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DRAFT SUPPLEMENTAL SITE ASSESSMENT REPORT FOR UNDERGROUND STORAGE TANK SITE 14 (UST 14) WITH TRANSMITTAL LETTER NAS PENSACOLA FL
11/16/2005
TETRA TECH INC

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Document Number 05JAX0158

November 16, 2005

Project Number 00063

Commander, Southern Division
Naval Facilities Engineering Command
ATTN: Mr. Bill Hill (Code ES31)
2155 Eagle Drive
North Charleston, South Carolina 29406

Reference: Clean Contract No. N62467-94-D0888
Contract Task Order No. 0379

Subject: Supplemental Site Assessment Report for
Underground Storage Tank (UST) Site 14, Revision 1
Naval Air Station (NAS) Pensacola
Pensacola, Florida

Dear Mr. Hill :

Tetra Tech NUS, Inc. is pleased to submit the Supplemental Site Assessment Report for UST Site 14, NAS Pensacola, Florida for your review.

If you have any questions or require further information, please contact me at (850) 385-9899 or via e-mail at walkerg@ttnus.com.

Sincerely,

Gerald A Walker

Gerald Walker, P.G.
Task Order Manager

Enclosure

c: Mr. Greg Campbell, NAS Pensacola
Ms. Debra Humbert (Cover letter only)
Mr. Mark Perry, TtNUS (unbound)
CTO 0379 File, Tallahassee

Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-94-D-0888

Rev. 0
11/16/05

Supplemental Site Assessment Report
for
Underground Storage Tank (UST) Site 14

Naval Air Station Pensacola
Pensacola, Florida

Contract Task Order 0379

November 2005

NAVFAC
Naval Facilities Engineering Command
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29406

TETRA TECH NUS, Inc.

Rev. 0
11/16/05

SUPPLEMENTAL SITE ASSESSMENT REPORT FOR UNDERGROUND STORAGE TANK (UST) SITE 14

NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29406

Submitted by:
Tetra Tech NUS, Inc.
661 Andersen Drive
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CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0379

NOVEMBER 2005

PREPARED UNDER THE SUPERVISION OF:

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PITTSBURGH, PENNSYLVANIA

PROFESSIONAL CERTIFICATION

Supplemental Site Assessment Report

for

Underground Storage Tank (UST) Site 14

Naval Air Station Pensacola, Florida

This Supplemental site Assessment Report was prepared under the direct supervision of the undersigned geologist using geologic and hydrogeologic principles standard to the profession at the time the report was prepared in general conformance with the Requirements of Chapter 62-770, Florida Administrative Code. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of additional information on the assessment described in this report. This report was developed specifically for the referenced site and should not be construed to apply to any other site.

November 16, 2005
Gerald Walker, P.G.
Florida License Number PG-1180

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ACRONYMS

AAL	Acura Analytical Laboratory
bls	Below Land Surface
BTEX	Benzene, Toluene, Ethylbenzene and Total Xylenes
BTOC	Below Top of Casing
°C	Degree Celsius
CAR	Contamination Assessment Report
CLEAN	Comprehensive Long-term Environmental Action Navy
COC	Contaminant of Concern
CTO	Contract Task Order
DFM	Diesel Fuel Marine
DON	Department of Navy
DOT	Department of Transportation
DPT	Direct-Push Technology
EPH	Extractable Petroleum Hydrocarbon
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
feet/foot	Feet Per Foot
FID	Flame Ionization Detector
FL-PRO	Florida Petroleum Range Organics
ft	Foot or Feet
GCTLs	Groundwater Cleanup Target Levels
IDW	Investigative Derived Waste
KAG	Kerosene Analytical Group
MADEP	Massachusetts Department of Environmental Protection
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
msl	Mean Sea Level
MTBE	Methyl Tertiary-butyl Ether
mV	Millivolt
NAS	Naval Air Station
NAVFAC EFD SOUTH	Southern Division Naval Facilities Engineering Command
ORC®	Oxygen Release Compound
OSWER	Office of Solid Waste and Emergency Response
OVA	Organic Vapor Analyzer
PAH	Polynuclear Aromatic Hydrocarbons

ACRONYMS (CONTINUED)

ppm	Parts Per Million
PVC	Polyvinyl Chloride
SAR	Site Assessment Report
SARA	Site Assessment Report Addendum
SCTL	Soil Cleanup Target Level
SIM	Selected Ion Monitoring
SOP	Standard Operating Procedures
SPLP	Synthetic Precipitate Leaching Procedure
SSA	Supplemental Site Assessment
SSAR	Supplemental Site Assessment Report
SU	Standard Unit
TCL	Target Compound List
TKN	Total Kjeldahl Nitrogen
TRPH	Total Recoverable Petroleum Hydrocarbon
TtNUS	Tetra Tech NUS, Inc.
TW	Temporary Well
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound
VPH	Volatile Petroleum Hydrocarbon
µg/L	Micrograms Per Liter

EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has completed the Supplemental Site Assessment Report (SSAR) for Underground Storage Tank (UST) Site 14 located at Naval Air Station (NAS) Pensacola, Pensacola Florida. This SSAR was conducted in general accordance with the requirements of Chapter 62-770, Florida Administrative Code (FAC). The assessment report was submitted to the Florida Department of Environmental Protection (FDEP) for approval.

TtNUS performed the following tasks during the Supplemental Site Assessment (SSA):

- Reviewed previous assessments performed at UST Site 14 to identify data needs for this assessment.

- Conducted a site survey to identify utilities and amended the existing site plan.

- Performed a soil investigation using direct-push technology (DPT), which included the installation of 10 soil borings to collect soil for organic vapor analyzer (OVA) screening, and submittal of one soil sample from each boring for analyses of the 16 Polynuclear Aromatic Hydrocarbons (PAHs) listed in Table A of Chapter 62-770 FAC, 1-methylnaphthalene, 2-methylnaphthalene and Total Recoverable Petroleum Hydrocarbons (TRPH).

- Advanced five additional soil borings via DPT and submitted soil samples from pre-designated intervals for TRPH speciation using the TRPH speciation via the Massachusetts Department of Environmental Protection (MADEP) Method. Two of the five soil samples were also analyzed for TRPH analysis using the Synthetic Precipitate Leaching Procedure (SPLP) Method.

- Installed and developed seven shallow monitoring wells.

- Collected groundwater samples from seven new wells and seven existing wells for analyses of benzene, toluene, ethylbenzene, total xylene (BTEX), methyl tertiary-butyl ether (MTBE), 1-methylnaphthalene, 2-methylnaphthalene, 16 Method-listed PAHs, and TRPH.

- Surveyed monitoring well top of casing elevations and collected depth to groundwater measurements.

- Determined groundwater flow direction and gradient.

Field screening data and laboratory analytical results from soil samples indicating "excessively contaminated" soil, as defined by Chapter 62-770.200 FAC, were detected in six soil borings; however, hydrocarbon concentrations in soil did not exceed the Soil Cleanup Target Levels (SCTLs) established in Table II of Chapter 62-777, FAC. Additional soil assessment is not recommended at this site.

The Groundwater Cleanup Target Levels (GCTLs) used for this site are from Table I of Chapter 62-777, FAC. Laboratory analytical results from three groundwater samples indicated select PAHs and benzene slightly exceeded their respective GCTLs. Continued quarterly groundwater monitoring is recommended to continue at this site.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

An SSA was conducted by TtNUS for the Navy, Southern Division, Naval Facilities Engineering Command (NAVFAC EFD SOUTH) under Contract Task Order (CTO) 0379, for the Comprehensive Long-term Environmental Action Navy (CLEAN) III, Contract Number N62467-94-D-0888. The SSA was conducted at UST Site 14 located at the NAS Pensacola, Escambia County, Florida.

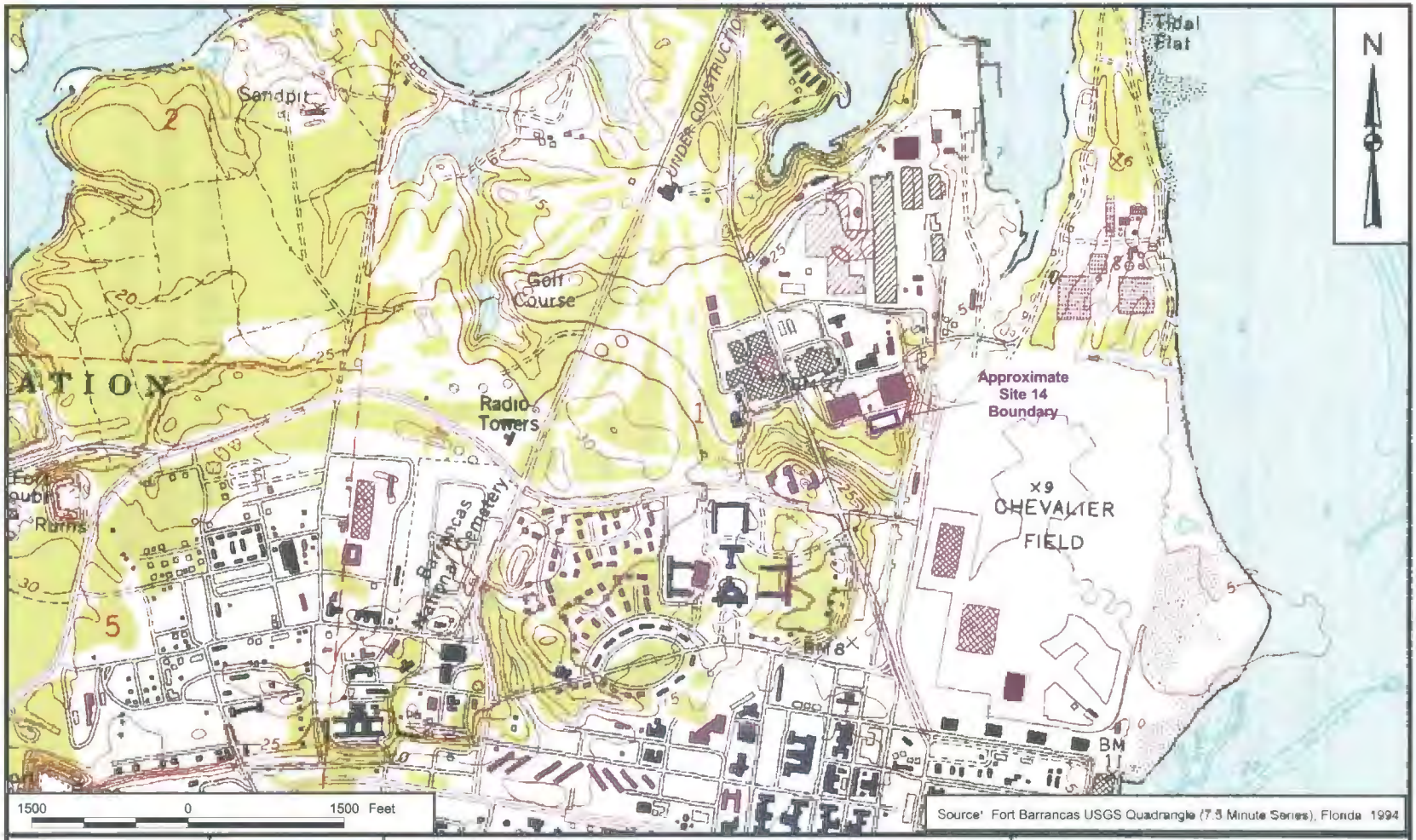
The purpose of this SSAR was to determine the nature and extent of petroleum hydrocarbon impacting soil and groundwater in general accordance with the requirements of Chapter 62-770, FAC. The following assessment activities were completed for this investigation:

- Conducted a soil vapor survey and supplemental soil and groundwater investigation using DPT.
- Collected subsurface soil samples for analyses of 16 method-listed PAHs and TRPH. (BTEX/MTBE constituents were previously assessed and defined in soil during previous assessments.)
- Installed and developed seven shallow monitoring wells.
- Collected groundwater samples from seven new and seven existing monitoring wells for analyses of regulated petroleum hydrocarbons and natural attenuation parameters.
- Surveyed monitoring well top of casing elevations and collected depth to groundwater measurements.
- Managed and disposed of investigative derived waste (IDW) generated during assessment activities.

1.2 SITE DESCRIPTION AND SETTING

1.2.1 Location

NAS Pensacola is located in southeastern Escambia County, in Pensacola, Florida. NAS Pensacola is located in Township 7 South, Range 31 West, Section 1, as shown on the Fort Barrancas, Florida United States Geological Survey (USGS, 1994) Quadrangle (7.5 Minute Series) presented in Figure 1-1.



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SITE VICINITY MAP
UST SITE 14
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NUMBER	
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1.2.2 Site Description

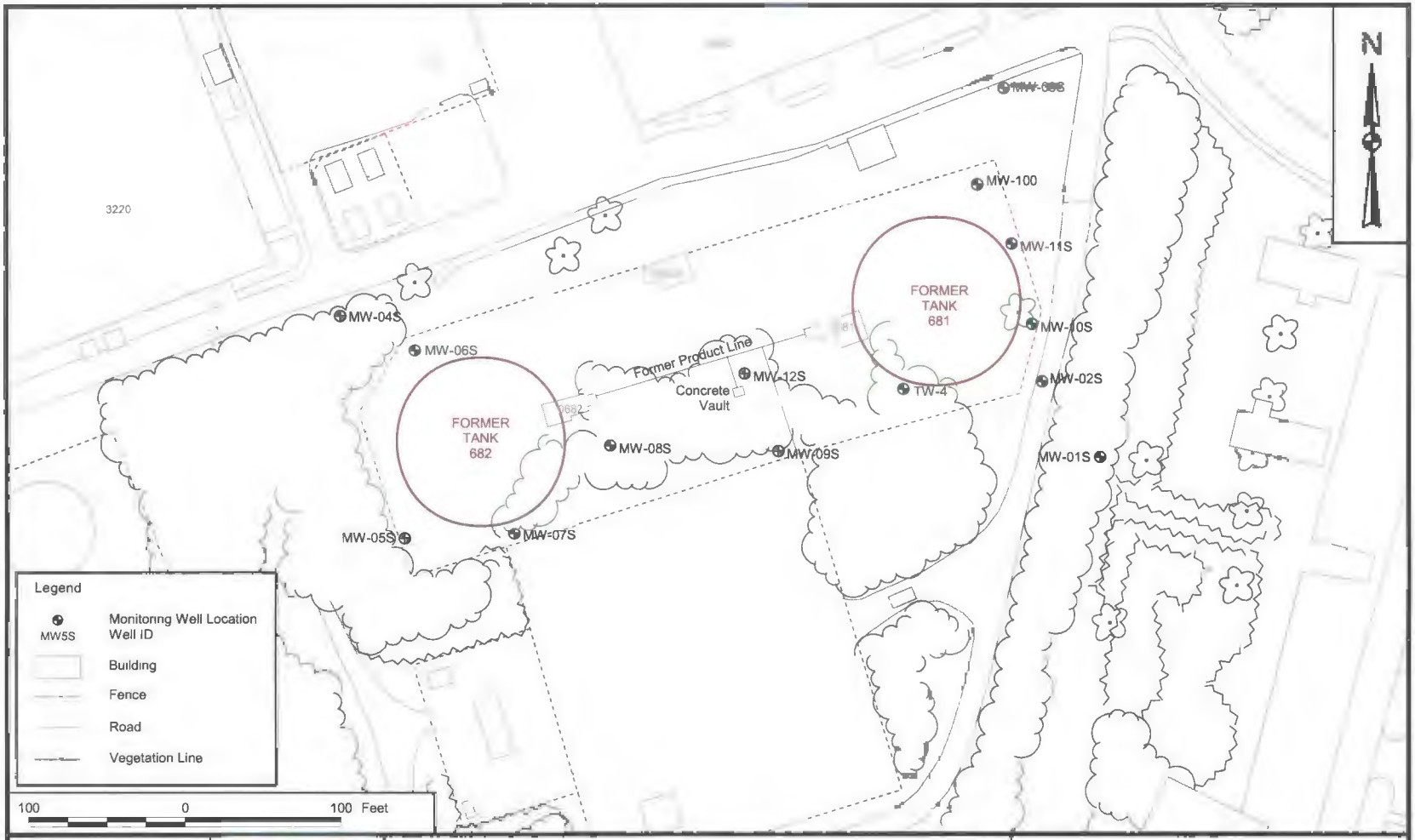
UST Site 14 consists of USTs 681 and 682 located at the former NAS Pensacola petroleum storage facility (Figure 1-2). The cut and cover tanks were installed in December 1943 and each had a storage capacity of approximately 1.1 million gallons. The area surrounding the former USTs is fenced and contains the pump house buildings for the UST system, another small building, and a shed as shown in Figure 1-2. The site is currently inactive and the two USTs were taken out of service and closed in place in April 1995. At the time the UST system was closed, the tanks were used to store diesel fuel marine (DFM). In addition to the DFM storage, the USTs have historically been used to store various vehicle fuels (TtNUS, 2003). Information regarding site geology, hydrogeology, physical setting, etc. is contained within the original contamination assessment report (CAR) completed by EnSafe/Allen & Hoshall in 1996 and not repeated in this document.

1.3 SITE ASSESSMENT HISTORY

A Site Assessment Report (SAR) was completed for the site in January 2000, followed by three SAR Addendums (SARAs) completed in January 2001, October 2001, and April 2002, respectively. In 2002, the final recommendation of natural attenuation monitoring was accepted by FDEP. Quarterly natural attenuation monitoring reports documenting the first and second groundwater monitoring events were submitted December 13, 2002 and February 18, 2003, respectively. Based on these results, it was concluded natural attenuation alone was not effective in reducing site contaminant concentrations. A treatability study for Oxygen Release Compound® (ORC®) injection to enhance biodegradation at UST Site 14 was performed from September 2003 through June 2004. In October 2004, TtNUS submitted the final treatability study report, which included, information pertaining to the four quarters of groundwater monitoring, for the site. The treatability study report did not indicate a conclusive decrease in concentrations of site contaminants. As a result, supplemental assessment of site soils and groundwater were recommended and are the focus of this investigation.

1.4 SUMMARY OF CONTAMINATION

Groundwater contamination has been documented at the site during the aforementioned assessment activities. The groundwater contaminant plume appears to be fuel related and is understood to be located in the area of monitoring wells MW-02S and TW-4. Data were not available regarding the area directly northwest of TW-4; however, the approximate aerial extent of groundwater contamination was estimated to originate at the former Tank 681 location. Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene are the primary contaminants of concern (COCs) in the contaminant plume. Concentrations of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene were detected in monitoring wells MW-02 and TW-4 in excess of the FDEP GCTLs. Historically, there have been no



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SITE LOCATION MAP
UST SITE 14
NAS PENSACOLA
PENSACOLA, FLORIDA

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FIGURE NO. 1 - 2	REV 0

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detections of these contaminants in monitoring well MW-01S, considered to be a downgradient well. Monitoring well MW-04S is considered to be an upgradient well and has not shown any evidence of being impacted from previous site operations. A copy of pertinent historical information is provided in Appendix A.

2.0 SUBSURFACE INVESTIGATION METHODS

2.1 OVERVIEW OF ASSESSMENT ACTIVITIES

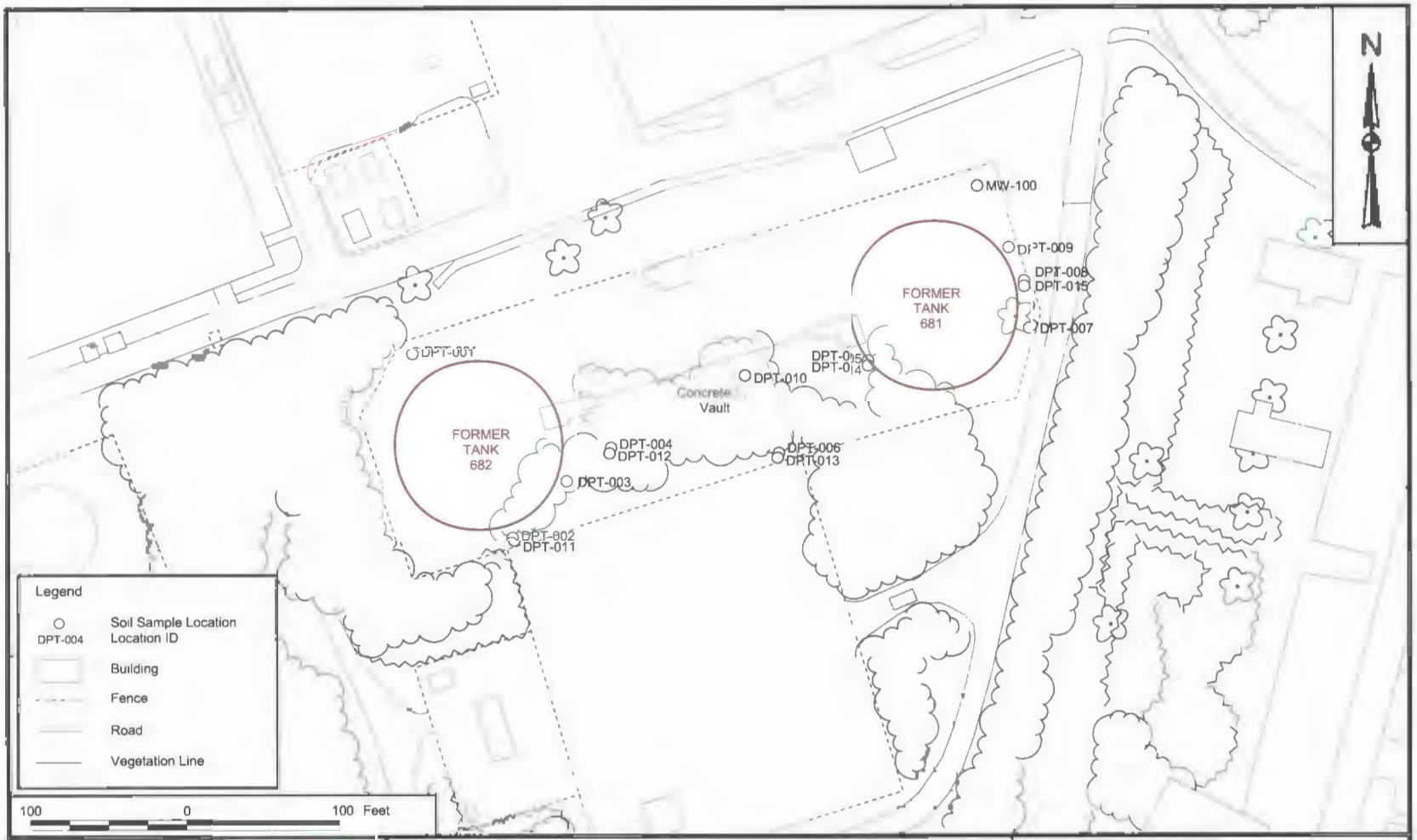
To support SSA activities for UST Site 14, TtNUS completed the following assessment activities:

- Performed a soil investigation via DPT, which included the installation of 10 soil borings to collect soil for OVA screening, and submittal of one soil sample from each boring for analyses of the 16 method-listed PAHs listed in Table A of Chapter 62-770, FAC, 1-methylnaphthalene, 2-methylnaphthalene, and TRPH. (BTEX/MTBE constituents were previously assessed and defined in soil during previous assessments.)
- Advanced five additional soil borings and submitted soil samples from pre-designated depth intervals for TRPH speciation via the MADEP Method. Two of the five soil samples were also analyzed for TRPH analysis using the SPLP Method.
- Installed and developed seven shallow monitoring wells.
- Collected groundwater samples from seven new wells and seven existing wells for analyses of BTEX, MTBE, 1-methylnaphthalene, 2-methylnaphthalene, 16 Method-listed PAHs and TRPH.
- Surveyed monitoring well top of casing elevations and collected depth to groundwater measurements.
- Managed IDW generated during this assessment.

Field methodologies used to evaluate soil and groundwater quality at the site, results from and discussions regarding the soil and groundwater investigation, and conclusions and recommendations for path forward are discussed in the remaining sections of this report.

2.2 SOIL INVESTIGATION

On June 27, June 28 and September 16, 2005, TtNUS supervised the advancement of 15 soil borings via DPT to further assess the extent of petroleum hydrocarbon contamination at UST Site 14. DPT soil boring sample locations are shown on Figure 2-1. Continuous soil samples were collected from each boring beginning at land surface and continued in 2-foot (ft) vertical intervals, thereafter, to approximately 1 ft into the water table. The water table at the site ranged from approximately 17 to 24 ft below land surface (bls).



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DPT SOIL SAMPLING LOCATIONS
UST SITE 14
NAS PENSACOLA
PENSACOLA, FLORIDA

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Soil samples were collected via DPT using 2.125-inch outside diameter, 4-ft long steel macrocore sampler containing an acetate liner. During DPT soil boring installation, a soil vapor assessment was conducted to determine the presence of hydrocarbon concentrations in the site vicinity. Each sample was screened using an OVA equipped with a flame ionization detector (FID). The vadose zone assessment consisted of both visual inspection for petroleum staining and soil vapor screening using an OVA-FID.

In general, the soil vapor assessment was conducted by collecting soil from the designated sample interval into two 16-ounce glass soil jars, half-filled with soil sample amount (duplicate samples). The soil jars were then sealed with aluminum foil. The soil samples were allowed to equilibrate to ambient temperature within the FDEP acceptable temperature range. The samples were screened with a Photovac™ MicroFID OVA. Prior to each day's activities, the OVA was field calibrated with 100 parts per million (ppm) methane in air, in accordance with the manufacturer's specifications. Sample screening was performed by inserting the OVA probe through the foil sample cover and recording the highest OVA reading. Following measurement of the OVA reading, the OVA was fitted with a granular activated carbon filter probe. The OVA was then used to test the headspace above the second (duplicate) sample. The carbon filtered reading is assumed to represent naturally occurring organic vapors. Upon completion of the screening exercise, the carbon-filtered result was subtracted from the unfiltered result to obtain a net petroleum vapor value. In accordance with Rule 62-770.200(8) FAC, corrected headspace levels in excess of 50 ppm is defined as "excessively contaminated soil" for Kerosene Analytical Group (KAG) parameters. Corrected headspace levels in excess of 50 ppm are considered as contaminated, though not excessively contaminated. Soil vapor analyses was performed for the aforementioned sample intervals in general accordance with the headspace screening method described in Chapter 62-770.200(2) FAC.

A sample from the 2 ft interval exhibiting the highest FID response and/or significant visual or olfactory evidence of petroleum contamination (i.e., staining and odor) was submitted to Accura Analytical Laboratories (AAL) located in Norcross, Georgia for analyses. Each soil sample was analyzed for the 16 PAHs listed on Table A of Chapter 62-770, FAC via United States Environmental Protection Agency (USEPA) Method 8270C Selected Ion Monitoring (SIM) and TRPH by the Florida Petroleum Range Organics (FL-PRO) Method.

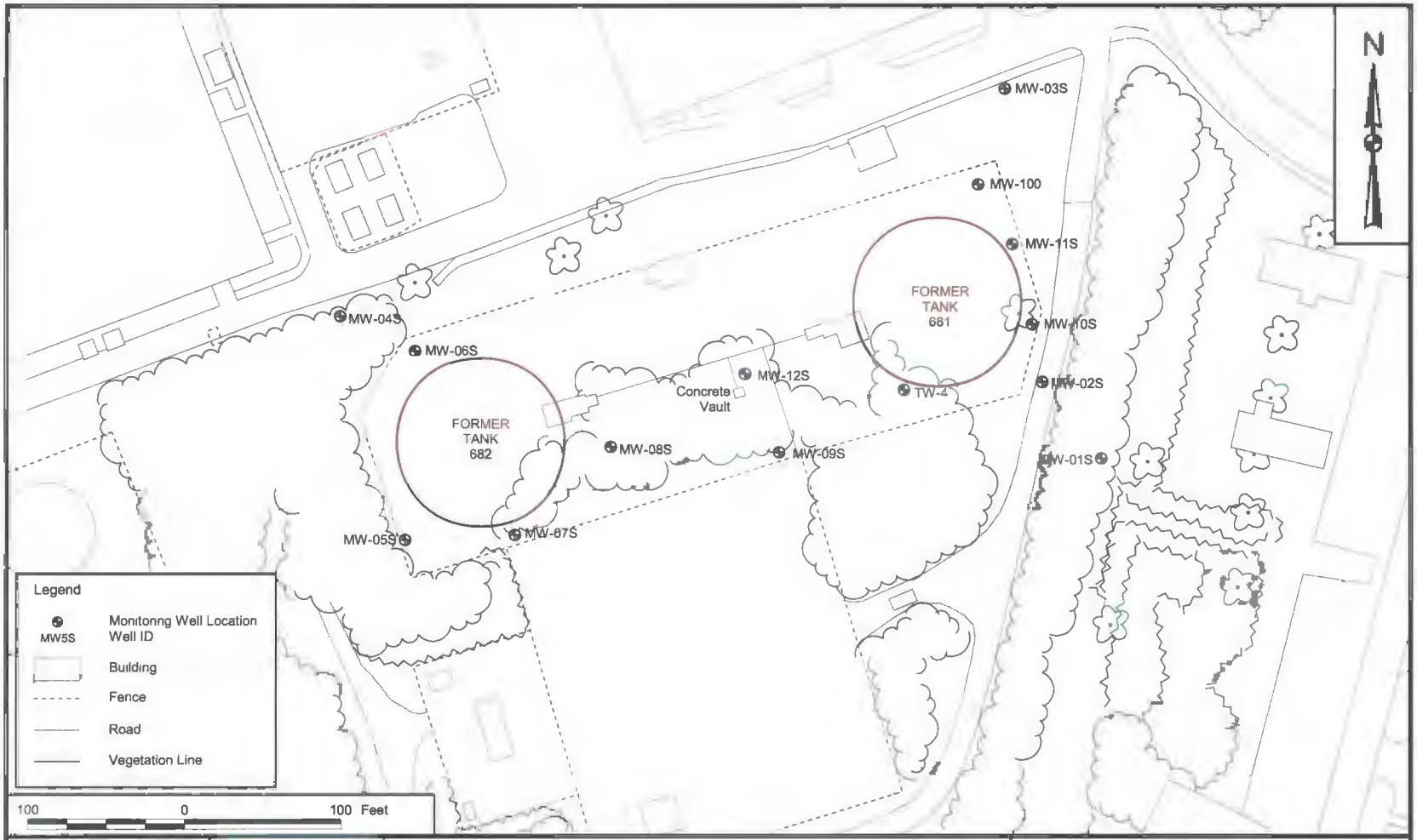
Five additional soil samples were analyzed for TRPH speciation via the MADEP Method. This method analyzes fractions of TRPH using the Volatile Petroleum Hydrocarbons (VPH) and Extractable Petroleum Hydrocarbon (EPH) analytical methods. These methods identify fractions of TRPH as a function of the number of carbon molecules associated with an individual petroleum contaminant. In general, the fractions are represented by two groups: aromatic (cyclic carbon compounds) and aliphatic (straight bonded or open chain carbon compounds). Two of the five soil samples were also analyzed for TRPH

analysis using the SPLP Method. This analysis uses unbuffered solutions to simulate the effects of groundwater leaching on specific contaminants.

Soil sampling procedures were conducted in general accordance with FDEP Standard Operating Procedures (SOPs) 001/01: FS3000: Soil Sampling for and FS1000: General Sampling Procedures. Copies of the soil lithologic logs are provided in Appendix B, and copies of the soil sample data sheets are included in Appendix C.

2.3 GROUNDWATER INVESTIGATION

Based on field observations made during the soil investigation (e.g., location of highest FID responses), TtNUS supervised the installation of seven shallow monitoring wells (MW-06S through MW-12S). Monitoring wells were installed in the former locations of the DPT soil borings and are depicted on Figure 2-2. Each well was advanced via DPT to a depth ranging from 25 to 30 ft bls. Each monitoring well is constructed of nominal 1.25-inch diameter, schedule-40 polyvinyl chloride (PVC) with 10 ft of 0.10-inch slotted screen and 4-inch PVC end-cap, or well point, located at the bottom of each well. Each well is screened across the water table, approximately 17 to 24 ft bls at the site, intersecting the groundwater table. The interstitial space and the outside annular space of the well screen was filled with 20-30 silica sand to 2 ft above the well screen. A 2 ft interval of chipped bentonite was placed above each well screen. The remaining annular space was grouted with neat Type I Portland Cement (i.e., no additives) to the surface. A locking cap and a 6- or 8-inch traffic-rated flush mount with bolted lid was placed level with the ground surface around the well head. A framed 2 ft by 2 ft by 4-inch concrete pad was constructed around each flush mount. After construction was complete, each well was developed in general accordance with FDEP SOP 001/01 FS2200: Groundwater Sampling. Groundwater purged during development activities was containerized in one 55-gallon steel drum and disposed of by SWS Waste Contractors on September 29, 2005. Well construction and well development information was documented on the appropriate field data sheets. Copies of the well construction diagrams and well development records are included in Appendix D. A summary of monitoring well construction details is provided on Table 2-1.



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MONITORING WELL LOCATIONS
UST SITE 14
NAS PENSACOLA
PENSACOLA, FLORIDA

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TABLE 2-1
SUMMARY OF MONITORING WELL CONSTRUCTION DETAILS
UST SITE 14
NAS PENSACOLA, FLORIDA

Well ID NAS PEN-SITE 14-	Total Well Depth (ft bls)	Screen Interval (ft)
MW-06S	24.69	14.5 to 24.5
MW-07S	24.53	14.5 to 24.5
MW-08S	24.70	14.5 to 24.5
MW-09S	24.70	14.5 to 24.5
MW-10S	29.70	14.5 to 24.5
MW-11S	28.61	14.5 to 29.5
MW-12S	29.68	14.5 to 29.5

2.3.1 Groundwater Sampling Procedures

On July 19 and 20, 2005, TtNUS collected groundwater samples from 14 monitoring wells (MW-01S through MW-12S, MW-100 and TW-4) at UST Site 14. Prior to collecting groundwater samples, groundwater elevations were measured and recorded. Expansive plugs from each monitoring well were removed and each well was allowed a minimum of 15 minutes to equilibrate prior to obtaining groundwater level measurements. Depth to potentiometric surface was measured from the north side of the top of well casing to the nearest 0.01 ft. Groundwater measuring instruments were decontaminated in accordance with FDEP SOP 001/01 FS2200 and FC 1000: Cleaning / Field Decontamination Procedures. A summary of groundwater elevations is included on Table 2-2.

Groundwater sampling was conducted in accordance with FDEP SOP 001/01 FS2200 and FS1000. During well purging, field measurements of pH, temperature, specific conductance, and dissolved oxygen were recorded using a YSI 556 Water Quality Multimeter. Turbidity was also measured using a Lamotte 2020 turbidimeter. Stabilization protocol as defined in FS2200 was met for each parameter prior to sample collection.

Teflon® and surgical-grade silicon tubing was used for sample collection. Groundwater samples analyzed for volatile organic compounds (VOCs) were collected using the "straw method" and discharged into the appropriate sample bottles for analysis. Sample collection order began with collecting VOCs first, followed by extractable organics and natural attenuation parameters (Section 2.3.2). Samples requiring preservation were collected in pre-preserved bottles provided by the fixed-based laboratory. Completed FDEP Groundwater Sample Data sheets are included in Appendix E.

TABLE 2-2
SUMMARY OF GROUNDWATER ELEVATIONS
UST SITE 14
NAS PENSACOLA, FLORIDA

Well ID NAS PEN-SITE 14-	Top of Casing Elevation[1]	July 18, 2005	
		Depth to Water (ft)	Groundwater Elevation[2] (ft BTOC)
MW-01S	18.75	17.16	1.59
MW-02S	20.46	18.53	1.93
MW-03S	18.56	16.35	2.21
MW-04S	24.29	19.28	5.01
MW-05S	20.79	16.10	4.69
MW-06S	24.20	19.83	4.37
MW-07S	22.55	19.07	3.48
MW-08S	21.95	18.64	3.31
MW-09S	20.28	17.94	2.34
MW-10S	24.46	22.89	1.57
MW-11S	25.66	23.84	1.82
MW-12S	26.03	22.99	3.04
MW-100	25.46	23.42	2.04
TW-4	25.21	23.40	1.81

[1] Well depths are in feet below top of casing.
[2] Top of casing and groundwater elevations are in feet above mean sea level. Surveyed by TtNUS in relation to professionally surveyed benchmark data for UST Site 14.
ft BTOC – feet below top of casing

2.3.2 Groundwater Sample Analyses

Groundwater samples were collected and submitted to AAL for the analyses provided below.

Analytical Parameters:

- BTEX/MTBE via USEPA Method 8260B
- PAHs via USEPA Method 8270C SIM
- Target Compound List (TCL) VOCs via USEPA Method 8260B
- TRPH via FL-PRO Method

Natural Attenuation Parameters:

- Alkalinity (as Carbonate) via USEPA Method 310.1
- Anions[1] via USEPA Method 9056
- Carbon dioxide via USEPA Method 4500
- Lead (dissolved) via USEPA Method 6010B
- Methane/ethane/ethene via USEPA Method RSK 175
- Nitrogen (as ammonia) via USEPA Method 350.2
- Phosphorus (Ortho- and Total) via USEPA Method 365.2
- Total Kjeldahl Nitrogen (TKN) via USEPA Method 351.3

In addition to the above laboratory analysis, groundwater samples were also collected and analyzed in the field for a suite of natural attenuation parameters. A summary of natural attenuation field parameters is provided in Table 2-3.

TABLE 2-3
SUMMARY OF NATURAL ATTENUATION FIELD PARAMETERS
UST SITE 14
NAS PENSACOLA, FLORIDA

Parameter	Analytical Method
Alkalinity	CHEMetrics K-9810/9815/9820 Test Kits
Carbon Dioxide	CHEMetrics K1910/1920/1925 Test Kits
Hydrogen Sulfide	Hach H_2S Test Kit
Ferrous Iron	Hack DR-890 Portable Colorimeter
Dissolved Oxygen	CHEMetrics K-7501/7512 Test Kits

2.4 SAMPLE HANDLING

Sample handling includes the selection of sample containers, preservatives, allowable holding times, sample packaging, shipping and appropriate sample chain of custody procedures. An outline of the sampling handling items addressed during sampling activities at UST Site 14 is provided below.

2.4.1 Sample Packaging and Shipping

Samples were packaged and shipped in general accordance with FDEP SOP 001/01 FS1000 and applicable sections of FS2200 and FS3000.

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[1] Anions include Chloride, Nitrate, Nitrite, and Sulfate.

2.4.2 Sample Custody

Custody of samples was maintained and documented at all times. Chain-of-custody began with the collection of the samples in the field. FS1000 (FS1009) and TtNUS SOP SA-6.3 provides a description of the chain-of-custody procedures followed during sampling activities. TtNUS SOP SA-6.3 may be reviewed upon request.

2.5 QUALITY CONTROL SAMPLES

Pre- and post-equipment rinsate blanks were collected during the soil and groundwater sampling events in accordance to FDEP SOP 001/01 FQ1000: Field Quality Control Requirements. One trip blank sample accompanied each cooler containing VOC samples. Duplicate samples were not collected.

2.6 EQUIPMENT CALIBRATION

Field instruments including the OVA-FID, YSI 556 Water Quality Multimeter, and Lamotte 2020 Turbidimeter were calibrated daily according to FDEP SOPs FT1000: General Field Testing and Measurement, and manufacture's specifications. Equipment calibration was documented on an Equipment Calibration Log. A copy of the completed Equipment Calibration Log is included in Appendix E.

2.7 DECONTAMINATION

The equipment involved in field sampling activities was decontaminated prior to and during sampling activities in accordance to FDEP SOP FC1000. Non-disposable equipment used for collecting samples was decontaminated prior to beginning field sampling and between sample events.

2.8 INVESTIGATIVE DERIVED WASTE MANAGEMENT

Drill cuttings, purge water, and decontamination water was collected and containerized in Department of Transportation (DOT) approved (Specification 17C) 55-gallon drums. Each drum was transported on September 25, 2005 by SWS Environmental First Response, a licensed waste contractor, and disposed. Waste manifests are maintained in the project folder and may be reviewed upon request.

3.0 RESULTS OF INVESTIGATION

A discussion of the results from the field investigation activities detailed in Section 2.0 is presented in the following subsections. This discussion details the following:

- Hydrogeology
- Soil Quality
- Groundwater Quality

3.1 HYDROGEOLOGY

Water level measurements listed on Table 2-2 were evaluated to determine a) the depth to water in the shallow zone of the surficial aquifer and b) the horizontal groundwater flow direction and gradient velocity across UST Site 14. Groundwater direction was determined from groundwater elevation contours generated from data obtained on Table 2-3. According to groundwater contour mapping, groundwater flows to the east-southeast at the site. Groundwater flow direction is depicted in Figure 3-1. The discharge area for the shallow zone is a small creek located approximately 75 ft east of MW-02S The stream is oriented parallel to groundwater elevation isopleths and flows northeast towards Escambia Bay.

The horizontal groundwater flow gradient across the site was determined using the following equation:

$$i = \frac{h_1 - h_2}{d}$$

Where:

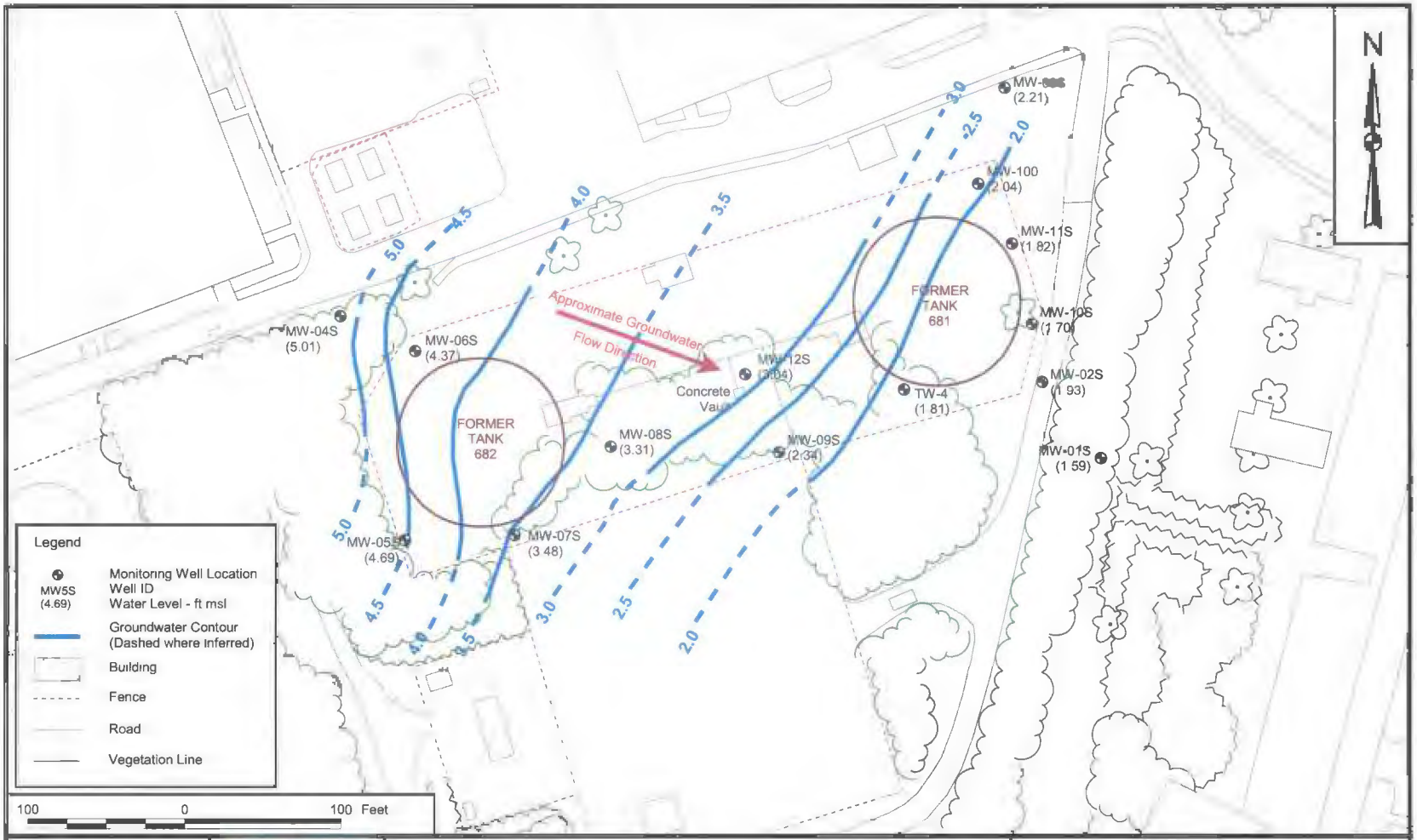
i = the hydraulic gradient
h_1 = the water elevation at point 1
h_2 = the water elevation at point 2
d = the distance between point 1 and point 2

Using the above equation, average hydraulic gradient of 0.005 feet per foot (feet/foot) was calculated for the site.

3.2 SOIL QUALITY

3.2.1 Soil Vapor Results

The vertical and horizontal extent of petroleum impacted soil in the vadose and capillary fringe zones was assessed through soil vapor analysis performed during the soil investigation described in Section 2.0 of this report. Soils exhibiting an OVA response greater than 50 ppm (i.e., "excessively contaminated soil" as defined by Chapter 62-770, FAC) were encountered in six of the soil borings located throughout the site. A summary of soil vapor results is provided on Table 3-1.



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GROUNDWATER CONTOUR MAP

UST SITE 14

NAS PENSACOLA

PENSACOLA, FLORIDA

CONTRACT NUMBER N62467-94-D-0888	
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FIGURE NO 3 - 1	REV 0

P:\GIS\PENSACOLA_NAS\MAPDOCS\APR\TANKS681_682.APR GROUNDWATER CONTOUR LAYOUT 11/15/05 CS

TABLE 3-1
SUMMARY OF SOIL VAPOR ANALYSES
UST SITE 14
NAS PENSACOLA, FLORIDA

Soil Boring ID: PEN-SITE14-	Depth Interval[1] (ft bls)	Unfiltered PID Response (ppm)	Filtered PID Response (ppm)	Corrected PID Response (PPM)
DPT001	+4 to 6	0.4	0.0	0.4
	+6 to 8	0.8	0.0	0.8
	+8 to 10	0.7	0.0	0.7
	+10 to 12	0.9	0.0	0.9
	+12 to 14	0.9	0.0	0.9
	+14 to 16	0.4	0.0	0.4
	+16 to 18	0.1	0.0	0.1
	+18 to 20	0.2	0.0	0.2
	+20 to 22	**0.2**	**0.0**	**0.2**
	+22 to 24	0.1	0.0	0.1
	+24 to 26	0.3	0.0	0.3
DPT002	+4 to 6	0.1	0.0	0.1
	+6 to 8	2.1	0.0	2.1
	+8 to 10	2.9	0.0	2.9
	+10 to 12	1.1	0.0	1.1
	+12 to 14	0.4	0.0	0.4
	+14 to 16	4.6	0.0	4.6
	+16 to 18	22.7	11.6	11.1
	+18 to 20	39.2	1.8	37.4
	+20 to 22	**321.6**	**211.4**	**110.2**
	+22 to 24	79.6	65.0	14.6
	+24 to 26	3.9	0.0	3.9
DPT 003	+4 to 6	0.1	0.0	0.1
	+6 to 8	0.6	0.0	0.6
	+8 to 10	0.6	0.0	0.6
	+10 to 12	0.6	0.0	0.6
	+12 to 14	0.3	0.0	0.3
	+14 to 16	0.7	0.0	0.7

TABLE 3-1
SUMMARY OF SOIL VAPOR ANALYSES
UST SITE 14
NAS PENSACOLA, FLORIDA

Soil Boring ID: PEN-SITE14-	Depth Interval[1] (ft bls)	Unfiltered FID Response (ppm)	Filtered FID Response (ppm)	Corrected FID Response (PPM)
DPT003 (continued)	+16 to 18	1.6	0.0	1.6
	+18 to 20	20.5	4.1	16.4
	+20 to 22	**104.5**	**16.1**	**88.4**
	+22 to 24	18.9	1.7	17.2
	+24 to 26	0.9	0.0	0.9
DPT004	+4 to 6	0.3	0.0	0.3
	+6 to 8	0.1	0.0	0.1
	+8 to 10	0.4	0.0	0.4
	+10 to 12	0.6	0.0	0.6
	+12 to 14	0.1	0.0	0.1
	+14 to 16	0.3	0.0	0.3
	+16 to 18	0.6	0.0	0.6
	+18 to 20	10.1	0.0	10.1
	+20 to 22	**37.2**	**1.2**	**36.0**
	+22 to 24	12.0	0.0	12.0
	+24 to 26	0.8	0.0	0.8
DPT005	+4 to 6	10.6	0.0	10.6
	+6 to 8	1.1	0.0	1.1
	+8 to 10	0.9	0.0	0.9
	+10 to 12	0.1	0.0	0.1
	+12 to 14	0.4	0.0	0.4
	+14 to 16	0.9	0.0	0.9
	+16 to 18	10.1	0.0	10.1
	+18 to 20	32.3	0.9	31.4
	+20 to 22	**125.8**	**14.6**	**111.2**
	+22 to 24	16.2	0.0	16.2
	+24 to 26	0.7	0.0	0.7
DPT006	+4 to 6	0.6	0.0	0.6
	+6 to 8	0.6	0.0	0.6

TABLE 3-1
SUMMARY OF SOIL VAPOR ANALYSES
UST SITE 14
NAS PENSACOLA, FLORIDA

Soil Boring ID: PEN-SITE14-	Depth Interval[1] (ft bls)	Unfiltered FID Response (ppm)	Filtered FID Response (ppm)	Corrected FID Response (PPM)
DPT006 (continued)	+8 to 10	0.6	0.0	0.6
	+10 to 12	0.4	0.0	0.4
	+12 to 14	0.5	0.0	0.5
	+14 to 16	0.4	0.0	0.4
	+16 to 18	0.3	0.0	0.3
	+18 to 20	0.1	0.0	0.1
	+20 to 22	0.1	0.0	0.1
	+22 to 24	**8.4**	**0.0**	**8.4**
	+24 to 26	1.7	0.8	0.9
DPT007	+4 to 6	0.1	0.0	0.1
	+6 to 8	0.4	0.0	0.4
	+8 to 10	0.7	0.0	0.7
	+10 to 12	1.9	0.0	1.9
	+12 to 14	2.6	0.0	2.6
	+14 to 16	2.1	0.9	1.2
	+16 to 18	6.3	0.2	6.1
	+18 to 20	56.9	13.0	43.9
	+20 to 22	151.6	37.1	114.5
	+22 to 24	**420.7**	**110.6**	**310.1**
	+24 to 26	167.4	41.0	126.4
	+26 to 28	105.1	13.7	91.4
	+28 to 30	SAT	SAT	SAT
DPT 008	4 to 6	1.1	0.0	1.1
	+6 to 8	0.9	0.0	0.9
	+8 to 10	0.4	0.0	0.4
	+10 to 12	0.7	0.0	0.7
	+12 to 14	0.5	0.0	0.5
	+14 to 16	0.4	0.0	0.4

TABLE 3-1
SUMMARY OF SOIL VAPOR ANALYSES
UST SITE 14
NAS PENSACOLA, FLORIDA

Soil Boring ID: PEN-SITE14-	Depth Interval[a] (ft bls)	Unfiltered FID Response (ppm)	Filtered FID Response (ppm)	Corrected FID Response (PPM)
DPT008 (continued)	+16 to 18	0.3	0.0	0.3
	+18 to 20	0.1	0.0	0.1
	+20 to 22	0.1	0.0	0.1
	+22 to 24	8.4	0.0	8.4
	+24 to 26	**234.0**	**14.6**	**219.4**
	+26 to 28	14.1	1.2	12.9
	+28 to 30	0.9	0.0	0.9
DPT 009	4 to 6	0.7	0.0	0.7
	+6 to 8	1.1	0.0	1.1
	+8 to 10	2.0	0.0	2.0
	+10 to 12	2.6	0.0	2.6
	+12 to 14	0.9	0.0	0.9
	+14 to 16	1.2	0.0	1.2
	+16 to 18	0.4	0.0	0.4
	+18 to 20	0.1	0.0	0.1
	+20 to 22	0.9	0.0	0.9
	+22 to 24	7.0	0.0	7.0
	+24 to 26	32.6	1.6	31.0
	+26 to 28	**124.4**	**12.2**	**106.2**
	+28 to 30	16.1	0.0	16.1
DPT010	4 to 6	0.3	0.0	0.3
	+6 to 8	0.1	0.0	0.1
	+8 to 10	0.1	0.0	0.1
	+10 to 12	0.6	0.0	0.6
	+12 to 14	0.1	0.0	0.1
	+14 to 16	0.3	0.0	0.3
	+16 to 18	0.1	0.0	0.1
	+18 to 20	0.2	0.0	0.2

TABLE 3-1
SUMMARY OF SOIL VAPOR ANALYSES
UST SITE 14
NAS PENSACOLA, FLORIDA

Soil Boring ID: PEN-SITE14-	Depth Interval[1] (ft bls)	Unfiltered FID Response (ppm)	Filtered FID Response (ppm)	Corrected FID Response (PPM)
DPT 010 (continued)	+20 to 22	0.2	0.0	0.2
	+22 to 24	0.6	0.0	0.6
	+24 to 26	1.1	0.0	1.1
	+26 to 28	**4.1**	**0.0**	**4.1**
	+28 to 30	0.9	0.0	0.9

Samples shown in bold were submitted for laboratory analyses for the parameters listed in Section 2.2.
[1] 0 to 4 ft bls was removed during utility clearance operations. No evidence of contamination (i.e., staining, and/or odor) was noted from this interval for any soil boring.
SAT – Soil sample too saturated to obtain a representative headspace reading.

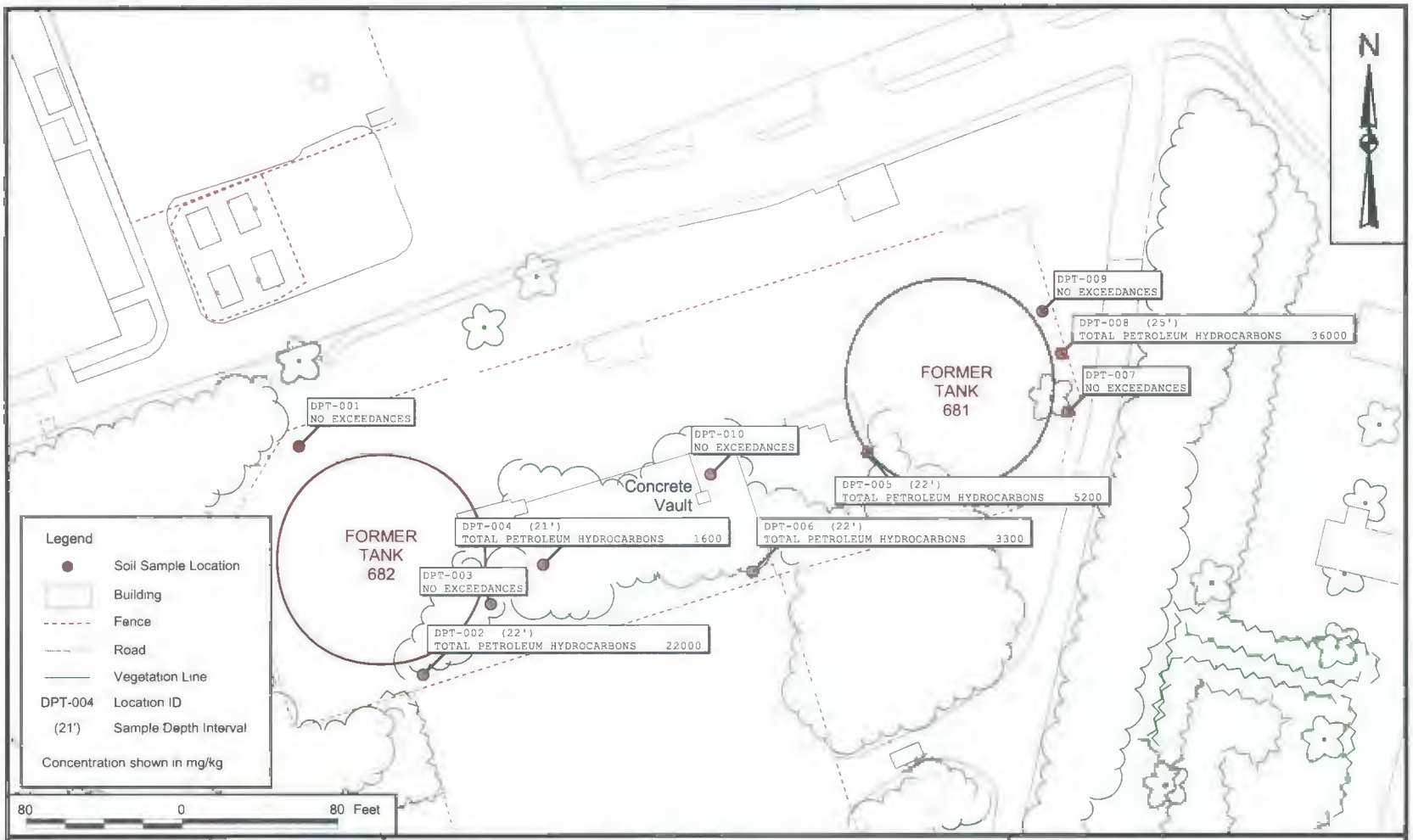
3.2.2 Soil Analytical Sampling Results

One soil sample from each boring was collected and analyzed for 1-methylnaphthalene, 2-methylnaphthalene, 16 method-listed PAHs, and TRPH. Analytical data from the samples indicated five samples exceeded TRPH SCTLs for residential direct exposure and leachability-based for groundwater criteria. A discussion of analytical results in provided in Section 4.1. A summary of the SCTL exceedances is listed on Table 3-2 and depicted on Figure 3-2. A summary of soil analytical results is provided on Table 3-3. A summary of TRPH speciation results is provided Table 3-4. A summary of TRPH SPLP results is provided in Table 3-5. Copies of the laboratory analytical reports are included in Appendix F.

TABLE 3-2
SUMMARY OF FDEP SCTL EXCEEDANCES
UST SITE 14
NAS PENSACOLA, FLORIDA

Sample ID: PEN-SITE14-SS-	Sample Depth Interval (ft bls)	Contaminant	Sample Concentration (mg/kg)	FDEP SCTLs (mg/kg)		
				Residential	Industrial	Leachability
DPT002	22	TRPH	22,000	**460**	**2,700**	**340**
		1-Methylnaphthalene	15	200	1,800	**3.1**
		2-Methylnaphthalene	24	210	2,100	**8.5**
DPT004	21	TRPH	1,600	**460**	**2,700**	**340**
DPT005	22	TRPH	5,200	**460**	**2,700**	**340**
DPT006	22	TRPH	3,300	**460**	**2,700**	**340**
DPT008	25	TRPH	36,000	**460**	**2,700**	**340**

ft – feet; mg/kg – milligrams per kilogram; bls – below land surface



DRAWN BY C SPEHAR	DATE 9/6/05	SCTL EXCEEDANCES UST SITE 14 NAS PENSACOLA PENSACOLA, FLORIDA	CONTRACT NUMBER N62467-94-D-0888
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COST/SCHEDULE-AREA			APPROVED BY — DATE —
SCALE AS NOTED			FIGURE NO. 3 - 2 / REV 0

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TABLE 3-3
SUMMARY OF SOIL ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA, FLORIDA
PAGE 1 OF 4

SITE			14	14	14
AREA OF CONCERN	FDEP	FDEP	UST14	UST14	UST14
LOCATION	SCTLs	SCTLs	NASP-681/682-DPT-001	NASP-681/682-DPT-002	NASP-681/682-DPT-003
SAMPLE ID	Residential	Industrial	PEN-SITE14-SS-DPT01-21	PEN-SITE14-SS-DPT02-22	PEN-SITE14-SS-DPT03-22
MATRIX			SS	SS	SS
SAMPLE DATE			6/28/2005	6/28/2005	6/28/2005
SEMIVOLATILES (UG/KG)					
1-METHYLNAPHTHALENE	200,000	1,800,000	8.3 U	23,000	23
2-METHYLNAPHTHALENE	210,000	2,100,000	8.3 U	39,000	35
ACENAPHTHENE	2,400,000	20,000,000	8.3 U	1,900	8.3 U
ACENAPHTHYLENE	1,800,000	20,000,000	3.4 J	88 U	8.3 U
ANTHRACENE	21,000,000	300,000,000	8.3 U	340	8.3 U
BAP EQUIVALENT	NA	NA	31.39	122.51	8.3 U
BENZO(A)ANTHRACENE	NA	NA	15	150	8.3 U
BENZO(A)PYRENE	100	700	20	58 J	8.3 U
BENZO(B)FLUORANTHENE	NA	NA	16	30 J	8.3 U
BENZO(G,H,I)PERYLENE	2,500,000	52,000,000	15	33 J	8.3 U
BENZO(K)FLUORANTHENE	NA	NA	17	88 U	8.3 U
CHRYSENE	NA	NA	20	270	8.3 U
DIBENZO(A,H)ANTHRACENE	NA	NA	6.7 J	88 U	8.3 U
FLUORANTHENE	3,200,000	59,000,000	29	180	8.3 U
FLUORENE	2,600,000	33,000,000	8.3 U	3,400	2.7 J
INDENO(1,2,3-CD)PYRENE	NA	NA	14	18 J	8.3 U
NAPHTHALENE	55,000	300,000	8.3 U	6,900	4.2 J
PHENANTHRENE	2,200,000	36,000,000	8.8	9,000	4.2 J
PYRENE	2,400,000	45,000,000	30	1,600	8.3 U
PETROLEUM HYDROCARBONS (MG/KG)					
TOTAL PETROLEUM HYDROCARBONS	460	2,700	71 U	22,000	12 J

Notes:

Exceeds Residential and Industrial SCTLs

Exceeds Residential SCTLs

J = Estimated Value,

U = Less than laboratory method detection limits.

NA = No criteria available.

mg/kg = milligrams per kilogram

TABLE 3-3
SUMMARY OF SOIL ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA, FLORIDA
PAGE 2 OF 4

SITE	FDEP	FDEP	14	14	14
AREA OF CONCERN	SCTLs	SCTLs	UST14	UST14	UST14
LOCATION	Residential	Industrial	NASP-681/682-DPT-004	NASP-681/682-DPT-005	NASP-681/682-DPT-006
SAMPLE ID			PEN-SITE14-SS-DPT04-21	PEN-SITE14-SS-DPT05-22	PEN-SITE14-SS-DPT06-22
MATRIX			SS	SS	SS
SAMPLE DATE			6/28/2005	6/28/2005	6/28/2005
SEMIVOLATILES (UG/KG)					
1-METHYLNAPHTHALENE	200,000	1,800,000	770	83 U	320
2-METHYLNAPHTHALENE	210,000	2,100,000	1,100	83 U	500
ACENAPHTHENE	2,400,000	20,000,000	36	83 U	54 J
ACENAPHTHYLENE	1,800,000	20,000,000	8.1 U	83 U	80 U
ANTHRACENE	21,000,000	300,000,000	34	83 U	80 U
BAP EQUIVALENT	NA	NA	9.823	70.045	92.459
BENZO(A)ANTHRACENE	NA	NA	12	32 J	80 U
BENZO(A)PYRENE	100	700	3.7 J	43 J	80 U
BENZO(B)FLUORANTHENE	NA	NA	8.1 U	36 J	80 U
BENZO(G,H,I)PERYLENE	2,500,000	52,000,000	2.1 J	33 J	80 U
BENZO(K)FLUORANTHENE	NA	NA	8.1 U	29 J	80 U
CHRYSENE	NA	NA	23	55 J	59 J
DIBENZO(A,H)ANTHRACENE	NA	NA	8.1 U	17 J	80 U
FLUORANTHENE	3,200,000	59,000,000	15	83 U	80 U
FLUORENE	2,600,000	33,000,000	240	83 U	110
INDENO(1,2,3-CD)PYRENE	NA	NA	8.1 U	29 J	80 U
NAPHTHALENE	55,000	300,000	130	83 U	38 J
PHENANTHRENE	2,200,000	36,000,000	600	83 U	310
PYRENE	2,400,000	45,000,000	130	250	46 J
PETROLEUM HYDROCARBONS (MG/KG)					
TOTAL PETROLEUM HYDROCARBONS	460	2,700	1,600	5,200	3,300

Notes:

Exceeds Residential and Industrial SCTLs

Exceeds Residential SCTLs

J = Estimated Value.

U = Less than laboratory method detection limits.

NA = No criteria available.

mg/kg = milligrams per kilogram

TABLE 3-3
SUMMARY OF SOIL ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA, FLORIDA
PAGE 3 OF 4

SITE AREA OF CONCERN LOCATION SAMPLE ID MATRIX SAMPLE DATE	FDEP SCTLs Residential	FDEP SCTLs Industrial	14 UST14 NASP-681/682-DPT-007 PEN-SITE14-SS-DPT07-24 SS 6/28/2005	14 UST14 NASP-681/682-DPT-008 PEN-SITE14-SS-DPT08-25 SS 6/28/2005	14 UST14 NASP-681/682-DPT-009 PEN-SITE14-SS-DPT09-26 SS 6/28/2005
SEMIVOLATILES (UG/KG)					
1-METHYLNAPHTHALENE	200,000	1,800,000	8.2 U	3,500	1,400
2-METHYLNAPHTHALENE	210,000	2,100,000	2.1 J	5,800	2,300
ACENAPHTHENE	2,400,000	20,000,000	8.2 U	220	52
ACENAPHTHYLENE	1,800,000	20,000,000	8.2 U	82 U	7.6 U
ANTHRACENE	21,000,000	300,000,000	8.2 U	120	41
BAP EQUIVALENT	NA	NA	8.2 U	82.899	8.154
BENZO(A)ANTHRACENE	NA	NA	8.2 U	42 J	7.4 J
BENZO(A)PYRENE	100	700	8.2 U	29 J	2.8 J
BENZO(B)FLUORANTHENE	NA	NA	8.2 U	82 U	7.6 U
BENZO(G,H,I)PERYLENE	2,500,000	52,000,000	8.2 U	22 J	1.6 J
BENZO(K)FLUORANTHENE	NA	NA	8.2 U	82 U	7.6 U
CHRYSENE	NA	NA	8.2 U	89	16
DIBENZO(A,H)ANTHRACENE	NA	NA	8.2 U	82 U	7.6 U
FLUORANTHENE	3,200,000	59,000,000	8.2 U	48 J	12
FLUORENE	2,600,000	33,000,000	8.2 U	510	290
INDENO(1,2,3-CD)PYRENE	NA	NA	8.2 U	82 U	7.6 U
NAPHTHALENE	55,000	300,000	8.2 U	910	
PHENANTHRENE	2,200,000	36,000,000	8.2 U	1,700	790
PYRENE	2,400,000	45,000,000	8.2 U	280	48
PETROLEUM HYDROCARBONS (MG/KG)					
TOTAL PETROLEUM HYDROCARBONS	460	2,700	7.9 J	36,000	120

Notes:

Exceeds Residential and Industrial SCTLs

Exceeds Residential SCTLs

J = Estimated Value.

U = Less than laboratory method detection limits.

NA = No criteria available

mg/kg = milligrams per kilogram

TABLE 3-3
SUMMARY OF SOIL ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA, FLORIDA
PAGE 4 OF 4

SITE			14
AREA OF CONCERN	FDEP	FDEP	UST14
LOCATION	SCTLs	SCTLs	NASP-681/682-DPT-010
SAMPLE ID	Residential	Industrial	PEN-SITE14-SS-DPT10-26
MATRIX			SS
SAMPLE DATE			6/28/2005
SEMIVOLATILES (UG/KG)			
1-METHYLNAPHTHALENE	200,000	1,800,000	85
2-METHYLNAPHTHALENE	210,000	2,100,000	130
ACENAPHTHENE	2,400,000	20,000,000	13
ACENAPHTHYLENE	1,800,000	20,000,000	8.3 U
ANTHRACENE	21,000,000	300,000,000	7.7 J
BAP EQUIVALENT	NA	NA	6.923
BENZO(A)ANTHRACENE	NA	NA	2 J
BENZO(A)PYRENE	100	700	1.7 J
BENZO(B)FLUORANTHENE	NA	NA	8.3 U
BENZO(G,H,I)PERYLENE	2,500,000	52,000,000	8.3 U
BENZO(K)FLUORANTHENE	NA	NA	8.3 U
CHRYSENE	NA	NA	2.8 J
DIBENZO(A,H)ANTHRACENE	NA	NA	8.3 U
FLUORANTHENE	3,200,000	59,000,000	8.3 U
FLUORENE	2,600,000	33,000,000	28
INDENO(1,2,3-CD)PYRENE	NA	NA	8.3 U
NAPHTHALENE	55,000	300,000	12
PHENANTHRENE	2,200,000	36,000,000	66
PYRENE	2,400,000	45,000,000	10
PETROLEUM HYDROCARBONS (MG/KG)			
TOTAL PETROLEUM HYDROCARBONS	460	2,700	31 J

Notes:

Exceeds Residential and Industrial SCTLs

Exceeds Residential SCTLs

J = Estimated Value.

U = Less than laboratory method detection limits.

NA = No criteria available.

mg/kg = milligrams per kilogram

TABLE 3-4
SUMMARY OF TRPH SPECIATION RESULTS
UST SITE 14
NAS PENSACOLA, FLORIDA

Sample ID: PEN-SITE14-SS-	Sample Depth Interval (ft bls)	Corresponding DPT Sample ID	Sample Concentration (mg/kg)	MADEP Fraction	FDEP SCTLs (mg/kg)		
					Residential (mg/kg)	Industrial (mg/kg)	Leachability (mg/kg)
DPT-011	22	DPT-002	36	C_9 -C_{10}	560	3400	380
			20	C_{11} -C_{22}	1800	15000	1000
			5.9	C_5 -C_8	7100	38000	960
			89	C_9 -C_{12}	1700	11000	31000
			19	C_9 -C_{18}	2900	21000	*
			16	C_{19} -C_{36}	42000	280000	*
DPT-012	21	DPT-004	16	C_9 -C_{10}	560	3400	380
			3.9	C_{11} -C_{22}	1800	15000	1000
			<11	C_5 -C_8	7100	38000	960
			24	C_9 -C_{12}	1700	11000	31000
			1.4	C_9 -C_{18}	2900	21000	*
			<12	C_{19} -C_{36}	42000	280000	*
DPT-013	22	DPT-006	<11	C_9 -C_{10}	560	3400	380
			6.2	C_{11} -C_{22}	1800	15000	1000
			<11	C_5 -C_8	7100	38000	960
			<11	C_9 -C_{12}	1700	11000	31000
			2.3	C_9 -C_{18}	2900	21000	*
			<12	C_{19} -C_{36}	42000	280000	*
DPT-014	22	DPT-005	<8.7	C_9 -C_{10}	560	3400	380
			160	C_{11} -C_{22}	1800	15000	1000
			<8.7	C_5 -C_8	7100	38000	960
			<8.7	C_9 -C_{12}	1700	11000	31000
			660	C_9 -C_{18}	2900	21000	*
			310	C_{19} -C_{36}	42000	280000	*
DPT-015	25	DPT-008	<10	C_9 -C_{10}	560	3400	380
			4.1	C_{11} -C_{22}	1800	15000	1000
			<10	C_5 -C_8	7100	38000	960
			<10	C_9 -C_{12}	1700	11000	31000
			2.0	C_9 -C_{18}	2900	21000	*
			<11	C_{19} -C_{36}	42000	280000	*

Notes:

MADEP – Massachusetts Department of Environmental Protection
FDEP – Florida Department of Environmental Protection
mg/kg – milligrams per kilogram
*No Criteria
ft bls – feet below land surface
SCTL – Soil Cleanup Target Level

TABLE 3-5
SUMMARY OF TRPH SPLP RESULTS
UST SITE 14
NAS PENSACOLA, FLORIDA

Sample ID: PEN-SITE14-SS-	Sample Depth Interval (ft bls)	Corresponding DPT Sample ID	TRPH Sample Concentration (mg/kg)	SPLP Result (µg/L)	FDEP Regulatory Criterion
					FDEP TRPH GCTL (µg/L)
DPT-014	22	DPT-005	3,300	<3,300	5,000
DPT-015	25	DPT-008	3,300	<3,300	5,000

Notes:
mg/kg – milligrams per kilogram
GCLT – Groundwater Cleanup Target Level
µg/L – micrograms per liter
TRPH – Total Recoverable Petroleum Hydrocarbon
ft bls – feet below land surface
MADEP – Massachusetts Department of Environmental Protection
FDEP – Florida Department of Environmental Protection

3.3 WATER QUALITY

3.3.1 Analytical Sampling Results

Each groundwater sample was analyzed for the analytical parameters listed in Section 2.3.2. Analytical results indicated GCTL exceedances in groundwater samples collected from monitoring wells MW-06S, MW-07S, and TW-4. A discussion of analytical results is provided in Section 4.2. A summary of the groundwater analytical results is provided on Table 3-6 and depicted on Figure 3-3. Copies of the groundwater laboratory analytical reports are included in Appendix G.

3.3.2 Natural Attenuation Sampling Results

The aforementioned groundwater samples were also analyzed by a fixed-based laboratory and in the field for the natural attenuation parameters listed in Section 2.3.2. A discussion of the natural attenuation results is provided in Section 4.0. A summary of the natural attenuation parameters is listed on Table 3-6. Copies of the laboratory analytical reports are included in Appendix G.

TABLE 3-6
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA, FLORIDA
PAGE 1 OF 3

SITE		14	14	14	14	14
AREA OF CONCERN		UST14	UST14	UST14	UST14	UST14
LOCATION		NASP-681/682-MW01S	NASP-681/682-MW02S	NASP-681/682-MW03S	NASP-681/682-MW04	NASP-681/682-MW05S
SAMPLE ID	FDEP GCTLs	PEN-SITE14-MW01S-0705	PEN-SITE14-MW02S-0705	PEN-SITE14-MW03S-0705	PEN-SITE14-MW04-0705	PEN-SITE14-MW05S-0705
MATRIX		GW	GW	GW	GW	GW
SAMPLE DATE		7/20/2005	7/20/2005	7/20/2005	7/19/2005	7/19/2005
VOLATILES (UG/L)						
BENZENE	1	1 U	0.45 J	1 U	1 U	1 U
ETHYLBENZENE	30	1 U	5.2	1 U	1 U	1 U
METHYL TERT-BUTYL ETHER	20	2 U	2 U	2 U	2 U	2 U
TOLUENE	40	0.34 J	0.57 J	1 U	0.41 J	0.46 J
TOTAL XYLENES	20	3 U	3 U	3 U	3 U	3 U
SEMIVOLATILES (UG/L)						
1-METHYLNAPHTHALENE	28	0.2 U	23	0.2 U	0.2 U	0.082 J
2-METHYLNAPHTHALENE	28	0.2 U	7.4	0.2 U	0.2 U	0.2 U
ACENAPHTHENE	20	0.2 U	2.9	0.2 U	0.2 U	0.2 U
ACENAPHTHYLENE	210	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
ANTHRACENE	2,100	0.2 U	0.14 J	0.2 U	0.2 U	0.2 U
BENZO(A)PYRENE	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(B)FLUORANTHENE	0.05	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(G,H,I)PERYLENE	210	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(K)FLUORANTHENE	0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
DIBENZO(A,H)ANTHRACENE	0.005	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
FLUORENE	280	0.2 U	4.9	0.2 U	0.2 U	0.2 U
INDENO(1,2,3-CD)PYRENE	0.05	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
NAPHTHALENE	14	0.2 U	5.4	0.2 U	0.2 U	0.28
PHENANTHRENE	210	0.2 U	2.7	0.2 U	0.2 U	0.2 U
PYRENE	210	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
PETROLEUM HYDROCARBONS (MG/L)						
TOTAL PETROLEUM HYDROCARBONS	5	1.7 U	4.4 V	0.45 J	1.7 U	0.84 J
MISCELLANEOUS PARAMETERS (MG/L)						
ALKALINITY	NA	1 U	1.3	1.4	0.62 I	1 U
AMMONIA-N	NA	0.88	1.23	0.7	0.53	0.88
CARBON DIOXIDE	NA	45	130	120	68	21
CHLORIDE	NA	36	29	33	82	11
IRON	NA	231	389	100 U	100 U	195
METHANE	NA	0.027	0.39	0.027	0.002 J	0.004
NITRATE	NA	0.59	0.1 U	0.94	1.4	0.1 U
NITRITE	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ORTHOPHOSPHATE-P	NA	0.021	0.083	0.025	0.02 U	0.009 I
SULFATE	NA	28	4.2	17	29	13
TOTAL KJELDAHL NITROGEN	NA	1.05	1.4	0.88	0.88	1.05
TOTAL ORGANIC CARBON	NA	1.93 J	4.25	2.01	1.1 I	1.61 I
TOTAL PHOSPHORUS	NA	0.02 U	0.045	0.02 U	0.02 U	0.066

Notes:

Exceeds FDEP GCTL

J = Estimated Value. NA = No criteria.

U = Below laboratory detection limit.

mg/L = milligrams per liter. µg/L = micrograms per liter.

TABLE 3-6
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA, FLORIDA
PAGE 2 OF 3

SITE	FDEP GCTLs	14	14	14	14	14
AREA OF CONCERN		UST14	UST14	UST14	UST14	UST14
LOCATION		NASP-681/682-MW06S	NASP-681/682-MW07S	NASP-681/682-MW08S	NASP-681/682-MW09S	NASP-681/682-MW100
SAMPLE ID		PEN-SITE14-MW06S-0705	PEN-SITE14-MW07S-0705	PEN-SITE14-MW08S-0705	PEN-SITE14-MW09S-0705	PEN-SITE14-MW100-0705
MATRIX		GW	GW	GW	GW	GW
SAMPLE DATE		7/19/2005	7/19/2005	7/19/2005	7/19/2005	7/19/2005
VOLATILES (UG/L)						
BENZENE	1	1 U	1 U	1 U	1 U	1 U
ETHYLBENZENE	30	1 U	1 U	1 U	1 U	1 U
METHYL TERT-BUTYL ETHER	20	1 U	2 U	2 U	2 U	2 U
TOLUENE	40	1 U	0.28 J	0.33 J	0.3 J	1 U
TOTAL XYLENES	20	3 U	3 U	3 U	3 U	3 U
SEMIVOLATILES (UG/L)						
1-METHYLNAPHTHALENE	28	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-METHYLNAPHTHALENE	28	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
ACENAPHTHENE	20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
ACENAPHTHYLENE	210	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
ANTHRACENE	2,100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(A)PYRENE	0.2	0.061 J	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(B)FLUORANTHENE	0.05	0.019 J	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(G,H,I)PERYLENE	210	0.048 J	0.086 J	0.2 U	0.2 U	0.2 U
BENZO(K)FLUORANTHENE	0.5	0.069 J	0.2 U	0.2 U	0.2 U	0.2 U
DIBENZO(A,H)ANTHRACENE	0.005	0.064 J	0.1 J	0.2 U	0.2 U	0.2 U
FLUORENE	280	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
INDENO(1,2,3-CD)PYRENE	0.05	0.053 J	0.067 J	0.2 U	0.2 U	0.2 U
NAPHTHALENE	14	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
PHENANTHRENE	210	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
PYRENE	210	0.2 U	0.2 U	0.054 J	0.2 U	0.2 U
PETROLEUM HYDROCARBONS (MG/L)						
TOTAL PETROLEUM HYDROCARBONS	5	1.7 U	0.51 J	0.52 J	1.7 U	1.7 U
MISCELLANEOUS PARAMETERS (MG/L)						
ALKALINITY	NA	0.53 I	0.45 I	0.83 I	0.37 I	1.7
AMMONIA-N	NA	0.7	1.05	0.88	0.88	0.88
CARBON DIOXIDE	NA	65	71	82	60	100
CHLORIDE	NA	46	14	94	21	14
IRON	NA	100 U	116	1,230	100 U	100 U
METHANE	NA	0.003 U	0.23	0.019	0.003 U	0.003 U
NITRATE	NA	1.5	0.27	0.35	1.2	0.79
NITRITE	NA	0.5 U	0.077 I	0.5 U	0.5 U	0.5 U
ORTHOPHOSPHATE-P	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
SULFATE	NA	27	25	35	20	13
TOTAL KJELDAHL NITROGEN	NA	0.88	1.05	1.05	1.23	1.05
TOTAL ORGANIC CARBON	NA	1.33 I	2.07	1.81 I	1.87 I	1.52 I
TOTAL PHOSPHORUS	NA	0.02 U	0.02 U	0.02 U	0.024	0.02 U

Notes:

Exceeds FDEP GCTL

J = Estimated Value. NA = No criteria

U = [illegible] laboratory detection limit.

mg/[illegible] [illegible]grams per liter. µg/L = micrograms per liter.

TABLE 3-6
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA, FLORIDA
PAGE 3 OF 3

SITE	FDEP GCTLs	14	14	14	14
AREA OF CONCERN		UST14	UST14	UST14	UST14
LOCATION		NASP-681/682-MW10S	NASP-681/682-MW11S	NASP-681/682-MW12S	NASP-681/682-TW-4
SAMPLE ID		PEN-SITE14-MW10S-0705	PEN-SITE14-MW11S-0705	PEN-SITE14-MW12S-0705	PEN-SITE14-TW04-0705
MATRIX		GW	GW	GW	GW
SAMPLE DATE		7/19/2005	7/19/2005	7/19/2005	7/19/2005
VOLATILES (UG/L)					
BENZENE	1	1 U	0.51 J	1 U	1.1
ETHYLBENZENE	30	1.5	4.2	1 U	7.7
METHYL TERT-BUTYL ETHER	20	2 U	2 U	2 U	2 U
TOLUENE	40	1 U	1 U	0.39 J	0.96 J
TOTAL XYLENES	20	3 U	3 U	3 U	3.6
SEMIVOLATILES (UG/L)					
1-METHYLNAPHTHALENE	28	3.1	6.4	0.2 U	1.2
2-METHYLNAPHTHALENE	28	0.87	7	0.2 U	0.99
ACENAPHTHENE	20	0.43	0.33	0.2 U	0.2 U
ACENAPHTHYLENE	210	0.082 J	0.2 U	0.2 U	0.2 U
ANTHRACENE	2,100	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(A)PYRENE	0.2	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(B)FLUORANTHENE	0.05	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(G,H,I)PERYLENE	210	0.2 U	0.2 U	0.2 U	0.2 U
BENZO(K)FLUORANTHENE	0.5	0.2 U	0.2 U	0.2 U	0.2 U
DIBENZO(A,H)ANTHRACENE	0.005	0.2 U	0.2 U	0.2 U	0.2 U
FLUORENE	280	0.69	0.71	0.2 U	0.2 U
INDENO(1,2,3-CD)PYRENE	0.05	0.2 U	0.2 U	0.2 U	0.2 U
NAPHTHALENE	14	2.1	6.1	0.2 U	4.8
PHENANTHRENE	210	0.062 J	0.4	0.2 U	0.2 U
PYRENE	210	0.2 U	0.2 U	0.2 U	0.2 U
PETROLEUM HYDROCARBONS (MG/L)					
TOTAL PETROLEUM HYDROCARBONS	5	3.3	1.6 J	1.7 U	2.4
MISCELLANEOUS PARAMETERS (MG/L)					
ALKALINITY	NA	0.49 I	1.8	0.88 I	1.7
AMMONIA-N	NA	0.7	0.7	0.7	0.53
CARBON DIOXIDE	NA	52	130	73	150
CHLORIDE	NA	7.2	22	32	13
IRON	NA	520	34.1 I	34.2 I	36.2 I
METHANE	NA	0.69	0.33	0.049	0.53
NITRATE	NA	0.1 U	0.84	1.8	0.1 U
NITRITE	NA	0.5 U	0.5 U	0.5 U	0.5 U
ORTHOPHOSPHATE-P	NA	0.02 U	0.02 U	0.02 U	0.02 U
SULFATE	NA	6.2	21	30	2.5
TOTAL KJELDAHL NITROGEN	NA	1.23	0.88	0.88	0.88
TOTAL ORGANIC CARBON	NA	5.32	3.13	0.923 I	3.2
TOTAL PHOSPHORUS	NA	0.1	0.02 U	0.02 U	0.02 U

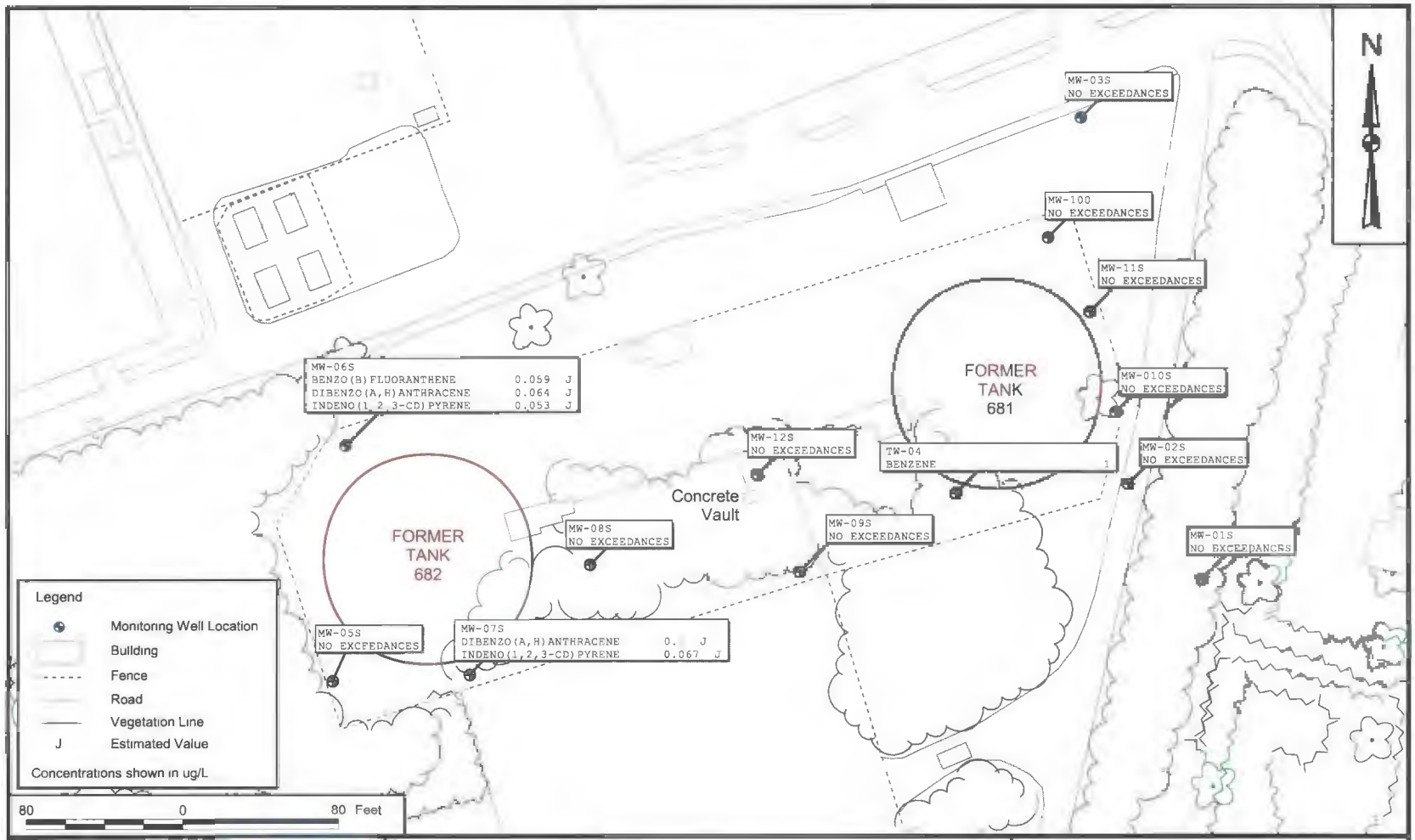
Notes:

Exceeds FDEP GCTL

J = Estimated Value. NA = No criteria.

U = Below laboratory detection limit

mg/L = milligrams per liter. µg/L = micrograms per liter.



DRAWN BY	DATE
C SPEHAR	9/6/05
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S. ROME	9/6/05
COST/SCHEDULE-AREA	
SCALE AS NOTED	

NAVFAC

GCTL EXCEEDANCES

UST SITE 14

NAS PENSACOLA

PENSACOLA, FLORIDA

CONTRACT NUMBER N62467-94-D-0888	
APPROVED BY —	DATE
APPROVED BY —	DATE
FIGURE NO. 3 - 3	REV 0

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4.0 DISCUSSION

4.1 SOIL ANALYTICAL SUMMARY

Concentrations of TRPH were detected in excess of FDEP SCTLs for leachability and residential direct exposure in five discrete soil samples collected during this assessment (Table 3-2). This site is not intended for unrestricted use and sample collection occurred at depths greater than 20 ft bls. As a result, the residential direct exposure criteria would not appear to apply to this site; however, five soil samples were collected from additional soil borings installed adjacent to the five aforementioned soil samples at the corresponding sample depth interval. As previously stated, each sample was analyzed for TRPH speciation using the MADEP Method. Concentrations of regulated TRPH species identified within the two subgroups for this analysis (i.e., aromatics and aliphatics) were reported less than their respective SCTLs.

Three groundwater samples (MW-07S, MW-08S, and MW-09) were collected from five of the soil sample locations exceeding the TRPH SCTL for leachability. TRPH concentrations in groundwater from these three groundwater samples were below the respective FDEP GCTL for TRPH. Monitoring wells were not installed in locations of the remaining two soil sample samples; therefore, groundwater samples were not collected. In lieu of TRPH groundwater sample analyses from these two locations, SPLP analyses were conducted on the remaining two soil samples, DPT-014-22 and DPT015-25. TRPH concentrations reported from the SPLP analyses did not exceed the TRPH GCTL.

Concentrations of 1-methylnaphthalene and 2-methylnaphthalene were detected in one soil sample, PEN-Site14-SS-DPT002-22, in excess of FDEP SCTLs for leachability. Groundwater samples collected from the corresponding monitoring well (MW-07S) indicated concentrations of 1-methylnaphthalene and 2-methylnaphthalene were less than the respective FDEP GCTLs; therefore, SPLP analysis was not performed.

4.2 GROUNDWATER ANALYTICAL SUMMARY

Three groundwater samples collected from MW-06S, MW-07S, and TW-4 indicated concentrations of several regulated petroleum hydrocarbons were slightly greater than FDEP GCTLs. Groundwater samples collected from MW-06S indicated concentrations of benzo(b)fluoranthene at 0.059 µg/L, dibenzo(a,h)anthracene at 0.064 µg/L, and indeno(1,2,3-cd)pyrene at 0.053 µg/L, slightly greater than the respective FDEP GCTLs of 0.05 µg/L, 0.005 µg/L and 0.05 µg/L. Groundwater samples collected from MW-07S indicated concentrations of dibenzo(a,h)anthracene at 0.1 µg/L and indeno(1,2,3-cd)pyrene at 0.067 µg/L, slightly greater than the aforementioned GCTLs. Groundwater samples collected from TW-4 indicated a concentration of benzene at 1.1 µg/L, slightly exceeding the GCTL for benzene of 1.0 µg/L.

These wells in addition to several other monitoring wells (to be determined) are recommended to be included in the subsequent quarterly monitoring events currently in effect for the post injection monitoring program for UST Site 14.

Historical groundwater analytical results were also compared to current analytical results to identify increase or decreases in COC trends. Monitoring wells MW-02S and TW-4 exhibited concentrations of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene greater than GCTLs in the groundwater sampling event conducted in June 2004 (pre-injection event). Analytical results from the July 2005 sampling event indicated concentrations of these regulated hydrocarbons have decreased and are less than their respective GCTLs.

4.3 NATURAL ATTENUATION SUMMARY

Fourteen groundwater samples were analyzed for a suite of field and fixed-base laboratory natural attenuation parameters. Results of these natural attenuation parameters are provided on Table 3-6. The guidelines outlined in portions of the USEPA's Office of Solid Waste and Emergency Response (OSWER) document "Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water" (USEPA, 1998) and portions of the Department of Navy's (DON) "Technical Guidelines for Evaluating Monitored Natural Attenuation of Petroleum Hydrocarbons and Chlorinated Solvents in Ground Water at Naval and Marine Corps Facilities (DON, 1998) were consulted during the natural attenuation evaluation parameter evaluation for UST Site 14

Groundwater samples collected from monitoring wells MW-01S (downgradient well), MW-02S (downgradient well), MW-04S (upgradient well), and TW-4 (near source well) provided baseline concentrations of sulfate and total organic carbon from the June 2004 pre-injection groundwater sampling event. In addition, field measurements of carbon dioxide, dissolved oxygen, ferrous iron, and hydrogen sulfide were collected from the four aforementioned wells. A comparative summary of historical results and results obtained from the July 2005 sampling event from these four wells is provided in Table 4-1. Results from the July 2005 sampling event of these parameters are discussed in general terms below. A detailed discussion regarding the comparative analyses of the natural attenuation parameters listed in Section 2.3.2 across the groundwater contaminant plume will be provided in the Annual Post-Injection Groundwater Monitoring Report.

4.3.1 Sulfate

Sulfate concentrations increased in monitoring wells MW-01S, MW-04S, and TW-4S, and decreased in monitoring well MW-02S. This trend may suggest sulfide or elemental sulfur was oxidized in portions of

TABLE 4-1

COMPARATIVE ANALYSES OF MONITORED NATURAL ATTENUATION PARAMETERS IN GROUNDWATER
UST SITE 14 / TANKS 681/682
PERIMETER AND CONTAMINATED WELLS
NAS PENSACOLA, PENSACOLA, FLORIDA

Sample Location			PEN-14-MW01S						PEN-14-MW02S					
Sampling Event			Baseline	Y1Q1	Y1Q2	Y1Q3	YIQ4	Y2Q1	Baseline	Y1Q1	Y1Q2	Y1Q3	YIQ4	Y2Q1
Collect Date			6/23/2003	9/23/2003	12/9/2003	3/8/2004	6/8/2004	7/8/2005	6/23/2003	9/23/2003	12/9/2003	3/8/2004	6/8/2004	7/8/2005
	Preferred Range	Units												
Laboratory Parameters														
Sulfate	>20 mg/L	mg/L	12	14	16	14	11	28	7.2	1 U	9.5	26	14	4.2
Totoal Organic Carbon	>20 mg/L	mg/L	4.2	4.9	3	4	3.7	1.9	27	14	12	9.4	12	4.25
Field Parameters														
Dissolved Oxygen	> 5 mg/L	mg/L	0.2	3.0	2 0	0.9	1.0	5.0	0.2	1.0	1.0	0.9	1.0	0.1
Carbon Dioxide	> 2X	mg/L	30	50	12.5	14	22	25	85	40	16	14	25	40
Alkalinity	> 2X	mg/L	55	100	40	35	60	40	60	100	37.5	50	45	110
Ferrous iron	< 1 mg/L	mg/L	2.6	3.0	1.8	2.33	1.14	0.00	3.4	2.6	1.6	1.63	1.46	0.50
Hydrogen Sulfide	NA	mg/L	ND	ND	ND	ND	ND	0	>5.0	0.85	6.0	> 5.0	0.5	5
Temperature	> 20° C	°C	23.41	23.76	23.58	22.25	22.87	22.72	23.44	24.76	23.83	22.55	22.49	22.62
pH	5 < pH < 9	SU	6.10	5.87	6.26	6.57	6.34	6.11	6.05	6.30	6.68	6.32	6.38	6.12
Oxidation-Reduction Potential	< 50 mV or < -100 mV	mV	180	27	3	18.1	9.6	98.3	-107.4	-168	-154	-162.5	-63.9	-74.3

Notes

Y1 = Year One; Y2 = Year Two

Q1 = First Quarter; Q2 = Second Quarter, Q3 = Third Quarter, Q4 = Fourth Quarter

µg/L = micrograms per liter

mg/L = milligrams per liter

NA = not analyzed

ND = not detected

> 5.0 = indicates result was above upper limit of field test kit.

°C = Degrees Celsius

SU = Standard pH Units

mV = Millivolts

TABLE 4-1

COMPARATIVE ANALYSES OF MONITORED NATURAL ATTENUATION PARAMETERS IN GROUNDWATER
UST SITE 14 / TANKS 681/682
PERIMETER AND CONTAMINATED WELLS
NAS PENSACOLA, PENSACOLA, FLORIDA

Sample Location			PEN-14-TW4						PEN-14-MW4S					
Sampling Event			Baseline	Y1Q1	Y1Q2	Y1Q3	YIQ4	Y2Q1	Baseline	Y1Q1	Y1Q2	Y1Q3	YIQ4	Y2Q1
Collect Date			6/23/2003	9/23/2003	12/9/2003	3/8/2004	6/8/2004	7/8/2005	6/23/2003	9/23/2003	12/9/2003	3/8/2004	6/8/2004	7/8/2005
	Preferred Range	Units												
Laboratory Parameters														
Sulfate	>20 mg/L	mg/L	3.2	1 U	1 U	6.1	7.0	2.5	NS	NS	NS	NS	1.1	29
Totoal Organic Carbon	>20 mg/L	mg/L	2 U	15	16	14	20	3.2	NS	NS	NS	NS	3.8	1.1
Field Parameters														
Dissolved Oxygen	> 5 mg/L	mg/L	3.0	2.0	0.8	3.0	1.0	1.5	NS	NS	NS	NS	2.0	3.0
Carbon Dioxide	> 2X	mg/L	30	50	22.5	15	75	19	NS	NS	NS	NS	27	27
Alkalinity	> 2X	mg/L	90	110	120	35	150	115	NS	NS	NS	NS	50	55
Ferrous iron	< 1 mg/L	mg/L	ND	2.0	1.8	1.19	1.24	0.25	NS	NS	NS	NS	1.71	0.0
Hydrogen Sulfide	NA	mg/L	ND	0.23	0.38	0.15	2.0	0.1	NS	NS	NS	NS	ND	0.0
Temperature	> 20° C	°C	22.10	23.58	24.03	22.31	22.18	22.22	NS	NS	NS	NS	22.74	24.03
pH	5 < pH < 9	SU	6.61	6.01	7.29	6.48	6.45	7.45	NS	NS	NS	NS	6.44	6.21
Oxidation-Reduction Potential	< 50 mV or < -100 mV	mV	10	-97	-274	-143.1	-99.3	NA	NS	NS	NS	NS	8.9	87.8

Notes:

Y1 = Year One; Y2 = Year Two

Q1 = First Quarter; Q2 = Second Quarter, Q3 = Third Quarter, Q4 = Fourth Quarter

µg/L = micrograms per liter

mg/L = milligrams per liter

NA = not analyzed

ND = not detected

> 5.0 = indicates result was above upper limit of field test kit.

°C = Degrees Celsius

SU = Standard pH Units

mV = Millivolts

the groundwater contaminant plume. Oxidative conditions may be present as a result of oxygen released from the injected ORC® compound.

4.3.2 Total Organic Carbon

Total organic carbon concentrations decreased in the four wells evaluated. Decreased concentrations of organic carbon at this site are typically indicative of stimulation in microbial growth.

4.3.3 Dissolved Oxygen

Dissolved oxygen concentrations increased in monitoring wells MW-01S, MW-04S, and TW-4S, and decreased in monitoring well MW-02S. This parallels the trend observed for sulfate and further supports oxidation processes are occurring in portions of the groundwater contaminant plume.

4.3.4 Ferrous Iron

Ferrous iron concentrations decreased in the four monitoring wells Ferrous iron would decrease under oxidative conditions. This trend also suggests oxidative conditions exist in portions of the groundwater contaminant plume.

4.3.5 Hydrogen Sulfide

Sulfide concentrations would decrease under oxidative conditions. Sulfide concentrations varied in the four monitoring wells; thus, sulfate trend suggestions are inconclusive at this time.

4.3.6 Carbon Dioxide

Carbon dioxide concentrations varied in the four monitoring wells; thus, carbon dioxide trend suggestions are inconclusive at this time.

5.0 CONCLUSIONS AND RECOMMENDATION

The results of the site assessment performed by TtNUS at UST Site 14 are summarized as follows:

- The direction of groundwater flow is to the east-southeast and average calculated horizontal hydraulic gradient is 0.005 feet/foot at the site.

- Free product was not found at the site during the course of this assessment.

- Based on the findings of this investigation (e.g., no leachability SCTLs, no exceedances of regulated TRPH species), additional soil assessment is not warranted for this site.

- Analytical results indicate several regulated petroleum hydrocarbons exceed FDEP GCTLs in groundwater samples collected from monitoring wells MW-06S, MW-07S, and TW04. Although, these concentrations have decreased from historical concentrations of petroleum hydrocarbons, parameters continue to exceed GCTLs in the aforementioned wells As a result, quarterly groundwater monitoring is recommended for this site

REFERENCES

DON (Department of Navy), 1998. Technical Guidelines for Evaluating Monitored Natural Attenuation of Petroleum Hydrocarbons and Chlorinated Solvents in Ground Water at Naval and Marine Corps Facilities

TtNUS (Tetra Tech NUS, Inc.), 2003. Enhanced Natural Attenuation Study Work Plan for Underground Storage Tank Site 14 Naval Air Station Pensacola, Florida.

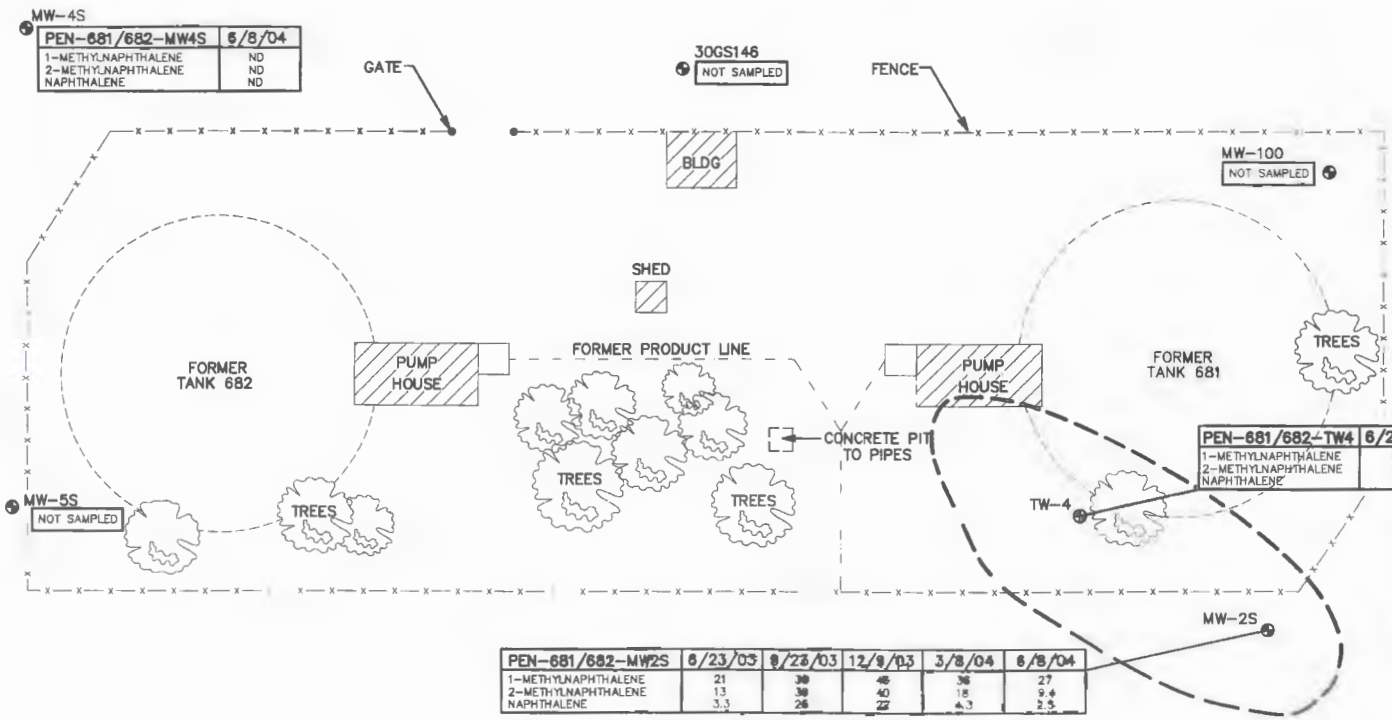
USEPA (United States Environmental Protection Agency), 1998. Office of Solid Waste and Emergency Response (OSWER). Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water.

USGS (United States Geological Survey), 1994. Fort Barrancas, Florida Quadrangle (7.5 Minute Series), Topographic Quadrangle Maps of Florida: scale 1:24,000.

APPENDIX A

HISTORICAL INFORMATION

ACAD:5967CTIO.dwg 09/01/04 MF PIT



PEN-681/682-MW4S	6/8/04
1-METHYLNAPHTHALENE	ND
2-METHYLNAPHTHALENE	ND
NAPHTHALENE	ND

PEN-681/682-TW4	6/23/03	9/23/03	12/9/03	3/8/04	6/8/04
1-METHYLNAPHTHALENE	ND	42	89	42	64
2-METHYLNAPHTHALENE	ND	47	79	45	69
NAPHTHALENE	ND	29	58	19	41

PEN-681/682-MW2S	6/23/03	9/23/03	12/9/03	3/8/04	6/8/04
1-METHYLNAPHTHALENE	21	**30**	46	36	27
2-METHYLNAPHTHALENE	13	**30**	40	18	9.4
NAPHTHALENE	3.3	**26**	**27**	4.3	2.5

PEN-681/682-MW1S	6/23/03	9/23/03	12/9/03	3/8/04	6/8/04
1-METHYLNAPHTHALENE	ND	ND	ND	ND	ND
2-METHYLNAPHTHALENE	ND	ND	ND	ND	ND
NAPHTHALENE	ND	ND	ND	ND	ND

LEGEND:

MW-2S — MONITORING WELL LOCATION AND DESIGNATION

ND — NOT DETECTED

—— CURRENT EXTENT OF GROUNDWATER EXCEEDANCES (DASHED WHERE INFERRED)

NOTE:

GCTL = GROUNDWATER CLEANUP TARGET LEVEL

	GCTL
1. 1-METHYLNAPHTHALENE	20
2-METHYLNAPHTHALENE	20
NAPHTHALENE	20

2. ANALYTE CONCENTRATIONS MEASURED IN MICROGRAMS/LITER (ug/L)
3. EXCEEDANCES ARE IN BOLD

0 40 80
SCALE IN FEET

DRAWN BY	DATE
DM	8/5/04
CHECKED BY	DATE
KWH	8/5/04
REVISED BY	DATE
SCALE	
AS NOTED	

NOVEC

GROUNDWATER EXCEEDANCES
UST SITE 14 JUNE 8, 2004
TREATABILITY STUDY EVALUATION REPORT
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 5967
OWNER NO. 0000
APPROVED BY DATE
DRAWING NO. FIGURE 3-3
REV. 0

FORM CADD NO SDIV-BH.DWG ~ REV 1 – 9/10/98

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	14GS01 014G000100-022494 02/24/94	14GS02 014G000200-022394 02/23/94	14S006 014W000601-121294 12/12/94	NASP-681/682-MW1S 681-82-1S-01 10/26/99	NASP-681/682-MW1S 681-82-1S-01RE 10/26/99	NASP-681/682-MW1S NASP-681-682-MW1S 08/25/01	NASP-681/682-MW1S NASP-681682-MW-1-20020312 03/12/02	NASP-681/682-MW1S NASP-681/682-MW1S 08/12/02	NASP-681/682-MW1S PEN-681/682-MW1S-02 11/19/02
Volatile Organics (ug/L)									
1,1,1-TRICHLOROETHANE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
1,1,2,2-TETRACHLOROETHANE	10 U	10 U	1 U	2 U	--	1 U	--	--	--
1,1,2-TRICHLOROETHANE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
1,1-DICHLOROETHANE	10 U	10 U	1 U	1 U	--	0.66 J	--	--	--
1,1-DICHLOROETHENE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
1,2,4-TRICHLOROBENZENE	13 U	13 U	5 U	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIBROMO-3-CHLOROPROPANE	--	--	1 U	--	--	--	--	--	--
1,2-DIBROMOETHANE	--	--	1 U	1	--	1 U	0.02 UJ	--	--
1,2-DICHLOROBENZENE	13 U	13 U	1 U	1 U	--	1 U	--	--	--
1,2-DICHLOROETHANE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
1,2-DICHLOROPROPANE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
1,3-DICHLOROBENZENE	13 U	13 U	1 U	--	--	1 U	--	--	--
1,4-DICHLOROBENZENE	13 U	13 U	1 U	1 U	--	1 U	--	--	--
2-BUTANONE	10 U	10 U	5 U	--	--	--	--	--	--
2-CHLOROETHYL VINYL ETHER	--	--	--	--	--	--	--	--	--
2-HEXANONE	10 U	10 U	5 U	--	--	--	--	--	--
4-METHYL-2-PENTANONE	10 U	10 U	5 U	--	--	--	--	--	--
ACETONE	10 U	58 U	5 U	--	--	--	--	--	--
ACROLEIN	--	--	--	--	--	--	--	--	--
ACRYLONITRILE	--	--	--	--	--	--	--	--	--
BENZENE	10 U	10 U	1 U	1 U		1 U	--	1 U	1 U
BROMOCHLOROMETHANE	--	--	1 U	--	--	--	--	--	--
BROMODICHLOROMETHANE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
BROMOFOR	10 U	10 U	1 U	1 U	--	1 U	--	--	--
BROMOMETHANE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
CARBON DISULFIDE	10 U	10 U	1 U	--	--	--	--	--	--
CARBON TETRACHLORIDE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
CHLOROBENZENE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
CHLORODIBROMOMETHANE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
CHLOROETHANE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
CHLOROFORM	10 U	10 U	1 U	1 U	--	1 U		--	--
CHLOROMETHANE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
CIS-1,2-DICHLOROETHENE	--	--	1 U	1 U	--	0.69 U	--	--	--
CIS-1,3-DICHLOROPROPENE	10 U	10 U	1 U	1 U		1 U	--	--	--
DIBROMOCHLOROPROPANE	--	--	--	0.02 U	--	--	--	--	--
DICHLORODIFLUOROMETHANE	--	--	--	1 U	--	1 U	--	--	--
ETHYLBENZENE	10 U	10 U	1 U	1 U	--	1 U	--	0.33 J	1 U
M+P-XYLENES	--	--	--	2 U	--	1 U	--	--	--
METHYL TERT-BUTYL ETHER	--	--	--	2 U	--	1 U	--	--	--
METHYLENE CHLORIDE	10 U	10 U	2 U	3 U	--	1 U	--	--	--
O-XYLENE	--	--	--	1 U	--	1 U	--	--	--
STYRENE	10 U	10 U	1 U	--	--	--	--	--	--
TETRACHLOROETHENE	10 U	10 U	1 U	1 U	--	0.65 J	--	--	--
TOLUENE	10 U	10 U	1 U	1 U	--	1 U	--	1 U	1 U
TOTAL 1,2-DICHLOROETHENE	10 U	10 U	--	--	--	--	--	--	--
TOTAL XYLENES	10 U	10 U	1 U	--	--	--	--	3 U	1 U
TRANS-1,2-DICHLOROETHENE	--	--	1 U	1 U	--	1 U	--	--	--
TRANS-1,3-DICHLOROPROPENE	10 U	10 U	1 U	1 U	--	1 U	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION	14GS01	14GS02	14S006	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S
SAMPLE ID	014G000100-022494	014G000200-022394	014W000601-121294	681-82-1S-01	681-82-1S-01RE	NASP-681-682-MW1S	NASP-681682-MW-1-20020312	NASP-681/682-MW1S	PEN-681/682-MW1S-02
SAMPLE DATE	02/24/94	02/23/94	12/12/94	10/26/99	10/26/99	08/25/01	03/12/02	08/12/02	11/19/02
TRICHLOROETHENE	10 U	10 U	1 U	1 U	--	0.74 J	--	--	--
TRICHLOROFLUOROMETHANE	--	--	--	1 U	--	1 U	--	--	--
VINYL CHLORIDE	10 U	10 U	1 U	1 U	--	1 U	--	--	--
Semivolatile Organics (ug/L)									
1,2,4-TRICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	--	--	--	--	--	--	--	--	--
1-METHYLNAPHTHALENE	--	--	--	1 U	--	0.111 U	--	1 U	2 U
2,2'-OXYBIS(1-CHLOROPROPANE)	13 U	13 U	5 U	--	--	--	--	--	--
2,4,5-TRICHLOROPHENOL	33 U	31 U	20 U	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	13 U	13 U	5 U	--	--	--	--	--	--
2,4-DICHLOROPHENOL	13 U	13 U	5 U	--	--	--	--	--	--
2,4-DIMETHYLPHENOL	13 U	13 U	5 U	--	--	--	--	--	--
2,4-DINITROPHENOL	33 U	31 U	20 U	--	--	--	--	--	--
2,4-DINITROTOLUENE	13 U	13 U	5 U	--	--	--	--	--	--
2,6-DINITROTOLUENE	13 U	13 U	5 U	--	--	--	--	--	--
2-CHLORONAPHTHALENE	13 U	13 U	5 U	--	--	--	--	--	--
2-CHLOROPHENOL	13 U	13 U	5 U	--	--	--	--	--	--
2-METHYLNAPHTHALENE	13 U	13 U	5 U	1 U	--	0.111 U	--	1 U	2 U
2-METHYLPHENOL	13 U	13 U	5 U	--	--	--	--	--	--
2-NITROANILINE	33 U	31 U	20 U	--	--	--	--	--	--
2-NITROPHENOL	13 U	13 U	5 U	--	--	--	--	--	--
3&4-METHYLPHENOL	--	--	--	--	--	--	--	--	--
3,3'-DICHLOROBENZIDINE	13 U	13 U	5 U	--	--	--	--	--	--
3-NITROANILINE	33 U	31 U	20 U	--	--	--	--	--	--
4,6-DINITRO-2-METHYLPHENOL	33 U	31 U	20 U	--	--	--	--	--	--
4-BROMOPHENYL PHENYL ETHER	13 U	13 U	5 U	--	--	--	--	--	--
4-CHLORO-3-METHYLPHENOL	13 U	13 U	5 U	--	--	--	--	--	--
4-CHLOROANILINE	13 U	13 U	5 U	--	--	--	--	--	--
4-CHLOROPHENYL PHENYL ETHER	13 U	13 U	5 U	--	--	--	--	--	--
4-METHYLPHENOL	13 U	13 U	5 U	--	--	--	--	--	--
4-NITROANILINE	33 U	31 U	20 U	--	--	--	--	--	--
4-NITROPHENOL	33 U	31 U	20 U	--	--	--	--	--	--
ACENAPHTHENE	13 U	13 U	5 U	0.50 U	--	0.111 U	--	0.21 J	0.28 J
ACENAPHTHYLENE	13 U	13 U	5 U	1 U	--	0.111 U	--	1 U	1.5
ANTHRACENE	13 U	13 U	5 U	0.11	--	0.111 U	--	0.20 U	0.03 J
BENZIDINE	--	--	--	--	--	--	--	--	--
BENZO(A)ANTHRACENE	13 U	13 U	5 U	0.05 U	--	0.111 U	--	0.20 U	0.10 U
BENZO(A)PYRENE	13 U	13 U	5 U	0.05 U	--	0.111 U	--	0.20 U	0.10 U
BENZO(B)FLUORANTHENE	13 U	13 U	5 U	0.10 U	--	0.111 U	--	0.20 U	0.10 U
BENZO(G,H,I)PERYLENE	13 U	13 U	5 U	0.10 U	--	0.111 U	--	0.20 U	0.10 U
BENZO(K)FLUORANTHENE	13 U	13 U	5 U	0.05 U	--	0.111 U	--	0.20 U	0.10 U
BENZYL ALCOHOL	--	--	--	--	--	--	--	--	--
BIS(2-CHLOROETHOXY)METHANE	13 U	13 U	5 U	--	--	--	--	--	--
BIS(2-CHLOROETHYL)ETHER	13 U	13 U	5 U	--	--	--	--	--	--
BIS(2-ETHYLHEXYL)PHTHALATE	13 U	13 U	5 U	--	--	--	--	--	--
BUTYL BENZYL PHTHALATE	13 U	13 U	5 U	--	--	--	--	--	--
CARBAZOLE	13 U	13 U	--	--	--	--	--	--	--
CHRYSENE	13 U	13 U	5 U	0.05 U	--	0.111 U	--	0.20 U	0.10 U
DI-N-BUTYL PHTHALATE	13 U	13 U	5 U	--	--	--	--	--	--
DI-N-OCTYL PHTHALATE	13 U	13 U	5 U	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION	14GS01	14GS02	14S006	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S
SAMPLE ID	014G000100-022494	014G000200-022394	014W000601-121294	681-82-1S-01	681-82-1S-01RE	NASP-681-682-MW1S	NASP-681682-MW-1-20020312	NASP-681/682-MW1S	PEN-681/682-MW1S-02
SAMPLE DATE	02/24/94	02/23/94	12/12/94	10/26/99	10/26/99	08/25/01	03/12/02	08/12/02	11/19/02
DIBENZO(A,H)ANTHRACENE	13 U	13 U	5 U	0.10 U	--	0.111 U	--	0.20 U	0.10 U
DIBENZOFURAN	13 U	13 U	5 U	--	--	--	--	--	--
DIETHYL PHTHALATE	13 U	13 U	5 U	--	--	--	--	--	--
DIMETHYL PHTHALATE	13 U	13 U	5 U	--	--	--	--	--	--
FLUORANTHENE	13 U	13 U	5 U	0.10 U	--	0.111 U	--	0.20 U	0.10 U
FLUORENE	13 U	13 U	5 U	0.10 U	--	0.111 U	--	0.29 J	0.095 J
HEXACHLOROBENZENE	13 U	13 U	5 U	--	--	--	--	--	--
HEXACHLOROBUTADIENE	13 U	13 U	5 U	--	--	--	--	--	--
HEXACHLOROCYCLOPENTADIENE	13 U	13 U	5 U	--	--	--	--	--	--
HEXACHLOROETHANE	13 U	13 U	5 U	--	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	13 U	13 U	5 U	0.05 U	--	0.111 U	--	0.20 U	0.10 U
ISOPHORONE	13 U	13 U	5 U	--	--	--	--	--	--
N-NITROSO-DI-N-PROPYLAMINE	13 U	13 U	5 U	--	--	--	--	--	--
N-NITROSODIMETHYLAMINE	--	--	--	--	--	--	--	--	--
N-NITROSODIPHENYLAMINE	13 U	13 U	5 U	--	--	--	--	--	--
NAPHTHALENE	13 U	13 U	5 U	5.6	--	0.111 U	--	1 U	1.2 J
NITROBENZENE	13 U	13 U	5 U	--	--	--	--	--	--
PENTACHLOROPHENOL	33 U	31 U	20 U	--	--	--	--	--	--
PHENANTHRENE	13 U	13 U	5 U	1 U	--	0.111 U	--	0.20 U	1 U
PHENOL	13 U	13 U	5 U	--	--	--	--	--	--
PYRENE	13 U	13 U	5 U	0.05 U	--	0.111 U	--	0.20 U	0.10 U
Pesticides/PCBs (ug/L)									
4,4'-DDD	0.12 UJ	0.12 UJ	0.02 U	--	--	--	--	--	--
4,4'-DDE	0.12 UJ	0.12 UJ	0.02 U	--	--	--	--	--	--
4,4'-DDT	0.12 UJ	0.12 UJ	0.02 U	--	--	--	--	--	--
ALDRIN	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
ALPHA-BHC	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
ALPHA-CHLORDANE	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
AROCLOR-1016	1.2 UJ	1.2 UJ	0.20 U	--	--	--	--	--	--
AROCLOR-1221	2.4 UJ	2.5 UJ	0.40 U	--	--	--	--	--	--
AROCLOR-1232	1.2 UJ	1.2 UJ	0.20 U	--	--	--	--	--	--
AROCLOR-1242	1.2 UJ	1.2 UJ	0.20 U	--	--	--	--	--	--
AROCLOR-1248	1.2 UJ	1.2 UJ	0.20 U	--	--	--	--	--	--
AROCLOR-1254	1.2 UJ	1.2 UJ	0.20 U	--	--	--	--	--	--
AROCLOR-1260	1.2 UJ	1.2 UJ	0.20 U	--	--	--	--	--	--
BETA-BHC	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
DELTA-BHC	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
DIELDRIN	0.12 UJ	0.12 UJ	0.01 U	--	--	--	--	--	--
ENDOSULFAN I	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
ENDOSULFAN II	0.12 UJ	0.12 UJ	0.02 U	--	--	--	--	--	--
ENDOSULFAN SULFATE	0.12 UJ	0.12 UJ	0.02 U	--	--	--	--	--	--
ENDRIN	0.12 UJ	0.12 UJ	0.02 U	--	--	--	--	--	--
ENDRIN ALDEHYDE	0.12 UJ	0.12 UJ	0.02 U	--	--	--	--	--	--
ENDRIN KETONE	0.12 UJ	0.12 UJ	0.02 U	--	--	--	--	--	--
GAMMA-BHC (LINDANE)	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
GAMMA-CHLORDANE	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
HEPTACHLOR	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
HEPTACHLOR EPOXIDE	0.059 UJ	0.062 UJ	0.01 U	--	--	--	--	--	--
METHOXYCHLOR	0.59 UJ	0.62 UJ	0.10 U	--	--	--	--	--	--
TOXAPHENE	5.9 UJ	6.2 UJ	1 U	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION	14GS01	14GS02	14S006	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S	NASP-681/682-MW1S
SAMPLE ID	014G000100-022494	014G000200-022394	014W000601-121294	681-82-1S-01	681-82-1S-01RE	NASP-681-682-MW1S	NASP-681682-MW-1-20020312	NASP-681/682-MW1S	PEN-681/682-MW1S-02
SAMPLE DATE	02/24/94	02/23/94	12/12/94	10/26/99	10/26/99	08/25/01	03/12/02	08/12/02	11/19/02
Inorganics (ug/L)									
ALUMINUM	2330 J	202 J	77.9 U	--	--	--	--	--	--
ANTIMONY	15.6 U	15.6 U	1.9 U	--	--	--	--	--	--
ARSENIC	18.8 J	6.7 J	10.5	--	--	--	--	--	--
BARIUM	8.6 U	16.2 U	19 J	--	--	--	--	--	--
BERYLLIUM	0.40 U	0.40 U	0.10 U	--	--	--	--	--	--
CADMIUM	2.1 U	2.1 U	0.50 U	--	--	--	--	--	--
CALCIUM	105000	176000	75900	--	--	--	--	--	--
CHROMIUM	10	2.3 U	2.4	--	--	--	--	--	--
COBALT	3.2 U	3.2 U	0.50 U	--	--	--	--	--	--
COPPER	2.6 U	2.6 U	3.6 U	--	--	5 U	--	--	--
CYANIDE	1 U	1 U	10 UJ	--	--	--	--	--	--
IRON	3990 J	1660 J	519	--	--	--	--	--	--
LEAD	3.4 U	0.70 U	1.6 U	5 U	--	2 U	--	--	--
MAGNESIUM	158000	283000	124000	--	--	--	--	--	--
MANGANESE	261 J	314 J	63.6	--	--	--	--	--	--
MERCURY	0.10 U	0.10 U	0.20 U	--	--	--	--	--	--
NICKEL	10.4 U	10.4 U	1.8	--	--	--	--	--	--
POTASSIUM	62100	105000	124000	--	--	--	--	--	--
SELENIUM	1.7 UJ	1.7 UJ	4.4 U	--	--	--	--	--	--
SILVER	3.6 UJ	3.6 UJ	0.60 U	--	--	--	--	--	--
SODIUM	1670000 J	2820000 J	1650000 J	--	--	--	--	--	--
THALLIUM	2.8 U	2.8 U	10.2	--	--	--	--	--	--
VANADIUM	13.6 U	10.2 U	5.6	--	--	--	--	--	--
ZINC	6.7 UJ	1.7 UJ	15.5 U	--	--	--	--	--	--
Petroleum Hydrocarbons (mg/L)									
TOTAL PETROLEUM HYDROCARBONS	--	--	--	0.20 U	--	0.889	--	0.30 U	0.30 U
Miscellaneous Parameters (mg/L)									
ETHANE	--	--	--	0.001 U	--	--	--	--	--
ETHENE	--	--	--	0.001 U	--	--	--	--	--
METHANE	--	--	--	1.4	13000	--	--	--	--
NITRATE	--	--	--	0.02 U	--	--	--	--	--
NITRITE	--	--	--	0.01 U	--	--	--	--	--
NITRITE/NITRATE	--	--	--	0.02 U	--	--	--	--	--
SULFATE	--	--	--	10	--	--	--	--	--
TOTAL ORGANIC CARBON	--	--	--	--	--	--	--	--	--

Notes
- = Not analyzed
J = Estimated concentration
U = non-detect value
µg/L = micrograms per liter
mg/L = milligrams per liter
NS = Not sampled

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW1S PEN-681/682-MW1S-02-D 11/19/02	NASP-681/682-MW1S PEN-681/682-MW1S-01 06/23/03	NASP-681/682-MW1S PEN-681/682-MW1S-02-092303 09/23/03	NASP-681/682-MW1S PEN-681/682-MW1S-03 12/09/03	NASP-681/682-MW1S PEN-681/682-MW-1S-03 03/08/04	NASP-681/682-MW1S PEN-14-MW1S-05 06/08/04	NASP-681/682-MW2S 681-82-2S-01 10/26/99	NASP-681/682-MW2S NASP-681-682-MW2 08/25/01	NASP-681/682-MW2S NASP-681/682-MW2S 08/12/02
Volatile Organics (ug/L)									
1,1,1-TRICHLOROETHANE	--	--	--	--	--	--	1 U	1 U	--
1,1,2,2-TETRACHLOROETHANE	--	--	--	--	--	--	2 U	1 U	--
1,1,2-TRICHLOROETHANE	--	--	--	--	--	--	1 U	1 U	--
1,1-DICHLOROETHANE	--	--	--	--	--	--	1 U	1 U	--
1,1-DICHLOROETHENE	--	--	--	--	--	--	1 U	1 U	--
1,2,4-TRICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIBROMO-3-CHLOROPROPANE	--	--	--	--	--	--	--	--	--
1,2-DIBROMOETHANE	--	--	--	--	--	--	0.02 U	1 U	--
1,2-DICHLOROBENZENE	--	--	--	--	--	--	1 U	1 U	--
1,2-DICHLOROETHANE	--	--	--	--	--	--	1 U	1 U	--
1,2-DICHLOROPROPANE	--	--	--	--	--	--	1 U	1 U	--
1,3-DICHLOROBENZENE	--	--	--	--	--	--	1 U	1 U	--
1,4-DICHLOROBENZENE	--	--	--	--	--	--	1 U	1 U	--
2-BUTANONE	--	--	--	--	--	--	--	--	--
2-CHLOROETHYL VINYL ETHER	--	--	--	--	--	--	--	--	--
2-HEXANONE	--	--	--	--	--	--	--	--	--
4-METHYL-2-PENTANONE	--	--	--	--	--	--	--	--	--
ACETONE	--	--	--	--	--	--	--	--	--
ACROLEIN	--	--	--	--	--	--	--	--	--
ACRYLONITRILE	--	--	--	--	--	--	--	--	--
BENZENE	1 U	--	--	--	--	--	1 U	1 U	1 U
BROMOCHLOROMETHANE	--	--	--	--	--	--	--	--	--
BROMODICHLOROMETHANE	--	--	--	--	--	--	1 U	1 U	--
BROMOFOR	--	--	--	--	--	--	1 U	1 U	--
BROMOMETHANE	--	--	--	--	--	--	1 U	1 U	--
CARBON DISULFIDE	--	--	--	--	--	--	--	--	--
CARBON TETRACHLORIDE	--	--	--	--	--	--	1 U	1 U	--
CHLOROBENZENE	--	--	--	--	--	--	1 U	1 U	--
CHLORODIBROMOMETHANE	--	--	--	--	--	--	1 U	1 U	--
CHLOROETHANE	--	--	--	--	--	--	1 U	1 U	--
CHLOROFORM	--	--	--	--	--	--	1 U	1 U	--
CHLOROMETHANE	--	--	--	--	--	--	1 U	1 U	--
CIS-1,2-DICHLOROETHENE	--	--	--	--	--	--	1 U	1 U	--
CIS-1,3-DICHLOROPROPENE	--	--	--	--	--	--	1 U	1 U	--
DIBROMOCHLOROPROPANE	--	--	--	--	--	--	0.02 U	--	--
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	1 U	1 U	--
ETHYLBENZENE	1 U	--	--	--	--	--	1 U	1 U	1 U
M+P-XYLENES	--	--	--	--	--	--	2 U	1 U	--
METHYL TERT-BUTYL ETHER	--	--	--	--	--	--	2 U	1 U	--
METHYLENE CHLORIDE	--	--	--	--	--	--	3 U	1 U	--
O-XYLENE	--	--	--	--	--	--	1 U	1 U	--
STYRENE	--	--	--	--	--	--	--	--	--
TETRACHLOROETHENE	--	--	--	--	--	--	1 U	0.68 J	--
TOLUENE	1 U	--	--	--	--	--	1 U	1 U	1 U
TOTAL 1,2-DICHLOROETHENE	--	--	--	--	--	--	--	--	--
TOTAL XYLENES	1 U	--	--	--	--	--	--	--	3 U
TRANS-1,2-DICHLOROETHENE	--	--	--	--	--	--	1 U	1 U	--
TRANS-1,3-DICHLOROPROPENE	--	--	--	--	--	--	1 U	1 U	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW1S PEN-681/682-MW1S-02-D 11/19/02	NASP-681/682-MW1S PEN-681/682-MW1S-01 06/23/03	NASP-681/682-MW1S PEN-681/682-MW1S-02-092303 09/23/03	NASP-681/682-MW1S PEN-681/682-MW1S-03 12/09/03	NASP-681/682-MW1S PEN-681/682-MW-1S-03 03/08/04	NASP-681/682-MW1S PEN-14-MW1S-05 06/08/04	NASP-681/682-MW2S 681-82-2S-01 10/26/99	NASP-681/682-MW2S NASP-681-682-MW2 08/25/01	NASP-681/682-MW2S NASP-681/682-MW2S 08/12/02
TRICHLOROETHENE	--	--	--	--	--	--	1 U	1 U	--
TRICHLOROFLUOROMETHANE	--	--	--	--	--	--	1 U	1 U	--
VINYL CHLORIDE	--	--	--	--	--	--	1 U	1 U	--
Semivolatile Organics (ug/L)									
1,2,4-TRICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	--	--	--	--	--	--	--	--	--
1-METHYLNAPHTHALENE	6.8 J	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	1 U	0.589	1 U
2,2'-OXYBIS(1-CHLOROPROPANE)	--	--	--	--	--	--	--	--	--
2,4,5-TRICHLOROPHENOL	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	--	--	--	--	--	--	--	--	--
2,4-DICHLOROPHENOL	--	--	--	--	--	--	--	--	--
2,4-DIMETHYLPHENOL	--	--	--	--	--	--	--	--	--
2,4-DINITROPHENOL	--	--	--	--	--	--	--	--	--
2,4-DINITROTOLUENE	--	--	--	--	--	--	--	--	--
2,6-DINITROTOLUENE	--	--	--	--	--	--	--	--	--
2-CHLORONAPHTHALENE	--	--	--	--	--	--	--	--	--
2-CHLOROPHENOL	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE	0.53 J	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	5.9	0.232	1 U
2-METHYLPHENOL	--	--	--	--	--	--	--	--	--
2-NITROANILINE	--	--	--	--	--	--	--	--	--
2-NITROPHENOL	--	--	--	--	--	--	--	--	--
3&4-METHYLPHENOL	--	--	--	--	--	--	--	--	--
3,3'-DICHLOROBENZIDINE	--	--	--	--	--	--	--	--	--
3-NITROANILINE	--	--	--	--	--	--	--	--	--
4,6-DINITRO-2-METHYLPHENOL	--	--	--	--	--	--	--	--	--
4-BROMOPHENYL PHENYL ETHER	--	--	--	--	--	--	--	--	--
4-CHLORO-3-METHYLPHENOL	--	--	--	--	--	--	--	--	--
4-CHLOROANILINE	--	--	--	--	--	--	--	--	--
4-CHLOROPHENYL PHENYL ETHER	--	--	--	--	--	--	--	--	--
4-METHYLPHENOL	--	--	--	--	--	--	--	--	--
4-NITROANILINE	--	--	--	--	--	--	--	--	--
4-NITROPHENOL	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	1 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	1.1	0.347	1 U
ACENAPHTHYLENE	2.4	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	1 U	0.105 U	1 U
ANTHRACENE	1 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.86	0.105 U	0.062 J
BENZIDINE	--	--	--	--	--	--	--	--	--
BENZO(A)ANTHRACENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.08	0.105 U	0.20 U
BENZO(A)PYRENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.05 U	0.105 U	0.20 U
BENZO(B)FLUORANTHENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.10 U	0.105 U	0.20 U
BENZO(G,H,I)PERYLENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.10 U	0.105 U	0.20 U
BENZO(K)FLUORANTHENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.05 U	0.105 U	0.20 U
BENZYL ALCOHOL	--	--	--	--	--	--	--	--	--
BIS(2-CHLOROETHOXY)METHANE	--	--	--	--	--	--	--	--	--
BIS(2-CHLOROETHYL)ETHER	--	--	--	--	--	--	--	--	--
BIS(2-ETHYLHEXYL)PHTHALATE	--	--	--	--	--	--	--	--	--
BUTYL BENZYL PHTHALATE	--	--	--	--	--	--	--	--	--
CARBAZOLE	--	--	--	--	--	--	--	--	--
CHRYSENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.05 U	0.105 U	0.20 U
DI-N-BUTYL PHTHALATE	--	--	--	--	--	--	--	--	--
DI-N-OCTYL PHTHALATE	--	--	--	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW1S PEN-681/682-MW1S-02-D 11/19/02	NASP-681/682-MW1S PEN-681/682-MW1S-01 06/23/03	NASP-681/682-MW1S PEN-681/682-MW1S-02-092303 09/23/03	NASP-681/682-MW1S PEN-681/682-MW1S-03 12/09/03	NASP-681/682-MW1S PEN-681/682-MW-1S-03 03/08/04	NASP-681/682-MW1S PEN-14-MW1S-05 06/08/04	NASP-681/682-MW2S 681-82-2S-01 10/26/99	NASP-681/682-MW2S NASP-681-682-MW2 08/25/01	NASP-681/682-MW2S NASP-681/682-MW2S 08/12/02
DIBENZO(A,H)ANTHRACENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.10 U	0.105 U	0.20 U
DIBENZOFURAN	--	--	--	--	--	--	--	--	--
DIETHYL PHTHALATE	--	--	--	--	--	--	--	--	--
DIMETHYL PHTHALATE	--	--	--	--	--	--	--	--	--
FLUORANTHENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.10 U	0.105 U	0.20 U
FLUORENE	1 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	7.6	0.579	0.47
HEXACHLOROBENZENE	--	--	--	--	--	--	--	--	--
HEXACHLOROBUTADIENE	--	--	--	--	--	--	--	--	--
HEXACHLOROCYCLOPENTADIENE	--	--	--	--	--	--	--	--	--
HEXACHLOROETHANE	--	--	--	--	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.05 U	0.105 U	0.20 U
ISOPHORONE	--	--	--	--	--	--	--	--	--
N-NITROSO-DI-N-PROPYLAMINE	--	--	--	--	--	--	--	--	--
N-NITROSODIMETHYLAMINE	--	--	--	--	--	--	--	--	--
N-NITROSODIPHENYLAMINE	--	--	--	--	--	--	--	--	--
NAPHTHALENE	1.3 J	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.50 U	0.158	0.60 J
NITROBENZENE	--	--	--	--	--	--	--	--	--
PENTACHLOROPHENOL	--	--	--	--	--	--	--	--	--
PHENANTHRENE	1 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	3.9	0.105 U	0.20 U
PHENOL	--	--	--	--	--	--	--	--	--
PYRENE	0.10 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.05 U	0.105 U	0.20 U
Pesticides/PCBs (ug/L)									
4,4'-DDD	--	--	--	--	--	--	--	--	--
4,4'-DDE	--	--	--	--	--	--	--	--	--
4,4'-DDT	--	--	--	--	--	--	--	--	--
ALDRIN	--	--	--		--	--	--	--	--
ALPHA-BHC	--	--	--	--	--	--	--	--	--
ALPHA-CHLORDANE	--	--	--	--	--	--	--	--	--
AROCLOR-1016	--	--	--	--	--	--	--	--	--
AROCLOR-1221	--	--	--	--	--	--	--	--	--
AROCLOR-1232	--	--	--	--	--	--	--	--	--
AROCLOR-1242	--	--	--	--	--	--	--	--	--
AROCLOR-1248	--	--	--	--	--	--	--	--	--
AROCLOR-1254	--	--	--	--	--	--	--	--	--
AROCLOR-1260	--	--	--	--	--	--	--	--	--
BETA-BHC	--	--	--	--	--	--	--	--	--
DELTA-BHC	--	--	--	--	--	--	--	--	--
DIELDRIN	--	--	--	--	--	--	--	--	--
ENDOSULFAN I	--	--	--	--	--	--	--	--	--
ENDOSULFAN II	--	--	--	--	--	--	--	--	--
ENDOSULFAN SULFATE	--	--	--	--	--	--	--	--	--
ENDRIN	--	--	--	--	--	--	--	--	--
ENDRIN ALDEHYDE	--	--	--	--	--	--	--	--	--
ENDRIN KETONE	--	--	--	--	--	--	--	--	--
GAMMA-BHC (LINDANE)	--	--	--	--	--	--	--	--	--
GAMMA-CHLORDANE	--	--	--	--	--	--	--	--	--
HEPTACHLOR	--	--	--	--	--	--	--	--	--
HEPTACHLOR EPOXIDE	--	--	--	--	--	--	--	--	--
METHOXYCHLOR	--	--	--	--	--	--	--	--	--
TOXAPHENE	--	--	--	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW1S PEN-681/682-MW1S-02-D 11/19/02	NASP-681/682-MW1S PEN-681/682-MW1S-01 06/23/03	NASP-681/682-MW1S PEN-681/682-MW1S-02-092303 09/23/03	NASP-681/682-MW1S PEN-681/682-MW1S-03 12/09/03	NASP-681/682-MW1S PEN-681/682-MW-1S-03 03/08/04	NASP-681/682-MW1S PEN-14-MW1S-05 06/08/04	NASP-681/682-MW2S 681-82-2S-01 10/26/99	NASP-681/682-MW2S NASP-681-682-MW2 08/25/01	NASP-681/682-MW2S NASP-681/682-MW2S 08/12/02
Inorganics (ug/L)									
ALUMINUM	--	--	--	--	--	--	--	--	--
ANTIMONY	--	--	--	--	--	--	--	--	--
ARSENIC	--	--	--	--	--	--	--	--	--
BARIUM	--	--	--	--	--	--	--	--	--
BERYLLIUM	--	--	--	--	--	--	--	--	--
CADMIUM	--	--	--	--	--	--	--	--	--
CALCIUM	--	--	--	--	--	--	--	--	--
CHROMIUM	--	--	--	--	--	--	--	--	--
COBALT	--	--	--	--	--	--	--	--	--
COPPER	--	--	--	--	--	--	--	5 U	--
CYANIDE	--	--	--	--	--	--	--	--	--
IRON	--	--	--	--	--	--	--	--	--
LEAD	--	--	--	--	--	--	5 U	2 U	--
MAGNESIUM	--	--	--	--	--	--	--	--	--
MANGANESE	--	--	--	--	--	--	--	--	--
MERCURY	--	--	--	--	--	--	--	--	--
NICKEL	--	--	--	--	--	--	--	--	--
POTASSIUM	--	--	--	--	--	--	--	--	--
SELENIUM	--	--	--	--	--	--	--	--	--
SILVER	--	--	--	--	--	--	--	--	--
SODIUM	--	--	--	--	--	--	--	--	--
THALLIUM	--	--	--	--	--	--	--	--	--
VANADIUM	--	--	--	--	--	--	--	--	--
ZINC	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (mg/L)									
TOTAL PETROLEUM HYDROCARBONS	0.30 U	--	--	--	--	--	0.20 U	2.83	1.1
Miscellaneous Parameters (mg/L)									
ETHANE	--	--	--	--	--	--	0.001 U	--	--
ETHENE	--	--	--	--	--	--	0.001 U	--	--
METHANE	--	--	--	--	--	--	0.061	--	--
NITRATE	--	--	--	--	--	--	0.74	--	--
NITRITE	--	--	--	--	--	--	0.01 U	--	--
NITRITE/NITRATE	--	--	--	--	--	--	0.74	--	--
SULFATE	--	12	14	16	14	11	37	--	--
TOTAL ORGANIC CARBON	--	4.2	4.9	3	4	3.7	--	--	--

Notes:
- = Not analyzed
J = Estimated concentration
U = non-detect value
µg/L = micrograms per liter
mg/L = milligrams per liter
NS = Not sampled

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW2S PEN-681/682-MW2S-02 11/19/02	NASP-681/682-MW2S PEN-681/682-MW2S-02R 01/08/03	NASP-681/682-MW2S PEN-681/682-MW2S-01 06/23/03	NASP-681/682-MW2S PEN-681/682-MW2S-02-092303 09/23/03	NASP-681/682-MW2S PEN-681/682-MW2S-03 12/09/03	NASP-681/682-MW2S PEN-681/682-MW-2S-03 03/08/04	NASP-681/682-MW2S PEN-14-MW2S-05 06/08/04	NASP-681/682-MW3S 681-82-3S-01 10/26/99	NASP-681/682-MW4S 681-82-4S-01 10/26/99
Volatile Organics (ug/L)									
1,1,1-TRICHLOROETHANE	--	--	--	--	--	--	--	1 U	1.3
1,1,2,2-TETRACHLOROETHANE	--	--	--	--	--	--	--	2 U	2 U
1,1,2-TRICHLOROETHANE	--	--	--	--	--	--	--	1 U	1 U
1,1-DICHLOROETHANE	--	--	--	--	--	--	--	1 U	3.8
1,1-DICHLOROETHENE	--	--	--	--	--	--	--	1 U	2
1,2,4-TRICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIBROMO-3-CHLOROPROPANE	--	--	--	--	--	--	--	--	--
1,2-DIBROMOETHANE	--	--	--	--	--	--	--	0.02 U	0.02 U
1,2-DICHLOROBENZENE	--	--	--	--	--	--	--	1 U	1 U
1,2-DICHLOROETHANE	--	--	--		--	--	--	1 U	1 U
1,2-DICHLOROPROPANE	--	--	--		--	--	--	1 U	1 U
1,3-DICHLOROBENZENE	--	--	--		--	--	--	--	1 U
1,4-DICHLOROBENZENE	--	--	--	--	--	--	--	1 U	1 U
2-BUTANONE	--	--	--	--	--	--	--	--	--
2-CHLOROETHYL VINYL ETHER	--	--	--	--	--	--	--	--	--
2-HEXANONE	--	--	--	--	--	--	--	--	--
4-METHYL-2-PENTANONE	--	--	--	--	--	--	--	--	--
ACETONE	--	--	--	--	--	--	--	--	--
ACROLEIN	--	--	--	--	--	--	--	--	--
ACRYLONITRILE	--	--	--	--	--	--	--	--	--
BENZENE	1 U	--	--	--	--	--	--	1 U	1 U
BROMOCHLOROMETHANE	--	--	--	--	--	--	--	--	--
BROMODICHLOROMETHANE	--	--	--	--	--	--	--	1 U	1 U
BROMOFOR	--	--		--	--	--	--	1 U	1 U
BROMOMETHANE	--	--	--	--	--	--	--	1 U	1 U
CARBON DISULFIDE	--	--	--	--	--	--	--	--	--
CARBON TETRACHLORIDE	--	--	--	--	--	--	--	1 U	1 U
CHLOROBENZENE	--	--	--	--	--	--	--	1 U	1 U
CHLORODIBROMOMETHANE	--	--	--		--	--	--	1 U	1 U
CHLOROETHANE	--	--	--		--	--	--	1 U	1 U
CHLOROFORM	--	--	--	--	--	--	--	1.7	5.6
CHLOROMETHANE	--	--	--	--	--	--	--	1 U	1 U
CIS-1,2-DICHLOROETHENE	--	--	--	--	--	--	--	1 U	6.6
CIS-1,3-DICHLOROPROPENE	--	--	--	--	--	--	--	1 U	1 U
DIBROMOCHLOROPROPANE	--	--	--	--	--	--	--	0.02 U	0.02 U
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--	1 U	1 U
ETHYLBENZENE	5.6	--	--	--	--	--	--	1 U	1 U
M+P-XYLENES	--	--	--	--	--	--	--	2 U	2 U
METHYL TERT-BUTYL ETHER	--	--	--	--	--	--	--	2 U	2 U
METHYLENE CHLORIDE	--	--	--	--	--	--	--	3 U	3 U
O-XYLENE	--	--	--	--	--	--	--	1 U	1 U
STYRENE	--	--	--	--	--	--	--	--	--
TETRACHLOROETHENE	--	--	--	--	--	--	--	1 U	14
TOLUENE	1 U	--	--	--	--	--	--	1 U	1 U
TOTAL 1,2-DICHLOROETHENE	--	--	--	--	--	--	--	--	--
TOTAL XYLENES	9.2	--	--	--	--	--	--	--	--
TRANS-1,2-DICHLOROETHENE	--	--	--	--	--	--	--	1 U	1 U
TRANS-1,3-DICHLOROPROPENE	--	--	--	--	--	--	--	1 U	1 U

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW2S PEN-681/682-MW2S-02 11/19/02	NASP-681/682-MW2S PEN-681/682-MW2S-02R 01/08/03	NASP-681/682-MW2S PEN-681/682-MW2S-01 06/23/03	NASP-681/682-MW2S PEN-681/682-MW2S-02-092303 09/23/03	NASP-681/682-MW2S PEN-681/682-MW2S-03 12/09/03	NASP-681/682-MW2S PEN-681/682-MW-2S-03 03/08/04	NASP-681/682-MW2S PEN-14-MW2S-05 06/08/04	NASP-681/682-MW3S 681-82-3S-01 10/26/99	NASP-681/682-MW4S 681-82-4S-01 10/26/99
TRICHLOROETHENE	--	--	--	--	--	--	--	1 U	2
TRICHLOROFLUOROMETHANE	--	--	--	--	--	--	--	1 U	1 U
VINYL CHLORIDE	--	--	--	--	--	--	--	1 U	1 U
Semivolatile Organics (ug/L)									
1,2,4-TRICHLOROBENZENE	--	--	--	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	--	--	--	--	--	--	--	--	--
1-METHYLNAPHTHALENE	220 J	42 J	21	38	46	36	27	1 U	1 U
2,2'-OXYBIS(1-CHLOROPROPANE)	--	--	--	--	--	--	--	--	--
2,4,5-TRICHLOROPHENOL	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	--	--	--	--	--	--	--	--	--
2,4-DICHLOROPHENOL	--	--	--	--	--	--	--	--	--
2,4-DIMETHYLPHENOL	--	--	--	--	--	--	--	--	--
2,4-DINITROPHENOL	--	--	--	--	--	--	--	--	--
2,4-DINITROTOLUENE	--	--	--	--	--	--	--	--	--
2,6-DINITROTOLUENE	--	--	--	--	--	--	--	--	--
2-CHLORONAPHTHALENE	--	--	--	--	--	--	--	--	--
2-CHLOROPHENOL	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE	64 J	69	13	39	40	18	9.4	1 U	1 U
2-METHYLPHENOL	--	--	--	--	--	--	--	--	--
2-NITROANILINE	--	--	--	--	--	--	--	--	--
2-NITROPHENOL	--	--	--	--	--	--	--	--	--
3&4-METHYLPHENOL	--	--	--	--	--	--	--	--	--
3,3'-DICHLOROBENZIDINE	--	--	--	--	--	--	--	--	--
3-NITROANILINE	--	--	--	--	--	--	--	--	--
4,6-DINITRO-2-METHYLPHENOL	--	--	--	--	--	--	--	--	--
4-BROMOPHENYL PHENYL ETHER	--	--	--	--	--	--	--	--	--
4-CHLORO-3-METHYLPHENOL	--	--	--	--	--	--	--	--	--
4-CHLOROANILINE	--	--	--	--	--	--	--	--	--
4-CHLOROPHENYL PHENYL ETHER	--	--	--	--	--	--	--	--	--
4-METHYLPHENOL	--	--	--	--	--	--	--	--	--
4-NITROANILINE	--	--	--	--	--	--	--	--	--
4-NITROPHENOL	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	100 U	2.4 J	2.3 J	7.8 U	3 J	2.9	2.8	0.50 U	0.50 U
ACENAPHTHYLENE	100 U	10 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	1 U	1 U
ANTHRACENE	100 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 J	0.05 U	0.05 U
BENZIDINE	--	--	--	--	--	--	--	--	--
BENZO(A)ANTHRACENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.05 U	0.05 U
BENZO(A)PYRENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.05 U	0.05 U
BENZO(B)FLUORANTHENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.10 U	0.10 U
BENZO(G,H,I)PERYLENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.10 U	0.10 U
BENZO(K)FLUORANTHENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.05 U	0.05 U
BENZYL ALCOHOL	--	--	--	--	--	--	--	--	--
BIS(2-CHLOROETHOXY)METHANE	--	--	--	--	--	--	--	--	--
BIS(2-CHLOROETHYL)ETHER	--	--	--	--	--	--	--	--	--
BIS(2-ETHYLHEXYL)PHTHALATE	--	--	--	--	--	--	--	--	--
BUTYL BENZYL PHTHALATE	--	--	--	--	--	--	--	--	--
CARBAZOLE	--	--	--	--	--	--	--	--	--
CHRYSENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.05 U	0.05 U
DI-N-BUTYL PHTHALATE	--	--	--	--	--	--	--	--	--
DI-N-OCTYL PHTHALATE	--	--	--	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW2S PEN-681/682-MW2S-02 11/19/02	NASP-681/682-MW2S PEN-681/682-MW2S-02R 01/08/03	NASP-681/682-MW2S PEN-681/682-MW2S-01 06/23/03	NASP-681/682-MW2S PEN-681/682-MW2S-02-092303 09/23/03	NASP-681/682-MW2S PEN-681/682-MW2S-03 12/09/03	NASP-681/682-MW2S PEN-681/682-MW-2S-03 03/08/04	NASP-681/682-MW2S PEN-14-MW2S-05 06/08/04	NASP-681/682-MW3S 681-82-3S-01 10/26/99	NASP-681/682-MW4S 681-82-4S-01 10/26/99
DIBENZO(A,H)ANTHRACENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.10 U	0.10 U
DIBENZOFURAN	--	--	--	--	--	--	--	--	--
DIETHYL PHTHALATE	--	--	--	--	--	--	--	--	--
DIMETHYL PHTHALATE	--	--	--	--	--	--	--	--	--
FLUORANTHENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.10 U	0.10 U
FLUORENE	5.2 J	4.3 J	4.7	6.4 J	7.3	5.4	4.9	0.10 U	0.10 U
HEXACHLOROBENZENE	--	--	--	--	--	--	--	--	--
HEXACHLOROBUTADIENE	--	--	--	--	--	--	--	--	--
HEXACHLOROCYCLOPENTADIENE	--	--	--	--	--	--	--	--	--
HEXACHLOROETHANE	--	--	--	--	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.05 U	0.05 U
ISOPHORONE	--	--	--	--	--	--	--	--	--
N-NITROSO-DI-N-PROPYLAMINE	--	--	--	--	--	--	--	--	--
N-NITROSODIMETHYLAMINE	--	--	--	--	--	--	--	--	--
N-NITROSODIPHENYLAMINE	--	--	--	--	--	--	--	--	--
NAPHTHALENE	67 J	29	3.3 J	25	22	4.3	2.5	0.50 U	0.50 U
NITROBENZENE	--	--	--	--	--	--	--	--	--
PENTACHLOROPHENOL	--	--	--	--	--	--	--	--	--
PHENANTHRENE	100 U	1.3 J	3.8 U	7.8 U	2.8 J	2	2.3	1 U	1 U
PHENOL	--	--	--	--	--	--	--	--	--
PYRENE	10 U	2 U	3.8 U	7.8 U	4.7 U	0.21 U	0.2 U	0.05 U	0.05 U
Pesticides/PCBs (ug/L)									
4,4'-DDD	--	--	--	--	--	--	--	--	--
4,4'-DDE	--	--	--	--	--	--	--	--	--
4,4'-DDT	--	--	--	--	--	--	--	--	--
ALDRIN	--	--	--	--	--	--	--	--	--
ALPHA-BHC	--	--	--	--	--	--	--	--	--
ALPHA-CHLORDANE	--	--	--	--	--	--	--	--	--
AROCLOR-1016	--	--	--	--	--	--	--	--	--
AROCLOR-1221	--	--	--	--	--	--	--	--	--
AROCLOR-1232	--	--	--	--	--	--	--	--	--
AROCLOR-1242	--	--	--	--	--	--	--	--	--
AROCLOR-1248	--	--	--	--	--	--	--	--	--
AROCLOR-1254	--	--	--	--	--	--	--	--	--
AROCLOR-1260	--	--	--	--	--	--	--	--	--
BETA-BHC	--	--	--	--	--	--	--	--	--
DELTA-BHC	--	--	--	--	--	--	--	--	--
DIELDRIN	--	--	--	--	--	--	--	--	--
ENDOSULFAN I	--	--	--	--	--	--	--	--	--
ENDOSULFAN II	--	--	--	--	--	--	--	--	--
ENDOSULFAN SULFATE	--	--	--	--	--	--	--	--	--
ENDRIN	--	--	--	--	--	--	--	--	--
ENDRIN ALDEHYDE	--	--	--	--	--	--	--	--	--
ENDRIN KETONE	--	--	--	--	--	--	--	--	--
GAMMA-BHC (LINDANE)	--	--	--	--	--	--	--	--	--
GAMMA-CHLORDANE	--	--	--	--	--	--	--	--	--
HEPTACHLOR	--	--	--	--	--	--	--	--	--
HEPTACHLOR EPOXIDE	--	--	--	--	--	--	--	--	--
METHOXYCHLOR	--	--	--	--	--	--	--	--	--
TOXAPHENE	--	--	--	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW2S PEN-681/682-MW2S-02 11/19/02	NASP-681/682-MW2S PEN-681/682-MW2S-02R 01/08/03	NASP-681/682-MW2S PEN-681/682-MW2S-01 06/23/03	NASP-681/682-MW2S PEN-681/682-MW2S-02-092303 09/23/03	NASP-681/682-MW2S PEN-681/682-MW2S-03 12/09/03	NASP-681/682-MW2S PEN-681/682-MW-2S-03 03/08/04	NASP-681/682-MW2S PEN-14-MW2S-05 06/08/04	NASP-681/682-MW3S 681-82-3S-01 10/26/99	NASP-681/682-MW4S 681-82-4S-01 10/26/99
Inorganics (ug/L)									
ALUMINUM	--	--	--	--	--	--	--	--	--
ANTIMONY	--	--	--	--	--	--	--	--	--
ARSENIC	--	--	--	--	--	--	--	--	--
BARIUM	--	--	--	--	--	--	--	--	--
BERYLLIUM	--	--	--	--	--	--	--	--	--
CADMIUM	--	--	--	--	--	--	--	--	--
CALCIUM	--	--	--	--	--	--	--	--	--
CHROMIUM	--	--	--	--	--	--	--	--	--
COBALT	--	--	--	--	--	--	--	--	--
COPPER	--	--	--	--	--	--	--	--	--
CYANIDE	--	--	--		--	--	--	--	--
IRON	--	--	--	--	--	--	--	--	--
LEAD	--	--	--	--	--	--	--	5 U	5 U
MAGNESIUM	--	--	--	--	--	--	--	--	--
MANGANESE	--	--	--	--	--	--	--	--	--
MERCURY	--	--	--	--	--	--	--	--	--
NICKEL	--	--	--	--	--	--	--	--	--
POTASSIUM	--	--	--	--	--	--	--	--	--
SELENIUM	--	--	--	--	--	--	--	--	--
SILVER	--	--	--	--	--	--	--	--	--
SODIUM	--	--	--	--	--	--	--	--	--
THALLIUM	--	--	--	--	--	--	--	--	--
VANADIUM	--	--	--	--	--	--	--	--	--
ZINC	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (mg/L)									
TOTAL PETROLEUM HYDROCARBONS	2.4	--	--	--	--	--	--	0.30 U	0.20 U
Miscellaneous Parameters (mg/L)									
ETHANE	--	--	--	--	--	--	--	--	0.001 U
ETHENE	--	--	--	--		--	--	--	0.001 U
METHANE	--	--	--	--	--	--	--	--	0.001 U
NITRATE	--	--	--	--	--	--	--	--	1.3
NITRITE	--	--	--	--	--	--	--	--	0.01 U
NITRITE/NITRATE	--	--	--	--	--	--	--	--	1.3
SULFATE	--	--	7.2	1 U	9.5	26	14	--	13
TOTAL ORGANIC CARBON	--	--	27	14	12	9.4	12	--	--

Notes
-- = Not analyzed
J = Estimated concentration
U = non-detect value
µg/L = micrograms per liter
mg/L = milligrams per liter
NS = Not sampled

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW4S NASP-681/682-MW4S 08/12/02	NASP-681/682-MW4S PEN-681/682-MW4S-02 11/19/02	NASP-681/682-MW4S PEN-14-MW4S-05 06/08/04	NASP-681/682-MW5S 681-82-5S-01 10/26/99	681-82-DD 681-82-DD-01 10/26/99	NASP-681/682-TW4 TW-4 11/06/00	NASP-681/682-TW4 NASP-681-682-TW4 08/25/01	NASP-681/682-TW4 NASP-681-682-TW4-D 08/25/01	NASP-681/682-TW4 NASP-681682-TW-4-20020312 03/12/02	NASP-681/682-TW4 NASP-681/682-TW4 08/12/02
Volatile Organics (ug/L)										
1,1,1-TRICHLOROETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
1,1,2,2-TETRACHLOROETHANE	--	--	--	2 U	2 U	--	1 U	1 U	--	--
1,1,2-TRICHLOROETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
1,1-DICHLOROETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
1,1-DICHLOROETHENE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
1,2,4-TRICHLOROBENZENE	--	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	--	--	--	--	--	--	--	--	--	--
1,2-DIBROMO-3-CHLOROPROPANE	--	--	--	--	--	--	--	--	--	--
1,2-DIBROMOETHANE	--	--	--	0.02 U	0.02 U	0.02 U	1 U	1 U	--	--
1,2-DICHLOROBENZENE	--	--	--	1 U	1 U	1 U	1 U	1 U	--	--
1,2-DICHLOROETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
1,2-DICHLOROPROPANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
1,3-DICHLOROBENZENE	--	--	--	--	1 U	1 U	1 U	1 U	--	--
1,4-DICHLOROBENZENE	--	--	--	1 U	1 U	1 U	1 U	1 U	--	--
2-BUTANONE	--	--	--	--	--	--	--	--	--	--
2-CHLOROETHYL VINYL ETHER	--	--	--	--	--	--	--	--	--	--
2-HEXANONE	--	--	--	--	--	--	--	--	--	--
4-METHYL-2-PENTANONE	--	--	--	--	--	--	--	--	--	--
ACETONE	--	--	--	--	--	--	--	--	--	--
ACROLEIN	--	--	--	--	--	--	--	--	--	--
ACRYLONITRILE	--	--	--	--	--	--	--	--	--	--
BENZENE	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--	1 U
BROMOCHLOROMETHANE	--	--	--	--	--	--	--	--	--	--
BROMODICHLOROMETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
BROMOFOR	--	--	--	1 U	1 U	--	1 U	1 U	--	--
BROMOMETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
CARBON DISULFIDE	--	--	--	--	--	--	--	--	--	--
CARBON TETRACHLORIDE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
CHLOROBENZENE	--	--	--	1 U	1 U	1 U	1 U	1 U	--	--
CHLORODIBROMOMETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
CHLOROETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
CHLOROFORM	--	--	--	1 U	2.5	--	1 U	1 U	--	--
CHLOROMETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
CIS-1,2-DICHLOROETHENE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
CIS-1,3-DICHLOROPROPENE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
DIBROMOCHLOROPROPANE	--	--	--	0.02 U	0.02 U	--	--	--	--	--
DICHLORODIFLUOROMETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
ETHYLBENZENE	1 U	1 U	--	1 U	1 U	5.2	5	5.1	--	0.26 J
M+P-XYLENES	--	--	--	2 U	2 U	4	4.9	5.1	--	--
METHYL TERT-BUTYL ETHER	--	--	--	2 U	2 U	2 U	1 U	1 U	--	--
METHYLENE CHLORIDE	--	--	--	3 U	3 U	--	1.2 U	1 U	--	--
O-XYLENE	--	--	--	1 U	1 U	2	1.5	1.7	--	--
STYRENE	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHENE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
TOLUENE	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--	1 U
TOTAL 1,2-DICHLOROETHENE	--	--	--	--	--	--	--	--	--	--
TOTAL XYLENES	3 U	1 U	--	--	--	--	--	--	--	3 U
TRANS-1,2-DICHLOROETHENE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
TRANS-1,3-DICHLOROPROPENE	--	--	--	1 U	1 U	--	1 U	1 U	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW4S NASP-681/682-MW4S 08/12/02	NASP-681/682-MW4S PEN-681/682-MW4S-02 11/19/02	NASP-681/682-MW4S PEN-14-MW4S-05 06/08/04	NASP-681/682-MW5S 681-82-5S-01 10/26/99	681-82-DD 681-82-DD-01 10/26/99	NASP-681/682-TW4 TW-4 11/06/00	NASP-681/682-TW4 NASP-681-682-TW4 08/25/01	NASP-681/682-TW4 NASP-681-682-TW4-D 08/25/01	NASP-681/682-TW4 NASP-681682-TW-4-20020312 03/12/02	NASP-681/682-TW4 NASP-681/682-TW4 08/12/02
TRICHLOROETHENE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
TRICHLOROFLUOROMETHANE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
VINYL CHLORIDE	--	--	--	1 U	1 U	--	1 U	1 U	--	--
Semivolatile Organics (ug/L)										
1,2,4-TRICHLOROBENZENE	--	--	--	--	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	--	--	--	--	--	--	--	--	--	--
1-METHYLNAPHTHALENE	1 U	2 U	0.21 U	1 U	1 U	49	47	49.7	--	1 U
2,2'-OXYBIS(1-CHLOROPROPANE)	--	--	--	--	--	--	--	--	--	--
2,4,5-TRICHLOROPHENOL	--	--	--	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	--	--	--	--	--	--	--	--	--	--
2,4-DICHLOROPHENOL	--	--	--	--	--	--	--	--	--	--
2,4-DIMETHYLPHENOL	--	--	--	--	--	--	--	--	--	--
2,4-DINITROPHENOL	--	--	--	--	--	--	--	--	--	--
2,4-DINITROTOLUENE	--	--	--	--	--	--	--	--	--	--
2,6-DINITROTOLUENE	--	--	--	--	--	--	--	--	--	--
2-CHLORONAPHTHALENE	--	--	--	--	--	--	--	--	--	--
2-CHLOROPHENOL	--	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE	1 U	2 U	0.21 U	1 U	1 U	21	56.6	59	--	1 U
2-METHYLPHENOL	--	--	--	--	--	--	--	--	--	--
2-NITROANILINE	--	--	--	--	--	--	--	--	--	--
2-NITROPHENOL	--	--	--	--	--	--	--	--	--	--
3&4-METHYLPHENOL	--	--	--	--	--	--	--	--	--	--
3,3'-DICHLOROBENZIDINE	--	--	--	--	--	--	--	--	--	--
3-NITROANILINE	--	--	--	--	--	--	--	--	--	--
4,6-DINITRO-2-METHYLPHENOL	--	--	--	--	--	--	--	--	--	--
4-BROMOPHENYL PHENYL ETHER	--	--	--	--	--	--	--	--	--	--
4-CHLORO-3-METHYLPHENOL	--	--	--	--	--	--	--	--	--	--
4-CHLOROANILINE	--	--	--	--	--	--	--	--	--	--
4-CHLOROPHENYL PHENYL ETHER	--	--	--	--	--	--	--	--	--	--
4-METHYLPHENOL	--	--	--	--	--	--	--	--	--	--
4-NITROANILINE	--	--	--	--	--	--	--	--	--	--
4-NITROPHENOL	--	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	1 U	1 U	0.21 U	0.50 U	0.50 U	1.1 U	2.69	2.9	--	1 U
ACENAPHTHYLENE	1 U	1 U	0.21 U	1 U	1 U	2 U	0.111 U	0.105 U	--	1 U
ANTHRACENE	0.20 U	1 U	0.21 U	0.05 U	0.05 U	0.10 U	0.111 U	0.105 U	--	0.20 U
BENZIDINE	--	--	--	--	--	--	--	--	--	--
BENZO(A)ANTHRACENE	0.20 U	0.10 U	0.21 U	0.05 U	0.05 U	0.10 U	0.111 U	0.105 U	--	0.20 U
BENZO(A)PYRENE	0.20 U	0.10 U	0.21 U	0.05 U	0.05 U	0.10 U	0.111 U	0.105 U	--	0.20 U
BENZO(B)FLUORANTHENE	0.20 U	0.10 U	0.21 U	0.10 U	0.10 U	0.20 U	0.111 U	0.105 U	--	0.20 U
BENZO(G,H,I)PERYLENE	0.20 U	0.10 U	0.21 U	0.10 U	0.10 U	0.20 U	0.111 U	0.105 U	--	0.20 U
BENZO(K)FLUORANTHENE	0.20 U	0.10 U	0.21 U	0.05 U	0.05 U	0.10 U	0.111 U	0.105 U	--	0.20 U
BENZYL ALCOHOL	--	--	--	--	--	--	--	--	--	--
BIS(2-CHLOROETHOXY)METHANE	--	--	--	--	--	--	--	--	--	--
BIS(2-CHLOROETHYL)ETHER	--	--	--	--	--	--	--	--	--	--
BIS(2-ETHYLHEXYL)PHTHALATE	--	--	--	--	--	--	--	--	--	--
BUTYL BENZYL PHTHALATE	--	--	--	--	--	--	--	--	--	--
CARBAZOLE	--	--	--	--	--	--	--	--	--	--
CHRYSENE	0.20 U	0.10 U	0.21 U	0.05 U	0.05 U	0.10	0.111 U	0.105 U	--	0.20 U
DI-N-BUTYL PHTHALATE	--	--	--	--	--	--	--	--	--	--
DI-N-OCTYL PHTHALATE	--	--	--	--	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW4S NASP-681/682-MW4S 08/12/02	NASP-681/682-MW4S PEN-681/682-MW4S-02 11/19/02	NASP-681/682-MW4S PEN-14-MW4S-05 06/08/04	NASP-681/682-MW5S 681-82-5S-01 10/26/99	681-82-DD 681-82-DD-01 10/26/99	NASP-681/682-TW4 TW-4 11/06/00	NASP-681/682-TW4 NASP-681-682-TW4 08/25/01	NASP-681/682-TW4 NASP-681-682-TW4-D 08/25/01	NASP-681/682-TW4 NASP-681682-TW-4-20020312 03/12/02	NASP-681/682-TW4 NASP-681/682-TW4 08/12/02
DIBENZO(A,H)ANTHRACENE	0.20 U	0.10 U	0.21 U	0.10 U	0.10 U	0.22 U	0.111 U	0.105 U	--	0.20 U
DIBENZOFURAN	--	--	--	--	--	--	--	--	--	--
DIETHYL PHTHALATE	--	--	--	--	--	--	--	--	--	--
DIMETHYL PHTHALATE	--	--	--	--	--	--	--	--	--	--
FLUORANTHENE	0.20 U	0.10 U	0.21 U	0.10 U	0.10 U	0.20 U	0.111 U	0.105 U	--	0.20 U
FLUORENE	0.20 U	1 U	0.21 U	0.13	0.10 U	8.5	4.32	4.67	--	0.20 U
HEXACHLOROBENZENE	--	--	--	--	--	--	--	--	--	--
HEXACHLOROBUTADIENE	--	--	--	--	--	--	--	--	--	--
HEXACHLOROCYCLOPENTADIENE	--	--	--	--	--	--	--	--	--	--
HEXACHLOROETHANE	--	--	--	--	--	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	0.20 U	0.10 U	0.21 U	0.05 U	0.05 U	0.10 U	0.111 U	0.105 U	--	0.20 U
ISOPHORONE	--	--	--	--	--	--	--	--	--	--
N-NITROSO-DI-N-PROPYLAMINE	--	--	--	--	--	--	--	--	--	--
N-NITROSODIMETHYLAMINE	--	--	--	--	--	--	--	--	--	--
N-NITROSODIPHENYLAMINE	--	--	--	--	--	--	--	--	--	--
NAPHTHALENE	1 U	2 U	0.21 U	0.50 U	0.50 U	24	18.2	18.2	--	1 U
NITROBENZENE	--	--	--	--	--	--	--	--	--	--
PENTACHLOROPHENOL	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	0.20 U	1 U	0.21 U	1 U	1 U	8.9	1.97	2.13	--	0.20 U
PHENOL	--	--	--	--	--	--	--	--	--	--
PYRENE	0.20 U	0.10 U	0.21 U	0.05 U	0.05 U	0.10 U	0.111 U	0.105 U	--	0.20 U
Pesticides/PCBs (ug/L)										
4,4'-DDD	--	--	--	--	--	--	--	--	--	--
4,4'-DDE	--	--	--	--	--	--	--	--	--	--
4,4'-DDT	--	--	--	--	--	--	--	--	--	--
ALDRIN	--	--	--	--	--	--	--	--	--	--
ALPHA-BHC	--	--	--	--	--	--	--	--	--	--
ALPHA-CHLORDANE	--	--	--	--	--	--	--	--	--	--
AROCLOR-1016	--	--	--	--	--	--	--	--	--	--
AROCLOR-1221	--	--	--	--	--	--	--	--	--	--
AROCLOR-1232	--	--	--	--	--	--	--	--	--	--
AROCLOR-1242	--	--	--	--	--	--	--	--	--	--
AROCLOR-1248	--	--	--	--	--	--	--	--	--	--
AROCLOR-1254	--	--	--	--	--	--	--	--	--	--
AROCLOR-1260	--	--	--	--	--	--	--	--	--	--
BETA-BHC	--	--	--	--	--	--	--	--	--	--
DELTA-BHC	--	--	--	--	--	--	--	--	--	--
DIELDRIN	--	--	--	--	--	--	--	--	--	--
ENDOSULFAN I	--	--	--	--	--	--	--	--	--	--
ENDOSULFAN II	--	--	--	--	--	--	--	--	--	--
ENDOSULFAN SULFATE	--	--	--	--	--	--	--	--	--	--
ENDRIN	--	--	--	--	--	--	--	--	--	--
ENDRIN ALDEHYDE	--	--	--	--	--	--	--	--	--	--
ENDRIN KETONE	--	--	--	--	--	--	--	--	--	--
GAMMA-BHC (LINDANE)	--	--	--	--	--	--	--	--	--	--
GAMMA-CHLORDANE	--	--	--	--	--	--	--	--	--	--
HEPTACHLOR	--	--	--	--	--	--	--	--	--	--
HEPTACHLOR EPOXIDE	--	--	--	--	--	--	--	--	--	--
METHOXYCHLOR	--	--	--	--	--	--	--	--	--	--
TOXAPHENE	--	--	--	--	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-MW4S NASP-681/682-MW4S 08/12/02	NASP-681/682-MW4S PEN-681/682-MW4S-02 11/19/02	NASP-681/682-MW4S PEN-14-MW4S-05 06/08/04	NASP-681/682-MW5S 681-82-5S-01 10/26/99	681-82-DD 681-82-DD-01 10/26/99	NASP-681/682-TW4 TW-4 11/06/00	NASP-681/682-TW4 NASP-681-682-TW4 08/25/01	NASP-681/682-TW4 NASP-681-682-TW4-D 08/25/01	NASP-681/682-TW4 NASP-681682-TW-4-20020312 03/12/02	NASP-681/682-TW4 NASP-681/682-TW4 08/12/02
Inorganics (ug/L)										
ALUMINUM	--	--	--	--	--	--	--	--	--	--
ANTIMONY	--	--	--	--	--	--	--	--	--	--
ARSENIC	--	--	--	--	--	--	--	--	--	--
BARIUM	--	--	--	--	--	--	--	--	--	--
BERYLLIUM	--	--	--	--	--	--	--	--	--	--
CADMIUM	--	--	--	--	--	--	--	--	--	--
CALCIUM	--	--	--	--	--	--	--	--	--	--
CHROMIUM	--	--	--	--	--	--	--	--	--	--
COBALT	--	--	--	--	--	--	--	--	--	--
COPPER	--	--	--	--	--	--	5 U	5 U	--	--
CYANIDE	--	--	--	--	--	--	--	--	--	--
IRON	--	--	--	--	--	--	--	--	--	--
LEAD	--	--	--	5 U	5 U	10 U	2.35 J	2 U	--	--
MAGNESIUM	--	--	--	--	--	--	--	--	--	--
MANGANESE	--	--	--	--	--	--	--	--	--	--
MERCURY	--	--	--	--	--	--	--	--	--	--
NICKEL	--	--	--	--	--	--	--	--	--	--
POTASSIUM	--	--	--	--	--	--	--	--	--	--
SELENIUM	--	--	--	--	--	--	--	--	--	--
SILVER	--	--	--	--	--	--	--	--	--	--
SODIUM	--	--	--	--	--	--	--	--	--	--
THALLIUM	--	--	--	--	--	--	--	--	--	--
VANADIUM	--	--	--	--	--	--	--	--	--	--
ZINC	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (mg/L)										
TOTAL PETROLEUM HYDROCARBONS	0.30 U	0.30 U	--	0.20 U	0.20 U	8.8 J	10.5	14.9	18	0.30 U
Miscellaneous Parameters (mg/L)										
ETHANE	--	--	--	--	--	--	--	--	--	--
ETHENE	--	--	--	--	--	--	--	--	--	--
METHANE	--	--	--	--	--	--	--	--	--	--
NITRATE	--	--	--	--	--	--	--	--	--	--
NITRITE	--	--	--	--	--	--	--	--	--	--
NITRITE/NITRATE	--	--	--	--	--	--	--	--	--	--
SULFATE	--	--	11	--	--	--	--	--	--	--
TOTAL ORGANIC CARBON	--	--	3.8	--	--	--	--	--	--	--

Notes:
- = Not analyzed
J = Estimated concentration
U = non-detect value
µg/L = micrograms per liter
mg/L = milligrams per liter
NS = Not sampled

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-TW4 NASP-681/682-TW4-D 08/12/02	NASP-681/682-TW4 PEN-681/682-TW4-02 11/19/02	NASP-681/682-TW4 PEN-681/682-TW4-01 06/23/03	NASP-681/682-TW4 PEN-681/682-TW04-02 09/23/03	NASP-681/682-TW4 PEN-681/682-TW4-03 12/09/03	NASP-681/682-TW4 PEN-681/682-TW4-04 03/08/04	NASP-681/682-TW4 PEN-14-TW4-05 06/08/04
Volatile Organics (ug/L)							
1,1,1-TRICHLOROETHANE	--	--	--	--	--	--	--
1,1,2,2-TETRACHLOROETHANE	--	--	--	--	--	--	--
1,1,2-TRICHLOROETHANE	--	--	--	--	--	--	--
1,1-DICHLOROETHANE	--	--	--	--	--	--	--
1,1-DICHLOROETHENE	--	--	--	--	--	--	--
1,2,4-TRICHLOROBENZENE	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	--	--	--	--	--	--	--
1,2-DIBROMO-3-CHLOROPROPANE	--	--	--	--	--	--	--
1,2-DIBROMOETHANE	--	--	--	--	--	--	--
1,2-DICHLOROBENZENE	--	--	--	--	--	--	--
1,2-DICHLOROETHANE	--	--	--	--	--	--	--
1,2-DICHLOROPROPANE	--	--	--	--	--	--	--
1,3-DICHLOROBENZENE	--	--	--	--	--	--	--
1,4-DICHLOROBENZENE	--	--	--	--	--	--	--
2-BUTANONE	--	--	--	--	--	--	--
2-CHLOROETHYL VINYL ETHER	--	--	--	--	--	--	--
2-HEXANONE	--	--	--	--	--	--	--
4-METHYL-2-PENTANONE	--	--	--	--	--	--	--
ACETONE	--	--			--	--	--
ACROLEIN	--	--		--	--	--	--
ACRYLONITRILE	--	--	--	--	--	--	--
BENZENE	1 U	0.87 J	--	--	--	--	--
BROMOCHLOROMETHANE	--	--	--	--	--	--	--
BROMODICHLOROMETHANE	--	--	--	--	--	--	--
BROMOFOR	--	--	--	--	--	--	--
BROMOMETHANE	--	--	--	--	--	--	--
CARBON DISULFIDE	--	--	--	--	--	--	--
CARBON TETRACHLORIDE	--	--	--	--	--	--	--
CHLOROBENZENE	--	--	--	--	--	--	--
CHLORODIBROMOMETHANE	--	--	--	--	--	--	--
CHLOROETHANE	--	--	--	--	--	--	--
CHLOROFORM	--	--	--	--	--	--	--
CHLOROMETHANE	--	--	--	--	--	--	--
CIS-1,2-DICHLOROETHENE	--	--	--	--	--	--	--
CIS-1,3-DICHLOROPROPENE	--	--	--	--	--	--	--
DIBROMOCHLOROPROPANE	--	--	--	--	--	--	--
DICHLORODIFLUOROMETHANE	--	--	--	--	--	--	--
ETHYLBENZENE	1 U	6.2	--	--	--	--	--
M+P-XYLENES	--	--	--	--	--	--	--
METHYL TERT-BUTYL ETHER	--	--	--	--	--	--	--
METHYLENE CHLORIDE	--	--	--	--	--	--	--
O-XYLENE	--	--	--	--	--	--	--
STYRENE	--	--	--	--	--	--	--
TETRACHLOROETHENE	--	--	--	--	--	--	--
TOLUENE	1 U	0.75 J	--	--	--	--	--
TOTAL 1,2-DICHLOROETHENE	--	--	--	--	--	--	--
TOTAL XYLENES	3 U	5.8	--	--	--	--	--
TRANS-1,2-DICHLOROETHENE	--	--	--	--	--	--	--
TRANS-1,3-DICHLOROPROPENE	--	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-TW4 NASP-681/682-TW4-D 08/12/02	NASP-681/682-TW4 PEN-681/682-TW4-02 11/19/02	NASP-681/682-TW4 PEN-681/682-TW4-01 06/23/03	NASP-681/682-TW4 PEN-681/682-TW04-02 09/23/03	NASP-681/682-TW4 PEN-681/682-TW4-03 12/09/03	NASP-681/682-TW4 PEN-681/682-TW4-04 03/08/04	NASP-681/682-TW4 PEN-14-TW4-05 06/08/04
TRICHLOROETHENE	--	--	--	--	--	--	--
TRICHLOROFLUOROMETHANE	--	--	--	--	--	--	--
VINYL CHLORIDE	--	--	--	--	--	--	--
Semivolatile Organics (ug/L)							
1,2,4-TRICHLOROBENZENE	--	--	--	--	--	--	--
1,2-DIPHENYLHYDRAZINE	--	--	--	--	--	--	--
1-METHYLNAPHTHALENE	1 U	36	0.2 U	42	89	42	64
2,2'-OXYBIS(1-CHLOROPROPANE)	--	--	--	--	--	--	--
2,4,5-TRICHLOROPHENOL	--	--	--	--	--	--	--
2,4,6-TRICHLOROPHENOL	--	--	--	--	--	--	--
2,4-DICHLOROPHENOL	--	--	--	--	--	--	--
2,4-DIMETHYLPHENOL	--	--	--	--	--	--	--
2,4-DINITROPHENOL	--	--	--	--	--	--	--
2,4-DINITROTOLUENE	--	--	--	--	--	--	--
2,6-DINITROTOLUENE	--	--	--	--	--	--	--
2-CHLORONAPHTHALENE	--	--	--	--	--	--	--
2-CHLOROPHENOL	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE	1 U	2 U	0.2 U	47	79	45	69
2-METHYLPHENOL	--	--	--	--	--	--	--
2-NITROANILINE	--	--	--	--	--	--	--
2-NITROPHENOL	--	--	--	--	--	--	--
3&4-METHYLPHENOL	--	--	--	--	--	--	--
3,3'-DICHLOROBENZIDINE	--	--	--	--	--	--	--
3-NITROANILINE	--	--	--	--	--	--	--
4,6-DINITRO-2-METHYLPHENOL	--	--	--	--	--	--	--
4-BROMOPHENYL PHENYL ETHER	--	--	--	--	--	--	--
4-CHLORO-3-METHYLPHENOL	--	--	--	--	--	--	--
4-CHLOROANILINE	--	--	--	--	--	--	--
4-CHLOROPHENYL PHENYL ETHER	--	--	--	--	--	--	--
4-METHYLPHENOL	--	--	--	--	--	--	--
4-NITROANILINE	--	--	--	--	--	--	--
4-NITROPHENOL	--	--	--	--	--	--	--
ACENAPHTHENE	1 U	1 U	0.2 U	7.5 U	5.6 J	1.4	7.8 U
ACENAPHTHYLENE	1 U	7.4	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
ANTHRACENE	0.20 U	1 U	0.2 U	7.5 U	7.5 U	0.2 U	0.27
BENZIDINE	--	--	--	--	--	--	--
BENZO(A)ANTHRACENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
BENZO(A)PYRENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
BENZO(B)FLUORANTHENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
BENZO(G,H,I)PERYLENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
BENZO(K)FLUORANTHENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
BENZYL ALCOHOL	--	--	--	--	--	--	--
BIS(2-CHLOROETHOXY)METHANE	--	--	--	--	--	--	--
BIS(2-CHLOROETHYL)ETHER	--	--	--	--	--	--	--
BIS(2-ETHYLHEXYL)PHTHALATE	--	--	--	--	--	--	--
BUTYL BENZYL PHTHALATE	--	--	--	--	--	--	--
CARBAZOLE	--	--	--	--	--	--	--
CHRYSENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
DI-N-BUTYL PHTHALATE	--	--	--	--	--	--	--
DI-N-OCTYL PHTHALATE	--	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-TW4 NASP-681/682-TW4-D 08/12/02	NASP-681/682-TW4 PEN-681/682-TW4-02 11/19/02	NASP-681/682-TW4 PEN-681/682-TW4-01 06/23/03	NASP-681/682-TW4 PEN-681/682-TW04-02 09/23/03	NASP-681/682-TW4 PEN-681/682-TW4-03 12/09/03	NASP-681/682-TW4 PEN-681/682-TW4-04 03/08/04	NASP-681/682-TW4 PEN-14-TW4-05 06/08/04
DIBENZO(A,H)ANTHRACENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
DIBENZOFURAN	--	--	--	--	--	--	--
DIETHYL PHTHALATE	--	--	--	--	--	--	--
DIMETHYL PHTHALATE	--	--	--	--	--	--	--
FLUORANTHENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
FLUORENE	0.20 U	0.17 J	0.2 U	7.5 U	8.1	2.2	6.6 J
HEXACHLOROBENZENE	--	--	--	--	--	--	--
HEXACHLOROBUTADIENE	--	--	--	--	--	--	--
HEXACHLOROCYCLOPENTADIENE	--	--	--	--	--	--	--
HEXACHLOROETHANE	--	--	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
ISOPHORONE	--	--	--	--	--	--	--
N-NITROSO-DI-N-PROPYLAMINE	--	--	--	--	--	--	--
N-NITROSODIMETHYLAMINE	--	--	--	--	--	--	--
N-NITROSODIPHENYLAMINE	--	--	--	--	--	--	--
NAPHTHALENE	1 U	2 U	0.2 U	29	58	19	41
NITROBENZENE	--	--	--	--	--	--	--
PENTACHLOROPHENOL	--	--	--	--	--	--	--
PHENANTHRENE	0.20 U	1 U	0.2 U	7.5 U	6.1 J	0.74	6.0 J
PHENOL	--	--	--	--	--	--	--
PYRENE	0.20 U	0.10 U	0.2 U	7.5 U	7.5 U	0.2 U	0.2 U
Pesticides/PCBs (ug/L)							
4,4'-DDD	--	--	--	--	--	--	--
4,4'-DDE	--	--	--	--	--	--	--
4,4'-DDT	--	--	--	--	--	--	--
ALDRIN	--	--	--	--	--	--	--
ALPHA-BHC	--	--	--	--	--	--	--
ALPHA-CHLORDANE	--	--	--	--	--	--	--
AROCLOR-1016	--	--	--	--	--	--	--
AROCLOR-1221	--	--	--	--	--	--	--
AROCLOR-1232	--	--	--	--	--	--	--
AROCLOR-1242	--	--	--	--	--	--	--
AROCLOR-1248	--	--	--	--	--	--	--
AROCLOR-1254	--	--	--	--	--	--	--
AROCLOR-1260	--	--	--	--	--	--	--
BETA-BHC	--	--	--	--	--	--	--
DELTA-BHC	--	--	--	--	--	--	--
DIELDRIN	--	--	--	--	--	--	--
ENDOSULFAN I	--	--	--	--	--	--	--
ENDOSULFAN II	--	--	--	--	--	--	--
ENDOSULFAN SULFATE	--	--	--	--	--	--	--
ENDRIN	--	--	--	--	--	--	--
ENDRIN ALDEHYDE	--	--	--	--	--	--	--
ENDRIN KETONE	--	--	--	--	--	--	--
GAMMA-BHC (LINDANE)	--	--	--	--	--	--	--
GAMMA-CHLORDANE	--	--	--	--	--	--	--
HEPTACHLOR	--	--	--	--	--	--	--
HEPTACHLOR EPOXIDE	--	--	--	--	--	--	--
METHOXYCHLOR	--	--	--	--	--	--	--
TOXAPHENE	--	--	--	--	--	--	--

APPENDIX B
SUMMARY OF LABORATORY ANALYTICAL RESULTS
UST SITE 14
NAS PENSACOLA
PENSACOLA FLORIDA

LOCATION SAMPLE ID SAMPLE DATE	NASP-681/682-TW4 NASP-681/682-TW4-D 08/12/02	NASP-681/682-TW4 PEN-681/682-TW4-02 11/19/02	NASP-681/682-TW4 PEN-681/682-TW4-01 06/23/03	NASP-681/682-TW4 PEN-681/682-TW04-02 09/23/03	NASP-681/682-TW4 PEN-681/682-TW4-03 12/09/03	NASP-681/682-TW4 PEN-681/682-TW4-04 03/08/04	NASP-681/682-TW4 PEN-14-TW4-05 06/08/04
Inorganics (ug/L)							
ALUMINUM	--	--	--	--	--	--	--
ANTIMONY	--	--	--	--	--	--	--
ARSENIC	--	--	--	--	--	--	--
BARIUM	--	--	--	--	--	--	--
BERYLLIUM	--	--		--	--	--	--
CADMIUM	--	--	--	--	--	--	--
CALCIUM	--	--	--	--	--	--	--
CHROMIUM	--	--	--	--	--	--	--
COBALT	--	--	--	--	--	--	--
COPPER	--	--	--	--	--	--	--
CYANIDE	--	--	--	--	--	--	--
IRON	--	--	--	--	--	--	--
LEAD	--	--		--	--	--	--
MAGNESIUM	--	--	--	--	--	--	--
MANGANESE	--	--	--	--	--	--	--
MERCURY	--	--	--	--	--	--	--
NICKEL	--	--	--	--	--	--	--
POTASSIUM	--	--	--	--	--	--	--
SELENIUM	--	--	--	--	--	--	--
SILVER	--	--	--	--	--	--	--
SODIUM	--	--	--	--	--	--	--
THALLIUM	--	--	--	--	--	--	--
VANADIUM	--	--	--	--	--	--	--
ZINC	--	--	--	--	--	--	--
Petroleum Hydrocarbons (mg/L)							
TOTAL PETROLEUM HYDROCARBONS	0.30 U	0.31	--	--	--	--	--
Miscellaneous Parameters (mg/L)							
ETHANE	--	--	--	--	--	--	--
ETHENE	--	--	--	--	--	--	--
METHANE	--	--	--	--	--	--	--
NITRATE	--	--	--	--	--	--	--
NITRITE	--	--	--	--	--	--	--
NITRITE/NITRATE	--	--	--	--	--	--	--
SULFATE	--	--	3.2	1 U	1 U	6.1	7.0
TOTAL ORGANIC CARBON	--	--	2 U	15	16	14	20

Notes
- = Not analyzed
J = Estimated concentration
U = non-detect value
µg/L = micrograms per liter
mg/L = milligrams per liter
NS = Not sampled

TABLE 3-3

SUMMARY OF MONITORED NATURAL ATTENUATION PARAMETERS IN GROUNDWATER
UST SITE 14 / TANKS 681/682
NAS PENSACOLA
PENSACOLA, FLORIDA
PAGE 1 OF 3

Sample Location			PEN-14-MW1S					PEN-14-MW2S				
Sampling Event			Baseline	1Q	2Q	3Q	4Q	Baseline	1Q	2Q	3Q	4Q
Collect Date			06/23/03	09/23/03	12/09/03	03/08/04	06/08/04	06/23/03	09/23/03	12/09/03	03/08/04	06/08/04
	Preferred Range	Units										
Field Parameters												
Dissolved Oxygen	> 0.5 mg/L	mg/L	0.2	3.0	2.0	0.9	1.0	0.2	1.0	1.0	0.9	1.0
Carbon Dioxide	> 2X Background	mg/L	30	50	12.5	14	22	85	40	16	14	25
Alkalinity	> 2X Background	mg/L	55	100	40	35	60	60	100	37.5	50	45
Ferrous iron	decreasing trend	mg/L	2.6	3.0	1.8	2.33	1.14	3.4	2.6	1.6	1.63	1.46
Hydrogen Sulfide	decreasing trend	mg/L	ND	ND	ND	ND	ND	>5.0	0.85	6.0	> 5.0	0.5
Temperature	> 20 °C	°C	23.41	23.76	23.58	22.25	22.87	23.44	24.76	23.83	22.55	22.49
pH	5 < pH < 9	SU	6.10	5.87	6.26	6.57	6.34	6.05	6.30	6.68	6.32	6.38
Oxidation-Reduction potential	increasing trend	mV	180	27	3	18.1	9.6	-107.4	-168	-154	-162.5	-63.9
Laboratory Parameters												
Sulfate		mg/L	12	14	16	14	11	7.2	1 U	9.5	26	14
Total Organic Carbon		mg/L	4.2	4.9	3	4	3.7	27	14	12	9.4	12

See notes at end of table

TABLE 3-3

SUMMARY OF MONITORED NATURAL ATTENUATION PARAMETERS IN GROUNDWATER
UST SITE 14 / TANKS 681/682
NAS PENSACOLA
PENSACOLA, FLORIDA
PAGE 2 OF 3

Sample Location			PEN-14-TW4					PEN-14-MW4S				
Sampling Event			Baseline	1Q	2Q	3Q	4Q	Baseline	1Q	2Q	3Q	4Q
Collect Date			06/23/03	09/23/03	12/09/03	03/08/04	06/08/04	06/23/03	09/23/03	12/09/03	03/08/04	06/08/04
	Preferred Range	Units										
Field Parameters												
Dissolved Oxygen	> 0.5 mg/L	mg/L	3.0	2.0	0.8	3.0	1.0	NS	NS	NS	NS	2.0
Carbon Dioxide	> 2X Background	mg/L	30	50	22.5	15	75	NS	NS	NS	NS	27
Alkalinity	> 2X Background	mg/L	90	110	120	35	150	NS	NS	NS	NS	50
Ferrous iron	decreasing trend	mg/L	ND	2.0	1.8	1.19	1.24	NS	NS	NS	NS	1.71
Hydrogen Sulfide	decreasing trend	mg/L	ND	0.23	0.38	0.15	2.0	NS	NS	NS	NS	ND
Temperature	> 20 °C	°C	22.10	23.58	24.03	22.31	22.18	NS	NS	NS	NS	22.74
pH	5 < pH < 9	SU	6.61	6.01	7.29	6.48	6.45	NS	NS	NS	NS	6.44
Oxidation-Reduction potential	increasing trend	mV	10	-97	-274	-143.1	-99.3	NS	NS	NS	NS	8.9
Laboratory Parameters												
Sulfate		mg/L	3.2	1 U	1 U	6.1	7.0	NS	NS	NS	NS	11
Total Organic Carbon		mg/L	2 U	15	16	14	20	NS	NS	NS	NS	3.8

See notes at end of table

TABLE 3-3

SUMMARY OF MONITORED NATURAL ATTENUATION PARAMETERS IN GROUNDWATER
UST SITE 14 / TANKS 681/682
NAS PENSACOLA
PENSACOLA, FLORIDA
PAGE 3 OF 3

Sample Location			PEN-14-30GS146				
Sampling Event			Baseline	1Q	2Q	3Q	4Q
Collect Date			06/23/03	09/23/03	12/09/03	03/08/04	06/08/04
	Preferred Range	Units					
Field Parameters							
Dissolved Oxygen	> 0.5 mg/L	mg/L	NS	NS	NS	NS	6.0
Carbon Dioxide	> 2X Background	mg/L	NS	NS	NS	NS	< 10
Alkalinity	> 2X Background	mg/L	NS	NS	NS	NS	17
Ferrous iron	decreasing trend	mg/L	NS	NS	NS	NS	0.08
Hydrogen Sulfide	decreasing trend	mg/L	NS	NS	NS	NS	ND
Temperature	> 20 °C	°C	NS	NS	NS	NS	23.2
pH	5 < pH < 9	SU	NS	NS	NS	NS	6.90
Oxidation-Reduction potential	increasing trend	mV	NS	NS	NS	NS	265.3
Laboratory Parameters							
Sulfate		mg/L	NS	NS	NS	NS	NS
Total Organic Carbon		mg/L	NS	NS	NS	NS	NS

Notes
mg/L = milligrams per liter
ND = not detected
NS = not sampled
> 5.0 = indicates result exceeded the upper limit of field test kit
°C = Degrees Celsius
SU = Standard pH Units
mV = Millivolts

APPENDIX B

SOIL BORING LOGS

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig

BORING NUMBER: SB-1 (DPT001)
DATE: 0/28/05
GEOLOGIST: Rome/Odum
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm) Sample	Sampler BZ	Borehole**	Driller BZ**
	0												
	1						Fill Material						
	2						Lt. Brn Mod Cons (MR-MC+WS)						
	3						Sands, no Sat / Stn 0 feet						
	4						0-3 Fill						
	5						Lt. Brn Mod to Cons (MR+MC+WS)						
	6						Brn Sands. No Sat /						
	7						Stn / Odor						
	8						Slt Sat at 8.5'						
	9												
	10						Lt. Brn Fines (MR+MC+WS)						
	11						Slt Sat through interval						
	12						No Stn / Odor.						
	13												
	14												
	15												
	16						Same Strata						
	17												
	18												
	19												
	20												
	21						Saturated ~21.5'						
	22												
	23												
	24												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes X No ____ Well I.D. #: MW065

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig
BORING NUMBER: DPT 002
DATE: 6/28/05
GEOLOGIST: Rome/Odom
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0-4'						Post Hole - Fill						
	5						Light Fine Sands [LWL, MS, WL]						
	6						Same Sands as DPT001						
	7						No Sat/Stn						
	8												
	9												
	10												
	11						Lt. Brn sands, fine grain						
	12						Slt. Sat						
	13						No Stn / No Odor						
	14												
	15												
	16						Same Sands as above						
	17												
	18												
	19												
	20												
	21						Stn at 22' (8" thick)						
	22						Sampled at 22'						
	23						Sat at 21-22'						
	24												
	25												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.1

Converted to Well: Yes ✓ No ____ Well I.D. #: MW-075

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig
BORING NUMBER: DPT003
DATE:
GEOLOGIST: Rome/Odum
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
04	–						Road Bed - Fill						
5							Lt. Brn Med-to Crs Gray sands		(PR, MS, MC)				
6							Slt. Sat. - No Stn Odor						
7													
8													
9													
10													
11							Same as above, clay plug at 11' (6")						
12							Slt. Sat. No Stn / Odor						
13							Fine gray sands at 13-15'						
14							(WS/WR/WC)						
15													
16							~~Same Sp~~ Fine gray sands (WS/WR/WC)						
17							Stn / Petro Odor @ 19.5'						
18													
19													
20													
21							Same sands as above						
22							Sat @ 22'						
23							Stn / Petro Odor noted throughout						
24							interval						
25													

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0.2

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig
BORING NUMBER: DPT-004
DATE: 6/28/05
GEOLOGIST: Rome/Odum
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0-4					0-5		med-fine lt brn qtz sand						
5							w/minor qtz red clay						
6							well sorted subrounded-angular						
7													
8					5-10		med-fine lt brn qtz sand						
9							well sorted subrounded-angular						
10													
11					10-15		med-fine lt brn-reddish qtz sand						
12							well sorted subrounded-angular						
13													
14					15-20		med-fine lt brn heavy qtz sand						
15							well sorted subrounded-angular						
16													
17					20-25		fine lt brn-gray qtz sand						
18							slight staining + odor						
19							from 21'-22'						
20							well sorted subrounded-angular						
21							• water table @ 23'						
22													
23													
24													
25													

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes X No

Well I.D. #: MW-005

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig
BORING NUMBER: DPT005
DATE: 6/28/05
GEOLOGIST: Horne/Odum
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					0-5		white - gry med fine qtz sand well sorted subrounded						
					5-10		lt brn med-fine qtz sand w/ drk brn - gry hardies well sorted subrounded - angular						
					10-15		lt brn med-fine qtz sand w/ drk brn - gry hardies well sorted subrounded - angular						
					15-20		lt brn med fine qtz sand w/ drk brn - gry hardies well sorted subrounded - angular						
				20-23			lt brn med. fine qtz sand well sorted subrounded - angular						
					23-25		drk brn stained w/ odor med - fine qtz sand well sorted subrounded - angular water table @ 25						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig
BORING NUMBER: DPT-006
DATE: 6/28/05
GEOLOGIST: Rome/Odum
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					0-5'		lt brn med-fine qtz sand well sorted subrounded - angular						
					5-10		lt brn med-fine qtz sand well sorted subrounded - angular						
					10-15'		off white - lt brn fine qtz sand well sorted subrounded - angular						
				15-17	15-20'		dk brn - gry med-fine qtz sand well sorted subrounded - angular						
				17-20			white - lt brn med-fine qtz sand well sorted subrounded angular water table @ 19.5'						
				20-21			white-gry fine qtz sand well sorted subrounded - angular saturated						
				21-25			lt brn-gry fine qtz sand well sorted subrounded angular saturated						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes X No _____ Well I.D. #: MW-09S

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig
BORING NUMBER: DPT-07
DATE: 6/28/05
GEOLOGIST: Rome/Odum
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					0-5		gry fine qtz sand well sorted subrounded - angular						
					5-7		gry fine qtz sand well sorted subrounded - angular						
					7-10		lt brn med-fine qtz sand well sorted subrounded - angular						
					10-15		lt brn med-fine qtz well sorted subrounded - angular						
					15-20		lt brn med-fine qtz sand well sorted subrounded - angular						
					20-25		lt brn fines Sat. @ 24.' Odor/Stain @ 24.'						
					25-27		fine qtz sand with dk gry-dk brn stain w/odor well sorted subrounded - angular						
					27-30		lt gry fine qtz sand well sorted subrounded - angular						

* When rock coring, enter rock brokenese.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes X No ____ Well I.D. #: MW-105

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig
BORING NUMBER: DPT008
DATE: 6/28/05
GEOLOGIST: Rome/Odum
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0-4			5			Root balls						
	5			5-10			Lt. Brn, fine-med grn sands						
	6						No Stw Not Odor						
	7												
	8												
	9												
	10			10-15									
	11						Same as Above						
	12												
	13												
	14												
	15			15-20									
	16						Same as Above						
	17												
	18												
	19												
	20			20-25									
	21												
	22												
	23												
	24						Staining at 24.5-25.5'						
	25			25-30									
	26						No Staining beyond 25.5'						
	27												
	28												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig

BORING NUMBER: DPT09
DATE: 6/28/05
GEOLOGIST: Rome/Odum
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0-4							Post holed - fill						
5							Lt. Brn fine						
6							No Sat/Stn/Odor						
7													
8													
9													
10													
11													
12													
13													
14													
15													
16							AME as above						
17													
18													
19													
20													
21							24.5 - 25.0 - Brittle Lt. Gray						
22							Clay w. Sat/Stn						
23							Slt. Organic Odor.						
24													
25													
26							25.-28 Stained Tan w/ Petro Odor						
27													
28													

* When rock coring, enter rock brokeness.
** Initial monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes X No ____ Well I.D. #: MW-11S

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola - UST Site 14
PROJECT NUMBER: 112G00063
DRILLING COMPANY: Miller Drilling
DRILLING RIG: 610DT Track Rig
BORING NUMBER: DPT010
DATE: 6/28/05
GEOLOGIST: Rome/Odum
DRILLER: Don Jerome

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0-4							Root Hole - Fill						
5							Lt. Brn Aus (US/MC/MR)						
6							No Stn / Sat / Odor.						
7													
8													
9													
10							Same sands as above						
11													
12													
13													
14													
15													
16							Same as above						
17							Slt. Saturation @ ~15'						
18							No Odor						
19													
20													
21							Same as above						
22							Slt Sat						
23							No Odor						
24													
25													
26							Sat at 25-26'						
27							No Stn / No Odor						
28													
29													
30													

*When rock coring, enter rock brokenness.
**Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes X No ____ Well I.D. #: MW-125

APPENDIX C

SOIL SAMPLE DATA SHEETS

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : CTO 979

SITE NAME: UST Site 14

PROJECT No.: 112G00063

INSTRUMENT NAME/MODEL: Varian FID

MANUFACTURER:

SERIAL NUMBER:

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		
6/28/05		Rose	96.7	100	91.7	100	01-4AL0-0015	none
6/29/05		Oden Rose			88.6	99.4	01-4AL0-0015	none
6/30/05		Oden/Rose			96.3	100	01-4AL0-0015	none

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

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

Sample ID No.: PEN-Site 14-SS-DPT01-21
Sample Location: PEN-Site 14-DPT001
Sampled By: Ruan / Odom
C.O.C. No.: –

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

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 6/28/04 Time: 0930 Method: ~~Grab~~ DPT Monitor Reading (ppm): 0.2	21	Lt. Brn	Sand wet/wet/wet Sat – no Stn/Odor

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm): 0.2				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
FL PRO / 8270 SIM	8 oz Jar	✓	

OBSERVATIONS / NOTES:

MAP:

See Field by Rick

Circle if Applicable:

MS/MSD

Duplicate ID No.: NONE

Signature(s): S. Rice

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

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

Sample ID No.: PEW-S614-SS-DPT02-22
Sample Location: PEW - Site 14 - Office
Sampled By: Rowe / Odom
C.O.C. No.: –

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

GRAB SAMPLE DATA:

Date: 6/18/14	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1030	22'	Blk.	Stress, Fine Grain Sand, Petro Odor, Saturated
Method: ~~PSD~~ DPT			
Monitor Reading (ppm): 110.2			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm): 110.2				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
FL PRO / 8270	8 oz. Jar	✓	

OBSERVATIONS / NOTES:

MAP:

See Field Log Book.

Circle if Applicable:

MS/MSD	Duplicate ID No.: NONE

Signature(s): S. Rowe

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

[] Surface Soil
[✓] Subsurface Soil
[] Sediment
[] Other: –
[] QA Sample Type: –

Sample ID No.: PEW-[illegible]-SS-DPT08-22'
Sample Location: DPT008
Sampled By: Rome
C.O.C. No.: –

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

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 6/24/05 Time: 1130 Method: Rear DPT Monitor Reading (ppm):	22'	Lt. Brn	Fine Sand - Sil Sat. Slt. Stiv; no odor

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
TCL PPO / 8270	8oz. Jar	✓	

OBSERVATIONS / NOTES:

MAP:
See Field Log Book

Circle if Applicable:

MS/MSD	Duplicate ID No.: NONE

Signature(s): S. Rome

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

- [ ] Surface Soil
- [x] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type:

Sample ID No.: PEN-Site 14-SS-DPT04-2
Sample Location: DPT-004
Sampled By: Kase
C.O.C. No.: -

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

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 6/24/05 Time: 1230 Method: DPT Monitor Reading (ppm): 26.0	22	BRN	Fine Sand - Slt. Sat Slt. Stn, no Odor.

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
FL PRO / 8270	1 x 8 Jar	✓	

OBSERVATIONS / NOTES:

MAP:

See Field Log Book

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	NONE

Signature(s): S. Rae

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

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

Sample ID No.: PRU-SB 14-SS-DP7005-22
Sample Location: DP7005
Sampled By: Rana
C.O.C. No.:

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

GRAB SAMPLE DATA:

Date: 6/28/05	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1330	22	Dk. Brn	Fine Sands, Slt. Sat. Slt. stn, no odor
Method: Dpr			
Monitor Reading (ppm): 111.2			

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
PRU 18270	8 oz. Jar	✓	

OBSERVATIONS / NOTES:

MAP:

See Field Log Book

Circle if Applicable:

MS/MSD	Duplicate ID No.: NONE

Signature(s): S. Rana

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

Sample ID No.: Pav-Site 14-SS-DPT06-22
Sample Location: DPT006
Sampled By: Rose
C.O.C. No.: —

- [ ] Surface Soil
- [x] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type:

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

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 6/28/05 Time: 1435 Method: DPT Monitor Reading (ppm): 8.4	22	lt. Brn	Fine Sand - Slt. Sat. No Stn / Odor

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
FL PRO / 8270	8oz. Jar	✓	

OBSERVATIONS / NOTES:

MAP: See Field Log Book

Circle if Applicable:

MS/MSD	Duplicate ID No.: NONE

Signature(s): S. Rae

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

Sample ID No.: [illegible]
Sample Location: DPT007
Sampled By: [illegible]
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

Date: 6/28/05	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1535	24	Dk. Brown / Sh. Gray	Fine Sand, Sh. Sat. Heavy Stain / Heavy Odor
Method: DPT			
Monitor Reading (ppm): 30.1			

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
FL PRO / 8270	1 oz. Jar	✓	

OBSERVATIONS / NOTES:

MAP:

See Field Log Book

Circle if Applicable:

MS/MSD	Duplicate ID No.: NONE

Signature(s): S. [illegible]

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

Sample ID No.: PEN-Site 14 DPT008-25
Sample Location: DPT008
Sampled By: Zone
C.O.C. No.:

- [ ] Surface Soil
- [x] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type:

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

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 6/13/05 Time: 1640 Method: DPT Monitor Reading (ppm): 217.6	24-25'	Grey	Fine Sand, Slt. Sat, Stn, Slt. Odor

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
FL PRO / 8270	1 oz. Jar	✓	

OBSERVATIONS / NOTES:

MAP:

See Field Log Book

Circle if Applicable:

MS/MSD	Duplicate ID No.: NONE

Signature(s): L Rae

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

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

Sample ID No.: PNI-Site 14-SS-DPT09-26
Sample Location: DPT09
Sampled By: Rene
C.O.C. No.:

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

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 6/28/05 Time: 1755 Method: DPT Monitor Reading (ppm): 10.2	25-26	Lt. Brn	Fine Sand, Slt. Sat. Mod Stn Slt. Odor.

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
FL PRO / 8270	8 oz. Jar	✓	

OBSERVATIONS / NOTES:

MAP: See Field Log Book

Circle if Applicable:

MS/MSD	Duplicate ID No.: NONE

Signature(s): S. Rene

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: UST SITE 14
Project No.: 112G00063

Sample ID No.: PEW-Site 14-SS-DPT010-26
Sample Location: DPT010
Sampled By: Rene
C.O.C. No.:

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

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

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 6/22/05 Time: 1855 Method: DPT Monitor Reading (ppm): 4.1	25-26	Lt. Brn	Fine Sand, Slt. Sat. No Stn / No Odor

COMPOSITE SAMPLE DATA:

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

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
PL PRO / 8270	8 oz. jar	✓	

OBSERVATIONS / NOTES:

MAP: See Field Log Book

Circle if Applicable:

MS/MSD	Duplicate ID No.: NONE

Signature(s): S. Rae

APPENDIX D

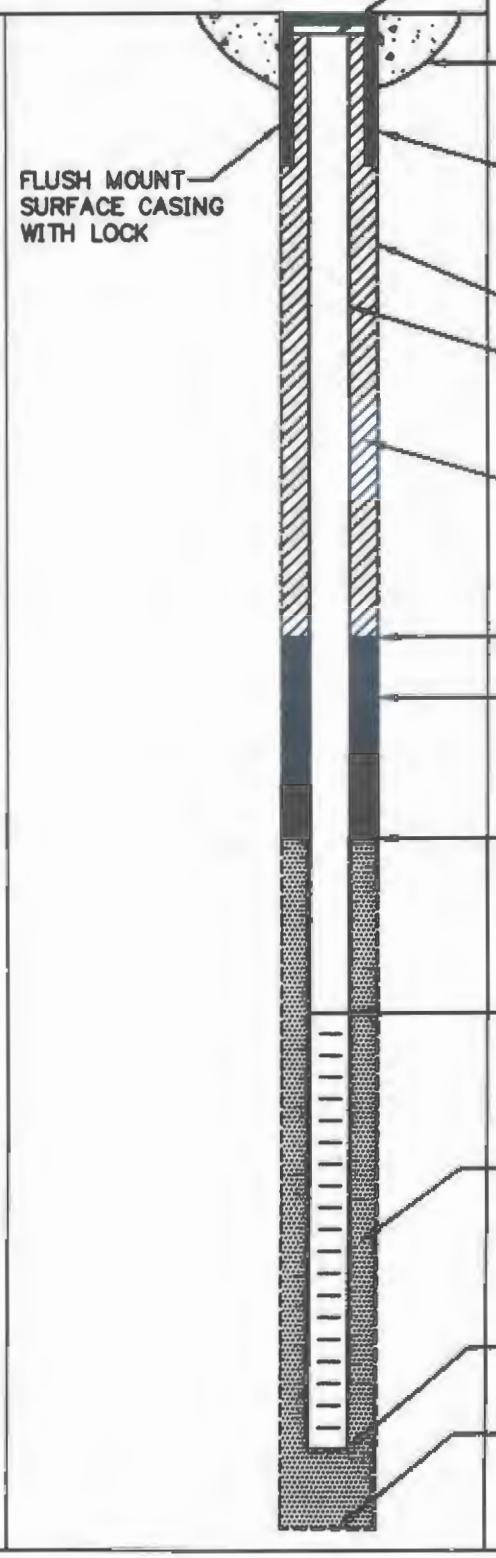
MONITORING WELL COMPLETION LOGS

WELL NO.: PEN-site14-MW06-

Tetra Tech NUS, Inc.

MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT UST Site 14	LOCATION ~~DETROIT~~ NASP	DRILLER Millar Drilling
PROJECT NO. N0063	BORING D27001	DRILLING METHOD DPT
DATE BEGUN 6/29/05	DATE COMPLETED 6/29/05	DEVELOPMENT METHOD Peristaltic Pump
FIELD GEOLOGIST Rana / Odom		
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: TBD

TYPE OF SURFACE SEAL: type I Portland cement

TYPE OF PROTECTIVE CASING: traffic rated flush mount

I.D. OF PROTECTIVE CASING: 8"

~~DIAMETER OF HOLE~~

TYPE OF RISER PIPE: sch 40 PVC

RISER PIPE I.D.: 1.25"

TYPE OF BACKFILL/SEAL: ~~Type~~ Portland Type I neat cement

ELEVATION/DEPTH TOP OF SEAL: 111.5

TYPE OF SEAL: medium bentonite chips hydrated

ELEVATION/DEPTH TOP OF SAND: 112.5

ELEVATION/DEPTH TOP OF SCREEN: 114.5

TYPE OF SCREEN: PVC sch 40

SLOT SIZE x LENGTH: 0.10 slot x 10'

TYPE OF SAND PACK: ~~10-20~~ 20-35

DIAMETER OF HOLE : 3"

ELEVATION / DEPTH BOTTOM OF SCREEN: 124.5

ELEVATION / DEPTH BOTTOM OF SAND: 124.5

ELEVATION/DEPTH BOTTOM OF HOLE: 125'

BACKFILL MATERIAL BELOW SAND:

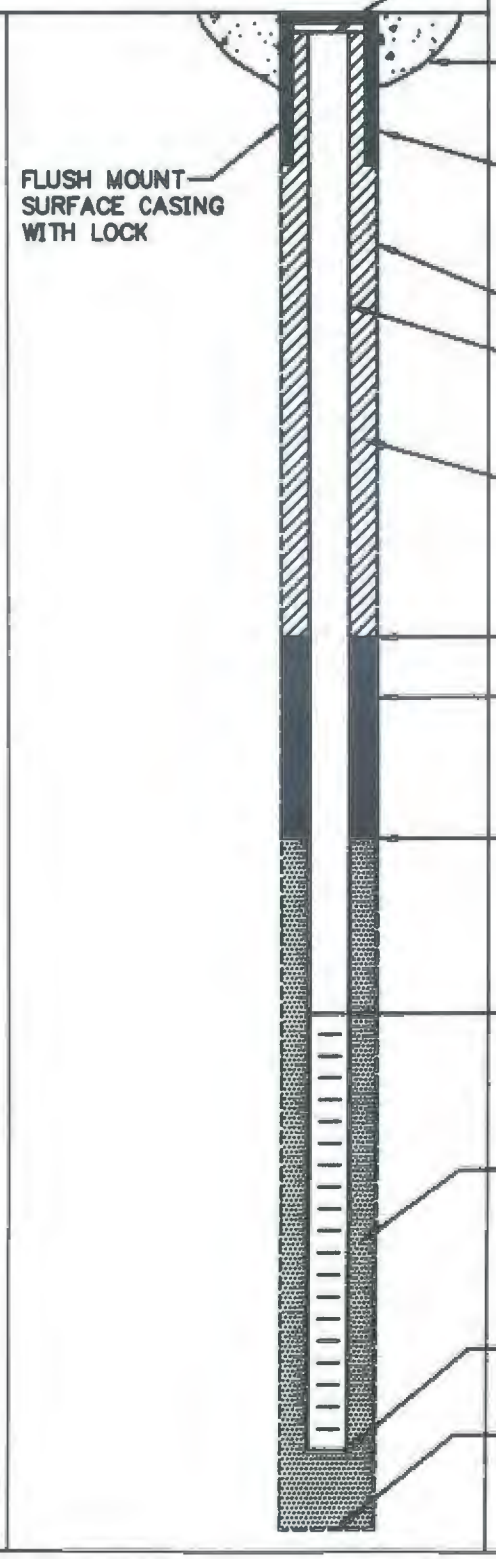
ACAD:FORM_MWFM.dwg 07/20/99 INL

WELL NO.: PEN-site 14-MW01

Tetra Tech NUS, Inc.

MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT UST Site 14	LOCATION NASP	DRILLER Mike Drilling Co.
PROJECT NO. 10063	BORING DPT 002	DRILLING METHOD DPT
DATE BEGUN 6/28/05	DATE COMPLETED 6/29/05	
FIELD GEOLOGIST Rene / Chris		DEVELOPMENT METHOD Peristaltic Pump
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: TBD

TYPE OF SURFACE SEAL: type I Portland cement

TYPE OF PROTECTIVE CASING: traffic rated flush mount

I.D. OF PROTECTIVE CASING: 8"

~~DIAMETER OF HOLE~~:

TYPE OF RISER PIPE: sch 40 PVC

RISER PIPE I.D.: 1.25"

TYPE OF BACKFILL/SEAL: Portland Type I neat cement

ELEVATION/DEPTH TOP OF SEAL: 111.5'

TYPE OF SEAL: medium bentonite chips hydrated

ELEVATION/DEPTH TOP OF SAND: 112.5'

ELEVATION/DEPTH TOP OF SCREEN: 114.5'

TYPE OF SCREEN: PVC sch 40

SLOT SIZE x LENGTH: .10 slot x 10'

TYPE OF SAND PACK: 20-35

DIAMETER OF HOLE : 3"

ELEVATION / DEPTH BOTTOM OF SCREEN: 124.

ELEVATION / DEPTH BOTTOM OF SAND: 124.5'

ELEVATION/DEPTH BOTTOM OF HOLE: 125'

BACKFILL MATERIAL BELOW SAND:

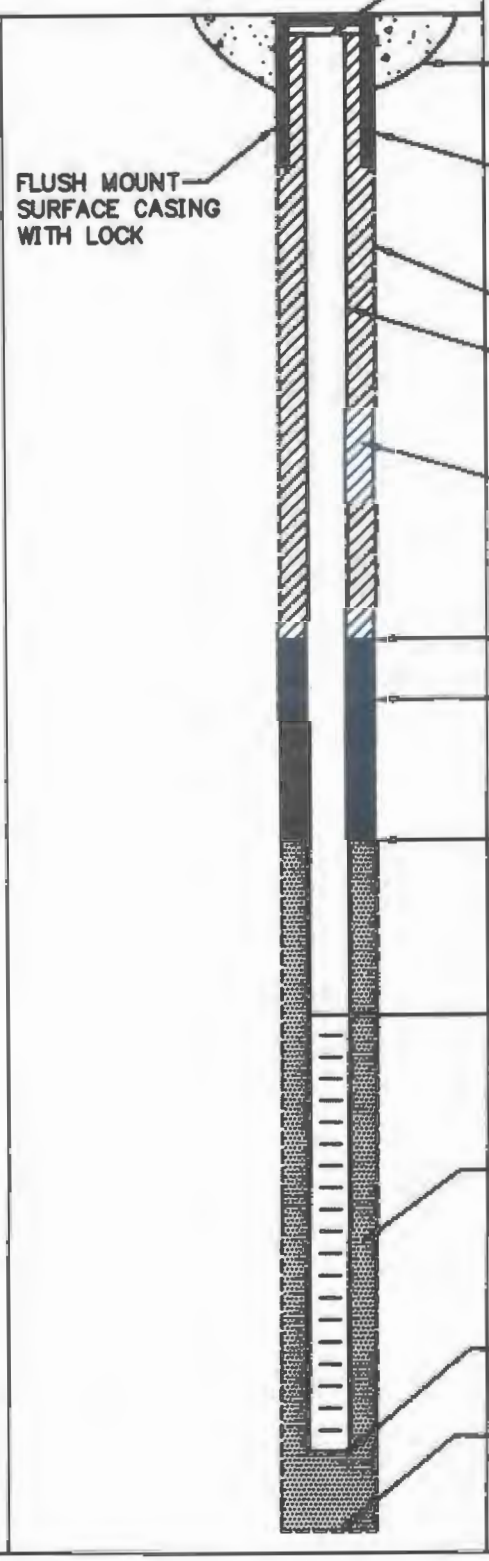
ACAD: FORM_MWFM.dwg 07/28/99 INL

WELL NO.: PEN-site 14-MW085

Tetra Tech NUS, Inc.

MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT UST Site 14	LOCATION NASP	DRILLER Mellone Drilling Co
PROJECT NO. N0063	BORING DPT004	DRILLING METHOD DPT
DATE BEGUN 6/28/05	DATE COMPLETED 6/28/05	
FIELD GEOLOGIST Rene Ubana		DEVELOPMENT METHOD Peristaltic Pump
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: TBD

TYPE OF SURFACE SEAL: Type I Portland cement

TYPE OF PROTECTIVE CASING: traffic rated flush mount

I.D. OF PROTECTIVE CASING: 8"

~~DIAMETER OF HOLE~~:

TYPE OF RISER PIPE: sch 40 PVC

RISER PIPE I.D.: 1.25"

TYPE OF BACKFILL/SEAL: Portland Type I neat cement

ELEVATION/DEPTH TOP OF SEAL: 111.5'

TYPE OF SEAL: medium bentonite chips hydrated

ELEVATION/DEPTH TOP OF SAND: 112.5'

ELEVATION/DEPTH TOP OF SCREEN: 114.5'

TYPE OF SCREEN: sch 40 PVC

SLOT SIZE x LENGTH: .10 slot x 10'

TYPE OF SAND PACK: 20-35

DIAMETER OF HOLE : 3"

ELEVATION / DEPTH BOTTOM OF SCREEN: 124.5'

ELEVATION / DEPTH BOTTOM OF SAND: 124.5'

ELEVATION/DEPTH BOTTOM OF HOLE: 125'

BACKFILL MATERIAL BELOW SAND:

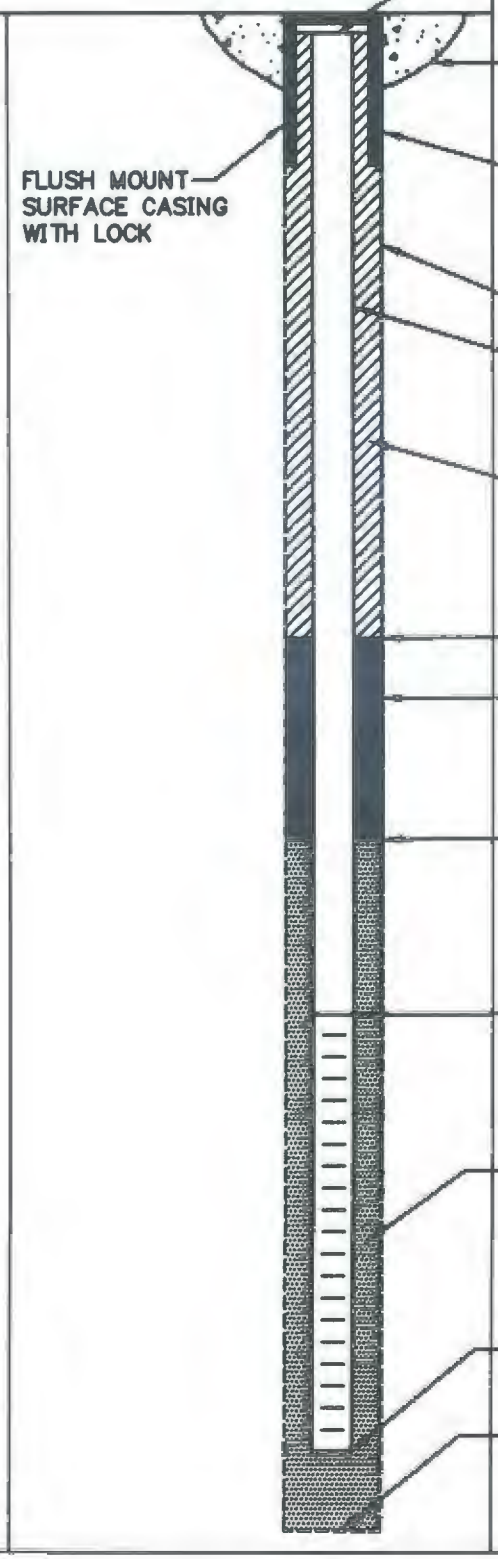
ACAD: FORM_MWFM.dwg 07/28/99 INL

WELL NO.: PFN-site14-MW09S

Tetra Tech NUS, Inc.

MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT UST Site 14	LOCATION NAS P	DRILLER Mollere Drilling Co.
PROJECT NO. N0063	BORING DPT 006	DRILLING METHOD DPT
DATE BEGUN 6/28/05	DATE COMPLETED 6/28/05	DEVELOPMENT METHOD ~~peristaltic~~ Pump
FIELD GEOLOGIST Rose / Odom		
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: TBD

TYPE OF SURFACE SEAL: Type I Portland cement

TYPE OF PROTECTIVE CASING: traffic rated flush mount

I.D. OF PROTECTIVE CASING: 8"

~~DIAMETER OF HOLE:~~

TYPE OF RISER PIPE: sch 40 PVC

RISER PIPE I.D.: 1.25"

TYPE OF BACKFILL/SEAL: Portland Type I neat cement

ELEVATION/DEPTH TOP OF SEAL: 111.5'

TYPE OF SEAL: medium bentonite chips hydrated

ELEVATION/DEPTH TOP OF SAND: 112.5'

ELEVATION/DEPTH TOP OF SCREEN: 114.5'

TYPE OF SCREEN: sch 40 PVC

SLOT SIZE x LENGTH: .10 slot x 10'

TYPE OF SAND PACK: 20-35

DIAMETER OF HOLE : 3"

ELEVATION / DEPTH BOTTOM OF SCREEN: 124'

ELEVATION / DEPTH BOTTOM OF SAND: 124.5'

ELEVATION/DEPTH BOTTOM OF HOLE: 125'

BACKFILL MATERIAL BELOW SAND:

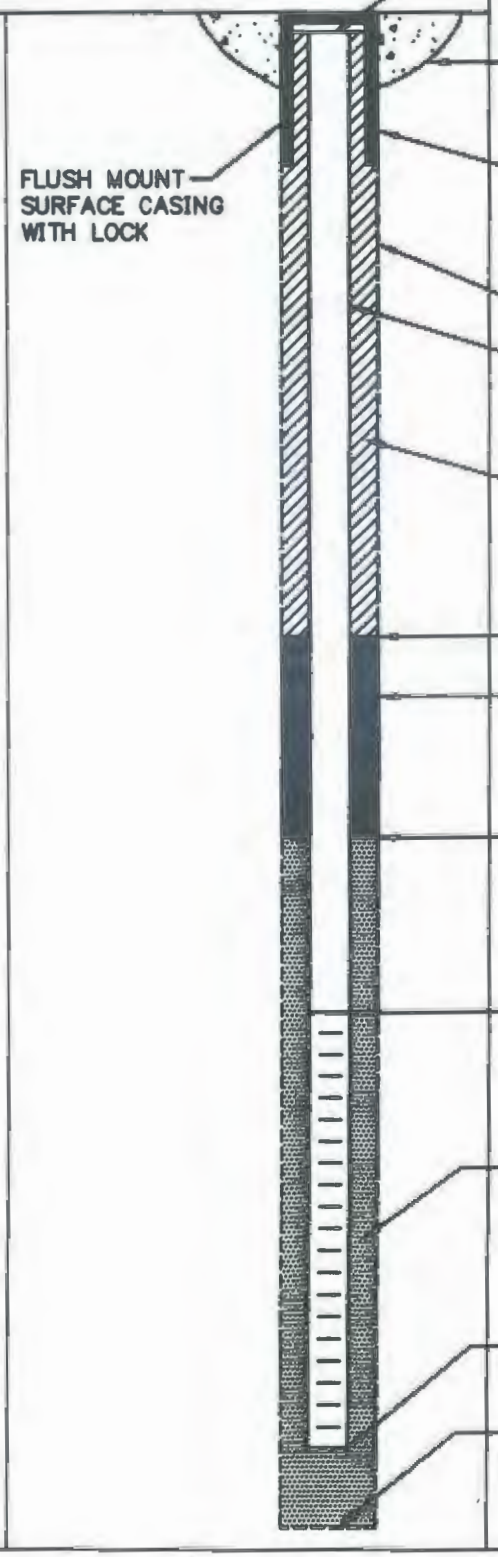
ACAD: FORM_MWFM.dwg 07/29/99 INL

WELL NO.: PEN-site 14-MW10

Tetra Tech NUS, Inc.

MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT UST Site M	LOCATION NASP	DRILLER Mike Dilley
PROJECT NO. N0063	BORING DPT 007	DRILLING METHOD DPT
DATE BEGUN 6/28/05	DATE COMPLETED 6/28/05	
FIELD GEOLOGIST Rose Odeme		DEVELOPMENT METHOD Peristaltic Pump
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: TBD

TYPE OF SURFACE SEAL: Type I Portland cement

TYPE OF PROTECTIVE CASING: traffic rated flush mount

I.D. OF PROTECTIVE CASING: 8"

~~DIAMETER OF HOLE:~~

TYPE OF RISER PIPE: sch 40 PVC

RISER PIPE I.D.: 1.25"

TYPE OF BACKFILL/SEAL: Portland Type I neat cement

ELEVATION/DEPTH TOP OF SEAL: 111.5'

TYPE OF SEAL: medium bentonite chips hydrated

ELEVATION/DEPTH TOP OF SAND: 112.5'

ELEVATION/DEPTH TOP OF SCREEN: 114.5'

TYPE OF SCREEN: sch 40 PVC

SLOT SIZE x LENGTH: .10 slot x 10'

TYPE OF SAND PACK: 20-35

DIAMETER OF HOLE : 3"

ELEVATION / DEPTH BOTTOM OF SCREEN: 124.5'

ELEVATION / DEPTH BOTTOM OF SAND: 124.5'

ELEVATION/DEPTH BOTTOM OF HOLE: 125'

BACKFILL MATERIAL BELOW SAND:

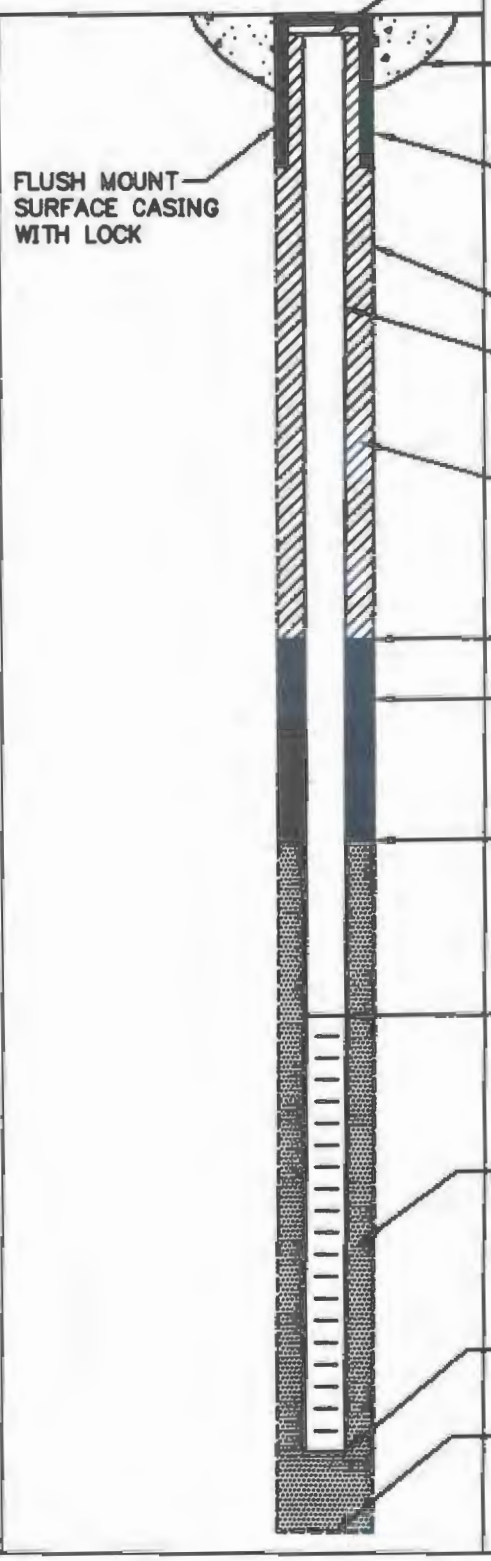
ACAD:FORM_MWFM.dwg 07/28/99 INL

WELL NO.: PEN-site 14-MW1[illegible]

Tetra Tech NUS, Inc.

MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT: [illegible] Site M	LOCATION: N457	DRILLER: Millar Drilling Co.
PROJECT NO.: N0063	BORING: DPT009	DRILLING METHOD: DPT
DATE BEGUN: 6/28/05	DATE COMPLETED: 6/28/05	DEVELOPMENT METHOD: Peristaltic Pump
FIELD GEOLOGIST: Ross / Odom		
GROUND ELEVATION:	DATUM:	



ELEVATION TOP OF RISER: TBD

TYPE OF SURFACE SEAL: Type I Portland cement

TYPE OF PROTECTIVE CASING: traffic rated flush mount

I.D. OF PROTECTIVE CASING: 8"

~~DIAMETER OF HOLE~~:

TYPE OF RISER PIPE: sch 40 PVC

RISER PIPE I.D.: 1.25"

TYPE OF BACKFILL/SEAL: Portland Type I neat cement

ELEVATION/DEPTH TOP OF SEAL: 117'

TYPE OF SEAL: medium bentonite chips hydrated

ELEVATION/DEPTH TOP OF SAND: 118'

ELEVATION/DEPTH TOP OF SCREEN: 120'

TYPE OF SCREEN: sch 40 PVC

SLOT SIZE x LENGTH: .10" slot x 10'

TYPE OF SAND PACK: 20-35

DIAMETER OF HOLE: 3"

ELEVATION / DEPTH BOTTOM OF SCREEN: 132'

ELEVATION / DEPTH BOTTOM OF SAND: 130'

ELEVATION/DEPTH BOTTOM OF HOLE: 130.5'

BACKFILL MATERIAL BELOW SAND:

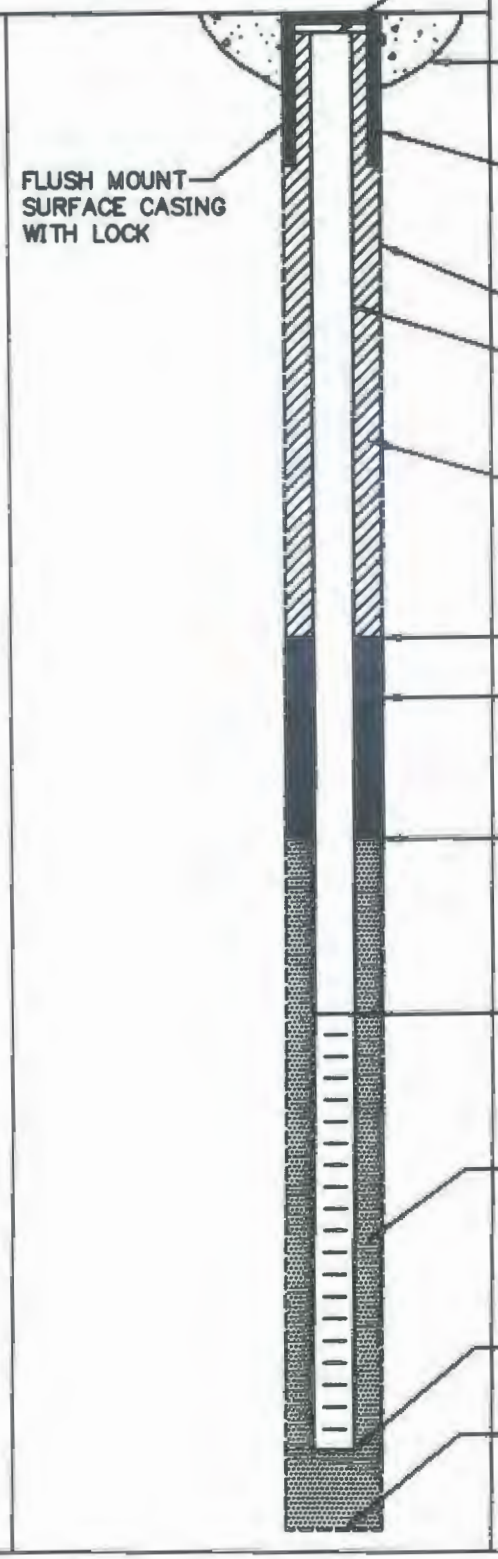
ACAD: FORM_MWFM.dwg 07/28/99 INL

WELL NO.: PENsite 14-MW 125

Tetra Tech NUS, Inc.

MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT UST Site 14	LOCATION NASP	DRILLER Miller
PROJECT NO. N0063	BORING DPT010	DRILLING METHOD DPT
DATE BEGUN 6/29/05	DATE COMPLETED 6/29/05	
FIELD GEOLOGIST Ron Odom		DEVELOPMENT METHOD Peristaltic Pump.
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: TBD

TYPE OF SURFACE SEAL: Type I Portland cement

TYPE OF PROTECTIVE CASING: traffic rated flush mount

I.D. OF PROTECTIVE CASING: 8"

DIAMETER OF HOLE:

TYPE OF RISER PIPE: sch 40 PVC

RISER PIPE I.D.: 1.25

TYPE OF BACKFILL/SEAL: Portland Type I neat cement

ELEVATION/DEPTH TOP OF SEAL: 117'

TYPE OF SEAL: medium bentonite chips hydrated

ELEVATION/DEPTH TOP OF SAND: 118'

ELEVATION/DEPTH TOP OF SCREEN: 120'

TYPE OF SCREEN: sch 40 PVC

SLOT SIZE x LENGTH: .10" slot x 10'

TYPE OF SAND PACK: 20-35

DIAMETER OF HOLE : 3"

ELEVATION / DEPTH BOTTOM OF SCREEN: 130'

ELEVATION / DEPTH BOTTOM OF SAND: 130'

ELEVATION/DEPTH BOTTOM OF HOLE: 130.5'

BACKFILL MATERIAL BELOW SAND:

ACAD: FORM_MWFM.dwg 07/20/99 INL

APPENDIX E

GROUNDWATER SAMPLING DATA SHEETS

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW05-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	PL
[] Domestic Well Data		C.O.C. No.:	
[X] Monitoring Well Data		Type of Sample:	
[] Other Well Type:		[] Low Concentration	
[] QA Sample Type:		[] High Concentration	

SAMPLING DATA:

		Color	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~ ORP	Other
Date:	7/20/05								
Time:	0830	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(%)	
Method:	Peristaltic	CLEAR	6.11	0.441	22.72	8.3	4.67	98.3	

PURGE DATA: Purge Rate: 300 ml/min

		Volume	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~ ORP	~~Other~~ DEPTA
Date:	7/20/05								
Method:	Peristaltic	0805/0.0	—	—	—	—	—	—	17.06
Monitor Reading (ppm): 0		0810/1.5	6.50	0.479	22.79	32	5.89	32.0	17.10
Well Casing Diameter & Material		0815/3.0	6.16	0.448	22.68	18	5.43	66.9	17.10
Type: 1¼" PVC		0820/4.5	6.12	0.441	22.70	12	4.99	88.2	17.10
Total Well Depth (TD): 22.85		0825/6.0	6.11	0.441	22.72	8.3	4.67	98.3	17.10
Static Water Level (WL): 17.06									
One Casing Volume(gal): 1.4									
Start Purge (hrs): 0805									
End Purge (hrs): 0825									
Total Purge Time (min): 20									
Total Vol. Purged (gal): 6.0									

Sample Time 0830

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected

OBSERVATIONS / NOTES:

		Equipment	Time
Alkalinity	40 mg/l	K-7915	0840
Carbon Dioxide	25 mg/l	K-1910	0847
Hydrogen Sulfide	0.0 mg/l	HSC	0843
Ferrous Iron	0.0 mg/l	HACH	0845
Dissolved Oxygen	5.0 mg/l	K-7511	0850

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	None

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW02S-0705
Project No.:	0063	Sample Location:	Site 14
		Sampled By:	PL
[ ] Domestic Well Data		C.O.C. No.:	
[X] Monitoring Well Data		Type of Sample:	
[ ] Other Well Type:		[ ] Low Concentration	
[ ] QA Sample Type:		[ ] High Concentration	

SAMPLING DATA:

		Color	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~ ORP	Other
Date:	7/20/05								
Time:	0755	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method:	Peristaltic	CLEAR	6.12	0.473	22.62	2.1	0.46	-74.3	

PURGE DATA: PURGE RATE : 300 ml/min

		Volume	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	~~Other~~ DTW
Date:	7/20/05								
Method:	Peristaltic	0712/0.0	—	—	—	—	—	—	18.62
Monitor Reading (ppm):	0	0717/1.5	6.28	0.430	22.55	6.6	0.95	-62.1	18.67
Well Casing Diameter & Material		0722/3.0	6.08	0.466	22.44	3.2	0.68	-67.5	18.67
Type:	1/4" PVC	0727/4.5	6.11	0.471	22.52	2.6	0.54	-70.9	18.67
Total Well Depth (TD):	23.38	0732/6.0	6.12	0.473	22.62	2.1	0.46	-74.3	18.67

Static Water Level (WL): 18.62
One Casing Volume(gal): 1.2
Start Purge (hrs): 0712
End Purge (hrs): 0732
Total Purge Time (min): 20
Total Vol. Purged (gal): 6.0

(Sample Time 0755)

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

		Equipment	Time
Alkalinity	110 mg	K-9815	0748
Carbon Dioxide	40 mg	K-1900	0755
Hydrogen Sulfide	75.0 mg/L	HSL	0752
Ferrous Iron	0.5 mg/L	HACH	0745
Dissolved Oxygen	0.1 mg	K-7501	0759

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	None

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW03S-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	
[] Domestic Well Data		C.O.C. No.:	
[] Monitoring Well Data		Type of Sample:	
[] Other Well Type:		[] Low Concentration	
[] QA Sample Type:		[] High Concentration	

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 7/19/05								
Time: 0837 E	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	ppt	SWL 16.46
Method:								

PURGE DATA:

	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other	
Date: 7/19/05									
Method:	1.5	6.59	.395	25.65	160	1.62	49.9	16.48	819
Monitor Reading (ppm):	3.5	6.59	.392	25.56	45	3.99	47.9	16.49	823
Well Casing Diameter & Material	5.5	6.56	.385	25.51	8.5	3.21	40.7	16.48	827
Type: 1" PVC	7.5	6.54	.376	25.49	1.6	2.10	34.3	16.48	831
Total Well Depth (TD):	9.5	6.54	.374	25.50	.35	2.00	32.1	16.48	835
Static Water Level (WL):									
One Casing Volume(gal/L):									
Start Purge (hrs): 0916 E									
End Purge (hrs):									
Total Purge Time (min):									
Total Vol. Purged (gal/L):									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

Alkalinity	110
Carbon Dioxide	30
Hydrogen Sulfide	0.0
Ferrous Iron	0.0
Dissolved Oxygen	1.5

start @ 0900 E

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

purge @ .5 L/min

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW04-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	PC
[] Domestic Well Data		C.O.C. No.:	
[X] Monitoring Well Data		Type of Sample:	
[] Other Well Type:		[] Low Concentration	
[] QA Sample Type:		[] High Concentration	

SAMPLING DATA:

		Color	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	Other
Date:	7/6/05								
Time:	1620	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	ORP (%)	
Method:	Peristaltic	CLEAR	6.21	0.567	24.03	1.3	3.25	87.8	

PURGE DATA: Pump Rate: 300 ml/min

	Volume	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	~~Other~~ Depth
Date: 7/6/05								
Method:	1557/0.0	—	—	—	—	—	—	19.36
Monitor Reading (ppm): 0	1602/1.5	6.25	0.568	24.08	2.7	3.46	77.0	19.39
Well Casing Diameter & Material:	1607/3.0	6.22	0.568	24.05	1.9	3.33	84.8	19.39
Type: 1¼" PVC	1612/4.5	6.22	0.567	24.05	1.6	3.29	86.0	19.39
Total Well Depth (TD): 23.04	1617/6.0	6.21	0.567	24.03	1.3	3.25	87.8	19.39
Static Water Level (WL): 19.36								
One Casing Volume(gal/L): 1.0								
Start Purge (hrs): 1557								
End Purge (hrs): 1617								
Total Purge Time (min): 20								
Total Vol. Purged (gal/L): 6.0								

Sample Time 1620

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

		Equipment	Time
Alkalinity	55 mg/L	K-1910	1636
Carbon Dioxide	27 mg/L	K-1910	1639
Hydrogen Sulfide	0.0 mg/L	HSC	1635
Ferrous Iron	0.0 mg/L	HACH	1648
Dissolved Oxygen	3.0 mg/L	K-7512	1643

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	None

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW05S-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	PC
[ ] Domestic Well Data		C.O.C. No.:	
[X] Monitoring Well Data		Type of Sample:	
[ ] Other Well Type:		[ ] Low Concentration	
[ ] QA Sample Type:		[ ] High Concentration	

SAMPLING DATA:

		Color	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	Other
Date:	7/19/05								
Time:	1520	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	ORP (%)	
Method:	Peristaltic	CLEAR	5.17	0.285	23.12	17	0.57	79.6	

PURGE DATA: Purge Rate : 300 ml/min

		Volume	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	~~Other~~ DEPTH
Date:	7/19/05								
Method:	Peristaltic	1459/0.0	—	—	—	—	—		16.11
Monitor Reading (ppm): 0		1504/1.5	5.19	0.290	23.22	35	3.52	104.6	16.20
Well Casing Diameter & Material		1509/3.0	5.12	0.281	23.29	40	1.46	99.3	16.20
Type: 1/8" PVC		1514/4.5	5.16	0.283	23.19	26	0.85	87.5	16.20
Total Well Depth (TD): 23.05		1519/6.0	5.17	0.285	23.12	17	0.57	79.6	16.20
Static Water Level (WL): 16.11									
One Casing Volume(gal/Cl): 0.25 gal/1.7									
Start Purge (hrs): 1459			SAMPLE TIME 1520						
End Purge (hrs): 1519									
Total Purge Time (min): 20									
Total Vol. Purged (gal/Cl): 6.0									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

		Equipment	Time
Alkalinity	15 ppm	Equipment # 88	1542
Carbon Dioxide	25 ppm	K-1910	1540
Hydrogen Sulfide	5.0 mg/L	HSC	1582
Ferrous Iron	0.2 mg/L	HACH	1536
Dissolved Oxygen	7.0 ppm	K-2501	1545

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	None

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: PENSACOLA NAS SITE 14
Project No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: PEN-Site 14-MW06S-0705
Sample Location: Site 14
Sampled By: PL
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	~~Salinity~~ ORP (%)	Other
Date: 7/19/05								
Time: 0745								
Method: PERISTALTIC	CLEAR	6.22	0.489	24.25	15	4.13	97.7	

PURGE DATA: PURGE RATE 300 ml/min

	Time/Volume(L)	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~ ORP	~~DEPTH~~
Date: 7/19/05								
Method: PERISTALTIC	0924/0.0	—	—	—	—	—	—	19.89
Monitor Reading (ppm): 0	0929/1.5	6.27	0.401	24.28	38	4.82	117.3	19.97
Well Casing Diameter & Material:	0934/3.0	6.15	[illegible]	24.18	20	[illegible]	112.1	19.97
Type: PVC 1¼"	0939/4.5	6.[illegible]	[illegible]	24.28	18	[illegible]	101.4	19.97
Total Well Depth (TD): 24.89	0944/6.0	6.[illegible]	[illegible]	24.25	15	4.13	97.7	19.97
Static Water Level (WL): 19.89	~~0944/7.5~~							
One Casing Volume(gal/L): 1.36								
Start Purge (hrs): 0924	0945 SAMPLE TIME							
End Purge (hrs): 0944								
Total Purge Time (min): 20								
Total Vol. Purged (gal/L): 6.0	6.0L							

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Select VOCs			
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

		EQUIP	TIME
Alkalinity	53 ppm		
Carbon Dioxide	19 ppm	~~[illegible]~~ 9810	0958
Hydrogen Sulfide	0.0 mg/L	K-1910	1005
Ferrous Iron	0.2 mg/L	HS-C	1002
Dissolved Oxygen	5.0 ppm	HACH	1008
		K-7512	1012

Circle if Applicable:
MS/MSD
Duplicate ID No.: None

Signature(s): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW07S-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	PL
☐ Domestic Well Data		C.O.C. No.:	
☒ Monitoring Well Data		Type of Sample:	
☐ Other Well Type:		☐ Low Concentration	
☐ QA Sample Type:		☐ High Concentration	

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~ ORP	Other
Date: 7/19/05								
Time: 1105	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method: PERISTALTIC	CLEAR	6.01	0.357	26.02	16	1.31	68.9	

PURGE DATA: PURGE RATE 300 ml/min

	Volume	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	Other Depth
Date: 7/19/05								
Method: PERISTALTIC	1142/0.0	—	—	—	—	—	—	19.14
Monitor Reading (ppm):	1147/1.5	6.19	0.345	26.18	20	1.46	52.8	19.21
Well Casing Diameter & Material:	1152/3.0	2.08	0.353	26.13	21	0.96	61.4	19.21
Type: 1 1/4" PVC	1157/4.5	6.03	0.356	26.07	18	1.22	64.7	19.21
Total Well Depth (TD): 24.57	1102/6.0	6.01	0.357	26.02	16	1.31	68.9	19.21
Static Water Level (WL): 19.14								
One Casing Volume(gal/L): 1.3								
Start Purge (hrs): 1142	SAMPLE TIME 1105							
End Purge (hrs): 1102								
Total Purge Time (min): 20								
Total Vol. Purged (gal/L): 6.0								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

		Equipment	Time
Alkalinity	55 ppm	K9815	1129
Carbon Dioxide	37 ppm	K-1910	1120
Hydrogen Sulfide	0.3 mg/L	HSL	1117
Ferrous Iron	0.4 mg/L	HACH	1125
Dissolved Oxygen	2.0 ppm	K-7512	1132

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	None

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW08S-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	PC
[] Domestic Well Data		C.O.C. No.:	
[X] Monitoring Well Data		Type of Sample:	
[] Other Well Type:		[] Low Concentration	
[] QA Sample Type:		[] High Concentration	

SAMPLING DATA:

		Color	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~ ORP	Other
Date:	7/19/05								
Time:	1210	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method:	Peristaltic	CLEAR	6.20	0.623	24.89	7.1	1.44	0.2	

PURGE DATA: PURGE RATE ≈ 300 mL/MIN

	Volume	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	~~Other~~ DEPTH
Date: 7/19/05								
Method: Peristaltic	1240/0.0	—	—	—	—	—	—	18.70
Monitor Reading (ppm): 0	1245/1.5	6.20	0.656	24.53	27	2.54	46.9	18.79
Well Casing Diameter & Material:	1250/3.0	6.05	0.639	24.71	19	1.83	28.1	18.79
Type: 1¼" PVC	1255/4.5	6.15	0.631	24.92	12	1.60	14.7	18.79
Total Well Depth (TD): 24.70	1200/6.0	6.19	0.625	24.90	8.4	1.51	6.0	18.79
Static Water Level (WL): 18.70	1205/7.5	6.20	0.623	24.89	7.1	1.44	0.2	18.79

One Casing Volume (gal/l): 4.4
Start Purge (hrs): 1240
End Purge (hrs): 1205
Total Purge Time (min): 35
Total Vol. Purged (gal/l): 7.5

SAMPLE TIME 1210

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

		Equipment	Time
Alkalinity	65 ppm	K-9810	1232
Carbon Dioxide	45 ppm	K-1910	1236
Hydrogen Sulfide	0.5 mg/L	HSC	1229
Ferrous Iron	1.4 mg/L	HACH	1238
Dissolved Oxygen	2.0 ppm	K-7512	1240

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	None

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW09S-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	
[] Domestic Well Data		C.O.C. No.:	
[] Monitoring Well Data		Type of Sample:	
[] Other Well Type:		[] Low Concentration	
[] QA Sample Type:		[] High Concentration	

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date:								
Time: 1050ET	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method:		7.12	.229	22.54	15	4.82		

PURGE DATA:

	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date:								
Method:	3.0	6.99	.228	22.56	90	4.76		1035
Monitor Reading (ppm):	7.5	6.99	.225	22.55	35	4.82		1040
Well Casing Diameter & Material	10.0	7.12	.229	22.54	15	4.82		1045
Type: 1.25"								
Total Well Depth (TD):								
Static Water Level (WL) BS 18.57								
One Casing Volume(gal/L): 1.9								
Start Purge (hrs): 0925								
End Purge (hrs): 1046								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SUL

18.57
18.57

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

Alkalinity	47
Carbon Dioxide	13.0
Hydrogen Sulfide	0.0
Ferrous Iron	0.0
Dissolved Oxygen	5.0

Circle if Applicable: **Signature(s):**

MS/MSD	Duplicate ID No.:

.5L/min

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW10S-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	
[] Domestic Well Data		C.O.C. No.:	
[] Monitoring Well Data		Type of Sample:	
[] Other Well Type:		[] Low Concentration	
[] QA Sample Type:		[] High Concentration	

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 7/8/05								
Time: 1350E	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	[illegible]	SWL
Method:		7.11	.162	23.45	40.0	2.00	-84.1	23.80

PURGE DATA:

	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 7/8/05								
Method: LOW flow	2.0	7.49	.164	23.48	160	.90	-118.5	27.19
Monitor Reading (ppm):	4.0	7.45	.163	23.43	160	.93	-129.4	[illegible]
Well Casing Diameter & Material	6.0	7.42	.162	23.44	80	1.00	-108.0	1335
Type:	8.0	7.22	.163	23.53	80	1.86	-98.8	1339
Total Well Depth (TD):	10.0	7.28	.161	23.51	55.0	1.89	-94.2	1344
Static Water Level (WL): 23.73	12.0	7.11	.162	23.45	40.0	2.00	-84.1	[illegible]
One Casing Volume(gal/L):								
Start Purge (hrs): 1323E								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

1327
1327
1330
23.80
23.80
80

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

Alkalinity	63.0	start @ 1419
Carbon Dioxide	20.0	
Hydrogen Sulfide	0.6	
Ferrous Iron	2.15	
Dissolved Oxygen	2.5	

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

purge @ .5L min
1 well vol = 1.7L

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW11S-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	
[] Domestic Well Data		C.O.C. No.:	
[] Monitoring Well Data		Type of Sample:	
[] Other Well Type:		[] Low Concentration	
[] QA Sample Type:		[] High Concentration	

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 7/19/05								
Time: 1620	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	DBP	
Method:								

PURGE DATA:

	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: 7/19/05								23.77
Method: 1/60 Acu	1.5L	8.19	.296	24.22	4.5	3.57	-78.4	23.84
Monitor Reading (ppm):	3.5	8.33	.316	24.20	18.0	3.36	-92.5	23.84
Well Casing Diameter & Material	3.5	8.41	.334	24.07	12.0	3.63	-94.6	23.85
Type: 1.25 PVC	7.5	8.20	.343	23.72	7.6	3.72	-91.9	23.85
Total Well Depth (TD):								
Static Water Level (WL):								
One Casing Volume(gal/L):								
Start Purge (hrs): 1600 E								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

1600
1603
1607
1611
1615

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

Alkalinity	115
Carbon Dioxide	10
Hydrogen Sulfide	0.3
Ferrous Iron	0.6
Dissolved Oxygen	4.0

Start @ 1640

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Purge @ 500 L/min
1 well vol = 1.2L

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW12S-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	PL
[] Domestic Well Data		C.O.C. No.:	
[X] Monitoring Well Data		Type of Sample:	
[] Other Well Type:		[] Low Concentration	
[] QA Sample Type:		[] High Concentration	

SAMPLING DATA:

		Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date:	7/19/05								
Time:	1300	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	ORP (%)	
Method:	Peristaltic	CLEAR	6.22	0.457	23.08	6.8	3.44	69.4	

PURGE DATA:

		Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other Depth
Date:	7/19/05	1239/0.0	—	—	—	—	—	—	23.02
Method:	Peristaltic	1239/1.5	6.31	0.466	23.22	9.8	4.08	68.0	23.08
Monitor Reading (ppm): 0		1244/20	6.19	0.456	23.08	16	3.85	81.6	23.08
Well Casing Diameter & Material		1249/4.5	6.18	0.452	23.25	12	3.94	77.6	23.08
Type: 1¼" PVC		1254/6.0	6.25	0.455	23.02	9.3	3.65	72.1	23.08
Total Well Depth (TD): 29.48		1259/7.5	6.22	0.457	23.08	6.8	3.44	69.4	23.08
Static Water Level (WL): 23.08									
One Casing Volume(gal/L): 1.5									
Start Purge (hrs): 1234									
End Purge (hrs): 1259									
Total Purge Time (min): 25									
Total Vol. Purged (gal/L): 7.5									

SAMPLE TIME 1300

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

		Equipment	Time
Alkalinity		K-2810	1322
Carbon Dioxide	20 ppm	K-1910	1313
Hydrogen Sulfide	0.0 mg/L	KSC	1318
Ferrous Iron	0.0 mg/L	HACH	1315
Dissolved Oxygen	3.0 ppm	K-7512	1325

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	None

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page ___ of ___

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-MW100-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	
▯ Domestic Well Data		C.O.C. No.:	
▯ Monitoring Well Data		Type of Sample:	
▯ Other Well Type:		▯ Low Concentration	
▯ QA Sample Type:		▯ High Concentration	

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	~~Other~~
Date: 7/19/05							DRY	Time 705
Time: 1705	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method:								

PURGE DATA:

Date: 7/19/05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	~~Other~~	
Method:	3.0	7.96	[illegible]	24.36	11	3.23	-52.2	23.69	1711
Monitor Reading (ppm):	5.0	7.65	.281	24.17	3.2	3.59	[illegible]	23.64	1715
Well Casing Diameter & Material	7.0	7.76	.279	24.17	3.0	3.63	-61.2	23.64	1719
Type:	7.0	7.67	.276	24.26	1.8	3.49	-53.1	23.65	1723
Total Well Depth (TD):									
Static Water Level (WL):									
One Casing Volume(gal/L):									
Start Purge (hrs):									
End Purge (hrs):									
Total Purge Time (min):									
Total Vol. Purged (gal/L):									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

Alkalinity	90
Carbon Dioxide	10
Hydrogen Sulfide	0.0
Ferrous Iron	0.0
Dissolved Oxygen	4.5

Fe.+ @ 1740

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Indust = 3.1K
Purge Q .5L/mw

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name:	PENSACOLA NAS SITE 14	Sample ID No.:	PEN-Site 14-TW04-0705
Project No.:		Sample Location:	Site 14
		Sampled By:	
[] Domestic Well Data		C.O.C. No.:	
[] Monitoring Well Data		Type of Sample:	
[] Other Well Type:		[] Low Concentration	
[] QA Sample Type:		[] High Concentration	

SAMPLING DATA:

Date: 7/19/05	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1230E	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(%)	
Method:								

PURGE DATA:

Date: 7/19/05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Low Flow	4.0L	7.40	.236	22.24	5.0	1.69		1215
Monitor Reading (ppm):	6.0	7.47	.251	22.21	2.4	1.49		1219
Well Casing Diameter & Material	8.0L	7.47	.274	22.22	2.2	1.25		1223
Type:	10.0L	7.45	.290	22.22	2.4	1.10		1227
Total Well Depth (TD):								
Static Water Level (WL):								
One Casing Volume(gal/L):								
Start Purge (hrs): 1207								
End Purge (hrs): 1228								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

22.35
23.45
23.44
23.44

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs			
PAHs			
TRPH			
TOC			
Anions(N, Cl, SO_4, PO_4)			
NH_3			
TKN			
Total Phosphorous			
Dissolved gases (MEE)			
CO_2			
Dissolved Fe			
Alkalinity			
Sulfide			

OBSERVATIONS / NOTES:

Alkalinity	115	start @ 1250
Carbon Dioxide	19	
Hydrogen Sulfide	0.1	
Ferrous Iron	.25	
Dissolved Oxygen	1.5	

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

1 well vol = 3.12 L
.5 L/min

TETRA TECH NUS, INC. | CHAIN OF CUSTODY | NUMBER 2201 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
0063	SITE 14 NAS PENSACOLA	GERRY WALKER	(850) 395-9899	ACCURA ANALYTICAL LABORATORIES
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
		PETE LEVERETTE	(904) 636-6125	6017 FINANCIAL DR
		CARRIER/WAYBILL NUMBER		CITY, STATE
		FEDEX		NORCROSS, GA 30071

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2005	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOCs (8260B)	BTEX + MTBE (8260B)	PAHs (8270C)	TRPH (FL-PRO)	TOC (EPA415.1)	MEE (RSK 169 147/175)	Anions (EPA 300.0, Methods 18, 310.1) NH3, TKN, Total Phos	* Diss. Fe (EPA 350.1, 351.2, 365.3) (6010B Trace)	COMMENTS
								CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	G	G	G	G	P	P	G
								PRESERVATIVE USED	HCL	HCL	–	HCL	HCL	HCL	–	H_2SO_4	–
7/20	0735	PEN-SITE14-MW02S-0705				GW	G	13	–	X	X	X	X	X	X	X	X	Cool to 4°C
7/20	0830	PEN-SITE14-MW04S-0705				GW	G	13	–	X	X	X	X	X	X	X	X	
7/20	0837	PEN-SITE14-MW03S-0705				GW	G	13	–	X	X	X	X	X	X	X	X	*Diss. Fe to be
7/20	0700	PEN-SITE14-TB02-0705				QC	G	2	X	–	–	–	–	–	–	–	–	Filtered at Lab
																		Anions: Nitrate, Nitrite Chloride, Sulfate, Ortho-Phosphate
																		Reference #: CTO #379

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	7/20/05	1200	1. RECEIVED BY		
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TINUS-001

TETRA TECH JAX Fax:9046366165 Jul 19 2005 9:12 P.02

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 2201 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
C063	Site 14 NAS Pensacola	Gerry Walker	(850) 385-9899	Accutest Analytical Laboratories
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature]		Pete Lowrate	(904) 636-6125	6017 Financial Dr
		CARRIER/WAYBILL NUMBER		CITY, STATE
		FED EX		Norcross, GA 30071

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2005	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOCs (8260B)	BTEX + MTBE (8260B)	PAHs (8270C)	TEPH (FL-PRO)	TOC (EPA 415.1)	MEE (RSKSOP 147/175)	Anions, CO2, Alk (EPA 300.0, Method 310.1)	NH3, TKN, Total Phos (EPA 350.1, 351.2, 365.3)	* Diss. Fe (6010B Trace)	COMMENTS
									CONTAINER TYPE PLASTIC (P) or GLASS (G)					G	G	G	G	G	G	P	P	P
									PRESERVATIVE USED					HCL	HCL	[illegible]	HCL	HCL	-	H_2SO_4	-
7/19	0945	PEN-Site14-MW04S-0705				GW	G	13	X	-	X	X	X	X	X	X	X	X	Cool to 4°C
7/19	1050	PEN-Site14-MW09S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	
7/19	1105	PEN-Site14-MW07S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	* Diss Fe to lab
7/19	1230	PEN-Site14-MW01-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	Filtered at lab
7/19	1210	PEN-Site14-MW08S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	
7/19	1300	PEN-Site14-MW12S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	Anions: Nitrate, Nitrite,
7/19	1520	PEN-Site14-MW05S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	Chloride, Sulfate,
7/19	1620	PEN-Site14-MW04-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	& Ortho-Phosphate
7/19	1350	PEN-Site14-MW10S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	
7/19	1620	PEN-Site14-MW11S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	Reference #
7/19	1725	PEN-Site14-MW100-0705				GW	G	13	-	X	X	X	X	X	X	X	X	X	CTO # 379
7/19	0742	PEN-Site14-FB01-0705				QC	G	2	X	-	-	-	-	-	-	-	-	-	
7/19	0700	PEN-Site14-FB01-0705				QC	G	2	X	-	X	X	-	-	-	-	-	-	
7/19	1730	PEN-Site14-FB02-0705				QC	G	2	X	-	X	X	-	-	-	-	-	-	

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
[signature]	7/19/05	1845			
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD CO...) PINK (FILE COPY)

4/02R
FORM NO. TINUS-001

TETRA TECH JAX Fax:9046366165 Jul 19 2005 9:12 P.03

APPENDIX F

SOIL LABORATORY ANALYTICAL REPORTS

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 8419

Client Project: NAS Pensacola / UST Site 14 / CTO 0379
TtNUS Project Number: N0063
TtNUS Project Manager: Gerry Walker

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package is a total of **106** pages including: Table of Contents, Case Narrative, Chain of Custody, Sample Receipt Checklist, QA Verification Statement, and Analytical Results Summary Forms.

The following items were noted concerning this work order:

Receiving Notations:

1. The samples were received at 2°C.

Michael F. Broome — *July 01, 2005*
Michael Broome — Date
Receiving

FL PRO Notations (Water):

1. The relative percent difference between the matrix spike and matrix spike duplicate was outside of the laboratory-derived limits for the parent sample 8419-012.

2. The percent recovery was outside the laboratory control limit for 8419-012MS.

3. The surrogate recovery of C39 was above the laboratory control limit for the Method Blank.

Beth Parmer — *July 19, 2005*
Beth Parmer — Date
GC Analyst

FLPRO Notations (Soil)1:

1. The samples 8419-002, 004, 005, 006, and 008 required dilution due to high analyte concentration, resulting in elevated detection limits.

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ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 • NC Certification #483
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USACE Approved • Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 8419

Client Project: NAS Pensacola / UST Site 14 / CTO 0379
TtNUS Project Number: N0063
TtNUS Project Manager: Gerry Walker

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package is a total of **106** pages including: Table of Contents, Case Narrative, Chain of Custody, Sample Receipt Checklist, QA Verification Statement, and Analytical Results Summary Forms.

The following items were noted concerning this work order:

Receiving Notations:

1. The samples were received at 2°C.

Michael F. Broome — *July 01, 2005*
Michael Broome — Date
Receiving

FL PRO Notations (Water):

1. The relative percent difference between the matrix spike and matrix spike duplicate was outside of the laboratory-derived limits for the parent sample 8419-012.

2. The percent recovery was outside the laboratory control limit for 8419-012MS.

3. The surrogate recovery of C39 was above the laboratory control limit for the Method Blank.

Beth Parmer — *July 19, 2005*
Beth Parmer — Date
GC Analyst

FLPRO Notations (Soil)1:

1. The samples 8419-002, 004, 005, 006, and 008 required dilution due to high analyte concentration, resulting in elevated detection limits.

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2. The surrogates OTP and C39 were diluted out for the samples 8419-002 and 008 and the surrogate C39 was diluted out for the sample 8419-004; therefore no recoveries could be reported.

3. The surrogate recovery of OTP for the matrix spike duplicate of sample 8419-009 was higher outside of the laboratory-derived limits.

4. The relative percent difference between the matrix spike and matrix spike duplicate of the parent sample 8419-009 was outside the laboratory-derived limits.

Beth Parmer — *July 19, 2005*
Beth Parmer — Date
GC Analyst

PAHs by SW8270C SIM Notations:

1. The following samples required dilution due to high analyte concentration and/or possible matrix interference, resulting in elevated detection limits: PEN-SITE14-SS-DPT02-22, PEN-SITE14-SS-DPT04-21, PEN-SITE14-SS-DPT05-22, PEN-SITE14-SS-DPT06-22, PEN-SITE14-SS-DPT08-25, PEN-SITE14-SS-DPT09-26, PEN-SITE14-SS-DPT10-26.

2. The surrogate recoveries were outside the laboratory-derived limits for the following samples: PEN-SITE14-SS-DPT02-22, PEN-SITE14-SS-DPT05-22, PEN-SITE14-SS-DPT06-22, PEN-SITE14-SS-DPT07-24. The samples were re-extracted outside of hold time and the re-extracts showed similar results.

3. The water batch passed in every respect other than the MS/MSD having high Relative Percent Differences for six of the lighter analytes. This is apparently due to the MS being concentrated slightly faster than the MSD.

4. The BKS in the soil batch received five times the normal amount of spike compounds during the extraction process. When this is taken into account, as in the CLP like forms, the soil batch passed in every respect other than the MS/MSD having low spike recoveries for the methylnapthalenes due to the sample having large hits for these analytes.

Chris Pittman — *August 03, 2005*
Chris Pittman — Date
SVOC Analyst

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Project Manager's Notations:

1. The soil sample results are reported on a DRY weight basis.

These case narrative notations have been reviewed/edited by:

David C. Fuller
VP – Client Services

August 16, 2005
Date

42040

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

CHAIN OF CUSTODY

Company Name: Tetra Tech NUS
Billing address: On File
Address: 8640 Philips Hwy Suite 16 Jacksonville FL 32256
P.O.# (if required): 1003037
Results Sent to: (Client Contact): Gerald Walker
Email address: walker.g@tetratech.com
Contact Phone #: 904.636.6125
Fax#: 904.636.6165
Project (Site) Name: UST Site 14
Project Number: N0063.
Preservation Code: (See below)
Sampler(s): (signature)
Sampler(s): (printed)

For Laboratory Use Only:
QC Level: 1 2 3 4 CLP-Like
Custody Seal(s): 2 N Tape
AAL LIMS System ID: 13268
Receiver's Initials/Temp: BM 2°C
AAL Work Order # 8419

Analysis Requested: 8270 - PAHs; FL PRO - TRH

Field Comments:

Line No.	Sample ID #	Sample Date / Time	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	8270 - PAHs	FL PRO - TRH	AAL Lab ID: 8419
1	PEN-Site 14-SS-DPT01-21	6/21/05 0930		X	S	DPT01	1	X	X	001
2	PEN-Site 14-SS-DPT02-22	1030				DPT02				002
3	PEN-Site 14-SS-DPT03-22	1130				DPT03				003
4	PEN-Site 14-SS-DPT04-21	1230				DPT04				004
5	PEN-Site 14-SS-DPT05-22	1330				DPT05				005
6	PEN-Site 14-SS-DPT06-22	1435				DPT06				006
7	PEN-Site 14-SS-DPT07-24	1535				DPT07				007
8	PEN-Site 14-SS-DPT08-25	1640				DPT08				008
9	PEN-Site 14-SS-DPT09-26	1755				DPT09				009
10	PEN-Site 14-SS-DPT10-26	1855				DPT10				010

1) Relinquished By:	Date / Time	2) Received By:	Date / Time	Delivered by: (Circle One)
[signature]	6/30/05 0930	Fed Ex		Fed Ex / UPS / DHL / AAL Pickup / Hand / Other
3) Relinquished By:	**Date / Time**	**4) Received By:**	**Date / Time**	**Turnaround Time Requested:**
Fed Ex	7/1/05 0920	[signature]	7/1/05 0920	

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

42043

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

CHAIN OF CUSTODY

Company Name: Tetra Tech NUS

Billing address:

Address:

P.O.# (if required):

Results Sent to: (Client Contact):

Email address:

Contact Phone #: Fax#:

Project (Site) Name:

Project Number:

Preservation Code: (See below)

For Laboratory Use Only:
QC Level: 1 2 3 4 CLP-Like
Custody Seal(s) 2 N Tape

AAL LIMS System ID: 13268
Receiver's Initials/Temp: BM 22
AAL Work Order # 8419

Sampler(s): (signature)

Sampler(s): (printed)

Analysis Requested

Field Comments:

Line No.	Sample ID #	Sample Date / Time	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	PAH - 8270	FL PRO - TPH										AAL Lab ID: 8419
1	Pre Rinsate 01	6/28/05/0845		X	GW	QAQC - Pre Rinsate	24	2	2										011
2	Post Rinsate 01	6/28/05/1600		X	GW	QAQC - Post Rinsate	4	2	2										012
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

6/30/04

1) Relinquished By:	Date / Time	2) Received By:	Date / Time	Delivered by: (Circle One)
Michael S. Rice	6/30/05 0830	Fed Ex		Fed Ex / UPS / DHL / AAL Pickup / Hand / Other
3) Relinquished By:	**Date / Time**	**4) Received By:**	**Date / Time**	**Turnaround Time Requested:**
Fed Ex	7/1/05 0820	[illegible]	7/1/05 0920	

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

9

PROJ_NO: 00063

SDG: 8419 MEDIA: WATER DATA FRACTION: PAH

nsample	Post Rinsate 01	nsample	Pre Rinsate 01
samp_date	6/29/2005	samp_date	6/28/2005
lab_id	8419-012	lab_id	8419-011
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids		Pct_Solids	
DUP_OF·		DUP_OF.	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.69		
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

PROJ_NO: 00063

SDG: 8419 MEDIA: SOIL DATA FRACTION: PAH

nsample	PEN-SITE14-SS-DPT01-21	nsample	PEN-SITE14-SS-DPT02-22	nsample	PEN-SITE14-SS-DPT02-22 D
samp_date	6/28/2005	samp_date	6/28/2005	samp_date	6/28/2005
lab_id	8419-001	lab_id	8419-002	lab_id	8419-002 DL1 DI
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	80.0	Pct_Solids	76.0	Pct_Solids	76.0
DUP_OF:		DUP_OF:		DUP_OF.	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	8.3	U	
2-METHYLNAPHTHALENE	8.3	U	
ACENAPHTHENE	8.3	U	
ACENAPHTHYLENE	3.4	J	P
ANTHRACENE	8.3	U	
BENZO(A)ANTHRACENE	15		
BENZO(A)PYRENE	20		
BENZO(B)FLUORANTHENE	16		
BENZO(G,H,I)PERYLENE	15		
BENZO(K)FLUORANTHENE	17		
CHRYSENE	20		
DIBENZO(A,H)ANTHRACENE	6.7	J	P
FLUORANTHENE	29		
FLUORENE	8.3	U	
INDENO(1,2,3-CD)PYRENE	14		
NAPHTHALENE	8.3	U	
PHENANTHRENE	8.8		
PYRENE	30		

Parameter	Result	Val Qual	Qual Code
ACENAPHTHYLENE	88	U	
ANTHRACENE	340		
BENZO(A)ANTHRACENE	150		
BENZO(A)PYRENE	58	J	P
BENZO(B)FLUORANTHENE	30	J	P
BENZO(G,H,I)PERYLENE	33	J	P
BENZO(K)FLUORANTHENE	88	U	
CHRYSENE	270		
DIBENZO(A,H)ANTHRACENE	88	U	
FLUORANTHENE	180		
INDENO(1,2,3-CD)PYRENE	18	J	P

Parameter	Result	Val Qual	Qual Code
ACENAPHTHENE	1900		
FLUORENE	3400		
PYRENE	1600		

PROJ_NO: 00063

SDG: 8419 MEDIA: SOIL DATA FRACTION: PAH

nsample	PEN-SITE14-SS-DPT02-22 D
samp_date	6/28/2005
lab_id	8419-002 DL2 DI
qc_type	NM
units	UG/KG
Pct_Solids	76.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	23000		
NAPHTHALENE	6900		
PHENANTHRENE	9000		

nsample	PEN-SITE14-SS-DPT02-22 D
samp_date	6/28/2005
lab_id	8419-002 DL3 DI
qc_type	NM
units	UG/KG
Pct_Solids	76.0
DUP_OF	

Parameter	Result	Val Qual	Qual Code
2-METHYLNAPHTHALENE	39000		

nsample	PEN-SITE14-SS-DPT03-22
samp_date	6/28/2005
lab_id	8419-003
qc_type	NM
units	UG/KG
Pct_Solids	80.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	23		
2-METHYLNAPHTHALENE	35		
ACENAPHTHENE	8.3	U	
ACENAPHTHYLENE	8.3	U	
ANTHRACENE	8.3	U	
BENZO(A)ANTHRACENE	8.3	U	
BENZO(A)PYRENE	8.3	U	
BENZO(B)FLUORANTHENE	8.3	U	
BENZO(G,H,I)PERYLENE	8.3	U	
BENZO(K)FLUORANTHENE	8.3	U	
CHRYSENE	8.3	U	
DIBENZO(A,H)ANTHRACENE	8.3	U	
FLUORANTHENE	8.3	U	
FLUORENE	2.7	J	P
INDENO(1;2,3-CD)PYRENE	8.3	U	
NAPHTHALENE	4.2	J	P
PHENANTHRENE	4.2	J	P
PYRENE	8.3	U	

PROJ_NO: 00063

SDG: 8419 MEDIA: SOIL DATA FRACTION: PAH

nsample	PEN-SITE14-SS-DPT04-21
samp_date	6/28/2005
lab_id	8419-004
qc_type	NM
units	UG/KG
Pct_Solids	82.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ACENAPHTHENE	36		
ACENAPHTHYLENE	8.1	U	
ANTHRACENE	34		
BENZO(A)ANTHRACENE	12		
BENZO(A)PYRENE	3.7	J	P
BENZO(B)FLUORANTHENE	8.1	U	
BENZO(G,H,I)PERYLENE	2.1	J	P
BENZO(K)FLUORANTHENE	8.1	U	
CHRYSENE	23		
DIBENZO(A,H)ANTHRACENE	8.1	U	
FLUORANTHENE	15		
INDENO(1,2,3-CD)PYRENE	8.1	U	

nsample	PEN-SITE14-SS-DPT04-21 D
samp_date	6/28/2005
lab_id	8419-004 DL1 DI
qc_type	NM
units	UG/KG
Pct_Solids	82.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
FLUORENE	240		
NAPHTHALENE	130		
PYRENE	130		

nsample	PEN-SITE14-SS-DPT04-21 D
samp_date	6/28/2005
lab_id	8419-004 DL2 DI
qc_type	NM
units	UG/KG
Pct_Solids	82.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	770		
2-METHYLNAPHTHALENE	1100		
PHENANTHRENE	600		

PROJ_NO: 00063

SDG: 8419 MEDIA: SOIL DATA FRACTION: PAH

nsample	PEN-SITE14-SS-DPT05-22	nsample	PEN-SITE14-SS-DPT06-22	nsample	PEN-SITE14-SS-DPT07-24
samp_date	6/28/2005	samp_date	6/28/2005	samp_date	6/28/2005
lab_id	8419-005	lab_id	8419-006	lab_id	8419-007
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	80.0	Pct_Solids	83.0	Pct_Solids	81.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	83	U	
2-METHYLNAPHTHALENE	83	U	
ACENAPHTHENE	83	U	
ACENAPHTHYLENE	83	U	
ANTHRACENE	83	U	
BENZO(A)ANTHRACENE	32	J	P
BENZO(A)PYRENE	43	J	P
BENZO(B)FLUORANTHENE	36	J	P
BENZO(G,H,I)PERYLENE	33	J	P
BENZO(K)FLUORANTHENE	29	J	P
CHRYSENE	55	J	P
DIBENZO(A,H)ANTHRACENE	17	J	P
FLUORANTHENE	83	U	
FLUORENE	83	U	
INDENO(1,2,3-CD)PYRENE	29	J	P
NAPHTHALENE	83	U	
PHENANTHRENE	83	U	
PYRENE	250		

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	320		
2-METHYLNAPHTHALENE	500		
ACENAPHTHENE	54	J	P
ACENAPHTHYLENE	80	U	
ANTHRACENE	80	U	
BENZO(A)ANTHRACENE	80	U	
BENZO(A)PYRENE	80	U	
BENZO(B)FLUORANTHENE	80	U	
BENZO(G,H,I)PERYLENE	80	U	
BENZO(K)FLUORANTHENE	80	U	
CHRYSENE	59	J	P
DIBENZO(A,H)ANTHRACENE	80	U	
FLUORANTHENE	80	U	
FLUORENE	110		
INDENO(1,2,3-CD)PYRENE	80	U	
NAPHTHALENE	38	J	P
PHENANTHRENE	310		
PYRENE	46	J	P

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	8.2	U	
2-METHYLNAPHTHALENE	2.1	J	P
ACENAPHTHENE	8.2	U	
ACENAPHTHYLENE	8.2	U	
ANTHRACENE	8.2	U	
BENZO(A)ANTHRACENE	8.2	U	
BENZO(A)PYRENE	8.2	U	
BENZO(B)FLUORANTHENE	8.2	U	
BENZO(G,H,I)PERYLENE	8.2	U	
BENZO(K)FLUORANTHENE	8.2	U	
CHRYSENE	8.2	U	
DIBENZO(A,H)ANTHRACENE	8.2	U	
FLUORANTHENE	8.2	U	
FLUORENE	8.2	U	
INDENO(1,2,3-CD)PYRENE	8.2	U	
NAPHTHALENE	8.2	U	
PHENANTHRENE	8.2	U	
PYRENE	8.2	U	

PROJ_NO: 00063

SDG: 8419 MEDIA: SOIL DATA FRACTION PAH

nsample	PEN-SITE14-SS-DPT08-25	nsample	PEN-SITE14-SS-DPT08-25 D	nsample	PEN-SITE14-SS-DPT09-26
samp_date	6/28/2005	samp_date	6/28/2005	samp_date	6/28/2005
lab_id	8419-008	lab_id	8419-008 DIL	lab_id	8419-009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	81.0	Pct_Solids	81.0	Pct_Solids	88.0
DUP_OF:		DUP_OF.		DUP_OF.	

Parameter	Result	Val Qual	Qual Code
ACENAPHTHENE	220		
ACENAPHTHYLENE	82	U	
ANTHRACENE	120		
BENZO(A)ANTHRACENE	42	J	P
BENZO(A)PYRENE	29	J	P
BENZO(B)FLUORANTHENE	82	U	
BENZO(G,H,I)PERYLENE	22	J	P
BENZO(K)FLUORANTHENE	82	U	
CHRYSENE	89		
DIBENZO(A,H)ANTHRACENE	82	U	
FLUORANTHENE	48	J	P
FLUORENE	510		
INDENO(1,2,3-CD)PYRENE	82	U	
PYRENE	280		

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	3500		
2-METHYLNAPHTHALENE	5800		
NAPHTHALENE	910		
PHENANTHRENE	1700		

Parameter	Result	Val Qual	Qual Code
ACENAPHTHENE	52		
ACENAPHTHYLENE	7.6	U	
ANTHRACENE	41		
BENZO(A)ANTHRACENE	7.4	J	P
BENZO(A)PYRENE	2.8	J	P
BENZO(B)FLUORANTHENE	7.6	U	
BENZO(G,H,I)PERYLENE	1.6	J	P
BENZO(K)FLUORANTHENE	7.6	U	
CHRYSENE	16		
DIBENZO(A,H)ANTHRACENE	7.6	U	
FLUORANTHENE	12		
INDENO(1,2,3-CD)PYRENE	7.6	U	
PYRENE	48		

PROJ_NO: 00063

SDG: 8419 MEDIA. SOIL DATA FRACTION: PAH

nsample	PEN-SITE14-SS-DPT09-26 D
samp_date	6/28/2005
lab_id	8419-009 DL1 DI
qc_type	NM
units	UG/KG
Pct_Solids	88.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
FLUORENE	290		

nsample	PEN-SITE14-SS-DPT09-26 D
samp_date	6/28/2005
lab_id	8419-009 DL2 DI
qc_type	NM
units	UG/KG
Pct_Solids	88.0
DUP_OF	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	1400		
2-METHYLNAPHTHALENE	2300		
PHENANTHRENE	790		

nsample	PEN-SITE14-SS-DPT10-26
samp_date	6/28/2005
lab_id	8419-010
qc_type	NM
units	UG/KG
Pct_Solids	80.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ACENAPHTHENE	13		
ACENAPHTHYLENE	8.3	U	
ANTHRACENE	7.7	J	P
BENZO(A)ANTHRACENE	2	J	P
BENZO(A)PYRENE	1.7	J	P
BENZO(B)FLUORANTHENE	8.3	U	
BENZO(G,H,I)PERYLENE	8.3	U	
BENZO(K)FLUORANTHENE	8.3	U	
CHRYSENE	2.8	J	P
DIBENZO(A,H)ANTHRACENE	8.3	U	
FLUORANTHENE	8.3	U	
FLUORENE	28		
INDENO(1,2,3-CD)PYRENE	8.3	U	
NAPHTHALENE	12		
PHENANTHRENE	66		
PYRENE	10		

PROJ_NO: 00063

SDG: 8419 MEDIA. SOIL DATA FRACTION: PAH

nsample	PEN-SITE14-SS-DPT10-26 D
samp_date	6/28/2005
lab_id	8419-010 DIL
qc_type	NM
units	UG/KG
Pct_Solids	80.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	85		
2-METHYLNAPHTHALENE	130		

PROJ_NO: 00063

SDG. 8419 MEDIA: WATER DATA FRACTION PET

nsample	Post Rinsate 01	nsample	Pre Rinsate 01
samp_date	6/29/2005	samp_date	6/28/2005
lab_id	8419-012	lab_id	8419-011
qc_type	NM	qc_type	NM
units	MG/L	units	MG/L
Pct_Solids	100.0	Pct_Solids	100.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

PROJ_NO: 00063

SDG: 8419 MEDIA: SOIL DATA FRACTION: PET

nsample	PEN-SITE14-SS-DPT01-21	nsample	PEN-SITE14-SS-DPT02-22	nsample	PEN-SITE14-SS-DPT03-22
samp_date	6/28/2005	samp_date	6/28/2005	samp_date	6/28/2005
lab_id	8419-001	lab_id	8419-002	lab_id	8419-003
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	80.0	Pct_Solids	76.0	Pct_Solids	80.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	71	U	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	22000		

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	12	J	P

PROJ_NO: 00063

SDG: 8419 MEDIA: SOIL DATA FRACTION: PET

nsample	PEN-SITE14-SS-DPT04-21	nsample	PEN-SITE14-SS-DPT05-22	nsample	PEN-SITE14-SS-DPT06-22
samp_date	6/28/2005	samp_date	6/28/2005	samp_date	6/28/2005
lab_id	8419-004	lab_id	8419-005	lab_id	8419-006
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	82.0	Pct_Solids	80.0	Pct_Solids	83.0
DUP_OF.		DUP_OF.		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1600		

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	5200		

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	3300		

PROJ_NO: 00063

SDG: 8419 MEDIA: SOIL DATA FRACTION: PET

nsample	PEN-SITE14-SS-DPT07-24	nsample	PEN-SITE14-SS-DPT08-25	nsample	PEN-SITE14-SS-DPT09-26
samp_date	6/28/2005	samp_date	6/28/2005	samp_date	6/28/2005
lab_id	8419-007	lab_id	8419-008	lab_id	8419-009
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/KG	units	MG/KG	units	MG/KG
Pct_Solids	81.0	Pct_Solids	81 0	Pct_Solids	88.0
DUP_OF:		DUP_OF:		DUP_OF	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	7.9	J	P

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	36000		

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	120		

PROJ_NO: 00063

SDG: 8419 MEDIA: SOIL DATA FRACTION: PET

nsample	PEN-SITE14-SS-DPT10-26
samp_date	6/28/2005
lab_id	8419-010
qc_type	NM
units	MG/KG
Pct_Solids	80 0
DUP_OF	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	31	J	P

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

Post Rinsate 01

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8419-012

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B070805\B48796

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/05/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/08/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
Pre Rinsate 01

Lab Name : ACCURA ANALYTICAL LAB
Contract: N0063
Lab Code : ACCURA
Case No.: 8419
SAS No.
SDG No.: N/A
Matrix : (soil/water) WATER
Lab Sample Id: 8419-011
Sample wt/vol: 1000 (g/ml): ML
Lab File ID: 1B070805\B48795
Level : (low/med) LOW
Date Received: 07/01/05
% Moisture:
Decanted: (Y/N) N
Date Extracted: 07/05/05
Concentrated Extract Volume: 1000 (µL)
Date Analyzed: 07/08/05
Injection Volume: 2.0 (µL)
Dilution Factor: 1.0
GPC Cleanup (Y/N): N
pH: N/A
Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.69	
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT01-21

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-001

Sample wt/vol: 30.05 (g/ml): G

Lab File ID: 1B071105\B48811

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 20 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/11/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	8.3	U
91-57-6	2-Methylnaphthalene	8.3	U
83-32-9	Acenaphthene	8.3	U
208-96-8	Acenaphthylene	3.4	I
120-12-7	Anthracene	8.3	U
56-55-3	Benzo(a)anthracene	15	
50-32-8	Benzo(a)pyrene	20	
205-99-2	Benzo(b)fluoranthene	16	
191-24-2	Benzo(g,h,i)perylene	15	
207-08-9	Benzo(k)fluoranthene	17	
218-01-9	Chrysene	20	
53-70-3	Dibenz(a,h)Anthracene	6.7	I
206-44-0	Fluoranthene	29	
86-73-7	Fluorene	8.3	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	14	
91-20-3	Naphthalene	8.3	U
85-01-8	Phenanthrene	8.8	
129-00-0	Pyrene	30	

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT02-22

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-002

Sample wt/vol: 30.02 (g/ml): G Lab File ID: 1B071105\B48812

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 24 Decanted: (Y/N) N Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 07/11/05

Injection Volume: 2.0 (µ L) Dilution Factor: 10.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	15000	L
91-57-6	2-Methylnaphthalene	24000	L
83-32-9	Acenaphthene	1300	L
208-96-8	Acenaphthylene	88	U
120-12-7	Anthracene	340	
56-55-3	Benzo(a)anthracene	150	
50-32-8	Benzo(a)pyrene	58	I
205-99-2	Benzo(b)fluoranthene	30	I
191-24-2	Benzo(g,h,i)perylene	33	I
207-08-9	Benzo(k)fluoranthene	88	U
218-01-9	Chrysene	270	
53-70-3	Dibenz(a,h)Anthracene	88	U
206-44-0	Fluoranthene	180	
86-73-7	Fluorene	2000	L
193-39-5	Indeno(1,2,3-c,d)Pyrene	18	I
91-20-3	Naphthalene	6100	L
85-01-8	Phenanthrene	5000	L
129-00-0	Pyrene	800	L

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT02-22 DL1

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-002 DL1

Sample wt/vol: 30.02 (g/ml): G

Lab File ID: 1B072005\B48834

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 24 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/20/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 100.0

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	23000	L
91-57-6	2-Methylnaphthalene	39000	L
83-32-9	Acenaphthene	1900	
208-96-8	Acenaphthylene	880	U
120-12-7	Anthracene	950	
56-55-3	Benzo(a)anthracene	190	I
50-32-8	Benzo(a)pyrene	880	U
205-99-2	Benzo(b)fluoranthene	880	U
191-24-2	Benzo(g,h,i)perylene	880	U
207-08-9	Benzo(k)fluoranthene	880	U
218-01-9	Chrysene	310	I
53-70-3	Dibenz(a,h)Anthracene	880	U
206-44-0	Fluoranthene	280	I
86-73-7	Fluorene	3400	
193-39-5	Indeno(1,2,3-c,d)Pyrene	880	U
91-20-3	Naphthalene	7600	L
85-01-8	Phenanthrene	8400	L
129-00-0	Pyrene	1600	

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-SS-DPT02-22 DL2

Lab Name : ACCURA ANALYTICAL LAB
Contract: N0063
Lab Code : ACCURA
Case No.: 8419
SAS No.
SDG No.: N/A
Matrix : (soil/water) SOIL
Lab Sample Id: 8419-002 DL2
Sample wt/vol: 30.02 (g/ml): G
Lab File ID: 1B072005\B48835
Level : (low/med) LOW
Date Received: 07/01/05
% Moisture: 24 Decanted: (Y/N) N
Date Extracted: 07/07/05
Concentrated Extract Volume: 1000 (µ L)
Date Analyzed: 07/20/05
Injection Volume: 2.0 (µ L)
Dilution Factor: 500.0
GPC Cleanup (Y/N): N pH: N/A
Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	23000	
91-57-6	2-Methylnaphthalene	37000	L
83-32-9	Acenaphthene	2300	I
208-96-8	Acenaphthylene	4400	U
120-12-7	Anthracene	4400	U
56-55-3	Benzo(a)anthracene	4400	U
50-32-8	Benzo(a)pyrene	4400	U
205-99-2	Benzo(b)fluoranthene	4400	U
191-24-2	Benzo(g,h,i)perylene	4400	U
207-08-9	Benzo(k)fluoranthene	4400	U
218-01-9	Chrysene	4400	U
53-70-3	Dibenz(a,h)Anthracene	4400	U
206-44-0	Fluoranthene	4400	U
86-73-7	Fluorene	4200	I
193-39-5	Indeno(1,2,3-c,d)Pyrene	4400	U
91-20-3	Naphthalene	6900	
85-01-8	Phenanthrene	9000	
129-00-0	Pyrene	1900	I

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT02-22 DL3

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-002 DL3

Sample wt/vol: 30.02 (g/ml): G

Lab File ID: 1B072105\B48858

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 24 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µL)

Date Analyzed: 07/21/05

Injection Volume: 2.0 (µL)

Dilution Factor: ~~*****~~ 1000

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	24000	
91-57-6	2-Methylnaphthalene	39000	
83-32-9	Acenaphthene	8800	U
208-96-8	Acenaphthylene	8800	U
120-12-7	Anthracene	8800	U
56-55-3	Benzo(a)anthracene	8800	U
50-32-8	Benzo(a)pyrene	8800	U
205-99-2	Benzo(b)fluoranthene	8800	U
191-24-2	Benzo(g,h,i)perylene	8800	U
207-08-9	Benzo(k)fluoranthene	8800	U
218-01-9	Chrysene	8800	U
53-70-3	Dibenz(a,h)Anthracene	8800	U
206-44-0	Fluoranthene	8800	U
86-73-7	Fluorene	4300	I
193-39-5	Indeno(1,2,3-c,d)Pyrene	8800	U
91-20-3	Naphthalene	7100	I
85-01-8	Phenanthrene	9100	
129-00-0	Pyrene	2200	I

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT03-22

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-003

Sample wt/vol: 30.03 (g/ml): G

Lab File ID: 1B071105\B48808

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 20 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/11/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	23	
91-57-6	2-Methylnaphthalene	35	
83-32-9	Acenaphthene	8.3	U
208-96-8	Acenaphthylene	8.3	U
120-12-7	Anthracene	8.3	U
56-55-3	Benzo(a)anthracene	8.3	U
50-32-8	Benzo(a)pyrene	8.3	U
205-99-2	Benzo(b)fluoranthene	8.3	U
191-24-2	Benzo(g,h,i)perylene	8.3	U
207-08-9	Benzo(k)fluoranthene	8.3	U
218-01-9	Chrysene	8.3	U
53-70-3	Dibenz(a,h)Anthracene	8.3	U
206-44-0	Fluoranthene	8.3	U
86-73-7	Fluorene	2.7	I
193-39-5	Indeno(1,2,3-c,d)Pyrene	8.3	U
91-20-3	Naphthalene	4.2	I
85-01-8	Phenanthrene	4.2	I
129-00-0	Pyrene	8.3	U

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-SS-DPT04-21

Lab Name : ACCURA ANALYTICAL LAB
Contract: N0063
Lab Code : ACCURA
Case No.: 8419
SAS No.
SDG No.: N/A
Matrix : (soil/water) SOIL
Lab Sample Id: 8419-004
Sample wt/vol: 30.04 (g/ml): G
Lab File ID: 1B071105\B48813
Level : (low/med) LOW
Date Received: 07/01/05
% Moisture: 18 Decanted: (Y/N) N
Date Extracted: 07/07/05
Concentrated Extract Volume: 1000 (µ L)
Date Analyzed: 07/11/05
Injection Volume: 2.0 (µ L)
Dilution Factor: 1.0
GPC Cleanup (Y/N): N pH: N/A
Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	540	L
91-57-6	2-Methylnaphthalene	740	L
83-32-9	Acenaphthene	36	
208-96-8	Acenaphthylene	8.1	U
120-12-7	Anthracene	34	
56-55-3	Benzo(a)anthracene	12	
50-32-8	Benzo(a)pyrene	3.7	I
205-99-2	Benzo(b)fluoranthene	8.1	U
191-24-2	Benzo(g,h,i)perylene	2.1	I
207-08-9	Benzo(k)fluoranthene	8.1	U
218-01-9	Chrysene	23	
53-70-3	Dibenz(a,h)Anthracene	8.1	U
206-44-0	Fluoranthene	15	
86-73-7	Fluorene	92	L
193-39-5	Indeno(1,2,3-c,d)Pyrene	8.1	U
91-20-3	Naphthalene	120	L
85-01-8	Phenanthrene	290	L
129-00-0	Pyrene	88	L

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT04-21 DL1

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-004 DL1

Sample wt/vol: 30.04 (g/ml): G

Lab File ID: 1B072005\B48836

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 18 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/20/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 5.0

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	810	L
91-57-6	2-Methylnaphthalene	1200	L
83-32-9	Acenaphthene	100	
208-96-8	Acenaphthylene	41	U
120-12-7	Anthracene	65	
56-55-3	Benzo(a)anthracene	13	I
50-32-8	Benzo(a)pyrene	41	U
205-99-2	Benzo(b)fluoranthene	41	U
191-24-2	Benzo(g,h,i)perylene	41	U
207-08-9	Benzo(k)fluoranthene	41	U
218-01-9	Chrysene	24	I
53-70-3	Dibenz(a,h)Anthracene	41	U
206-44-0	Fluoranthene	24	I
86-73-7	Fluorene	240	
193-39-5	Indeno(1,2,3-c,d)Pyrene	41	U
91-20-3	Naphthalene	130	
85-01-8	Phenanthrene	530	L
129-00-0	Pyrene	130	

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-SS-DPT04-21 DL2

Lab Name : ACCURA ANALYTICAL LAB
Contract: N0063
Lab Code : ACCURA
Case No.: 8419
SAS No.
SDG No.: N/A
Matrix : (soil/water) SOIL
Lab Sample Id: 8419-004 DL2
Sample wt/vol: 30.04 (g/ml): G
Lab File ID: 1B072005\B48837
Level : (low/med) LOW
Date Received: 07/01/05
% Moisture: 18 Decanted: (Y/N) N
Date Extracted: 07/07/05
Concentrated Extract Volume: 1000 (µL)
Date Analyzed: 07/20/05
Injection Volume: 2.0 (µL)
Dilution Factor: 25.0
GPC Cleanup (Y/N): N pH: N/A
Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	770	
91-57-6	2-Methylnaphthalene	1100	
83-32-9	Acenaphthene	160	I
208-96-8	Acenaphthylene	200	U
120-12-7	Anthracene	64	I
56-55-3	Benzo(a)anthracene	200	U
50-32-8	Benzo(a)pyrene	200	U
205-99-2	Benzo(b)fluoranthene	200	U
191-24-2	Benzo(g,h,i)perylene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
218-01-9	Chrysene	200	U
53-70-3	Dibenz(a,h)Anthracene	200	U
206-44-0	Fluoranthene	200	U
86-73-7	Fluorene	330	
193-39-5	Indeno(1,2,3-c,d)Pyrene	200	U
91-20-3	Naphthalene	120	I
85-01-8	Phenanthrene	600	
129-00-0	Pyrene	170	I

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT05-22

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-005

Sample wt/vol: 30.04 (g/ml): G Lab File ID: 1B071105\B48814

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 20 Decanted: (Y/N) N Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 07/11/05

Injection Volume: 2.0 (µ L) Dilution Factor: 10.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	83	U
91-57-6	2-Methylnaphthalene	83	U
83-32-9	Acenaphthene	83	U
208-96-8	Acenaphthylene	83	U
120-12-7	Anthracene	83	U
56-55-3	Benzo(a)anthracene	32	I
50-32-8	Benzo(a)pyrene	43	I
205-99-2	Benzo(b)fluoranthene	36	I
191-24-2	Benzo(g,h,i)perylene	33	I
207-08-9	Benzo(k)fluoranthene	29	I
218-01-9	Chrysene	55	I
53-70-3	Dibenz(a,h)Anthracene	17	I
206-44-0	Fluoranthene	83	U
86-73-7	Fluorene	83	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	29	I
91-20-3	Naphthalene	83	U
85-01-8	Phenanthrene	83	U
129-00-0	Pyrene	250	

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-SS-DPT06-22

Lab Name : ACCURA ANALYTICAL LAB
Contract: N0063
Lab Code : ACCURA
Case No.: 8419
SAS No.
SDG No.: N/A
Matrix : (soil/water) SOIL
Lab Sample Id: 8419-006
Sample wt/vol: 30.05 (g/ml): G
Lab File ID: 1B071105\B48815
Level : (low/med) LOW
Date Received: 07/01/05
% Moisture: 17 Decanted: (Y/N) N
Date Extracted: 07/07/05
Concentrated Extract Volume: 1000 (µL)
Date Analyzed: 07/12/05
Injection Volume: 2.0 (µL)
Dilution Factor: 10.0
GPC Cleanup (Y/N): N pH: N/A
Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	320	
91-57-6	2-Methylnaphthalene	500	
83-32-9	Acenaphthene	54	I
208-96-8	Acenaphthylene	80	U
120-12-7	Anthracene	80	U
56-55-3	Benzo(a)anthracene	80	U
50-32-8	Benzo(a)pyrene	80	U
205-99-2	Benzo(b)fluoranthene	80	U
191-24-2	Benzo(g,h,i)perylene	80	U
207-08-9	Benzo(k)fluoranthene	80	U
218-01-9	Chrysene	59	I
53-70-3	Dibenz(a,h)Anthracene	80	U
206-44-0	Fluoranthene	80	U
86-73-7	Fluorene	110	
193-39-5	Indeno(1,2,3-c,d)Pyrene	80	U
91-20-3	Naphthalene	38	I
85-01-8	Phenanthrene	310	
129-00-0	Pyrene	46	I

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT07-24

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-007

Sample wt/vol: 30.01 (g/ml): G

Lab File ID: 1B071105\B48816

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 19 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µL)

Date Analyzed: 07/12/05

Injection Volume: 2.0 (µL)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	8.2	U
91-57-6	2-Methylnaphthalene	2.1	I
83-32-9	Acenaphthene	8.2	U
208-96-8	Acenaphthylene	8.2	U
120-12-7	Anthracene	8.2	U
56-55-3	Benzo(a)anthracene	8.2	U
50-32-8	Benzo(a)pyrene	8.2	U
205-99-2	Benzo(b)fluoranthene	8.2	U
191-24-2	Benzo(g,h,i)perylene	8.2	U
207-08-9	Benzo(k)fluoranthene	8.2	U
218-01-9	Chrysene	8.2	U
53-70-3	Dibenz(a,h)Anthracene	8.2	U
206-44-0	Fluoranthene	8.2	U
86-73-7	Fluorene	8.2	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	8.2	U
91-20-3	Naphthalene	8.2	U
85-01-8	Phenanthrene	8.2	U
129-00-0	Pyrene	8.2	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT08-25

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-008

Sample wt/vol: 30.01 (g/ml): G

Lab File ID: 1B071105\B48817

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 19 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/12/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 10.0

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	3100	L
91-57-6	2-Methylnaphthalene	4900	L
83-32-9	Acenaphthene	220	
208-96-8	Acenaphthylene	82	U
120-12-7	Anthracene	120	
56-55-3	Benzo(a)anthracene	42	I
50-32-8	Benzo(a)pyrene	29	I
205-99-2	Benzo(b)fluoranthene	82	U
191-24-2	Benzo(g,h,i)perylene	22	I
207-08-9	Benzo(k)fluoranthene	82	U
218-01-9	Chrysene	89	
53-70-3	Dibenz(a,h)Anthracene	82	U
206-44-0	Fluoranthene	48	I
86-73-7	Fluorene	510	
193-39-5	Indeno(1,2,3-c,d)Pyrene	82	U
91-20-3	Naphthalene	900	L
85-01-8	Phenanthrene	1300	L
129-00-0	Pyrene	280	

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT08-25 DL

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-008 DL

Sample wt/vol: 30.01 (g/ml): G Lab File ID: 1B072005\B48838

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 19 Decanted: (Y/N) N Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 07/20/05

Injection Volume: 2.0 (µ L) Dilution Factor: 100.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	3500	
91-57-6	2-Methylnaphthalene	5800	
83-32-9	Acenaphthene	400	I
208-96-8	Acenaphthylene	820	U
120-12-7	Anthracene	820	U
56-55-3	Benzo(a)anthracene	820	U
50-32-8	Benzo(a)pyrene	820	U
205-99-2	Benzo(b)fluoranthene	820	U
191-24-2	Benzo(g,h,i)perylene	820	U
207-08-9	Benzo(k)fluoranthene	820	U
218-01-9	Chrysene	820	U
53-70-3	Dibenz(a,h)Anthracene	820	U
206-44-0	Fluoranthene	820	U
86-73-7	Fluorene	700	I
193-39-5	Indeno(1,2,3-c,d)Pyrene	820	U
91-20-3	Naphthalene	910	
85-01-8	Phenanthrene	1700	
129-00-0	Pyrene	390	I

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT09-26

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-009

Sample wt/vol: 30.02 (g/ml): G

Lab File ID: 1B071105\B48818

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 12 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/12/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	840	L
91-57-6	2-Methylnaphthalene	1300	L
83-32-9	Acenaphthene	52	
208-96-8	Acenaphthylene	7.6	U
120-12-7	Anthracene	41	
56-55-3	Benzo(a)anthracene	7.4	I
50-32-8	Benzo(a)pyrene	2.8	I
205-99-2	Benzo(b)fluoranthene	7.6	U
191-24-2	Benzo(g,h,i)perylene	1.6	I
207-08-9	Benzo(k)fluoranthene	7.6	U
218-01-9	Chrysene	16	
53-70-3	Dibenz(a,h)Anthracene	7.6	U
206-44-0	Fluoranthene	12	
86-73-7	Fluorene	160	L
193-39-5	Indeno(1,2,3-c,d)Pyrene	7.6	U
91-20-3	Naphthalene	240	L
85-01-8	Phenanthrene	450	L
129-00-0	Pyrene	48	

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT09-26 DL1

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-009 DL1

Sample wt/vol: 30.02 (g/ml): G

Lab File ID: 1B072005\B48839

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 12 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/20/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 10.0

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	1300	L
91-57-6	2-Methylnaphthalene	2100	L
83-32-9	Acenaphthene	140	
208-96-8	Acenaphthylene	76	U
120-12-7	Anthracene	73	I
56-55-3	Benzo(a)anthracene	76	U
50-32-8	Benzo(a)pyrene	76	U
205-99-2	Benzo(b)fluoranthene	76	U
191-24-2	Benzo(g,h,i)perylene	76	U
207-08-9	Benzo(k)fluoranthene	76	U
218-01-9	Chrysene	76	U
53-70-3	Dibenz(a,h)Anthracene	76	U
206-44-0	Fluoranthene	17	I
86-73-7	Fluorene	290	
193-39-5	Indeno(1,2,3-c,d)Pyrene	76	U
91-20-3	Naphthalene	310	
85-01-8	Phenanthrene	710	L
129-00-0	Pyrene	77	

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT09-26 DL2

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-009 DL2

Sample wt/vol: 30.02 (g/ml): G Lab File ID: 1B072005\B48840

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 12 Decanted: (Y/N) N Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 07/20/05

Injection Volume: 2.0 (µL) Dilution Factor: 50.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	1400	
91-57-6	2-Methylnaphthalene	2300	
83-32-9	Acenaphthene	170	I
208-96-8	Acenaphthylene	380	U
120-12-7	Anthracene	380	U
56-55-3	Benzo(a)anthracene	380	U
50-32-8	Benzo(a)pyrene	380	U
205-99-2	Benzo(b)fluoranthene	380	U
191-24-2	Benzo(g,h,i)perylene	380	U
207-08-9	Benzo(k)fluoranthene	380	U
218-01-9	Chrysene	380	U
53-70-3	Dibenz(a,h)Anthracene	380	U
206-44-0	Fluoranthene	380	U
86-73-7	Fluorene	350	I
193-39-5	Indeno(1,2,3-c,d)Pyrene	380	U
91-20-3	Naphthalene	320	I
85-01-8	Phenanthrene	790	
129-00-0	Pyrene	92	I

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT10-26

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8419

SAS No.

SDG No.: N/A

Matrix : (soil/water) SOIL

Lab Sample Id: 8419-010

Sample wt/vol: 30.03 (g/ml): G

Lab File ID: 1B071105\B48819

Level : (low/med) LOW

Date Received: 07/01/05

% Moisture: 20 Decanted: (Y/N) N

Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/12/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A

Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	83	L
91-57-6	2-Methylnaphthalene	120	L
83-32-9	Acenaphthene	13	
208-96-8	Acenaphthylene	8.3	U
120-12-7	Anthracene	7.7	I
56-55-3	Benzo(a)anthracene	2.0	I
50-32-8	Benzo(a)pyrene	1.7	I
205-99-2	Benzo(b)fluoranthene	8.3	U
191-24-2	Benzo(g,h,i)perylene	8.3	U
207-08-9	Benzo(k)fluoranthene	8.3	U
218-01-9	Chrysene	2.8	I
53-70-3	Dibenz(a,h)Anthracene	8.3	U
206-44-0	Fluoranthene	8.3	U
86-73-7	Fluorene	28	
193-39-5	Indeno(1,2,3-c,d)Pyrene	8.3	U
91-20-3	Naphthalene	12	
85-01-8	Phenanthrene	66	
129-00-0	Pyrene	10	

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT10-26 DL

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-010 DL

Sample wt/vol: 30.03 (g/ml): G Lab File ID: 1B072005\B48841

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 20 Decanted: (Y/N) N Date Extracted: 07/07/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 07/20/05

Injection Volume: 2.0 (µ L) Dilution Factor: 5.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
90-12-0	1-Methylnaphthalene	85	
91-57-6	2-Methylnaphthalene	130	
83-32-9	Acenaphthene	15	I
208-96-8	Acenaphthylene	42	U
120-12-7	Anthracene	42	U
56-55-3	Benzo(a)anthracene	42	U
50-32-8	Benzo(a)pyrene	42	U
205-99-2	Benzo(b)fluoranthene	42	U
191-24-2	Benzo(g,h,i)perylene	42	U
207-08-9	Benzo(k)fluoranthene	42	U
218-01-9	Chrysene	42	U
53-70-3	Dibenz(a,h)Anthracene	42	U
206-44-0	Fluoranthene	42	U
86-73-7	Fluorene	32	I
193-39-5	Indeno(1,2,3-c,d)Pyrene	42	U
91-20-3	Naphthalene	12	I
85-01-8	Phenanthrene	78	
129-00-0	Pyrene	12	I

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

Post Rinsate 01

Lab Name :	ACCURA ANALYTICAL LAB.	Contract:	N0063
Lab Code :	ACCURA	Case No.: 8419	SAS No.		SDG No.: N/A
Matrix : (soil/water)	WATER	Lab Sample Id:	8419-012
Sample wt/vol:	1000 (g/ml): ML	Lab File ID:	071505\O12125
Level : (low/med)	LOW	Date Received:	07/01/05
% Moisture:	Decanted: (Y/N) N	Date Extracted:	07/05/05
Concentrated Extract Volume:	2000 (µ L)	Date Analyzed:	07/15/05
Injection Volume:	2.0 (µ L)	Dilution Factor:	1.0
GPC Cleanup (Y/N):	N pH: N/A	Extraction : (Type)	SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

Pre Rinsate 01

Lab Name : ACCURA ANALYTICAL LAB. Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8419-011

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 071505\O12131

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/05/05

Concentrated Extract Volume: 2000 (µ L) Date Analyzed: 07/16/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-SS-DPT01-21

Lab Name : ACCURA ANALYTICAL LAB. Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-001

Sample wt/vol: 30.05 (g/ml): G Lab File ID: 071505\O12147

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 20 Decanted: (Y/N) N Date Extracted: 07/06/05

Concentrated Extract Volume: 2000 (µ L) Date Analyzed: 07/16/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	71	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT02-22

Lab Name :	ACCURA ANALYTICAL LAB.	Contract:	N0063
Lab Code :	ACCURA Case No.: 8419	SAS No.	SDG No.: N/A
Matrix : (soil/water)	SOIL	Lab Sample Id:	8419-002
Sample wt/vol:	30.05 (g/ml): G	Lab File ID:	071505\O12134
Level : (low/med)	LOW	Date Received:	07/01/05
% Moisture:	24 Decanted: (Y/N) N	Date Extracted:	07/06/05
Concentrated Extract Volume:	2000 (µ L)	Date Analyzed:	07/16/05
Injection Volume:	2.0 (µ L)	Dilution Factor:	100.0
GPC Cleanup (Y/N):	N pH: N/A	Extraction : (Type)	SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	22000	V

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT03-22

Lab Name : ACCURA ANALYTICAL LAB. Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-003

Sample wt/vol: 30.08 (g/ml): G Lab File ID: 071505\O12148

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 20 Decanted: (Y/N) N Date Extracted: 07/06/05

Concentrated Extract Volume: 2000 (μ L) Date Analyzed: 07/16/05

Injection Volume: 2.0 (μ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	12	IV

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT04-21

Lab Name : ACCURA ANALYTICAL LAB. Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-004

Sample wt/vol: 30.03 (g/ml): G Lab File ID: 071505\O12135

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 18 Decanted: (Y/N) N Date Extracted: 07/06/05

Concentrated Extract Volume: 2000 (µ L) Date Analyzed: 07/16/05

Injection Volume: 2.0 (µ L) Dilution Factor: 20.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	1600	V

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT05-22

Lab Name : ACCURA ANALYTICAL LAB. Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-005

Sample wt/vol: 30.01 (g/ml): G Lab File ID: 071505\O12136

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 20 Decanted: (Y/N) N Date Extracted: 07/06/05

Concentrated Extract Volume: 2000 (µ L) Date Analyzed: 07/16/05

Injection Volume: 2.0 (µ L) Dilution Factor: 20.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	5200	Y

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT06-22

Lab Name :	ACCURA ANALYTICAL LAB.	Contract:	N0063
Lab Code :	ACCURA Case No.: 8419	SAS No.	SDG No.: N/A
Matrix : (soil/water)	SOIL	Lab Sample Id:	8419-006
Sample wt/vol:	30.03 (g/ml): G	Lab File ID:	071505\012137
Level : (low/med)	LOW	Date Received:	07/01/05
% Moisture:	17 Decanted: (Y/N) N	Date Extracted:	07/06/05
Concentrated Extract Volume:	2000 (µ L)	Date Analyzed:	07/16/05
Injection Volume:	2.0 (µ L)	Dilution Factor:	20.0
GPC Cleanup (Y/N):	N pH: N/A	Extraction : (Type)	SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	3300	V

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT07-24

Lab Name : ACCURA ANALYTICAL LAB. Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-007

Sample wt/vol: 30.04 (g/ml): G Lab File ID: 071505\O12I39

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 19 Decanted: (Y/N) N Date Extracted: 07/06/05

Concentrated Extract Volume: 2000 (μ L) Date Analyzed: 07/16/05

Injection Volume: 2.0 (μ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	7.9	IV

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT08-25

Lab Name : ACCURA ANALYTICAL LAB. Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-008

Sample wt/vol: 30.01 (g/ml): G Lab File ID: 071505\O12152

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 19 Decanted: (Y/N) N Date Extracted: 07/06/05

Concentrated Extract Volume: 2000 (µ L) Date Analyzed: 07/16/05

Injection Volume: 2.0 (µ L) Dilution Factor: 250.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	36000	V

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-SS-DPT09-26

Lab Name : ACCURA ANALYTICAL LAB. Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-009

Sample wt/vol: 30.01 (g/ml): G Lab File ID: 071505\O12144

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 12 Decanted: (Y/N) N Date Extracted: 07/06/05

Concentrated Extract Volume: 2000 (μ L) Date Analyzed: 07/16/05

Injection Volume: 2.0 (μ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	120	V

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-SS-DPT10-26

Lab Name : ACCURA ANALYTICAL LAB. Contract: N0063

Lab Code : ACCURA Case No.: 8419 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) SOIL Lab Sample Id: 8419-010

Sample wt/vol: 30.02 (g/ml): G Lab File ID: 071505\O12140

Level : (low/med) LOW Date Received: 07/01/05

% Moisture: 20 Decanted: (Y/N) N Date Extracted: 07/06/05

Concentrated Extract Volume: 2000 (µ L) Date Analyzed: 07/16/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3545

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/kg	Q
	Petroleum Range Organics	31	IV

APPENDIX G

GROUNDWATER LABORATORY ANALYTICAL REPORTS

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 8524

Client Project: NAS Pensacola / UST Site 14 / CTO 0379
TtNUS Project Number: N0063
TtNUS Project Manager: Gerry Walker

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package is a total of **211** pages including: Table of Contents, Case Narrative, Chain of Custody, Sample Receipt Checklist, QA Verification Statement, and Analytical Results Summary Forms.

The following items were noted concerning this work order:

Receiving Notations:

1. The samples were received at 2°C.

Michael F. Broome — *July 20, 2005*
Michael Broome — Date
Receiving

Total Phosphorus & Ortho-Phosphorus by EPA 365.2 Notations:

1. There were no problems associated with this method.

Piercen M. Oliver — *July 27, 2005*
Piercen M. Oliver — Date
Wet Chemistry Analyst

Alkalinity by EPA 310.1

1. There were no problems associated with this method.

Lisandra Betancourt — *July 26, 2005*
Lisandra Betancourt — Date
Wet Chemistry Analyst

TKN by EPA 351.3 Notations:

1. There were no problems associated with this method.

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Charles K. Mulbah — *July 28, 2005*
Charles K. Mulbah — Date
Wet Chemistry Analyst

FL PRO Notations:

1. There were no problems associated with this method.

Beth Parmer — *August 02, 2005*
Beth Parmer — Date
GC Analyst

Carbon Dioxide by SM4500_CO2_C Notations

1. There were no problems associated with this method.

Lisandra Betancourt — *August 02, 2005*
Lisandra Betancourt — Date
Wet Chemistry Analyst

PAHs by SW8270C_SIM Notations:

1. The following samples required dilution due to high analyte concentration: PEN-SITE14-TW04-0705, PEN-SITE14-MW10S-0705, PEN-SITE14-MW11S-0705.

2. The BKS, MS and MSD received five times the normal amount of spike compounds during the extraction process. When this is taken into account, the batch passed in every respect other than the MS having a high spike recovery for Benzo(b)fluoranthene and the MS/MSD having high Relative Percent Differences for six of the heavier analytes.

Chris Pittman — *August 03, 2005*
Chris Pittman — Date
SVOC Analyst

Dissolved Iron by SW6010B Notations:

1. There were no problems associated with this method.

Nikita Kuruganty — *August 04, 2005*
Nikita Kuruganty — Date
Metals Analyst

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Anions by SW9056 Notations

1. There were no problems associated with this method.

Lisandra Betancourt — *August 04, 2005*
Lisandra Betancourt — Date
Wet Chemistry Analyst

Ammonia-N by EPA 350.2 Notations:

1. There were no problems associated with this method.

Charles K. Mulbah — *August 10, 2005*
Charles K. Mulbah — Date
Wet Chemistry Analyst

Select VOCs by SW8260B Notations:

1. The pH of the water samples was <2.0 prior to the VOC analysis.

Sumathi Mudium — *August 11, 2005*
Sumathi Mudium — Date
BTEX/GRO/VPH Analyst

Hydrocarbon Gases by Mod. RSK 175 Notations:

1. The pH of the water samples was <2.0 prior to the MEE analysis.

2 . The following samples required dilution due to high analyte concentration, resulting in elevated detection limits: PEN-SITE14-MW07S-0705, PEN-SITE14-TW04-0705, PEN-SITE14-MW10S-0705, PEN-SITE14-MW11S-0705.

Sumathi Mudium — *August 11, 2005*
Sumathi Mudium — Date
BTEX/GRO/VPH Analyst

TCL VOCs by SW8260B Notations:

1. The recoveries for matrix spike were outside of laboratory limits for Bromoform and Styrene.

2. The recoveries for matrix spike duplicate were outside of laboratory limits for Bromoform, Styrene and Chloromethane.

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3. The Relative Percent Difference between the matrix spike and its duplicate was outside of laboratory limits for Styrene.

JP Mendoza — *August 12, 2005*
J.P. Mendoza — Date
VOC Analyst

Total Organic Carbon by SW9060 Notations

1. There were no problems associated with this method.

Lisandra Betancourt — *August 12, 2005*
Lisandra Betancourt — Date
Wet Chemistry Analyst

Project Manager's Notations:

These case narrative notations have been reviewed/edited by:

August 16, 2005
David C. Fuller — Date
VP – Client Services

WO # 8524

TETRA TECH NUS, INC. **CHAIN OF CUSTODY** NUMBER 2201 PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
0063	Site 14 NAS Pensacola	Gerry Walker	(850) 385-9899	Accura Analytical Laboratories
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature]		Pete Leverette	(904) 636-6125	6017 Financial Dr.
		CARRIER/WAYBILL NUMBER		CITY, STATE
		FED EX		Norcross, GA 30071

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G / G / G / G / G / G / P / P / A

PRESERVATIVE USED: HCL / HCL / - / HCL / HCL / HCL / - / H_2SO_4 / -

TYPE OF ANALYSIS

DATE YEAR 2005	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOCs (8260B)	BTEX + MTBE (8260B)	PAHs (8270C)	TRPH (FL-PRO)	TOC (EPA 415.1)	MEE (RSK SOP 147/175)	Anions, Cl, Alk (EPA 300.0, Method 310.1)	NH3, TKN, Phos-Total (EPA 350.1, 351.2, 365.3)	*Diss. Fe (6010B Trace)	COMMENTS 8524	
7/19	0945	PEN-SITE14-MW06S-0705				GW	G	13	X	-	X	X	X	X	X	X	X	Cool to 4°C	001
7/19	1050	PEN-SITE14-MW09S-0705				GW	G	13	-	X	X	X	X	X	X	X	X		002
7/19	1105	PEN-SITE14-MW07S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	*Diss Fe to be	003
7/19	1230	PEN-SITE14-TW04-0705				GW	G	13	-	X	X	X	X	X	X	X	X	Filtered at Lab	004
7/19	1210	PEN-SITE14-MW08S-0705				GW	G	13	-	X	X	X	X	X	X	X	X		005
7/19	1300	PEN-SITE14-MW12S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	Anions: Nitrate, Nitrite	006
7/19	1520	PEN-SITE14-MW05S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	Chloride, Sulfate,	007
7/19	1620	PEN-SITE14-MW04-0705				GW	G	13	-	X	X	X	X	X	X	X	X	+ ortho-phosphate	008
7/19	1350	PEN-SITE14-MW19S-0705				GW	G	13	-	X	X	X	X	X	X	X	X		009
7/19	1620	PEN-SITE14-MW11S-0705				GW	G	13	-	X	X	X	X	X	X	X	X	Reference #	010
7/19	1725	PEN-SITE14-MW100-0705				GW	G	13	-	X	X	X	X	X	X	X	X	CTO #379	011
7/19	0742	PEN-SITE14-TB01-0705				QC	G	2	X	-	-	-	-	-	-	-	-		012
7/19	0740	PEN-SITE14-EB01-0705				QC	G	7	X	-	X	X	-	-	-	-	-		013
7/19	1730	PEN-SITE14-EB02-0705				QC	G	7	X	-	X	X	-	-	-	-	-		014

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	7/19/05	0940	1. RECEIVED BY [signature]	7/20/05	0940
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

TETRA TECH JAX Fax:9046366165 Jul 20 2005 15:12 P.02

PROJ_NO: 00063

SDG. 8524 MEDIA: WATER DATA FRACTION: OV

nsample	PEN-SITE14-EB01-0705
samp_date	7/19/2005
lab_id	8524-013
qc_type	NM
units	UG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U	
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	10	U	
2-HEXANONE	10	U	
4-METHYL-2-PENTANONE	10	U	
ACETONE	8.1	J	P
BENZENE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	
CIS-1,3-DICHLOROPROPENE	1	U	
CYCLOHEXANE	1	U	

nsample	PEN-SITE14-EB01-0705
samp_date	7/19/2005
lab_id	8524-013
qc_type	NM
units	UG/L
Pct_Solids	100.0
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	1	U	
ETHYLBENZENE	0.41	J	P
ISOPROPYLBENZENE	1	U	
METHYL ACETATE	1	U	
METHYL CYCLOHEXANE	1	U	
METHYL TERT-BUTYL ETHER	1	U	
METHYLENE CHLORIDE	1.3		
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	0.79	J	P
TOTAL XYLENES	2.3	J	P
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
TRICHLOROFLUOROMETHANE	1	U	
VINYL CHLORIDE	1	U	

nsample	PEN-SITE14-EB02-0705
samp_date	7/19/2005
lab_id	8524-014
qc_type	NM
units	UG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U	
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	10	U	
2-HEXANONE	10	U	
4-METHYL-2-PENTANONE	10	U	
ACETONE	3.9	J	P
BENZENE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	
CIS-1,3-DICHLOROPROPENE	1	U	
CYCLOHEXANE	1		

PROJ_NO: 00063

SDG· 8524 MEDIA: WATER DATA FRACTION· OV

nsample	PEN-SITE14-EB02-0705
samp_date	7/19/2005
lab_id	8524-014
qc_type	NM
units	UG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	1	U	
ETHYLBENZENE	1	U	
ISOPROPYLBENZENE	1	U	
METHYL ACETATE	1	U	
METHYL CYCLOHEXANE	1	U	
METHYL TERT-BUTYL ETHER	1	U	
METHYLENE CHLORIDE	0.68	J	P
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	5.4		
TOTAL XYLENES	3	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
TRICHLOROFLUOROMETHANE	1	U	
VINYL CHLORIDE	1	U	

nsample	PEN-SITE14-MW04-0705
samp_date	7/19/2005
lab_id	8524-008
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1	U	
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	0.41	J	P
TOTAL XYLENES	3	U	

nsample	PEN-SITE14-MW05S-0705
samp_date	7/19/2005
lab_id	8524-007
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1	U	
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	0.46	J	P
TOTAL XYLENES	3	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION: OV

nsample	PEN-SITE14-MW06S-0705
samp_date	7/19/2005
lab_id	8524-001
qc_type	NM
units	UG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U	
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	10	U	
2-HEXANONE	10	U	
4-METHYL-2-PENTANONE	10	U	
ACETONE	1.8	J	P
BENZENE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.8	J	P
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	
CIS-1,3-DICHLOROPROPENE	1	U	
CYCLOHEXANE	1	U	

nsample	PEN-SITE14-MW06S-0705
samp_date	7/19/2005
lab_id	8524-001
qc_type	NM
units	UG/L
Pct_Solids	100.0
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	1	U	
ETHYLBENZENE	1	U	
ISOPROPYLBENZENE	1	U	
METHYL ACETATE	1	U	
METHYL CYCLOHEXANE	1	U	
METHYL TERT-BUTYL ETHER	1	U	
METHYLENE CHLORIDE	1	U	
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	1	U	
TOTAL XYLENES	3	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
TRICHLOROFLUOROMETHANE	1	U	
VINYL CHLORIDE	1	U	

nsample	PEN-SITE14-MW07S-0705
samp_date	7/19/2005
lab_id	8524-003
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1	U	
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	0.28	J	P
TOTAL XYLENES	3	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION OV

nsample	PEN-SITE14-MW08S-0705
samp_date	7/19/2005
lab_id	8524-005
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1	U	
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	0.33	J	P
TOTAL XYLENES	3	U	

nsample	PEN-SITE14-MW09S-0705
samp_date	7/19/2005
lab_id	8524-002
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1	U	
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	0.3	J	P
TOTAL XYLENES	3	U	

nsample	PEN-SITE14-MW100-0705
samp_date	7/19/2005
lab_id	8524-011
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1	U	
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	1	U	
TOTAL XYLENES	3	U	

PROJ_NO: 00063

SDG: 8524 MEDIA. WATER DATA FRACTION. OV

nsample	PEN-SITE14-MW10S-0705	nsample	PEN-SITE14-MW11S-0705	nsample	PEN-SITE14-MW12S-0705
samp_date	7/19/2005	samp_date	7/19/2005	samp_date	7/19/2005
lab_id	8524-009	lab_id	8524-010	lab_id	8524-006
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF.		DUP_OF.		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1.5		
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	1	U	
TOTAL XYLENES	3	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.51	J	P
ETHYLBENZENE	4.2		
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	1	U	
TOTAL XYLENES	3	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1	U	
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	0.39	J	P
TOTAL XYLENES	3	U	

PROJ_NO: 00063

SDG: 8524 MEDIA. WATER DATA FRACTION: OV

nsample	PEN-SITE14-TB01-0705
samp_date	7/19/2005
lab_id	8524-012
qc_type	NM
units	UG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U	
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	10	U	
2-HEXANONE	10	U	
4-METHYL-2-PENTANONE	10	U	
ACETONE	10	U	
BENZENE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	
CIS-1,3-DICHLOROPROPENE	1	U	
CYCLOHEXANE	1	U	

nsample	PEN-SITE14-TB01-0705
samp_date	7/19/2005
lab_id	8524-012
qc_type	NM
units	UG/L
Pct_Solids	100.0
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	1	U	
ETHYLBENZENE	1	U	
ISOPROPYLBENZENE	1	U	
METHYL ACETATE	1	U	
METHYL CYCLOHEXANE	1	U	
METHYL TERT-BUTYL ETHER	1	U	
METHYLENE CHLORIDE	0.53	J	P
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	5.2		
TOTAL XYLENES	3	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
TRICHLOROFLUOROMETHANE	1	U	
VINYL CHLORIDE	1	U	

nsample	PEN-SITE14-TW04-0705
samp_date	7/19/2005
lab_id	8524-004
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
BENZENE	1.1		
ETHYLBENZENE	7.7		
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	0.96	J	P
TOTAL XYLENES	3.6		

PROJ_NO: 00063

SDG: 8524 MEDIA WATER DATA FRACTION: OVG

nsample	PEN-SITE14-MW04-0705
samp_date	7/19/2005
lab_id	8524-008
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	
METHANE	0.002	J	P

nsample	PEN-SITE14-MW05S-0705
samp_date	7/19/2005
lab_id	8524-007
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	
METHANE	0.004		

nsample	PEN-SITE14-MW06S-0705
samp_date	7/19/2005
lab_id	8524-001
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	
METHANE	0.003	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION. OVG

nsample	PEN-SITE14-MW07S-0705
samp_date	7/19/2005
lab_id	8524-003
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	

nsample	PEN-SITE14-MW07S-0705 D
samp_date	7/19/2005
lab_id	8524-003 DIL
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
METHANE	0.23		

nsample	PEN-SITE14-MW08S-0705
samp_date	7/19/2005
lab_id	8524-005
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	
METHANE	0.019		

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION: OVG

nsample	PEN-SITE14-MW09S-0705
samp_date	7/19/2005
lab_id	8524-002
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	
METHANE	0.003	U	

nsample	PEN-SITE14-MW100-0705
samp_date	7/19/2005
lab_id	8524-011
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	
METHANE	0.003	U	

nsample	PEN-SITE14-MW10S-0705
samp_date	7/19/2005
lab_id	8524-009
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION: OVG

nsample	PEN-SITE14-MW10S-0705 D
samp_date	7/19/2005
lab_id	8524-009 DIL
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
METHANE	0.69		

nsample	PEN-SITE14-MW11S-0705
samp_date	7/19/2005
lab_id	8524-010
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	

nsample	PEN-SITE14-MW11S-0705 D
samp_date	7/19/2005
lab_id	8524-010 DIL
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
METHANE	0.33		

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION. OVG

nsample	PEN-SITE14-MW12S-0705	nsample	PEN-SITE14-TW04-0705	nsample	PEN-SITE14-TW04-0705 DL
samp_date	7/19/2005	samp_date	7/19/2005	samp_date	7/19/2005
lab_id	8524-006	lab_id	8524-004	lab_id	8524-004 DIL
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/L	units	MG/L	units	MG/L
Pct_Solids	100.0	Pct_Solids	100.0	Pct_Solids	100.0
DUP_OF:		DUP_OF.		DUP_OF.	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	
METHANE	0.049		

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	

Parameter	Result	Val Qual	Qual Code
METHANE	0.53		

PROJ_NO: 00063

SDG: 8524 MEDIA. WATER DATA FRACTION: PAH

nsample	PEN-SITE14-EB01-0705	nsample	PEN-SITE14-EB02-0705	nsample	PEN-SITE14-MW04-0705
samp_date	7/19/2005	samp_date	7/19/2005	samp_date	7/19/2005
lab_id	8524-013	lab_id	8524-014	lab_id	8524-008
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF.		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.058	J	P
2-METHYLNAPHTHALENE	0.12	J	P
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.19	J	P
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION: PAH

nsample	PEN-SITE14-MW05S-0705	nsample	PEN-SITE14-MW06S-0705	nsample	PEN-SITE14-MW07S-0705
samp_date	7/19/2005	samp_date	7/19/2005	samp_date	7/19/2005
lab_id	8524-007	lab_id	8524-001	lab_id	8524-003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF.		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.082	J	P
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.28		
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.061	J	P
BENZO(B)FLUORANTHENE	0.059	J	P
BENZO(G,H,I)PERYLENE	0.048	J	P
BENZO(K)FLUORANTHENE	0.069	J	P
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.064	J	P
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.053	J	P
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.086	J	P
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.1	J	P
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.067	J	P
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION: PAH

nsample	PEN-SITE14-MW08S-0705	nsample	PEN-SITE14-MW09S-0705	nsample	PEN-SITE14-MW100-0705
samp_date	7/19/2005	samp_date	7/19/2005	samp_date	7/19/2005
lab_id	8524-005	lab_id	8524-002	lab_id	8524-011
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF.		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.054	J	P

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION. PAH

nsample	PEN-SITE14-MW10S-0705
samp_date	7/19/2005
lab_id	8524-009
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
2-METHYLNAPHTHALENE	0.87		
ACENAPHTHENE	0.43		
ACENAPHTHYLENE	0.082	J	P
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.69		
INDENO(1,2,3-CD)PYRENE	0.2	U	
PHENANTHRENE	0.062	J	P
PYRENE	0.2	U	

nsample	PEN-SITE14-MW10S-0705 D
samp_date	7/19/2005
lab_id	8524-009 DIL
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	3.1		
NAPHTHALENE	2.1		

nsample	PEN-SITE14-MW11S-0705
samp_date	7/19/2005
lab_id	8524-010
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ACENAPHTHENE	0.33		
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.71		
INDENO(1,2,3-CD)PYRENE	0.2	U	
PHENANTHRENE	0.4		
PYRENE	0.2	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION: PAH

nsample	PEN-SITE14-MW11S-0705 D
samp_date	7/19/2005
lab_id	8524-010 DIL
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	6.4		
2-METHYLNAPHTHALENE	7		
NAPHTHALENE	6.1		

nsample	PEN-SITE14-MW12S-0705
samp_date	7/19/2005
lab_id	8524-006
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

nsample	PEN-SITE14-TW04-0705
samp_date	7/19/2005
lab_id	8524-004
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	1.2		
2-METHYLNAPHTHALENE	0.99		
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION. PAH

nsample	PEN-SITE14-TW04-0705 DL
samp_date	7/19/2005
lab_id	8524-004 DIL
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
NAPHTHALENE	4.8		

PROJ_NO: 00063

SDG: 8524 MEDIA. WATER DATA FRACTION: PET

nsample	PEN-SITE14-EB01-0705	nsample	PEN-SITE14-EB02-0705	nsample	PEN-SITE14-MW04-0705
samp_date	7/19/2005	samp_date	7/19/2005	samp_date	7/19/2005
lab_id	8524-013	lab_id	8524-014	lab_id	8524-008
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/L	units	MG/L	units	MG/L
Pct_Solids	100.0	Pct_Solids	100.0	Pct_Solids	100.0
DUP_OF.		DUP_OF		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION: PET

nsample	PEN-SITE14-MW05S-0705	nsample	PEN-SITE14-MW06S-0705	nsample	PEN-SITE14-MW07S-0705
samp_date	7/19/2005	samp_date	7/19/2005	samp_date	7/19/2005
lab_id	8524-007	lab_id	8524-001	lab_id	8524-003
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/L	units	MG/L	units	MG/L
Pct_Solids	100.0	Pct_Solids	100.0	Pct_Solids	100.0
DUP_OF:		DUP_OF.		DUP_OF.	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.84	J	P

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.51	J	P

PROJ_NO: 00063

SDG: 8524 MEDIA. WATER DATA FRACTION· PET

nsample	PEN-SITE14-MW08S-0705	nsample	PEN-SITE14-MW09S-0705	nsample	PEN-SITE14-MW100-0705
samp_date	7/19/2005	samp_date	7/19/2005	samp_date	7/19/2005
lab_id	8524-005	lab_id	8524-002	lab_id	8524-011
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/L	units	MG/L	units	MG/L
Pct_Solids	100.0	Pct_Solids	100.0	Pct_Solids	100.0
DUP_OF:		DUP_OF		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.52	J	P

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

PROJ_NO: 00063

SDG: 8524 MEDIA: WATER DATA FRACTION: PET

nsample	PEN-SITE14-MW10S-0705	nsample	PEN-SITE14-MW11S-0705	nsample	PEN-SITE14-MW12S-0705
samp_date	7/19/2005	samp_date	7/19/2005	samp_date	7/19/2005
lab_id	8524-009	lab_id	8524-010	lab_id	8524-006
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/L	units	MG/L	units	MG/L
Pct_Solids	100.0	Pct_Solids	100.0	Pct_Solids	100.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	3.3		

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.6	J	P

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

PROJ_NO: 00063

SDG: 8524 MEDIA. WATER DATA FRACTION PET

nsample	PEN-SITE14-TW04-0705
samp_date	7/19/2005
lab_id	8524-004
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	2.4		

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-EB01-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8524-013
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705\J17618
Level (low/med):	LOW	Date Received:	07/20/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: .25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(µ L)	Soil Aliquot Volume:	(µ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
71-55-6	1,1,1-Trichloroethane	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
78-93-3	2-Butanone (methyl ethyl ketone)	10	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-pentanone	10	U
67-64-1	Acetone	8.1	IV
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	1.0	U
156-59-2	cis-1,2-dichloroethene	1.0	U
10061-01-5	cis-1,3-dichloropropene	1.0	U

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-EB01-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8524-013
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705\J17618
Level (low/med):	LOW	Date Received:	07/20/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: 25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(μ L)	Soil Aliquot Volume:	(μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
110-82-7	Cyclohexane	1.0	U
124-48-1	Dibromochloromethane	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
100-41-4	Ethylbenzene	0.41	I
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
108-87-2	Methylcyclohexane	1.0	U
75-09-2	Methylene chloride	1.3	
100-42-5	Styrene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
108-88-3	Toluene	0.79	I
156-60-5	trans-1,2-dichloroethene	1.0	U
10061-02-6	trans-1,3-dichloropropene	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
1330-20-7	Xylenes, total	2.3	I

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-EB02-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8524-014
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705\J17619
Level (low/med):	LOW	Date Received:	07/20/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: .25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(μ L)	Soil Aliquot Volume:	(μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
71-55-6	1,1,1-Trichloroethane	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
78-93-3	2-Butanone (methyl ethyl ketone)	10	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-pentanone	10	U
67-64-1	Acetone	3.9	IV
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	1.0	U
156-59-2	cis-1,2-dichloroethene	1.0	U
10061-01-5	cis-1,3-dichloropropene	1.0	U

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-EB02-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8524-014
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705\J17619
Level (low/med):	LOW	Date Received:	07/20/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: .25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(μ L)	Soil Aliquot Volume:	(μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
110-82-7	Cyclohexane	1.0	U
124-48-1	Dibromochloromethane	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
108-87-2	Methylcyclohexane	1.0	U
75-09-2	Methylene chloride	0.68	I
100-42-5	Styrene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
108-88-3	Toluene	5.4	
156-60-5	trans-1,2-dichloroethene	1.0	U
10061-02-6	trans-1,3-dichloropropene	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
1330-20-7	Xylenes, total	3.0	U

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW04-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-008

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A14002

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	.41	I
1330-20-7	Xylenes, Total	3.0	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW05S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-007

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A14001

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	.46	I
1330-20-7	Xylenes, Total	3.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW06S-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8524-001
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705\J17617
Level (low/med):	LOW	Date Received:	07/20/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: .25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(μ L)	Soil Aliquot Volume:	(μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
71-55-6	1,1,1-Trichloroethane	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
78-93-3	2-Butanone (methyl ethyl ketone)	10	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-pentanone	10	U
67-64-1	Acetone	1.8	IV
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U
67-66-3	Chloroform	0.80	I
74-87-3	Chloromethane	1.0	U
156-59-2	cis-1,2-dichloroethene	1.0	U
10061-01-5	cis-1,3-dichloropropene	1.0	U

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW06S-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8524-001
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705\J17617
Level (low/med):	LOW	Date Received:	07/20/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: .25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(µ L)	Soil Aliquot Volume:	(µ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
110-82-7	Cyclohexane	1.0	U
124-48-1	Dibromochloromethane	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
108-87-2	Methylcyclohexane	1.0	U
75-09-2	Methylene chloride	1.0	U
100-42-5	Styrene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
108-88-3	Toluene	1.0	U
156-60-5	trans-1,2-dichloroethene	1.0	U
10061-02-6	trans-1,3-dichloropropene	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
1330-20-7	Xylenes, total	3.0	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW07S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-003

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A13997

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 _____ ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	.28	I
1330-20-7	Xylenes, Total	3.0	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW08S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-005

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A13999

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	.33	I
1330-20-7	Xylenes, Total	3.0	U

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW09S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8524 Mod. Ref. No.:_____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-002

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A13996

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 _____ ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	.3	I
1330-20-7	Xylenes, Total	3.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW100-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-011

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A14005

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	1.0	U
1330-20-7	Xylenes, Total	3.0	U

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW10S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-009

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A14003

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 _____ ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.5	
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	1.0	U
1330-20-7	Xylenes, Total	3.0	U

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW11S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8524 Mod. Ref. No.:_____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-010

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A14004

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec._____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	.51	I
100-41-4	Ethylbenzene	4.2	
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	1.0	U
1330-20-7	Xylenes, Total	3.0	U

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW12S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-006

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A14000

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	.39	I
1330-20-7	Xylenes, Total	3.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-TB01-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8524-012
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705U17613
Level (low/med):	LOW	Date Received:	07/20/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: .25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(μ L)	Soil Aliquot Volume:	(μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
71-55-6	1,1,1-Trichloroethane	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
78-93-3	2-Butanone (methyl ethyl ketone)	10	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-pentanone	10	U
67-64-1	Acetone	10	U
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	1.0	U
156-59-2	cis-1,2-dichloroethene	1.0	U
10061-01-5	cis-1,3-dichloropropene	1.0	U

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-TB01-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8524-012
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705\J17613
Level (low/med):	LOW	Date Received:	07/20/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: .25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(µ L)	Soil Aliquot Volume:	(µ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
110-82-7	Cyclohexane	1.0	U
124-48-1	Dibromochloromethane	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
108-87-2	Methylcyclohexane	1.0	U
75-09-2	Methylene chloride	0.53	I
100-42-5	Styrene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
108-88-3	Toluene	5.2	
156-60-5	trans-1,2-dichloroethene	1.0	U
10061-02-6	trans-1,3-dichloropropene	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
1330-20-7	Xylenes, total	3.0	U

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-TW04-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-004

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A13998

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.1	
100-41-4	Ethylbenzene	7.7	
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	.96	I
1330-20-7	Xylenes, Total	3.6	

1B - FORM I VOA-2
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW04-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-008

Sample 300 (g/uL) uL Lab File ID: L072805\L01896

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 _____ ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.002	I

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW05S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-007

Sample 300 (g/uL) uL Lab File ID: L072805\L01878

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.004	

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW06S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-001

Sample 300 (g/uL) uL Lab File ID: L072805\L01895

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	0.003	U

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW07S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-003

Sample 300 (g/uL) uL Lab File ID: L072805\L01874

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.162	L

1B - FORM I VOA-2
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW07S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-003 DL

Sample 300 (g/uL) uL Lab File ID: L072805\L01887

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 _____ ID: (mm) Dilution Factor: 10.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.070	U
74-85-1	Ethene	0.060	U
74-82-8	Methane	.23	

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW08S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8524 Mod. Ref. No.:_____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID:8524-005

Sample 300 (g/uL) uL Lab File ID: L072805\L01893

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec._____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.019	

1B - FORM I VOA-2
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW09S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-002

Sample 300 (g/uL) uL Lab File ID: L072805\L01894

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 _____ ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	0.003	U

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW100-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-011

Sample 300 (g/uL) uL Lab File ID: L072805\L01882

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	0.003	U

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW10S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8524 Mod. Ref. No.:_____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-009

Sample 300 (g/uL) uL Lab File ID: L072805\L01880

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec._____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.662	L

1B - FORM I VOA-2
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW10S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8524 Mod. Ref. No.:_____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-009 DL

Sample 300 (g/uL) uL Lab File ID: L072805\L01889

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec._____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 10.0

Soil Extract Volume:_____ (µ L) Soil Aliquot Volume:_____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.070	U
74-85-1	Ethene	0.060	U
74-82-8	Methane	.69	

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW11S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-010

Sample 300 (g/uL) uL Lab File ID: L072805\L01881

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.408	L

1B - FORM I VOA-2
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW11S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8524 Mod. Ref. No.:_____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-010 DL

Sample 300 (g/uL) uL Lab File ID: L072805\L01890

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 10.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.070	U
74-85-1	Ethene	0.060	U
74-82-8	Methane	.33	

1B - FORM I VOA-2
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW12S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-006

Sample 300 (g/uL) uL Lab File ID: L072805\L01877

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.049	

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-TW04-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-004

Sample 300 (g/uL) uL Lab File ID: L072805\L01875

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 _____ ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.369	L

1B - FORM I VOA-2
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-TW04-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8524 Mod. Ref. No.: _____ SDG No. : 8524

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8524-004 DL

Sample 300 (g/uL) uL Lab File ID: L072805\L01888

Level: (TRACE/LOW/MED) LOW Date Received: 07/20/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 _____ ID: (mm) Dilution Factor: 10.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.070	U
74-85-1	Ethene	0.060	U
74-82-8	Methane	.53	

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-EB01-0705

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8524 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8524-013

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 1B072805\B48908

Level : (low/med) LOW Date Received: 07/20/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 07/28/05

Injection Volume: 2.0 (µL) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.058	I
91-57-6	2-Methylnaphthalene	0.12	I
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.19	I
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-EB02-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-014

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072805\B48909

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/28/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW04-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-008

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072705\B48897

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/27/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW05S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-007

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072705\B48896

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/27/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.082	I
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.28	
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW06S-0705

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8524 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8524-001

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 1B072705\B48891

Level : (low/med) LOW Date Received: 07/20/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 07/27/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.061	I
205-99-2	Benzo(b)fluoranthene	0.059	I
191-24-2	Benzo(g,h,i)perylene	0.048	I
207-08-9	Benzo(k)fluoranthene	0.069	I
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.064	I
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.053	I
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW07S-0705

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8524 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8524-003

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 1B072705\B48892

Level : (low/med) LOW Date Received: 07/20/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 07/27/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.086	I
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.10	I
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.067	I
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW08S-0705

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8524 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8524-005

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 1B072705\B48894

Level : (low/med) LOW Date Received: 07/20/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 07/27/05

Injection Volume: 2.0 (µL) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.054	I

ID

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW09S-0705

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8524 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8524-002

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 1B072705\B48888

Level : (low/med) LOW Date Received: 07/20/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 07/27/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW100-0705

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8524 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8524-011

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 1B072805\B48907

Level : (low/med) LOW Date Received: 07/20/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 07/28/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW10S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-009

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072705\B48898

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/27/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	2.7	L
91-57-6	2-Methylnaphthalene	0.87	
83-32-9	Acenaphthene	0.43	
208-96-8	Acenaphthylene	0.082	I
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.69	
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	1.8	L
85-01-8	Phenanthrene	0.062	I
129-00-0	Pyrene	0.20	U

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW10S-0705 DL

Lab Name : ACCURA ANALYTICAL LAB
Contract: N0063
Lab Code : ACCURA
Case No.: 8524
SAS No.
SDG No.: N/A
Matrix : (soil/water) WATER
Lab Sample Id: 8524-009 DL
Sample wt/vol: 1000 (g/ml): ML
Lab File ID: 1B072805\B48905
Level : (low/med) LOW
Date Received: 07/20/05
% Moisture: Decanted: (Y/N) N
Date Extracted: 07/21/05
Concentrated Extract Volume: 1000 (µ L)
Date Analyzed: 07/28/05
Injection Volume: 2.0 (µ L)
Dilution Factor: 5.0
GPC Cleanup (Y/N): N pH: N/A
Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	3.1	
91-57-6	2-Methylnaphthalene	0.96	I
83-32-9	Acenaphthene	0.76	I
208-96-8	Acenaphthylene	1.0	U
120-12-7	Anthracene	1.0	U
56-55-3	Benzo(a)anthracene	1.0	U
50-32-8	Benzo(a)pyrene	1.0	U
205-99-2	Benzo(b)fluoranthene	1.0	U
191-24-2	Benzo(g,h,i)perylene	1.0	U
207-08-9	Benzo(k)fluoranthene	1.0	U
218-01-9	Chrysene	1.0	U
53-70-3	Dibenz(a,h)Anthracene	1.0	U
206-44-0	Fluoranthene	1.0	U
86-73-7	Fluorene	1.3	
193-39-5	Indeno(1,2,3-c,d)Pyrene	1.0	U
91-20-3	Naphthalene	2.1	
85-01-8	Phenanthrene	1.0	U
129-00-0	Pyrene	1.0	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW11S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-010

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072705\B48899

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/27/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	5.6	L
91-57-6	2-Methylnaphthalene	6.4	L
83-32-9	Acenaphthene	0.33	
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.71	
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	5.1	L
85-01-8	Phenanthrene	0.40	
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW11S-0705 DL

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-010 DL

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072805\B48906

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/28/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 10.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	6.4	
91-57-6	2-Methylnaphthalene	7.0	
83-32-9	Acenaphthene	2.0	U
208-96-8	Acenaphthylene	2.0	U
120-12-7	Anthracene	2.0	U
56-55-3	Benzo(a)anthracene	2.0	U
50-32-8	Benzo(a)pyrene	2.0	U
205-99-2	Benzo(b)fluoranthene	2.0	U
191-24-2	Benzo(g,h,i)perylene	2.0	U
207-08-9	Benzo(k)fluoranthene	2.0	U
218-01-9	Chrysene	2.0	U
53-70-3	Dibenz(a,h)Anthracene	2.0	U
206-44-0	Fluoranthene	2.0	U
86-73-7	Fluorene	0.91	I
193-39-5	Indeno(1,2,3-c,d)Pyrene	2.0	U
91-20-3	Naphthalene	6.1	
85-01-8	Phenanthrene	0.46	I
129-00-0	Pyrene	2.0	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW12S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-006

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072705\B48895

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/27/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-TW04-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-004

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072705\B48893

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µL)

Date Analyzed: 07/27/05

Injection Volume: 2.0 (µL)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	1.2	
91-57-6	2-Methylnaphthalene	0.99	
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	4.1	L
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-TW04-0705 DL

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8524 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8524-004 DL

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 1B072805\B48904

Level : (low/med) LOW Date Received: 07/20/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 07/28/05

Injection Volume: 2.0 (µ L) Dilution Factor: 5.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	1.4	
91-57-6	2-Methylnaphthalene	0.99	I
83-32-9	Acenaphthene	1.0	U
208-96-8	Acenaphthylene	1.0	U
120-12-7	Anthracene	1.0	U
56-55-3	Benzo(a)anthracene	1.0	U
50-32-8	Benzo(a)pyrene	1.0	U
205-99-2	Benzo(b)fluoranthene	1.0	U
191-24-2	Benzo(g,h,i)perylene	1.0	U
207-08-9	Benzo(k)fluoranthene	1.0	U
218-01-9	Chrysene	1.0	U
53-70-3	Dibenz(a,h)Anthracene	1.0	U
206-44-0	Fluoranthene	1.0	U
86-73-7	Fluorene	1.0	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	1.0	U
91-20-3	Naphthalene	4.8	
85-01-8	Phenanthrene	1.0	U
129-00-0	Pyrene	1.0	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-EB01-0705

Lab Name :	ACCURA ANALYTICAL LAB	Contract:	N0063
Lab Code :	ACCURA Case No.: 8524	SAS No.	SDG No.: N/A
Matrix : (soil/water)	WATER	Lab Sample Id:	8524-013
Sample wt/vol:	1000 (g/ml): ML	Lab File ID:	072905\O12345
Level : (low/med)	LOW	Date Received:	07/20/05
% Moisture:	Decanted: (Y/N) N	Date Extracted:	07/21/05
Concentrated Extract Volume:	2000 (µ L)	Date Analyzed:	07/31/05
Injection Volume:	2.0 (µ L)	Dilution Factor:	1.0
GPC Cleanup (Y/N):	N pH: N/A	Extraction : (Type)	SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-EB02-0705

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8524 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8524-014

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 072905\O12346

Level : (low/med) LOW Date Received: 07/20/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/21/05

Concentrated Extract Volume: 2000 (µ L) Date Analyzed: 07/31/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW04-0705

Lab Name :	ACCURA ANALYTICAL LAB	Contract:	N0063
Lab Code :	ACCURA Case No.: 8524	SAS No.	SDG No.: N/A
Matrix : (soil/water)	WATER	Lab Sample Id:	8524-008
Sample wt/vol:	1000 (g/ml): ML	Lab File ID:	072905\O12341
Level : (low/med)	LOW	Date Received:	07/20/05
% Moisture:	Decanted: (Y/N) N	Date Extracted:	07/21/05
Concentrated Extract Volume:	2000 (µ L)	Date Analyzed:	07/30/05
Injection Volume:	2.0 (µ L)	Dilution Factor:	1.0
GPC Cleanup (Y/N):	N pH: N/A	Extraction : (Type)	SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW05S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-007

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 072905\O12340

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 2000 (µ L)

Date Analyzed: 07/30/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	0.84	IV

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW06S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-001

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 072905\O12328

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 2000 (µ L)

Date Analyzed: 07/30/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW07S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-003

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 072905\O12332

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 2000 (µ L)

Date Analyzed: 07/30/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	0.51	IV

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW08S-0705

Lab Name :	ACCURA ANALYTICAL LAB	Contract:	N0063
Lab Code :	ACCURA Case No.: 8524	SAS No.	SDG No.: N/A
Matrix : (soil/water)	WATER	Lab Sample Id:	8524-005
Sample wt/vol:	1000 (g/ml): ML	Lab File ID:	072905\O12334
Level : (low/med)	LOW	Date Received:	07/20/05
% Moisture:	Decanted: (Y/N) N	Date Extracted:	07/21/05
Concentrated Extract Volume:	2000 (µ L)	Date Analyzed:	07/30/05
Injection Volume:	2.0 (µ L)	Dilution Factor:	1.0
GPC Cleanup (Y/N):	N pH: N/A	Extraction : (Type)	SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	0.52	IV

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
PEN-SITE14-MW09S-0705

Lab Name : ACCURA ANALYTICAL LAB
Contract: N0063
Lab Code : ACCURA
Case No.: 8524
SAS No.
SDG No.: N/A
Matrix : (soil/water) WATER
Lab Sample Id: 8524-002
Sample wt/vol: 1000 (g/ml): ML
Lab File ID: 072905\O12331
Level : (low/med) LOW
Date Received: 07/20/05
% Moisture:
Decanted: (Y/N) N
Date Extracted: 07/21/05
Concentrated Extract Volume: 2000 (µ L)
Date Analyzed: 07/30/05
Injection Volume: 2.0 (µ L)
Dilution Factor: 1.0
GPC Cleanup (Y/N): N
pH: N/A
Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW100-0705

Lab Name :	ACCURA ANALYTICAL LAB	Contract:	N0063
Lab Code :	ACCURA Case No.: 8524	SAS No.	SDG No.: N/A
Matrix : (soil/water)	WATER	Lab Sample Id:	8524-011
Sample wt/vol:	1000 (g/ml): ML	Lab File ID:	072905\O12344
Level : (low/med)	LOW	Date Received:	07/20/05
% Moisture:	Decanted: (Y/N) N	Date Extracted:	07/21/05
Concentrated Extract Volume:	2000 (µ L)	Date Analyzed:	07/31/05
Injection Volume:	2.0 (µ L)	Dilution Factor:	1.0
GPC Cleanup (Y/N):	N pH: N/A	Extraction : (Type)	SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW10S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-009

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 072905\O12342

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 2000 (µ L)

Date Analyzed: 07/30/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	3.3	V

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW11S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-010

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 072905\O12343

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 2000 (µ L)

Date Analyzed: 07/30/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.6	IV

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-MW12S-0705

Lab Name :	ACCURA ANALYTICAL LAB	Contract:	N0063
Lab Code :	ACCURA	Case No.: 8524	SAS No.		SDG No.: N/A
Matrix : (soil/water)	WATER	Lab Sample Id:	8524-006
Sample wt/vol:	1000 (g/ml): ML	Lab File ID:	072905\O12339
Level : (low/med)	LOW	Date Received:	07/20/05
% Moisture:	Decanted: (Y/N) N	Date Extracted:	07/21/05
Concentrated Extract Volume:	2000 (µ L)	Date Analyzed:	07/30/05
Injection Volume:	2.0 (µ L)	Dilution Factor:	1.0
GPC Cleanup (Y/N):	N pH: N/A	Extraction : (Type)	SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-SITE14-TW04-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8524

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8524-004

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 072905\O12333

Level : (low/med) LOW

Date Received: 07/20/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 2000 (µ L)

Date Analyzed: 07/30/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	2.4	Y

HOLDTIME

8541

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	8/3/2005	8/3/2005	14	0	14
M	UG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	8/3/2005	8/3/2005	14	0	14
M	UG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	8/3/2005	8/3/2005	14	0	14
ALK	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
ALK	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
ALK	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
CL	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
CL	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
CL	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
CO2	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
CO2	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
CO2	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
NH3	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
NH3	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
NH3	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
NTA	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTA	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTA	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTI	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTI	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTI	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
OPO4	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
OPO4	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
OPO4	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
SO4	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
SO4	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
SO4	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
TKN	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TKN	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TKN	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TOC	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	8/11/2005	8/11/2005	22	0	22
TOC	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	8/11/2005	8/11/2005	22	0	22
TOC	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	8/11/2005	8/11/2005	22	0	22

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
TPHO	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TPHO	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TPHO	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
OS	%	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
OS	%	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
OS	%	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
OV	%	PEN-Site 14-TB02-0705	8541-004	NM	7/20/2005	7/27/2005	7/27/2005	7	0	7
OV	%	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	%	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	%	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	AREA	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	AREA	PEN-Site 14-TB02-0705	8541-004	NM	7/20/2005	7/27/2005	7/27/2005	7	0	7
OV	AREA	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	AREA	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/28/2005	7/28/2005	8	0	8
OV	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/28/2005	7/28/2005	8	0	8
OV	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/28/2005	7/28/2005	8	0	8
OV	UG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	UG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	UG/L	PEN-Site 14-TB02-0705	8541-004	NM	7/20/2005	7/27/2005	7/27/2005	7	0	7
SIM	%	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	%	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	%	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	AREA	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	AREA	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	AREA	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	UG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	UG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	UG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
TPH	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
TPH	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
TPH	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11

DATA VALIDATION TRACKING FORM

Site Name :_NAS PENSACOLA_____ **Region:**___04_____

Project Manager:_WALKER,G_____ **CTO:** 379

Charge No.:____00063_____ **Validation:**

Validator:_____ ☐ **Full**

QA:_____ ▌ **Limited**

X **Cursory**

Sample Delivery Group:_____8541_____

Fraction:		AQUEOUS	SOLID	IDW
☐	**METALS**	__4___	_____	____
▌	**MISC**	__4___	_____	_____
☐	**RAD**	_____	__	_____
☐	**AVS/SEM**	_____	_____	_____
☐	**OTHER**	_____	_____	_____

Date Assigned:_____
Due Date:_____
Date Valid Complete:_____
Date QA Complete:_____

LOE Allotted: _____hrs
LOE Expended:
Validation _____hrs
Corrections _____hrs
QA _____hrs

Total LOE Expended _____hrs

HOLDTIME

8541

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
M	UG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	8/3/2005	8/3/2005	14	0	14
M	UG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	8/3/2005	8/3/2005	14	0	14
M	UG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	8/3/2005	8/3/2005	14	0	14
ALK	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
ALK	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
ALK	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
CL	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
CL	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
CL	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
CO2	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
CO2	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
CO2	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
NH3	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
NH3	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5
NH3	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/25/2005	7/25/2005	5	0	5

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
NTA	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTA	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTA	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTI	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTI	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
NTI	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
OPO4	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
OPO4	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
OPO4	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
SO4	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
SO4	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
SO4	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/21/2005	1	0	1
TKN	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TKN	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TKN	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TOC	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	8/11/2005	8/11/2005	22	0	22
TOC	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	8/11/2005	8/11/2005	22	0	22
TOC	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	8/11/2005	8/11/2005	22	0	22

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
TPHO	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TPHO	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
TPHO	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/26/2005	7/26/2005	6	0	6
OS	%	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
OS	%	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
OS	%	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
OV	%	PEN-Site 14-TB02-0705	8541-004	NM	7/20/2005	7/27/2005	7/27/2005	7	0	7
OV	%	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	%	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	%	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	AREA	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	AREA	PEN-Site 14-TB02-0705	8541-004	NM	7/20/2005	7/27/2005	7/27/2005	7	0	7
OV	AREA	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	AREA	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/28/2005	7/28/2005	8	0	8
OV	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/28/2005	7/28/2005	8	0	8
OV	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/28/2005	7/28/2005	8	0	8
OV	UG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	UG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/29/2005	7/29/2005	9	0	9
OV	UG/L	PEN-Site 14-TB02-0705	8541-004	NM	7/20/2005	7/27/2005	7/27/2005	7	0	7
SIM	%	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	%	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	%	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	AREA	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	AREA	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	AREA	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	UG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	UG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
SIM	UG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/28/2005	1	7	8
TPH	MG/L	PEN-Site 14-MW01S-0705	8541-002	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
TPH	MG/L	PEN-Site 14-MW02S-0705	8541-001	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11
TPH	MG/L	PEN-Site 14-MW03S-0705	8541-003	NM	7/20/2005	7/21/2005	7/31/2005	1	10	11

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
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USACE Approved • Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 8541

Client Project: NAS Pensacola / UST Site 14 / CTO 0379
TtNUS Project Number: N0063
TtNUS Project Manager: Gerry Walker

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.
The data package is a total of **137** pages including: Table of Contents, Case Narrative, Chain of Custody, Sample Receipt Checklist, QA Verification Statement, and Analytical Results Summary Forms. (Note: Due to a pagination error, a page number 9A is included in this report.)

The following items were noted concerning this work order:

Receiving Notations:

1. The samples were received at 2°C.

Michael F. Broome — *July 21, 2005*
Michael Broome — Date
Receiving

Total Phosphorus & Ortho-Phosphorus by EPA 365.2 Notations:

1. There were no problems associated with this method.

Piercen M. Oliver — *July 27, 2005*
Piercen M. Oliver — Date
Wet Chemistry Analyst

Alkalinity by EPA 310.1

1. There were no problems associated with this method.

Lisandra Betancourt — *July 26, 2005*
Lisandra Betancourt — Date
Wet Chemistry Analyst

TKN by EPA 351.3 Notations:

1. There were no problems associated with this method.

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Charles K. Mulbah — *July 28, 2005*
Charles K. Mulbah — Date
Wet Chemistry Analyst

FL PRO Notations:

1. There were no problems associated with this method.

Beth Parmer — *August 02, 2005*
Beth Parmer — Date
GC Analyst

Carbon Dioxide by SM4500_CO2_C Notations

1. There were no problems associated with this method.

Lisandra Betancourt — *August 02, 2005*
Lisandra Betancourt — Date
Wet Chemistry Analyst

PAHs by SW8270C_SIM Notations:

1. The following samples required dilution due to high analyte concentration: PEN-Site 14-MW02S-0705.

2. The BKS, MS and MSD received five times the normal amount of spike compounds during the extraction process. When this is taken into account, the batch passed in every respect other than the MS having a high spike recovery for Benzo(b)fluoranthene and the MS/MSD having high Relative Percent Differences for six of the heavier analytes.

Chris Pittman — *August 03, 2005*
Chris Pittman — Date
SVOC Analyst

Dissolved Iron by SW6010B Notations:

1. There were no problems associated with this method.

Nikita Kuruganty — *August 04, 2005*
Nikita Kuruganty — Date
Metals Analyst

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Anions by SW9056 Notations

1. There were no problems associated with this method.

Lisandra Betancourt — *August 04, 2005*
Lisandra Betancourt — Date
Wet Chemistry Analyst

Ammonia-N by EPA 350.2 Notations:

1. There were no problems associated with this method.

Charles K. Mulbah — *August 10, 2005*
Charles K. Mulbah — Date
Wet Chemistry Analyst

Select VOCs by SW8260B Notations:

1. The pH of the water samples was <2.0 prior to the VOC analysis.

Sumathi Mudium — *August 11, 2005*
Sumathi Mudium — Date
BTEX/GRO/VPH Analyst

Hydrocarbon Gases by Mod. RSK 175 Notations:

1. The pH of the water samples was <2.0 prior to the MEE analysis.

2. The following samples required dilution due to high analyte concentration, resulting in elevated detection limits: PEN-SITE14-MW02S-0705.

Sumathi Mudium — *August 11, 2005*
Sumathi Mudium — Date
BTEX/GRO/VPH Analyst

TCL VOCs by SW8260B Notations:

1. The recoveries for matrix spike were outside of laboratory limits for Bromoform and Styrene.

2. The recoveries for matrix spike duplicate were outside of laboratory limits for Bromoform, Styrene and Chloromethane.

3. The Relative Percent Difference between the matrix spike and its duplicate was outside of laboratory limits for Styrene.

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JP Mendoza — *August 12, 2005*
J.P. Mendoza — Date
VOC Analyst

Total Organic Carbon by SW9060 Notations

1. There were no problems associated with this method.

Lisandra Betancourt — *August 12, 2005*
Lisandra Betancourt — Date
Wet Chemistry Analyst

Project Manager's Notations:

These case narrative notations have been reviewed/edited by:

August 16, 2005
David C. Fuller — Date
VP – Client Services

WO # 8541

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 2201 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
0063	Site 14 NAS Pensacola	Gerry Walker	(850) 385-9899	Accura Analytical Laboratories
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Pete Lorizzo	PHONE NUMBER: (904) 636-6125	ADDRESS: 6017 Financial Dr
		CARRIER/WAYBILL NUMBER: FedEx		CITY, STATE: Norcross, GA 30071

STANDARD TAT ☐
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2005	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOCs (8260B)	BTEX & NITRE (8260B)	PAHs (8270C)	TRPH (FL-PRO)	TOC (EPA 415.1)	MEE (RSK SOP 147/175) Ammonia, CO2, Alk (EPA 353.2, 310.1) *Diss. Fe (6010B Trace)	COMMENTS
								CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	G	G	G	G	P	G
								PRESERVATIVE USED	HCL	HCL	/	HCL	HCL	HCL	/	H_2SO_4
7/20	0735	PEN-Site14-MW018-0705				GW	G	13	–	X	X	X	X	X	X	X	Cool to 4°C
7/20	0830	PEN-Site14-MW019-0705				GW	G	13	–	X	X	X	X	X	X	X	
7/20	0837	PEN-Site14-MW039-0705				GW	G	13	–	X	X	X	X	X	X	X	*Diss. Fe to be
7/20	0700	PEN-Site14-MWTB02-0705				QC	G	2	X	–	–	–	–	–	–	–	Filtered at Lab
																	Analysis: Nitrate, Nitrite Chloride, Sulfate, Ortho-Phosphate
																	Refer to #: CTO # 379

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	7/20/05	1200	1. RECEIVED BY	7/21/05	0915
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TINUS-001

TETRA TECH JAX Fax:9047368568 Jul 19 2005 9:12 P.03

PROJ_NO: 00063

SDG: 8541 MEDIA: WATER DATA FRACTION: OV

nsample	PEN-Site 14-MW01S-0705	nsample	PEN-Site 14-MW02S-0705	nsample	PEN-Site 14-MW03S-0705
samp_date	7/20/2005	samp_date	7/20/2005	samp_date	7/20/2005
lab_id	8541-002	lab_id	8541-001	lab_id	8541-003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF.		DUP_OF.	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1	U	
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	0.34	J	P
TOTAL XYLENES	3	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.45	J	P
ETHYLBENZENE	5.2		
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	0.57	J	P
TOTAL XYLENES	3	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	1	U	
ETHYLBENZENE	1	U	
METHYL TERT-BUTYL ETHER	2	U	
TOLUENE	1	U	
TOTAL XYLENES	3	U	

PROJ_NO: 00063

SDG: 8541 MEDIA: WATER DATA FRACTION: OV

nsample	PEN-Site 14-TB02-0705	nsample	PEN-Site 14-TB02-0705
samp_date	7/20/2005	samp_date	7/20/2005
lab_id	8541-004	lab_id	8541-004
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	100.0	Pct_Solids	100.0
DUP_OF:		DUP_OF·	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	U	
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	10	U	
2-HEXANONE	10	U	
4-METHYL-2-PENTANONE	10	U	
ACETONE	3.4	J	P
BENZENE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	
CIS-1,3-DICHLOROPROPENE	1	U	
CYCLOHEXANE	1	U	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	1	U	
ETHYLBENZENE	1	U	
ISOPROPYLBENZENE	1	U	
METHYL ACETATE	1	U	
METHYL CYCLOHEXANE	1	U	
METHYL TERT-BUTYL ETHER	1	U	
METHYLENE CHLORIDE	0.66	J	P
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	5.2		
TOTAL XYLENES	3	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
TRICHLOROFLUOROMETHANE	1	U	
VINYL CHLORIDE	1	U	

PROJ_NO: 00063

SDG: 8541 MEDIA. WATER DATA FRACTION. OVG

nsample	PEN-Site 14-MW01S-0705
samp_date	7/20/2005
lab_id	8541-002
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	
METHANE	0.027		

nsample	PEN-Site 14-MW02S-0705
samp_date	7/20/2005
lab_id	8541-001
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	

nsample	PEN-Site 14-MW02S-0705DL
samp_date	7/20/2005
lab_id	8541-001 DIL
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
METHANE	0.39		

PROJ_NO: 00063

SDG: 8541 MEDIA. WATER DATA FRACTION: OVG

nsample	PEN-Site 14-MW03S-0705
samp_date	7/20/2005
lab_id	8541-003
qc_type	NM
units	MG/L
Pct_Solids	100.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.007	U	
ETHENE	0.006	U	
METHANE	0.027		

PROJ_NO: 00063

SDG: 8541 MEDIA WATER DATA FRACTION. PAH

nsample	PEN-Site 14-MW01S-0705
samp_date	7/20/2005
lab_id	8541-002
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

nsample	PEN-Site 14-MW02S-0705
samp_date	7/20/2005
lab_id	8541-001
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF.	

Parameter	Result	Val Qual	Qual Code
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.14	J	P
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
PYRENE	0.2	U	

nsample	PEN-Site 14-MW02S-0705 DL
samp_date	7/20/2005
lab_id	8541-001 DL1 DI
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
2-METHYLNAPHTHALENE	7.4		
ACENAPHTHENE	2.9		
FLUORENE	4.9		
NAPHTHALENE	5.4		
PHENANTHRENE	2.7		

PROJ_NO: 00063

SDG 8541 MEDIA WATER DATA FRACTION: PAH

nsample	PEN-Site 14-MW02S-0705 DL
samp_date	7/20/2005
lab_id	8541-001 DL2 DI
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	23		

nsample	PEN-Site 14-MW03S-0705
samp_date	7/20/2005
lab_id	8541-003
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.2	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

PROJ_NO: 00063

SDG: 8541 MEDIA. WATER DATA FRACTION: PET

nsample	PEN-Site 14-MW01S-0705	nsample	PEN-Site 14-MW02S-0705	nsample	PEN-Site 14-MW03S-0705
samp_date	7/20/2005	samp_date	7/20/2005	samp_date	7/20/2005
lab_id	8541-002	lab_id	8541-001	lab_id	8541-003
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/L	units	MG/L	units	MG/L
Pct_Solids	100.0	Pct_Solids	100.0	Pct_Solids	100.0
DUP_OF:		DUP_OF:		DUP_OF.	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.7	U	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	4.4	V	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.45	J	P

PROJ_NO: 00063

SDG: 8541 MEDIA: WATER DATA FRACTION: M

nsample	PEN-Site 14-MW01S-0705	nsample	PEN-Site 14-MW02S-0705	nsample	PEN-Site 14-MW03S-0705
samp_date	7/20/2005	samp_date	7/20/2005	samp_date	7/20/2005
lab_id	8541-002	lab_id	8541-001	lab_id	8541-003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	231		

Parameter	Result	Val Qual	Qual Code
IRON	389		

Parameter	Result	Val Qual	Qual Code
IRON	100	U	

PROJ_NO: 00063

SDG: 8541 MEDIA: WATER DATA FRACTION MISC

nsample	PEN-Site 14-MW01S-0705	nsample	PEN-Site 14-MW02S-0705	nsample	PEN-Site 14-MW03S-0705
samp_date	7/20/2005	samp_date	7/20/2005	samp_date	7/20/2005
lab_id	8541-002	lab_id	8541-001	lab_id	8541-003
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF.		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	1	U	
AMMONIA-N	MG/L	0.88		
CARBON DIOXIDE	MG/L	45		
CHLORIDE	MG/L	36		
NITRATE	MG/L	0.59		
NITRITE	MG/L	0.5	U	
ORTHOPHOSPHATE-P	MG/L	0.021		
SULFATE	MG/L	28		
TOTAL KJELDAHL NITROGEN	MG/L	1.05		
TOTAL ORGANIC CARBON	MG/L	1.93	J	P
TOTAL PHOSPHORUS	MG/L	0.02	U	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	1.3		
AMMONIA-N	MG/L	1.23		
CARBON DIOXIDE	MG/L	130		
CHLORIDE	MG/L	29		
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.5	U	
ORTHOPHOSPHATE-P	MG/L	0.083		
SULFATE	MG/L	4.2		
TOTAL KJELDAHL NITROGEN	MG/L	1.4		
TOTAL ORGANIC CARBON	MG/L	4.25		
TOTAL PHOSPHORUS	MG/L	0.045		

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	1.4		
AMMONIA-N	MG/L	0.7		
CARBON DIOXIDE	MG/L	120		
CHLORIDE	MG/L	33		
NITRATE	MG/L	0.94		
NITRITE	MG/L	0.5	U	
ORTHOPHOSPHATE-P	MG/L	0.025		
SULFATE	MG/L	17		
TOTAL KJELDAHL NITROGEN	MG/L	0.88		
TOTAL ORGANIC CARBON	MG/L	2.01		
TOTAL PHOSPHORUS	MG/L	0.02	U	

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE 14-MW01S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8541 Mod. Ref. No.:_____ SDG No. : 8541

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8541-002

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A14010

Level: (TRACE/LOW/MED) LOW Date Received: 07/21/2005

% Moisture: not dec._____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	.34	I
1330-20-7	Xylenes, Total	3.0	U

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE 14-MW02S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8541 Mod. Ref. No.:_____ SDG No. : 8541

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8541-001

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A14009

Level: (TRACE/LOW/MED) LOW Date Received: 07/21/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	.45	I
100-41-4	Ethylbenzene	5.2	
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	.57	I
1330-20-7	Xylenes, Total	3.0	U

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE 14-MW03S-070

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8541 Mod. Ref. No.: _____ SDG No. : 8541

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8541-003

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: A072905\A14011

Level: (TRACE/LOW/MED) LOW Date Received: 07/21/2005

% Moisture: not dec. _____ Date Analyzed: 07/29/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
108-88-3	Toluene	1.0	U
1330-20-7	Xylenes, Total	3.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-Site 14-TB02-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8541-004
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705U17614
Level (low/med):	LOW	Date Received:	07/21/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: .25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(µ L)	Soil Aliquot Volume:	(µ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
71-55-6	1,1,1-Trichloroethane	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
78-93-3	2-Butanone (methyl ethyl ketone)	10	U
591-78-6	2-Hexanone	10	U
108-10-1	4-Methyl-2-pentanone	10	U
67-64-1	Acetone	3.4	IV
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
75-15-0	Carbon disulfide	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	1.0	U
156-59-2	cis-1,2-dichloroethene	1.0	U
10061-01-5	cis-1,3-dichloropropene	1.0	U

IB

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-Site 14-TB02-0705

Lab Name:	ACCURA ANALYTICAL LABORAT	Contract:	N0063
Lab Code:	ACCURA	SAS NO. :	
Case No. :		SDG NO. :	
Matrix (soil/water):	WATER	Lab Sample Id:	8541-004
Sample wt/vol:	25.00 (g/mL) ML	Lab File ID:	J072705\J17614
Level (low/med):	LOW	Date Received:	07/21/05
% Moisture: not dec.		Date Analyzed:	07/27/05
GC Column:	ZB-624 ID: .25 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(μ L)	Soil Aliquot Volume:	(μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
110-82-7	Cyclohexane	1.0	U
124-48-1	Dibromochloromethane	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
100-41-4	Ethylbenzene	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
108-87-2	Methylcyclohexane	1.0	U
75-09-2	Methylene chloride	0.66	I
100-42-5	Styrene	1.0	U
127-18-4	Tetrachloroethene	1.0	U
108-88-3	Toluene	5.2	
156-60-5	trans-1,2-dichloroethene	1.0	U
10061-02-6	trans-1,3-dichloropropene	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
1330-20-7	Xylenes, total	3.0	U

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE 14-MW01S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8541 Mod. Ref. No.:_____ SDG No. : 8541

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8541-002

Sample 300 (g/uL) uL Lab File ID: L072805\L01892

Level: (TRACE/LOW/MED) LOW Date Received: 07/21/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (μ L) Soil Aliquot Volume: _____ (μ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.027	

1A - FORM I VOA-1
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE 14-MW02S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. :8541 Mod. Ref. No.:_____ SDG No. : 8541

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8541-001

Sample 300 (g/uL) uL Lab File ID: L072805\L01883

Level: (TRACE/LOW/MED) LOW Date Received: 07/21/2005

% Moisture: not dec._____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.487	L

1B - FORM I VOA-2
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE 14-MW02S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8541 Mod. Ref. No.: _____ SDG No. : 8541

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8541-001 DL

Sample 300 (g/uL) uL Lab File ID: L072805\L01891

Level: (TRACE/LOW/MED) LOW Date Received: 07/21/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 ID: (mm) Dilution Factor: 10.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.070	U
74-85-1	Ethene	0.060	U
74-82-8	Methane	.39	

1B - FORM I VOA-2
ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
PEN-SITE 14-MW03S-0705

Lab Name: ACCURA ANALYTICAL LABS Contract: N0063

Lab Code: ACCURA Case No. : 8541 Mod. Ref. No.: _____ SDG No. : 8541

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 8541-003

Sample 300 (g/uL) uL Lab File ID: L072805\L01885

Level: (TRACE/LOW/MED) LOW Date Received: 07/21/2005

% Moisture: not dec. _____ Date Analyzed: 07/28/2005

GC Column: .32 _____ ID: (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (µ L) Soil Aliquot Volume: _____ (µ L)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
74-84-0	Ethane	0.007	U
74-85-1	Ethene	0.006	U
74-82-8	Methane	.027	

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-Site 14-MW01S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8541

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8541-002

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072805\B48911

Level : (low/med) LOW

Date Received: 07/21/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/28/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-Site 14-MW02S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8541

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8541-001

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072805\B48910

Level : (low/med) LOW

Date Received: 07/21/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µ L)

Date Analyzed: 07/28/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	18	L
91-57-6	2-Methylnaphthalene	6.7	L
83-32-9	Acenaphthene	1.7	L
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.14	I
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	3.0	L
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	4.8	L
85-01-8	Phenanthrene	2.2	L
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-Site 14-MW02S-0705 DL1

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8541

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8541-001 DL1

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072805\B48914

Level : (low/med) LOW

Date Received: 07/21/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µL)

Date Analyzed: 07/28/05

Injection Volume: 2.0 (µL)

Dilution Factor: 5.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		Q
90-12-0	1-Methylnaphthalene	23	L
91-57-6	2-Methylnaphthalene	7.4	
83-32-9	Acenaphthene	2.9	
208-96-8	Acenaphthylene	1.0	U
120-12-7	Anthracene	0.26	I
56-55-3	Benzo(a)anthracene	1.0	U
50-32-8	Benzo(a)pyrene	1.0	U
205-99-2	Benzo(b)fluoranthene	1.0	U
191-24-2	Benzo(g,h,i)perylene	1.0	U
207-08-9	Benzo(k)fluoranthene	1.0	U
218-01-9	Chrysene	1.0	U
53-70-3	Dibenz(a,h)Anthracene	1.0	U
206-44-0	Fluoranthene	1.0	U
86-73-7	Fluorene	4.9	
193-39-5	Indeno(1,2,3-c,d)Pyrene	1.0	U
91-20-3	Naphthalene	5.4	
85-01-8	Phenanthrene	2.7	
129-00-0	Pyrene	1.0	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-Site 14-MW02S-0705 DL2

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8541

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8541-001 DL2

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 1B072805\B48913

Level : (low/med) LOW

Date Received: 07/21/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 1000 (µL)

Date Analyzed: 07/28/05

Injection Volume: 2.0 (µL)

Dilution Factor: 20.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	23	
91-57-6	2-Methylnaphthalene	6.4	
83-32-9	Acenaphthene	3.1	I
208-96-8	Acenaphthylene	4.0	U
120-12-7	Anthracene	4.0	U
56-55-3	Benzo(a)anthracene	4.0	U
50-32-8	Benzo(a)pyrene	4.0	U
205-99-2	Benzo(b)fluoranthene	4.0	U
191-24-2	Benzo(g,h,i)perylene	4.0	U
207-08-9	Benzo(k)fluoranthene	4.0	U
218-01-9	Chrysene	4.0	U
53-70-3	Dibenz(a,h)Anthracene	4.0	U
206-44-0	Fluoranthene	4.0	U
86-73-7	Fluorene	5.1	
193-39-5	Indeno(1,2,3-c,d)Pyrene	4.0	U
91-20-3	Naphthalene	5.3	
85-01-8	Phenanthrene	2.7	I
129-00-0	Pyrene	4.0	U

1D
SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.
PEN-Site 14-MW03S-0705

Lab Name : ACCURA ANALYTICAL LAB
Contract: N0063
Lab Code : ACCURA
Case No.: 8541
SAS No.
SDG No.: N/A
Matrix : (soil/water) WATER
Lab Sample Id: 8541-003
Sample wt/vol: 1000 (g/ml): ML
Lab File ID: 1B072805\B48912
Level : (low/med) LOW
Date Received: 07/21/05
% Moisture:
Decanted: (Y/N) N
Date Extracted: 07/21/05
Concentrated Extract Volume: 1000 (µ L)
Date Analyzed: 07/28/05
Injection Volume: 2.0 (µ L)
Dilution Factor: 1.0
GPC Cleanup (Y/N): N
pH: N/A
Extraction : (Type) SW3520C

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
90-12-0	1-Methylnaphthalene	0.20	U
91-57-6	2-Methylnaphthalene	0.20	U
83-32-9	Acenaphthene	0.20	U
208-96-8	Acenaphthylene	0.20	U
120-12-7	Anthracene	0.20	U
56-55-3	Benzo(a)anthracene	0.20	U
50-32-8	Benzo(a)pyrene	0.20	U
205-99-2	Benzo(b)fluoranthene	0.20	U
191-24-2	Benzo(g,h,i)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.20	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenz(a,h)Anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-c,d)Pyrene	0.20	U
91-20-3	Naphthalene	0.20	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-Site 14-MW01S-0705

Lab Name :	ACCURA ANALYTICAL LAB	Contract:	N0063
Lab Code :	ACCURA Case No.: 8541	SAS No.	SDG No.: N/A
Matrix : (soil/water)	WATER	Lab Sample Id:	8541-002
Sample wt/vol:	1000 (g/ml): ML	Lab File ID:	072905\O12352
Level : (low/med)	LOW	Date Received:	07/21/05
% Moisture:	Decanted: (Y/N) N	Date Extracted:	07/21/05
Concentrated Extract Volume:	2000 (µ L)	Date Analyzed:	07/31/05
Injection Volume:	2.0 (µ L)	Dilution Factor:	1.0
GPC Cleanup (Y/N):	N pH: N/A	Extraction : (Type)	SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	1.7	U

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-Site 14-MW02S-0705

Lab Name : ACCURA ANALYTICAL LAB

Contract: N0063

Lab Code : ACCURA

Case No.: 8541

SAS No.

SDG No.: N/A

Matrix : (soil/water) WATER

Lab Sample Id: 8541-001

Sample wt/vol: 1000 (g/ml): ML

Lab File ID: 072905\O12347

Level : (low/med) LOW

Date Received: 07/21/05

% Moisture:

Decanted: (Y/N) N

Date Extracted: 07/21/05

Concentrated Extract Volume: 2000 (µ L)

Date Analyzed: 07/31/05

Injection Volume: 2.0 (µ L)

Dilution Factor: 1.0

GPC Cleanup (Y/N): N

pH: N/A

Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	4.4	V

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

PEN-Site 14-MW03S-0705

Lab Name : ACCURA ANALYTICAL LAB Contract: N0063

Lab Code : ACCURA Case No.: 8541 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 8541-003

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 072905\O12353

Level : (low/med) LOW Date Received: 07/21/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 07/21/05

Concentrated Extract Volume: 2000 (µ L) Date Analyzed: 07/31/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) mg/L	Q
	Petroleum Range Organics	0.45	IV

USEPA - CLP

1A- IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE 14-MW01S-0705

Lab Name: ACCURA ANALYTICAL LAB Contract: N0063

Lab Code: ACCURA Case No.: 8541 NRAS No. _____ SDG No.: 8541

Matrix (soil/water): WATER Lab Sample ID: 8541-002

Level (low/med): LOW Date Received: 07/21/2005

% Solids: _____

Concentration Units (ug/ L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron (Dissolved)	231			

Color Before _____ Clarity Before _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

USEPA - CLP

1A- IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE 14-MW02S-0705

Lab Name: ACCURA ANALYTICAL LAB Contract: N0063

Lab Code: ACCURA Case No.: 8541 NRAS No. _____ SDG No.: 8541

Matrix (soil/water): WATER Lab Sample ID: 8541-001

Level (low/med): LOW Date Received: 07/21/2005

% Solids: _____

Concentration Units (ug/ L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron (Dissolved)	389			

Color Before _____ Clarity Before _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

USEPA - CLP

1A- IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

PEN-SITE 14-MW03S-0705

Lab Name: ACCURA ANALYTICAL LAB Contract: N0063

Lab Code: ACCURA Case No.: 8541 NRAS No. _____ SDG No.: 8541

Matrix (soil/water): WATER Lab Sample ID: 8541-003

Level (low/med): LOW Date Received: 07/21/2005

% Solids: _____

Concentration Units (ug/ L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-89-6	Iron (Dissolved)	100	U		

Color Before _____ Clarity Before _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

Certificate of Analytical Results 8541

Tetra Tech NUS -Tallahassee, Tallahassee, FL

NAS Pensacola / UST Site 14 / CTO 0379

Sample Id: **PEN-Site 14-MW01S-0705** Matrix: **WATER** % Moisture:
Lab Sample Id: **8541-002** Date Collected: **Jul-20-05 08:30** Date Received: **Jul-21-05 09:15**
Sample Depth:

Analytical Method: Alkalinity by EPA 310.1 Prep Method:

Date Analyzed: Jul-25-05 10:30 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 27483

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Alkalinity, Carbonate (as CaCO3)	ALK_CARB	BRL	1.0	0.24	mg/L	U	1

Analytical Method: Anions by SW9056 Prep Method:

Date Analyzed: Jul-21-05 14:46 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 27594

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Chloride	16887-00-6	36	1.0	0.17	mg/L		1
Nitrate	14797-55-8	0.59	0.10	0.022	mg/L		1
Nitrite	7727-37-9	BRL	0.50	0.031	mg/L	U	1
Sulfate	14808-79-8	28	1.0	0.062	mg/L		1

Analytical Method: Carbon Dioxide by SM4500 Prep Method:

Date Analyzed: Jul-25-05 10:30 Analyst: PMO01 Date Prep: Tech: PMO01
Seq Number: 27519

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Carbon Dioxide	124-38-9	45	1.0	1.0	mg/L		1

Analytical Method: Nitrogen Ammonia by EPA 350.2 Prep Method:

Date Analyzed: Jul-25-05 10:00 Analyst: CKM01 Date Prep: Tech: CKM01
Seq Number: 27446

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrogen, Ammonia (as N)	7727-37-9	0.880	0.500	0.202	mg/L		1

Analytical Method: Nitrogen, Total Kjeldahl by EPA 351.3 Prep Method:

Date Analyzed: Jul-26-05 07:30 Analyst: CKM01 Date Prep: Tech: CKM01
Seq Number: 27479

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrogen, Total Kjeldahl	7727-37-9	1.05	0.150	0.139	mg/L		1

Analytical Method: Phosphorus, Ortho by EPA 365.2 Prep Method:

Date Analyzed: Jul-21-05 09:15 Analyst: PMO01 Date Prep: Tech: PMO01
Seq Number: 27405

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Phosphorus, Ortho (as P)	7723-14-0	0.021	0.020	0.0020	[illegible]		1

Certificate of Analytical Results 8541

Tetra Tech NUS -Tallahassee, Tallahassee, FL

NAS Pensacola / UST Site 14 / CTO 0379

Sample Id: **PEN-Site 14-MW01S-0705** Matrix: **WATER** % Moisture:
Lab Sample Id: **8541-002** Date Collected: **Jul-20-05 08:30** Date Received: **Jul-21-05 09:15**
Sample Depth:

Analytical Method: Phosphorus, Total by EPA 365.2 Prep Method:

Date Analyzed: Jul-26-05 09:15 Analyst: CKM01 Date Prep: Tech: CKM01
Seq Number: 27465

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Phosphorus, Total (as P)	7723-14-0	BRL	0.020	0.0050	mg/L	U	1

Analytical Method: Total Organic Carbon by SW9060 Prep Method:

Date Analyzed: Aug-11-05 19:45 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 27700

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Total Organic Carbon	7440-44-0	1.93	2.00	0.810	mg/L	I	1

Certificate of Analytical Results 8541

Tetra Tech NUS -Tallahassee, Tallahassee, FL

NAS Pensacola / UST Site 14 / CTO 0379

Sample Id: **PEN-Site 14-MW02S-0705** Matrix: **WATER** % Moisture:
Lab Sample Id: **8541-001** Date Collected: **Jul-20-05 07:35** Date Received: **Jul-21-05 09:15**
Sample Depth:

Analytical Method: Alkalinity by EPA 310.1 Prep Method:

Date Analyzed: Jul-25-05 10:30 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 27483

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Alkalinity, Carbonate (as CaCO3)	ALK_CARB	1.3	1.0	0.24	mg/L		1

Analytical Method: Anions by SW9056 Prep Method:

Date Analyzed: Jul-21-05 14:29 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 27594

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Chloride	16887-00-6	29	1.0	0.17	mg/L		1
Nitrate	14797-55-8	BRL	0.10	0.022	mg/L	U	1
Nitrite	7727-37-9	BRL	0.50	0.031	mg/L	U	1
Sulfate	14808-79-8	4.2	1.0	0.062	mg/L		1

Analytical Method: Carbon Dioxide by SM4500 Prep Method:

Date Analyzed: Jul-25-05 10:30 Analyst: PMO01 Date Prep: Tech: PMO01
Seq Number: 27519

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Carbon Dioxide	124-38-9	130	1.0	1.0	mg/L		1

Analytical Method: Nitrogen Ammonia by EPA 350.2 Prep Method:

Date Analyzed: Jul-25-05 10:00 Analyst: CKM01 Date Prep: Tech: CKM01
Seq Number: 27446

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrogen, Ammonia (as N)	7727-37-9	1.23	0.500	0.202	mg/L		1

Analytical Method: Nitrogen, Total Kjeldahl by EPA 351.3 Prep Method:

Date Analyzed: Jul-26-05 07:30 Analyst: CKM01 Date Prep: Tech: CKM01
Seq Number: 27479

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrogen, Total Kjeldahl	7727-37-9	1.40	0.150	0.139	mg/L		1

Analytical Method: Phosphorus, Ortho by EPA 365.2 Prep Method:

Date Analyzed: Jul-21-05 09:15 Analyst: PMO01 Date Prep: Tech: PMO01
Seq Number: 27405

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Phosphorus, Ortho (as P)	7723-14-0	0.083	0.020	0.0020	mg/L		1

Certificate of Analytical Results 8541

Tetra Tech NUS -Tallahassee, Tallahassee, FL

NAS Pensacola / UST Site 14 / CTO 0379

Sample Id: **PEN-Site 14-MW02S-0705** Matrix: **WATER** % Moisture:
Lab Sample Id: **8541-001** Date Collected: **Jul-20-05 07:35** Date Received: **Jul-21-05 09:15**
Sample Depth:

Analytical Method: Phosphorus, Total by EPA 365.2 Prep Method:

Date Analyzed: Jul-26-05 09:15 Analyst: CKM01 Date Prep: Tech: CKM01
Seq Number: 27465

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Phosphorus, Total (as P)	7723-14-0	0.045	0.020	0.0050	mg/L		1

Analytical Method: Total Organic Carbon by SW9060 Prep Method:

Date Analyzed: Aug-11-05 19:30 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 27700

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Total Organic Carbon	7440-44-0	4.25	2.00	0.810	mg/L		1

Certificate of Analytical Results 8541

Tetra Tech NUS -Tallahassee, Tallahassee, FL

NAS Pensacola / UST Site 14 / CTO 0379

Sample Id: **PEN-Site 14-MW03S-0705** Matrix: **WATER** % Moisture:
Lab Sample Id: **8541-003** Date Collected: **Jul-20-05 08:37** Date Received: **Jul-21-05 09:15**
Sample Depth:

Analytical Method: Alkalinity by EPA 310.1 Prep Method:

Date Analyzed: Jul-25-05 10:30 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 27483

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Alkalinity, Carbonate (as CaCO3)	ALK_CARB	1.4	1.0	0.24	mg/L		1

Analytical Method: Anions by SW9056 Prep Method:

Date Analyzed: Jul-21-05 14:13 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 27594

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Chloride	16887-00-6	33	1.0	0.17	mg/L		1
Nitrate	14797-55-8	0.94	0.10	0.022	mg/L		1
Nitrite	7727-37-9	BRL	0.50	0.031	mg/L	U	1
Sulfate	14808-79-8	17	1.0	0.062	mg/L		1

Analytical Method: Carbon Dioxide by SM4500 Prep Method:

Date Analyzed: Jul-25-05 10:30 Analyst: PMO01 Date Prep: Tech: PMO01
Seq Number: 27519

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Carbon Dioxide	124-38-9	120	1.0	1.0	mg/L		1

Analytical Method: Nitrogen Ammonia by EPA 350.2 Prep Method:

Date Analyzed: Jul-25-05 10:00 Analyst: CKM01 Date Prep: Tech: CKM01
Seq Number: 27446

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrogen, Ammonia (as N)	7727-37-9	0.700	0.500	0.202	mg/L		1

Analytical Method: Nitrogen, Total Kjeldahl by EPA 351.3 Prep Method:

Date Analyzed: Jul-26-05 07:30 Analyst: CKM01 Date Prep: Tech: CKM01
Seq Number: 27479

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrogen, Total Kjeldahl	7727-37-9	0.880	0.150	0.139	mg/L		1

Analytical Method: Phosphorus, Ortho by EPA 365.2 Prep Method:

Date Analyzed: Jul-21-05 09:15 Analyst: PMO01 Date Prep: Tech: PMO01
Seq Number: 27405

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Phosphorus, Ortho (as P)	7723-14-0	0.025	0.020	0.0020	mg/L		1

Certificate of Analytical Results 8541

Tetra Tech NUS -Tallahassee, Tallahassee, FL

NAS Pensacola / UST Site 14 / CTO 0379

Sample Id: **PEN-Site 14-MW03S-0705** Matrix: **WATER** % Moisture:
Lab Sample Id: **8541-003** Date Collected: **Jul-20-05 08:37** Date Received: **Jul-21-05 09:15**
Sample Depth:

Analytical Method: Phosphorus, Total by EPA 365.2 Prep Method:

Date Analyzed: Jul-26-05 09:15 Analyst: CKM01 Date Prep: Tech: CKM01
Seq Number: 27465

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Phosphorus, Total (as P)	7723-14-0	BRL	0.020	0.0050	mg/L	U	1

Analytical Method: Total Organic Carbon by SW9060 Prep Method:

Date Analyzed: Aug-11-05 20:00 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 27700

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Total Organic Carbon	7440-44-0	2.01	2.00	0.810	mg/L		1