U	3
01-SB052	DRO (nC10-<nC25)	6	J	20	U	3
01-SB054	DRO (nC10-<nC25)	6.3	J	20	U	3
01-SB056	DRO (nC10-<nC25)	6.7	J	21	U	3
01-SB060	DRO (nC10-<nC25)	8.1	J	25	U	3

J-estimated concentration
* Validation qualifiers are defined in Attachment 1 at the end of this report
**Reason codes are defined in Attachment 2 at the end of this report

1.6 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were analyzed at the proper frequency for the solid samples (one pair per batch of 20 samples). A sample set specific MS/MSD pair, using sample 01-EX026, was reported. The MS/MSD pair had recovery and relative percent difference (RPD) results within the SAP specified acceptance criteria.

1.7 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCS duplicate (LCSD) pair was analyzed. The results for the LCS/LCSD pair were within the method specified acceptance criteria for recovery and RPD.

1.8 Surrogates

The surrogate recoveries were within the method specified acceptance criteria, with the following exception. The surrogate recovery in sample 01-SB057 was high and outside the method specified acceptance criteria. Therefore, the concentration of DRO in sample 01-SB057 was J qualified as estimated.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-SB049	DRO	14000	NA	14000	J	6

NA-not applicable

1.9 Field Duplicate

Two field duplicate samples, 01-EX025 and 01-SB059, were collected with the sample set. Acceptable precision (RPD <50%) was demonstrated between the field duplicates and the original samples, 01-EX024 and 01-SB058, respectively.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	RPD	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-EX024	DRO (nC10-<nC25)	28	NA	30	NA	NA	NA
01-EX025	DRO (nC10-<nC25)	38	NA		NA	NA	NA
01-SB058	DRO (nC10-<nC25)	5700	NA	4	NA	NA	NA
01-SB059	DRO (nC10-<nC25)	5500	NA		NA	NA	NA

NA-not applicable

1.10 Target Compound Identifications

The target compound identifications were within the validation criteria, with the following exceptions. The report narrative stated that the chromatographic patterns for samples 01-SB053 and 01-SB055 indicated overlap from the C25-C36 (motor oil) range. Based on professional judgment, the concentrations of DRO in samples 01-SB053 and 01-SB055 were J qualified as estimated.

Client Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
01-SB053	DRO	34	NA	34	J	13
01-SB055	DRO	26	NA	26	J	13

NA-not applicable

In addition, the report narrative indicated that the following samples exhibited heavily weathered/degraded diesel fuel chromatographic patterns and/or mineral/transformer oil range products and possible biogenic interferences: 01-EX024 and 01-EX025. The report narrative indicated that the following samples exhibited weathered diesel fuel chromatographic patterns: 01-SB049, 01-SB050, 01-SB057, 01-SB058 and 01-SB059. Based on professional judgment, no qualifications were applied to the data for these samples.

1.11 Compound Quantitation

The compound quantitations were within the validation criteria.

1.12 Sensitivity

The samples were reported to the LOD. Estimated concentrations less than the LOQ and greater than the DL were J flagged as estimated by the laboratory. The DL met the project action limit listed in worksheet 15 of the SAP.

1.13 Electronic Data Deliverables (EDD) Review

Results and sample IDs in the EDD were reviewed against the information provided by the associated Level IV report at a minimum of 20% as part of the data validation process and the automated data review process. No discrepancies were identified between the Level IV report and the EDD.

DRO was requested on the chain of custody (COC). It was noted that the DRO results in the hardcopy report and the EDD reference both methods AK102 and AK103, diesel range organics and residual range organics, respectively. This did not have an impact on the sample results and no qualifications were applied to the data.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.

J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

APPENDIX F

UVOST FIGURES

(PROVIDED IN ELECTRONIC FORMAT)