N00204.AR.002221
NAS PENSACOLA
5090.3a

Technical Memorandum

LNAPL Delineation and Groundwater Sampling at Sherman Field Former Fuel Farm Underground Storage Tank Site 000024

Naval Air Station Pensacola
Pensacola, Florida

Revision No. 01

Contract No. N62467-01-D-0331
Contract Task Order No. 0085

Submitted to:

U.S. Naval Facilities
Engineering Command Southeast

Prepared by:

CH2MHILL Constructors, Inc.
Northpark 400
1000 Abernathy Road
Suite 1600
Atlanta, GA 30328

August 2009

Technical Memorandum

LNAPL Delineation and Groundwater Sampling at Sherman Field Former Fuel Farm Underground Storage Tank Site 000024

Naval Air Station Pensacola
Pensacola, Florida

Revision No. 01

Contract No. N62467-01-D-0331
Contract Task Order No. 0085

Submitted to:

U.S. Naval Facilities
Engineering Command
Southeast

Prepared by:

CH2MHILL Constructors, Inc.
Northpark 400
1000 Abernathy Road, Suite 1600
Atlanta, GA 30328

August 2009

Prepared By:

Casey Hudson, Project Manager — Date: 08/10/2009

Approved By:

Sidney Allison, Program Manager — Date: 08/10/2009

Client Acceptance:

U.S. Navy Responsible Authority — Date

PROFESSIONAL CERTIFICATION

The contractor, CH2M HILL Constructors, Inc., hereby certifies that, to the best of its knowledge and belief, this Report and the technical data, delivered herewith under Contract No. N62467-01-D-0331, Contract Task Order No. 0085 is complete and accurate and complies with all requirements of this contract and standard professional practices at the time the submittal was prepared. This document was prepared under the supervision of the signing Professional Engineer and is partly based on information obtained from others. If conditions are determined to exist differently than those described in this document, then the undersigned Professional Engineer should be notified to evaluate the effects of any additional information on the project described in this document.

DATE: August 10, 2009

NAME AND TITLE OF CERTIFYING OFFICIAL:

CASEY EGAN HUDSON
CERTIFICATE
No. 51975
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Casey E. Hudson, P.E.
Project Manager
Florida Professional Engineer Number: 51975
Expiration Date: February 28, 2011

Contents

Acronyms and Abbreviations ..... **vii**
1.0 Introduction **1-1**
1.1 Purpose 1-1
1.2 Scope of Work 1-2
1.3 Site Description 1-2
2.0 Assessment Activities **2-1**
2.1 Mobilization and Site Preparation 2-1
2.2 Well Verification and Groundwater Elevation and LNAPL Survey 2-1
2.3 Groundwater Sampling 2-1
2.4 Waste Characterization and Containerization of Contaminated Media 2-2
2.5 Field Quality Control 2-2
2.6 Decontamination and Demobilization 2-2
3.0 Results of Investigation **3-1**
3.1 Well Verification and Groundwater Elevation and LNAPL Survey 3-1
3.2 Groundwater Analytical Results 3-2
3.2.1 Analytes 3-2
3.2.2 Natural Attenuation Indicator Parameters Evaluation 3-2
3.2.3 Mass Budget and BTEX Depletion Analysis 3-5
3.3 Waste Characterization, Transportation, and Disposal 3-6
4.0 Summary and Recommendations **4-1**
4.1 Summary of Field Work 4-1
4.2 Recommendations 4-1
5.0 References **5-1**

Tables

2-1 Well Summary Table
2-2 Groundwater Sampling Summary
3-1 Groundwater and LNAPL Gauging Data
3-2 Analytical Data Compared with GCTL and FSWC
3-3 Analytical Data Compared with NADC
3-4 Groundwater Sampling Parameters
3-5 Groundwater Statistical Data Summary

Figures

1-1 Site Location
1-2 Site Plan
2-1 Site Location Map with Well Locations
3-1 Measured LNAPL Thickness – November / December 2008
3-2 Potentiometric Surface Map – November / December 2008
3-3 BTEX Concentration Map

Contents, Continued

Appendices

A Sampling Logs
B Laboratory Analytical Data
C Mass Budget Analysis
D Waste Disposal Documentation – Waste Profile, Manifest, and Certificate of Disposal

Acronyms and Abbreviations

bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene-
CFR	Code of Federal Regulations
CH2M HILL	CH2M HILL Constructors, Inc.
CO_2	carbon dioxide
COC	chain of custody
DO	dissolved oxygen
EDB	ethylene dibromide
EPA	U.S. Environmental Protection Agency
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
Fe^{2+}	ferrous iron
Fe^{3+}	ferric iron
FL-PRO	Florida Petroleum Residual Organic
FSWC	Freshwater Surface Water Criteria
GCTL	Groundwater Cleanup Target Level
HSP	Health and Safety Plan
ID	inside diameter
IDW	investigation-derived waste
LNAPL	light non-aqueous phase liquid
LUC	land use control
µg/L	microgram per liter
mg/L	milligram per liter
MNA	monitored natural attenuation
mS/cm	milliSiemen per centimeter
MS/MSD	matrix spike/matrix spike duplicate
msl	mean sea level
MTBE	methyl tertiary butyl ether
mV	millivolt
NA	natural attenuation
NADC	Natural Attenuation Default Concentration
NAS	Naval Air Station
NAVFAC SE	U.S. Naval Facilities Engineering Command Southeast
NFA	no further action
NO_2	Nitrite
NO_3	Nitrate
NTU	nephelometric turbidity unit
ORP	oxidation-reduction potential
PAH	polycyclic aromatic hydrocarbons
RAP	Remedial Action Plan
ROICC	Resident Officer in Charge of Construction
SA	site assessment

Acronyms and Abbreviations, Continued

SAP	Sampling and Analysis Plan
SO_4	sulfate
SOP	standard operating procedure
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
UST	underground storage tank
WP	work plan

1.0 Introduction

CH2M HILL Constructors, Inc. (CH2M HILL) has been contracted by the U.S. Naval Facilities Engineering Command Southeast (NAVFAC SE) to prepare this Technical Memorandum under Response Action Contract No. N62467-01-D-0331, Contract Task Order (CTO) No. 0085. The Technical Memorandum presents the results from the assessment work performed as outlined in the Site Assessment Work Plan (SA WP) (CH2M HILL, 2008). The work included light non-aqueous phase liquid (LNAPL) gauging and groundwater sampling at monitoring wells located at the Sherman Field Former Fuel Farm, Underground Storage Tank (UST) Site 000024, Naval Air Station (NAS) Pensacola, in Pensacola, Florida.

This Technical Memorandum is organized into the following sections and appendices:

- **Section 1.0 Introduction.** This section describes the purpose and scope of the 2008 assessment and provides the operational history of the site.
- **Section 2.0 Assessment Activities.** This section describes the methodology used during the 2008 assessment.
- **Section 3.0 Results of Investigation.** This section presents the results obtained from the 2008 assessment.
- **Section 4.0 Summary and Recommendations.** This section provides a summary of findings from the assessment and provides recommendations for remedial action.
- **Section 5.0 References.** This section lists the references used to prepare this document.
- **Appendix A** contains the sampling logs.
- **Appendix B** contains the laboratory analytical data sheets and chain-of-custody (COC) records.
- **Appendix C** contains the mass budget analysis.
- **Appendix D** contains the investigation-derived waste (IDW) profile, manifest, and certificate of disposal.

Tables and figures appear at the end of their respective sections.

1.1 Purpose

This report provides a summary of assessment activities performed by CH2M HILL in November and December 2008. The work was performed in accordance with the 2008 SA WP (CH2M HILL, 2008). NAVFAC SE approved the plan for implementation in September 2008.

The assessment objectives were as follows:

- Verify the existing monitoring well network at the Sherman Field Former Fuel Farm.
- Measure groundwater elevation and LNAPL, if present, in each well.
- Collect groundwater samples from select monitoring wells.
- Evaluate data to determine whether the Remedial Action Plan (RAP) completed in 2002 is still appropriate or a RAP Addendum is needed to change or modify the proposed remedial action alternative for LNAPL recovery.

1.2 Scope of Work

The completed activities associated with the scope of work as outlined in the SA WP (CH2M HILL, 2008) include:

- Mobilization and site preparation
- Well verification and groundwater elevation and LNAPL survey
- Groundwater sampling
- Decontamination and demobilization
- Technical memorandum documenting LNAPL gauging and groundwater sampling

1.3 Site Description

NAS Pensacola is located in northwest Florida on the western side of Pensacola Bay, approximately 2 miles south of Pensacola, Florida, on Navy Boulevard. The site is located on the western perimeter of the base (see Figure 1-1). The Sherman Field Former Fuel Farm, UST Site 000024, is an approximately 3.5-acre fenced area containing four cut-and-cover storage tanks (Tank Numbers 1884, 1886, 1887, and 1888) (see Figure 1-2). The petroleum storage tank system was installed circa 1945 and was used to store JP-4 jet fuel. An equipment malfunction led to a release of 48,000 gallons of JP-4 in 1983. NAS Pensacola personnel initially installed four recovery ditches and recovered approximately 600 to 700 gallons of product. Shortly thereafter, use of the recovery ditches was discontinued by direction of the NAS Pensacola Fire Marshall. In August 1983, a product/groundwater recovery well system was installed. The recovery system proved ineffective and recovery efforts were discontinued (Tetra Tech NUS, Inc. [TtNUS], 2002a). The fuel storage tanks were abandoned in place in 1995 when a new fuel facility was constructed adjacent to the southern boundary of the original fuel farm.

TtNUS completed a Site Assessment (SA) in 2000 to characterize the nature and extent of impacted soil and groundwater. During the SA, 31 monitoring wells were installed; 27 shallow wells were completed to approximate depths of 17 to 30 feet below ground surface (bgs), 3 intermediate wells to approximately 40 feet bgs, and 1 deep well to approximately 75 feet bgs. The former USTs at the Sherman Field Former Fuel Farm were installed upon a flat cut base and then covered with fill (TtNUS, 2002a). Typical site lithology is yellowish brown to light brown to white, silty, fine-to medium-grained sand at normal land surface and below the tank mound to approximately 38 feet bgs. Discontinuous 1-foot thick layers

of peat at 38 feet bgs and below were potentially confining layers encountered during the 2000 SA investigation. Depths to groundwater ranged from 7.5 to 28.3 feet bgs in shallow wells at the site, reflecting the difference in elevation of wells installed in the mound covering the tanks and those installed off the mound. Water table elevation ranged from 18 to 22 feet above mean sea level (msl). Groundwater flow in the shallow aquifer is generally to the south-southeast; however, it is localized in a radial pattern near the tank mound.

In 2000, 50 wells were gauged for LNAPL thickness. Seven of the monitoring wells at the site contained measurable LNAPL thickness (TtNUS, 2002a). LNAPL measurements ranged from a visible sheen (MW2-S, MW3-S, and MW16-S) to 1.64 feet (MW-1) in thickness..

The two most recent monitoring events, completed in November 2000 and October/November 2001 were part of the SA. Samples collected during the events were analyzed for the analytes that comprise the gasoline and kerosene analytical groups as specified in Chapter 62-770 of the Florida Administrative Code (F.A.C.). Detected concentrations of benzene, ethylbenzene, xylene, 1- and 2-methylnaphthalene, naphthalene, and total petroleum hydrocarbons (TPH) exceeded Florida Department of Environmental Protection (FDEP) groundwater cleanup target levels (GCTLs) (TtNUS, 2002b).

During the November 2000 monitoring event, methylene chloride was detected at a concentration of 13J micrograms per liter (µg/L) in MW16-S, which exceeds the GCTL of 5 µg/L. In addition, chloroform was detected during the same monitoring event at a concentration of 6.6 µg/L in MW14-S, which slightly exceeds the GCTL of 5.7 µg/L. Neither constituent exceeded the GCTLs in the samples collected during the October/November 2001 event. During the November 2000 and October/November 2001 monitoring events, lead was detected in five and six wells, respectively, with no results exceeding the GCTL of 15 µg/L. In addition, methyl tertiary butyl ether (MTBE) was detected during the November 2000 and the October/November monitoring events in deep monitoring well MW-13D at concentrations of 5.1J µg/L and at 4.6 µg/L, respectively; both of these concentrations are below the GCTL of 50 µg/L. Ethylene dibromide (EDB) was not detected during either of the two monitoring events (TtNUS, 2002a).

During the SA investigation, soil borings were advanced to a depth of approximately 12 to 28 feet bgs at 41 locations. The results of the assessment indicated that petroleum constituents were present in site soil from the tank location area at concentrations exceeding the requirements specified in 62-770 F.A.C. and 62-777 F.A.C. (TtNUS, 2002a). Based on headspace screening results, surface soils at the site were not impacted. “Excessively contaminated soils” were present between 4 to 8 feet bgs in the area surrounding Tank 1884 and east of Tank 1887 (see Figure 1-2). TPH, benzene, ethylbenzene, total xylenes, naphthalene, and 1,2-methylnaphthalene concentrations in six soil samples from the tank areas exceeded leachability soil cleanup target levels

In summary, the SA data indicated contaminated soil was generally limited to the vicinity of the former fuel tanks, dissolved petroleum contaminants exceeded FDEP GCTLs in site groundwater, and LNAPL was present in existing site monitoring wells. The Site Assessment Report recommended a RAP to address the LNAPL (TtNUs, 2002a).

A RAP was completed for the Sherman Field Former Fuel Farm in 2002. The remedial action goal for the site was to remove LNAPL in excess of 0.01 foot. To achieve the goal, treatment

of hydrocarbons in the vadose zone and recovery of LNAPL was recommended in the RAP (TtNUS, 2002b). Because a monitoring or gauging event was not completed since the 2000 and 2001 SA, the November and December 2008 assessment was completed to evaluate current conditions by verifying the existing monitoring well network, collecting groundwater elevation and LNAPL measurements, and collecting groundwater samples from select monitoring wells. Data collected from the 2008 assessment is discussed in the following sections and was used to determine whether the RAP completed in 2002 is still appropriate or a RAP Addendum is needed to change or modify the proposed remedial action alternative for LNAPL recovery.

Sherman Field Former Fuel Farm

NAS Pensacola Installation Area

N

0 0.25 0.5 1 Mile

FIGURE 1-1
Site Location
Sherman Field Former Fuel Farm, Naval Air Station Pensacola
Pensacola, Florida

CH2MHILL

ATL \\BOOMER\F\PROJECTS5\NASPENSACOLA\MXD\SHERMANFIELDFUELFARM\SITE_LOCATION.MXD SITE_LOCATION.MXD 6/24/2008 09:47:22 MEDELSON

6' Chain Link Fence

Tank 1888

Tank 1884

Tank 1887

Tank 1886

Asphalt Road

Dirt Road

Interceptor Trench

Product Recovery Tank

Product Recovery Tank

Overhead Power Line

Fence Line

N

0 62.5 125 250 Feet

FIGURE 1-2
Site Plan
Sherman Field Former Fuel Farm, Naval Air Station Pensacola
Pensacola, Florida

ATL \\BOOMER\F\PROJECTS5\NASPENSACOLA\MXD\SHERMANFIELDFUELFARM\SITE_PLAN.MXD SITE_LOCATION.MXD 6/24/2008 MEDELSON

CH2MHILL

2.0 Assessment Activities

The 2008 assessment was conducted in general accordance with the standard operating procedures (SOPs) outlined in the FDEP SOPS for Field Activities (DEP-SOP-001/01, 2004) and adopted by the CH2M HILL Quality Control Plan (Section 5 of the SA WP [CH2M HILL, 2008]).

2.1 Mobilization and Site Preparation

CH2M HILL coordinated with the NAS Pensacola Facilities and Engineering Division and the Resident Officer in Charge of Construction (ROICC) to obtain access to the site prior to commencement of the work. Mobilization included procurement of required resources, including subcontractors, personnel, equipment, materials, supplies, and support facilities. CH2M HILL mobilized to the site on November 13, 2008, for the initial site visit.

2.2 Well Verification and Groundwater Elevation and LNAPL Survey

Groundwater monitoring wells were verified in the field prior to groundwater elevation and LNAPL gauging. The verification and inspection began with the wells listed in Table 2-1. Table 2-1 provides the details of the well verification. Damaged wells or wells that were not located are noted in Table 2-1.

Groundwater levels and LNAPL thickness (when present) were measured in monitoring wells located at the Sherman Field Former Fuel Farm using an electronic oil/water interface probe in accordance with the SA WP. The measurements were recorded and are summarized in Section 3. Well locations are shown on Figure 2-1.

2.3 Groundwater Sampling

Groundwater sampling was conducted to provide data for evaluation of the magnitude and extent of the dissolved hydrocarbon plume. The groundwater sampling event was conducted from November 25 to December 1, 2008. Water quality data were collected for comparison to the GCTLs, Freshwater Surface Water Criteria (FSWC), and Natural Attenuation Default Concentrations (NADCs). Groundwater samples were also collected to evaluate whether conditions are favorable for natural attenuation (NA).

Groundwater samples were collected from 12 wells and analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) by U.S. Environmental Protection Agency (EPA) Method 8260B, 16 method-listed polycyclic aromatic hydrocarbons (PAH) including 1-and 2-methylnaphthalene and naphthalene by EPA Method 8270C, and TPH by the Florida Petroleum Residual Organic (FL-PRO) Method. The wells were selected based on previous measurements of LNAPL and groundwater flow direction, with downgradient wells and wells with detected concentrations of petroleum hydrocarbons preferred.

Two wells that historically had detected lead concentrations (MW16-S and MW22-S) were sampled for lead analysis. In addition, two wells that historically had detected concentrations of 1,2-dichloroethane (MW1-S and MW22-S) were sampled for 1,2-dichloroethane analysis and the other priority pollutant volatile organic halocarbons by EPA Method 8260B. Due to infrequency of detection, MTBE and EDB were not included in the parameter list. Table 2-2 presents the list of the sampled wells with the completed analyses. Figure 2-1 depicts the well locations.

Groundwater samples from 5 of the 12 wells were also analyzed for the following monitored natural attenuation (MNA) parameters: sulfate (SO_4)/sulfide, alkalinity, methane, total organic carbon (TOC), and ferrous iron (Fe^{2+}). All parameters were analyzed by a fixed laboratory with the exception of Fe^{2+}, sulfide, and alkalinity, which were analyzed in the field. Data from the five wells are representative of site geochemistry and were used to evaluate NA potential in the aquifer. The five wells were selected based on their spatial relationship to each other and to the contaminant plume. One well (MW-4S) is located upgradient of the historical LNAPL plume. Two wells (MW-1S, MW-3S) are located within the former plume, and two wells (MW12-S, MW16-S) are located downgradient of the former plume. During sampling of all wells, field measurements of dissolved oxygen (DO), oxidation-reduction potential (ORP), temperature, pH, and conductivity were recorded. Laboratory analytical results and field measurements are discussed in Section 3.

2.4 Waste Characterization and Containerization of Contaminated Media

Characterization sampling and laboratory analyses were completed to determine the necessary handling and transportation and disposal requirements for waste generated during the assessment. Water accumulated during purging activities and decontamination procedures was containerized in 55-gallon drums. Water was managed in accordance with the site Waste Management Plan in the SA WP (CH2M HILL, 2008). One composite sample was collected in accordance with the Sampling and Analysis Plan (SAP) outlined in the SA WP (CH2M HILL, 2008). Waste profiling and disposal information is provided in Section 3.3.

2.5 Field Quality Control

Field duplicate samples, equipment blanks, trip blanks, and matrix spike/matrix spike duplicates (MS/MSDs) were collected at the frequency specified in the SA WP (CH2M HILL, 2008).

2.6 Decontamination and Demobilization

Gauging and sampling equipment was decontaminated between each well and prior to demobilization. Water accumulated during the decontamination process was containerized in 55-gallon drums, and sampled, managed, transported, and disposed of in accordance with the SA WP (CH2M HILL, 2008). Decontamination of personnel and equipment was performed in accordance with the Health and Safety Plan (HSP) provided in Appendix B of

the SA WP (CH2M HILL, 2008) and the applicable provisions of 29 Code of Federal Regulations (CFR) 1910.120.

During demobilization, all equipment and material remaining from gauging and sampling activities were removed. Accumulated solid waste was properly disposed of offsite in receptacles intended for waste delivery to a Subtitle D municipal landfill.

TABLE 2-1
Monitoring Well Summary
Sherman Field Former Fuel Farm, NAS Pensacola, Florida

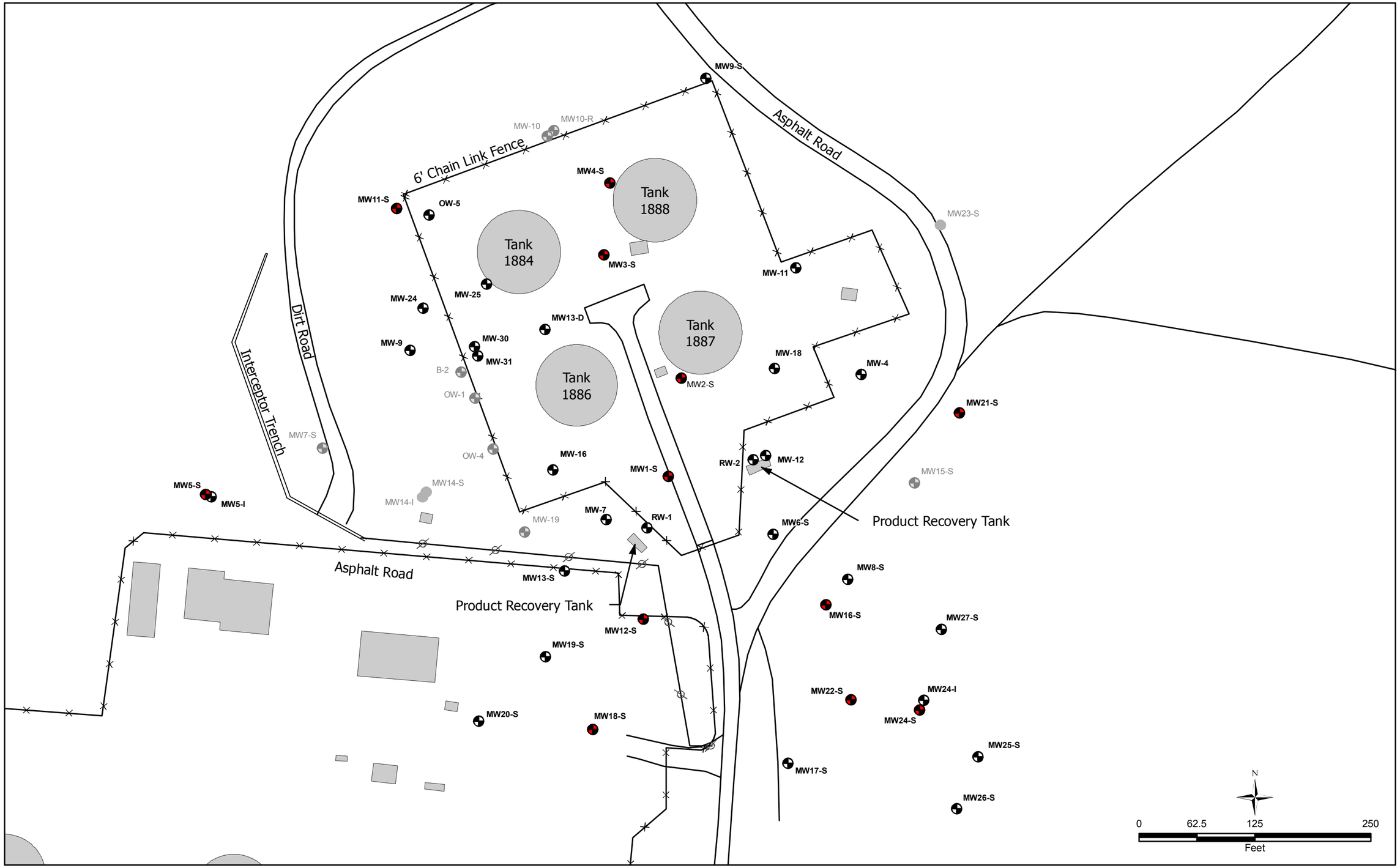
Well ID	Top of Casing Elevation (feet msl)	Total Depth (feet bgs)	Screened Interval (feet bgs)	Well Located	Current Condition and Comments
MW1-S	40.01	24.43	14.5-24.5	Yes	
MW2-S	43.95	29.55	18.5-28.5	Yes	Fuel odor
MW3-S	45.65	29.55	19.0-29.0	Yes	Fuel odor
MW4-S	44.88	29.80	19.0-29.0	Yes	Measured on 11/25/08
MW5-I	31.65	39.42	34.0-39.0	Yes	
MW7-S	28.83	-	6.2-16.2	No	
MW8-S	31.47	18.34	7.5-17.5	Yes	
MW9-S	29.24	16.76	6.0-16.0	Yes	
MW10-R	29.85	-	8.0-18.0	No	
MW11-S	27.99	8.33	6.0-16.0	Yes	
MW12-S	33.47	19.85	9.2-19.2	Yes	
MW13-D	45.01	76.90	71.33-76.33	Yes	
MW13-S	36.24	18.85	8.3-18.3	Yes	
MW14-I	32.27	-	34.0-39.0	Yes	Destroyed
MW14-S	31.47	-	7.5-17.5	Yes	Destroyed
MW15-S	30.62	-	7.5-17.5	No	
MW16-S	31.62	18.27	7.5-17.5	Yes	
MW17-S	34.28	14.40	8.9-18.9	Yes	
MW18-S	32.29	19.38	9.0-19.0	Yes	
MW19-S	35.87	19.24	9.0-19.0	Yes	
MW20-S	36.13	19.13	9.0-19.0	Yes	
MW21-S	28.83	8.30	7.5-17.5	Yes	
MW22-S	33.01	20.47	9.85-19.85	Yes	Under fallen tree. Measured on 12/01/08
MW23-S	29.59	-	4.5-14.5	Yes	Destroyed, pad removed and well full of debris
MW5-S	31.86	11.03	7.5-17.5	Yes	
MW6-S	30.67	18.32	7.5-17.5	Yes	
MW24-I	34.65	-	38.16-43.16	Yes	Not accessible
MW24-S	34.72	-	13.02-23.02	Yes	Not accessible
MW25-S	34.04	-	13.55-23.66	Yes	Not accessible
MW26-S	31.14	-	13.49-23.49	Yes	Not accessible
MW27-S	33.55	-	13.30-23.30	Yes	Not accessible
MW-4	31.21	14.60	NA	Yes	No cap
MW-7	33.99	19.63	NA	Yes	Fuel odor
MW-9	30.03	16.10	NA	Yes	No cap
MW-11	31.1	16.09	NA	Yes	
MW-12	32.37	NM	NA	Yes	
MW-16	37.43	NM	NA	Yes	
MW-18	43.77	30.20	NA	Yes	No cap
MW-19	35.38	-	NA	No	
MW-24	30.75	19.11	NA	Yes	No cap
MW-25	31.21	29.77	NA	Yes	No cap
MW-30	33.88	NM	NA	Yes	
MW-31	32.69	22.98	NA	Yes	
OW-4	30.05	-	NA	No	
MW-10	NA	-	NA	No	
B-2	NA	-	NA	No	
OW-1	NA	-	NA	No	
OW-5	NA	7.90	NA	Yes	
RW-1	NA	NM	NA	Yes	No cap
RW-2	NA	12.90	NA	Yes	No cap

msl – mean sea level
bgs – below ground surface
NA – information not available

TABLE 2-2
Groundwater Sampling Summary
Sherman Field Former Fuel Farm, NAS Pensacola, Florida

Well ID	Top of Casing Elevation (feet msl)	Total Depth (feet bgs)	Screened Internal (feet bgs)	Groundwater Sample Analyses
MW1-S	40.01	24.65	14.5-24.5	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH, 1-2-dichloroethane and other Priority Pollutant Volatile Organic Halocarbons, Natural Attenuation Parameters
MW2-S	43.95	29.45	18.5-28.5	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH
MW3-S	45.65	29.45	19.0-29.0	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH, Natural Attenuation Parameters
MW4-S	44.88	29.70	19.0-29.0	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH, Natural Attenuation Parameters
MW5-S	31.86	18.60	7.5-17.5	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH
MW11-S	27.99	16.50	6.0-16.0	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH
MW12-S	33.47	19.70	9.2-19.2	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH
MW16-S	31.62	18.10	7.5.17.5	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH, lead, Natural Attenuation Parameters
MW18-S	32.29	19.55	9.0-19.0	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH
MW21-S	28.83	18.15	7.5-17.5	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH, Natural Attenuation Parameters
MW22-S	33.01	20.35	9.85-19.85	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH, lead, 1-2-dichloroethane and other Priority Pollutant Volatile Organic Halocarbons
MW24-S	34.72	23.02	13.02-23.02	BTEX, 16 method-listed PAHs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TPH

msl – above mean sea level
bgs – below ground surface
BTEX – benzene, toluene, ethylbenzene, xylenes
PAHs – polycyclic aromatic hydrocarbons
TPH – total petroleum hydrocarbons
Natural Attenuation Parameters – Sulfate (SO_4), Sulfide, Methane, Alkalinity, Total Organic Carbon (TOC), Ferrous Iron (Fe2+)



Monitoring Wells Sampled in November and December 2008

Monitoring Wells Not Sampled

Monitoring Wells Not Located

Monitoring Wells Destroyed

Overhead Power Line

Fence Line

Note: All groundwater monitoring well station identifications have a prefix of "NASPFF"

FIGURE 2-1
Site Location Map with Well Locations
Sherman Field Former Fuel Farm, Naval Air Station Pensacola
Pensacola, Florida

\\GALILEO\PROJ\NASPENSACOLA\MXD\SHERMANFIELDFUELFARM\SITELOCATIONMAPWITHWELLLOCATIONS.MXD RMURPHY1 6/3/2009 14:44:53

CH2MHILL

3.0 Results of Investigation

The results of the 2008 assessment are provided in the following subsections:

- **Well Verification and Groundwater Elevation and LNAPL Survey:** Discusses the results of the well survey, groundwater flow direction, and LNAPL distribution.
- **Groundwater Analytical Results (including MNA parameters):** Summarizes the results of the groundwater sampling and MNA evaluation. Contaminant concentrations are compared with the FDEP GCTLs, FSWCs, and NADCs.
- **Waste Characterization, Transportation, and Disposal:** Presents the results of the waste characterization and provides disposal information for the generated IDW.

3.1 Well Verification and Groundwater Elevation and LNAPL Survey

On November 13, 2008, a site visit was conducted to verify the location and condition of the monitoring wells listed in Table 2-1 and to measure and record groundwater elevations and LNAPL thickness, if present. A second site visit was conducted on December 16, 2008, to further confirm and refine the monitoring well information. The condition of the monitoring wells, groundwater elevation, and LNAPL thickness are presented in Table 3-1. Fifty wells were identified for location verification based on historical documents. Eight of the 50 wells were not located during the site visits and three were determined to be destroyed. Two additional wells, not documented in historical reports, were observed in the area around recovery well RW-2. These wells were gauged but LNAPL was not measured. The approximate locations of these wells are shown on Figure 3-1.

Only one well contained measurable LNAPL. On November 13, 2008, LNAPL was measured in monitoring well MW-12 at a thickness of 0.07 foot, less than the thickness of 1.21 feet measured in 2000. Three wells contained an LNAPL sheen: MW-16, MW-30, and RW-1. With the exception of RW-1, which did not have a measured thickness, LNAPL thicknesses in wells MW-16 (1.64 feet) and MW-30 (1.16 feet) were less than in the 2000 gauging event. The monitoring wells with a sheen and LNAPL are presented on Figure 3-1.

With the exception of MW-25, which has a historically lower groundwater elevation, groundwater elevations ranged from 19.81 feet mean sea level (msl) to 23.01 feet msl. Variations in the depth to groundwater are due to the mounded soil covering the tank farm.

A potentiometric surface map was created using the November 13, 2008 gauging data and is presented on Figure 3-2. As illustrated, the mounded area surrounding the tanks impacts groundwater flow. In the immediate area outside the tanks shallow aquifer is generally to the south-southeast, toward the Gulf of Mexico. The direction of groundwater flow is consistent with previous investigations.

3.2 Groundwater Analytical Results

3.2.1 Analytes

As described in Section 2.3, the groundwater sampling event was conducted from November 25 to December 1, 2008. The sampling logs are included in Appendix A. Samples were analyzed for parameters presented in Table 2-2.

Groundwater analytical data were reviewed and compared with the FDEP GCTLs, FSWCs, and NADCs. The analytical results compared with GCTLs and FSWCs are presented in Table 3-2 and the analytical results compared with the NADCs are presented in Table 3-3. Water quality sampling parameters are presented in Table 3-4. Ten compounds (TPH, benzene, ethylbenzene, naphthalene, toluene, total xylenes, 2-methylnaphthalene, benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-c,d)pyrene) exceeded the GCTL and 4 compounds (benzene, ethylbenzene, naphthalene, and total xylenes) exceeded the NADC in at least 1 groundwater sample. Eight wells (MW1-S, MW2-S, MW3-S, MW12-S, MW16-S, MW18-S, MW22-S, and MW24-S) had an exceedance of at least 1 of these 10 analytes. The following compounds exceeded the GCTL:

- TPH in MW2-S, MW3-S, MW18-S, and MW24-S
- Benzene in MW1-S, MW2-S, MW3-S, MW12-S, and MW24-S (see Figure 3-3)
- Ethylbenzene in MW1-S, MW2-S, MW3-S, MW12-S, MW16-S, MW22-S, and MW24-S (see Figure 3-3)
- Naphthalene in MW1-S and MW22-S
- Toluene in MW16-S and MW22-S (see Figure 3-3)
- Total xylenes in MW1-S, MW2-S, MW3-S, MW12-S, MW16-S, MW22-S, and MW24-S (see Figure 3-3)
- 2-methylnapthalene in MW2-S, MW3-S, MW22-S, and MW24-S
- Benzo(a)anthracene in MW12-S
- Benzo(b)fluoranthene in MW12-S
- Indeno(1,2,3-c,d)pyrene in MW12-S

Lead was not detected in MW16-S or MW22-S and 1,2-dichloroethane was not detected in MW1-S or MW22-S. Low levels of 1-methylnaphthalene were detected in select wells but did not exceed the GCTLs, FSWCs, or NADCs. Laboratory analytical data are included in Appendix B.

BTEX constituents, the most frequently detected analytes, are presented on Figure 3-3. Table 3-5 provides a statistical summary of data, including the number of detections and the number of GCTL exceedances.

3.2.2 Natural Attenuation Indicator Parameters Evaluation

NA is a set of physical (dilution, volatilization, and adsorption), biological (aerobic and anaerobic biodegradation), and chemical processes that naturally act to reduce the toxicity, mobility, and volume/mass/concentration of contaminants. Petroleum hydrocarbons are

biodegraded in each of the following oxidation-reduction (redox) reactions (toluene shown as an example):

- Aerobic Respiration: $C_7H_8 + 9O_2 \rightarrow 7CO_2 + 4H_2O$
- Denitrification: $C_7H_8 + 7.2NO_3^- + 7.2\ H^+ \rightarrow 7CO_2 + 3.6N_2(gas) + 7.6H_2O$
- Iron Reduction: $C_7H_8 + 36Fe(OH)_3 + 72H^+ \rightarrow 7CO_2 + 36Fe^{2+} + 94H_2O$
- SO_4 Reduction: $C_7H_8 + 4.5SO_4^{2-} + 9H^+ \rightarrow 7CO_2 + 4.5H_2S + 4H_2O$
- Methanogenesis: $C_7H_8 + 5H_2O \rightarrow 2.5CO_2 + 4.5CH_4$

For petroleum hydrocarbons, the contaminant is used as the primary growth substrate, or electron donor, by the microorganism. Biodegradation will occur when a sufficient amount of electron acceptors and nutrients are available in groundwater. Aerobic biodegradation is the most rapid and preferred biodegradation pathway. However, the supply of DO is typically limited. Oxygen is consumed and the system transitions to an anaerobic state. Nitrate (NO_3) is the next preferred electron acceptor, followed by ferric iron (Fe^{3+}), SO_4, and carbon. Although sulfate reduction and methanogenesis are slower reactions, they have been reported as accounting for more than 70 percent of the assimilative capacity for BTEX degradation (Parsons, 1999); therefore, these processes can be significant.

The key footprints of biological NA for petroleum hydrocarbons include the following:

- Loss of the electron acceptors DO (O_2), NO_3, and SO_4
- Generation of the byproducts Fe^{2+}, sulfide, and methane
- Characteristic increase in the alkalinity

Water samples collected from five monitoring wells (MW1-S, MW3-S, MW4-S, MW16-S, and MW21-S) were analyzed for the following NA indicator parameters: DO, ORP, Fe^{2+}, SO_4/sulfide, alkalinity, methane, and TOC. These parameters were analyzed to evaluate whether footprints of biological degradation of petroleum hydrocarbons were present beneath the site. NA indicator parameter data collected during the November/December 2008 sampling event are provided in Tables 3-2, 3-3, and 3-4 and are discussed below. NA indicator parameters collected in the area of known contamination (MW1-S, MW3-S, and MW16-S) were compared with values from wells located upgradient (MW4-S) and side gradient (MW21-S) to the area of known contamination.

Monitoring wells MW4-S and MW21-S do not constitute "background" wells, but they do provide a range of geochemical conditions from nearby wells that are representative of groundwater that contains little to no contamination.

Dissolved Oxygen

DO measurements were collected to evaluate the distribution of DO in groundwater relative to the distribution of petroleum hydrocarbons. DO is often depleted in groundwater contaminated with petroleum hydrocarbons as a result of biodegradation. Oxygen is consumed and carbon dioxide is produced during this process. DO concentrations in the wells located outside the hydrocarbon plume had an average concentration of 5.1 milligrams per liter (mg/L), while the average concentration of the three wells within the plume was 0.95 mg/L. Average DO concentrations within the plume are an order of magnitude less than wells located outside the area of known contamination, suggesting that DO is being used through aerobic respiration.

Oxidation-Reduction Potential

ORP is a measure of the relative tendency of ions in solution to transfer electrons. As electron acceptors are used, the redox of the groundwater decreases. ORP from monitoring wells located upgradient and sidegradient of the contaminant plume sampled during the November/December 2008 sampling event ranged from 3.2 millivolts (mV) (MW18-S) to 107.5 mV (MW11-S). Negative ORP was measured in all wells sampled within the contaminant plume (MW1-S, MW2-S, MW3-S, MW12-S, MW16-S, MW22-S, and MW24-S) indicating the presence of contamination has created more reducing conditions.

Nitrate Reduction

After DO has been depleted, biodegradation of hydrocarbons may continue anaerobically using nitrogen as an electron acceptor (denitrification). NO3 and NO2 concentrations will be lower in the wells containing hydrocarbons if biodegradation is occurring. NO3 was not included in the sampling analysis during the November/December 2008 sampling event. However, historical NO3 values for the selected MNA monitoring wells ranged from non-detect to 1,880 µg/L. NO2 concentrations in these wells ranged from non-detect to 80 µg/L. The maximum concentration was detected in a sample collected from MW3-S, which is within the petroleum hydrocarbon plume. The presence of NO_2 is evidence that denitrification has occurred at the site.

Iron Reduction

Fe^{2+} concentrations may also be used as an indicator of anaerobic degradation of hydrocarbons. During the biodegradation process, Fe^{3+}, typically present in the aquifer as iron hydroxides, is used as an electron acceptor, whereby Fe^{3+} is reduced to Fe^{2+}. Fe^{2+} ranged from 1.6 mg/L to more than 10 mg/L from wells in the area of known contamination. Fe^{2+} was not detected in MW4-S or MW21-S. Fe^{2+} is elevated in three wells, suggesting that iron reduction may be an important anaerobic process at the Sherman Field Former Fuel Farm.

Sulfate Reduction

After the bioavailable Fe^{3+} has been depleted, SO_4 may be used as an electron acceptor for anaerobic biodegradation. This process is termed SO_4 reduction and results in the production of sulfide. Portions of a plume containing hydrocarbons undergoing anaerobic biodegradation may have depleted SO_4 concentrations and elevated sulfide concentrations. SO_4 was detected in all five wells sampled for MNA parameters; however, the values were estimated. The average SO_4 concentration during the November/December 2008 sampling event was 2,750 µg/L for MW1-S, MW3-S, and MW16-S. SO_4 concentrations for wells outside the area of known contamination (MW4-S and MW21-S) were 5,210 µg/L and 5,120 µg/L, respectively. Sulfide concentrations in MW1-S, MW3-S, and MW16-S averaged 5,600 µg/L and in MW4-S and MW21-S averaged 350 µg/L. Data suggest that SO_4 reduction may be an important biological process at the Sherman Field Former Fuel Farm, since sulfide was present in concentrations an order of magnitude higher in monitoring wells MW1-S, MW3-S, and MW16-S compared with the non-impacted wells.

Methanogenesis

Methanogenesis is a strongly anaerobic process in which carbon is used and methane is generated. Methane was detected in all five monitoring wells sampled during the

November/December 2008 sampling event, suggesting some level of biological activity is occurring across the site. However, the average concentration in wells located within the plume was greater than 5,500 µg/L, while the average concentration in non-impacted wells was only 3 µg/L. This is strong evidence for methanogenesis within the contaminated plume.

Alkalinity

Groundwater containing petroleum hydrocarbons that are being degraded generally exhibit a total alkalinity higher than background. This is because carbon dioxide (CO_2) is produced during aerobic and anaerobic respiration processes. Both the dissolution of CO_2 and the consumption of hydrogen increase the alkalinity of groundwater. Since hydrogen consumption is not part of the reactions for aerobic respiration and methanogenesis, changes in alkalinity are generally more pronounced during denitrification, iron reduction, and SO_4 reduction.

Alkalinity concentrations for wells (MW4-S and MW21-S) located outside the area of known contamination were 40 mg/L and 120 mg/L. Compared with the wells inside the area of known hydrocarbon contamination, it appears that alkalinity concentrations are slightly higher in MW1-S, MW3-S, and MW16-S (80 to 220 mg/L).

Summary

Biodegradation appears to be an active process by which hydrocarbon compounds in groundwater beneath the Sherman Field Former Fuel Farm are transformed. Aerobic biodegradation of hydrocarbons beneath the site is evidenced by decreased levels of DO when compared with wells located outside the area of known contamination. Anaerobic processes are also occurring as evidenced by the presence of NO_2 and sulfate, elevated Fe^{2+} and methane, decreased concentrations of sulfate within the plume and more reduced ORP levels. Since pH levels are typically below 6, water quality may be a limiting factor in the rate of biodegradation.

3.2.3 Mass Budget and BTEX Depletion Analysis

A mass budgeting analysis was performed to evaluate whether the rate at which footprint compounds are being generated/lost is equivalent to the rate at which the BTEX in groundwater is being degraded. This analysis additionally reveals which redox processes are important at the site and which are not. The goal of the mass budgeting analysis is to quantify the theoretical destruction of the BTEX present in the site groundwater.

November and December 2008 data were used from monitoring wells located within the extent of the BTEX plume (MW1-S, MW2-S, MW3-S, MW12-S, MW16-S, MW22-S, and MW24-S). The average assimilative capacity was calculated by averaging the geochemical parameters for the selected monitoring wells. Denitrification was not evaluated since NO_3 data were not collected at the site. However, based on the elevated concentration of Fe^{2+} and methane concentrations, denitrification is less likely to be a dominant process in site groundwater. Appendix C contains the mass budgeting and assimilative capacity calculations.

The total calculated assimilative capacity ranged from 4.9 to 13 mg/L of BTEX, with an average of 9.1 mg/L of BTEX. These results indicate that sufficient electron acceptors are present in groundwater to degrade an average of 9 mg/L of BTEX across the downgradient dissolved plume. This is a positive indication of NA at this site, since the maximum BTEX concentration at the site was below this value, reported at 7.4 mg/L (MW3-S), and it supports the conclusion that biodegradation is responsible for the loss of BTEX at the site. The estimated BTEX depletion rate in the shallow groundwater zone is 1,220 grams per day (982 pounds per year). The most prominent biodegradation mechanism responsible for degradation of BTEX at the site is methanogenesis, followed by aerobic respiration, SO_4 reduction, and iron reduction.

3.3 Waste Characterization, Transportation, and Disposal

Petroleum-impacted purge and decontamination water was accumulated from groundwater sampling activities conducted at 12 monitoring wells. The purge water that accumulated during the assessment was containerized in one 55-gallon drum. A waste characterization sample of the liquid in the drum was collected on January 27, 2009. Based on the results, the purge water was classified as non-hazardous waste. The waste characterization analytical data are included in Appendix B, and the waste disposal documentation, including the profile, manifest, and weight ticket, are provided in Appendix D.

On May 14, 2009, the single 55-gallon drum of petroleum-impacted purge water was transported to the Macland Disposal Center in Moss Point, Mississippi.

TABLE 3-1
Groundwater Gauging Data
Sherman Field Former Fuel Farm, NAS Pensacola, Florida

WELL NUMBER (LOCID)	TOC ELEV (ft.)	DATE (LOGDATE)	DEPTH TO LNAPL (ft.)	DEPTH TO GW (ft.)	TOTAL DEPTH (ft. btoc)	GW ELEV (ft. msl)	LNAPL THICKNESS (ft.)
MW1-S	40.01	11/13/2008	NP	18.39	24.43	21.62	-
MW2-S	43.95	11/13/2008	NP	21.96	29.55	21.99	-
MW3-S	45.65	11/13/2008	NP	23.17	29.55	22.48	-
MW4-S	44.88	11/25/2008	NP	22.64	29.80	22.24	-
MW5-I	31.65	11/13/2008	NP	10.04	39.42	21.61	-
MW7-S	28.83	11/13/2008	-	-	-	-	-
MW8-S	31.47	11/13/2008	NP	10.47	18.34	21.00	-
MW9-S	29.24	11/13/2008	NP	6.25	16.76	22.99	-
MW10-R	29.85	11/13/2008	-	-	-	-	-
MW11-S	27.99	11/13/2008	NP	5.11	8.33	22.88	-
MW12-S	33.47	11/13/2008	NP	12.52	19.85	20.95	-
MW13-D	45.01	11/13/2008	NP	25.76	76.90	19.25	-
MW13-S	36.24	11/13/2008	NP	14.90	18.85	21.34	-
MW14-I	32.27	11/13/2008	-	-	-	-	-
MW14-S	31.47	11/13/2008	-	-	-	-	-
MW15-S	30.62	11/13/2008	-	-	-	-	-
MW16-S	31.62	11/13/2008	NP	10.85	18.27	20.77	-
MW17-S	34.28	11/13/2008	-	dry	14.40	-	-
MW18-S	32.29	11/13/2008	NP	11.70	19.38	20.59	-
MW19-S	35.87	11/13/2008	NP	14.90	19.24	20.97	-
MW20-S	36.13	11/13/2008	NP	15.26	19.13	20.87	-
MW21-S	28.83	11/13/2008	NP	7.24	8.30	21.59	-
MW22-S	33.01	12/1/2008	NP	13.20	20.47	19.81	-
MW23-S	29.59	11/13/2008	-	-	-	-	-
MW5-S	31.86	11/13/2008	NP	9.61	11.03	22.25	-
MW6-S	30.67	11/13/2008	NP	9.41	18.32	21.26	-
MW24-I	34.65	11/13/2008	-	-	-	-	-
MW24-S	34.72	11/13/2008	-	-	-	-	-
MW25-S	34.04	11/13/2008	-	-	-	-	-
MW26-S	31.14	11/13/2008	-	-	-	-	-
MW27-S	33.55	11/13/2008	-	-	-	-	-
MW-4	31.21	11/13/2008	NP	8.69	14.60	22.52	-
MW-7	33.99	11/13/2008	NP	11.85	19.63	22.14	-
MW-9	30.03	11/13/2008	NP	7.21	16.10	22.82	-
MW-11	31.1	11/13/2008	NP	8.31	16.09	22.79	-
MW-12	32.37	11/13/2008	10.47	10.54	NM	21.83*	0.07
MW-16	37.43	11/13/2008	Sheen	15.21	NM	22.22	-
MW-18	43.77	11/13/2008	NP	21.21	30.20	22.56	-
MW-19	35.38	11/13/2008	-	-	-	-	-
MW-24	30.75	11/13/2008	NP	7.74	19.11	23.01	-
MW-25	31.21	11/13/2008	NP	21.96	29.77	9.25	-
MW-30	33.88	11/13/2008	Sheen	11.08	NM	22.80	-
MW-31	32.69	11/13/2008	NP	11.04	22.98	21.65	-
OW-4	30.05	11/13/2008	-	-	-	-	-
MW-10	NA	11/13/2008	-	-	-	-	-
B-2	NA	11/13/2008	-	-	-	-	-
OW-1	NA	11/13/2008	-	-	-	-	-
OW-5	NA	11/13/2008	NP	6.38	7.90	-	-
RW-1	NA	11/13/2008	Sheen	12.23	NM	-	-
RW-2	NA	11/13/2008	NP	9.65	12.90	-	-

TOC - Top of Casing
GW - groundwater
LNAPL - Light Non-Aqueous Phase Liquids
NM - Not Measured
NA - Information Not Available
NM - LNAPL was not measured / detected
ft. msl - feet mean sea level
* The corrected depth to groundwater = Depth to water - (LNAPL thickness*specific gravity of LNAPL)

TABLE 3-2
Analytical Data Compared with GCTL and FSWC
Sherman Field Former Fuel Farm, NAS Pensacola, Florida

UST 24 Monitoring Well Sampling 2008	StationID		24-MW1-S	24-MW2-S	24-MW3-S	24-MW4-S	24-MW5-S	24-MW11-S	24-MW12-S	24-MW16-S	24-MW18-S	24-MW21-S	24-MW22-S	24-MW24-S
	SampleID		85-24-MW1S-112408	85-24-MW2S-112408	85-24-MW3S-112508	85-24-MW4S-112508	85-24-MW5S-120108	85-24-MW11S-120108	85-24-MW12S-112508	85-24-MW16S-112508	85-24-MW18S-120108	85-24-MW21S-112508	85-24-MW22S-120108	85-24-MW24S-120108
	Sample Date		11/24/2008	11/24/2008	11/25/2008	11/25/2008	12/1/2008	12/1/2008	11/25/2008	11/25/2008	12/1/2008	11/25/2008	12/1/2008	12/1/2008
	Units in µg/L													
Parameter	**GCTL[1]**	**FSWC[1]**												
SW9056														
Sulfate (as SO4)	250000	NA	1990 JB		130 JB	5210 JB				6130 JB		5120 JB		
A5310B														
Total organic carbon	NA	NA	20800 JB		26700 JB	5800 JB				18300 JB		150 U		
FLPRO														
Petroleum Hydrocarbons	5000	5000	2950 JB	**5990 JB**	**15100 JB**	110 JB	239 JB	62.7 JB	2770 JB	3870 JB	**5460 JB**	196 JB	256 JB	**5700 JB**
RSK-175														
Methane	NA	NA	8080		5480	6.04				2970		0.758 J		
SW6010B														
Lead	15	NA								2.7 U			2.7 U	
SW8260B														
1,1,1-Trichloroethane	200	270	0.096 U										0.096 U	
1,1,2,2-Tetrachloroethane	0.2	10.8	0.154 U										0.154 U	
1,1,2-Trichloroethane	5	16	0.093 U										0.093 U	
1,1-Dichloroethane	70**	NA	0.086 U										0.086 U	
1,1-Dichloroethene	7**	3.2	0.201 U										0.201 U	
1,2-Dichlorobenzene	600	99	0.069 U										0.069 U	
1,2-Dichloroethane	3	37	0.09 U										0.09 U	
1,2-Dichloropropane	5	14	0.096 U										0.096 U	
1,3-Dichlorobenzene	210	85	0.132 U										0.132 U	
1,4-Dichlorobenzene	75	3	0.057 U										0.057 U	
2-Chloroethyl vinyl ether	NA	NA	0.547 U										0.547 U	
Acrolein	3.5	0.4	0.743 U										0.743 U	
Acrylonitrile	0.06	0.2	**0.455 U**										**0.455 U**	
Benzene	1	71.28	**247**	**3.43 J**	**63.2**	0.065 U	0.065 U	0.065 U	**68.9**	0.649 U	0.065 U	0.065 U	0.065 U	**17.6**
Bromodichloromethane	0.6	22	0.144 U										0.144 U	
Bromoform	4.4	360	0.172 U										0.172 U	
Bromomethane	9.8	35	0.271 U										0.271 U	
Carbon tetrachloride	3	4.42	0.156 U										0.156 U	
Chlorobenzene	100	17	0.287 U										0.287 U	
Chloroethane	12	NA	0.181 U										0.181 U	
Chloroform	70	470.8	0.164 U										0.164 U	
Chloromethane	2.7	470.8	0.101 U										0.101 U	
cis-1,2-Dichloroethene	70	NA	0.162 U										0.162 U	
cis-1,3-Dichloropropene	NA	NA	0.116 U										0.116 U	
Dibromochloromethane	0.4	34	0.098 U										0.098 U	
Dichlorodifluoromethane	1400	NA	0.083 U										0.083 U	
Ethylbenzene	30	610	**338**	**1130**	**2620**	0.065 U	0.065 U	0.065 U	**242**	**94.8 J**	0.065 U	0.065 U	**227**	**343**
Methylene chloride	5	1580	0.096 U										0.096 U	
Naphthalene	14**	26	**222 JB**										**96.5**	
tert-butyl methyl ether	20	34000	0.077 U										0.077 U	
Tetrachloroethene (PCE)	3	8.85	0.153 U										0.153 U	
Toluene	40	480	0.076 U	2.68 J	9.63	0.076 U	0.076 U	0.076 U	2.09 J	**48.9 J**	0.076 U	0.076 U	**72**	4.91 J
trans-1,2-Dichloroethene	100	11000	0.122 U										0.122 U	
trans-1,3-Dichloropropene	NA	NA	0.062 U										0.062 U	
Trichloroethene (TCE)	3	80.7	0.118 U										0.118 U	
Trichlorofluoromethane	2100	NA	0.138 U										0.138 U	
Vinyl chloride	1	2.4	0.155 U										0.155 U	
Xylenes, total	20	370	**83.5**	**2640**	**4660**	0.183 U	0.183 U	0.183 U	**410**	**1820 J**	0.183 U	0.183 U	**2050**	**1020**
SW8270C SIM														
1-methylnaphthalene	28	95	13	24.2	26.2	0.035 J	0.024 U	0.025 U	17.7	8.01	1.68	0.025 U	16.7 J	17.4 J
2-Methylnaphthalene	28	30	13.5	**53.2**	**56.2**	0.064 J	0.024 U	0.024 U	19	11.8	1.98	0.025 U	**80.6 J**	**41.9**

TABLE 3-2
Analytical Data Compared with GCTL and FSWC
Sherman Field Former Fuel Farm, NAS Pensacola, Florida

UST 24 Monitoring Well Sampling 2008	StationID		24-MW1-S	24-MW2-S	24-MW3-S	24-MW4-S	24-MW5-S	24-MW11-S	24-MW12-S	24-MW16-S	24-MW18-S	24-MW21-S	24-MW22-S	24-MW24-S
	SampleID		85-24-MW1S-112408	85-24-MW2S-112408	85-24-MW3S-112508	85-24-MW4S-112508	85-24-MW5S-120108	85-24-MW11S-120108	85-24-MW12S-112508	85-24-MW16S-112508	85-24-MW18S-120108	85-24-MW21S-112508	85-24-MW22S-120108	85-24-MW24S-120108
	Sample Date		11/24/2008	11/24/2008	11/25/2008	11/25/2008	12/1/2008	12/1/2008	11/25/2008	11/25/2008	12/1/2008	11/25/2008	12/1/2008	12/1/2008
	Units in µg/L													
Parameter	**GCTL[1]**	**FSWC[1]**												
Acenaphthene	20	3	0.205	3.08	0.595 U	0.059 U	0.06 U	0.061 U	1.34	0.067 U	0.06 U	0.062 U	3.04 U	0.06 U
Acenaphthylene	210	**	0.038 U	0.04 U	0.376 U	0.038 U	0.038 U	0.038 U	0.149	0.042 U	0.038 U	0.039 U	1.92 U	0.038 U
Anthracene	2100	0.3	0.059 J	0.478	0.067 J	0.027 U	0.027 U	0.027 U	0.595	0.03 U	0.027 U	0.028 U	0.027 U	0.027 U
Benzo(a)anthracene	0.05	**	0.035 U	0.045 J	0.035 U	0.035 U	0.035 U	0.036 U	**0.194**	0.039 U	0.035 U	0.036 U	0.036 U	0.035 U
Benzo(a)pyrene	0.2	**	0.022 U	0.024 U	0.022 U	0.022 U	0.023 U	0.023 U	0.174	0.025 U	0.023 U	0.023 U	0.023 U	0.023 U
Benzo(b)fluoranthene	0.05	**	0.026 U	0.028 U	0.026 U	0.026 U	0.026 U	0.027 U	**0.08 J**	0.029 U	0.026 U	0.027 U	0.027 U	0.026 U
Benzo(g,h,i)perylene	210	**	0.014 U	0.045 J	0.014 U	0.014 U	0.014 U	0.014 U	0.07 J	0.015 U	0.014 U	0.014 U	0.014 U	0.014 U
Benzo(k)fluoranthene	0.5	**	0.027 U	0.029 U	0.027 U	0.027 U	0.028 U	0.028 U	0.162	0.031 U	0.028 U	0.029 U	0.028 U	0.028 U
Chrysene	4.8	**	0.024 U	0.044 J	0.024 U	0.024 U	0.024 U	0.025 U	0.184	0.027 U	0.024 U	0.025 U	0.025 U	0.024 U
Dibenz(a,h)anthracene	0.005	**	**0.014 U**	**0.015 U**	**0.014 U**	**0.014 U**	**0.015 U**	**0.015 U**	**0.014 U**	**0.016 U**	**0.015 U**	**0.015 U**	**0.015 U**	**0.015 U**
Fluoranthene	280	0.3	0.131	0.385	0.055 J	0.036 U	0.037 U	0.037 U	1.25	0.099 J	0.037 U	0.038 U	0.037 U	0.037 U
Fluorene	280	30	1.35	1.29	0.283 U	0.028 U	0.029 U	0.029 U	2.1	0.032 U	0.029 U	0.029 U	1.44 UJ	0.029 U
Indeno(1,2,3-c,d)pyrene	0.05	**	0.013 U	0.044 J	0.013 U	0.013 U	0.013 U	0.013 U	**0.105**	0.014 U	0.013 U	0.013 U	0.013 U	0.013 U
Naphthalene	14**	26	**93.4**	**106**	**264**	0.037 U	0.038 U	0.038 U	**127**	**40.4**	0.496	0.039 U	**136 J**	**148 J**
Phenanthrene	210	**	0.227	2.2	0.139	0.029 U	0.029 U	0.029 U	2.13	0.033 U	0.029 U	0.03 U	0.029 U	0.029 U
Pyrene	210	0.3	0.069 J	0.216	0.026 U	0.026 U	0.026 U	0.027 U	0.643	0.029 U	0.026 U	0.027 U	0.027 U	0.026 U

Notes:
All concentrations reported in micrograms per liter (µg/L).
GCTL - Groundwater Cleanup Target Level
FSWC - Freshwater Surface Water Criteria
1) Ch 62-777, Florida Administrative Code (F.A.C), Groundwater and Freshwater Cleanup Target Levels reported in µg/L
U - The analyte was analyzed for , but not detected.
J - Result is estimated
B- Analyte was detected in the Laboratory Blank
UJ- Value non-detected estimated.
JB- Estimate value. The analyte was detected in the associated method and/or calibration blank.
Values Bolded are analytes not detected by the Lab but are above the **GCTL**
Values Shaded Pale Yellow are analytes not detected by the Lab but are above the **FSWC**
Values Bolded and Shaded Pale Yellow are analytes not detected by the Lab but are above both **GCTL** and **FSWC**
Values Bold and Pale Blue are hits exceeding the **GCTL**
Values Shaded Grey are hits that exceed the **FSWC**
Values Bold and Shaded Grey are hits that exceed both **GCTL** and **FSWC**
NA - Not Available at time of rule adoption
UST - underground storage tank
** - As provided in Chapter 62-302, F.A.C.

TABLE 3-3
Analytical Data Compared with NADC
Sherman Field Former Fuel Farm, NAS Pensacola, Florida

UST 24 Monitoring Well Sampling 2008	StationID	24-MW1-S	24-MW2-S	24-MW3-S	24-MW4-S	24-MW5-S	24-MW11-S	24-MW12-S	24-MW16-S	24-MW18-S	24-MW21-S	24-MW22-S	24-MW24-S
	SampleID	85-24-MW1S-112408	85-24-MW2S-112408	85-24-MW3S-112508	85-24-MW4S-112508	85-24-MW5S-120108	85-24-MW11S-120108	85-24-MW12S-112508	85-24-MW16S-112508	85-24-MW18S-120108	85-24-MW21S-112508	85-24-MW22S-120108	85-24-MW24S-120108
	Sample Date	11/24/2008	11/24/2008	11/25/2008	11/25/2008	12/1/2008	12/1/2008	11/25/2008	11/25/2008	12/1/2008	11/25/2008	12/1/2008	12/1/2008
	Units in µg/L												
Parameter	**NADC**												
SW9056													
Sulfate (as SO4)	2500000	1990 JB		130 JB	5210 JB				6130 JB		5120 JB		
A5310B													
Total organic carbon	NA	20800 JB		26700 JB	5800 JB				18300 JB		150 U		
FLPRO													
Petroleum hydrocarbons	50000	2950 JB	5990 JB	15100 JB	110 JB	239 JB	62.7 JB	2770 JB	3870 JB	5460 JB	196 JB	256 JB	5700 JB
RSK-175													
Methane	NA	8080		5480	6.04				2970		0.758 J		
SW6010B													
Lead	150								2.7 U			2.7 U	
SW8260B													
1,1,1-Trichloroethane	2000	0.096 U										0.096 U	
1,1,2,2-Tetrachloroethane	20	0.154 U										0.154 U	
1,1,2-Trichloroethane	500	0.093 U										0.093 U	
1,1-Dichloroethane	700	0.086 U										0.086 U	
1,1-Dichloroethene	70	0.201 U										0.201 U	
1,2-Dichlorobenzene	6000	0.069 U										0.069 U	
1,2-Dichloroethane	300	0.09 U										0.09 U	
1,2-Dichloropropane	500	0.096 U										0.096 U	
1,3-Dichlorobenzene	2100	0.132 U										0.132 U	
1,4-Dichlorobenzene	7500	0.057 U										0.057 U	
2-Chloroethyl vinyl ether	NA	0.547 U										0.547 U	
Acrolein	35	0.743 U										0.743 U	
Acrylonitrile	6	0.455 U										0.455 U	
Benzene	100	**247**	3.43 J	63.2	0.065 U	0.065 U	0.065 U	68.9	0.649 U	0.065 U	0.065 U	0.065 U	17.6
Bromodichloromethane	60	0.144 U										0.144 U	
Bromoform	440	0.172 U										0.172 U	
Bromomethane	98	0.271 U										0.271 U	
Carbon tetrachloride	300	0.156 U										0.156 U	
Chlorobenzene	1000	0.287 U										0.287 U	
Chloroethane	1200	0.181 U										0.181 U	
Chloroform	700	0.164 U										0.164 U	
Chloromethane	270	0.101 U										0.101 U	
cis-1,2-Dichloroethene	700	0.162 U										0.162 U	
cis-1,3-Dichloropropene	NA	0.116 U										0.116 U	
Dibromochloromethane	40	0.098 U										0.098 U	
Dichlorodifluoromethane	14000	0.083 U										0.083 U	
Ethylbenzene	300	**338**	**1130**	**2620**	0.065 U	0.065 U	0.065 U	242	94.8 J	0.065 U	0.065 U	227	**343**
Methylene chloride	500	0.096 U										0.096 U	
Naphthalene	140	**222 JB**										96.5	
tert-butyl methyl ether	200	0.077 U										0.077 U	
Tetrachloroethene (PCE)	300	0.153 U										0.153 U	
Toluene	400	0.076 U	2.68 J	9.63	0.076 U	0.076 U	0.076 U	2.09 J	48.9 J	0.076 U	0.076 U	72	4.91 J
trans-1,2-Dichloroethene	1000	0.122 U										0.122 U	
trans-1,3-Dichloropropene	NA	0.062 U										0.062 U	
Trichloroethene (TCE)	300	0.118 U										0.118 U	
Trichlorofluoromethane	21000	0.138 U										0.138 U	
Vinyl chloride	100	0.155 U										0.155 U	
Xylenes, total	200	83.5	**2640**	**4660**	0.183 U	0.183 U	0.183 U	**410**	**1820 J**	0.183 U	0.183 U	**2050**	**1020**
SW8270C SIM													
1-methylnaphthalene	280	13	24.2	26.2	0.035 J	0.024 U	0.025 U	17.7	8.01	1.68	0.025 U	16.7 J	17.4 J
2-Methylnaphthalene	280	13.5	53.2	56.2	0.064 J	0.024 U	0.024 U	19	11.8	1.98	0.025 U	80.6 J	41.9
Acenaphthene	200	0.205	3.08	0.595 U	0.059 U	0.06 U	0.061 U	1.34	0.067 U	0.06 U	0.062 U	3.04 U	0.06 U
Acenaphthylene	2100	0.038 U	0.04 U	0.376 U	0.038 U	0.038 U	0.038 U	0.149	0.042 U	0.038 U	0.039 U	1.92 U	0.038 U
Anthracene	21000	0.059 J	0.478	0.067 J	0.027 U	0.027 U	0.027 U	0.595	0.03 U	0.027 U	0.028 U	0.027 U	0.027 U
Benzo(a)anthracene	5	0.035 U	0.045 J	0.035 U	0.035 U	0.035 U	0.036 U	0.194	0.039 U	0.035 U	0.036 U	0.036 U	0.035 U
Benzo(a)pyrene	20	0.022 U	0.024 U	0.022 U	0.022 U	0.023 U	0.023 U	0.174	0.025 U	0.023 U	0.023 U	0.023 U	0.023 U
Benzo(b)fluoranthene	5	0.026 U	0.028 U	0.026 U	0.026 U	0.026 U	0.027 U	0.08 J	0.029 U	0.026 U	0.027 U	0.027 U	0.026 U
Benzo(g,h,i)perylene	2100	0.014 U	0.045 J	0.014 U	0.014 U	0.014 U	0.014 U	0.07 J	0.015 U	0.014 U	0.014 U	0.014 U	0.014 U
Benzo(k)fluoranthene	50	0.027 U	0.029 U	0.027 U	0.027 U	0.028 U	0.028 U	0.162	0.031 U	0.028 U	0.029 U	0.028 U	0.028 U
Chrysene	480	0.024 U	0.044 J	0.024 U	0.024 U	0.024 U	0.025 U	0.184	0.027 U	0.024 U	0.025 U	0.025 U	0.024 U
Dibenz(a,h)anthracene	0.5	0.014 U	0.015 U	0.014 U	0.014 U	0.015 U	0.015 U	0.014 U	0.016 U	0.015 U	0.015 U	0.015 U	0.015 U
Fluoranthene	2800	0.131	0.385	0.055 J	0.036 U	0.037 U	0.037 U	1.25	0.099 J	0.037 U	0.038 U	0.037 U	0.037 U
Fluorene	2800	1.35	1.29	0.283 U	0.028 U	0.029 U	0.029 U	2.1	0.032 U	0.029 U	0.029 U	1.44 UJ	0.029 U
Indeno(1,2,3-c,d)pyrene	5	0.013 U	0.044 J	0.013 U	0.013 U	0.013 U	0.013 U	0.105	0.014 U	0.013 U	0.013 U	0.013 U	0.013 U
Naphthalene	140	93.4	106	**264**	0.037 U	0.038 U	0.038 U	127	40.4	0.496	0.039 U	136 J	**148 J**
Phenanthrene	2100	0.227	2.2	0.139	0.029 U	0.029 U	0.029 U	2.13	0.033 U	0.029 U	0.03 U	0.029 U	0.029 U
Pyrene	2100	0.069 J	0.216	0.026 U	0.026 U	0.026 U	0.027 U	0.643	0.029 U	0.026 U	0.027 U	0.027 U	0.026 U

Notes:
All concentrations reported in micrograms per liter (µg/L).
NADC - Natural Attenuation Default Concentration
Values Bolded are analytes not detected by the lab but are above the **NADC**
Bold and Shaded indicates concentration exceeds the **NADC**
U - The analyte was analyzed for , but not detected.
J - estimated value
B-The analyte was detected in the associated method and/or calibration blank.
UJ - Value non-detected estimated.
JB - Estimate value..The analyte was detected in the associated method and/or calibration blank.
NA - Not Available at time of rule adoption
UST - underground storage tank

TABLE 3-4
Groundwater Sampling Parameters
Sherman Field Former Fuel Farm, NAS Pensacola, Florida

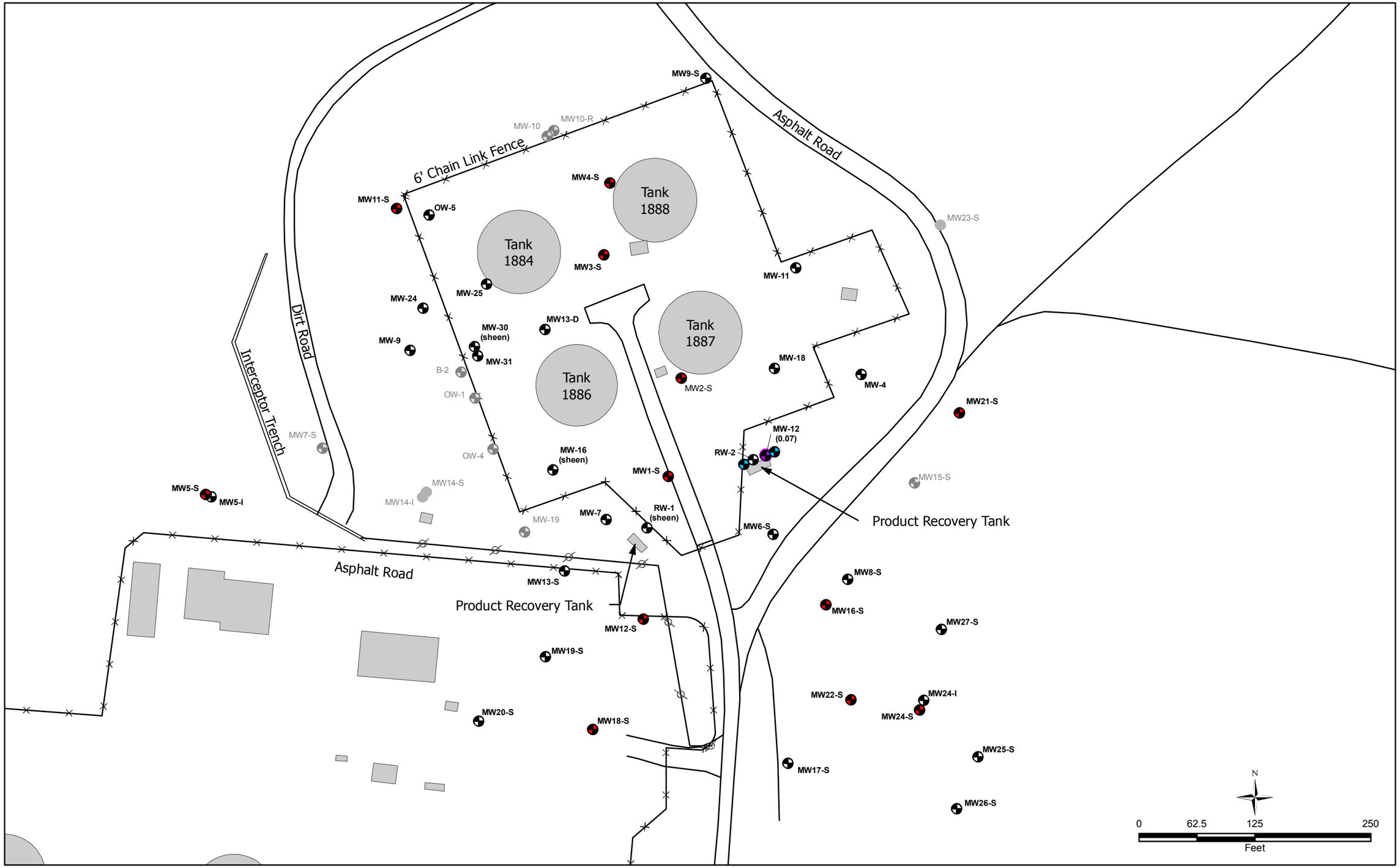
Location	Sample Date	Time	Water Depth (ft btoc)	pH	ORP	DO (mg/L)	Temp (ºC)	Turbidity (NTU)	Specific Cond (mS/cm)	Ferrous Iron (mg/L)	Alkalinity (mg/L)	Sulfide (mg/L)	Salinity (%)	Comments
85-24-MW1-S	11/24/2008	12:46	18.79	5.95	-95.4	1.8	25.82	-	0.329	>10	220	0.40	0.16	
85-24-MW2-S	11/24/2008	14:13	22.4	5.98	-82.2	1.14	25.33	-	0.232	4.4	160	0.43	0.11	
85-24-MW3-S	11/25/2008	8:44	23.67	5.84	-97.2	0.62	22.77	-	0.203	7	120	0.48	0.1	
85-24-MW4-S	11/25/2008	10:12	22.66	5.59	93.1	4.98	24.17	-	0.073	0	40	0.05	0.03	
85-24-MW5-S	12/1/2008	15:34	10.14	6.42	68.2	3.6	21.59	3.04	0.192	-	-	-	0.09	
85-24-MW11-S	12/1/2008	15:04	5.72	5.31	107.5	1.77	21.63	22.3	0.059	-	-	-	0.03	
85-24-MW12-S	11/25/2008	15:38	12.99	5.8	-61.6	0.95	25.31	-	0.148	-	-	-	0.07	
85-24-MW16-S	11/25/2008	13:05	-	5.67	-101.3	0.44	23.16	-	0.156	1.6	80	0.8	0.07	Sulfide may have exceeded instrument limit
85-24-MW18-S	12/1/2008	14:17	12.19	5.59	3.2	6.25	23.8	3.19	0.054	-	-	-	0.02	
85-24-MW21-S	11/25/2008	14:20	7.67	6.55	34	5.2	24.09	-	0.195	0	120	0.02	0.09	
85-24-MW22-S	12/1/2008	12:05	13.24	5.59	-117.6	0.21	23.68	10.1	0.093	-	-	-	0.04	
85-24-MW24-S	12/1/2008	12:59	-	5.85	-110	0.8	22.6	6.57	0.189	-	-	-	0.09	

Notes:
ºC - degrees Celsius
DO - dissolved oxygen
ft btoc - feet below top of casing
mg/L - milligram per liter
mS/cm - milliSiemen per centimeter
NTU - Nephelometric turbidity units
ORP - oxidation-reduction potential

TABLE 3-5
Groundwater Statistical Data Summary
Sherman Field Former Fuel Farm, NAS Pensacola, Florida

Chem Group	CAS Number	ParamName	Number Samples	Number of Detects	Units	Min Conc	Max Conc	Groundwater Criteria GCTL	Exceed Groundwater GCTL	Natural Attenuation Criteria NADC	Exceed Natural Attenuation NADC	Location Max Conc	Location Min Conc
GASES	74-82-8	METHANE	5	5	µg/L	7.58E-01 J	8.08E+03					24-MW1-S	24-MW21-S
GENCHEM	SO4	SULFATE	5	5	µg/L	1.30E+02 J,B	6.13E+03 J,B	2.50E+05	0	2.50E+06	0	24-MW16-S	24-MW3-S
GENCHEM	TOC	TOTAL ORGANIC CARBON	5	4	µg/L	5.80E+03 J,B	2.67E+04 J,B					24-MW3-S	24-MW4-S
SEMIVOLATILES	90-12-0	1-METHYLNAPHTHALENE	12	9	µg/L	3.50E-02 J	2.62E+01	2.80E+01	0	2.80E+02	0	24-MW3-S	24-MW4-S
SEMIVOLATILES	91-57-6	2-METHYLNAPHTHALENE	12	9	µg/L	6.40E-02 J	8.06E+01 J	2.80E+01	4	2.80E+02	0	24-MW22-S	24-MW4-S
SEMIVOLATILES	83-32-9	ACENAPHTHENE	12	3	µg/L	2.05E-01	3.08E+00	2.00E+01	0	2.00E+02	0	24-MW2-S	24-MW1-S
SEMIVOLATILES	208-96-8	ACENAPHTHYLENE	12	1	µg/L	1.49E-01	1.49E-01	2.10E+02	0	2.10E+03	0	24-MW12-S	24-MW12-S
SEMIVOLATILES	120-12-7	ANTHRACENE	12	4	µg/L	5.90E-02 J	5.95E-01	2.10E+03	0	2.10E+04	0	24-MW12-S	24-MW1-S
SEMIVOLATILES	56-55-3	BENZO(A)ANTHRACENE	12	2	µg/L	4.50E-02 J	1.94E-01	5.00E-02	1	5.00E+00	0	24-MW12-S	24-MW2-S
SEMIVOLATILES	50-32-8	BENZO(A)PYRENE	12	1	µg/L	1.74E-01	1.74E-01	2.00E-01	0	2.00E+01	0	24-MW12-S	24-MW12-S
SEMIVOLATILES	205-99-2	BENZO(B)FLUORANTHENE	12	1	µg/L	8.00E-02 J	8.00E-02 J	5.00E-02	1	5.00E+00	0	24-MW12-S	24-MW12-S
SEMIVOLATILES	191-24-2	BENZO(G,H,I)PERYLENE	12	2	µg/L	4.50E-02 J	7.00E-02 J	2.10E+02	0	2.10E+03	0	24-MW12-S	24-MW2-S
SEMIVOLATILES	207-08-9	BENZO(K)FLUORANTHENE	12	1	µg/L	1.62E-01	1.62E-01	5.00E-01	0	5.00E+01	0	24-MW12-S	24-MW12-S
SEMIVOLATILES	218-01-9	CHRYSENE	12	2	µg/L	4.40E-02 J	1.84E-01	4.80E+00	0	4.80E+02	0	24-MW12-S	24-MW2-S
SEMIVOLATILES	206-44-0	FLUORANTHENE	12	5	µg/L	5.50E-02 J	1.25E+00	2.80E+02	0	2.80E+03	0	24-MW12-S	24-MW3-S
SEMIVOLATILES	86-73-7	FLUORENE	12	3	µg/L	1.29E+00	2.10E+00	2.80E+02	0	2.80E+03	0	24-MW12-S	24-MW2-S
SEMIVOLATILES	193-39-5	INDENO(1,2,3-CD)PYRENE	12	2	µg/L	4.40E-02 J	1.05E-01	5.00E-02	1	5.00E+00	0	24-MW12-S	24-MW2-S
SEMIVOLATILES	91-20-3	NAPHTHALENE	12	8	µg/L	4.96E-01	2.64E+02	1.40E+01	7	1.40E+02	3	24-MW3-S	24-MW18-S
SEMIVOLATILES	85-01-8	PHENANTHRENE	12	4	µg/L	1.39E-01	2.20E+00	2.10E+02	0	2.10E+03	0	24-MW2-S	24-MW3-S
SEMIVOLATILES	129-00-0	PYRENE	12	3	µg/L	6.90E-02 J	6.43E-01	2.10E+02	0	2.10E+03	0	24-MW12-S	24-MW1-S
TPH	TPH	TOTAL PETROLEUM HYDROCARBONS (TPH)	12	12	µg/L	6.27E+01 J,B	1.51E+04 J,B	5.00E+03	4	5.00E+04	0	24-MW3-S	24-MW11-S
VOLATILES	71-43-2	BENZENE	12	5	µg/L	3.43E+00 J	2.47E+02	1.00E+00	5	1.00E+02	1	24-MW1-S	24-MW2-S
VOLATILES	100-41-4	ETHYLBENZENE	12	7	µg/L	9.48E+01 J	2.62E+03	3.00E+01	7	3.00E+02	4	24-MW3-S	24-MW16-S
VOLATILES	108-88-3	TOLUENE	12	6	µg/L	2.09E+00 J	7.20E+01	4.00E+01	2	4.00E+02	0	24-MW22-S	24-MW12-S
VOLATILES	1330-20-7	XYLENES (TOTAL)	12	7	µg/L	8.35E+01	4.66E+03	2.00E+01	7	2.00E+02	6	24-MW3-S	24-MW1-S

µg/L - microgram per liter
GCTL - Groundwater Cleanup Target Level
NADC - Natural Attenuation Default Concentration



Monitoring Wells Sampled in November and December 2008

Monitoring Wells Not Sampled

Monitoring Well With Measured LNAPL

Monitoring Wells Not Located

Monitoring Wells Destroyed

Unnamed Monitoring Well Identified During November/ December 2008 Gauging Event

Overhead Power Line

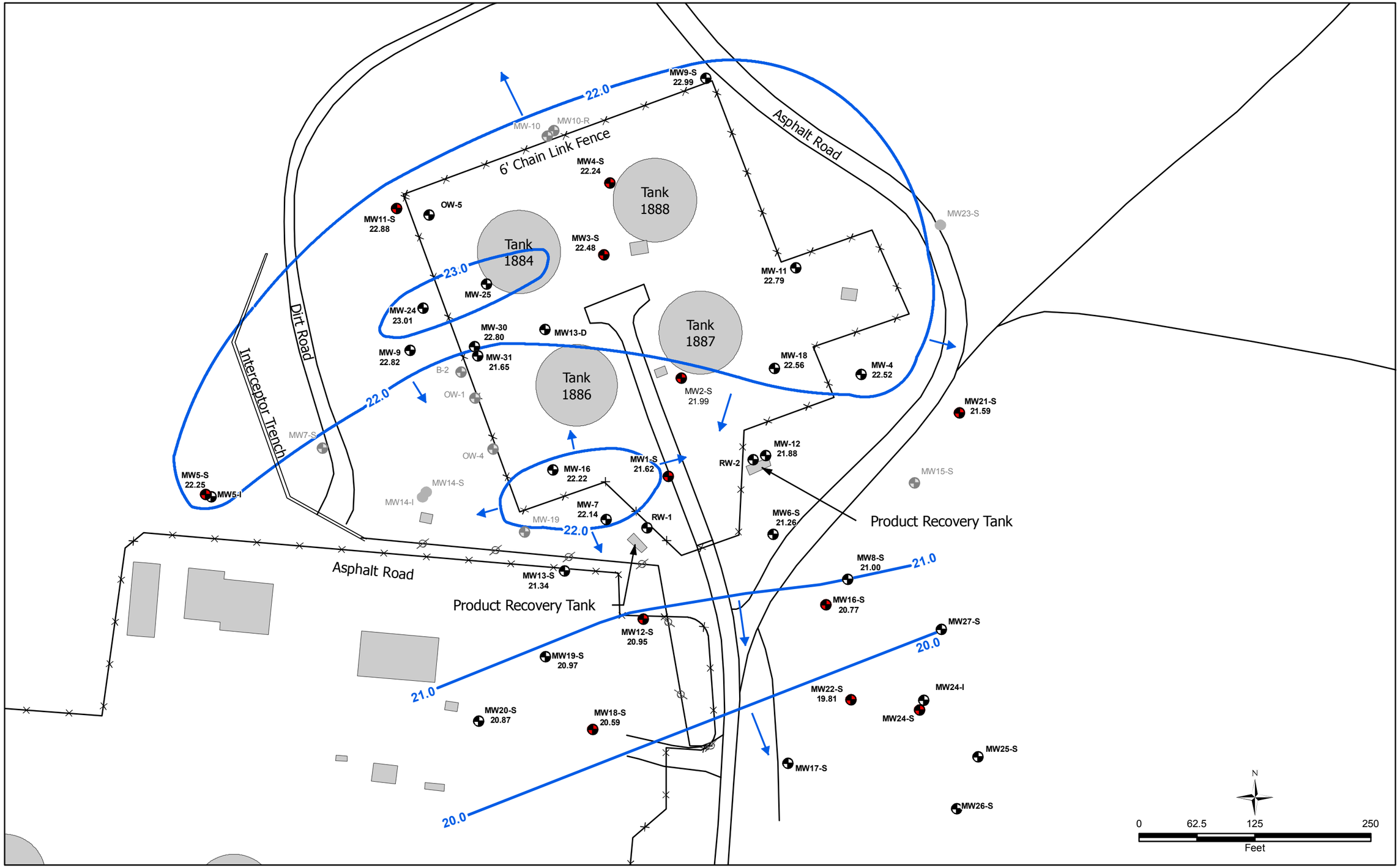
Fence Line

Note: All groundwater monitoring well station identifications have a prefix of "NASPFF"

FIGURE 3-1
Measured LNAPL Thickness - November/December 2008
Sherman Field Former Fuel Farm, Naval Air Station Pensacola
Pensacola, Florida

CH2MHILL

\\GALILEO\PROJ\NASPENSACOLA\MXD\SHERMANFIELDFUELFARM\MEASURED_NPAPL_THICKNESS_NOVDEC2008.MXD RMURPHY1 6/3/2009 14:22:45



Monitoring Wells Sampled in November and December 2008

Monitoring Wells Not Sampled

Monitoring Wells Not Located

Monitoring Wells Destroyed

20.00 Goundwater Elevation Contour (ft above mean sea level)

Approximate Growndwater Flow

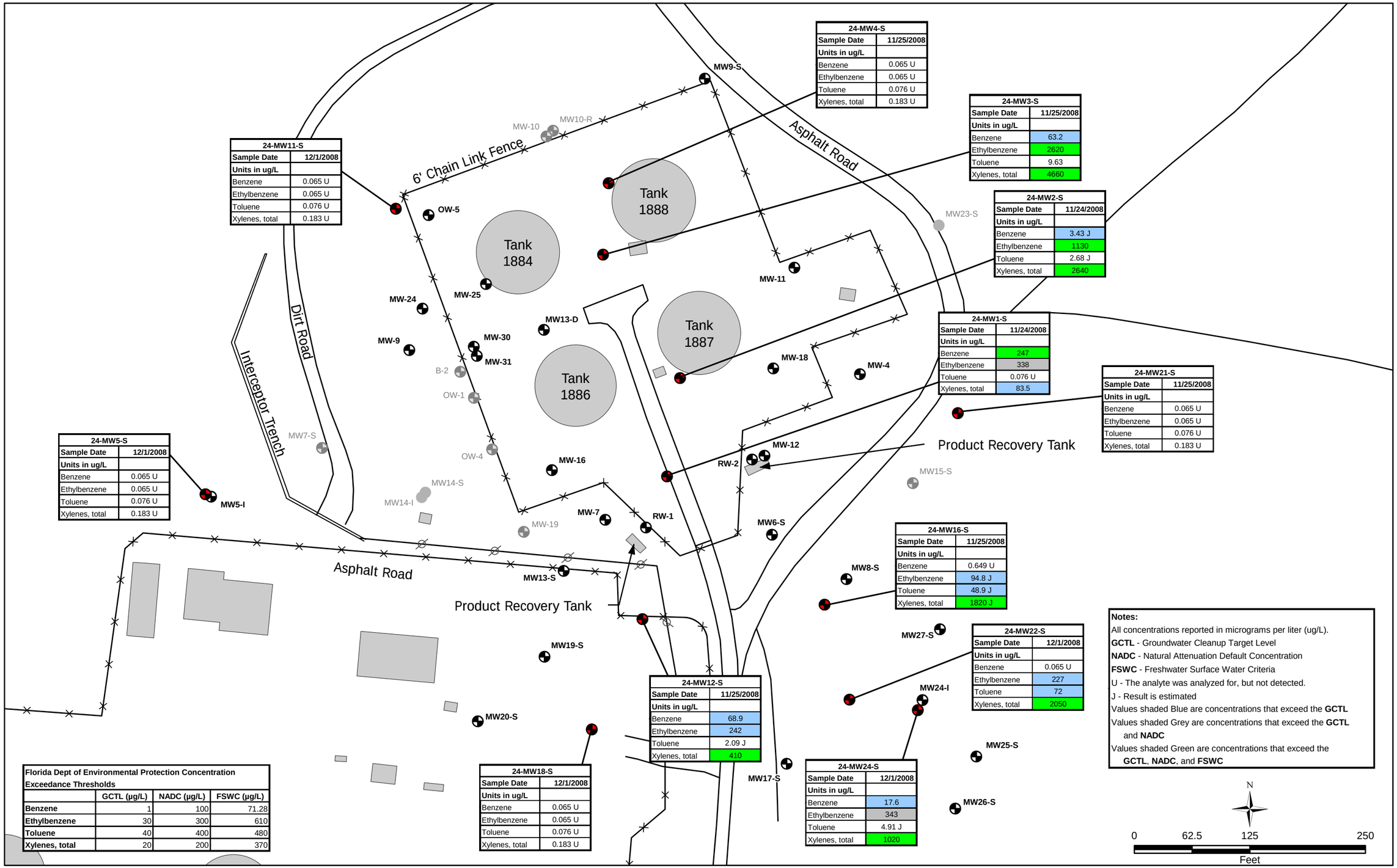
Overhead Power Line

Fence Line

Note: All groundwater monitoring well station identifications have a prefix of "NASPFF"

FIGURE 3-2
Potentiometric Surface Map - November/December 2008
Sherman Field Former Fuel Farm, Naval Air Station Pensacola
Pensacola, Florida

CH2MHILL



24-MW4-S	
Sample Date	**11/25/2008**
Units in ug/L	
Benzene	0.065 U
Ethylbenzene	0.065 U
Toluene	0.076 U
Xylenes, total	0.183 U

24-MW3-S	
Sample Date	**11/25/2008**
Units in ug/L	
Benzene	63.2
Ethylbenzene	2620
Toluene	9.63
Xylenes, total	4660

24-MW11-S	
Sample Date	**12/1/2008**
Units in ug/L	
Benzene	0.065 U
Ethylbenzene	0.065 U
Toluene	0.076 U
Xylenes, total	0.183 U

24-MW2-S	
Sample Date	**11/24/2008**
Units in ug/L	
Benzene	3.43 J
Ethylbenzene	1130
Toluene	2.68 J
Xylenes, total	2640

24-MW1-S	
Sample Date	**11/24/2008**
Units in ug/L	
Benzene	247
Ethylbenzene	338
Toluene	0.076 U
Xylenes, total	83.5

24-MW21-S	
Sample Date	**11/25/2008**
Units in ug/L	
Benzene	0.065 U
Ethylbenzene	0.065 U
Toluene	0.076 U
Xylenes, total	0.183 U

24-MW5-S	
Sample Date	**12/1/2008**
Units in ug/L	
Benzene	0.065 U
Ethylbenzene	0.065 U
Toluene	0.076 U
Xylenes, total	0.183 U

24-MW16-S	
Sample Date	**11/25/2008**
Units in ug/L	
Benzene	0.649 U
Ethylbenzene	94.8 J
Toluene	48.9 J
Xylenes, total	1820 J

24-MW22-S	
Sample Date	**12/1/2008**
Units in ug/L	
Benzene	0.065 U
Ethylbenzene	227
Toluene	72
Xylenes, total	2050

24-MW12-S	
Sample Date	**11/25/2008**
Units in ug/L	
Benzene	68.9
Ethylbenzene	242
Toluene	2.09 J
Xylenes, total	410

24-MW18-S	
Sample Date	**12/1/2008**
Units in ug/L	
Benzene	0.065 U
Ethylbenzene	0.065 U
Toluene	0.076 U
Xylenes, total	0.183 U

24-MW24-S	
Sample Date	**12/1/2008**
Units in ug/L	
Benzene	17.6
Ethylbenzene	343
Toluene	4.91 J
Xylenes, total	1020

Florida Dept of Environmental Protection Concentration Exceedance Thresholds			
	GCTL (µg/L)	NADC (µg/L)	FSWC (µg/L)
Benzene	1	100	71.28
Ethylbenzene	30	300	610
Toluene	40	400	480
Xylenes, total	20	200	370

Notes:
All concentrations reported in micrograms per liter (ug/L).
GCTL - Groundwater Cleanup Target Level
NADC - Natural Attenuation Default Concentration
FSWC - Freshwater Surface Water Criteria
U - The analyte was analyzed for, but not detected.
J - Result is estimated
Values shaded Blue are concentrations that exceed the **GCTL**
Values shaded Grey are concentrations that exceed the **GCTL** and **NADC**
Values shaded Green are concentrations that exceed the **GCTL**, **NADC**, and **FSWC**

Monitoring Wells Sampled in November and December 2008
Monitoring Wells Not Sampled
Monitoring Wells Not Located
Monitoring Wells Destroyed
Overhead Power Line
Fence Line

Note: All groundwater monitoring well station identifications have a prefix of "NASPFF"

FIGURE 3-3
BTEX Concentration Map
Sherman Field Former Fuel Farm, Naval Air Station Pensacola
Pensacola, Florida

4.0 Summary and Recommendations

4.1 Summary of Field Work

- Monitoring well location verification was conducted on November 13 and December 16, 2008. Of the 50 historically documented wells, 8 were not located and 3 were determined to be destroyed.
- Groundwater level and LNAPL gauging was conducted on November 13, 2008. One well, MW-12, contained measurable LNAPL (0.07 foot). Three additional wells contained an LNAPL sheen.
- Groundwater samples were collected from 12 monitoring wells. Samples were collected from November 25 to December 1, 2008, and analyzed for BTEX, select PAHs, TPH, lead, and select volatile organic halocarbons.
- Ten compounds (TPH, benzene, ethylbenzene, naphthalene, toluene, total xylenes, 2-methylnaphthalene, benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-c,d)pyrene) exceeded GCTLs in at least 1 groundwater sample.
- Eleven compounds (TPH, benzene, ethylbenzene, naphthalene, toluene, total xylenes, 2-methylnaphthalene, acenaphthalene, anthracene, fluoranthene, and pyrene) exceeded FSWC in at least 1 groundwater sample. Because the Sherman Field Fuel Farm is approximately 3,100 feet upgradient of the Gulf of Mexico, the likelihood of contaminant migration impacting the gulf sediments or surface water is remote.
- Four compounds (benzene, ethylbenzene, naphthalene, and total xylenes) exceeded the NADC in at least one groundwater sample. NADCs are default source concentrations that may be used for a technical evaluation of the appropriateness of NA. Even though concentrations exceed NADCs, an MNA approach to address dissolved contamination may be a viable approach through demonstration of plume stability through monitoring, NA through monitoring, contaminant fate transport modeling, and mass budgeting analysis using assimilative capacity calculations.
- The results from the mass budget and BTEX depletion analysis and the NA indicator parameters evaluation support the conclusion that the contaminant plume is naturally attenuating and biodegradation is responsible for the loss of BTEX at the site. The most prominent biodegradation mechanism responsible for degradation of BTEX at the site is methanogenesis, followed by aerobic respiration, SO_4 reduction, and iron reduction.

4.2 Recommendations

A complete round of groundwater monitoring is recommended to evaluate the extent of dissolved contamination prior to preparing a RAP Addendum. The recommended remedy includes MNA and land use controls (LUCs). Because groundwater contaminants exceed

NADCs, fate and transport modeling assimilative capacity calculations will be needed to demonstrate plume stability and capacity of the aquifer to naturally degrade the petroleum contaminants. In addition, based on the November and December assessment activities, LNAPL is present in only one well at a thickness less than 0.1 foot (i.e., MW-12 at 0.07 foot), which does not warrant design and construction of a project recovery system. The extent (e.g., number of wells) and magnitude of LNAPL thickness (e.g., MW-12 at 0.07 foot in 2008 and 1.21 feet in 2000) is less than that reported during the TtNUS SA completed in 2000 and 2001.

The Navy does not recommend implementing the remedial action activities outlined in the 2002 RAP (TtNUs, 2002a). Instead, the Navy recommends completing a RAP Addendum with MNA and LUCs selected as the remedial action alternative for the Sherman Field Former Fuel Farm, NAS Pensacola, Pensacola, Florida.

5.0 References

CH2M HILL Constructors, Inc. (CH2M HILL). 2000. *Basewide Work Plan*. NAS Pensacola. Prepared for U.S. Naval Facilities Engineering Command, Southeast. Contract No. N62467-98-D-0995. June.

CH2M HILL Constructors, Inc. (CH2M HILL). 2003. *Contract Management Plan*. Contract No. N62467-01-D-0331. April.

CH2M HILL Constructors, Inc. (CH2M HILL). 2008. *Site Assessment Work Plan*. July.

Florida Department of Environmental Protection (FDEP). 2004. *Department of Environmental Protection Standard Operating Procedures for Field Activities*, DEP-SOP-001/01. February.

Parsons Engineering. 1999. *Natural Attenuation of Fuel Hydrocarbons Performance and Cost Results from Multiple Air Force Demonstration Sites*. October.

Tetra Tech NUS, Inc. (TtNUS). 2002a. *Site Assessment Report for Sherman Field Former Fuel Farm Underground Storage Tank Site 000024*. Prepared for the Naval Facilities Engineering Command Southern Division. July.

Tetra Tech NUS, Inc. (TtNUS). 2002b. *Remedial Action Plan for Sherman Field Former Fuel Farm Underground Storage Tank Site 000024*. Prepared for the Naval Facilities Engineering Command Southern Division. November.

U.S. Environmental Protection Agency (EPA). 2007. EPA Region IV, Science and Ecosystem Support Division. *Field Branches Quality System and Technical Procedures*. November.

Appendix A
Sampling Logs

Location NAS Pensacola Date 11/24/08

Project / Client Site 24 / USN

D. Gaglio, J. Scott

1100 D. Gaglio and J. Scott on site. WSD delivering drums. 4 55 gallon rubber drums. 8-55 gallon metal drums

1115 Hold H&S meeting.

1200 Calibrate YSI

pH 4.01 to 4.00 lot 6210 exp 3/12/09

pH 6.99 to 7.00 lot 6089 exp 1/2/09

pH 10.11 to 10.00 lot 6091 exp 1/2/09

Cond 1003 to 1000 µS lot 1810711 exp 10/09

ORP 265 to 237.5 lot 085100003 exp 01/10

Barr 762.1 mm of Hg 7.9 mg/L to 100% sat 9.09

85-24-MW25 DTW 18.74, TD 24.70 geopump

TD-DTW = 6.04 × .163 = 0.98

.98 × 3 ~ 3 gal

Time	12:34	12:38	12:42	1246
pH	5.96	5.96	5.96	5.95
cond	.388	.347	.331	.329
Temp	25.47	25.70	25.85	25.82
Do	2.70	1.58	1.64	1.80
Sal	.18	.16	.16	.16
Turb				
Orp	-74.5	-99.4	-88.5	-95.4
Depth	18.74	18.79	18.79	18.79

Location NAS Pensacola Date 11/24/08

Project / Client Site 24 / USN

D. Gaglio, J. Scott

Field tests for alkalinity & Ferrous Iron.
Ferrous Iron Hach test kit 210 mg/L
Alkalinity Hach Test Kit 220 mg/L methyl orange alkalinity. For Alkalinity sample remained colorless after ~~pH~~ Phenolphthalein was added. Sample turned green with Bromocresol and took 11 drops to turn pink.

- Water had foul odor.
- Sulfide was recorded as .40 mg/L

Sample ID: 85-24-MW15-112408

85-24-MW25 DTW: 22.34, ~~29.46~~ TD: 29.46

TD - DTW = 7.12 × .163 = 1.16 ~ 1.25

1.25 × 3 = 3.75

Time	1358	1403	1408	1413
pH	6.17	6.04	6.00	5.98
Cond	.450	.291	.252	.232
Temp	25.30	25.22	25.19	25.33
Do	2.34	1.30	1.15	1.14
Sal	.21	.14	.12	.11
Turb				
Orp	-55.9	-72.1	-82.4	-82.2
Depth	22.34	22.40	22.4	22.4

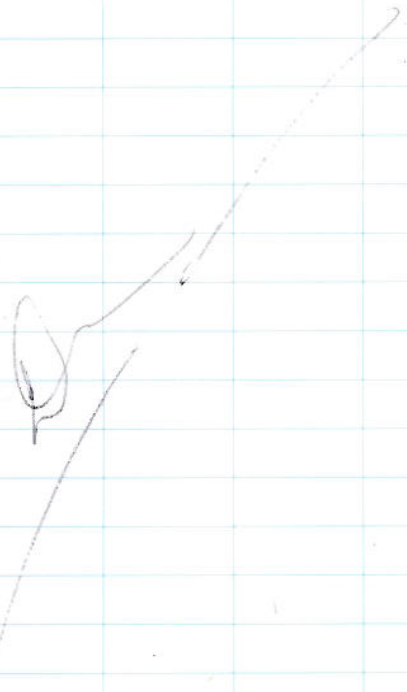
Sample ID: 85-24-MW25-112408

Location NAS Pensacola Date 11/24/08

Project / Client Site 24 / USN

- Field test for ferrous iron. 4.4 mg/L
- Field test for alkalinity colorless after phenolphthalein. Turned green with Brom cresol. 7 drops went to purple, 8 drops made pink. 160 mg/L methyl orange alkalinity.
- Sulfide reads 0.43 mg/L
- Strong fuel odor
- 1530 : Truck has a dead battery

1650 Got truck jumped. All off site



Location NAS Pensacola Date 11/25/08

Project / Client Site 24 / USN

D Gaglio, J. Scott

0800 D. Gaglio + J. Scott on Site. Held H&S meeting.

0810 Calibrate YSI # C-101138

pH	4.06 → 4.00	Lot 6210	exp 3/12/09
pH	6.91 → 7.00	Lot 6087	exp 1/2/09
pH	10.22 → 10.00	Lot 6071	exp 1/2/09
cond	1.002 → 1.000	Lot 181071	exp 10/09
Orp	242.6 → 244.0	Lot 08J100003	exp 9/2010

Temp 15.19

DO: pressure = 762.1 mm/Hg DO = 11.33 → 10.79

MW3-S

DTW: 23.65 TD: 24.55

TD-DTW = 3.9 × .163 = .64 ~ .75

.75 × 3 = 2.25

Time	0835	0838	0841	0844	Sample at
pH	5.88	5.85	5.85	5.81	0850
Cond	.251	.215	.213	.203	
Temp	21.65	22.58	22.69	22.77	Strong fuel odor
DO	1.28	.77	.66	.62	
Sal	.12	.10	.10	.10	
Turb					
Orp	-59.6	-85.7	-94.7	-97.2	
Depth	23.65	23.67	23.67	23.67	

Location NAS Pensacola Date 11/25/08

Project / Client Site 24 / USN

D. Gaglio, J. Scott

Sulfide test = .48 mg/L

Alkalinity = 120 mg/L no color change with phenolphthaline, turned green with bromocresol

Ferrous Iron = 7.0

~~MW-4S~~ (DG) Sample ID: 85-24-MW3S-112508

0943 move to [MW-4S]

DTW: 22.64 TD: 24.80

TD - DTW = 7.16 × .163 = 1.16 ~ 1.25 × 3 = 3.75

Time	0952	0957	1002	1007	1012
pH	5.87	5.69	5.64	5.60	5.59
Cond	.106	.080	.075	.074	.073
Temp	23.05	24.07	24.11	24.16	24.17
DO	5.55	5.63	5.48	5.19	4.48
Sal	.05	.04	.03	.03	.03
Turb					
Orp	79.8	136.5	135.0	120.6	93.1
Depth	22.64	22.66	22.66	22.66	22.66

Sample taken @ 1020

Sulfides: .05 mg/L

Ferrous Iron = 0

Alkalinity = 40 mg/L no color change with phenolphthaline, turned green with bromocresol

Sample ID: 85-24-MW4S-112508

Location NAS Pensacola Date 11/25/08

Project / Client Site 24 / USN

D. Gaglio, J. Scott

1100 - ~~Sampled MW-4S for EDB~~ (DG)

1110 Truck stuck. Went to get tow rope.

1140 Truck out.

1240 Sampled MW-1S for EDB

[MW-16S]

DTW: 11.25 TD: 18.26

TD - DTW = 7.01 × .163 = 1.14 ~ 1.25 × 3 = 3.75

Time	1250	1255	1300	1305
Temp	22.43	23.14	23.12	23.16
Cond	.154	.149	.151	.156
Sal	.07	.07	.07	.07
DO	2.57	.56	.44	.44
pH	5.62	5.63	5.65	5.67
orp	-41.7	-80.5	-95.2	-101.3

Sample @ 1310

Sample ID: 85-24-MW16S-112508

Sulfides: .80 mg/L (flashed "LIMIT" instruction manual unclear)

Ferrous Iron = 1.6

Alkalinity = 80 mg/L no color with phenolphthaline, turned green with bromocresol

Location NAS Pensacola Date 11/25/08

Project / Client Site 24 / USN

D. Geglio, J. Scott

MW 21-S

DTW = ~~2~~ 06 7.65 TD = 9.0

TD - DTW = 1.35 × .163 = .22 ~ .25 × 3 = .75

Time	1416	1417	1418	1419	1420	
Temp	24.15	24.17	24.14	24.09	~~24~~ 09	Sampled @
Cond	.184	.185	.189	.193	.195	1435
Sal	.09	.09	.09	.09	.09	
DO	5.36	5.32	5.29	5.21	5.20	
pH	6.50	6.51	6.52	6.55	6.55	
Orp	15.1	19.3	24.6	24.6	34.0	
DTW	7.65	7.67	7.67	7.67	7.67	

Sulfide ? 0.02 mg/L

Ferrous Iron: 0

Alkalinity: 120 mg/L no color change with phenolphtaline, turned green with bromocresol

Sample ID: 85-24-MW 21S-112508

Location NAS Pensacola Date 11/25/08

Project / Client Site 24 / USN

D. Geglio, J. Scott

MW 12-S

DTW = ~~13.44~~ 29 12.44, TD: 19.87

TD - DTW = 5.93 × .163 = .97 ~ 1 gal × 3 = 3 gal

Time	1526	1530	1534	1538	
Temp	24.68	25.27	25.32	25.31	Sample @ 1545
Cond	.241	.144	.145	.148	ID: 85-24-MW12S-112508
Sal	.11	.07	.07	.07	
DO	1.76	.78	0.83	.95	
pH	5.85	5.82	5.81	5.80	
Orp	-38.9	-51.2	-58.2	-61.6	
DTW	~~13.44~~ 06 12.44	12.98	12.98	12.99	

Off site 1630

Location ~~Site~~ NAS Pensacola Date 12/01/08

Project / Client Site 24 / USN

D. Gagliro, T. Manning

1100 Arrive on site. Hold H+S meeting.

Look for MW 22-S.

1130 Located MW 22-S.

1136 Calibrate YSI

Temp DO - 9.55 @ 100% @ 18.28°C

Ph - 4 @ 4.00 7 @ 7.00 10 @ 10.01

Sal Cond - @ 1.00

Orp - @ 240 @ 17.48°C

MW 22-S DTW - 13.20 TD - 20.47

TD-DTW = 7.27 × .163 = 1.18 ~ 1.25 × 3 = 3.75

Time	1150	1155	1200	1205
pH	5.78	5.56	5.57	5.59
Temp	27.08	23.67	23.66	23.68
Cond	~~0.85~~ .085	.086	.088	0.093
DO	1.48	0.32	0.26	0.21
Orp	-65.6	-101.1	-108.9	-117.6
Turb	18.4	10.3	10.2	10.1
Depth	13.20	13.24	13.24	13.24
Sal	0.03	0.04	.04	0.04

Sample with MS/MSD

Sampled well @ 1220 ID: 85-24-MW22S-120108

: pumped well at .25 gpm. Total volume purged = 3.75 gal

Location NAS Pensacola Date 12/01/08

Project / Client Site 24/USN

DG, TM

MW 24-S

3/4" well no conversion factor in book, so used conversion for 1" casing. Water level would not go down well, so used last available data ~ 6' of water

6 × .041 ≈ .25 × 3 = .75 gal

Time	1253	1254	1255	1257	1258	1259
pH	5.87	5.86	5.85	5.85	5.85	5.85
Temp	20.70	22.14	22.45	22.55	22.58	22.60
Cond	.200	.194	0.192	0.191	0.190	0.189
DO	2.02	0.87	0.71	0.73	0.77	0.80
Orp	-71.2	-91.0	-99.8	-105.3	-108.2	-110.0
Turb	44.6	15.2	8.73	7.31	6.80	6.57
Sal	0.09	0.09	0.09	0.09	0.09	0.09
Depth						

Sample well @ 1300 ID: 85-24-MW24-120108

Field dup taken. ID: 85-24-FD1-~~10~~ 120108

pumped at .25 gpm, Total volume purged = 1.5 gal.

Location NAS Pensacola Date 12/01/08

Project / Client Site 24 / USN

DG, TM

MW 18-S

DTW: 12.15 TD: 19.38

TD - DTW = 7.23 x .163 = 1.17 ~ 1.25

1.25 x 3 = 3.75

Time	1357	1402	1407	1412	1417
Temp	23.77	23.80	23.84	23.87	23.86
Cond	.059	~~.055~~ .055	.055	.055	0.54
DO	6.54	6.12	6.09	6.35	6.25
Sal	0.03	0.02	0.02	0.02	0.02
pH	5.29	5.62	5.59	5.61	5.59
Orp	7.1	30.4	17.7	10.4	3.2
Turb	280	10.0	4.48	3.59	3.19
DTW	12.15	12.18	12.19	12.19	12.19

Sampled well @ 1425. ID: 85-24-MW18S-120108

pumped well at .25 gpm. Total volume purged = 5 gal

Location NAS Pensacola Date 12/01/08

Project / Client Site 24 / USN

DG, TM

~~MW5~~ MW 11-S

DTW: 5.70 TD: 8.33

TD - DTW = 2.63 x .163 = 0.42 ~ .5

.5 x 3 = 1.5

Time	1454	1456	1458	1500	1502	1504
Temp	21.96	21.81	21.68	21.63	21.63	21.63
Cond	.058	.059	.060	0.60	0.60	0.59
Sal	.03	0.03	.03	0.03	0.03	0.03
DO	1.52	1.12	1.41	1.61	1.66	1.77
pH	5.29	5.29	5.31	5.32	5.31	5.31
Orp	100.0	87.7	91.8	100.1	106.0	107.5
Turb	28.5	25.7	23.7	23.4	23.1	22.3
DTW	5.70	5.72	5.72	5.72	5.72	5.72

Sampled @ 1504 ID: 85-24-MW11S-120108

pumped well at .25 gpm. Total volume purged = 2.5 gal

Location NAS Pensacola Date 12/01/08

Project / Client Site 24 / USN

DG, TM

MW5-S

DTW : 10.11 TD : 11.03

11.03 - 10.11 = .92 × .163 = .15 ~ .25

Time	1530	1531	1532	1533	1534	1535
Temp	21.22	21.34	21.38	21.47	21.53	21.59
Cond	.236	0.217	0.205	0.201	0.197	0.192
Sal	.11	0.10	0.10	0.09	0.09	0.09
DO	2.04	2.51	2.92	3.20	3.37	3.60
pH	6.50	6.48	6.46	6.45	6.44	6.42
Orp	61.6	62.4	63.8	~~3.24~~ 124?	66.3	68.2
Turb	16.9	5.34	63.1	14.1	4.48	3.04
DTW	10.11	10.14	10.14	10.14	10.14	10.14

Sampled @ ~~1540~~ DG 1540 ID: 85-24-MW5S-120108

pumped at .25 gpm. Total purge volume = 1.25 gal.

1610: Equipment Blank 2

1630: All off site

~~1610: Equipment Blank 2~~ DG

~~1630: off site~~ DG

Location Date

Project / Client

CH2MHILL Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No: (770) 604-9182
Fax No: (770) 604-9282

Field CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: **PN-DATE-01**

[2] PROJECT NAME:	[5] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
NAS Pensacola		GCAL	Bethany Garvey	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[3] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
UST Site 0024	CTO0085		Kama White	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bethany Garvey	770-604-9182			

[25] ANALYSES REQUIRED (Include Method Numbers)

[17] ITEM	[18] SAMPLE IDENTIFIER	[19] SAMPLE DESCRIPTION/LOCATION	[20] MATRIX (see codes on SOP)	[21] DATE COLLECTED	[22] TIME COLLECTED	[23] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	VOCs (8260B)	SW8310 (PAHs)	FLPRO (TRPH)	Lead	Sulfate	NEE	TOC	EDB			[26] SAMPLE TYPE (see codes on SOP)	[27] COMMENTS/ SCREENING READINGS	[28] LAB ID (for lab's use)
1	85-24-MW1S-112408	MW-1S		11/24/08	1300	C	14	X	X	X	[redacted]	X	X	X	X			N		
2	85-24-MW2S-112408	MW2-S		11/24/08	1420	C	14	X	X	X	[redacted]							N		
3	85-24-MW3S-112508	MW3-S		11/25/08	0850	C	14	X	X	X	[redacted]	X	X	X				N		
4	85-24-MW4S-112508	MW4-S		11/25/08	1020	C	14	X	X	X	[redacted]	X	X	X				N		
5	85-24-MW11S-120108	MW11-2		12/01/08	1504	C	14	X	X	X	[redacted]							N		
6	85-24-MW12S-112508	MW12-[redacted]S		11/25/08	1545	C	14	X	X	X	[redacted]							N		
7	85-24-MW[redacted]S-112508 (21)	MW[redacted]-S (21)		11/25/08	1435	C	14	X	X	X	[redacted]	X	X	X				N		
8	85-24-MW[redacted]5S-120108	MW[redacted]5-S		12/1/08	1540	C	14	X	X	X	[redacted]							N		
9	85-24-MW16S-112508	MW16-S		11/25/08	1316	C	14	X	X	X	X	X	X	X				N		
10	85-24-MW[redacted]S-120108 (24)	MW[redacted]-S (24)		12/01/08	1300	C	14	X	X	X	[redacted]							FD		

[29] SAMPLER(S) AND COMPANY: (please print)	[30] COURIER AND SHIPPING NUMBER:	[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] **Original** - Laboratory (To be returned with Analytical Report); [ ] **Copy 1** - Project File; [ ] **Copy 2** - PMO

Form CC1001, Rev 06 00

CH2MHILL Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No: (770) 604-9182
Fax No: (770) 604-9282

CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: **pn-DATE-02**

[2] PROJECT NAME:	[5] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
NAS Pensacola		GCAL	Bethany Garvey	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[3] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
UST Site 0024	CTO0085		Kama White	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bethany Garvey	770-604-9182			

[25] ANALYSES REQUIRED (Include Method Numbers)

[17] ITEM	[18] SAMPLE IDENTIFIER	[19] SAMPLE DESCRIPTION/LOCATION	[20] MATRIX (see codes on SOP)	[21] DATE COLLECTED	[22] TIME COLLECTED	[23] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	VOCs (8260B)	SW8310 (PAHs)	FLPRO (TRPH)	Lead	Sulfate	NEE	TOC				[26] SAMPLE TYPE (see codes on SOP)	[27] COMMENTS/ SCREENING READINGS	[28] LAB ID (for lab's use)
1	85-24-MW18S-120108	MW18-S		12/1/08	1425	C	14	X	X	X	X							N		
2	85-24-MW22S-120108	MW22-S		12/1/08	1220	C	14	X	X	X	X	X	X	X				N		
3	85-24-MW22SMS-120108	MW22-S		12/1/08	1220	C	14	X	X	X	X	X	X	X				\MS		
4	85-24-MW22SSD-120108	MW22-S		12/1/08	1220	C	14	X	X	X	X	X	X	X				SD		
5	85-24-EB1-112408	EB1		11/25/08	1600	C	14	X	X	X	X	X	X	X				EB		
6	85-24-EB2-~~112508~~ 120108	EB2		12/01/08	1610	C	14	X	X	X	X	X	X	X				EB		
7	85-24-TB1-112408\	TB1		11/25/08		C	14	X										TB		
8	85-24-TB2-112508	TB2		12/01/08		C	14	X										TB		
9	85-24-FD1-120108	FD1		12/01/08	1300	C	14	X	X	X	X	X	X	X				FD		
10	85-24-FD2-_____	FD2				C	14	X	X	X	X	X	X	X				FD		

[29] SAMPLER(S) AND COMPANY: (please print)

[30] COURIER AND SHIPPING NUMBER:

[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] **Original** - Laboratory (To be returned with Analytical Report); [ ] **Copy 1** - Project File; [ ] **Copy 2** - PMO

Form CC1001, Rev 06.00

Site	SampleID	Location	SampleType	SampleDate	SampleTime	Time	TotalDepth	GWDepth	WellEvacMetho	SampleMetho	EquipmentTyp	Volume	PurgeVol	PumpRate	WaterDepth	Turbidity	Temperature	pH	SpecificCond	DO	Salinity	ORP	Comments	nnerCasingEle	GW_Elev
Site 24	85-24-11S-120108	85-24-MW-11S	GW	12/1/2008	15:04	15:04	8.33	5.7	Geopump	Geopump	Tubing	2.5	2.5	0.25	5.72	22.3	21.63	5.31	0.059	1.77	0.03	107.5			
Site 24	85-24-11S-120108	85-24-MW-11S	GW	12/1/2008	15:04	15:02	8.33	5.7	Geopump	Geopump	Tubing	2.5	2	0.25	5.72	23.1	21.63	5.31	0.06	1.66	0.03	106			
Site 24	85-24-11S-120108	85-24-MW-11S	GW	12/1/2008	15:04	15:00	8.33	5.7	Geopump	Geopump	Tubing	2.5	1.5	0.25	5.72	23.4	21.63	5.32	0.06	1.61	0.03	100.1			
Site 24	85-24-11S-120108	85-24-MW-11S	GW	12/1/2008	15:04	14:58	8.33	5.7	Geopump	Geopump	Tubing	2.5	1	0.25	5.72	23.7	21.68	5.31	0.06	1.41	0.03	91.8			
Site 24	85-24-11S-120108	85-24-MW-11S	GW	12/1/2008	15:04	14:56	8.33	5.7	Geopump	Geopump	Tubing	2.5	0.5	0.25	5.72	25.7	21.81	5.29	0.059	1.12	0.03	87.7			
Site 24	85-24-11S-120108	85-24-MW-11S	GW	12/1/2008	15:04	14:54	8.33	5.7	Geopump	Geopump	Tubing	2.5	0	0.25	5.7	28.5	21.96	5.29	0.058	1.52	0.03	100			
Site 24	85-24-MW118S-120108	85-24-MW-18S	GW	12/1/2008	14:25	13:57	19.38	12.15	Geopump	Geopump	Tubing	5	0	0.25	12.15	280	23.73	5.89	0.059	6.54	0.03	7.1			
Site 24	85-24-MW118S-120108	85-24-MW-18S	GW	12/1/2008	14:25	14:02	19.38	12.15	Geopump	Geopump	Tubing	5	1.25	0.25	12.18	10	23.8	5.62	0.055	6.12	0.02	30.4			
Site 24	85-24-MW118S-120108	85-24-MW-18S	GW	12/1/2008	14:25	14:17	19.38	12.15	Geopump	Geopump	Tubing	5	5	0.25	12.19	3.19	23.8	5.59	0.054	6.25	0.02	3.2			
Site 24	85-24-MW118S-120108	85-24-MW-18S	GW	12/1/2008	14:25	14:12	19.38	12.15	Geopump	Geopump	Tubing	5	3.75	0.25	12.19	3.59	23.87	5.61	0.055	6.35	0.02	10.4			
Site 24	85-24-MW118S-120108	85-24-MW-18S	GW	12/1/2008	14:25	14:07	19.38	12.15	Geopump	Geopump	Tubing	5	2.5	0.25	12.19	4.48	23.84	5.59	0.055	6.09	0.02	17.7			
Site 24	85-24-MW12S-112508	85-24-MW-12S	GW	11/25/2008	15:45	15:34	19.87	12.94	Geopump	Geopump	Tubing	3	2	0.25	12.98		25.32	5.81	0.145	0.83	0.07	-58.2			
Site 24	85-24-MW12S-112508	85-24-MW-12S	GW	11/25/2008	15:45	15:30	19.87	12.94	Geopump	Geopump	Tubing	3	1	0.25	12.98		25.27	5.82	0.144	0.78	0.07	-51.2			
Site 24	85-24-MW12S-112508	85-24-MW-12S	GW	11/25/2008	15:45	15:38	19.87	12.94	Geopump	Geopump	Tubing	3	3	0.25	12.99		25.31	5.8	0.148	0.95	0.07	-61.6			
Site 24	85-24-MW12S-112508	85-24-MW-12S	GW	11/25/2008	15:45	15:26	19.87	12.94	Geopump	Geopump	Tubing	3	0	0.25	12.94		24.68	5.85	0.241	1.76	0.11	-38.9	Forgot to bring a turbidimeter.		
Site 24	85-24-MW16S-112508	85-24-MW-16S	GW	11/25/2008	13:10	13:05	18.26	11.25	Geopump	Geopump	Tubing	3.75	3.75	0.25			23.16	5.67	0.156	0.44	0.07	-101.3			
Site 24	85-24-MW16S-112508	85-24-MW-16S	GW	11/25/2008	13:10	12:50	18.26	11.25	Geopump	Geopump	Tubing	3.75	0	0.25			22.43	5.62	0.154	2.57	0.07	-41.7	forgot to bring turbidimeter		
Site 24	85-24-MW16S-112508	85-24-MW-16S	GW	11/25/2008	13:10	12:55	18.26	11.25	Geopump	Geopump	Tubing	3.75	1.25	0.25			23.14	5.63	0.149	0.56	0.07	-80.5			
Site 24	85-24-MW16S-112508	85-24-MW-16S	GW	11/25/2008	13:10	13:00	18.26	11.25	Geopump	Geopump	Tubing	3.75	2.5	0.25			23.12	5.65	0.151	0.44	0.07	-95.2			
Site 24	85-24-MW1S-112408	85-24-MW-01S	GW	11/24/2008	13:00	12:46	24.7	18.74	Geopump	Geopump	Tubing	3	3	0.25	18.79		25.82	5.95	0.329	1.8	0.16	-95.4			
Site 24	85-24-MW1S-112408	85-24-MW-01S	GW	11/24/2008	13:00	12:38	24.7	18.74	Geopump	Geopump	Tubing	3	1	0.25	18.79		25.7	5.96	0.347	1.58	0.16	-99.4			
Site 24	85-24-MW1S-112408	85-24-MW-01S	GW	11/24/2008	13:00	12:42	24.7	18.74	Geopump	Geopump	Tubing	3	2	0.25	18.79		25.85	5.96	0.331	1.64	0.16	-88.5			
Site 24	85-24-MW1S-112408	85-24-MW-01S	GW	11/24/2008	13:00	12:34	24.7	18.74	Geopump	Geopump	Tubing	3	0	0.25	18.74		25.47	5.96	0.388	2.7	0.18	-74.5	forgot to bring turbidity meter		
Site 24	85-24-MW21S-112508	85-24-MW-21S	GW	11/25/2008	14:35	14:17	9	7.65	Geopump	Geopump	Tubing	1	0.25	0.25	7.67		24.17	6.51	0.185	5.32	0.09	19.3			
Site 24	85-24-MW21S-112508	85-24-MW-21S	GW	11/25/2008	14:35	14:18	9	7.65	Geopump	Geopump	Tubing	1	0.25	0.5	7.67		24.14	6.52	0.189	5.29	0.09	24.6			
Site 24	85-24-MW21S-112508	85-24-MW-21S	GW	11/25/2008	14:35	14:19	9	7.65	Geopump	Geopump	Tubing	1	0.25	0.75	7.67		24.09	6.55	0.193	5.21	0.09	29.6			
Site 24	85-24-MW21S-112508	85-24-MW-21S	GW	11/25/2008	14:35	14:20	9	7.65	Geopump	Geopump	Tubing	1	0.25	1	7.67		24.09	6.55	0.195	5.2	0.09	34			
Site 24	85-24-MW21S-112508	85-24-MW-21S	GW	11/25/2008	14:35	14:16	9	7.65	Geopump	Geopump	Tubing	1	0	0.25	7.65		24.15	6.5	0.184	5.36	0.09	15.1			
Site 24	85-24-MW22S-120108	85-24-MW-22S	GW	12/1/2008	12:20	11:50	20.47	13.2	Geopump	Geopump	Tubing	3.75	0	0.25	13.2	18.4	27.08	5.78	0.085	1.48	0.03	-65.6			
Site 24	85-24-MW22S-120108	85-24-MW-22S	GW	12/1/2008	12:20	11:55	20.47	13.2	Geopump	Geopump	Tubing	3.75	1.25	0.25	13.24	10.3	23.67	5.56	0.086	0.32	0.04	-101.1			
Site 24	85-24-MW22S-120108	85-24-MW-22S	GW	12/1/2008	12:20	12:00	20.47	13.2	Geopump	Geopump	Tubing	3.75	2.5	0.25	13.24	10.2	23.66	5.57	0.088	0.26	0.04	-108.9			
Site 24	85-24-MW22S-120108	85-24-MW-22S	GW	12/1/2008	12:20	12:05	20.47	13.2	Geopump	Geopump	Tubing	3.75	3.75	0.25	13.24	10.1	23.68	5.59	0.093	0.21	0.04	-117.6			
Site 24	85-24-MW24S-120108	85-24-MW-24S	GW	12/1/2008	13:00	12:55			Geopump	Geopump	Tubing	1.5	0.5	0.25		8.73	22.45	5.85	0.192	0.71	0.09	-99.8			
Site 24	85-24-MW24S-120108	85-24-MW-24S	GW	12/1/2008	13:00	12:58			Geopump	Geopump	Tubing	1.5	1.25	0.25		6.8	22.58	5.85	0.19	0.77	0.09	-108.2			
Site 24	85-24-MW24S-120108	85-24-MW-24S	GW	12/1/2008	13:00	12:59			Geopump	Geopump	Tubing	1.5	1.5	0.25		6.57	22.6	5.85	0.189	0.8	0.09	-110			
Site 24	85-24-MW24S-120108	85-24-MW-24S	GW	12/1/2008	13:00	12:54			Geopump	Geopump	Tubing	1.5	0.25	0.25		15.2	22.14	5.86	0.194	0.87	0.09	-91			
Site 24	85-24-MW24S-120108	85-24-MW-24S	GW	12/1/2008	13:00	12:53			Geopump	Geopump	Tubing	1.5	0	0.25		44.6	20.7	5.87	0.2	2.02	0.09	-71.2			
Site 24	85-24-MW24S-120108	85-24-MW-24S	GW	12/1/2008	13:00	12:57			Geopump	Geopump	Tubing	1.5	1	0.25		7.31	22.55	5.85	0.191	0.73	0.09	-105.3			
Site 24	85-24-MW2S-112408	85-24-MW-02S	GW	11/24/2008	14:20	13:58	29.46	22.34	Geopump	Geopump	Tubing	3.75	0	0.25	22.34		25.3	6.17	0.45	2.34	0.21	-55.9	Forgot to bring turbidimiter.		
Site 24	85-24-MW2S-112408	85-24-MW-02S	GW	11/24/2008	14:20	14:03	29.46	22.34	Geopump	Geopump	Tubing	3.75	1.25	0.25	22.4		25.22	6.04	0.291	1.3	0.14	-72.1			
Site 24	85-24-MW2S-112408	85-24-MW-02S	GW	11/24/2008	14:20	14:08	29.46	22.34	Geopump	Geopump	Tubing	3.75	2.5	0.25	22.4		25.19	6	0.252	1.15	0.12	-82.4			
Site 24	85-24-MW2S-112408	85-24-MW-02S	GW	11/24/2008	14:20	14:13	29.46	22.34	Geopump	Geopump	Tubing	3.75	3.75	0.25	22.4		25.33	5.98	0.232	1.14	0.11	-82.2			
Site 24	85-24-MW3S-112508	85-24-MW-03S	GW	11/25/2008	8:50	8:44	29.55	23.65	Geopump	Geopump	Tubing	2.25	2.25	0.25	23.67		22.77	5.84	0.203	0.62	0.1	-97.2			
Site 24	85-24-MW3S-112508	85-24-MW-03S	GW	11/25/2008	8:50	8:35	29.55	23.65	Geopump	Geopump	Tubing	2.25	0	0.25	23.65		21.65	5.88	0.254	1.28	0.12	-59.6	forgot to bring turbidimeter		
Site 24	85-24-MW3S-112508	85-24-MW-03S	GW	11/25/2008	8:50	8:41	29.55	23.65	Geopump	Geopump	Tubing	2.25	1.5	0.25	23.67		27.69	5.85	0.213	0.66	0.1	-94.7			
Site 24	85-24-MW3S-112508	85-24-MW-03S	GW	11/25/2008	8:50	8:38	29.55	23.65	Geopump	Geopump	Tubing	2.25	0.75	0.25	23.67		22.58	5.85	0.215	0.77	0.1	-85.7			
Site 24	85-24-MW4S-112508	85-24-MW-04S	GW	11/25/2008	10:20	9:52	29.8	22.64	Geopump	Geopump	Tubing	5	0	0.25	22.64		23.05	5.87	0.106	5.55	0.05	79.8	fogot to bring turbidimeter		
Site 24	85-24-MW4S-112508	85-24-MW-04S	GW	11/25/2008	10:20	9:57	29.8	22.64	Geopump	Geopump	Tubing	5	1.25	0.25	22.66		24.07	5.69	0.08	5.63	0.04	136.5			
Site 24	85-24-MW4S-112508	85-24-MW-04S	GW	11/25/2008	10:20	10:02	29.8	22.64	Geopump	Geopump	Tubing	5	2.5	0.25	22.66		24.11	5.64	0.075	5.48	0.03	135			
Site 24	85-24-MW4S-112508	85-24-MW-04S	GW	11/25/2008	10:20	10:07	29.8	22.64	Geopump	Geopump	Tubing	5	3.75	0.25	22.66		24.16	5.6	0.074	5.19	0.03	120.6			
Site 24	85-24-MW4S-112508	85-24-MW-04S	GW	11/25/2008	10:20	10:12	29.8	22.64	Geopump	Geopump	Tubing	5	5	0.25	22.66		24.17	5.59	0.073	4.98	0.03	93.1			
Site 24	85-24-MW5S-120108	85-24-MW-05S	GW	12/1/2008	15:40	15:31	11.03	10.11	Geopump	Geopump	Tubing	1.25	0.25	0.25	10.14	5.34	21.34	6.48	0.217	2.51	0.1	62.4			
Site 24	85-24-MW5S-120108	85-24-MW-05S	GW	12/1/2008	15:40	15:34	11.03	10.11	Geopump	Geopump	Tubing	1.25	1	0.25	10.14	3.04	21.59	6.42	0.192	3.6	0.09	68.2			
Site 24	85-24-MW5S-120108	85-24-MW-05S	GW	12/1/2008	15:40	15:32	11.03	10.11	Geopump	Geopump	Tubing	1.25	0.5	0.25	10.14	63.1	21.38	6.46	0.205	2.92	0.1	63.8			
Site 24	85-24-MW5S-120108	85-24-MW-05S	GW	12/1/2008	15:40	15:33	11.03	10.11	Geopump	Geopump	Tubing	1.25	0.75	0.25	10.14	14.1	21.49	6.45	0.201	3.2	0.09				
Site 24	85-24-MW5S-120108	85-24-MW-05S	GW	12/1/2008	15:40	15:30	11.03	10.11	Geopump	Geopump	Tubing	1.25	0	0.25	10.11	16.9	21.22	6.5	0.236	2.04	0.11	61.6			

Appendix B
Laboratory Analytical Data

NAS Pensacola

PREPARED FOR:	NAS Pensacola / UST 24 Monitoring Well Sampling 2008
FINAL REVIEWER/ INITIAL REVIEWER	Camden Robinson/ Associate Project Chemist/CH2M HILL
COPIES:	Casey Hudson /Project Manager/CCI
DATE:	January 16th, 2009
SUBJECT:	Quality Assessment for Samples Collected November 25th, 2008 and December 1st, 2008

This quality assurance memorandum is based upon a review of analytical data generated for the groundwater samples collected November 25th, 2008 and December 1st, 2008 at the Naval Air Station in Pensacola, Florida. The samples were collected as a part of the UST 24 Monitoring Well sampling event conducted at the site. Table 1-1 presents a summary of the CCI sample identification numbers, laboratory sample identification numbers, dates of collection, and the analyses performed.

Gulf Coast Analytical Laboratories, Inc. of Baton Rouge, Louisiana served as the laboratory for this UST 24 monitoring well sampling event for the following analyses:

- Benzene, Ethylbenzene, Toluene, and Total Xylenes (BTEX) by SW-846 method 8260B,
- Priority Pollutant Volatile Organic Compounds (PPL-VOC) by SW-846 method 8260B,
- Polyaromatic nuclear hydrocarbons (PAH) by SW-846 method 8270C SIM,
- Total petroleum hydrocarbons (TPH) by method FL-PRO,
- Methane by method RSK-175,
- Lead by SW-846 method 6010B,
- Total Organic Carbon by Standard Method 5310B,
- Sulfate by EPA method 300

Data for the analyses were reviewed for adherence to the specified analytical protocols in accordance with CCI Sampling Analysis Plan. All analysis results have been validated or qualified according to general guidance provided in the Department of Defense (DOD) Quality Systems Manual - Version 2 Final (based on NELAP Voted Version 14 – 29 June 2002).

The findings of this quality assurance report are based upon the comprehensive review of the following results summaries reported according to the CCI Level C (CLP-like data deliverables format): chain of custody documentation, holding times, laboratory method and field blank analyses, surrogate compound recoveries, matrix spike compound recoveries and reproducibility, bromofluorobenzene (BFB) mass tuning results, initial and continuing calibration, second source recovery and internal standard area performance summaries, target compound identification, laboratory control sample results, laboratory and blind field duplicate sample results, detection limits/sensitivity, ICP interference check sample results, ICP serial dilution results, metals post digestion spikes, and electronic data deliverables.

The analyses were performed acceptably, but require several qualifying statements; it is recommended that the analytical data be used only with the qualifying statements provided below. Any aspects of the data,

which are not discussed in this report, should be considered qualitatively and quantitatively valid as reported, based on the deliverables reviewed. The validated and qualified results are presented in the data summary tables. Attachment A contains a copy of the chain of custody and the validated sample results.

Table 1-1
Summary Sample Data
NAS Pensacola

Sample Number	Reference Sample Number	Lab Sample ID	Date Sampled	Analyses Required
85-24-MW1S-112408		20811263601	11/24/2008	[2], [3], [4], [5], [7], [8]
85-24-MW2S-112408		20811263602	11/24/2008	[1], [3], [4]
85-24-MW3S-112508		20811263603	11/25/2008	[1], [3], [4], [5], [7], [8]
85-24-MW4S-112508		20811263604	11/25/2008	[1], [3], [4], [5], [7], [8]
85-24-MW12S-112508		20811263605	11/25/2008	[1], [3], [4]
85-24-MW21S-112508		20811263606	11/25/2008	[1], [3], [4], [5], [7], [8]
85-24-MW16S-112508		20811263607	11/25/2008	[1], [3], [4], [5], [6], [7], [8]
85-24-EB1-112508		20811263608	11/25/2008	[2], [3], [4], [5], [6], [7], [8]
85-24-TB1-112508		20811263609	11/25/2008	[2]
85-24-MW11S-120108		20812021201	12/01/2008	[1], [3], [4]
85-24-MW5S-120108		20812021202	12/01/2008	[1], [3], [4]
85-24-MW24S-120108		20812021203	12/01/2008	[1], [3], [4]
85-24-MW18S-120108		20812021204	12/01/2008	[1], [3], [4]
85-24-MW22S-120108		20812021205	12/01/2008	[2], [3], [4], [6]
85-24-EB2-120108		20812021208	12/01/2008	[2], [3], [4], [6]
85-24-TB2-120108		20812021209	12/01/2008	[2]
85-24-FD1-120108	85-24-MW24S-120108	20812021210	12/01/2008	[1], [3], [4]

ANALYSES PERFORMED CODES:
[1] – Benzene, Ethylbenzene, Toluene, and Total Xylenes (BTEX) by SW-846 8260B,
[2] – Priority Pollutant Volatile Organic Compounds (PPL-VOC) by SW-846 8260B,
[3] – Polyaromatic Hydrocarbons (PAH) by SW-846 8270C SIM,
[4] – Total Petroleum Hydrocarbon (TPH) by method FLA-PRO,
[5] – Methane by method RSK-175,
[6] – Lead by SW-846 method 6010B,
[7] – Total Organic Carbon by Standard Method 5310B,
[8] – Sulfate by EPA method 300

General Data Qualifiers

As required by U.S. EPA protocols, all compounds, which were qualitatively identified at concentrations below their respective, reporting limits (RL) but above the method detection limit (MDL), have been qualified with "J" qualifiers on the data summary reports to indicate that they are quantitative estimates.

GROUNDWATER CLEANUP TARGET ACTION LEVEL REGULARTORY LIMITS

All samples collected and analyzed for the month of November 2008 for the volatile organic compounds, polyaromatic hydrocarbon, total petroleum hydrocarbon by fl-pro, methane, lead, total organic carbon (TOC), and sulfate analyses were less than the action level groundwater cleanup target level regulatory limits with the exception of the analytes listed below:

Analyte (Volatile List)	Affected Sample	Sample Results (ug/l)	Groundwater Cleanup Target Levels (ug/l)
Benzene	85-24-MW1S-112408	247	1
Benzene	85-24-MW2S-112408	3.43 J	1
Benzene	85-24-MW3S-112508	63.2	1
Benzene	85-24-MW12S-112508	68.9	1
Benzene	85-24-MW24S-120108	17.6	1
Ethylbenzene	85-24-MW1S-112408	338	30
Ethylbenzene	85-24-MW2S-112408	1130	30
Ethylbenzene	85-24-MW3S-112508	2620	30
Ethylbenzene	85-24-MW12S-112508	242	30
Ethylbenzene	85-24-MW16S-112508	94.8 J	30
Ethylbenzene	85-24-MW22S-120108	227	30
Ethylbenzene	85-24-MW24S-120108	343	30
Naphthalene	85-24-MW1S-112408	222 JB	14
Naphthalene	85-24-MW22S-120108	96.5	14
Toluene	85-24-MW16S-112508	48.9 J	40
Toluene	85-24-MW22S-120108	72	40
Total Xylenes	85-24-MW1S-112408	83.5	20
Total Xylenes	85-24-MW2S-112408	2640	20
Total Xylenes	85-24-MW3S-112508	4660	20
Total Xylenes	85-24-MW12S-112508	410	20
Total Xylenes	85-24-MW16S-112508	1820 J	20
Total Xylenes	85-24-MW22S-120108	2050	20
Total Xylenes	85-24-MW24S-120108	1020	20

Analyte (PAH List)	Affected Sample	Sample Results (ug/l)	Groundwater Cleanup Target Levels (ug/l)
2-Methylnaphthalene	85-24-MW2S-112408	53.2	28
2-Methylnaphthalene	85-24-MW3S-112508	56.2	28
2-Methylnaphthalene	85-24-MW22S-120108	80.6 J	28
2-Methylnaphthalene	85-24-MW24S-120108	41.9	28
Benzo(a)anthracene	85-24-MW12S-112508	0.194	0.05
Benzo(b)fluoranthene	85-24-MW12S-112508	0.08 J	0.05
Naphthalene	85-24-MW1S-112408	93.4	14
Naphthalene	85-24-MW2S-112408	106	14
Naphthalene	85-24-MW3S-112508	264	14
Naphthalene	85-24-MW12S-112508	127	14
Naphthalene	85-24-MW16S-112508	40.4	14
Naphthalene	85-24-MW22S-120108	136 J	14
Naphthalene	85-24-MW24S-120108	148 J	14

Analyte (Petroleum Hydrocarbon)	Affected Sample	Sample Results (ug/l)	Groundwater Cleanup Target Levels (ug/l)
PRO	85-24-MW2S-112408	5990 JB	5000
PRO	85-24-MW3S-112508	15100 JB	5000
PRO	85-24-MW18S-120108	5460 JB	5000
PRO	85-24-MW24S-120108	5700 JB	5000

FRESHWATER SURFACE WATER CLEANUP TARGET ACTION LEVEL REGULARTORY LIMITS

All samples collected and analyzed for the month of November 2008 for the volatile organic compounds, polyaromatic hydrocarbon, total petroleum hydrocarbon by fl-pro, methane, lead, total organic carbon (TOC), and sulfate analyses were less than the action level freshwater surface water cleanup target level regulatory limits with the exception of the analytes listed below:

Analyte (Volatile List)	Affected Sample	Sample Results (ug/l)	Freshwater Surface Water Cleanup Target Levels (ug/l)
Benzene	85-24-MW1S-112408	247	71.28
Ethylbenzene	85-24-MW2S-112408	1130	610
Ethylbenzene	85-24-MW3S-112508	2620	610
Naphthalene	85-24-MW1S-112408	222 JB	26
Naphthalene	85-24-MW22S-120108	96.5	26
Toluene	85-24-MW16S-112508	48.9 J	40
Toluene	85-24-MW22S-120108	72	40
Total Xylenes	85-24-MW2S-112408	2640	370
Total Xylenes	85-24-MW3S-112508	4660	370
Total Xylenes	85-24-MW12S-112508	410	370
Total Xylenes	85-24-MW16S-112508	1820 J	370
Total Xylenes	85-24-MW22S-120108	2050	370
Total Xylenes	85-24-MW24S-120108	1020	370

Analyte (PAH List)	Affected Sample	Sample Results (ug/l)	Freshwater Surface Water Cleanup Target Levels (ug/l)
2-Methylnaphthalene	85-24-MW2S-112408	53.2	30
2-Methylnaphthalene	85-24-MW3S-112508	56.2	30
2-Methylnaphthalene	85-24-MW22S-120108	80.6 J	30
2-Methylnaphthalene	85-24-MW24S-120108	41.9	30
Acenaphthene	85-24-MW2S-112408	3.08	3
Anthracene	85-24-MW2S-112408	0.478	0.3
Anthracene	85-24-MW12S-112508	0.595	0.3
Fluoranthene	85-24-MW2S-112408	0.385	0.3
Fluoranthene	85-24-MW12S-112508	1.25	0.3
Naphthalene	85-24-MW1S-112408	93.4	26
Naphthalene	85-24-MW2S-112408	106	26
Naphthalene	85-24-MW3S-112508	264	26
Naphthalene	85-24-MW12S-112508	127	26
Naphthalene	85-24-MW16S-112508	40.4	26
Naphthalene	85-24-MW22S-120108	136 J	26
Naphthalene	85-24-MW24S-120108	148 J	26
Pyrene	85-24-MW12S-112508	0.643	0.3

Analyte (Petroleum Hydrocarbon)	Affected Sample	Sample Results (ug/l)	Freshwater Surface Water Cleanup Target Levels (ug/l)
PRO	85-24-MW2S-112408	5990 JB	5000
PRO	85-24-MW3S-112508	15100 JB	5000
PRO	85-24-MW18S-120108	5460 JB	5000
PRO	85-24-MW24S-120108	5700 JB	5000

NATURAL ATTENUATION DEFAULT CONCENTRATION CLEANUP TARGET ACTION LEVEL REGULARTORY LIMITS

All samples collected and analyzed for the month of November 2008 for the volatile organic compounds, polyaromatic hydrocarbon, total petroleum hydrocarbon by fl-pro, methane, lead, total organic carbon (TOC), and sulfate analyses were less than the action level natural attenuation default concentration cleanup target level regulatory limits with the exception of the analytes listed below:

Analyte (Volatile List)	Affected Sample	Sample Results (ug/l)	Natural Attenuation Default Concentration Cleanup Target Levels (ug/l)
Benzene	85-24-MW1S-112408	247	100
Ethylbenzene	85-24-MW1S-112408	338	300
Ethylbenzene	85-24-MW2S-112408	1130	300
Ethylbenzene	85-24-MW3S-112508	2620	300
Ethylbenzene	85-24-MW24S-120108	343	300
Naphthalene	85-24-MW1S-112408	222 JB	140
Toluene	85-24-MW16S-112508	48.9 J	40
Toluene	85-24-MW22S-120108	72	40
Total Xylenes	85-24-MW2S-112408	2640	200
Total Xylenes	85-24-MW3S-112508	4660	200
Total Xylenes	85-24-MW12S-112508	410	200
Total Xylenes	85-24-MW16S-112508	1820 J	200
Total Xylenes	85-24-MW22S-120108	2050	200
Total Xylenes	85-24-MW24S-120108	1020	200

Analyte (PAH List)	Affected Sample	Sample Results (ug/l)	Natural Attenuation Default Concentration Cleanup Target Levels (ug/l)
Naphthalene	85-24-MW3S-112508	264	140
Naphthalene	85-24-MW24S-120108	148 J	140

Organic Data Qualifiers

The positive results reported for benzene, toluene, ethylbenzene, and total xylenes in the samples listed below are considered quantitative estimates and may be lower than reported. The surrogate compound recoveries were reported above acceptance criteria during the analysis of these samples. The high recoveries may be due to matrix interferences present in these samples. The positive results reported for benzene, toluene, ethylbenzene, and total xylenes in these samples have been appended with a "J" qualifier on the data summary table to indicate that they are biased high quantitative estimates.

Compound	Affected Samples
Benzene	85-24-MW2S-112408 and 85-24-FD1-120108
Toluene	85-24-MW2S-112408, 85-24-MW16S-112508, and 85-24-FD1-120108
Ethylbenzene	85-24-MW16S-112508
Total Xylenes	85-24-MW16S-112508

The positive results or quantitative limits reported for 1-methylnapthalene, 2-methylnaphthalene, fluorene, and naphthalene for the sample listed below should be considered biased low quantitative estimates and may be higher than reported. The associated recoveries for the client specific matrix spike (MS) and matrix spike duplicate (MSD) samples were below the established quality control (QC) limit for these compounds. The biased low recoveries for these compounds may indicate the possible presence of matrix interferences in samples of similar matrix. This has been indicated by appending a "J" qualifier to the 1-methylnapthalene, 2-methylnaphthalene, fluorene, and naphthalene results for the sample in the data summary tables.

Compound	Affected Samples
1-Methylnaphthalene	85-24-MW22S-120108
2-Methylnaphthalene	85-24-MW22S-120108
Fluorene	85-24-MW22S-120108
Naphthalene	85-24-MW22S-120108

The positive result reported for total petroleum hydrocarbon (TPH) for the sample listed below should be considered a biased high quantitative estimate and may be lower than reported. The associated recoveries for the client specific matrix spike (MS) and matrix spike duplicate (MSD) samples were above the established quality control (QC) limit for this compound. The biased high recoveries for this compound may indicate the possible presence of matrix interferences in samples of similar matrix. This has been indicated by appending a "J" qualifier next to the total petroleum hydrocarbon result for the sample in the data summary tables.

Compound	Affected Samples
TPH	85-24-MW22S-120108

The positive results for volatile organic compound naphthalene and total petroleum hydrocarbons (TPH) reported in the samples listed below are considered quantitative estimates due to the level at which these compounds were present in the associated equipment blanks. This has been indicated in the data summary tables by placing a "JB" qualifier next to the reported values for samples associated with equipment blank contamination.

Compound	Affected Samples
Naphthalene	85-24-MW1S-112408
TPH	85-24-MW1S-112408, 85-24-MW2S-112408, 85-24-MW3S-112508, 85-24-MW4S-112508, 85-24-MW12S-112508, 85-24-MW21S-112508, 85-24-MW16S-112508, 85-24-MW11S-120108, 85-24-MW5S-120108, 85-24-MW24S-120108, 85-24-MW-18S-120108, 85-24-MW22S-120108, and 85-24-FD1-120108

The samples presented below were analyzed or re-analyzed at dilutions for the analysis indicated. These dilutions may have resulted in surrogate compounds diluted below the instrument detection limit; therefore surrogate recoveries may not be reported for all diluted analysis. These dilutions were required to prevent saturation of the instrument, to allow quantitation of the compounds within the linear range of the calibration curve, and/or to reduce the effects of the matrix on the target compounds. Positive results for compounds reported above the calibration range in the initial analysis have been reported from the diluted analyses. When possible, results and quantitation limits for all other compounds were reported from the initial analysis. Higher quantitation limits were reported for specific volatile organic compounds and polyaromatic hydrocarbons analyses, which were not detected in the diluted sample. This should be noted when assessing these samples for the qualitative absence of specific volatile organic compounds and polyaromatic hydrocarbons compounds.

Sample ID	Analysis	Dilution Factor
85-24-MW1S-112408	VOC	5X
85-24-MW2S-112408	BTEX	10X
85-24-MW3S-112508	BTEX	20X
85-24-MW12S-112508	BTEX	5X
85-24-MW16S-112508	BTEX	10X
85-24-MW1S-112408	Methane	200X
85-24-MW3S-112508	Methane	200X
85-24-MW16S-112508	Methane	200X
85-24-MW1S-112408	PAH	10X
85-24-MW2S-112408	PAH	10X
85-24-MW3S-112508	PAH	10X and 20X
85-24-MW12S-112508	PAH	10X
85-24-MW16S-112508	PAH	5X
85-24-MW3S-112508	TPH	2X
85-24-MW24S-120108	VOC	10X
85-24-MW22S-120108	VOC	10X
85-24-FD1-120108	VOC	10X
85-24-MW24S-120108	PAH	10X
85-24-MW22S-120108	PAH	50X
85-24-FD1-120108	PAH	10X

Sample 85-24-MW24S-120108 and its blind field duplicate sample 85-24-FD1-120108 were submitted to the laboratory to evaluate sampling and analytical precision for those compounds determined to be confidently detected. All compounds met CCI's blind duplicate precision criteria of 30% for water samples relative percent difference (RPD) for volatile organic compounds, polyaromatic hydrocarbon, and total petroleum hydrocarbon analyses with the exception of 1-methylnaphthalene and naphthalene. A "J" qualifier was appended to results for these compounds in the native sample and field duplicate sample to indicate that the reported values should be considered quantitative estimates due to the field duplicate RPD exceedance. The RPD was not calculated for the compounds that were not detected in both samples.

Compound	Affected Samples
1-Methylnaphthalene	85-24-MW24S-120108 and 85-24-FD1-120108
Naphthalene	85-24-MW24S-120108 and 85-24-FD1-120108

General Chemistry Data Qualifiers

The positive results for sulfate and total organic carbon (TOC) reported in the samples listed below are considered quantitative estimates due to the level at which these compounds were present in the associated equipment blanks. This has been indicated in the data summary tables by placing a "JB" qualifier next to the reported values for samples associated with equipment blank contaminations.

Compound	Affected Samples
Sulfate	85-24-MW1S-112408, 85-24-MW3S-112508, 85-24-MW4S-112508, 85-24-MW21S-112508, and 85-24-MW16S-112508
TOC	85-24-MW1S-112408, 85-24-MW3S-112508, 85-24-MW4S-112508, and 85-24-MW16S-112508

The sample presented below was analyzed at a dilution for the analysis indicated. This dilution was required to prevent saturation of the instrument, to allow quantitation of the compounds within the linear range of the calibration curve, and/or to reduce the effects of the matrix on the target compounds. The positive result for the compound reported above the calibration range in the initial analysis has been reported from the diluted analyses.

Sample ID	Analysis	Dilution Factor
85-24-MW1S-112408	TOC	2X

Summary

The organic, inorganic, and general chemistry analyses were performed acceptably, but required qualifying statements. This analytical quality assurance report has identified the aspects of the data, which required qualification. These qualifiers are noted on the attached analytical sample summary reports. A support documentation package has been prepared for this quality assurance review and is filed with the NAS Pensacola / UST 24 Monitoring Well Sampling 2008 project file.

Attachment A

VALID QUALIFIERS

QUALIFIER	
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit
J	The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there was presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R/UR	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet the quality control criteria. The presence or absence of the analyte cannot be verified.
B	The analyte was detected in the associated method and/or calibration blank.
JB	The analyte detected in the associated field, equipment, and/or trip blank.

QUALIFICATION CODE REFERENCE

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect.
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
K	Second source %D was noncompliant.	Second source %D was noncompliant.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
MB	Presumed contamination from preparation (method) blank.	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or high RPD.	MS/MSD recovery was poor or high RPD.
G	Result is over the calibration range. No other acceptable result was provided.	Result is over the calibration range. Not other acceptable result was provided.
E	Not applicable.	Lab duplicate RPD showed poor agreement.
Z	Field duplicate RPD showed poor agreement.	Field duplicate RPD showed poor agreement
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D was not within control limits.
TN	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
T	Presumed contamination from trip blank.	Not applicable.
+	False positive—reported compound was not present.	Not applicable.
-	False negative—compound was present but not reported.	Not applicable.
F	Presumed contamination from FB or ER.	Presumed contamination from FB or ER.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Confirmation analysis RPD exceeded 40%.	Post Digestion Spike recovery was not within control limits.
T/D	Not applicable.	Total metals results were less than the dissolved metals result.
SD	Not applicable.	Seed correction factor was below the acceptable limit.
M	Results should be considered estimated due to matrix effects caused by saturation of non-target analytes.	Not applicable
OT	Results should be considered estimated due to sample was analyzed from jar.	Not applicable

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW1S-112408

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263601

Level: (low/med)

Lab File ID: 2081204/y5603

% Moisture: not dec.

Date Collected: 11/24/08 Time: 1300

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1648

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
71-55-6	1,1,1-Trichloroethane	0.096	U	0.096	5.00	
79-34-5	1,1,2,2-Tetrachloroethane	0.154	U	0.154	5.00	
79-00-5	1,1,2-Trichloroethane	0.093	U	0.093	5.00	
75-34-3	1,1-Dichloroethane	0.086	U	0.086	5.00	
75-35-4	1,1-Dichloroethene	0.201	U	0.201	5.00	
95-50-1	1,2-Dichlorobenzene	0.069	U	0.069	5.00	
107-06-2	1,2-Dichloroethane	0.090	U	0.090	5.00	
78-87-5	1,2-Dichloropropane	0.096	U	0.096	5.00	
100-41-4	Ethylbenzene	313	~~E~~	0.065	5.00	R-D
541-73-1	1,3-Dichlorobenzene	0.132	U	0.132	5.00	
106-46-7	1,4-Dichlorobenzene	0.057	U	0.057	5.00	
110-75-8	2-Chloroethylvinyl ether	0.547	U	0.547	5.00	
107-02-8	Acrolein	0.743	U	0.743	25.0	
107-13-1	Acrylonitrile	0.455	U	0.455	5.00	
75-27-4	Bromodichloromethane	0.144	U	0.144	5.00	
75-25-2	Bromoform	0.172	U	0.172	5.00	
74-83-9	Bromomethane	0.271	U	0.271	5.00	
56-23-5	Carbon tetrachloride	0.156	U	0.156	5.00	
108-90-7	Chlorobenzene	0.287	U	0.287	5.00	
75-00-3	Chloroethane	0.181	U	0.181	5.00	
91-20-3	Naphthalene	225	~~E~~	0.118	5.00	R-D
67-66-3	Chloroform	0.164	U	0.164	5.00	
74-87-3	Chloromethane	0.101	U	0.101	5.00	
124-48-1	Dibromochloromethane	0.098	U	0.098	5.00	
75-71-8	Dichlorodifluoromethane	0.083	U	0.083	5.00	
10061-01-5	cis-1,3-Dichloropropene	0.116	U	0.116	5.00	
10061-02-6	trans-1,3-Dichloropropene	0.062	U	0.062	5.00	
75-09-2	Methylene chloride	0.096	U	0.096	10.0	
127-18-4	Tetrachloroethene	0.153	U	0.153	5.00	
108-88-3	Toluene	0.076	U	0.076	5.00	
79-01-6	Trichloroethene	0.118	U	0.118	5.00	

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW1S-112408

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263601

Level: (low/med)

Lab File ID: 2081204/y5603

% Moisture: not dec.

Date Collected: 11/24/08 Time: 1300

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1648

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
75-69-4	Trichlorofluoromethane	0.138	U	0.138	5.00
75-01-4	Vinyl chloride	0.155	U	0.155	5.00
1330-20-7	Xylene (total)	83.5		0.183	10.0
156-59-2	cis-1,2-Dichloroethene	0.162	U	0.162	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.077	U	0.077	5.00
156-60-5	trans-1,2-Dichloroethene	0.122	U	0.122	5.00
71-43-2	Benzene	210	E	0.065	5.00

R-P

C-1

FORM I VOA

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW1S-112408

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263601

Level: (low/med)

Lab File ID: 2081204/y5596

% Moisture: not dec.

Date Collected: 11/24/08 Time: 1300

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1401

Soil Extract Volume: (µL)

Dilution Factor: 5 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	247		0.325	25.0
100-41-4	Ethylbenzene	338		0.326	25.0
91-20-3	Naphthalene	222		0.591	25.0

JB-F

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW2S-112408

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263602

Level: (low/med)

Lab File ID: 2081130/i1436

% Moisture: not dec.

Date Collected: 11/24/08 Time: 1420

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV5

Date Analyzed: 11/30/08 Time: 2127

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 401787

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
71-43-2	Benzene	3.43	J	0.065	5.00	S
108-88-3	Toluene	2.68	J	0.076	5.00	S
100-41-4	Ethylbenzene	816	~~E~~	0.065	5.00	R-D
1330-20-7	Xylene (total)	1540	~~E~~	0.183	10.0	↓

FORM I VOA

C-L

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW2S-112408

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263602

Level: (low/med)

Lab File ID: 2081130/i1433

% Moisture: not dec.

Date Collected: 11/24/08 Time: 1420

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV5

Date Analyzed: 11/30/08 Time: 2015

Soil Extract Volume: (µL)

Dilution Factor: 10 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 401787

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
100-41-4	Ethylbenzene	1130		0.652	50.0
1330-20-7	Xylene (total)	2640		1.83	100

FORM I VOA

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW3S-112508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263603

Level: (low/med)

Lab File ID: 2081130/i1434

% Moisture: not dec.

Date Collected: 11/25/08 Time: 0850

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV5

Date Analyzed: 11/30/08 Time: 2039

Soil Extract Volume: (µL)

Dilution Factor: 20 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 401787

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	***COMPOUND***	***RESULT***	***Q***	***MDL***	***RL***
71-43-2	Benzene	63.2		1.30	20.0
100-41-4	Ethylbenzene	2620		1.30	100
108-88-3	Toluene	9.63		1.51	8.00
1330-20-7	Xylene (total)	4660		3.67	200

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW4S-112508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263604

Level: (low/med)

Lab File ID: 2081130/i1428

% Moisture: not dec.

Date Collected: 11/25/08 Time: 1020

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV5

Date Analyzed: 11/30/08 Time: 1816

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 401787

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.065	U	0.065	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
108-88-3	Toluene	0.076	U	0.076	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW12S-112508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263605

Level: (low/med)

Lab File ID: 2081130/i1431

% Moisture: not dec.

Date Collected: 11/25/08 Time: 1545

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV5

Date Analyzed: 11/30/08 Time: 1928

Soil Extract Volume: (µL)

Dilution Factor: 5 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 401787

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	68.9		0.325	25.0
100-41-4	Ethylbenzene	242		0.326	25.0
108-88-3	Toluene	2.09	J	0.378	5.00
1330-20-7	Xylene (total)	410		0.917	50.0

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW21S-112508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263606

Level: (low/med)

Lab File ID: 2081130/i1429

% Moisture: not dec.

Date Collected: 11/25/08 Time: 1435

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV5

Date Analyzed: 11/30/08 Time: 1839

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 401787

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.065	U	0.065	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
108-88-3	Toluene	0.076	U	0.076	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0

O.L

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW16S-112508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263607

Level: (low/med)

Lab File ID: 2081205/c3075D

% Moisture: not dec.

Date Collected: 11/25/08 Time: 1310

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV9

Date Analyzed: 12/05/08 Time: 1318

Soil Extract Volume: (µL)

Dilution Factor: 10 Analyst: AGC

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402209

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
71-43-2	Benzene	0.649	U	0.649	5.00	
100-41-4	Ethylbenzene	94.8	J	0.652	50.0	S
108-88-3	Toluene	48.9	J	0.755	5.00	S
1330-20-7	Xylene (total)	1820	J	1.83	100	S

FORM I VOA

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-EB1-112508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263608

Level: (low/med)

Lab File ID: 2081204/y5597

% Moisture: not dec.

Date Collected: 11/25/08 Time: 1600

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1426

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-55-6	1,1,1-Trichloroethane	0.096	U	0.096	5.00
79-34-5	1,1,2,2-Tetrachloroethane	0.154	U	0.154	5.00
79-00-5	1,1,2-Trichloroethane	0.093	U	0.093	5.00
75-34-3	1,1-Dichloroethane	0.086	U	0.086	5.00
75-35-4	1,1-Dichloroethene	0.201	U	0.201	5.00
95-50-1	1,2-Dichlorobenzene	0.069	U	0.069	5.00
107-06-2	1,2-Dichloroethane	0.090	U	0.090	5.00
78-87-5	1,2-Dichloropropane	0.096	U	0.096	5.00
541-73-1	1,3-Dichlorobenzene	0.132	U	0.132	5.00
106-46-7	1,4-Dichlorobenzene	0.057	U	0.057	5.00
110-75-8	2-Chloroethylvinyl ether	0.547	U	0.547	5.00
107-02-8	Acrolein	0.743	U	0.743	25.0
107-13-1	Acrylonitrile	0.455	U	0.455	5.00
71-43-2	Benzene	0.065	U	0.065	5.00
75-27-4	Bromodichloromethane	0.144	U	0.144	5.00
75-25-2	Bromoform	0.172	U	0.172	5.00
74-83-9	Bromomethane	0.271	U	0.271	5.00
56-23-5	Carbon tetrachloride	0.156	U	0.156	5.00
108-90-7	Chlorobenzene	0.287	U	0.287	5.00
75-00-3	Chloroethane	0.181	U	0.181	5.00
67-66-3	Chloroform	0.164	U	0.164	5.00
74-87-3	Chloromethane	0.101	U	0.101	5.00
124-48-1	Dibromochloromethane	0.098	U	0.098	5.00
75-71-8	Dichlorodifluoromethane	0.083	U	0.083	5.00
10061-01-5	cis-1,3-Dichloropropene	0.116	U	0.116	5.00
10061-02-6	trans-1,3-Dichloropropene	0.062	U	0.062	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
75-09-2	Methylene chloride	0.096	U	0.096	10.0
91-20-3	Naphthalene	4.88	J	0.118	5.00
127-18-4	Tetrachloroethene	0.153	U	0.153	5.00
108-88-3	Toluene	0.076	U	0.076	5.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-EB1-112508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263608

Level: (low/med)

Lab File ID: 2081204/y5597

% Moisture: not dec.

Date Collected: 11/25/08 Time: 1600

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1426

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
79-01-6	Trichloroethene	0.118	U	0.118	5.00
75-69-4	Trichlorofluoromethane	0.138	U	0.138	5.00
75-01-4	Vinyl chloride	0.155	U	0.155	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0
156-59-2	cis-1,2-Dichloroethene	0.162	U	0.162	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.077	U	0.077	5.00
156-60-5	trans-1,2-Dichloroethene	0.122	U	0.122	5.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-TB1-112508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 20811263609

Level: (low/med) Lab File ID: 2081204/y5598

% Moisture: not dec. Date Collected: 11/25/08 Time: 0000

GC Column: DB-VRX-20M ID: .18 (mm) Date Received: 11/26/08

Instrument ID: MSV0 Date Analyzed: 12/04/08 Time: 1450

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-55-6	1,1,1-Trichloroethane	0.096	U	0.096	5.00
79-34-5	1,1,2,2-Tetrachloroethane	0.154	U	0.154	5.00
79-00-5	1,1,2-Trichloroethane	0.093	U	0.093	5.00
75-34-3	1,1-Dichloroethane	0.086	U	0.086	5.00
75-35-4	1,1-Dichloroethene	0.201	U	0.201	5.00
95-50-1	1,2-Dichlorobenzene	0.069	U	0.069	5.00
107-06-2	1,2-Dichloroethane	0.090	U	0.090	5.00
78-87-5	1,2-Dichloropropane	0.096	U	0.096	5.00
541-73-1	1,3-Dichlorobenzene	0.132	U	0.132	5.00
106-46-7	1,4-Dichlorobenzene	0.057	U	0.057	5.00
110-75-8	2-Chloroethylvinyl ether	0.547	U	0.547	5.00
107-02-8	Acrolein	0.743	U	0.743	25.0
107-13-1	Acrylonitrile	0.455	U	0.455	5.00
71-43-2	Benzene	0.065	U	0.065	5.00
75-27-4	Bromodichloromethane	0.144	U	0.144	5.00
75-25-2	Bromoform	0.172	U	0.172	5.00
74-83-9	Bromomethane	0.271	U	0.271	5.00
56-23-5	Carbon tetrachloride	0.156	U	0.156	5.00
108-90-7	Chlorobenzene	0.287	U	0.287	5.00
75-00-3	Chloroethane	0.181	U	0.181	5.00
67-66-3	Chloroform	0.164	U	0.164	5.00
74-87-3	Chloromethane	0.101	U	0.101	5.00
124-48-1	Dibromochloromethane	0.098	U	0.098	5.00
75-71-8	Dichlorodifluoromethane	0.083	U	0.083	5.00
10061-01-5	cis-1,3-Dichloropropene	0.116	U	0.116	5.00
10061-02-6	trans-1,3-Dichloropropene	0.062	U	0.062	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
75-09-2	Methylene chloride	0.096	U	0.096	10.0
91-20-3	Naphthalene	0.118	U	0.118	5.00
127-18-4	Tetrachloroethene	0.153	U	0.153	5.00
108-88-3	Toluene	0.076	U	0.076	5.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-TB1-112508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208112636

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20811263609

Level: (low/med)

Lab File ID: 2081204/y5598

% Moisture: not dec.

Date Collected: 11/25/08 Time: 0000

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 11/26/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1450

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
79-01-6	Trichloroethene	0.118	U	0.118	5.00
75-69-4	Trichlorofluoromethane	0.138	U	0.138	5.00
75-01-4	Vinyl chloride	0.155	U	0.155	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0
156-59-2	cis-1,2-Dichloroethene	0.162	U	0.162	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.077	U	0.077	5.00
156-60-5	trans-1,2-Dichloroethene	0.122	U	0.122	5.00

FORM I VOA

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med)
% Moisture: decanted: (Y/N)
GC Column: GS-Q 30 ID: .53 (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 402057

Sample ID: 85-24-MW1S-112408
Contract:
SAS No.: SDG No.: 208112636
Lab Sample ID: 20811263601
Date Collected: 11/24/08 Time: 1300
Date Received: 11/26/08
Date Extracted:
Date Analyzed: 12/04/08 Time: 1219
Dilution Factor: 200 Analyst: JAR
Prep Method:
Analytical Method: RSK-175
Sulfur Cleanup: (Y/N) N Instrument ID: GCV8A
Lab File ID: 2081204/v8006

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
74-82-8	Methane	8080		23.3	1000

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med)

% Moisture: decanted: (Y/N)

GC Column: GS-Q 30 ID: .53 (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 402057

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW3S-112508

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263603

Date Collected: 11/25/08 Time: 0850

Date Received: 11/26/08

Date Extracted:

Date Analyzed: 12/04/08 Time: 1232

Dilution Factor: 200 Analyst: JAR

Prep Method:

Analytical Method: RSK-175

Sulfur Cleanup: (Y/N) N Instrument ID: GCV8A

Lab File ID: 2081204/v8008

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
74-82-8	Methane	5480		23.3	1000

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name:	GCAL	Sample ID:	85-24-MW4S-112508
Lab Code:	LA024 Case No.:	Contract:	
Matrix:	Water	SAS No.:	SDG No.: 208112636
Sample wt/vol:	5 Units: mL	Lab Sample ID:	20811263604
Level: (low/med)		Date Collected:	11/25/08 Time: 1020
% Moisture:	decanted: (Y/N)	Date Received:	11/26/08
GC Column:	GS-Q 30 ID: .53 (mm)	Date Extracted:	
Concentrated Extract Volume:	5000 (µL)	Date Analyzed:	12/04/08 Time: 1239
Soil Aliquot Volume:	(µL)	Dilution Factor:	1 Analyst: JAR
Injection Volume:	1 (µL)	Prep Method:	
GPC Cleanup: (Y/N)	N pH:	Analytical Method:	RSK-175
Prep Batch:	Analytical Batch: 402057	Sulfur Cleanup: (Y/N)	N Instrument ID: GCV8A
CONCENTRATION UNITS:	*ug/L*	Lab File ID:	2081204/v8009

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
74-82-8	Methane	6.04		0.116	5.00

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med)
% Moisture: decanted: (Y/N)
GC Column: GS-Q 30 ID: .53 (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 402057

Sample ID: 85-24-MW21S-112508
Contract:
SAS No.: SDG No.: 208112636
Lab Sample ID: 20811263606
Date Collected: 11/25/08 Time: 1435
Date Received: 11/26/08
Date Extracted:
Date Analyzed: 12/04/08 Time: 1246
Dilution Factor: 1 Analyst: JAR
Prep Method:
Analytical Method: RSK-175
Sulfur Cleanup: (Y/N) N Instrument ID: GCV8A
Lab File ID: 2081204/v8010

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
74-82-8	Methane	0.758	J	0.116	5.00

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med)

% Moisture: decanted: (Y/N)

GC Column: GS-Q 30 ID: .53 (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 402057

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW16S-112508

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263607

Date Collected: 11/25/08 Time: 1310

Date Received: 11/26/08

Date Extracted:

Date Analyzed: 12/04/08 Time: 1300

Dilution Factor: 200 Analyst: JAR

Prep Method:

Analytical Method: RSK-175

Sulfur Cleanup: (Y/N) N Instrument ID: GCV8A

Lab File ID: 2081204/v8012

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
74-82-8	Methane	2970		23.3	1000

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med)
% Moisture: decanted: (Y/N)
GC Column: GS-Q 30 ID: .53 (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 402057

Sample ID: 85-24-EB1-112508
Contract:
SAS No.: SDG No.: 208112636
Lab Sample ID: 20811263608
Date Collected: 11/25/08 Time: 1600
Date Received: 11/26/08
Date Extracted:
Date Analyzed: 12/04/08 Time: 1307
Dilution Factor: 1 Analyst: JAR
Prep Method:
Analytical Method: RSK-175
Sulfur Cleanup: (Y/N) N Instrument ID: GCV8A

CONCENTRATION UNITS: ug/L

Lab File ID: 2081204/v8013

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
74-82-8	Methane	0.116	U	0.116	5.00

FORM I ORG-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW1S-112408

Contract:

Lab File ID: 2081203/d1817

Lab Sample ID: 20811263601

Date Collected: 11/24/08 Time: 1300

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/03/08 Time: 1525

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
91-57-6	2-Methylnaphthalene	13.5		0.024	0.101	
83-32-9	Acenaphthene	0.205		0.059	0.101	
208-96-8	Acenaphthylene	0.038	U	0.038	0.101	
120-12-7	Anthracene	0.059	J	0.027	0.101	
56-55-3	Benzo(a)anthracene	0.035	U	0.035	0.101	
50-32-8	Benzo(a)pyrene	0.022	U	0.022	0.101	
205-99-2	Benzo(b)fluoranthene	0.026	U	0.026	0.101	
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.101	
207-08-9	Benzo(k)fluoranthene	0.027	U	0.027	0.101	
218-01-9	Chrysene	0.024	U	0.024	0.101	
53-70-3	Dibenz(a,h)anthracene	0.014	U	0.014	0.101	
206-44-0	Fluoranthene	0.131		0.036	0.101	
91-20-3	Naphthalene	65.9	~~E~~	0.037	0.101	R-D
86-73-7	Fluorene	1.35		0.028	0.101	
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.101	
85-01-8	Phenanthrene	0.227		0.029	0.101	
129-00-0	Pyrene	0.069	J	0.026	0.101	
90-12-0	1-Methylnaphthalene	11.0	~~E~~	0.024	0.101	R-D

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW1S-112408

Contract:

Lab File ID: 2081204/d1848

Lab Sample ID: 20811263601

Date Collected: 11/24/08 Time: 1300

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/04/08 Time: 1257

Dilution Factor: 10 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	13.0		0.241	1.01
91-20-3	Naphthalene	93.4		0.374	1.01

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 930 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW2S-112408

Contract:

Lab File ID: 2081203/d1818

Lab Sample ID: 20811263602

Date Collected: 11/24/08 Time: 1420

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/03/08 Time: 1625

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
83-32-9	Acenaphthene	3.08		0.063	0.108	
208-96-8	Acenaphthylene	0.040	U	0.040	0.108	
120-12-7	Anthracene	0.478		0.029	0.108	
56-55-3	Benzo(a)anthracene	0.045	J	0.037	0.108	
50-32-8	Benzo(a)pyrene	0.024	U	0.024	0.108	
205-99-2	Benzo(b)fluoranthene	0.028	U	0.028	0.108	
191-24-2	Benzo(g,h,i)perylene	0.045	J	0.015	0.108	
207-08-9	Benzo(k)fluoranthene	0.029	U	0.029	0.108	
218-01-9	Chrysene	0.044	J	0.026	0.108	
53-70-3	Dibenz(a,h)anthracene	0.015	U	0.015	0.108	
206-44-0	Fluoranthene	0.385		0.039	0.108	
91-20-3	Naphthalene	86.9	E	0.040	0.108	R-D
86-73-7	Fluorene	1.29		0.030	0.108	
193-39-5	Indeno(1,2,3-cd)pyrene	0.044	J	0.014	0.108	
85-01-8	Phenanthrene	2.20		0.031	0.108	
129-00-0	Pyrene	0.216		0.028	0.108	
91-57-6	2-Methylnaphthalene	36.4	E	0.025	0.108	R-D
90-12-0	1-Methylnaphthalene	21.4	E	0.026	0.108	b

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 930 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW2S-112408

Contract:

Lab File ID: 2081204/d1849

Lab Sample ID: 20811263602

Date Collected: 11/24/08 Time: 1420

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/04/08 Time: 1313

Dilution Factor: 10 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	24.2		0.257	1.08
91-57-6	2-Methylnaphthalene	53.2		0.251	1.08
91-20-3	Naphthalene	106		0.398	1.08

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW3S-112508

Contract:

Lab File ID: 2081203/d1819

Lab Sample ID: 20811263603

Date Collected: 11/25/08 Time: 0850

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/03/08 Time: 1640

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
83-32-9	Acenaphthene	0.059	~~U~~	0.059	0.101	R-D
208-96-8	Acenaphthylene	0.038	~~U~~	0.038	0.101	R-D
120-12-7	Anthracene	0.067	J	0.027	0.101	
56-55-3	Benzo(a)anthracene	0.035	U	0.035	0.101	
50-32-8	Benzo(a)pyrene	0.022	U	0.022	0.101	
205-99-2	Benzo(b)fluoranthene	0.026	U	0.026	0.101	
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.101	
207-08-9	Benzo(k)fluoranthene	0.027	U	0.027	0.101	
218-01-9	Chrysene	0.024	U	0.024	0.101	
53-70-3	Dibenz(a,h)anthracene	0.014	U	0.014	0.101	
86-73-7	Fluorene	0.028	~~U~~	0.028	0.101	R-D
206-44-0	Fluoranthene	0.055	J	0.036	0.101	
91-20-3	Naphthalene	88.5	~~E~~	0.037	0.101	R-D
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.101	
85-01-8	Phenanthrene	0.139		0.029	0.101	
91-57-6	2-Methylnaphthalene	31.2	~~E~~	0.024	0.101	R-D
129-00-0	Pyrene	0.026	U	0.026	0.101	
90-12-0	1-Methylnaphthalene	18.6	~~E~~	0.024	0.101	R-D

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW3S-112508

Contract:

Lab File ID: 2081204/d1850

Lab Sample ID: 20811263603

Date Collected: 11/25/08 Time: 0850

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/04/08 Time: 1328

Dilution Factor: 10 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	26.2		0.241	1.01
91-57-6	2-Methylnaphthalene	56.2		0.235	1.01
83-32-9	Acenaphthene	0.595	U	0.595	1.01
208-96-8	Acenaphthylene	0.376	U	0.376	1.01
86-73-7	Fluorene	0.283	U	0.283	1.01
91-20-3	Naphthalene	245	E	0.374	1.01

R-D

C.L

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW3S-112508

Contract:

Lab File ID: 2081204/d1853

Lab Sample ID: 20811263603

Date Collected: 11/25/08 Time: 0850

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/04/08 Time: 1416

Dilution Factor: 20 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-20-3	Naphthalene	264		0.747	2.02

ok

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW4S-112508

Contract:

Lab File ID: 2081203/d1820

Lab Sample ID: 20811263604

Date Collected: 11/25/08 Time: 1020

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/03/08 Time: 1656

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	0.035	J	0.024	0.101
91-57-6	2-Methylnaphthalene	0.064	J	0.024	0.101
83-32-9	Acenaphthene	0.059	U	0.059	0.101
208-96-8	Acenaphthylene	0.038	U	0.038	0.101
120-12-7	Anthracene	0.027	U	0.027	0.101
56-55-3	Benzo(a)anthracene	0.035	U	0.035	0.101
50-32-8	Benzo(a)pyrene	0.022	U	0.022	0.101
205-99-2	Benzo(b)fluoranthene	0.026	U	0.026	0.101
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.101
207-08-9	Benzo(k)fluoranthene	0.027	U	0.027	0.101
218-01-9	Chrysene	0.024	U	0.024	0.101
53-70-3	Dibenz(a,h)anthracene	0.014	U	0.014	0.101
206-44-0	Fluoranthene	0.036	U	0.036	0.101
86-73-7	Fluorene	0.028	U	0.028	0.101
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.101
91-20-3	Naphthalene	0.037	U	0.037	0.101
85-01-8	Phenanthrene	0.029	U	0.029	0.101
129-00-0	Pyrene	0.026	U	0.026	0.101

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW12S-112508

Contract:

Lab File ID: 2081203/d1821

Lab Sample ID: 20811263605

Date Collected: 11/25/08 Time: 1545

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/03/08 Time: 1711

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
91-57-6	2-Methylnaphthalene	19.0		0.024	0.101	
83-32-9	Acenaphthene	1.34		0.059	0.101	
208-96-8	Acenaphthylene	0.149		0.038	0.101	
120-12-7	Anthracene	0.595		0.027	0.101	
56-55-3	Benzo(a)anthracene	0.194		0.035	0.101	
50-32-8	Benzo(a)pyrene	0.174		0.022	0.101	
205-99-2	Benzo(b)fluoranthene	0.080	J	0.026	0.101	
191-24-2	Benzo(g,h,i)perylene	0.070	J	0.014	0.101	
207-08-9	Benzo(k)fluoranthene	0.162		0.027	0.101	
218-01-9	Chrysene	0.184		0.024	0.101	
53-70-3	Dibenz(a,h)anthracene	0.014	U	0.014	0.101	
206-44-0	Fluoranthene	1.25		0.036	0.101	
86-73-7	Fluorene	2.10		0.028	0.101	
91-20-3	Naphthalene	81.0	~~E~~	0.037	0.101	R-D
193-39-5	Indeno(1,2,3-cd)pyrene	0.105		0.013	0.101	
85-01-8	Phenanthrene	2.13		0.029	0.101	
129-00-0	Pyrene	0.643		0.026	0.101	
90-12-0	1-Methylnaphthalene	14.1	~~E~~	0.024	0.101	R-D

C+

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW12S-112508

Contract:

Lab File ID: 2081204/d1851

Lab Sample ID: 20811263605

Date Collected: 11/25/08 Time: 1545

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/04/08 Time: 1344

Dilution Factor: 10 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	17.7		0.241	1.01
91-20-3	Naphthalene	127		0.374	1.01

c-1

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 950 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW21S-112508

Contract:

Lab File ID: 2081203/d1822

Lab Sample ID: 20811263606

Date Collected: 11/25/08 Time: 1435

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/03/08 Time: 1727

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	0.025	U	0.025	0.105
91-57-6	2-Methylnaphthalene	0.025	U	0.025	0.105
83-32-9	Acenaphthene	0.062	U	0.062	0.105
208-96-8	Acenaphthylene	0.039	U	0.039	0.105
120-12-7	Anthracene	0.028	U	0.028	0.105
56-55-3	Benzo(a)anthracene	0.036	U	0.036	0.105
50-32-8	Benzo(a)pyrene	0.023	U	0.023	0.105
205-99-2	Benzo(b)fluoranthene	0.027	U	0.027	0.105
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.105
207-08-9	Benzo(k)fluoranthene	0.029	U	0.029	0.105
218-01-9	Chrysene	0.025	U	0.025	0.105
53-70-3	Dibenz(a,h)anthracene	0.015	U	0.015	0.105
206-44-0	Fluoranthene	0.038	U	0.038	0.105
86-73-7	Fluorene	0.029	U	0.029	0.105
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.105
91-20-3	Naphthalene	0.039	U	0.039	0.105
85-01-8	Phenanthrene	0.030	U	0.030	0.105
129-00-0	Pyrene	0.027	U	0.027	0.105

c-k

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 880 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW16S-112508

Contract:

Lab File ID: 2081203/d1823

Lab Sample ID: 20811263607

Date Collected: 11/25/08 Time: 1310

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/03/08 Time: 1742

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
90-12-0	1-Methylnaphthalene	8.01		0.027	0.114	
91-57-6	2-Methylnaphthalene	11.8		0.026	0.114	
83-32-9	Acenaphthene	0.067	U	0.067	0.114	
208-96-8	Acenaphthylene	0.042	U	0.042	0.114	
120-12-7	Anthracene	0.030	U	0.030	0.114	
56-55-3	Benzo(a)anthracene	0.039	U	0.039	0.114	
50-32-8	Benzo(a)pyrene	0.025	U	0.025	0.114	
205-99-2	Benzo(b)fluoranthene	0.029	U	0.029	0.114	
191-24-2	Benzo(g,h,i)perylene	0.015	U	0.015	0.114	
207-08-9	Benzo(k)fluoranthene	0.031	U	0.031	0.114	
218-01-9	Chrysene	0.027	U	0.027	0.114	
91-20-3	Naphthalene	37.2	~~E~~	0.042	0.114	R-D
53-70-3	Dibenz(a,h)anthracene	0.016	U	0.016	0.114	
206-44-0	Fluoranthene	0.099	J	0.041	0.114	
86-73-7	Fluorene	0.032	U	0.032	0.114	
193-39-5	Indeno(1,2,3-cd)pyrene	0.014	U	0.014	0.114	
85-01-8	Phenanthrene	0.033	U	0.033	0.114	
129-00-0	Pyrene	0.029	U	0.029	0.114	

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 880 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW16S-112508

Contract:

Lab File ID: 2081204/d1854

Lab Sample ID: 20811263607

Date Collected: 11/25/08 Time: 1310

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/04/08 Time: 1431

Dilution Factor: 5 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-20-3	Naphthalene	40.4		0.210	0.568

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208112636

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-EB1-112508

Contract:

Lab File ID: 2081203/d1824

Lab Sample ID: 20811263608

Date Collected: 11/25/08 Time: 1600

Date Received: 11/26/08

Date Extracted: 11/28/08

Date Analyzed: 12/03/08 Time: 1758

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401690 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	0.024	U	0.024	0.101
91-57-6	2-Methylnaphthalene	0.024	U	0.024	0.101
83-32-9	Acenaphthene	0.059	U	0.059	0.101
208-96-8	Acenaphthylene	0.038	U	0.038	0.101
120-12-7	Anthracene	0.027	U	0.027	0.101
56-55-3	Benzo(a)anthracene	0.035	U	0.035	0.101
50-32-8	Benzo(a)pyrene	0.022	U	0.022	0.101
205-99-2	Benzo(b)fluoranthene	0.026	U	0.026	0.101
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.101
207-08-9	Benzo(k)fluoranthene	0.027	U	0.027	0.101
218-01-9	Chrysene	0.024	U	0.024	0.101
53-70-3	Dibenz(a,h)anthracene	0.014	U	0.014	0.101
206-44-0	Fluoranthene	0.036	U	0.036	0.101
86-73-7	Fluorene	0.028	U	0.028	0.101
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.101
91-20-3	Naphthalene	0.037	U	0.037	0.101
85-01-8	Phenanthrene	0.029	U	0.029	0.101
129-00-0	Pyrene	0.026	U	0.026	0.101

FORM I SV-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401691 Analytical Batch: 401993

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW1S-112408

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263601

Date Collected: 11/24/08 Time: 1300

Date Received: 11/26/08

Date Extracted: 12/01/08

Date Analyzed: 12/02/08 Time: 2107

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081202/sv19a019s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
FLPRO-01	Petroleum Hydrocarbons	2950	JB	41.1	101

F

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401691 Analytical Batch: 401993

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW2S-112408

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263602

Date Collected: 11/24/08 Time: 1420

Date Received: 11/26/08

Date Extracted: 12/01/08

Date Analyzed: 12/02/08 Time: 2138

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081202/sv19a020s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
FLPRO-01	Petroleum Hydrocarbons	5990	JB	41.1	101	F

C-1

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 970 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401691 Analytical Batch: 401993

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW3S-112508

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263603

Date Collected: 11/25/08 Time: 0850

Date Received: 11/26/08

Date Extracted: 12/01/08

Date Analyzed: 12/02/08 Time: 2208

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081202/sv19a021s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
FLPRO-01	Petroleum Hydrocarbons	16800		42.0	103

R-D

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 970 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401691 Analytical Batch: 401993

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW3S-112508

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263603

Date Collected: 11/25/08 Time: 0850

Date Received: 11/26/08

Date Extracted: 12/01/08

Date Analyzed: 12/03/08 Time: 1145

Dilution Factor: 2 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081202/sv19a034s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
FLPRO-01	Petroleum Hydrocarbons	15100	JB	83.9	206	F

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401691 Analytical Batch: 401993

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW4S-112508

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263604

Date Collected: 11/25/08 Time: 1020

Date Received: 11/26/08

Date Extracted: 12/01/08

Date Analyzed: 12/02/08 Time: 2239

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081202/sv19a022s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
FLPRO-01	Petroleum Hydrocarbons	110	JB	41.5	102	F

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401691 Analytical Batch: 401993

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW12S-112508

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263605

Date Collected: 11/25/08 Time: 1545

Date Received: 11/26/08

Date Extracted: 12/01/08

Date Analyzed: 12/02/08 Time: 2309

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081202/sv19a023s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
FLPRO-01	Petroleum Hydrocarbons	2770	JB	41.1	101	F

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name:	GCAL	Sample ID:	85-24-MW21S-112508
Lab Code:	LA024 Case No.:	Contract:	
Matrix:	Water	SAS No.:	SDG No.: 208112636
Sample wt/vol:	980 Units: mL	Lab Sample ID:	20811263606
Level: (low/med)	LOW	Date Collected:	11/25/08 Time: 1435
% Moisture:	decanted: (Y/N)	Date Received:	11/26/08
GC Column:	ID: (mm)	Date Extracted:	12/01/08
Concentrated Extract Volume:	2000 (µL)	Date Analyzed:	12/02/08 Time: 2340
Soil Aliquot Volume:	(µL)	Dilution Factor:	1 Analyst: TLS
Injection Volume:	1 (µL)	Prep Method:	FLORIDA PRO
GPC Cleanup: (Y/N)	N pH:	Analytical Method:	FLORIDA PRO
Prep Batch:	401691 Analytical Batch: 401993	Sulfur Cleanup: (Y/N)	N Instrument ID: GCS19A
CONCENTRATION UNITS:	*ug/L*	Lab File ID:	2081202/sv19a024s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
FLPRO-01	Petroleum Hydrocarbons	196	JB	41.5	102	F

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401691 Analytical Batch: 401993

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW16S-112508

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263607

Date Collected: 11/25/08 Time: 1310

Date Received: 11/26/08

Date Extracted: 12/01/08

Date Analyzed: 12/03/08 Time: 0010

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081202/sv19a025s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
FLPRO-01	Petroleum Hydrocarbons	3870	JB	41.5	102	F

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 900 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401691 Analytical Batch: 401993

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-EB1-112508

Contract:

SAS No.: SDG No.: 208112636

Lab Sample ID: 20811263608

Date Collected: 11/25/08 Time: 1600

Date Received: 11/26/08

Date Extracted: 12/01/08

Date Analyzed: 12/03/08 Time: 1216

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081202/sv19a035s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
FLPRO-01	Petroleum Hydrocarbons	128		45.2	111

FORM I ORG-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: GCAL

Sample ID: 85-24-MW16S-112508

Lab Code: LA024 Case No.:

Contract:

Matrix: (soil / water) Water

SAS No.: SDG No.: 208112636

Level: (low / med) % Solids:

Lab Sample ID: 20811263607

Date Received: 11/26/08 Time: 0930

Date Collected: 11/25/08 Time: 1310

Analyte	Concentration	Units	C	MDL	PQL	Method	Type
Lead	0.0027	mg/L	U	0.0027	0.015	SW-846 6010B	P

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: GCAL

Sample ID: 85-24-EB1-112508

Lab Code: LA024 Case No.:

Contract:

Matrix: (soil / water) Water

SAS No.: SDG No.: 208112636

Level: (low / med) % Solids:

Lab Sample ID: 20811263608

Date Received: 11/26/08 Time: 0930

Date Collected: 11/25/08 Time: 1600

Analyte	Concentration	Units	C	MDL	PQL	Method	Type
Lead	0.0027	mg/L	U	0.0027	0.015	SW-846 6010B	P

FORM I - IN

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263601	85-24-MW1S-112408	Water	11/24/2008 13:00	11/26/2008 09:30

SM 5310B TOC

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			2	12/02/2008 15:19	AEL	401890

CAS#	Parameter	Result		RDL	MDL	Units
C-012	Total Organic Carbon	20.8	JB-F	2.0	0.30	mg/L

CL

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263601	85-24-MW1S-112408	Water	11/24/2008 13:00	11/26/2008 09:30

EPA 300.0 Sulfate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/08/2008 11:31	BMC	402066

CAS#	Parameter	Result	RDL	MDL	Units
14808-79-8	Sulfate	1.99 JB-F	0.200	0.080	mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263603	85-24-MW3S-112508	Water	11/25/2008 08:50	11/26/2008 09:30

SM 5310B TOC

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/02/2008 17:48	AEL	401890

CAS#	Parameter	Result		RDL	MDL	Units
C-012	Total Organic Carbon	26.7	JB-F	1.0	0.15	mg/L

c.t

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263603	85-24-MW3S-112508	Water	11/25/2008 08:50	11/26/2008 09:30

EPA 300.0 Sulfate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/08/2008 12:37	BMC	402066

CAS#	Parameter	Result	RDL	MDL	Units
14808-79-8	Sulfate	0.130~~β~~ JB-F	0.200	0.080	mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263604	85-24-MW4S-112508	Water	11/25/2008 10:20	11/26/2008 09:30

SM 5310B TOC

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/02/2008 18:15	AEL	401890

CAS#	Parameter	Result		RDL	MDL	Units
C-012	Total Organic Carbon	5.8	JB-F	1.0	0.15	mg/L

CL

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263604	85-24-MW4S-112508	Water	11/25/2008 10:20	11/26/2008 09:30

EPA 300.0 Sulfate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/08/2008 12:54	BMC	402066

CAS#	Parameter	Result		RDL	MDL	Units
14808-79-8	Sulfate	5.21	JB-F	0.200	0.080	mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263606	85-24-MW21S-112508	Water	11/25/2008 14:35	11/26/2008 09:30

SM 5310B TOC

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/04/2008 10:38	AEL	402034

CAS#	Parameter	Result	RDL	MDL	Units
C-012	Total Organic Carbon	0.15U	1.0	0.15	mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263606	85-24-MW21S-112508	Water	11/25/2008 14:35	11/26/2008 09:30

EPA 300.0 Sulfate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/08/2008 13:11	BMC	402066

CAS#	Parameter	Result		RDL	MDL	Units
14808-79-8	Sulfate	5.12	JB-F	0.200	0.080	mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263607	85-24-MW16S-112508	Water	11/25/2008 13:10	11/26/2008 09:30

SM 5310B TOC

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/04/2008 10:58	AEL	402034

CAS#	Parameter	Result		RDL	MDL	Units
C-012	Total Organic Carbon	18.3	JB-f	1.0	0.15	mg/L

C-1

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263607	85-24-MW16S-112508	Water	11/25/2008 13:10	11/26/2008 09:30

EPA 300.0 Sulfate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/08/2008 13:27	BMC	402066

CAS#	Parameter	Result	RDL	MDL	Units
14808-79-8	Sulfate	6.13 JB F	0.200	0.080	mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263608	85-24-EB1-112508	Water	11/25/2008 16:00	11/26/2008 09:30

SM 5310B TOC

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/04/2008 11:19	AEL	402034

CAS#	Parameter	Result	RDL	MDL	Units
C-012	Total Organic Carbon	0.36~~B~~ J	1.0	0.15	mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20811263608	85-24-EB1-112508	Water	11/25/2008 16:00	11/26/2008 09:30

EPA 300.0 Sulfate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/08/2008 14:17	BMC	402066

CAS#	Parameter	Result	RDL	MDL	Units
14808-79-8	Sulfate	0.390	0.200	0.080	mg/L

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW11S-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Level: (low/med)

% Moisture: not dec.

GC Column: DB-VRX-20M ID: .18 (mm)

Instrument ID: MSV9

Soil Extract Volume: (µL)

Soil Aliquot Volume: (µL)

Lab Sample ID: 20812021201

Lab File ID: 2081202p/c3002

Date Collected: 12/01/08 Time: 1504

Date Received: 12/02/08

Date Analyzed: 12/03/08 Time: 0318

Dilution Factor: 1 Analyst: JCK

Prep Batch: Analytical Batch: 401865

Analytical Method: SW-846 8260

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.065	U	0.065	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
108-88-3	Toluene	0.076	U	0.076	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0

C.L

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW5S-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20812021202

Level: (low/med)

Lab File ID: 2081202p/c3003

% Moisture: not dec.

Date Collected: 12/01/08 Time: 1540

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 12/02/08

Instrument ID: MSV9

Date Analyzed: 12/03/08 Time: 0340

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 401865

Analytical Method: SW-846 8260

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.065	U	0.065	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
108-88-3	Toluene	0.076	U	0.076	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW24S-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20812021203

Level: (low/med)

Lab File ID: 2081202p/c3004

% Moisture: not dec.

Date Collected: 12/01/08 Time: 1300

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 12/02/08

Instrument ID: MSV9

Date Analyzed: 12/03/08 Time: 0402

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch:

Analytical Batch: 401865

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
71-43-2	Benzene	17.6		0.065	5.00	
108-88-3	Toluene	4.91	J	0.076	5.00	
100-41-4	Ethylbenzene	568	~~E~~	0.065	5.00	R-D
1330-20-7	Xylene (total)	1090	~~E~~	0.183	10.0	R-D

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW24S-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20812021203

Level: (low/med)

Lab File ID: 2081203/c3021

% Moisture: not dec.

Date Collected: 12/01/08 Time: 1300

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 12/02/08

Instrument ID: MSV9

Date Analyzed: 12/03/08 Time: 1807

Soil Extract Volume: (µL)

Dilution Factor: 10 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 401995

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	***COMPOUND***	***RESULT***	***Q***	***MDL***	***RL***
100-41-4	Ethylbenzene	343		0.652	50.0
1330-20-7	Xylene (total)	1020		1.83	100

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW18S-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20812021204

Level: (low/med)

Lab File ID: 2081203/c3020

% Moisture: not dec.

Date Collected: 12/01/08 Time: 1425

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 12/02/08

Instrument ID: MSV9

Date Analyzed: 12/03/08 Time: 1745

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 401995

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	***COMPOUND***	***RESULT***	***Q***	***MDL***	***RL***
71-43-2	Benzene	0.065	U	0.065	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
108-88-3	Toluene	0.076	U	0.076	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW22S-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20812021205

Level: (low/med)

Lab File ID: 2081204/y5608

% Moisture: not dec.

Date Collected: 12/01/08 Time: 1220

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 12/02/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1844

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

Analytical Method: SW-846 8260

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-55-6	1,1,1-Trichloroethane	0.096	U	0.096	5.00
79-34-5	1,1,2,2-Tetrachloroethane	0.154	U	0.154	5.00
79-00-5	1,1,2-Trichloroethane	0.093	U	0.093	5.00
75-34-3	1,1-Dichloroethane	0.086	U	0.086	5.00
75-35-4	1,1-Dichloroethene	0.201	U	0.201	5.00
95-50-1	1,2-Dichlorobenzene	0.069	U	0.069	5.00
107-06-2	1,2-Dichloroethane	0.090	U	0.090	5.00
78-87-5	1,2-Dichloropropane	0.096	U	0.096	5.00
100-41-4	Ethylbenzene	235	~~E~~	0.065	5.00
541-73-1	1,3-Dichlorobenzene	0.132	U	0.132	5.00
106-46-7	1,4-Dichlorobenzene	0.057	U	0.057	5.00
110-75-8	2-Chloroethylvinyl ether	0.547	U	0.547	5.00
107-02-8	Acrolein	0.743	U	0.743	25.0
107-13-1	Acrylonitrile	0.455	U	0.455	5.00
71-43-2	Benzene	0.065	U	0.065	5.00
75-27-4	Bromodichloromethane	0.144	U	0.144	5.00
75-25-2	Bromoform	0.172	U	0.172	5.00
74-83-9	Bromomethane	0.271	U	0.271	5.00
56-23-5	Carbon tetrachloride	0.156	U	0.156	5.00
108-90-7	Chlorobenzene	0.287	U	0.287	5.00
75-00-3	Chloroethane	0.181	U	0.181	5.00
67-66-3	Chloroform	0.164	U	0.164	5.00
74-87-3	Chloromethane	0.101	U	0.101	5.00
124-48-1	Dibromochloromethane	0.098	U	0.098	5.00
75-71-8	Dichlorodifluoromethane	0.083	U	0.083	5.00
10061-01-5	cis-1,3-Dichloropropene	0.116	U	0.116	5.00
10061-02-6	trans-1,3-Dichloropropene	0.062	U	0.062	5.00
75-09-2	Methylene chloride	0.096	U	0.096	10.0
91-20-3	Naphthalene	96.5		0.118	5.00
127-18-4	Tetrachloroethene	0.153	U	0.153	5.00
108-88-3	Toluene	72.0		0.076	5.00

R-D

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW22S-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20812021205

Level: (low/med)

Lab File ID: 2081204/y5608

% Moisture: not dec.

Date Collected: 12/01/08 Time: 1220

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 12/02/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1844

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
79-01-6	Trichloroethene	0.118	U	0.118	5.00
75-69-4	Trichlorofluoromethane	0.138	U	0.138	5.00
75-01-4	Vinyl chloride	0.155	U	0.155	5.00
156-59-2	cis-1,2-Dichloroethene	0.162	U	0.162	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.077	U	0.077	5.00
156-60-5	trans-1,2-Dichloroethene	0.122	U	0.122	5.00
1330-20-7	Xylene (total)	1920	~~E~~	0.183	10.0

R-D

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-MW22S-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 20812021205

Level: (low/med) Lab File ID: 2081204/y5599

% Moisture: not dec. Date Collected: 12/01/08 Time: 1220

GC Column: DB-VRX-20M ID: .18 (mm) Date Received: 12/02/08

Instrument ID: MSV0 Date Analyzed: 12/04/08 Time: 1514

Soil Extract Volume: (µL) Dilution Factor: 10 Analyst: CLH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
100-41-4	Ethylbenzene	227		0.652	50.0
1330-20-7	Xylene (total)	2050		1.83	100

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-EB2-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 20812021208

Level: (low/med) Lab File ID: 2081204/y5606

% Moisture: not dec. Date Collected: 12/01/08 Time: 1610

GC Column: DB-VRX-20M ID: .18 (mm) Date Received: 12/02/08

Instrument ID: MSV0 Date Analyzed: 12/04/08 Time: 1757

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 402026

Analytical Method: SW-846 8260

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-55-6	1,1,1-Trichloroethane	0.096	U	0.096	5.00
79-34-5	1,1,2,2-Tetrachloroethane	0.154	U	0.154	5.00
79-00-5	1,1,2-Trichloroethane	0.093	U	0.093	5.00
75-34-3	1,1-Dichloroethane	0.086	U	0.086	5.00
75-35-4	1,1-Dichloroethene	0.201	U	0.201	5.00
95-50-1	1,2-Dichlorobenzene	0.069	U	0.069	5.00
107-06-2	1,2-Dichloroethane	0.090	U	0.090	5.00
78-87-5	1,2-Dichloropropane	0.096	U	0.096	5.00
541-73-1	1,3-Dichlorobenzene	0.132	U	0.132	5.00
106-46-7	1,4-Dichlorobenzene	0.057	U	0.057	5.00
110-75-8	2-Chloroethylvinyl ether	0.547	U	0.547	5.00
107-02-8	Acrolein	0.743	U	0.743	25.0
107-13-1	Acrylonitrile	0.455	U	0.455	5.00
71-43-2	Benzene	0.065	U	0.065	5.00
75-27-4	Bromodichloromethane	0.144	U	0.144	5.00
75-25-2	Bromoform	0.172	U	0.172	5.00
74-83-9	Bromomethane	0.271	U	0.271	5.00
56-23-5	Carbon tetrachloride	0.156	U	0.156	5.00
108-90-7	Chlorobenzene	0.287	U	0.287	5.00
75-00-3	Chloroethane	0.181	U	0.181	5.00
67-66-3	Chloroform	0.164	U	0.164	5.00
74-87-3	Chloromethane	0.101	U	0.101	5.00
124-48-1	Dibromochloromethane	0.098	U	0.098	5.00
75-71-8	Dichlorodifluoromethane	0.083	U	0.083	5.00
10061-01-5	cis-1,3-Dichloropropene	0.116	U	0.116	5.00
10061-02-6	trans-1,3-Dichloropropene	0.062	U	0.062	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
75-09-2	Methylene chloride	0.096	U	0.096	10.0
91-20-3	Naphthalene	0.118	U	0.118	5.00
127-18-4	Tetrachloroethene	0.153	U	0.153	5.00
108-88-3	Toluene	0.076	U	0.076	5.00

FORM I VOA

c-k

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-EB2-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20812021208

Level: (low/med)

Lab File ID: 2081204/y5606

% Moisture: not dec.

Date Collected: 12/01/08 Time: 1610

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 12/02/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1757

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch:

Analytical Batch: 402026

Analytical Method: SW-846 8260

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
79-01-6	Trichloroethene	0.118	U	0.118	5.00
75-69-4	Trichlorofluoromethane	0.138	U	0.138	5.00
75-01-4	Vinyl chloride	0.155	U	0.155	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0
156-59-2	cis-1,2-Dichloroethene	0.162	U	0.162	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.077	U	0.077	5.00
156-60-5	trans-1,2-Dichloroethene	0.122	U	0.122	5.00

C.K

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-TB2-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20812021209

Level: (low/med)

Lab File ID: 2081204/y5607

% Moisture: not dec.

Date Collected: 12/01/08 Time: 0000

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 12/02/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1821

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-55-6	1,1,1-Trichloroethane	0.096	U	0.096	5.00
79-34-5	1,1,2,2-Tetrachloroethane	0.154	U	0.154	5.00
79-00-5	1,1,2-Trichloroethane	0.093	U	0.093	5.00
75-34-3	1,1-Dichloroethane	0.086	U	0.086	5.00
75-35-4	1,1-Dichloroethene	0.201	U	0.201	5.00
95-50-1	1,2-Dichlorobenzene	0.069	U	0.069	5.00
107-06-2	1,2-Dichloroethane	0.090	U	0.090	5.00
78-87-5	1,2-Dichloropropane	0.096	U	0.096	5.00
541-73-1	1,3-Dichlorobenzene	0.132	U	0.132	5.00
106-46-7	1,4-Dichlorobenzene	0.057	U	0.057	5.00
110-75-8	2-Chloroethylvinyl ether	0.547	U	0.547	5.00
107-02-8	Acrolein	0.743	U	0.743	25.0
107-13-1	Acrylonitrile	0.455	U	0.455	5.00
71-43-2	Benzene	0.065	U	0.065	5.00
75-27-4	Bromodichloromethane	0.144	U	0.144	5.00
75-25-2	Bromoform	0.172	U	0.172	5.00
74-83-9	Bromomethane	0.271	U	0.271	5.00
56-23-5	Carbon tetrachloride	0.156	U	0.156	5.00
108-90-7	Chlorobenzene	0.287	U	0.287	5.00
75-00-3	Chloroethane	0.181	U	0.181	5.00
67-66-3	Chloroform	0.164	U	0.164	5.00
74-87-3	Chloromethane	0.101	U	0.101	5.00
124-48-1	Dibromochloromethane	0.098	U	0.098	5.00
75-71-8	Dichlorodifluoromethane	0.083	U	0.083	5.00
10061-01-5	cis-1,3-Dichloropropene	0.116	U	0.116	5.00
10061-02-6	trans-1,3-Dichloropropene	0.062	U	0.062	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
75-09-2	Methylene chloride	0.096	U	0.096	10.0
91-20-3	Naphthalene	0.118	U	0.118	5.00
127-18-4	Tetrachloroethene	0.153	U	0.153	5.00
108-88-3	Toluene	0.076	U	0.076	5.00

FORM I VOA

CK

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-TB2-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20812021209

Level: (low/med)

Lab File ID: 2081204/y5607

% Moisture: not dec.

Date Collected: 12/01/08 Time: 0000

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 12/02/08

Instrument ID: MSV0

Date Analyzed: 12/04/08 Time: 1821

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 402026

Analytical Method: SW-846 8260

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
79-01-6	Trichloroethene	0.118	U	0.118	5.00
75-69-4	Trichlorofluoromethane	0.138	U	0.138	5.00
75-01-4	Vinyl chloride	0.155	U	0.155	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0
156-59-2	cis-1,2-Dichloroethene	0.162	U	0.162	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.077	U	0.077	5.00
156-60-5	trans-1,2-Dichloroethene	0.122	U	0.122	5.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-FD1-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 20812021210

Level: (low/med) Lab File ID: 2081202p/c3008

% Moisture: not dec. Date Collected: 12/01/08 Time: 0000

GC Column: DB-VRX-20M ID: .18 (mm) Date Received: 12/02/08

Instrument ID: MSV9 Date Analyzed: 12/03/08 Time: 0529

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 401865

Analytical Method: SW-846 8260

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
71-43-2	Benzene	17.4	J	0.065	5.00	S
108-88-3	Toluene	4.90	J	0.076	5.00	S
100-41-4	Ethylbenzene	589	E	0.065	5.00	R-D
1330-20-7	Xylene (total)	1110	E	0.183	10.0	R-D

cont

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-FD1-120108

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 208120212

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Level: (low/med)

% Moisture: not dec.

GC Column: DB-VRX-20M ID: .18 (mm)

Instrument ID: MSV9

Soil Extract Volume: (µL)

Soil Aliquot Volume: (µL)

Lab Sample ID: 20812021210

Lab File ID: 2081203/c3022

Date Collected: 12/01/08 Time: 0000

Date Received: 12/02/08

Date Analyzed: 12/03/08 Time: 1830

Dilution Factor: 10 Analyst: JCK

Prep Batch: Analytical Batch: 401995

Analytical Method: SW-846 8260

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
100-41-4	Ethylbenzene	379		0.652	50.0
1330-20-7	Xylene (total)	1120		1.83	100

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 970 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW11S-120108

Contract:

Lab File ID: 2081203/d1828

Lab Sample ID: 20812021201

Date Collected: 12/01/08 Time: 1504

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/03/08 Time: 1900

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	0.025	U	0.025	0.103
91-57-6	2-Methylnaphthalene	0.024	U	0.024	0.103
83-32-9	Acenaphthene	0.061	U	0.061	0.103
208-96-8	Acenaphthylene	0.038	U	0.038	0.103
120-12-7	Anthracene	0.027	U	0.027	0.103
56-55-3	Benzo(a)anthracene	0.036	U	0.036	0.103
50-32-8	Benzo(a)pyrene	0.023	U	0.023	0.103
205-99-2	Benzo(b)fluoranthene	0.027	U	0.027	0.103
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.103
207-08-9	Benzo(k)fluoranthene	0.028	U	0.028	0.103
218-01-9	Chrysene	0.025	U	0.025	0.103
53-70-3	Dibenz(a,h)anthracene	0.015	U	0.015	0.103
206-44-0	Fluoranthene	0.037	U	0.037	0.103
86-73-7	Fluorene	0.029	U	0.029	0.103
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.103
91-20-3	Naphthalene	0.038	U	0.038	0.103
85-01-8	Phenanthrene	0.029	U	0.029	0.103
129-00-0	Pyrene	0.027	U	0.027	0.103

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW5S-120108

Contract:

Lab File ID: 2081203/d1829

Lab Sample ID: 20812021202

Date Collected: 12/01/08 Time: 1540

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/03/08 Time: 1915

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	0.024	U	0.024	0.102
91-57-6	2-Methylnaphthalene	0.024	U	0.024	0.102
83-32-9	Acenaphthene	0.060	U	0.060	0.102
208-96-8	Acenaphthylene	0.038	U	0.038	0.102
120-12-7	Anthracene	0.027	U	0.027	0.102
56-55-3	Benzo(a)anthracene	0.035	U	0.035	0.102
50-32-8	Benzo(a)pyrene	0.023	U	0.023	0.102
205-99-2	Benzo(b)fluoranthene	0.026	U	0.026	0.102
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.102
207-08-9	Benzo(k)fluoranthene	0.028	U	0.028	0.102
218-01-9	Chrysene	0.024	U	0.024	0.102
53-70-3	Dibenz(a,h)anthracene	0.015	U	0.015	0.102
206-44-0	Fluoranthene	0.037	U	0.037	0.102
86-73-7	Fluorene	0.029	U	0.029	0.102
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.102
91-20-3	Naphthalene	0.038	U	0.038	0.102
85-01-8	Phenanthrene	0.029	U	0.029	0.102
129-00-0	Pyrene	0.026	U	0.026	0.102

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW24S-120108

Contract:

Lab File ID: 2081203/d1830

Lab Sample ID: 20812021203

Date Collected: 12/01/08 Time: 1300

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/03/08 Time: 1931

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
83-32-9	Acenaphthene	0.060	U	0.060	0.102	
208-96-8	Acenaphthylene	0.038	U	0.038	0.102	
120-12-7	Anthracene	0.027	U	0.027	0.102	
56-55-3	Benzo(a)anthracene	0.035	U	0.035	0.102	
50-32-8	Benzo(a)pyrene	0.023	U	0.023	0.102	
205-99-2	Benzo(b)fluoranthene	0.026	U	0.026	0.102	
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.102	
207-08-9	Benzo(k)fluoranthene	0.028	U	0.028	0.102	
218-01-9	Chrysene	0.024	U	0.024	0.102	
53-70-3	Dibenz(a,h)anthracene	0.015	U	0.015	0.102	
206-44-0	Fluoranthene	0.037	U	0.037	0.102	
91-20-3	Naphthalene	75.9	~~E~~	0.038	0.102	R-D
86-73-7	Fluorene	0.029	U	0.029	0.102	
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.102	
85-01-8	Phenanthrene	0.029	U	0.029	0.102	
91-57-6	2-Methylnaphthalene	23.2	~~E~~	0.024	0.102	R-D
129-00-0	Pyrene	0.026	U	0.026	0.102	
90-12-0	1-Methylnaphthalene	13.1	~~E~~	0.024	0.102	R-D

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW24S-120108

Contract:

Lab File ID: 2081204/d1855

Lab Sample ID: 20812021203

Date Collected: 12/01/08 Time: 1300

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/04/08 Time: 1447

Dilution Factor: 10 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
90-12-0	1-Methylnaphthalene	17.4	J	0.244	1.02	Z
91-57-6	2-Methylnaphthalene	41.9		0.238	1.02	
91-20-3	Naphthalene	148	J	0.378	1.02	Z

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW18S-120108

Contract:

Lab File ID: 2081203/d1831

Lab Sample ID: 20812021204

Date Collected: 12/01/08 Time: 1425

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/03/08 Time: 1947

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402049

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	1.68		0.024	0.102
91-57-6	2-Methylnaphthalene	1.98		0.024	0.102
83-32-9	Acenaphthene	0.060	U	0.060	0.102
208-96-8	Acenaphthylene	0.038	U	0.038	0.102
120-12-7	Anthracene	0.027	U	0.027	0.102
56-55-3	Benzo(a)anthracene	0.035	U	0.035	0.102
50-32-8	Benzo(a)pyrene	0.023	U	0.023	0.102
205-99-2	Benzo(b)fluoranthene	0.026	U	0.026	0.102
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.102
207-08-9	Benzo(k)fluoranthene	0.028	U	0.028	0.102
218-01-9	Chrysene	0.024	U	0.024	0.102
53-70-3	Dibenz(a,h)anthracene	0.015	U	0.015	0.102
206-44-0	Fluoranthene	0.037	U	0.037	0.102
86-73-7	Fluorene	0.029	U	0.029	0.102
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.102
91-20-3	Naphthalene	0.496		0.038	0.102
85-01-8	Phenanthrene	0.029	U	0.029	0.102
129-00-0	Pyrene	0.026	U	0.026	0.102

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 970 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW22S-120108

Contract:

Lab File ID: 2081204/d1868

Lab Sample ID: 20812021205

Date Collected: 12/01/08 Time: 1220

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/04/08 Time: 1827

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
83-32-9	Acenaphthene	0.061	~~U~~	0.061	0.103	R-D
208-96-8	Acenaphthylene	~~0.257~~		0.038	0.103	R-D
90-12-0	1-Methylnaphthalene	16.7	J	0.025	0.103	Q
120-12-7	Anthracene	0.027	U	0.027	0.103	
56-55-3	Benzo(a)anthracene	0.036	U	0.036	0.103	
50-32-8	Benzo(a)pyrene	0.023	U	0.023	0.103	
205-99-2	Benzo(b)fluoranthene	0.027	U	0.027	0.103	
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.103	
207-08-9	Benzo(k)fluoranthene	0.028	U	0.028	0.103	
86-73-7	Fluorene	0.029	~~U~~	0.029	0.103	R-D
218-01-9	Chrysene	0.025	U	0.025	0.103	
91-20-3	Naphthalene	214	~~E~~	0.038	0.103	R-D
53-70-3	Dibenz(a,h)anthracene	0.015	U	0.015	0.103	
206-44-0	Fluoranthene	0.037	U	0.037	0.103	
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.103	
91-57-6	2-Methylnaphthalene	29.6	~~E~~	0.024	0.103	R-P
85-01-8	Phenanthrene	0.029	U	0.029	0.103	
129-00-0	Pyrene	0.027	U	0.027	0.103	

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 970 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW22S-120108

Contract:

Lab File ID: 2081210/d1958

Lab Sample ID: 20812021205

Date Collected: 12/01/08 Time: 1220

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/10/08 Time: 1317

Dilution Factor: 50 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402416

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
91-57-6	2-Methylnaphthalene	80.6	J	1.20	5.15	Q
83-32-9	Acenaphthene	3.04	U	3.04	5.15	
208-96-8	Acenaphthylene	1.92	U	1.92	5.15	
86-73-7	Fluorene	1.44	UJ	1.44	5.15	Q
91-20-3	Naphthalene	136	J	1.91	5.15	Q

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 970 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-EB2-120108

Contract:

Lab File ID: 2081204/d1845

Lab Sample ID: 20812021208

Date Collected: 12/01/08 Time: 1610

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/04/08 Time: 1204

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
90-12-0	1-Methylnaphthalene	0.025	U	0.025	0.103
91-57-6	2-Methylnaphthalene	0.024	U	0.024	0.103
83-32-9	Acenaphthene	0.061	U	0.061	0.103
208-96-8	Acenaphthylene	0.038	U	0.038	0.103
120-12-7	Anthracene	0.027	U	0.027	0.103
56-55-3	Benzo(a)anthracene	0.036	U	0.036	0.103
50-32-8	Benzo(a)pyrene	0.023	U	0.023	0.103
205-99-2	Benzo(b)fluoranthene	0.027	U	0.027	0.103
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.103
207-08-9	Benzo(k)fluoranthene	0.028	U	0.028	0.103
218-01-9	Chrysene	0.025	U	0.025	0.103
53-70-3	Dibenz(a,h)anthracene	0.015	U	0.015	0.103
206-44-0	Fluoranthene	0.037	U	0.037	0.103
86-73-7	Fluorene	0.029	U	0.029	0.103
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.103
91-20-3	Naphthalene	0.038	U	0.038	0.103
85-01-8	Phenanthrene	0.029	U	0.029	0.103
129-00-0	Pyrene	0.027	U	0.027	0.103

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 970 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-FD1-120108

Contract:

Lab File ID: 2081204/d1871

Lab Sample ID: 20812021210

Date Collected: 12/01/08 Time: 0000

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/04/08 Time: 1915

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402056

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
83-32-9	Acenaphthene	0.061	~~U~~	0.061	0.103	R-D
208-96-8	Acenaphthylene	0.038	~~U~~	0.038	0.103	R-D
120-12-7	Anthracene	0.027	U	0.027	0.103	
56-55-3	Benzo(a)anthracene	0.036	U	0.036	0.103	
50-32-8	Benzo(a)pyrene	0.023	U	0.023	0.103	
205-99-2	Benzo(b)fluoranthene	0.027	U	0.027	0.103	
191-24-2	Benzo(g,h,i)perylene	0.014	U	0.014	0.103	
207-08-9	Benzo(k)fluoranthene	0.028	U	0.028	0.103	
218-01-9	Chrysene	0.025	U	0.025	0.103	
53-70-3	Dibenz(a,h)anthracene	0.015	U	0.015	0.103	
86-73-7	Fluorene	0.029	~~U~~	0.029	0.103	R-D
206-44-0	Fluoranthene	0.037	U	0.037	0.103	
91-20-3	Naphthalene	405	~~E~~	0.038	0.103	R-D
193-39-5	Indeno(1,2,3-cd)pyrene	0.013	U	0.013	0.103	
85-01-8	Phenanthrene	0.029	U	0.029	0.103	
129-00-0	Pyrene	0.027	U	0.027	0.103	
91-57-6	2-Methylnaphthalene	37.7	~~E~~	0.024	0.103	R-D
90-12-0	1-Methylnaphthalene	20.9	~~E~~	0.025	0.103	R-D

a. R

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 208120212

Matrix: Water

Sample wt/vol: 970 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-FD1-120108

Contract:

Lab File ID: 2081205/d1892

Lab Sample ID: 20812021210

Date Collected: 12/01/08 Time: 0000

Date Received: 12/02/08

Date Extracted: 12/02/08

Date Analyzed: 12/05/08 Time: 1502

Dilution Factor: 10 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270C SIM

Instrument ID: MSSV4

Prep Batch: 401909 Analytical Batch: 402136

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
90-12-0	1-Methylnaphthalene	38.8	J	0.246	1.03	Z
91-57-6	2-Methylnaphthalene	36.4		0.240	1.03	
83-32-9	Acenaphthene	0.607	U	0.607	1.03	
208-96-8	Acenaphthylene	0.384	U	0.384	1.03	
86-73-7	Fluorene	0.289	U	0.289	1.03	
91-20-3	Naphthalene	102	J	0.381	1.03	Z

CT

FORM I SV-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401941 Analytical Batch: 402105

Sample ID: 85-24-MW11S-120108

Contract:

SAS No.: SDG No.: 208120212

Lab Sample ID: 20812021201

Date Collected: 12/01/08 Time: 1504

Date Received: 12/02/08

Date Extracted: 12/03/08

Date Analyzed: 12/03/08 Time: 1833

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

CONCENTRATION UNITS: ug/L

Lab File ID: 2081203/sv19a007s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
FLPRO-01	Petroleum Hydrocarbons	62.7	J B	41.1	101

F

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401941 Analytical Batch: 402105

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW5S-120108

Contract:

SAS No.: SDG No.: 208120212

Lab Sample ID: 20812021202

Date Collected: 12/01/08 Time: 1540

Date Received: 12/02/08

Date Extracted: 12/03/08

Date Analyzed: 12/03/08 Time: 1903

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081203/sv19a008s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
FLPRO-01	Petroleum Hydrocarbons	239	JB	41.5	102	f

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401941 Analytical Batch: 402105

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-MW24S-120108

Contract:

SAS No.: SDG No.: 208120212

Lab Sample ID: 20812021203

Date Collected: 12/01/08 Time: 1300

Date Received: 12/02/08

Date Extracted: 12/03/08

Date Analyzed: 12/03/08 Time: 1933

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081203/sv19a009s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
FLPRO-01	Petroleum Hydrocarbons	5700	JB	41.1	101

F

c:1

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 970 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 2000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 401941 Analytical Batch: 402105

Sample ID: 85-24-MW18S-120108
Contract:
SAS No.: SDG No.: 208120212
Lab Sample ID: 20812021204
Date Collected: 12/01/08 Time: 1425
Date Received: 12/02/08
Date Extracted: 12/03/08
Date Analyzed: 12/03/08 Time: 2004
Dilution Factor: 1 Analyst: TLS
Prep Method: FLORIDA PRO
Analytical Method: FLORIDA PRO
Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

CONCENTRATION UNITS: ug/L

Lab File ID: 2081203/sv19a010s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
FLPRO-01	Petroleum Hydrocarbons	5460	JB	42.0	103

F

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 980 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 2000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 401941 Analytical Batch: 402105

Sample ID: 85-24-MW22S-120108
Contract:
SAS No.: SDG No.: 208120212
Lab Sample ID: 20812021205
Date Collected: 12/01/08 Time: 1220
Date Received: 12/02/08
Date Extracted: 12/03/08
Date Analyzed: 12/03/08 Time: 2034
Dilution Factor: 1 Analyst: TLS
Prep Method: FLORIDA PRO
Analytical Method: FLORIDA PRO
Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

CONCENTRATION UNITS: ug/L

Lab File ID: 2081203/sv19a011s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
FLPRO-01	Petroleum Hydrocarbons	256	J,B	41.5	102	F, Q

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401941 Analytical Batch: 402105

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-EB2-120108

Contract:

SAS No.: SDG No.: 208120212

Lab Sample ID: 20812021208

Date Collected: 12/01/08 Time: 1610

Date Received: 12/02/08

Date Extracted: 12/03/08

Date Analyzed: 12/03/08 Time: 2205

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081203/sv19a014s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
FLPRO-01	Petroleum Hydrocarbons	88.3	J	41.5	102

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 2000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 401941 Analytical Batch: 402105

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-FD1-120108

Contract:

SAS No.: SDG No.: 208120212

Lab Sample ID: 20812021210

Date Collected: 12/01/08 Time: 0000

Date Received: 12/02/08

Date Extracted: 12/03/08

Date Analyzed: 12/03/08 Time: 2236

Dilution Factor: 1 Analyst: TLS

Prep Method: FLORIDA PRO

Analytical Method: FLORIDA PRO

Sulfur Cleanup: (Y/N) N Instrument ID: GCS19A

Lab File ID: 2081203/sv19a015s

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
FLPRO-01	Petroleum Hydrocarbons	5660	JB	41.1	101	f

FORM I ORG-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: GCAL

Sample ID: 85-24-MW22S-120108

Lab Code: LA024 Case No.:

Contract:

Matrix: (soil / water) Water

SAS No.: SDG No.: 208120212

Level: (low / med) % Solids:

Lab Sample ID: 20812021205

Date Received: 12/02/08 Time: 0900

Date Collected: 12/01/08 Time: 1220

Analyte	Concentration	Units	C	MDL	PQL	Method	Type
Lead	0.0027	mg/L	U	0.0027	0.015	SW-846 6010B	P

C-1

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: GCAL

Sample ID: 85-24-EB2-120108

Lab Code: LA024 Case No.:

Contract:

Matrix: (soil / water) Water

SAS No.: SDG No.: 208120212

Level: (low / med) % Solids:

Lab Sample ID: 20812021208

Date Received: 12/02/08 Time: 0900

Date Collected: 12/01/08 Time: 1610

Analyte	Concentration	Units	C	MDL	PQL	Method	Type
Lead	0.0027	mg/L	U	0.0027	0.015	SW-846 6010B	P

FORM I - IN

CH2MHILL Constructors, Inc.

115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No: (770) 604-9182
Fax No: (770) 604-9282

CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: **PN-DATE-01**

[2] PROJECT NAME:	[3] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
NAS Pensacola		GCAL	Bethany Garvey	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[5] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
UST Site 0024	CTO0085		Kama White	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bethany Garvey	770-604-9182			

[23] ANALYSES REQUIRED (Include Method Numbers)

[17] ITEM	[18] SAMPLE IDENTIFIER	[19] SAMPLE DESCRIPTION/LOCATION	[20] MATRIX (see codes on SOP)	[21] DATE COLLECTED	[22] TIME COLLECTED	[23] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	VOCs (8260B)	8270SIM ~~8270B~~ (PAHs)	FLPRO (TRPH)	Lead	Sulfate	RSK175 - ~~MEP~~ Methane	TOC				[26] SAMPLE TYPE (see codes on SOP)	[27] COMMENTS/ SCREENING READINGS	[28] LAB ID (for lab's use)
1	85-24-MW1S-112408	MW-1S		11/24/08	1300	C	14	X	X	X		X	X	X				N	Extra bottles labled EDB	1
2	85-24-MW2S-112408	MW2-S		11/24/08	1420	C	14	X	X	X								N	do Not need to be sampled.	2
3	85-24-MW3S-112508	MW3-S		11/25/08	0850	C	14	X	X	X		X	X	X				N	There are 4-40mL.	3
4	85-24-MW4S-112508	MW4-S		11/25/08	1020	C	14	X	X	X		X	X	X				N		4
5	85-24-MW11S-____	MW11-2				C	14	X	X	X								N		
6	85-24-MW12S-112508	MW12-S		11/25/08	1545	C	14	X	X	X								N		5
7	85-24-MW21S-112508	MW21-S ~~MW14-S~~		11/25/08	1435	C	14	X	X	X		X	X	X				N		6
8	85-24-MW15S-~~112508~~	MW15-S		~~11/25/08~~	~~1435~~	C	14	X	X	X								N		
9	85-24-MW16S-112508	MW16-S		11/25/08	1310	C	14	X	X	X	X	X	X	X				N		7
10	85-24-MW17S-____	MW17-S				C	14	X	X	X								FD		

[29] SAMPLER(S) AND COMPANY: (please print)	[30] COURIER AND SHIPPING NUMBER:	[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
D. Gaglio, J. Scott / CH2M HILL	Fedex 8653 3367 6228	7.1 7.8 4.1 4.9

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Fedex	11-26-8	930	Michelle Rabolt	11-26-8	930
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] **Original** - Laboratory (To be returned with Analytical Report), [ ] **Copy 1** - Project File, [ ] **Copy 2** - PMO

Form CC1001, Rev 06/00

4. Parameters updated per SOW for projects on 11/20/08

CH2MHILL Constructors, Inc.

115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No: (770) 604-9182
Fax No: (770) 604-9282

CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: **pn-DATE-02**

[2] PROJECT NAME:	[5] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
NAS Pensacola		GCAL	Bethany Garvey	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[3] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
UST Site 0024	CTO0085		Kama White	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bethany Garvey	770-604-9182			

[23] ANALYSES REQUIRED (Include Method Numbers)

[17] ITEM	[18] SAMPLE IDENTIFIER	[19] SAMPLE DESCRIPTION/LOCATION	[20] MATRIX (see codes on SOP)	[21] DATE COLLECTED	[22] TIME COLLECTED	[23] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	VOCs (8260B)	8270SIM ~~SW8310~~ (PAHs)	FLPRO (TRPH)	Lead	Sulfate	RSK175 - ~~TPH~~ (methane)	TOC	[redacted]			[26] SAMPLE TYPE (see codes on SOP)	[27] COMMENTS/ SCREENING READINGS	[28] LAB ID (for lab's use)
1	85-24-MW18S-____	MW18-S				C	14	X	X	X	[redacted]							N		
2	85-24-MW22S-____	MW22-S				C	14	X	X	X	X ✓	X	X	X	X			N		
3	85-24-MW22SMS-____	MW22-S				C	14	X	X	X	[redacted]	X	X	X	X			MS		
4	85-24-MW22SSD-____	MW22-S				C	14	X	X	X	[redacted]	X	X	X	X			SD		
5	85-24-EB1-112~~1~~508	EB1		11/25/08	1600	C	14	X	X	X	[redacted] ✓	X	X	X	[redacted]			EB		8
6	85-24-EB2-112508	EB2				C	14	X	X	X	[redacted]	X	X	X				EB		
7	85-24-~~B~~TB1-112~~4~~508\	per chain RSM 12/2/08 TB1		11/25/08		C	14	X										TB		9
8	85-24-TB2-112508	TB2				C	14	X										TB		
9	85-24-FD1-_____	FD1				C	14	X	X	X	X	X	X	X				FD		
10	85-24-FD2-_____	FD2				C	14	X	X	X	[redacted]	X	X	X				FD		

[29] SAMPLER(S) AND COMPANY: (please print)	[30] COURIER AND SHIPPING NUMBER:	[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
		2.1 3.8 4.1 4.9

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Fady	11-26-8	930	Michelle Rabosky	11-26-08	930
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] **Original** - Laboratory (To be returned with Analytical Report); [ ] **Copy 1** - Project File; [ ] **Copy 2** - PMO

Form CC1001, Rev 06/00

1195

CH2MHILL/4580/20D120Z12/12-9-08

CH2MHILL Constructors, Inc.

115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No: (770) 604-9182
Fax No: (770) 604-9282

CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: pn-DATE-02

[2] PROJECT NAME:	[5] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
NAS Pensacola		GCAL	Bethany Garvey	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[3] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
UST Site 0024	CTO0085		Kama White	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bethany Garvey	770-604-9182			

[23] ANALYSES REQUIRED (Include Method Numbers)

[17] ITEM	[18] SAMPLE IDENTIFIER	[19] SAMPLE DESCRIPTION/LOCATION	[20] MATRIX (see codes on SOP)	[21] DATE COLLECTED	[22] TIME COLLECTED	[23] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	VOCs (8260B)	8270SIM - ~~8310 (PAHs)~~ PAH	FLPRO (TRPH)	Lead	Sulfate	RSK175 - ~~TPH~~ methane	TOC				[26] SAMPLE TYPE (see codes on SOP)	[27] COMMENTS/ SCREENING READINGS	[28] LAB ID (for lab's use)
1	85-24-MW18S-120108	MW18-S		12/1/08	1425	C	14	X	X	X	X							N		4
2	85-24-MW22S-120108	MW22-S		12/1/08	1220	C	14	X	X	X	X	X	X	X				N		5
3	85-24-MW22SMS-120108	MW22-S		12/1/08	1220	C	14	X	X	X	X	X	X	X				\MS		6
4	85-24-MW22SSD-120108	MW22-S		12/1/08	1220	C	14	X	X	X	X	X	X	X				SD		7
5	85-24-EB1-112408	EB1				C	14	X	X	X	X	X	X	X				EB		
6	85-24-EB2-~~112508~~ 120108	EB2		12/01/08	16:10	C	14	X	X	X	X	X	X	X				EB		8*
7	85-24-EB1-112408\	TB1				C	14	X										TB		~~9~~* EPM 12/02/08
8	85-24-TB2-~~112508~~ 120108	TB2		12/01/08		C	14	X										TB		9*
9	85-24-FD1-120108	FD1		12/01/08		C	14	X	X	X	X	X	X	X				FD		10*
10	85-24-FD2-____	FD2				C	14	X	X	X	X	X	X	X				FD		

[29] SAMPLER(S) AND COMPANY: (please print)

[30] COURIER AND SHIPPING NUMBER:

[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use): 3.1 4.3 2.8

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
Fdl	12-2-8	900	Michelle Rabon	12-2-8	900
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001 Rev 06-00

* FD added per Bethany Garvey - email attached *FD added per Bethany

CH2MHILL /4380/206120Z 12/12-9-6

CH2MHILL Constructors, Inc.

115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No: (770) 604-9182
Fax No: (770) 604-9282

CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: **PN-DATE-01**

[2] PROJECT NAME:	[3] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No., and Fax No.):
NAS Pensacola		GCAL	Bethany Garvey	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[5] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No., and Fax No.):
UST Site 0024	CTO0085		Kama White	1000 Abernathy Rd. Suite 1600 Atlanta, GA 30328
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No., and Fax No.):
Bethany Garvey	770-604-9182			

[25] ANALYSES REQUIRED (Include Method Numbers)

[17] ITEM	[18] SAMPLE IDENTIFIER	[19] SAMPLE DESCRIPTION/LOCATION	[20] MATRIX (see codes on SOP)	[21] DATE COLLECTED	[22] TIME COLLECTED	[23] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	VOCs (8260B)	8270 SIM * ~~SW8310(PAH)~~	FLPRO (TRPH)	Lead	Sulfate	RSK175 ~~ME~~ methane *	TOC				[26] SAMPLE TYPE (see codes on SOP)	[27] COMMENTS/ SCREENING READINGS	[28] LAB ID (for lab's use)
1	85-24-MW1S-_____	MW-1S				C	14	X	X	X	X	X	X	X				N		
2	85-24-MW2S-_____	MW2-S				C	14	X	X	X	X							N		
3	85-24-MW3S-_____	MW3-S				C	14	X	X	X	X	X	X	X				N		
4	85-24-MW4S-_____	MW4-S				C	14	X	X	X	X	X	X	X				N		
5	85-24-MW11S-120108	MW11-[redacted]S		12/01/08	1504	C	14	X	X	X	[redacted]							N		1
6	85-24-MW12S-_____	MW12-2				C	14	X	X	X	X							N		
7	85-24-MW14S-_____	MW14-S				C	14	X	X	X	X	X	X	X				N		
8	85-24-MW[redacted]5S-120108	MW[redacted]5-S		12/01/08	1540	C	14	X	X	X	[redacted]							N		2
9	85-24-MW16S-_____	MW16-S				C	14	X	X	X	X	X	X	X				N		
10	85-24-MW[redacted]S-120108 (24)	MW[redacted]-S (24)		12/01/08	1300	C	14	X	X	X	[redacted]							[redacted]		3

[29] SAMPLER(S) AND COMPANY: (please print)
D. Guglio, T. Manning / CH2M HILL

[30] COURIER AND SHIPPING NUMBER:

[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):
3.1 4.3
2.8

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature: Damian Guglio	12/01/08 ~~1654~~	1654	Printed Name and Signature:		
Printed Name and Signature: Fady	12-2-8	900	Printed Name and Signature: Michelle Reborn	12-2-8	900
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report), [ ] Copy 1 - Project File, [ ] Copy 2 - PMO

Form CC1001, Rev 06 00

*parameters changed per SOW for project. [illegible]

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-AW-1-012709

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 209012845

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20901284501

Level: (low/med)

Lab File ID: 2090128/e4626

% Moisture: not dec.

Date Collected: 01/27/09 Time: 1130

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 01/28/09

Instrument ID: MSV7

Date Analyzed: 01/28/09 Time: 1916

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 405253

Analytical Method: SW-846 8260

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-55-6	1,1,1-Trichloroethane	0.096	U	0.096	5.00
79-34-5	1,1,2,2-Tetrachloroethane	0.154	U	0.154	5.00
79-00-5	1,1,2-Trichloroethane	0.093	U	0.093	5.00
75-34-3	1,1-Dichloroethane	0.086	U	0.086	5.00
75-35-4	1,1-Dichloroethene	0.201	U	0.201	5.00
87-61-6	1,2,3-Trichlorobenzene	0.149	U	0.149	5.00
120-82-1	1,2,4-Trichlorobenzene	0.091	U	0.091	5.00
96-12-8	1,2-Dibromo-3-chloropropane	0.129	U	0.129	5.00
106-93-4	1,2-Dibromoethane	0.202	U	0.202	5.00
95-50-1	1,2-Dichlorobenzene	0.069	U	0.069	5.00
107-06-2	1,2-Dichloroethane	0.090	U	0.090	5.00
78-87-5	1,2-Dichloropropane	0.096	U	0.096	5.00
541-73-1	1,3-Dichlorobenzene	0.132	U	0.132	5.00
106-46-7	1,4-Dichlorobenzene	0.057	U	0.057	5.00
78-93-3	2-Butanone	0.176	U	0.176	5.00
591-78-6	2-Hexanone	0.105	U	0.105	5.00
108-10-1	4-Methyl-2-pentanone	0.078	U	0.078	5.00
67-64-1	Acetone	0.914	U	0.914	10.0
71-43-2	Benzene	0.065	U	0.065	5.00
74-97-5	Bromochloromethane	0.267	U	0.267	5.00
75-27-4	Bromodichloromethane	0.144	U	0.144	5.00
75-25-2	Bromoform	0.172	U	0.172	5.00
74-83-9	Bromomethane	0.271	U	0.271	5.00
75-15-0	Carbon disulfide	0.077	U	0.077	5.00
56-23-5	Carbon tetrachloride	0.156	U	0.156	5.00
108-90-7	Chlorobenzene	0.287	U	0.287	5.00
75-00-3	Chloroethane	0.181	U	0.181	5.00
67-66-3	Chloroform	0.164	U	0.164	5.00
74-87-3	Chloromethane	0.101	U	0.101	5.00
110-82-7	Cyclohexane	0.105	U	0.105	5.00
124-48-1	Dibromochloromethane	0.098	U	0.098	5.00

FORM I VOA

C.R.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-AW-1-012709

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 209012845

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20901284501

Level: (low/med)

Lab File ID: 2090128/e4626

% Moisture: not dec.

Date Collected: 01/27/09 Time: 1130

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 01/28/09

Instrument ID: MSV7

Date Analyzed: 01/28/09 Time: 1916

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 405253

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
75-71-8	Dichlorodifluoromethane	0.083	U	0.083	5.00
10061-01-5	cis-1,3-Dichloropropene	0.116	U	0.116	5.00
10061-02-6	trans-1,3-Dichloropropene	0.062	U	0.062	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
98-82-8	Isopropylbenzene (Cumene)	0.135	U	0.135	5.00
79-20-9	Methyl Acetate	0.994	U	0.994	5.00
108-87-2	Methylcyclohexane	0.075	U	0.075	5.00
75-09-2	Methylene chloride	0.096	U	0.096	10.0
100-42-5	Styrene	0.058	U	0.058	5.00
127-18-4	Tetrachloroethene	0.153	U	0.153	5.00
108-88-3	Toluene	0.076	U	0.076	5.00
79-01-6	Trichloroethene	0.118	U	0.118	5.00
75-69-4	Trichlorofluoromethane	0.138	U	0.138	5.00
76-13-1	Trichlorotrifluoroethane	0.230	U	0.230	5.00
75-01-4	Vinyl chloride	0.155	U	0.155	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0
156-59-2	cis-1,2-Dichloroethene	0.162	U	0.162	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.077	U	0.077	5.00
156-60-5	trans-1,2-Dichloroethene	0.122	U	0.122	5.00

FORM I VOA

C.R.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-TB-1-012709

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 209012845

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20901284502

Level: (low/med)

Lab File ID: 2090128/e4627

% Moisture: not dec.

Date Collected: 01/27/09 Time: 0000

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 01/28/09

Instrument ID: MSV7

Date Analyzed: 01/28/09 Time: 1941

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 405253

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-55-6	1,1,1-Trichloroethane	0.096	U	0.096	5.00
79-34-5	1,1,2,2-Tetrachloroethane	0.154	U	0.154	5.00
79-00-5	1,1,2-Trichloroethane	0.093	U	0.093	5.00
75-34-3	1,1-Dichloroethane	0.086	U	0.086	5.00
75-35-4	1,1-Dichloroethene	0.201	U	0.201	5.00
87-61-6	1,2,3-Trichlorobenzene	0.149	U	0.149	5.00
120-82-1	1,2,4-Trichlorobenzene	0.091	U	0.091	5.00
96-12-8	1,2-Dibromo-3-chloropropane	0.129	U	0.129	5.00
106-93-4	1,2-Dibromoethane	0.202	U	0.202	5.00
95-50-1	1,2-Dichlorobenzene	0.069	U	0.069	5.00
107-06-2	1,2-Dichloroethane	0.090	U	0.090	5.00
78-87-5	1,2-Dichloropropane	0.096	U	0.096	5.00
541-73-1	1,3-Dichlorobenzene	0.132	U	0.132	5.00
106-46-7	1,4-Dichlorobenzene	0.057	U	0.057	5.00
78-93-3	2-Butanone	0.176	U	0.176	5.00
591-78-6	2-Hexanone	0.105	U	0.105	5.00
108-10-1	4-Methyl-2-pentanone	0.078	U	0.078	5.00
67-64-1	Acetone	0.914	U	0.914	10.0
71-43-2	Benzene	0.065	U	0.065	5.00
74-97-5	Bromochloromethane	0.267	U	0.267	5.00
75-27-4	Bromodichloromethane	0.144	U	0.144	5.00
75-25-2	Bromoform	0.172	U	0.172	5.00
74-83-9	Bromomethane	0.271	U	0.271	5.00
75-15-0	Carbon disulfide	0.077	U	0.077	5.00
56-23-5	Carbon tetrachloride	0.156	U	0.156	5.00
108-90-7	Chlorobenzene	0.287	U	0.287	5.00
75-00-3	Chloroethane	0.181	U	0.181	5.00
67-66-3	Chloroform	0.164	U	0.164	5.00
74-87-3	Chloromethane	0.101	U	0.101	5.00
110-82-7	Cyclohexane	0.105	U	0.105	5.00
124-48-1	Dibromochloromethane	0.098	U	0.098	5.00

FORM I VOA

C.R.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

85-24-TB-1-012709

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 209012845

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 20901284502

Level: (low/med)

Lab File ID: 2090128/e4627

% Moisture: not dec.

Date Collected: 01/27/09 Time: 0000

GC Column: DB-VRX-20M ID: .18 (mm)

Date Received: 01/28/09

Instrument ID: MSV7

Date Analyzed: 01/28/09 Time: 1941

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CLH

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 405253

CONCENTRATION UNITS: ug/L

Analytical Method: SW-846 8260

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
75-71-8	Dichlorodifluoromethane	0.083	U	0.083	5.00
10061-01-5	cis-1,3-Dichloropropene	0.116	U	0.116	5.00
10061-02-6	trans-1,3-Dichloropropene	0.062	U	0.062	5.00
100-41-4	Ethylbenzene	0.065	U	0.065	5.00
98-82-8	Isopropylbenzene (Cumene)	0.135	U	0.135	5.00
79-20-9	Methyl Acetate	0.994	U	0.994	5.00
108-87-2	Methylcyclohexane	0.075	U	0.075	5.00
75-09-2	Methylene chloride	0.096	U	0.096	10.0
100-42-5	Styrene	0.058	U	0.058	5.00
127-18-4	Tetrachloroethene	0.153	U	0.153	5.00
108-88-3	Toluene	0.076	U	0.076	5.00
79-01-6	Trichloroethene	0.118	U	0.118	5.00
75-69-4	Trichlorofluoromethane	0.138	U	0.138	5.00
76-13-1	Trichlorotrifluoroethane	0.230	U	0.230	5.00
75-01-4	Vinyl chloride	0.155	U	0.155	5.00
1330-20-7	Xylene (total)	0.183	U	0.183	10.0
156-59-2	cis-1,2-Dichloroethene	0.162	U	0.162	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.077	U	0.077	5.00
156-60-5	trans-1,2-Dichloroethene	0.122	U	0.122	5.00

FORM I VOA

C.R

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 209012845

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-AW-1-012709

Contract:

Lab File ID: 2090202/d2666

Lab Sample ID: 20901284501

Date Collected: 01/27/09 Time: 1130

Date Received: 01/28/09

Date Extracted: 01/31/09

Date Analyzed: 02/02/09 Time: 1143

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: SW-846 8270

Instrument ID: MSSV4

Prep Batch: 405325 Analytical Batch: 405131

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
95-95-4	2,4,5-Trichlorophenol	0.339	U	0.339	10.1
88-06-2	2,4,6-Trichlorophenol	0.329	U	0.329	10.1
120-83-2	2,4-Dichlorophenol	0.337	U	0.337	10.1
51-28-5	2,4-Dinitrophenol	3.99	U	3.99	25.3
121-14-2	2,4-Dinitrotoluene	0.242	U	0.242	10.1
606-20-2	2,6-Dinitrotoluene	0.227	U	0.227	10.1
91-58-7	2-Chloronaphthalene	0.250	U	0.250	10.1
95-57-8	2-Chlorophenol	0.264	U	0.264	10.1
91-57-6	2-Methylnaphthalene	0.177	U	0.177	10.1
88-74-4	2-Nitroaniline	1.14	U	1.14	25.3
88-75-5	2-Nitrophenol	0.233	U	0.233	10.1
91-94-1	3,3'-Dichlorobenzidine	1.00	U	1.00	10.1
99-09-2	3-Nitroaniline	0.361	U	0.361	25.3
534-52-1	2-Methyl-4,6-dinitrophenol	0.163	U	0.163	25.3
59-50-7	4-Chloro-3-methylphenol	0.189	U	0.189	10.1
106-47-8	4-Chloroaniline	0.515	U	0.515	10.1
7005-72-3	4-Chlorophenyl-phenylether	0.215	U	0.215	10.1
83-32-9	Acenaphthene	0.170	U	0.170	10.1
208-96-8	Acenaphthylene	0.128	U	0.128	10.1
120-12-7	Anthracene	0.124	U	0.124	10.1
56-55-3	Benzo(a)anthracene	0.079	U	0.079	10.1
50-32-8	Benzo(a)pyrene	0.089	U	0.089	10.1
205-99-2	Benzo(b)fluoranthene	0.080	U	0.080	10.1
191-24-2	Benzo(g,h,i)perylene	0.088	U	0.088	10.1
207-08-9	Benzo(k)fluoranthene	0.083	U	0.083	10.1
111-91-1	Bis(2-Chloroethoxy)methane	0.236	U	0.236	10.1
111-44-4	Bis(2-Chloroethyl)ether	0.271	U	0.271	10.1
108-60-1	bis(2-Chloroisopropyl)ether	0.225	U	0.225	10.1
117-81-7	bis(2-ethylhexyl)phthalate	1.99	J	1.90	10.1

FORM I SV-1

CR

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 209012845

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-AW-1-012709

Contract:

Lab File ID: 2090202/d2666

Lab Sample ID: 20901284501

Date Collected: 01/27/09 Time: 1130

Date Received: 01/28/09

Date Extracted: 01/31/09

Date Analyzed: 02/02/09 Time: 1143

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: SW-846 8270

Instrument ID: MSSV4

Prep Batch: 405325 Analytical Batch: 405131

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
101-55-3	4-Bromophenyl-phenylether	0.241	U	0.241	10.1
85-68-7	Butylbenzylphthalate	0.286	U	0.286	10.1
86-74-8	Carbazole	0.256	U	0.256	10.1
218-01-9	Chrysene	0.213	U	0.213	10.1
84-74-2	Di-n-butylphthalate	0.702	U	0.702	10.1
117-84-0	Di-n-octylphthalate	1.51	U	1.51	10.1
53-70-3	Dibenz(a,h)anthracene	0.157	U	0.157	10.1
132-64-9	Dibenzofuran	0.137	U	0.137	10.1
84-66-2	Diethylphthalate	0.218	U	0.218	10.1
131-11-3	Dimethyl-phthalate	0.158	U	0.158	10.1
105-67-9	2,4-Dimethylphenol	0.236	U	0.236	10.1
206-44-0	Fluoranthene	0.084	U	0.084	10.1
86-73-7	Fluorene	0.148	U	0.148	10.1
118-74-1	Hexachlorobenzene	0.292	U	0.292	10.1
87-68-3	Hexachlorobutadiene	0.257	U	0.257	10.1
77-47-4	Hexachlorocyclopentadiene	2.48	U	2.48	10.1
67-72-1	Hexachloroethane	0.956	U	0.956	10.1
193-39-5	Indeno(1,2,3-cd)pyrene	0.165	U	0.165	10.1
78-59-1	Isophorone	0.241	U	0.241	10.1
91-20-3	Naphthalene	0.232	U	0.232	10.1
100-01-6	4-Nitroaniline	0.196	U	0.196	25.3
98-95-3	Nitrobenzene	0.132	U	0.132	10.1
100-02-7	4-Nitrophenol	3.99	U	3.99	25.3
87-86-5	Pentachlorophenol	2.78	U	2.78	25.3
85-01-8	Phenanthrene	0.088	U	0.088	10.1
108-95-2	Phenol	0.139	U	0.139	10.1
129-00-0	Pyrene	0.092	U	0.092	10.1
1319-77-3M	m,p-Cresol	0.221	U	0.221	10.1
621-64-7	N-Nitroso-di-n-propylamine	0.221	U	0.221	10.1

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 209012845

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-AW-1-012709

Contract:

Lab File ID: 2090202/d2666

Lab Sample ID: 20901284501

Date Collected: 01/27/09 Time: 1130

Date Received: 01/28/09

Date Extracted: 01/31/09

Date Analyzed: 02/02/09 Time: 1143

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: SW-846 8270

Instrument ID: MSSV4

Prep Batch: 405325 Analytical Batch: 405131

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
86-30-6	N-Nitrosodiphenylamine	0.138	U	0.138	10.1
95-48-7	o-Cresol	0.196	U	0.196	10.1

FORM I SV-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 980 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-XLB-30 ID: .25 (mm)
Concentrated Extract Volume: 10000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 405322 Analytical Batch: 405563

Sample ID: 85-24-AW-1-012709
Contract:
SAS No.: SDG No.: 209012845
Lab Sample ID: 20901284501
Date Collected: 01/27/09 Time: 1130
Date Received: 01/28/09
Date Extracted: 02/02/09
Date Analyzed: 02/03/09 Time: 1335
Dilution Factor: 1 Analyst: TLS
Prep Method: 3510C
Analytical Method: SW-846 8081A
Sulfur Cleanup: (Y/N) N Instrument ID: GCS18B
Lab File ID: 2090203/sv18b011

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL	
72-54-8	4,4'-DDD	0.00398	U	0.00398	0.102	
72-55-9	4,4'-DDE	0.440	J	0.00755	0.102	P
50-29-3	4,4'-DDT	0.00367	U	0.00367	0.102	
309-00-2	Aldrin	0.00337	U	0.00337	0.051	
60-57-1	Dieldrin	0.00316	U	0.00316	0.102	
959-98-8	Endosulfan I	0.00306	U	0.00306	0.051	
33213-65-9	Endosulfan II	0.00327	U	0.00327	0.102	
1031-07-8	Endosulfan sulfate	0.300	J	0.00459	0.102	P
72-20-8	Endrin	0.00327	U	0.00327	0.102	
7421-93-4	Endrin aldehyde	0.031	J	0.00439	0.102	
53494-70-5	Endrin ketone	0.00500	U	0.00500	0.102	
76-44-8	Heptachlor	0.00388	U	0.00388	0.051	
1024-57-3	Heptachlor epoxide	0.00388	U	0.00388	0.051	
72-43-5	Methoxychlor	0.00520	U	0.00520	0.510	
8001-35-2	Toxaphene	0.561	U	0.561	5.10	
319-84-6	alpha-BHC	0.00357	U	0.00357	0.051	
5103-71-9	alpha-Chlordane	0.00327	U	0.00327	0.051	
319-85-7	beta-BHC	0.00327	U	0.00327	0.051	
319-86-8	delta-BHC	0.00480	U	0.00480	0.051	
58-89-9	gamma-BHC (Lindane)	0.00327	U	0.00327	0.051	
5103-74-2	gamma-Chlordane	0.00347	U	0.00347	0.051	

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 980 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-XLB-30 ID: .25 (mm)
Concentrated Extract Volume: 10000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 405323 Analytical Batch: 405564

Sample ID: 85-24-AW-1-012709
Contract:
SAS No.: SDG No.: 209012845
Lab Sample ID: 20901284501
Date Collected: 01/27/09 Time: 1130
Date Received: 01/28/09
Date Extracted: 02/02/09
Date Analyzed: 02/03/09 Time: 1335
Dilution Factor: 1 Analyst: TLS
Prep Method: 3510C
Analytical Method: SW-846 8082
Sulfur Cleanup: (Y/N) N Instrument ID: GCS18B

CONCENTRATION UNITS: ug/L

Lab File ID: 2090203/sv18b011

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
12674-11-2	Aroclor-1016	0.203	U	0.203	1.02
11104-28-2	Aroclor-1221	0.244	U	0.244	1.02
11141-16-5	Aroclor-1232	0.389	U	0.389	1.02
53469-21-9	Aroclor-1242	0.411	U	0.411	1.02
12672-29-6	Aroclor-1248	0.268	U	0.268	1.02
11097-69-1	Aroclor-1254	0.403	U	0.403	1.02
11096-82-5	Aroclor-1260	0.091	U	0.091	1.02

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 10000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 405259 Analytical Batch: 405491

CONCENTRATION UNITS: ug/L

Sample ID: 85-24-AW-1-012709

Contract:

SAS No.: SDG No.: 209012845

Lab Sample ID: 20901284501

Date Collected: 01/27/09 Time: 1130

Date Received: 01/28/09

Date Extracted: 01/29/09

Date Analyzed: 01/29/09 Time: 2253

Dilution Factor: 1 Analyst: TLS

Prep Method: SW-846 8151A

Analytical Method: SW-846 8151A

Sulfur Cleanup: (Y/N) N Instrument ID: GCS17A

Lab File ID: 2090129b/sv17a013

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
93-76-5	2,4,5-T	0.010	U	0.010	0.505
93-72-1	2,4,5-TP (SILVEX)	0.00596	U	0.00596	0.505
94-75-7	2,4-D	0.00485	U	0.00485	0.505
94-82-6	2,4-DB	0.00737	U	0.00737	2.02
75-99-0	Dalapon	0.00535	U J	0.00535	0.505 L
1918-00-9	Dicamba	0.00515	U	0.00515	0.505
120-36-5	Dichloroprop	0.00798	U	0.00798	0.505
88-85-7	Dinoseb	0.00939	U	0.00939	0.505
94-74-6	MCPA	0.500	U	0.500	505
93-65-2	MCPP	1.27	U	1.27	505

FORM I ORG-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: GCAL
Sample ID: 85-24-AW-1-012709
Lab Code: LA024
Case No.:
Contract:
Matrix: (soil / water) Water
SAS No.:
SDG No.: 209012845
Level: (low / med)
% Solids:
Lab Sample ID: 20901284501
Date Received: 01/28/09
Time: 1220
Date Collected: 01/27/09
Time: 1130

Analyte	Concentration	Units	C	MDL	PQL	Method	Type	
Aluminum	0.55	mg/L	B	0.019	0.20	SW-846 6010B	P	mB
Antimony	0.0043	mg/L	U	0.0043	0.060	SW-846 6010B	P	
Arsenic	0.0044	mg/L	~~B~~ J	0.0038	0.012	SW-846 6010B	P	
Barium	0.0097	mg/L	~~B~~ J	0.00052	0.010	SW-846 6010B	P	
Beryllium	0.00066	mg/L	U	0.00066	0.0050	SW-846 6010B	P	
Cadmium	0.00017	mg/L	U	0.00017	0.0050	SW-846 6010B	P	
Calcium	18.7	mg/L		0.051	0.20	SW-846 6010B	P	
Chromium	0.0088	mg/L	~~B~~ J	0.00030	0.010	SW-846 6010B	P	
Cobalt	0.00045	mg/L	U	0.00045	0.010	SW-846 6010B	P	
Copper	0.0014	mg/L	U	0.0014	0.010	SW-846 6010B	P	
Iron	0.18	mg/L		0.022	0.10	SW-846 6010B	P	
Lead	0.0027	mg/L	U	0.0027	0.015	SW-846 6010B	P	
Magnesium	1.14	mg/L		0.010	0.10	SW-846 6010B	P	
Manganese	0.025	mg/L		0.00021	0.015	SW-846 6010B	P	
Mercury	0.000066	mg/L	U	0.000066	0.00020	SW-846 7470A	AV	
Nickel	0.0013	mg/L	U	0.0013	0.040	SW-846 6010B	P	
Potassium	1.46	mg/L		0.048	0.50	SW-846 6010B	P	
Selenium	0.0045	mg/L	U	0.0045	0.040	SW-846 6010B	P	
Silver	0.00062	mg/L	U	0.00062	0.010	SW-846 6010B	P	
Sodium	7.30	mg/L		0.13	1.00	SW-846 6010B	P	
Thallium	0.0018	mg/L	U	0.0018	0.010	SW-846 6010B	P	
Vanadium	0.0012	mg/L	U	0.0012	0.020	SW-846 6010B	P	
Zinc	0.014	mg/L	~~B~~ J	0.0042	0.020	SW-846 6010B	P	

rh

FORM I - IN

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
20901284501	85-24-AW-1-012709	Water	01/27/2009 11:30	01/28/2009 12:20

SW-846 1010 Flashpoint

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/29/2009 11:30	JEM	405319

CAS#	Parameter	Result	RDL	MDL	Units
000000-01-3	FlashPoint	>170	50	50	Deg F

SM 4500 H+B/SW-846 9040A pH

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/28/2009 17:00	JPA	405304

CAS#	Parameter	Result	RDL	MDL	Units
pH	pH	8.02	1.00	1.00	pH unit

CH2MHILL Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No: (770) 604-9182
Fax No: (770) 604-9282

CHAIN-OF-CUSTODY RECORD

[1] COC NUMBER: 371255-012709-03

[2] PROJECT NAME:	[5] PROJECT NUMBER:	[8] LAB NAME AND CONTACT:	[11] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	[14] RECIPIENT 1 (Address, Tel No. , and Fax No.):
NAS Pensacola/ Site 24	371255.20.01.03.01	GCAL 7979 GSRI Avenue Baton Rouge, LA 70820	CH2M HILL Hill Constructors, Inc.	
[3] PROJECT PHASE/SITE/TASK:	[6] CTO OR DO NUMBER:	[9] LAB PO NUMBER:	[12] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	[15] RECIPIENT 2 (Address, Tel No. , and Fax No.):
Waste Characterization	CTO0085	811422	Stacey Krietz, CH2M HILL Hill, Inc.	
[4] PROJECT CONTACT:	[7] PROJECT TEL NO AND FAX NO:	[10] LAB TEL NO AND FAX NO:	[13] FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	[16] RECIPIENT 3 (Address, Tel No. , and Fax No.):
Greg Wilfley		(225) 769-4900		

[25] ANALYSES REQUIRED (Include Method Numbers)

[17] ITEM	[18] SAMPLE IDENTIFIER	[19] SAMPLE DESCRIPTION/LOCATION	[20] MATRIX (see codes on SOP)	[21] DATE COLLECTED	[22] TIME COLLECTED	[23] DATA PKG LEVEL (see codes on SOP)	[24] TAT (calendar days)	VOCs (8260B)	Semi-vol (8270 C) (2) 1L amber	Pes (8081A) (2) 1L amber glass	Herb (8151A) (2) 1L amber	PCBs (8082) (2) 1L amber	TAL Metals (6010B/7470)	Ig (1010/1020A) Corr (9040) *				[26] SAMPLE TYPE (see codes on SOP)	[27] COMMENTS/ SCREENING READINGS	[28] LAB ID (for lab's use)
1	85-24-AW-1-012709	Aqueous Waste		01/27/09	1130			X	X	X	X	X	X	X						1
2	85-24-TB-1-012709	Trip Blank		01/27/09	—															2
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

[29] SAMPLER(S) AND COMPANY: (please print): D. Guglio, T. Manning CH2M HILL

[30] COURIER AND SHIPPING NUMBER: Fed Ex

[31] SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab's use):

[32] RELINQUISHED BY	DATE	TIME	[33] RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
Damian Guglio	1/27/09	1500			
Printed Name and Signature:			Printed Name and Signature:		
Fedex	1-28-09	1220		1-28-09	1220
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] **Original** - Laboratory (To be returned with Analytical Report), [ ] **Copy 1** - Project File, [ ] **Copy 2** - PMO

Form CC1001, Rev 06/00

225

Appendix C
Mass Budget Analysis

Monitoring Well	Date	DO (mg/L)	NO3-N (mg/L)	SO4 (mg/L)	Iron (mg/L)	ORP (mv)	Interpreted Terminal Electron Acceptor
Plume Core Wells							
MW-01	12/1/2008	5.29	0.1 U	0.51	29 J	-97	
MW-02	12/2/2008	2.82				-168	
MW-06	12/2/2008	0.45				1	
MW-07	12/2/2008	0.61				-74	
MW-09	12/2/2008	2.35	0.062 J	4.4	500	-151	
MW-11	12/3/2008	2.49	0.1 J	140	100 U	-160	
MW-13	12/3/2008	0.47				49	
MW-14	12/3/2008	2.32				-76	
MW-20	12/4/2008	6.51				-137	
MW-23	12/5/2008	4.79				166	
MW-24	12/4/2008	2.07	0.1 U	690	52 J	-173	
MW-29	12/2/2008	2.54				202	
Avg		**2.7**	**0.1**	**209**		**-52**	
Exterior/Upgradient Wells							
MW-03	12/2/2008	6.24				83	
MW-04	12/2/2008	6.48				173	
MW-05	12/2/2008	2.44				71	
MW-12	12/3/2008	6.94				76	
MW-15	12/2/2008	2.69				-86	
MW-16	12/2/2008	8.13				78	
MW-17	12/3/2008	4.57	2.4	610	100 U	85	
MW-17 (Dup)	12/3/2008	4.57	2.4	690	100 U	85	
MW-18	12/4/2008	8.29				219	
MW-21	12/4/2008	9.1				96	
MW-27	12/4/2008	6.21				226	
MW-28	12/4/2008	8.22	9.2	400	100 U	173	
MW-32	12/4/2008	7.13				206	
Avg		**6.2**	**4.7**	**567**		**114**	

Notes:

µg/L: micrograms per liter
DO: dissolved oxygen
mg/L: milligrams per liter
NO3-N: nitrate as nitrogen
Blank Cells: measurement no

S04: sulfate
ORP: oxidation-reduction potential
mv: millivolts
U: not detected at a concentration greater than the posted reporting limit
NA: not available

Electron Acceptors	Avg Upgradient Concentrations in MWs 17, 25, 26, 28	Avg In-Plume Concentrations in MWs 9,11,19, 24	Utilized Electron Acceptors	Daily Flow Influx	Mass Electron Acceptor Utilized	Mass HC Degraded*
Units	mg/L	mg/L	mg/L	Liters/day	kg/day	kg/day
Oxygen	6.2	2.7	3.5	14858	0.052	0.017
Nitrate	4.7	0.1	4.6	14858	0.068	0.014
Sulfate	567	209	358	14858	5.319	1.170
					TOTAL	**1.2**

2.64 pounds HC degraded per day

or **964** lbs degraded per year

	Width (ft)	Sat Interval (ft)	Porosity	Velocity ft/day	Daily Flow ft3/d
Estimated Flow Through Aquife	500	10	0.35	0.3	525

14858 liters/day

*Based on 2008 monitoring data where electron acceptors were analyzed

For oxygen 0.32 mg of hydrocarbons are degraded for every 1 mg of Oxygen used
For nitrate, 0.20 mg of hydrocarbons are degraded for every 1 mg of nitrate used
For sulfate, 0.22 mg of hydrocarbons are degraded for every 1 mg of sulfate used

Mass Budgeting and Depletion Analysis - November/December 2008

Sherman Field Former Fuel Farm, NAS Pensacola, Florida

Goal: To show reaction footprints for petroleum hydrocarbons as evidence of natural attenuation (NA) processes at the former Fuel Farm site.

This method of NA study is derived from Natural Attenuation for Groundwater Remediation, March 1, 2000, National Research Council

Assumptions: Toluene (C7H8) is used to represent BTEX for stoichiometic relationships
Laboratory data that indicated a non-detection was assumed to be half of the detection limit during calculations.
Parameters from 24-MW4S were used as background values.
Geochemical data from monitoring wells with BTEX exceedances during the November/December 2008 sampling event were evaluated.
If values for downgradient NA parameters were the opposite of the theoretically expected value (i.e., downgradient sulfate higher than the background), then they were assumed to be the same as the background value.

Field Measurements

Monitoring Well	Date	Location	pH	DO (mg/L)	Nitrate (mg/L)	Ferrous Iron (mg/L)		Sulfate (mg/L)		Methane (mg/L)	Alkalinity (mg/L)	BTEX (mg/L)		ORP (mV)
24-MW4S	11/25/08	Upgradient/No Detections	5.59	4.98	NM	0		1.70	JB	0.006	40	0.0004	U	93.1
24-MW3S	11/25/08	Center of Former Tank Farm	5.84	0.62	NM	7		0.04	JB	5.48	120	7.353		-97.2
24-MW1S	11/24/08	Directly Downgradient - Tank Farm	5.95	1.80	NM	10	U	0.66	JB	8.08	220	0.669		-95.4
24-MW2S	11/24/08	Former Tank Farm	5.98	1.14	NM	4.4		NM		NM	160	3.776		-82.2
24-MW16S	11/25/08	Downgradient	5.67	0.44	NM	1.6		2.04	JB	2.97	80	1.964		-101.3
24-MW12S	11/25/08	Downgradient	5.80	0.95	NM	NM		NM		NM	NM	0.723		-61.6
24-MW22S	12/1/08	Downgradient	5.59	0.21	NM	NM		NM		NM	NM	2.349		-117.6
24-MW24S	12/1/08	Downgradient	5.85	0.80	NM	NM		NM		NM	NM	1.386		-110
Best NA values		Downgradient and Source	5.98	0.21	-	7		0.04		8.08	220	0.67		-117.6
Average NA values		Downgradient and Source	5.81	0.85	-	4.50		0.92		6	145	2.60		-95.0
Least NA values		Downgradient and Source	5.59	1.80	-	1.6		2.04		2.97	80	7.35		-61.6

Notes:
1. Nitrate was not measured.
2. Sulfate was reported as Sulfate as Sulfate (SO4). The data was converted to values of Sulfate as Sulfur (S) in order to be consistent with the stoichiometric relationships below.

DO: dissolved oxygen
mg/L: milligrams per liter
ORP: oxidation-reduction potential
mv: millivolts

J: estimated value
U: not detected at a concentration greater than the posted reporting limit
NA: natural attenuation
NM: not measured

Assimilative Capacity Calculations:

Geochemical Change Calculations

Constituent		No Exceedances 24-MW4S	Impacted Wells Average	Change Average	Indication of NA Process
O_2	mg/L	4.98	0.85	-4.13	Yes
NO_3	mg/L	NM	NM	0	NM
Fe^{2+}	mg/L	0	4.50	4.50	Yes
SO_4	mg/L	1.70	0.92	-0.78	Yes
Methane (CH_4)	mg/L	0.01	5.51	5.50	Yes
Alkalinity ($CaCO_3$)	mg/L	40	145	105	Yes
pH (CO_2)	mg/L	5.59	5.81	0.22	Yes
Total CO2 (C) *	mg/L	NM	NM	0	NM

	Downgradient Best NA	Change on Best values	Downgradient Least NA	Change on Best values
O_2	0.21	-4.77	1.80	-3.18
NO_3	NM	0	NM	0
Fe^{2+}	7.00	7.00	1.60	1.60
SO_4	0.04	-1.66	2.04	0
CH_4	8.08	8.07	2.97	2.96
Alkalinity ($CaCO_3$)	220	180	80	40
pH (CO_2)	5.98	0.39	5.59	0
Total CO2 (C) *	NM	0	NM	0

* CO_2 was not measured during laboratory testing. It was left in the worksheet to keep the procedure consistent with the protocol (NRC, 2000)

Mass Budgeting and Depletion Analysis - November/December 2008

Sherman Field Former Fuel Farm, NAS Pensacola, Florida

Reaction Table (Data from Natural Attenuation for Groundwater Remediation, March 1, 2000, National Research Council, Page 158, Box 4-5)

Stoichiometric Mass Ratios

Reaction	g C_7H_8/g acceptor	g CO_2-C/g acceptor	g alkalinity as $CaCO_3$/g acceptor
Aerobic **(O_2)**	0.319g C_7H_8/g O_2	-0.29 gC/g O_2	0g as $CaCO_3$/g O_2
Denitrification **(NO_3^{-1} as N)**	0.917g C_7H_8/g N	-0.83 gC/g N	-3.57g as $CaCO_3$/g N
Iron Reduction **(Fe^{2+} generated)**	-0.046g C_7H_8/g Fe^{2+}	0.042 gC/g Fe2+	1.79g as $CaCO_3$/g Fe2+
Sulfate reduction **(SO_4^{2-} as S)**	0.637g C_7H_8/g S	-0.53 gC/g S	-3.13g as $CaCO_3$/g S
Methananogenesis **(CH_4 generated)**	-1.28g C_7H_8/g CH_4	0.42 gC/g CH_4	0g as $CaCO_3$/g CH_4

The ratio in the Reaction Table are multiplied by the observed changes in electron acceptors to predict changes in BTEX, CO_2 and alkalinity

For Average NA Values

Computed changes in BTEX (as C_7H_8), Inorganic Carbon (as C) and Alkalinity (as $CaCO_3$)

Reaction	Observed Change in Acceptor or Product Concentration (mg/L)	Computed Changes Total CO_2 (mg C/ L)	Alkalinity (mg as $CaCO_3$ / L)	BTEX (mg C_7H_8 / L)
Aerobic Respiration (O_2)	-4.13	1.20	0	1.32
Denitrification (NO_3^{-1} as N)	0.00	0	0	0
Iron Reduction (Fe^{2+} generated)	4.50	0.19	8.06	0.21
Sulfate Reduction (SO_4^{2-} as S)	-0.78	0.41	2.45	0.50
Methanogenesis (CH_4 generated)	5.50	2.31	0	7.05
Total		4.11	10.5	**9.1**

The computed alkalinity value is much smaller than the measured value shown in the field measurements table. This suggests that additional degradation is occurring than shown in the above calculations. This would be via a reaction which does not add alkalinity to groundwater (either aerobic oxidation or methanogenesis). Methanogenesis (which was not evaluated due to lack of methane data) is most likely occurring in groundwater. Additional aerobic oxidation, which is not accounted for, may be proceeding in the vadose zone. Iron reduction and ulsfate reductiomay be dominant in downgradient wells, which were not analyzed.

For Best NA Values

Computed changes in BTEX (as C_7H_8), Inorganic Carbon (as C) and Alkalinity (as $CaCO_3$)

Reaction	Observed Change in Acceptor or Product Concentration (mg/L)	Computed Changes Total CO_2 (mg C/ L)	Alkalinity (mg as $CaCO_3$ / L)	BTEX (mg C_7H_8 / L)
Aerobic (O_2)	-4.77	1.38	0	1.52
Denitrification (NO_3^{-1} as N)	0.00	0	0	0
Iron Reduction (Fe^{2+} generated)	7.00	0.29	12.5	0.32
Sulfate reduction (SO_4^{2-} as S)	-1.66	0.88	5.2	1.05
Methananogenesis (CH_4 generated)	8.07	3.39	0	10.33
Total		5.9	17.7	**13.2**

For Least NA Values

Computed changes in BTEX (as C_7H_8), Inorganic Carbon (as C) and Alkalinity (as $CaCO_3$)

Reaction	Observed Change in Acceptor Concentration (mg/L)	Computed Changes Total CO_2 (mg C/ L)	Alkalinity (mg as $CaCO_3$ / L)	BTEX (mg C_7H_8 / L)
Aerobic (O_2)	-3.18	0.92	0	1.01
Denitrification (NO_3^{-1} as N)	0.00	0	0	0
Iron Reduction (Fe^{2+} generated)	1.60	0.07	2.86	0.07
Sulfate reduction (SO_4^{2-} as S)	0.00	0	0	0
Methananogenesis (CH_4 generated)	2.96	1.24	0	3.79
Total		2.2	2.9	**4.9**

Mass Budgeting and Depletion Analysis - November/December 2008

Sherman Field Former Fuel Farm, NAS Pensacola, Florida

Mass Removal/Depletion Calculations:

Estimated Flow Through Aquifer Calculations

Parameter	Units	Value
Average Plume Width	feet	300
Saturated Thickness (Shallow Zone)	feet	30
Porosity	---	0.3
Groundwater Velocity	feet/day	2.5
Daily Flow	cubic feet/day	**6,696**
	liters/day	**189,610**

For Average NA Values

Reaction	Observed Change in Acceptor or Product Concentration (mg/L)	Mass of Electron Acceptor Utilized or Product Generated (g/day)	BTEX Depletion Rate* (g/day)	BTEX Depletion Rate* (lb/year)
Aerobic Respiration (O_2)	-4.13	-783	-250	
Denitrification (NO_3^{-1} as N)	0.00	0	0	
Iron Reduction (Fe^{2+} generated)	4.50	853	39	
Sulfate Reduction (SO_4^{2-} as S)	-0.78	148	95	
Methanogenesis (CH_4 generated)	5.50	1044	1336	
Total			**1,220**	**982**

*Calculated using Stoichiometric relationships listed above.

Appendix D
Investigation-Derived Waste Documentation

MACLAND DISPOSAL CENTER

GENERATOR WASTE PROFILE SHEET

Waste Profile #
ML
Date:

I. GENERATOR INFORMATION

Generator Name: NAS Pensacola			
Generator Site Address: 310 John Tower Road			
City: Pensacola	**County**: Escambia	**State**: FL	**Zip**: 32508
Generator State ID No:		**SIC Code No**:	
Generator Mailing Address (if different): same			
City:	**County**:	**State**:	**Zip**:
Generator Contact Name: Greg Campbell			
Phone Number: 850-452-3131 ext 3007		**Fax Number**:	

II. WASTE STREAM INFORMATION

Name of Waste: IDW water

Process Generating Waste: collection of purge and monitoring well water

Type of waste: ☐ INDUSTRIAL PROCESS WASTE or ☑ POLLUTION CONTROL WASTE

Physical State: ☐ SOLID ☐ SEMI-SOLID ☐ POWDER ☑ LIQUID ☐ OTHER:

Method of Shipment: ☐ BULK ☑ DRUM ☐ BAGGED ☐ OTHER/EXPLAIN:

Estimated Annual Volume: CUBIC YARDS TONS 1 drum OTHER

Frequency: ☑ ONE TIME ONLY ☐ DAILY ☐ WEEKLY ☐ MONTHLY ☐ OTHER/EXPLAIN:

SPECIAL HANDLING INSTRUCTIONS:

III. PHYSICAL CHARACTERISTICS OF WASTE

	CHARACTERISTIC COMPONENTS	% BY WEIGHT (range)
1.	water	99.00%
2.	soil	1.00%
3.		

Color	Odor (describe):	Free Liquids: ☑ YES ☐ NO % Content	% Solids:	pH:	Flash Point	Phenol
clear	none	>99	<1	8.02	>170 °F	0 ppm

Attach Laboratory Analytical Report (and/or Material Safety Data Sheet)
Including Required Parameters Provided for this Profile

Does this waste or generating process contain regulated concentrations of the following Pesticides and/or Herbicides: Chlordane, Endrin, Heptachlor (and its epoxides), Lindane, Methoxychlor, Toxaphene, 2, 4-D, 2, 4, 5, -TP Silvex as defined in § 40 CFR 261.33?	☐ YES or ☑ NO
Does this waste or generating process cause it to exceed OSHA exposure limits from high levels of Hydrogen Sulfide or Hydrogen Cyanide as defined in § 40 CFR 261.23?	☐ YES or ☑ NO
Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCB's) as defined in § 40 CFR Part 761?	☐ YES or ☑ NO
Does this waste contain regulated concentrations of listed hazardous wastes defined by § 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents?	☐ YES or ☑ NO
Does this waste contain regulated concentrations of 2, 3, 7, 8, -Tetrachlorodibenzodioxin (2, 3, 7, 8 - TCCD), or any other dioxin as defined in § 40 CFR 261.31?	☐ YES or ☑ NO
Is this a regulated Toxic Material as defined by Federal and/or State regulations?	☐ YES or ☑ NO
Is this a regulated Radioactive Waste as defined by Federal and/or State regulations?	☐ YES or ☑ NO
Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?	☐ YES or ☑ NO
Is this waste generated at a Federal Superfund Clean Up Site?	☐ YES or ☑ NO

IV. GENERATOR CERTIFICATION

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true and accurate description of the waste material being offered for disposal. I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste, medical or infectious waste, or any other waste material this facility is prohibited from accepting by law. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue.

GREG CAMPBELL, ENVIRONMENTAL ENGINEER
AUTHORIZED REPRESENTATIVE NAME AND TITLE (Printed)

NAS PENSACOLA
U.S. NAVY PUBLIC WORKS DEPT.
COMPANY NAME

AUTHORIZED REPRESENTATIVE SIGNATURE

5/7/09
DATE

V. MACLAND DISPOSAL CENTER

☐ Approved ☐ Rejected ☐ Expiration _____

Conditions:

Name, Title

Signature

MacLand Disposal Center
11300 Hwy 63 Moss Point MS 39563
PH: (228) 475-9747 FX:(228) 475-9744
DRIVE SAFELY!

Ticket: 146260
Date: 5/14/2009
Time: 13:24:47 - 13:25:21
Scale
Gross: 9480LB M In Manual Wt
Tare: 9000LB 1 Out Scale
Net: 480LB

Truck: GREER001
Customer: CAPITOL/Capitol Environ
Carrier: GREER/Greer Enterprise Truck Type: box trailer

Profile: ML5723/IDW waste / NAS Pe

Generator: NAS-PENSA/Naval Air Stat
Grid: D -L1/blk ,lvl1,cel4
Comment:

Manifest: 051409

Origin	Materials & Services	Quantity
ESCAMBIA/Escambia Count	IDW-DR/Investigative Derived	1.00 Units Units
ESCAMBIA/Escambia Count	TRANSPRT-U/transportation fe	1.00 Units Units

Driver: _____ Deputy Weighmaster: _____
SCALE

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: N/A
2. Page 1 of 1
3. Emergency Response Phone:
4. Waste Tracking Number: # 051409

5. Generator's Name and Mailing Address
NAS Pensacola
310 John Tower Road, Pensacola, FL 32508
Generator's Phone: 850 4523131x3007 Attn: Greg Campbell

Generator's Site Address (if different than mailing address)
NAS Pensacola
Same

6. Transporter 1 Company Name: Greer Enterprises
U.S. EPA ID Number: N/A

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Macland Disposal Center
11300 Highway 63 North
Facility's Phone: 601 961-5611 Moss Point, MS 39563
U.S. EPA ID Number: N/A

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Nonhazardous, Non DOT regulated water		DM		G	None
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
1. ML5723 IDW water CTO-85

CESI Job# ROAN-TFORT-3799-17325

X

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: GREG CAMPBELL
Signature: Greg Campbell
Month 05 Day 14 Year 09

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rosco Treadwell
Signature: Rosco Treadwell
Month 5 Day 14 Year 09
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

Macland Disposal

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: N. Moreno
Signature: N Moreno
Month 5 Day 14 Year 09

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

169-BLS-C 6 10497 (Rev. 8/06)

DESIGNATED FACILITY TO GENERATOR