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LETTER REPORT REGARDING SECOND QUARTER FREE PRODUCT/TREATABILITY  
STUDY AND BASELINE GROUNDWATER MONITORING REPORT FOR CALENDAR YEAR  
2010 AT SITE 351-2 NS MAYPORT FL  
2/9/2011  
TETRA TECH NUS



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Project Number 112G02316

Commander, Southeast  
Naval Facilities Engineering Command  
ATTN: Beverly Washington (Code OPA5)  
135 Ajax Street North, Building 135  
Naval Air Station Jacksonville  
Jacksonville, FL 32212-0030

Reference: CLEAN IV Contract Number N62467-04-D-0055  
Contract Task Order Number 0160

Subject: Second Quarter Free Product/Treatability Study and Baseline Groundwater Monitoring  
Report for Site 351-2 for Calendar Year 2010  
Naval Station Mayport, Jacksonville, Florida

Dear Ms. Washington:

Tetra Tech NUS, Inc. (Tetra Tech) is pleased to submit the Site 351-2 Second Quarter Free Product/Treatability Study and Groundwater Monitoring Report for Contract Task Order (CTO) 0160. This report was prepared for the United States Navy, Naval Facilities Engineering Command, Southeast (NAVFAC SE) for the Comprehensive Long-term Environmental Action Navy IV Contract Number N62467-04-D-0055. This letter report provides the results of the second quarter groundwater sampling event for calendar year 2010. In addition to the quarterly groundwater laboratory results, this report also contains results from samples collected in preparation for the BIOX<sup>®</sup> treatability study that will be performed at the site.

**SITE LOCATION**

Naval Station (NAVSTA) Mayport is located within the corporate limits of the city of Jacksonville, Duval County, Florida, approximately 12 miles to the northeast of downtown Jacksonville and adjacent to the town of Mayport. A Regional Area Map is provided as Figure 1. The Station complex is located on the northern end of a peninsula bound by the Atlantic Ocean to the east and the St. Johns River to the north. NAVSTA Mayport occupies the entire northern part of the peninsula except for the town of Mayport, which is located to the west between the Station and the St. Johns River.

**SITE DESCRIPTION**

Site 351-2 is located on the northwestern side of Building 351 in the northeastern section of NAVSTA Mayport as shown on Figure 2. Building 351 is one of the primary buildings comprising the Training Site Detachment. The source area for the current investigation is located between Building 351 and Building 1388. Building 1388 is approximately 35 feet northwest of Building 351.



## HISTORICAL SUMMARY

On December 16, 2003, it was discovered that a release of 650 gallons of No. 2 fuel oil from a faulty fuel line located at Building 351 spilled into a grassy area located between Buildings 351 and 1388. Seven 55-gallon drums of petroleum-impacted waste were generated during the initial cleanup of the site. The spill report documentation, however, stated, "cleanup of the spill is not complete." The spill report documentation is presented as Attachment A.

As part of a removal on June 28, 2004, Aerostar Environmental Services, Inc. was contracted by NAVFAC SE to remove impacted soil for disposal. The excavation included a 15-foot by 5-foot by 3-foot deep area and resulted in the removal of 14.14 tons of impacted soil. The impacted soil was placed in a roll off container and transported offsite for disposal at a licensed facility.

Tetra Tech conducted soil and groundwater investigations at the site in two phases. Phase I (August 2005 and March 2006) was a screening phase in which soil and groundwater grab samples were collected by direct push technology (DPT) and hand drive point methods. Phase II (December 2006 and January 2007) included the installation of five permanent and three temporary monitoring wells at locations based upon the Phase I results. During Phase I, various soil and groundwater samples were analyzed by an on-site mobile laboratory, and soil headspace vapors were screened using an organic vapor analyzer. During Phase II, collected soil and groundwater samples were analyzed for Gasoline Analytical Group (GAG)/Kerosene Analytical Group (KAG) per Chapter 62-770, Florida Administrative Code (F.A.C.) using a fixed-base laboratory. Screening results indicated vapor headspace readings from 20 of the samples exceeding 10 parts per million (ppm) with 15 of the samples exceeding the 50 ppm "excessively contaminated" level per Chapter 62-770, F.A.C. The results from the soil investigation at the site were used to perform a source removal.

During January 3 through 6, 2007, Fueling Components, Inc. of Jacksonville Florida conducted an excavation of petroleum-impacted soils at Site 351-2 that was supervised by a Tetra Tech representative. Approximately 76 tons of soil were removed from the excavation and stockpiled at the site to await disposal. Several areas of petroleum-impacted soils could not be excavated during the source removal due to the presence of underground utilities and the close proximity of buildings. The excavation was backfilled with clean fill and compacted to an estimated 90 percent compaction using a hand compactor to reduce subsidence. On January 8, 2007, soil from the excavation of Site 351-2 was removed for disposal by Soil Remediation, Inc. of Kingsland, Georgia, a state licensed soil incineration facility.

From January 3 to 6, 2007, the remaining petroleum-impacted soil from the original release was excavated by Fueling Components Inc. of Jacksonville Florida, and a Tetra Tech representative provided oversight. Approximately 76 tons of soil were removed from the excavation and stockpiled at the site to await disposal. Several areas of petroleum-impacted soils could not be excavated during the source removal due to the presence of underground utilities and the close proximity of buildings. The excavation was backfilled with clean fill and compacted to an estimated 90 percent compaction using a hand compactor to reduce subsidence. On January 8, 2007, soil from the excavation of Site 351-2 was removed for disposal by Soil Remediation, Inc. of Kingsland, Georgia, a state licensed soil incineration facility.

During the May 13, 2008, NAVSTA Mayport Tier I Partnering Team meeting, the implementation of a treatability study was proposed and approved for Site 351-2. The treatability study involved the use of BIOX<sup>®</sup>, an oxidizing insitu treatment of the soil and groundwater. To utilize this technology the free product thickness at the site must be less than 1 inch in thickness.

To facilitate the reduction of free product, a Tetra Tech representative oversaw the installation of 13 2-inch diameter recovery wells installed from January 6 through 8, 2009, to an approximate depth of 13 feet below land surface. The recovery wells were placed near monitoring wells MPT-351-2 MW05S and MPT-351-2 MW-03S. Petroleum sorbent materials (called "socks") were installed the wells, and any free product not collected in the sock was removed using a peristaltic pump.



On February 25 and 26, 2010, a Tetra Tech representative collected the first quarter groundwater samples for laboratory analyses. Five monitoring wells were sampled for benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary-butyl ether (MTBE) using United States Environmental Protection Agency (USEPA) Method 8260B; polynuclear aromatic hydrocarbons (PAHs) using USEPA Method 8270; and total recoverable petroleum hydrocarbons (TRPH) using the Florida Petroleum Residual Organics (FL-PRO) Method. Petroleum constituents were detected in monitoring wells MW-03S and MW-05S with groundwater constituent levels that exceeded Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTLs). Naphthalene was identified as the only groundwater constituent that exceeded GCTLs in monitoring well MW-03S (23.8 micrograms per liter [ $\mu\text{g/L}$ ]), and one of the groundwater constituents that exceeded GCTLs in monitoring well MW-05S (47.2  $\mu\text{g/L}$ ). Other groundwater constituents that exceeded GCTLs in monitoring well MW-05S were 1-methylnaphthalene (56.9  $\mu\text{g/L}$ ) and 2-methylnaphthalene (75.0  $\mu\text{g/L}$ ).

### **BIOX<sup>®</sup> TREATABILITY STUDY**

On May 6, 2010, three additional monitoring wells were installed at the site. Monitoring wells MW-06S, MW-07S, and MW-08S were installed via DPT by Groundwater Protection under supervision of Tetra Tech personnel. The monitoring wells were installed as a part of a BIOX<sup>®</sup> treatability study at Site 351-2. The three newly installed monitoring wells will be used in conjunction with the existing five monitoring wells at the site to assess the effectiveness of the treatability study.

The treatability study evaluated the effectiveness of treatment of contaminated groundwater with BIOX<sup>®</sup>. The BIOX<sup>®</sup> process combines controlled chemical oxidation and enhanced biodegradation of contaminants in soil and groundwater. BIOX<sup>®</sup> was injected into the shallow groundwater and intermediate zone (3 to 20 feet below land surface) to remediate the release of fuel oil impacts at this site. Further details about the treatability study can be found in the Treatability Study Work Plan included as Attachment B. Additional data regarding the BIOX<sup>®</sup> injections will be included in future post-injection monitoring reports.

The path forward for the treatability study was to reduce the thickness of free product using the existing monitoring wells and 13 additional recovery wells. Once the free product thickness was reduced to 1 inch or less, a baseline groundwater sampling event will be conducted prior to the application of BIOX<sup>®</sup>. Once the BIOX<sup>®</sup> had been applied, subsequent quarterly groundwater sample events were to follow for 1 year.

The results of source removal and treatability study efforts are to be included in the Site Assessment Report as a single document to be submitted to the Navy and Florida Department of Environmental Protection (FDEP) documenting the work conducted at Site 351-2 at a future date to be determined.

### **SAMPLING METHODS**

On May 18 and 19, 2010, a Tetra Tech representative collected groundwater samples for laboratory analyses. The analytical data from this sampling event will serve as a baseline for the treatability study and the second quarterly monitoring event. Eight monitoring wells were sampled for BTEX and MTBE using USEPA Method 8260B, PAHs using USEPA Method 8270, and TRPH using the FL-PRO Method. The eight monitoring wells were also sampled for permit required parameters Iron and Sodium using USEPA Method 6010B, Ammonia using USEPA Method 350.1, Nitrate using USEPA Method 353.2, Sulfate using USEPA Method 300, and Total Dissolved Solids (TDS) using USEPA Method 160.1.

Groundwater sampling was conducted in general accordance with FDEP Standard Operating Procedure DEP-SOP-001/01, FS 2200 (February 2004). A minimum one well volume was pumped from each shallow well (partially submerged screen), and a minimum one volume of the pump, associated tubing, and flow cell was pumped from the deep well (fully submerged screen) using a peristaltic pump and the low flow quiescent purging method. After purging of these initial quantities, purging was continued and



field parameters pH, specific conductance, dissolved oxygen, and temperature were measured periodically (minimum 3-minute intervals) using an YSI 556 instrument. Turbidity was measured using LaMotte 2020 turbidimeter.

Purging was considered complete when three consecutive measurements were within the following limits:

- Temperature  $\pm 0.2$  degrees Celsius ( $^{\circ}\text{C}$ )
- pH  $\pm 0.2$  Standard Units
- Specific conductivity  $\pm 5$  percent of previous reading(s)
- Dissolved oxygen not greater than 20 percent of saturation at field measured temperature
- Turbidity less than or equal to 20 Nephelometric Units

After collection, samples were immediately placed on ice and delivered to Accutest Laboratories in Orlando, Florida the following morning under proper chain-of-custody and preservation ( $4^{\circ}\text{C}$  protocol). Samples were analyzed for GAG/KAG constituents in accordance with Table B of Chapter 62-770, F.A.C., which included volatile organic compounds using USEPA Method 8260, PAHs using USEPA Method 8270, ethylene dibromide using USEPA Method 8011, total lead using USEPA Method 6010, TRPH using the FL-PRO method, Iron and Sodium using USEPA Method 6010B, Ammonia using USEPA Method 350.1, Nitrate using USEPA Method 353.2, Sulfate using USEPA Method 300, and TDS using USEPA Method 160.1. Field data sheets are included in Attachment C.

## GROUNDWATER FLOW

Depth-to-groundwater was measured from the top of casing (TOC) of the monitoring wells using an electronic water level indicator. The groundwater elevation recorded at a monitoring well was obtained by subtracting the depth-to-water measurement from the surveyed TOC elevation. Depths-to-groundwater and surveyed TOC elevations were measured on May 18, 2010, and are provided in Table 1. A groundwater elevation contour map generated from depth-to-water measurements recorded during the second quarter sampling event is provided as Figure 3. Data provided in Figure 3 shows components of groundwater flow to the northwest. Historical groundwater flow direction is typically north or northeast although occasional variations the flow direction have been noted in the past.

## FREE PRODUCT

Free product measurements are taken monthly using an Oil Recovery System (ORS) free product probe that electronically sounds for free product and water. If free product is present, the free product is removed by low flow pumping using a peristaltic pump and containerized for disposal. Sorbent socks are also installed and checked weekly for free product saturation. Saturated socks are removed and containerized. The volume of free product absorbed by the socks is estimated by field personnel and included with removed standing free product volumes. The free product thickness measurements and volumes recovered are presented as Table 2.

Beginning in April 2008, Tetra Tech representatives measured thicknesses of free product using an ORS electronic free product probe and removed free product, when present, at Site 351-2. Free product readings have been recorded April 2008 through May 2010. No measureable free product has been found since June 2009. The thickest free product measurement recorded to date occurred during the January 2009 field effort, during which a thickness of 2.49 feet was recorded. To date, approximately 114.6 liters of free product have been removed from the site using both peristaltic pumps and sorbent socks. The current trend for the past year is a decrease in free product thickness.



## DISCUSSION OF GROUNDWATER ANALYTICAL RESULTS

On May 18 and 19, 2010, a Tetra Tech representative collected groundwater samples for laboratory analyses. Eight monitoring wells were sampled for BTEX and MTBE using USEPA Method 8260B, PAHs using USEPA Method 8270, and TRPH using the FL-PRO Method. A summary of the groundwater analytical results are presented as Table 3, and well location are depicted on Figure 4. Samples were also analyzed for permit required parameters to determine baseline data in preparation for the treatability study at the site. Analytical results of these parameters are presented in Table 4. Groundwater analytical data is included as Attachment D.

Petroleum constituents were detected in monitoring wells MW-03S, MW-05S, and MW-06S with groundwater constituent levels that exceeded FDEP GCTLs. Benzene was identified as the only groundwater constituent that exceeded GCTLs in monitoring well MW-03S (1.8 µg/L) and one of the groundwater constituents that exceeded GCTLs in monitoring well MW-05S (1.4 µg/L). Other groundwater constituents that exceeded GCTLs in monitoring well MW-05S were 1-methylnaphthalene (110 µg/L), 2-methylnaphthalene (150 µg/L), and naphthalene (120 µg/L). Benzene (6.0 µg/L), 1-methylnaphthalene (110 µg/L), 2-methylnaphthalene (140 µg/L), naphthalene (180 µg/L), and TRPH (14 mg/L) were all detected in monitoring well MW-06S above GCTLs with the concentration of naphthalene also exceeding Natural Attenuation Default Source Concentrations (NADSCs). This is the only recorded exceedance of NADSCs since monitoring began in January 2006.

## SECOND QUARTER CONCLUSIONS

Based on the additional site information obtained during the second quarter monitoring event, it is concluded that measurable free product has been absent from the site since June 2009. Groundwater impacts are present in excess of FDEP GCTLs in three of eight monitoring wells.

The next quarterly sampling effort will document the initial results of the BIOX<sup>®</sup> injections completed in May 2010. This data will be used for completion of a Site Assessment Report for Site 351-2 that will include recommendations for further actions as necessary.

If you have any questions, please feel free to contact me at (904) 730-4669, extension 213, or via e-mail at [Mark.Peterson@tetrattech.com](mailto:Mark.Peterson@tetrattech.com).

Sincerely,

Mark A. Peterson, P.G.  
Project Manager

MP/ds

Attachments (12)

- c: John Winters, FDEP (2 copies, 1 CD)  
Paul Malewicki, NAVSTA Mayport (1 copy, 1 CD)  
Debra Humbert, Tetra Tech (1 unbound copy, 1 CD)  
RDM (1 unbound copy, 1 CD)  
NAVSTA Mayport Administrative Record (electronic copy)  
CTO 0160 Project File



**CERTIFICATION**

The information contained is based on the geologic investigation and associated information detailed in the text and appended to this letter report. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of any additional information on the information described in this report. This Second Quarter Free Product/Treatability Study and Baseline Groundwater Monitoring Report for Calendar Year 2010 was developed for Site 351-2 at the Naval Station Mayport, Jacksonville, Florida, and should not be construed to apply to any other site.

A handwritten signature in black ink, appearing to read 'Mark A. Peterson', written over a horizontal line.

February 9, 2011

Mark Peterson, P.G.

Florida License Number PG-1852

Task Order Manager

**TABLES**

**TABLE 1**  
**TOP OF CASING SURVEY DATA AND DEPTH-TO-GROUNDWATER MEASUREMENTS**  
 SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
 SITE 351-2 - CALENDAR YEAR 2010  
 NAVAL STATION MAYPORT  
 JACKSONVILLE, FLORIDA

Monitoring Well	TOC (feet)	18-May-10	
		Depth-to-Groundwater (feet)	Feet Above Mean Sea Level
MW-01S	7.75	4.32	3.43
MW-02S	7.73	5.59	2.14
MW-03S	7.59	5.59	2.00
MW-05S	8.17	6.59	1.58
MW-06S	NM	6.43	NM
MW-07S	NM	6.58	NM
MW-08S	NM	5.97	NM

Notes:

Depth-to-Groundwater measurements were taken on May 18, 2010.

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
PAGE 1 OF 11

DATE	MW-05S		MW-03S		RW-01	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
04/07/08	1.1	300	1.4	1500	NM	none
05/29/08	0.16	200	0.55	2000*	NM	none
06/20/08	NM	NM	1.85	3000	NM	none
07/15/08	0.75	300	0.6	2350*	NM	none
07/25/08	0.5	300	0.44	1500*	NM	none
08/01/08	0	0	0.27	2500*	NM	none
08/08/08	0.1	100	0.08	200	NM	none
08/14/08	0	0	0.31	2500*	NM	none
08/28/08	0	0	0.35	2500*	NM	none
09/04/08	0	0	0.5	3500*	NM	none
09/08/08	0	0	0.35	2000*	NM	none
09/18/08	0	0	0.31	2400*	NM	none
09/25/08	0	0	0.31	3500*	NM	none
10/02/08	none	none	0.43	3500*	NM	none
10/07/08	none	none	0.3	3000*	NM	none
10/16/08	none	none	0.24	3500*	NM	none
10/27/08	none	none	0.13	4000*	NM	none
11/07/08	none	none	0.2	3000*	NM	none
11/26/08	none	none	0.23	4000*	NM	none
12/11/08	none	none	none	none	NM	none
12/31/08	none	none	none	none	NM	none
01/09/09	none	none	0.34	500	NM	none
01/15/09	none	none	0.54	1000	NM	none
01/22/09	none	none	none	1000 **	NM	none
01/30/09	none	none	2.49	6000	NM	none
02/02/09	none	none	0.26	2000	NM	none
02/09/09	none	none	0.94	2000	NM	none
02/19/09	none	none	1.23	3000	NM	none
02/26/09	none	none	1.02	2000	NM	none
02/27/09	none	none	0.88	2500	NM	none
03/02/09	none	none	1.03	3000	NM	none
03/13/09	none	none	1.09	3000	NM	none
03/19/09	none	none	1.11	3000	NM	none
03/23/09	NM	none	none	1000 **	N/A	500 **
04/01/09	N/A	N/A	NM	NM	0.3	800
04/13/09	none	none	0.6	1000	none	500 **
04/16/09	none	none	0.37	2000	none	none
04/22/09	none	none	none	none	none	none
05/01/09	none	none	none	none	none	none
05/08/09	none	none	none	none	0.4	1000
06/05/09	none	none	2.1	2000	none	500 **
06/08/09	none	none	0.67	500	0.2	600

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
PAGE 2 OF 11

DATE	MW-05S		MW-03S		RW-01	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
06/24/09	none	none	none	450 **	none	none
07/01/09	none	none	none	250 **	none	none
07/07/09	none	none	none	250 **	none	none
07/17/09	none	none	NM	500 **	none	100 **
07/31/09	NM	none	NM	100 **	none	none
08/05/09	none	none	none	none	none	none
08/10/09	none	none	N/A	none	none	none
08/19/09	none	none	none	none	none	none
09/03/09	none	none	none	none	none	none
09/25/09	none	none	N/A	none	none	none
10/02/09	none	none	none	none	none	none
10/07/09	none	none	none	none	none	none
10/13/09	none	none	none	none	none	none
10/21/09	none	none	N/A	none	none	none
10/27/09	none	none	none	none	none	none
11/18/09	none	none	none	none	none	none
11/25/09	none	none	none	none	none	none
12/04/09	none	none	N/A	none	none	none
12/09/09	none	none	none	none	none	none
12/14/09	none	none	none	none	none	none
12/30/09	none	none	none	none	none	none
01/06/10	none	none	none	none	none	none
01/11/10	none	none	none	none	none	none
01/29/10	none	none	none	none	none	none
02/04/10	none	none	none	none	none	none
02/11/10	none	none	none	none	none	none
02/18/10	none	none	none	none	none	none
02/26/10	none	none	none	none	none	none
03/05/10	none	none	none	none	none	none
03/10/10	none	none	none	none	none	none
03/19/10	none	none	none	none	none	none
03/25/10	none	none	none	none	none	none
04/01/10	none	none	none	none	none	none
04/09/10	none	none	none	none	none	none
04/16/10	none	none	none	none	none	none
04/19/10	none	none	none	none	none	none
04/28/10	none	none	none	none	none	none
05/07/10	none	none	none	none	none	none
05/14/10	none	none	none	none	none	none
05/21/10	NM	NM	none	none	none	none
05/27/10	NM	NM	none	none	none	none

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
PAGE 3 OF 11

DATE	RW-02		RW-03		RW-04	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
04/07/08	NM	none	NM	none	NM	none
05/29/08	NM	none	NM	none	NM	none
06/20/08	NM	none	NM	none	NM	none
07/15/08	NM	none	NM	none	NM	none
07/25/08	NM	none	NM	none	NM	none
08/01/08	NM	none	NM	none	NM	none
08/08/08	NM	none	NM	none	NM	none
08/14/08	NM	none	NM	none	NM	none
08/28/08	NM	none	NM	none	NM	none
09/04/08	NM	none	NM	none	NM	none
09/08/08	NM	none	NM	none	NM	none
09/18/08	NM	none	NM	none	NM	none
09/25/08	NM	none	NM	none	NM	none
10/02/08	NM	none	NM	none	NM	none
10/07/08	NM	none	NM	none	NM	none
10/16/08	NM	none	NM	none	NM	none
10/27/08	NM	none	NM	none	NM	none
11/07/08	NM	none	NM	none	NM	none
11/26/08	NM	none	NM	none	NM	none
12/11/08	NM	none	NM	none	NM	none
12/31/08	NM	none	NM	none	NM	none
01/09/09	NM	none	NM	none	NM	none
01/15/09	NM	none	NM	none	NM	none
01/22/09	NM	none	NM	none	NM	none
01/30/09	NM	none	NM	none	none	none
02/02/09	NM	none	NM	none	none	none
02/09/09	NM	none	NM	none	none	500 **
02/19/09	NM	none	NM	none	none	300 **
02/26/09	NM	none	NM	none	none	500 **
02/27/09	NM	none	NM	none	none	300 **
03/02/09	NM	none	NM	none	none	none
03/13/09	NM	none	NM	none	none	300 **
03/19/09	NM	none	NM	none	none	500 **
03/23/09	NM	none	NM	none	NM	none
04/01/09	NM	none	NM	none	none	200 **
04/13/09	NM	none	NM	none	none	none
04/16/09	NM	none	NM	none	none	none
04/22/09	NM	none	NM	none	none	none
05/01/09	NM	none	NM	none	none	none
05/08/09	NM	none	NM	none	none	none

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
PAGE 4 OF 11

DATE	RW-02		RW-03		RW-04	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
06/05/09	NM	none	NM	none	none	none
06/08/09	NM	none	NM	none	none	none
06/24/09	NM	none	NM	none	none	none
07/01/09	NM	none	NM	none	none	none
07/07/09	NM	none	NM	none	none	none
07/17/09	NM	none	NM	none	NM	none
07/31/09	NM	none	NM	none	NM	none
08/05/09	NM	none	NM	none	none	none
08/10/09	NM	none	NM	none	none	none
08/19/09	NM	none	NM	none	none	none
09/03/09	NM	none	NM	none	none	none
09/25/09	NM	none	NM	none	none	none
10/02/09	NM	none	NM	none	none	none
10/07/09	NM	none	NM	none	none	none
10/13/09	NM	none	NM	none	none	none
10/21/09	NM	none	NM	none	none	none
10/27/09	NM	none	NM	none	none	none
11/18/09	NM	none	NM	none	none	none
11/25/09	NM	none	NM	none	none	none
12/04/09	NM	none	NM	none	none	none
12/09/09	NM	none	NM	none	none	none
12/14/09	NM	none	NM	none	none	none
12/30/09	NM	none	NM	none	none	none
01/06/10	NM	none	NM	none	none	none
01/11/10	NM	none	NM	none	none	none
01/29/10	NM	none	NM	none	none	none
02/04/10	NM	none	NM	none	none	none
02/11/10	NM	none	NM	none	none	none
02/18/10	NM	none	NM	none	none	none
02/26/10	NM	none	NM	none	none	none
03/05/10	NM	none	NM	none	none	none
03/10/10	NM	none	NM	none	none	none
03/19/10	NM	none	NM	none	none	none
03/25/10	NM	none	NM	none	none	none
04/01/10	NM	none	NM	none	none	none
04/09/10	NM	none	NM	none	none	none
04/16/10	NM	none	NM	none	none	none
04/19/10	NM	none	NM	none	none	none
04/28/10	NM	none	NM	none	none	none
05/07/10	NM	none	NM	none	none	none

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
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DATE	RW-02		RW-03		RW-04	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
05/14/10	NM	none	NM	none	none	none
05/21/10	NM	none	NM	none	none	none
05/27/10	NM	none	NM	none	none	none

DATE	RW-05		RW-06		RW-07	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
04/07/08	none	none	NM	none	NM	none
05/29/08	none	none	NM	none	NM	none
06/20/08	none	none	NM	none	NM	none
07/15/08	none	none	NM	none	NM	none
07/25/08	none	none	NM	none	NM	none
08/01/08	none	none	NM	none	NM	none
08/08/08	none	none	NM	none	NM	none
08/14/08	none	none	NM	none	NM	none
08/28/08	none	none	NM	none	NM	none
09/04/08	none	none	NM	none	NM	none
09/08/08	none	none	NM	none	NM	none
09/18/08	none	none	NM	none	NM	none
09/25/08	none	none	NM	none	NM	none
10/02/08	none	none	NM	none	NM	none
10/07/08	none	none	NM	none	NM	none
10/16/08	none	none	NM	none	NM	none
10/27/08	none	none	NM	none	NM	none
11/07/08	none	none	NM	none	NM	none
11/26/08	none	none	NM	none	NM	none
12/11/08	none	none	NM	none	NM	none
12/31/08	none	none	NM	none	NM	none
01/09/09	none	none	NM	none	NM	none
01/15/09	none	none	NM	none	NM	none
01/22/09	none	none	NM	none	NM	none
01/30/09	none	none	NM	none	none	none
02/02/09	none	none	NM	none	none	none
02/09/09	none	none	NM	none	NM	none
02/19/09	none	none	NM	none	NM	none
02/26/09	none	none	NM	none	NM	none
02/27/09	none	none	NM	none	NM	none
03/02/09	none	none	NM	none	NM	none
03/13/09	none	none	NM	none	NM	none

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
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DATE	RW-05		RW-06		RW-07	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
03/19/09	none	none	NM	none	none	none
03/23/09	none	none	NM	none	NM	none
04/01/09	none	none	NM	none	none	200 **
04/13/09	none	none	NM	none	none	none
04/16/09	none	none	NM	none	none	none
04/22/09	none	none	NM	none	none	none
05/01/09	none	none	NM	none	none	none
05/08/09	none	none	NM	none	none	none
06/05/09	none	none	NM	none	none	none
06/08/09	none	none	NM	none	none	none
06/24/09	none	none	NM	none	none	none
07/01/09	none	none	NM	none	none	none
07/07/09	none	none	NM	none	none	none
07/17/09	none	none	NM	none	NM	none
07/31/09	none	none	NM	none	NM	none
08/05/09	none	none	NM	none	none	none
08/10/09	none	none	NM	none	none	none
08/19/09	none	none	NM	none	none	none
09/03/09	none	none	NM	none	none	none
09/25/09	none	none	NM	none	none	none
10/02/09	none	none	NM	none	none	none
10/07/09	none	none	NM	none	none	none
10/13/09	none	none	NM	none	none	none
10/21/09	none	none	NM	none	none	none
10/27/09	none	none	NM	none	none	none
11/18/09	none	none	NM	none	none	none
11/25/09	none	none	NM	none	none	none
12/04/09	none	none	NM	none	none	none
12/09/09	none	none	NM	none	none	none
12/14/09	none	none	NM	none	none	none
12/30/09	none	none	NM	none	none	none
01/06/10	none	none	NM	none	none	none
01/11/10	none	none	NM	none	none	none
01/29/10	none	none	NM	none	none	none
02/04/10	none	none	NM	none	none	none
02/11/10	none	none	NM	none	none	none
02/18/10	none	none	NM	none	none	none
02/26/10	none	none	NM	none	none	none
03/05/10	none	none	NM	none	none	none
03/10/10	none	none	NM	none	none	none

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
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DATE	RW-05		RW-06		RW-07	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
03/19/10	none	none	NM	none	none	none
03/25/10	none	none	NM	none	none	none
04/01/10	none	none	NM	none	none	none
04/09/10	none	none	NM	none	none	none
04/16/10	none	none	NM	none	none	none
04/19/10	none	none	NM	none	none	none
04/28/10	none	none	NM	none	none	none
05/07/10	none	none	NM	none	none	none
05/14/10	none	none	NM	none	none	none
05/21/10	none	none	NM	none	none	none
05/27/10	none	none	NM	none	none	none

DATE	RW-08		RW-09		RW-10	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
04/07/08	NM	none	NM	none	NM	none
05/29/08	NM	none	NM	none	NM	none
06/20/08	NM	none	NM	none	NM	none
07/15/08	NM	none	NM	none	NM	none
07/25/08	NM	none	NM	none	NM	none
08/01/08	NM	none	NM	none	NM	none
08/08/08	NM	none	NM	none	NM	none
08/14/08	NM	none	NM	none	NM	none
08/28/08	NM	none	NM	none	NM	none
09/04/08	NM	none	NM	none	NM	none
09/08/08	NM	none	NM	none	NM	none
09/18/08	NM	none	NM	none	NM	none
09/25/08	NM	none	NM	none	NM	none
10/02/08	NM	none	NM	none	NM	none
10/07/08	NM	none	NM	none	NM	none
10/16/08	NM	none	NM	none	NM	none
10/27/08	NM	none	NM	none	NM	none
11/07/08	NM	none	NM	none	NM	none
11/26/08	NM	none	NM	none	NM	none
12/11/08	NM	none	NM	none	NM	none
12/31/08	NM	none	NM	none	NM	none
01/09/09	NM	none	NM	none	NM	none
01/15/09	NM	none	NM	none	NM	none
01/22/09	NM	none	NM	none	NM	none

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
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DATE	RW-08		RW-09		RW-10	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
01/30/09	none	none	NM	none	NM	none
02/02/09	none	none	NM	none	NM	none
02/09/09	1.23	3000	NM	none	NM	none
02/19/09	0.52	1000	NM	none	NM	none
02/26/09	0.15	500	NM	none	NM	none
02/27/09	none	none	none	none	NM	none
03/02/09	0.05	1000	none	200 **	NM	none
03/13/09	0.2	1000	none	none	NM	none
03/19/09	none	500 **	NM	none	0.16	800
03/23/09	none	500 **	none	200 **	NM	none
04/01/09	none	500 **	none	none	N/A	500 **
04/13/09	none	none	none	none	none	none
04/16/09	none	none	none	none	none	none
04/22/09	none	none	none	none	none	none
05/01/09	none	none	none	none	none	none
05/08/09	none	none	none	none	none	none
06/05/09	none	none	none	none	none	none
06/08/09	none	none	none	none	none	none
06/24/09	none	none	none	none	none	none
07/01/09	none	none	none	none	none	none
07/07/09	none	none	none	none	none	none
07/17/09	none	none	none	none	NM	none
07/31/09	none	100 **	none	none	NM	none
08/05/09	none	none	none	none	none	none
08/10/09	none	none	none	none	none	none
08/19/09	none	none	none	none	none	none
09/03/09	none	none	none	none	none	none
09/25/09	none	none	none	none	none	none
10/02/09	none	none	none	none	none	none
10/07/09	none	none	none	none	none	none
10/13/09	none	none	none	none	none	none
10/21/09	none	none	none	none	none	none
10/27/09	none	none	none	none	none	none
11/18/09	none	none	none	none	none	none
11/25/09	none	none	none	none	none	none
12/04/09	none	none	none	none	none	none
12/09/09	none	none	none	none	none	none
12/14/09	none	none	none	none	none	none
12/30/09	none	none	none	none	none	none
01/06/10	none	none	none	none	none	none

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
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DATE	RW-08		RW-09		RW-10	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
01/11/10	none	none	none	none	none	none
01/29/10	none	none	none	none	none	none
02/04/10	none	none	none	none	none	none
02/11/10	none	none	none	none	none	none
02/18/10	none	none	none	none	none	none
02/26/10	none	none	none	none	none	none
03/05/10	none	none	none	none	none	none
03/10/10	none	none	none	none	none	none
03/19/10	none	none	none	none	none	none
03/25/10	none	none	none	none	none	none
04/01/10	none	none	none	none	none	none
04/09/10	none	none	none	none	none	none
04/16/10	none	none	none	none	none	none
04/19/10	none	none	none	none	none	none
04/28/10	none	500 **	none	none	none	none
05/07/10	none	500 **	none	none	none	none
05/14/10	none	500 **	none	none	none	none
05/21/10	none	none	none	none	none	none
05/27/10	none	none	none	none	none	none

DATE	RW-11		RW-12		RW-13	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
04/07/08	NM	none	NM	none	NM	none
05/29/08	NM	none	NM	none	NM	none
06/20/08	NM	none	NM	none	NM	none
07/15/08	NM	none	NM	none	NM	none
07/25/08	NM	none	NM	none	NM	none
08/01/08	NM	none	NM	none	NM	none
08/08/08	NM	none	NM	none	NM	none
08/14/08	NM	none	NM	none	NM	none
08/28/08	NM	none	NM	none	NM	none
09/04/08	NM	none	NM	none	NM	none
09/08/08	NM	none	NM	none	NM	none
09/18/08	NM	none	NM	none	NM	none
09/25/08	NM	none	NM	none	NM	none
10/02/08	NM	none	NM	none	NM	none
10/07/08	NM	none	NM	none	NM	none
10/16/08	NM	none	NM	none	NM	none

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
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DATE	RW-11		RW-12		RW-13	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
10/27/08	NM	none	NM	none	NM	none
11/07/08	NM	none	NM	none	NM	none
11/26/08	NM	none	NM	none	NM	none
12/11/08	NM	none	NM	none	NM	none
12/31/08	NM	none	NM	none	NM	none
01/09/09	NM	none	NM	none	NM	none
01/15/09	NM	none	NM	none	NM	none
01/22/09	NM	none	NM	none	NM	none
01/30/09	NM	none	NM	none	NM	none
02/02/09	NM	none	NM	none	NM	none
02/09/09	NM	none	NM	none	NM	none
02/19/09	NM	none	NM	none	NM	none
02/26/09	NM	none	NM	none	NM	none
02/27/09	NM	none	NM	none	none	none
03/02/09	NM	none	NM	none	none	none
03/13/09	NM	none	NM	none	0.2	1000
03/19/09	NM	none	NM	none	NM	1000
03/23/09	none	200 **	NM	none	0.2	500
04/01/09	none	none	NM	none	0.2	1000
04/13/09	none	none	NM	none	0.5	1000
04/16/09	none	none	NM	none	none	none
04/22/09	none	none	NM	none	none	none
05/01/09	none	none	NM	none	none	none
05/08/09	none	none	NM	none	0.67	1000
06/05/09	none	none	NM	none	0.67	1000
06/08/09	none	200 **	NM	none	N/A	400
06/24/09	none	none	NM	none	N/A	none
07/01/09	none	none	NM	none	N/A	none
07/07/09	none	none	NM	none	N/A	none
07/17/09	none	none	NM	none	N/A	none
07/31/09	none	none	NM	none	N/A	500
08/05/09	none	none	NM	none	N/A	none
08/10/09	none	none	NM	none	N/A	none
08/19/09	none	none	NM	none	none	none
09/03/09	none	none	NM	none	N/A	none
09/25/09	none	none	NM	none	N/A	none
10/02/09	none	none	NM	none	none	none
10/07/09	none	none	NM	none	none	none
10/13/09	none	none	NM	none	none	none
10/21/09	none	none	NM	none	N/A	none

**TABLE 2  
FREE PRODUCT MEASUREMENTS AND RECOVERY**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
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DATE	RW-11		RW-12		RW-13	
	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)	THICKNESS (INCHES)	VOLUME RECOVERED (mL)
10/27/09	none	none	NM	none	N/A	none
11/18/09	none	none	NM	none	none	none
11/25/09	none	none	NM	none	none	none
12/04/09	none	none	NM	none	none	none
12/09/09	none	none	NM	none	none	none
12/14/09	none	none	NM	none	none	none
12/30/09	none	none	NM	none	none	none
01/06/10	none	none	NM	none	none	none
01/11/10	none	none	NM	none	none	none
01/29/10	none	none	NM	none	none	none
02/04/10	none	none	NM	none	none	none
02/11/10	none	none	NM	none	none	none
02/18/10	none	none	NM	none	none	none
02/26/10	none	none	NM	none	none	none
03/05/10	none	none	NM	none	none	none
03/10/10	none	none	NM	none	none	none
03/19/10	none	none	NM	none	none	none
03/25/10	none	none	NM	none	none	none
04/01/10	none	none	NM	none	none	none
04/09/10	none	none	NM	none	none	none
04/16/10	none	none	NM	none	none	none
04/19/10	none	none	NM	none	none	none
04/28/10	none	none	NM	none	none	none
05/07/10	none	none	NM	none	none	none
05/14/10	none	none	NM	none	none	none
05/21/10	none	none	NM	none	none	none
05/27/10	none	none	NM	none	none	none

**Notes:**

mL = milliliter

NM = not measured

\* Includes 1500 ml in sorbent stock.

\*\* No measurable standing free product, sorbent sock removed, volume of free product estimated by saturation of sock.

**TABLE 3  
MONITORING WELL ANALYTICAL RESULTS**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
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Constituents	GCTLs	NADSCs	MW-01S				MW-02S			
			Jan 2006	July 2008	Feb 2010	May 2010	Jan 2006	July 2008	Feb 2010	May 2010
Benzene	1	100	0.20 U	1.0 U	0.21 U	0.27 U	0.2 U	1.0 U	0.21 U	0.27 U
Ethylbenzene	30	300	0.30 U	1.0 U	0.20 U	0.26 U	0.31 U	1.0 U	0.20 U	0.26 U
Toluene	40	400	0.20 U	1.0 U	0.20 U	0.30 U	0.2 U	1.0 U	0.20 U	0.30 U
Xylene (total)	20	200	1.0 U	1.0 U	0.54 U	0.50 U	NA	1.0 U	0.54 U	0.50 U
1-Methylnaphthalene	28	280	0.02 U	0.046 U	0.24 U	0.21	0.02 U	0.068	0.24 U	0.025 U
2-Methylnaphthalene	28	280	0.02 U	0.046 U	0.24 U	0.031 U	0.02 U	0.046	0.24 U	0.031 U
Acenaphthene	20	200	0.14	0.041 U	0.48 U	0.13	0.02 U	0.046 U	0.48 U	0.011 U
Anthracene	2100	21000	0.02 U	0.046 U	0.48 U	0.014 U	0.02 U	0.028 U	0.48 U	0.014 U
Fluoranthene	280	2800	0.01 U	0.046 U	0.24 U	0.011 U	0.01 U	0.046 U	0.24 U	0.011 U
Fluorene	280	2800	0.02 U	0.046 U	0.48 U	0.023 I	0.02 U	0.046 U	0.48 U	0.014 U
Naphthalene	14	140	0.02 U	0.046 U	0.24 U	0.056 I	0.05 U	0.046 U	0.24 U	0.032 I
Phenanthrene	210	2100	0.02 U	0.046 U	0.24 U	0.011 U	0.02 U	0.053	0.24 U	0.023 I
Pyrene	210	2100	0.02 U	0.046 U	0.24 U	0.022 I	0.02 U	0.041 U	0.24 U	0.016 U
TRPH mg/L	5	50	0.536	0.85	0.509	2.0	0.094 U	0.46	0.16 U	0.054 U

Constituents	GCTLs	NADSCs	MW-03S				MW-04D			
			Jan 2006	July 2008	Feb 2010	May 2010	Jan 2006	July 2008	Feb 2010	May 2010
Benzene	1	100	42.8	NS	0.56 U	1.8	0.2 U	1.0 U	0.21 U	0.27 U
Ethylbenzene	30	300	37.8	NS	8.0	6.0	0.62 U	1.0 U	0.20 U	0.26 U
Toluene	40	400	1.5	NS	0.22 U	0.97 I	0.2 U	1.0 U	0.20 U	0.30 U
Xylene (total)	20	200	NA	NS	11.2	6.8	NA	1.0 U	0.54 U	0.50 U
1-Methylnaphthalene	28	280	75.5	NS	26	12	10.1	0.046 U	0.24 U	0.025 U
2-Methylnaphthalene	28	280	122	NS	23.6	1.3	13.5	0.046 U	0.24 U	0.031 U
Acenaphthene	20	200	2.4	NS	1.5	1.9	0.75	0.046 U	0.48 U	0.011 U
Anthracene	2100	21000	0.08 U	NS	0.48 U	0.014 U	0.02 U	0.032 U	0.48 U	0.014 U
Fluoranthene	280	2800	0.05 U	NS	0.24 U	0.078 I	0.01 U	0.046 U	0.24 U	0.011 U
Fluorene	280	2800	5.32	NS	3.7	3.1	2.05	0.046 U	0.48 U	0.014 U
Naphthalene	14	140	102	NS	23.8	8.9	1.85	0.046 U	0.24 U	0.023 U
Phenanthrene	210	2100	5.06	NS	2.0	0.062 I	2.68	0.061	0.24 U	0.011 U
Pyrene	210	2100	0.56	NS	0.89 U	0.88	0.45	0.046 U	0.24 U	0.016 U
TRPH mg/L	5	50	3.55	NS	3.44	3.6	0.604	0.46 U	0.16 U	0.054 U

**TABLE 3  
MONITORING WELL ANALYTICAL RESULTS**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
SITE 351-2 - CALENDAR YEAR 2010  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA  
PAGE 2 OF 2

Constituents	GCTLs	NADSCs	MW-05S				MW-06S	MW-07S	MW-08S
			Jan 2006	Feb 2006	Feb 2010	May 2010	May 2010	May 2010	May 2010
Benzene	1	100	NS	<b>87.5</b>	0.92 U	<b>1.4</b>	<b>6.0</b>	0.27 U	0.27 U
Ethylbenzene	30	300	NS	14.2	0.6 U	0.26 U	0.70 I	0.26 U	0.26 U
Toluene	40	400	NS	0.20 U	0.20 U	0.30 U	0.30 U	0.30 U	0.30 U
Xylene (total)	20	200	NS	<b>42.1</b>	1.0 U	0.50 U	1.2	0.50 U	0.50 U
1-Methylnaphthalene	28	280	NS	<b>55.6</b>	<b>56.9</b>	<b>110</b>	<b>110</b>	0.025 U	0.025 U
2-Methylnaphthalene	28	280	NS	<b>87.6</b>	<b>75.0</b>	<b>150</b>	<b>140</b>	0.031 U	0.031 U
Acenaphthene	20	200	NS	2.43	2.0	4.0	3.7	0.011 U	0.011 U
Anthracene	2100	21000	NS	0.02 U	0.48 U	0.14 U	0.14 U	0.014 U	0.014 U
Fluoranthene	280	2800	NS	0.05 I	0.24 U	0.11 U	0.11 U	0.011 U	0.011 U
Fluorene	280	2800	NS	4.89	4.8	9.3	8.4	0.014 U	0.014 U
Naphthalene	14	140	NS	<b>151</b>	<b>47.2</b>	<b>120</b>	<b>180</b>	0.027 I	0.041 I
Phenanthrene	210	2100	NS	3.58	4.6	6.8	5.1	0.021 I	0.011 U
Pyrene	210	2100	NS	0.08 I	0.88 U	0.91 I	0.55 I	0.037 I	0.15 U
TRPH mg/L	5	50	NS	3.94	3.87	2.9	<b>14</b>	0.054 U	0.12 I

**Notes:**

All values are micrograms per liter.

NL = None listed

NS = Not sampled (monitoring well not present)

NA = Not analyzed

NADSC = Natural Attenuation Default Source Concentration

U = Not detected

**Bold** represents locations where GCTLs were exceeded.

Shaded cells represent exceedances of NADSCs.

I = Result is greater than the detection limit but less than the reporting limit

**TABLE 4**  
**POST INJECTION MONITORING WELL ANALYTICAL RESULTS - PERMIT REQUIRED**

SECOND QUARTER FREE PRODUCT/GROUNDWATER MONITORING REPORT  
 SITE 351-2 - CALENDAR YEAR 2010  
 NAVAL STATION MAYPORT  
 JACKSONVILLE, FLORIDA

Constituents	GCTLs µg/L	NADSCs µg/L	MW-01S	MW-02S
			May 2010	May 2010
Iron	300	3000	<b>3370</b>	32.2 I
Sodium	160000	1600000	<b>238000</b>	19800
Ammonia	2800	28000	170	39 U
Total Dissolved Solids	500000	5000000	<b>1020000</b>	276000
Sulfate	250000	2500000	40000	21000

Constituents	GCTLs µg/L	NADSCs µg/L	MW-03S	MW-04D
			May 2010	May 2010
Iron	300	3000	<b>1670</b>	10.0 U
Sodium	160000	1600000	12600	55200
Ammonia	2800	28000	570	1100
Total Dissolved Solids	500000	5000000	320000	492000
Sulfate	250000	2500000	2100	47000

Constituents	GCTLs µg/L	NADSCs µg/L	MW-05S	MW-06S
			May 2010	May 2010
Iron	300	3000	<b>2610</b>	<b>10500</b>
Sodium	160000	1600000	4880	75600
Ammonia	2800	28000	1000	2400
Total Dissolved Solids	500000	5000000	240000	<b>688000</b>
Sulfate	250000	2500000	0.11	110 U

Constituents	GCTLs µg/L	NADSCs µg/L	MW-07S	MW-08S
			May 2010	May 2010
Iron	300	3000	<b>384</b>	<b>1330</b>
Sodium	160000	1600000	22000	19600
Ammonia	2800	28000	46	77
Total Dissolved Solids	500000	5000000	268000	280000
Sulfate	250000	2500000	34000	29000

**Notes:**

All values are micrograms per liter.

**Bold type** indicates GCTL exceedance.

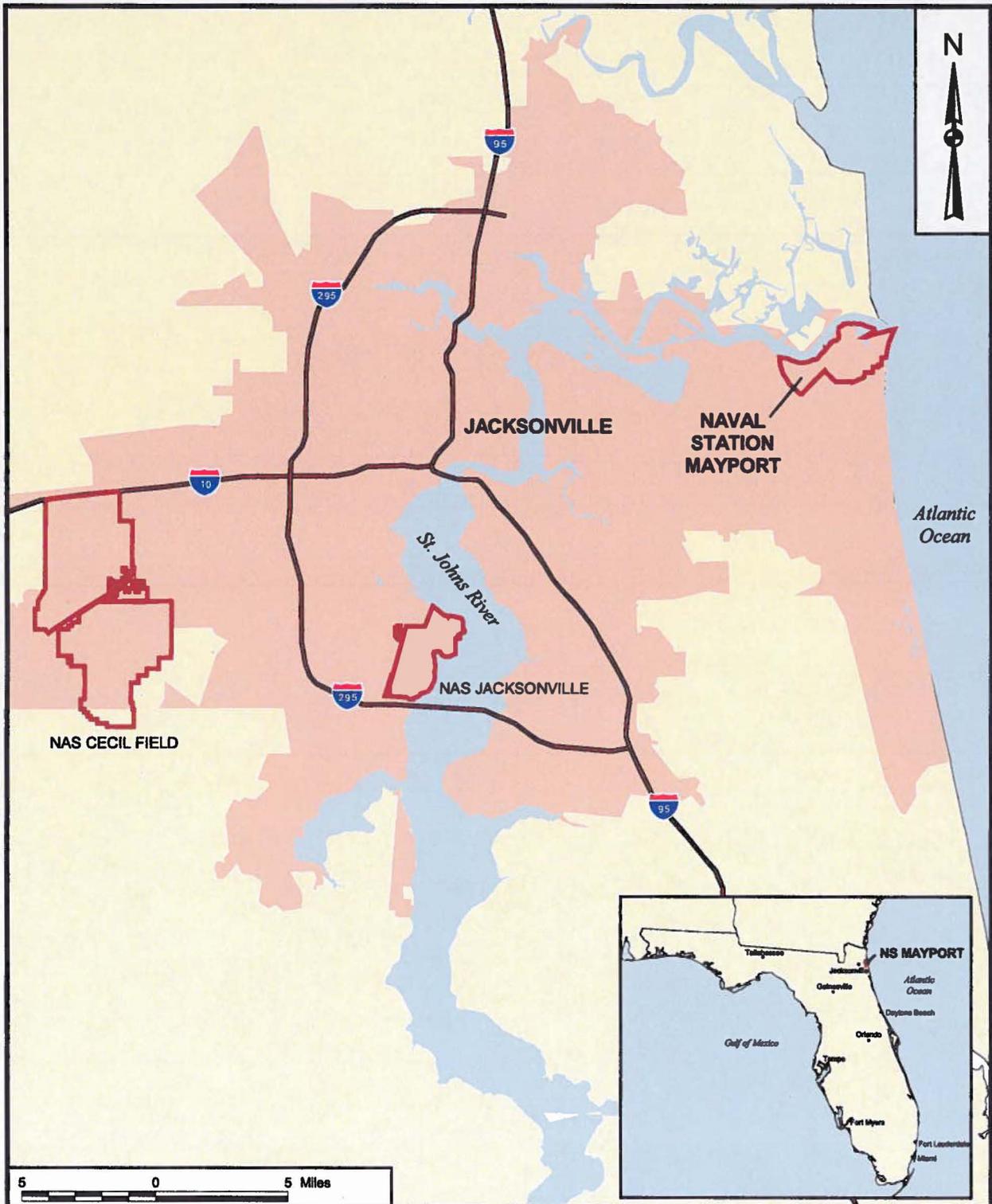
Shaded cells indicate NADSC exceedance.

NL = None listed

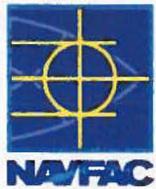
NS = Not sampled (monitoring well not present)

NA = Not analyzed

**FIGURES**



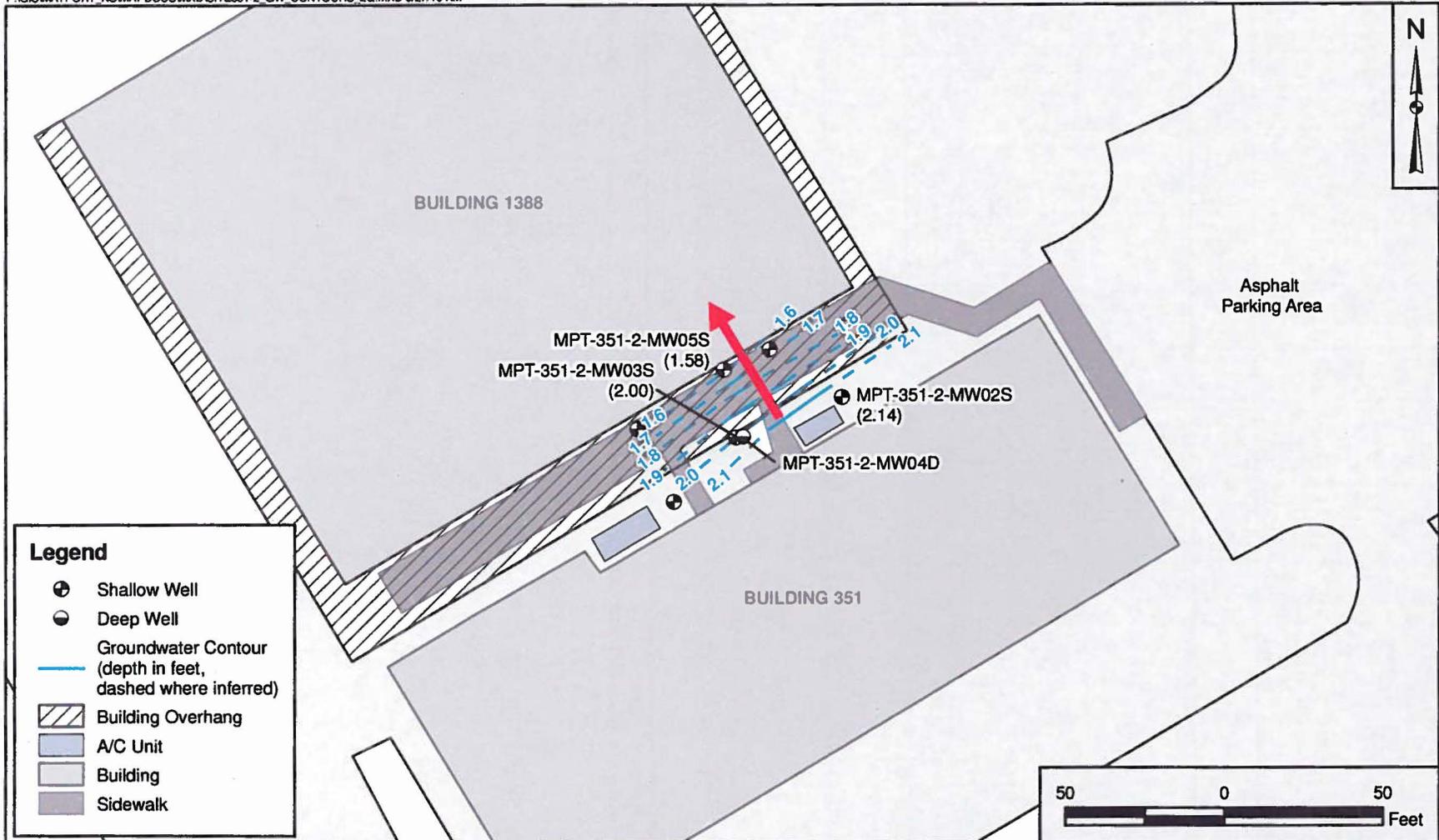
DRAWN BY <b>K. PEILA</b>	DATE <b>4/17/06</b>
CHECKED BY <b>D. SIEFKEN</b>	DATE <b>5/11/06</b>
COST/SCHEDULE-AREA	
SCALE AS NOTED	



**SITE VICINITY MAP  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA**

CONTRACT NUMBER <b>112G02316</b>	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. <b>FIGURE 1</b>	REV <b>0</b>



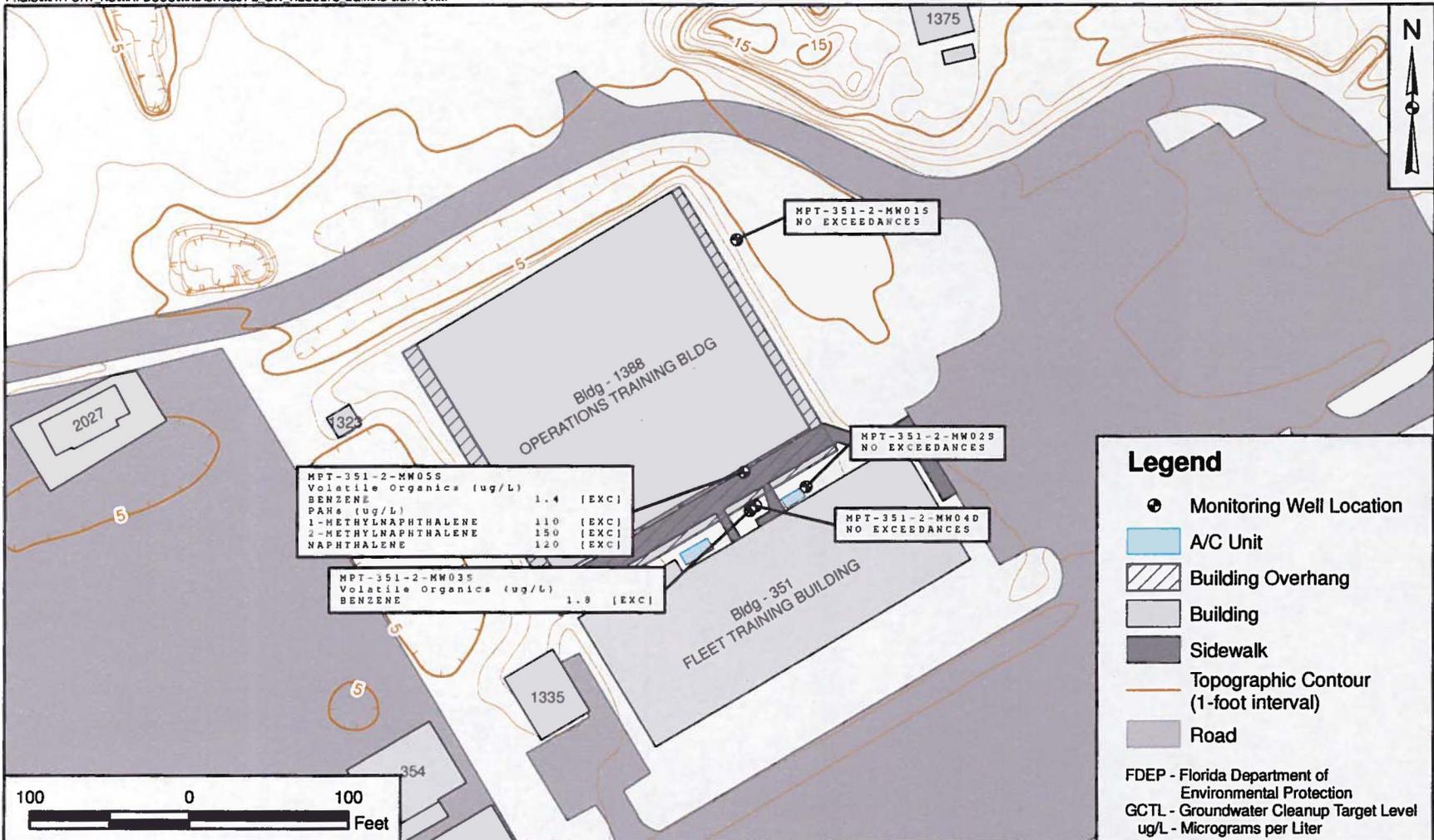


DRAWN BY K. MOORE	DATE 9/27/10
CHECKED BY T. DECK	DATE 9/27/10
COST/SCHEDULE AREA	
SCALE AS NOTED	



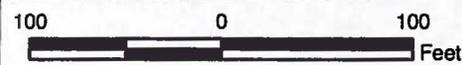
**2nd QUARTER GROUNDWATER FLOW MAP**  
**SITE 351-2**  
**NAVAL STATION MAYPORT**  
**JACKSONVILLE, FLORIDA**

CONTRACT NUMBER CTO 0160	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. FIGURE 3	REV 0



MPT-351-2-MW05S		
Volatile Organics (ug/L)		
BENZENE	1.4	[EXC]
PAHs (ug/L)		
1-METHYLNAPHTHALENE	110	[EXC]
2-METHYLNAPHTHALENE	150	[EXC]
NAPHTHALENE	120	[EXC]

MPT-351-2-MW03S		
Volatile Organics (ug/L)		
BENZENE	1.8	[EXC]



DRAWN BY	DATE
K. MOORE	9/27/10
CHECKED BY	DATE
T. DECK	9/27/10
REVISED BY	DATE
SCALE AS NOTED	



**SUMMARY OF FDEP GCTL GROUNDWATER EXCEEDANCES**  
 SITE 351-2  
 2nd QUARTER MONITORING REPORT  
 NAVAL STATION MAYPORT  
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER	
CTO 0160	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO.	REV
FIGURE 4	0

**ATTACHMENT A**  
**SPILL/CLEANUP REPORT FORM**

# Johnson Controls

**HILL**

Date: December 23, 2003  
File No. 2301-0136

Mr. Tommy Surrency  
Facilities Support Contract Manager  
Department of the Navy  
Naval Facilities Engineering Command

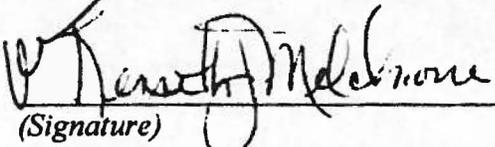
Subject: Contract No. N62467-00-D-2451

Reference: Annex 4  
Para 4.2.4.2a  
Title Post Spill Requirements

Contract deliverable is forwarded pursuant to cited contract reference. Enclosed is our Spill/Clean-Up Report Form, Table 4-10, Annex 4 and Site Specific Safety and Health Plan from a December 16, 2003, 650 gallon diesel fuel spill at bldg 351/1388, NS Mayport. Our Mr. Bob Lacy provided an advance copy of the Table 4-10 report to Mr. Pat McGugan and Mr. Dave Kiebler on December 17, 2003 by email. The clean-up of the spill was accomplished on work order 275011.

Should you require any further information in this matter, please contact me at your convenience.

Name: Kenneth J. Melchiorre P.E.  
Title: Site Manager, NAS Jacksonville  
Telephone: (904) 778-3868 ext. 12

  
(Signature)

Cc:

- |   |  |
|---|--|
| <input type="checkbox"/> Mr. David Kelly<br>NAS Jacksonville<br>P.O. Box 30, Bldg. 103<br>Jacksonville, FL 32212-0139 | <input checked="" type="checkbox"/> Mr. Pat McGugan<br>NS Mayport<br>P.O. Box 2807, Bldg. 1966<br>Mayport, FL 32228-0157 |
|---|--|

Mr. Frank Janosick  
Ms. Kathy Kramer  
JC-H Contracts Manager  
Mr. Robert Stewart  
JC-H Utilities Supervisor (Bob Lacy, w/ enclosures)

**Johnson Controls**

Environment

**HILL****Spill / Clean Up Report Form**

Spill Date:	Time of Spill:	Time JC-H SCRD Received call:
12/16/03	1150	1150

Time OSOT Leader w/OSOT Member Arrived On Site (enter time here):	1205
---	------

**Location**

<input type="checkbox"/> NAS Jacksonville	<input checked="" type="checkbox"/> NAVSTA Mayport	<input type="checkbox"/> Other:
---	--	---------------------------------

Building Number: 351/1388	Area / Bldg. :	FTC
---------------------------	----------------	-----

Substance:	Fuel Oil
------------	----------

Amount Spilled:	Approx. 650 gallons	Amount Recovered:	100 gallons
Source / Cause of Spill (explain here): Fuel supply line from AST N1388 to Boiler in Bldg. 351 broke off in fuel piping sump located north side of Bldg. 351. Piping sump overflowed and spilled fuel in surrounding area. Fuel also backed up into secondary piping containment and into 2 <sup>nd</sup> piping sump.			

Rate of Spilling:	Unknown
-------------------	---------

Anticipated Movement of Spill:	Into ground
Injuries: Be Specific:	None

Approximate Temperature:	65 deg.	Weather Condition:	Sunny
--------------------------	---------	--------------------	-------

Immediate Dangers to Personnel or Environment:	Fuel oil entering St. Johns and Ocean.
--	--

Spill Contact Surface Water?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No			
Spill Enter Storm Drain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No			
Spill Contained on Impervious Surface?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No			
Type of Surface:	<input type="checkbox"/> Concrete	<input type="checkbox"/> Asphalt	<input type="checkbox"/> Secondary Containment	<input checked="" type="checkbox"/> Soil	Other:
Spill Extend Beyond Station Boundaries?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No			
COTR Contacted?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Time/Date: 12/16/03 @ 1226		
Station Fire Department Contacted?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Time/Date: 12/16/03 @ 1153		
Station Environmental Contacted?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Time/Date: 12/16/03 @ 1230		
Additional Comments/Information: Fire Department had responded and secured area when JCH arrived.					

**Person Completing Report**

Name: Julie Kaiser	Title: Sr. Environ. Coordinator	Phone: 247-2225
Signature:	Date: 12/17/03	

**Additional Post Report Information**

Environmental Damages:	
Amount of Disposal Material: 7-55gl drums	Hazardous Waste: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Spill Residue Disposal Source: PWC Part B	Location: 1966

**Resources**

Number of OSOT Members: 7	Total clean-up Time: 30-manhours
---------------------------	----------------------------------

Equipment Used:
-----------------

Additional Information/Remarks: Cleanup of spill is not complete.
---

**Johnson Controls**  
**HILL**

Annex 4-Environmental  
 Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
 SITE SPECIFIC HEALTH AND SAFETY PLAN**

**A. SITE DESCRIPTION:**

1. Date: 12/16/03 2. Location: FTC/351/1388  
 3. Material Spilled: Fuel Oil (No. 2) 4. Size of Spill: 15' x 5' <sup>650 gal</sup>

5. Hazard Class (a thru e):

(a) Fire  (b) Reactive  (c) Pressure Release  (d) Acute Health   
 (e) Chronic Health

6. Quantity Estimated: 650 gal 7. Area Affected: 15' x 5' x est 2-3'

*spilling  
 at night*

8. Cause of Release (Be Specific): Fuel Supply line valve  
 shut + initially believed to have caused spill  
 Piping Sump @ NE side of Bldg 351 opened + fuel  
 supply line found broken, overflow drained into  
 2nd piping sump (green mud/sump). Assumed fuel  
 in secondary line

9. Weather Conditions: Sunny Temperature (F): 65 - 70 deg F

Wind Direction: N/NE

10. Topography/Terrain: Soil

**B. ON-SCENE OPERATIONS TEAM (OSOT):**

Title	Name	Time on Scene	Function / Assignment
Safety Officer	Jim Bryant	1330	Safety Officer / ACCESS Ctl.
OSOT Leader	Julia K... ..	1200	
OSOT Team Member	Chris Atchinson	1330	
OSOT Team Member	Mike Thurlow	1330	
OSOT Team Member	Scott B...	1500	
OSOT Team Member			
OSOT Team Member			

**Johnson Controls**  
**FILE**

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

**C. INITIAL ENTRANCE TO AFFECTED SITE (Specific Health and Safety Plan):**

Initial Entrance Objective: The objective of the initial entrance to the contaminated area is To describe actions, and tasks to be accomplished (i.e. identify contaminate, clean-up area, monitoring conditions, etc.):

Deploy Boom @ break wall. Recover fuel in  
tidal pool. Remove fuel oil from 2 piping  
sumps + 3rd non-spill related storm drain

**D. ON SITE CONTROL:** Jim Bryant OSOT Team Member  
has been designated to coordinate access control and security on site. A safe perimeter  
has been established at (distance or description of the controlled area):

2'

(No Unauthorized personnel should be in this area)

by FDP

**1. Exclusion Zone:**

a. Time the Zone is Secured off: 1200 a.m.  p.m.

b. Entrance Control Point: Yellow Tape

c. Location and Marker Type: Yellow Tape

**2. Contamination Reduction Zone (if necessary):**

a. Time the Zone is Secured off: nil a.m.  p.m.

b. Entrance Control Point: \_\_\_\_\_

c. Location and Marker Type: \_\_\_\_\_

**3. Support Zone:**

a. FD/JCH Command Post Location (if established): Bldg 12

b. Time JCH Command Post Established: 1200 a.m.  p.m.

**4. Substances Involved:**

a. Substance Known? Yes  No

b. MSDS: Yes  No

c. Substance Description: No. 2 Fuel Oil

**Johnson Controls**  
HILL

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

**E. HAZARDS:**

- a. Flammable Yes  No
- b. Explosive Yes  No
- c. Water Reactive Yes  No
- d. Corrosive Yes  No
- e. Acid Yes  No
- f. Base Yes  No
- g. Toxic Yes  No
- h. Inhalation Yes  No
- i. Skin Yes  No

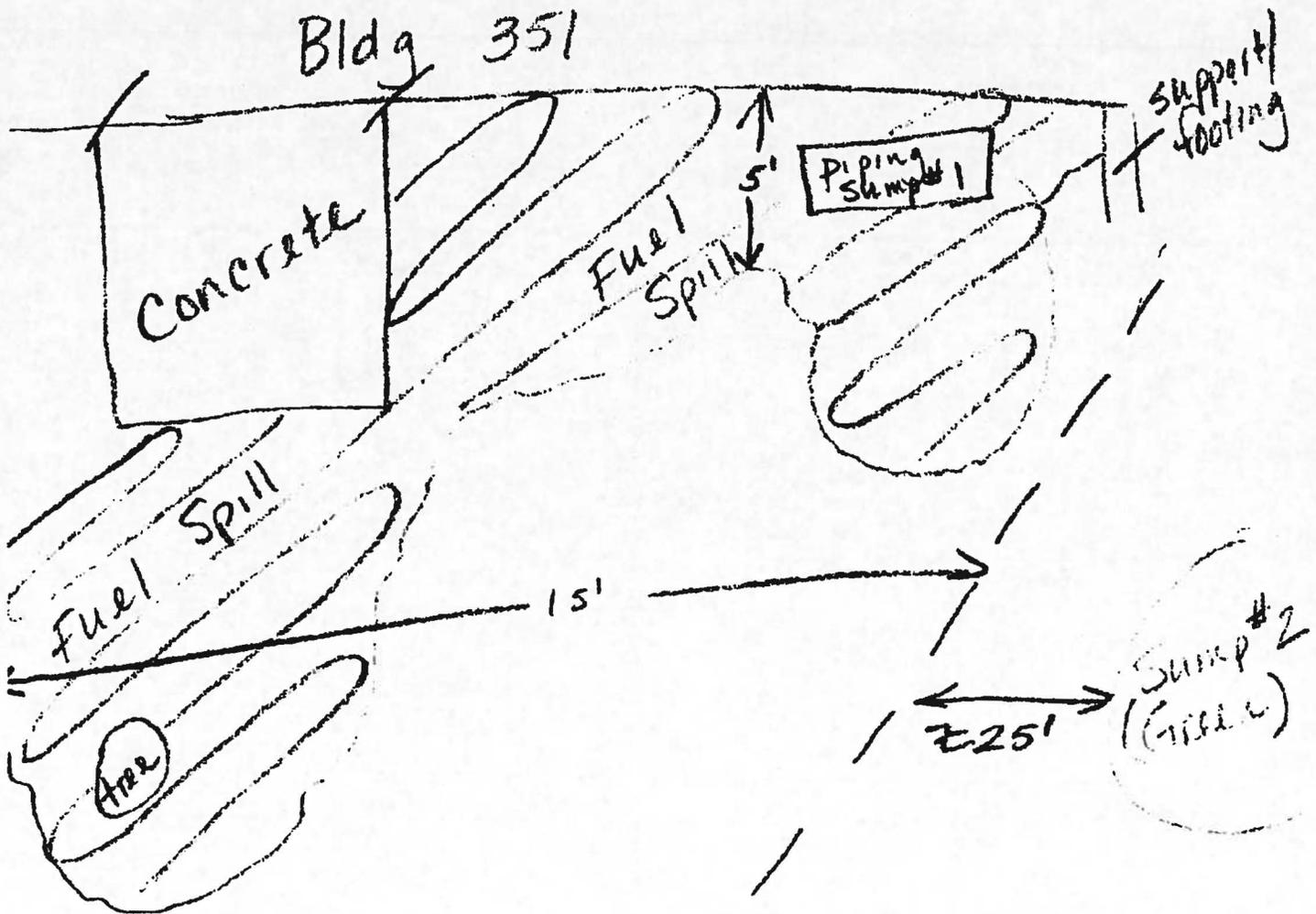
Flash Point: 130° F

pH: \_\_\_\_\_

pH: \_\_\_\_\_

pH: \_\_\_\_\_

**F. SITE PLAN (Sketch of Area):**

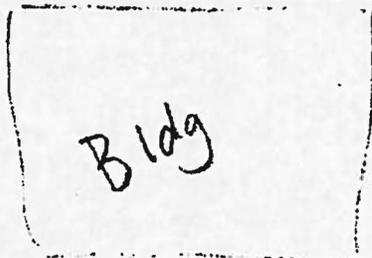


**Johnson Controls**  
**HILL**

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

**G. DECON SITE PLAN (Sketch of Area):**



**MSDP** (PPE TYVEK)

Decon Officer: NIA

Decon Equipment: NIA

Description of Decon: Remove PPE + Place into 55-gal drum

**H. PERSONAL PROTECTION EQUIPMENT (PPE)- (LEVEL D FOR THIS FORM):**

a. Exclusion Zone (Spill Area): AT A MINIMUM, PPE FOR LEVEL D IS: BOOTS, GLOVES, and TYVEK SUIT. Additional Level D PPE if needed: Hard Hat/Face Protection

b. Contamination Zone (DECON AREA): NIA

c. Reduction Zone: NIA

**I. INSTALLATION RESTORATION (IR) SITE:**

- 1. Is the Site an Installation Restoration Site? Yes  No
- 2. If answer is YES, what is the known IR site contaminant? \_\_\_\_\_
- 3. MSDS: Yes  No

IR in Area  
not in specific  
spill location

**Johnson Controls**  
**GILL**

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

**4. IR SITE HAZARDS:**

- a. Flammable      Yes     No     Flash Point: \_\_\_\_\_ F
- b. Explosive      Yes     No
- c. Water Reactive    Yes     No
- d. Corrosive      Yes     No     pH: \_\_\_\_\_
- e. Acid            Yes     No     pH: \_\_\_\_\_
- f. Base            Yes     No     pH: \_\_\_\_\_
- g. Toxic            Yes     No
- h. Inhalation      Yes     No
- i. Skin             Yes     No

**J. COMMUNICATION:**

**1. Contact Information**

Name	Work Phone	Cell/Beeper Number	Home Phone
Rick Hicks, Safety Manager	542-3862	318-1799	221-8423
Ken Melchiorre, Environmental Manager	778-3868	318-2188	886-9964
Wade Musgrave, Environmental Coordinator	778-3868	707-4416	880-4646
Julie Kaiser, Sr. Environmental Coordinator	270-6761	707-4415	306-0547
Bob Lacy, Environmental Training Officer	778-3868	813-1989	246-7100
Fire Department/Ambulance (Jacksonville)	911 or 542-3333		
Fire Department/Ambulance (Mayport)	911 or 270-5333		
PWC CDO		509-5125	
David Kelly, COTR (NAS Jacksonville)	542-4558 x 520		
Pat McGugan, COTR (NAVSTA Mayport)	270-5189		
<b>"Emergency Treatment Facility"</b>			
NAS Jacksonville: Naval Hospital	911 if an emergency		
NAVSTA Mayport: Medical Clinic	911 if an emergency		

**Johnson Controls**  
**HILL**

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

- K. SAFETY BRIEF HELD? Yes  No  *Reviewed Fuel Oil Hazards w/C. Atkinson*
- a. Confined Space? Yes  No  *(If yes, follow JC-H confined space entry procedures)*
  - b. Heat stress can be a factor when temperatures are > 70° F and humidity is > 50%.
  - c. Is a dig locate required? Yes  No  *(trenches > 4 feet must have slope sides or shoring installed) Did not dig any soil*
  - d. Does the clean up site have adequate oxygen? Yes  No  *(If not, level B or A PPE is required) Use JC-H form 3010-600 if levels C, B, or A are required*

**Oxygen Level Detection Equipment Calibration Information:**

Equip. \_\_\_\_\_ MFR: \_\_\_\_\_ Model No.: \_\_\_\_\_

Date of Calibration: \_\_\_\_\_ Name of Calibrator: \_\_\_\_\_

- e. Where is the closest eye wash station? 351
- f. What communication means is available?  Cell Phone  Radio  Land Line
- g. Discuss the possible use of respirators. N/A
- h. Ensure newly arriving JC-H OSOT members are briefed on the spill site clean up scenario.
- i. If in doubt, call the JC-H Environmental Manager for assistance.

**L. DISPOSAL METHOD:**

- a. HW: Yes  No  *Flash @ 130° F per MSDS*
- b. Size of Disposal Containers: Gallons: 55 Other: \_\_\_\_\_
- c. Number of Containers: 6 liquid, 1 solid
- d. Container Pick-Up Notification (NAS/AX Only) Time/Date: 12/18 POC: KAUSEN

Site and/or Area Clean-up Completed at (Specify Time of Day): 0715 a.m.  p.m.

OSOT Leader: [Signature] Date: 12/17/03  
(Signature required)

**ATTACHMENT B**

**SITE 351-2 TREATABILITY STUDY WORK PLAN**

# Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-04-D-0055



Rev. 1  
03/24/10

## Treatability Study Work Plan for Site 351-2

Naval Station Mayport  
Jacksonville, Florida

Contract Task Order 0050

March 2010



NAS Jacksonville  
Jacksonville, Florida 32212-0030

**TREATABILITY STUDY WORK PLAN  
FOR  
SITE 351-2**

**NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA**

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

**Submitted to:  
Naval Facilities Engineering Command Southeast  
NAS Jacksonville  
Jacksonville, Florida 32212-0030**

**Submitted by:  
Tetra Tech NUS, Inc.  
661 Andersen Drive  
Foster Plaza 7  
Pittsburgh, Pennsylvania 15220**

**CONTRACT NUMBER N62467-94-D-0888  
CONTRACT TASK ORDER 0050**

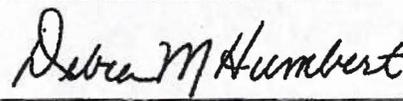
**JANUARY 2010**

**PREPARED UNDER THE SUPERVISION OF:**



**MARK A. PETERSON, P.G.  
TASK ORDER MANAGER  
TETRA TECH NUS, INC.  
JACKSONVILLE, FLORIDA**

**APPROVED FOR SUBMITTAL BY:**



**DEBRA M. HUMBERT  
PROGRAM MANAGER  
TETRA TECH NUS, INC.  
PITTSBURGH, PENNSYLVANIA**

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## ACRONYMS

Aerostar	Aerostar Environmental Services, Inc.
bls	Below land surface
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CLEAN	Comprehensive Long-term Environmental Action Navy
COC	Constituent of concern
CTO	Contract Task Order
DPT	Direct push technology
EDB	Ethylene dibromide
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FL-PRO	Florida Petroleum Range Organics
GCTL	Groundwater Cleanup Target Level
ISR	Interim source removal
µg/L	Microgram per liter
mg/L	Milligram per liter
msl	Mean sea level
MTBE	Methyl-tert butyl ether
NAVFAC SE	Naval Facilities Engineering Command Southeast
NAVSTA	Naval Station
PAH	Polynuclear aromatic hydrocarbon
SOP	Standard operating procedure
SVOC	Semivolatile organic compound
TDS	Total dissolved solid
TOC	Top of casing
TPH	Total petroleum hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
USEPA	United States Environmental Protection Agency
VOC	Volatile organic compound

## EXECUTIVE SUMMARY

This Treatability Study Work Plan for Site 351-2 located at Naval Station Mayport, Jacksonville, Florida was completed in general accordance with the requirements of Chapter 62-780, Florida Administrative Code.

The treatability study will evaluate the effectiveness of treatment of contaminated groundwater with Biox<sup>®</sup>. The Biox<sup>®</sup> process combines controlled chemical oxidation and enhanced biodegradation of contaminants in soil and groundwater. Biox<sup>®</sup> will be injected into the shallow groundwater and intermediate zone (3 to 20 feet below land surface) to remediate the release of fuel oil impacts at this site.

Site groundwater will be sampled and analyzed before and after the Biox<sup>®</sup> injection to monitor the geochemical parameters (pH, conductivity, temperature, dissolved oxygen, and oxidation-reduction potential) and constituents of concern reductions at the injection areas. Monitoring wells MPT-351-2-MW01, MPT-351-2-MW02, MPT-351-2-MW03, MPT-351-2-MW04, and MPT-351-2-MW05 and three newly installed wells will be sampled within 30 days prior to the Biox<sup>®</sup> injection to determine baseline conditions. Upon completion of injection activities, these wells will be sampled quarterly for 1 year.

After the completion of each groundwater sampling event, a Groundwater Monitoring Report will be submitted to Florida Department of Environmental Protection. The report will present the results of the sampling event and evaluate the effectiveness of Biox<sup>®</sup> injections at the site.

## 1.0 INTRODUCTION

### 1.1 PURPOSE AND SCOPE

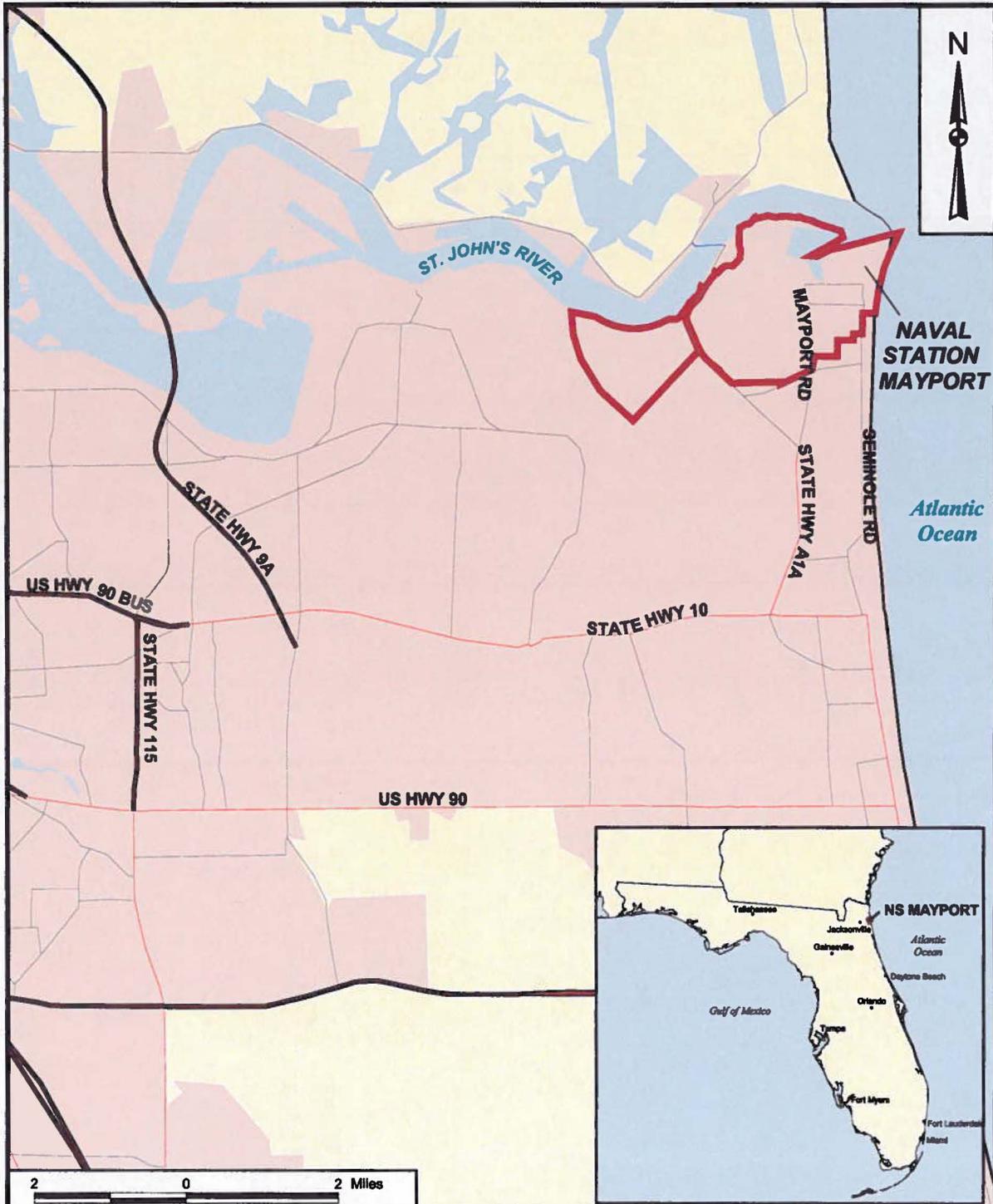
Tetra Tech NUS, Inc. (TiNUS) has prepared this Treatability Study Work Plan for Site 351-2 located at Naval Station (NAVSTA) Mayport, Jacksonville, Florida. This Treatability Study Work Plan has been prepared for the United States Navy, Naval Facilities Engineering Command Southeast (NAVFAC SE) under the Comprehensive Long-term Environmental Action Navy (CLEAN) IV Contract Number N62467-94-D-0888, Contract Task Order (CTO) 0050. The purpose of this Treatability Study Work Plan is to evaluate the effectiveness of Biox<sup>®</sup> as a treatment for contaminated groundwater at the site. The Florida Department of Environmental Protection (FDEP) letter accepting the Biox<sup>®</sup> treatment is provided as Appendix A.

The Biox<sup>®</sup> process combines controlled chemical oxidation and enhanced biodegradation of contaminants in soil and groundwater. Biox<sup>®</sup> will be injected into the unsaturated and saturated zones interval of 3 to 20 feet below land surface (bls) and within an area 35 feet by 55 feet. The boundaries of the treatment area were selected based on natural attenuation default concentrations per Chapter 62-777, Table V, Florida Administrative Code (F.A.C.). The area of the treatability study is designed to treat the impacted area in anticipation that the groundwater concentrations decrease to values within the natural attenuation default criteria. The results of the treatability study may also be used in the evaluation of groundwater treatment technologies in any future Remedial Action Plans in accordance with the requirements of Chapter 62-780, F.A.C.

### 1.2 SITE DESCRIPTION

NAVSTA Mayport is located within the corporate limits of the City of Jacksonville, Duval County, Florida, approximately 12 miles northeast of downtown Jacksonville and adjacent to the town of Mayport. A Facility Location Map showing NAVSTA Mayport's location in northeastern Florida is provided as Figure 1-1. The station complex is located on the northern end of a peninsula bounded by the Atlantic Ocean to the east and the St. Johns River to the north and west. NAVSTA Mayport occupies the entire northern part of the peninsula except for the town of Mayport, which is located to the west between the Station and the St. Johns River.

Building 351 is located near the northeastern tip of the peninsula where the station is situated as shown on Figure 1-2. Building 351 is one of the primary buildings comprising the Training Site Detachment. The source area for the current investigation is located between Building 351 and Building 1388.



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FACILITY LOCATION MAP  
TREATABILITY STUDY WORK PLAN  
SITE 351-2  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA

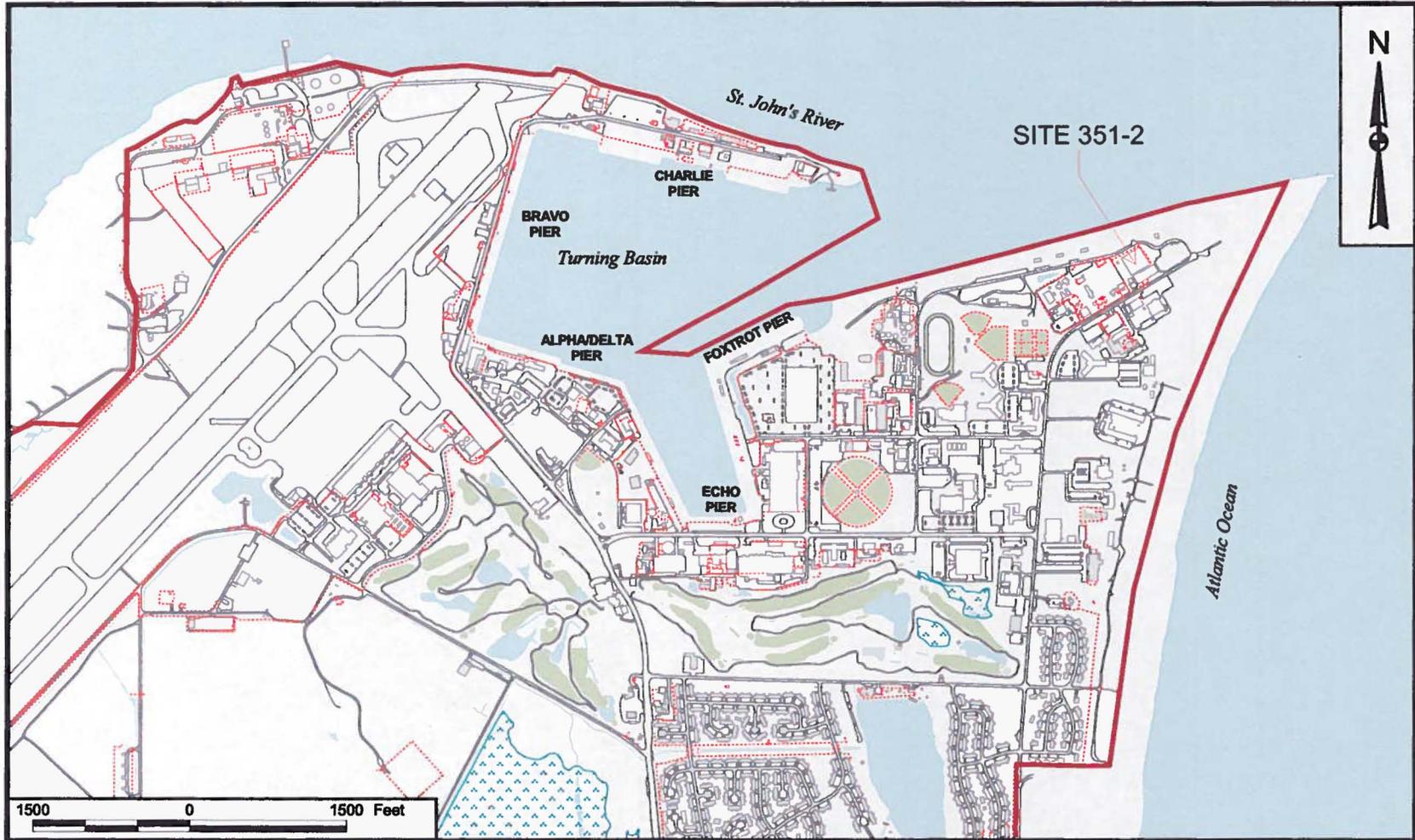
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**SITE LOCATION MAP**  
**TREATABILITY STUDY WORK PLAN**  
**SITE 351-2**  
**NAVAL STATION MAYPORT**  
**JACKSONVILLE, FLORIDA**

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FIGURE 1 - 2	0

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As shown on the Site Plan, Figure 1-3, Building 1388 is approximately 35 feet northwest of Building 351. Site 351-2 is named after Building 351 and the "-2" notes the second investigation area near this building.

### 1.3 SITE HISTORY

On December 16, 2003, it was discovered that a release of 650 gallons of No. 2 fuel oil from a faulty fuel line located at Building 351 spilled into a grassy area located between Buildings 351 and 1388. This work plan is centered on the area of the release area located in the central area between Buildings 351 and 1388.

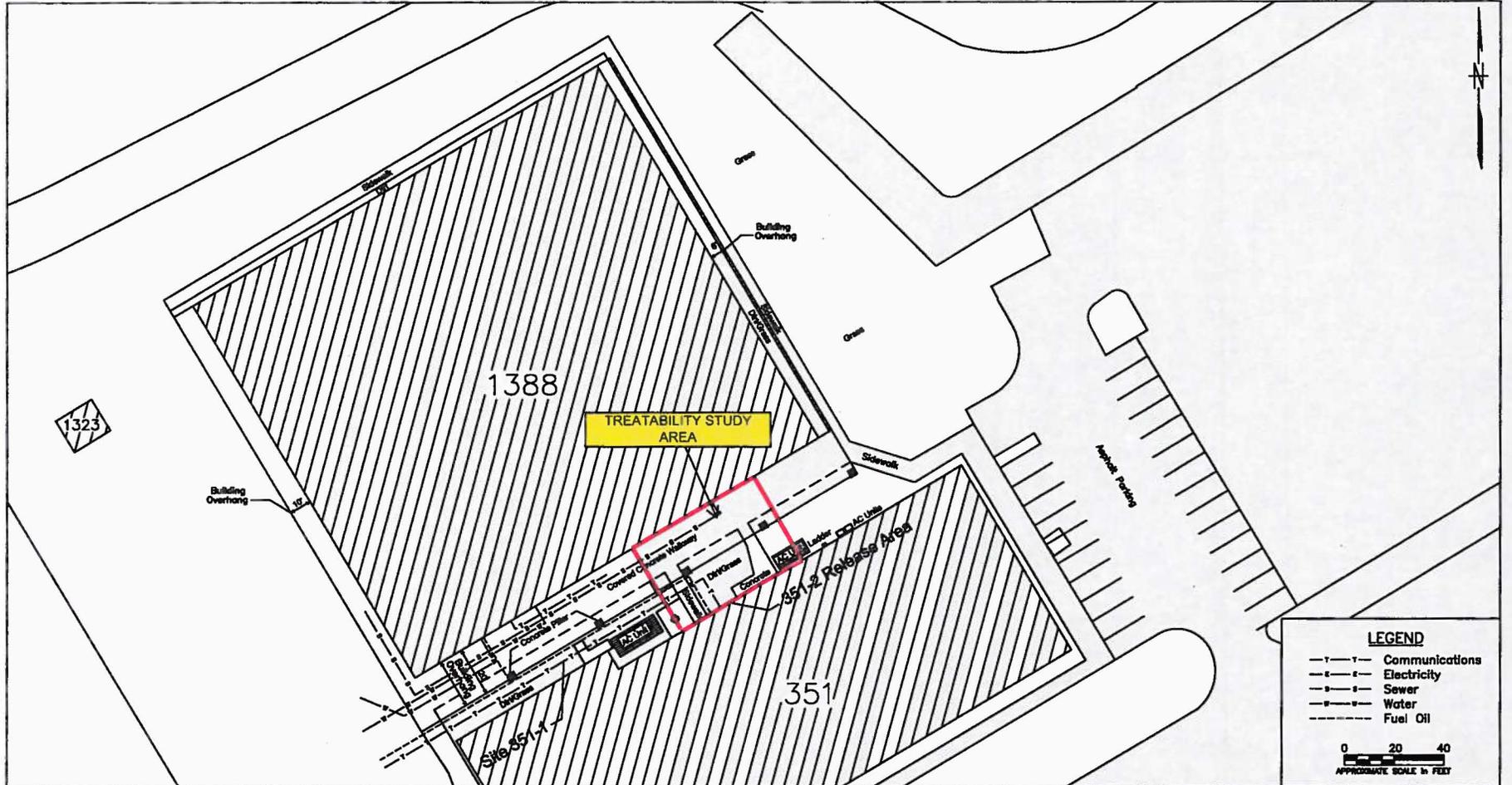
The cause of the spill as recorded in the December 16, 2003, Johnson Controls Hill, Spill Response Form, states, "The fuel supply line from the AST N1388 to boiler in Building 351 broke off in the fuel piping sump located northern side of Building 351." Based on a hand drawn sketch, the surficial imprint of the spill area was in the shape of an "L," and the east-west extension of the "L" was estimated to be 15 feet long and possibly 5 feet wide. The shorter north-south extension of the "L" was estimated to be 12 feet long and possibly 8 feet wide.

Seven 55-gallon drums of petroleum-impacted waste were generated during the initial cleanup of the site. It was documented on the spill response form that the cleanup of spill was not complete. The spill response form was sent to the FDEP on December 23, 2003 and a copy of the letter and Spill Response Form is presented as Appendix B.

The spill area is documented to be contained in the grassy area, which is surrounded on the northern, eastern, and western sides by sidewalks and the southern side by Building 351. The sidewalks on the eastern and western ends form the boundaries, and Building 351 and a cement ramp sidewalk form the southern boundary. Based on field observations, the contour of the grassy area, which gently slopes to the center, prevented the migration of the fuel oil from reaching the northern sidewalk.

As part of an interim source removal (ISR) conducted on June 28, 2004, Aerostar Environmental Services, Inc. (Aerostar) was contracted by NAVFAC SE to remove impacted soil for disposal. The excavation included a 15 foot by 5 foot by 3 foot deep area and resulted in the removal of 14.14 tons of petroleum-impacted soil. The effort removed the majority of the petroleum-impacted soil; however, not all petroleum-impacted soil was removed at the source area. The petroleum-impacted soil that was removed was placed in a roll off container and transported offsite for disposal at a licensed facility (Aerostar, 2004).

From August 2005 through January 2007, TtNUS completed an environmental site assessment and interim measure that delineated the horizontal and vertical extent of soil and groundwater impacts and removed and disposed of 76 tons of petroleum-impacted soil. The petroleum-impacted soil was



**LEGEND**

- Y—Y— Communications
- E—E— Electricity
- S—S— Sewer
- W—W— Water
- F—F— Fuel Oil

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APPROXIMATE SCALE IN FEET

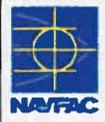
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SITE PLAN  
TREATABILITY STUDY WORK PLAN  
SITE 351-2  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA

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delineated; however, the ISR did not remove all petroleum-impacted soil because contaminated soil was below utilities, sidewalks, and foundations.

The vertical extent of groundwater impacts was limited to a depth of 40 feet bls. The vertical extent of the groundwater was sampled for the gasoline analytical group and kerosene analytical group, and no Groundwater Cleanup Target Levels (GCTLs) were exceeded. However, during the site assessment in 2005, a groundwater sample was collected from a depth of 20 feet bls and analyzed for methyl-tert butyl ether (MTBE); benzene, toluene, ethylbenzene, and xylenes (BTEX); naphthalene; 1-methylnaphthalene; and 2-methylnaphthalene by a mobile laboratory. Concentrations of 1-methylnaphthalene (63.6 micrograms per liter [ $\mu\text{g/L}$ ]), 2-methylnaphthalene (98.8  $\mu\text{g/L}$ ), total xylenes (50  $\mu\text{g/L}$ ), and naphthalene (50.5  $\mu\text{g/L}$ ) were detected in excess their respective GCTLs of 28  $\mu\text{g/L}$ , 28  $\mu\text{g/L}$ , 20  $\mu\text{g/L}$ , and 14  $\mu\text{g/L}$ , respectively. However, the concentrations were less than the natural attenuation default criteria for each constituent.

Although no free product was observed during the ISR, on September 20, 2006, 0.14 foot of free product was observed in monitoring well MPT-351-2-MW03. Free product was observed again on April 7, 2008, and has been monitored for monthly removal (when present) to date since.

During January 2009, 13 additional piezometers were placed in the surrounding areas of monitoring wells MPT-351-2-MW03 and MPT-351-2-MW05 to facilitate the monthly removal and gauging of free product, which is ongoing to date. The greatest thickness of free product (2.1 feet in monitoring well MPT-351-2-MW03) was observed on June 5, 2009. No free product has been observed at the site since July 31, 2009, when petroleum stained sorbent material was observed but no measurable free product was observed in PZ-13.

## **2.0 SITE CONDITIONS AND TREATABILITY STUDY IMPLEMENTATION**

Various assessment activities were conducted beginning in 2004 to determine the extent of soil and groundwater contamination at the site. In addition to assessment activities, free product removal is currently being conducted by TtNUS. The following is a summary of the site conditions and the implementation of the treatability study at Site 351-2.

### **2.1 LITHOLOGIC FINDINGS**

Descriptions of sediment materials underlying Site 351-2 were obtained during the installation of a 40-foot deep monitoring well, MPT-351-2-MW04, located in the source area. Sediments were collected from the auger flights and described by the TtNUS on-site geologist. Soils encountered in the upper 40 feet consisted primarily of fine and very fine sand and secondarily of shell hash. A very tightly packed layer of sand is approximately 20 feet bls, which is difficult for direct push technology (DPT) tooling to displace. These lithologic findings are consistent with borings completed at NAVSTA Mayport to similar depths.

### **2.2 GROUNDWATER AND AQUIFER CHARACTERISTICS**

The State of Florida classifies the surficial aquifer underlying the site as G-II. Previous United States Geological Survey aquifer test data indicate that the average hydraulic conductivity of the surficial aquifer is approximately 4.34 feet per day (TtNUS, 2001).

The horizontal groundwater (hydraulic) gradient across the site was evaluated from water level data listed in Table 2-1 and shown on Figures 2-1 and 2-2. As depicted on the two groundwater contour figures and historically, the hydraulic gradient at the site flows to the north, but is subject to 180 degree reversal due to the site's position on a narrow peninsula roughly equidistant between two water bodies (St. Johns River and Mayport Turning Basin). The average horizontal hydraulic gradient beneath the site, calculated from potentiometric contours depicted on Figures 2-1 and 2-2, was determined to be 0.003 foot per foot. Groundwater at nearby Site 351-1 (see Figure 2-3) also depicts a northerly flow as found at Site 351-2.

Based on information provided by Driscoll (Driscoll, 1986) and on lithologic descriptions of material encountered during the current investigation, the effective porosity of surficial aquifer sediments was estimated to be 0.30.

<p align="center"><b>Table 2-1</b> <b>Water Table Elevation Data</b></p> <p align="center">Treatability Study Work Plan, Site 351-2 Naval Station Mayport Jacksonville, Florida</p>						
Monitoring Well MPT-351-2-	Total Well Depth (feet)	TOC Elevation (feet msl)	January 20, 2007		February 13, 2007	
			Depth to Water Below TOC (feet)	Water Table Elevation (feet msl)	Depth to Water Below TOC (feet)	Water Table Elevation (feet msl)
MW01	13	7.75	5.35	2.40	5.43	2.32
MW02	13	7.73	5.32	2.41	5.38	2.35
MW03	13	7.59	5.14	2.45	5.29	2.30
MW04	11	8.34	5.94	2.40	6.02	2.32
MW05	7	8.17	5.82	2.35	5.84	2.33

msl = Mean sea level.  
TOC = Top of casing.

Using Darcy's Law, the groundwater velocity at the site was calculated. Darcy's Law may be expressed as follows:  $V = \frac{(K \times I)}{n}$  where: V = average seepage velocity

K = hydraulic conductivity  
n = effective porosity  
I = average hydraulic gradient

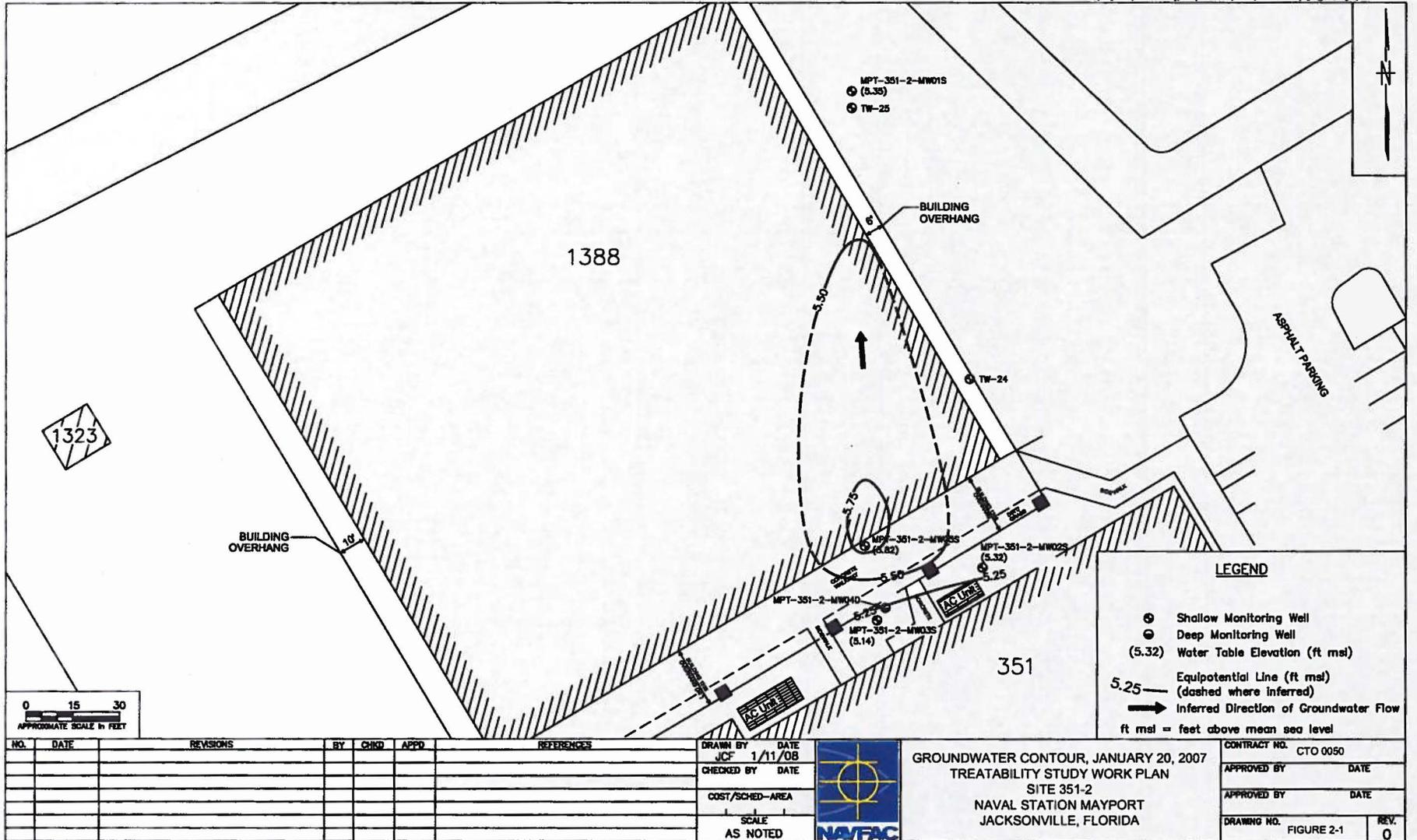
Using a hydraulic conductivity of 4.34 feet per day, a hydraulic gradient of 0.003 foot per foot, an inferred effective porosity value of 0.30, and Darcy's law, the groundwater seepage velocity across the site was calculated at 0.0434 foot per day or 15.84 feet per year. However, the reversal in flow direction with tidal influences likely results in a lower net velocity.

Groundwater flow in the deep zone was not evaluated in the previous investigations since this zone has not been impacted by constituents of concern (COCs).

### 2.3 SITE SOIL CONDITIONS

During January 2007, TtNUS conducted an ISR which involved the excavation and disposal of 76 tons of petroleum-impacted soil. During the excavation, soil was removed to the water table when possible. Obstructions such as utilities, sidewalks, and foundations prevented the removal of all petroleum-impacted soil. Prior to the excavation, eight soil samples (SB-14, SB-26, SB-30, SB-31, SB-32, SB-37, SB-53, and SB-58) were collected at a depth of 3 feet bls to pre-characterize the excavation boundary as depicted in Figure 2-4 (TtNUS, 2008). Since the majority of petroleum-impacted soil was removed and disposed, soil is not major consideration in the treatability study. However, conditions at the water table and vadose zone interface need to be discussed and be a part of the Biox<sup>®</sup> treatability study area.

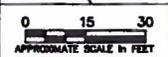
G:\Projects\NAVSTA Mayport\CTO 0050\Site 351-2\Fig\ground Fig 2-1 GW Flow



**LEGEND**

- ⊙ Shallow Monitoring Well
- ⊖ Deep Monitoring Well
- (5.32) Water Table Elevation (ft msl)
- 5.25 Equipotential Line (ft msl)  
(dashed where inferred)
- ➔ Inferred Direction of Groundwater Flow

ft msl = feet above mean sea level



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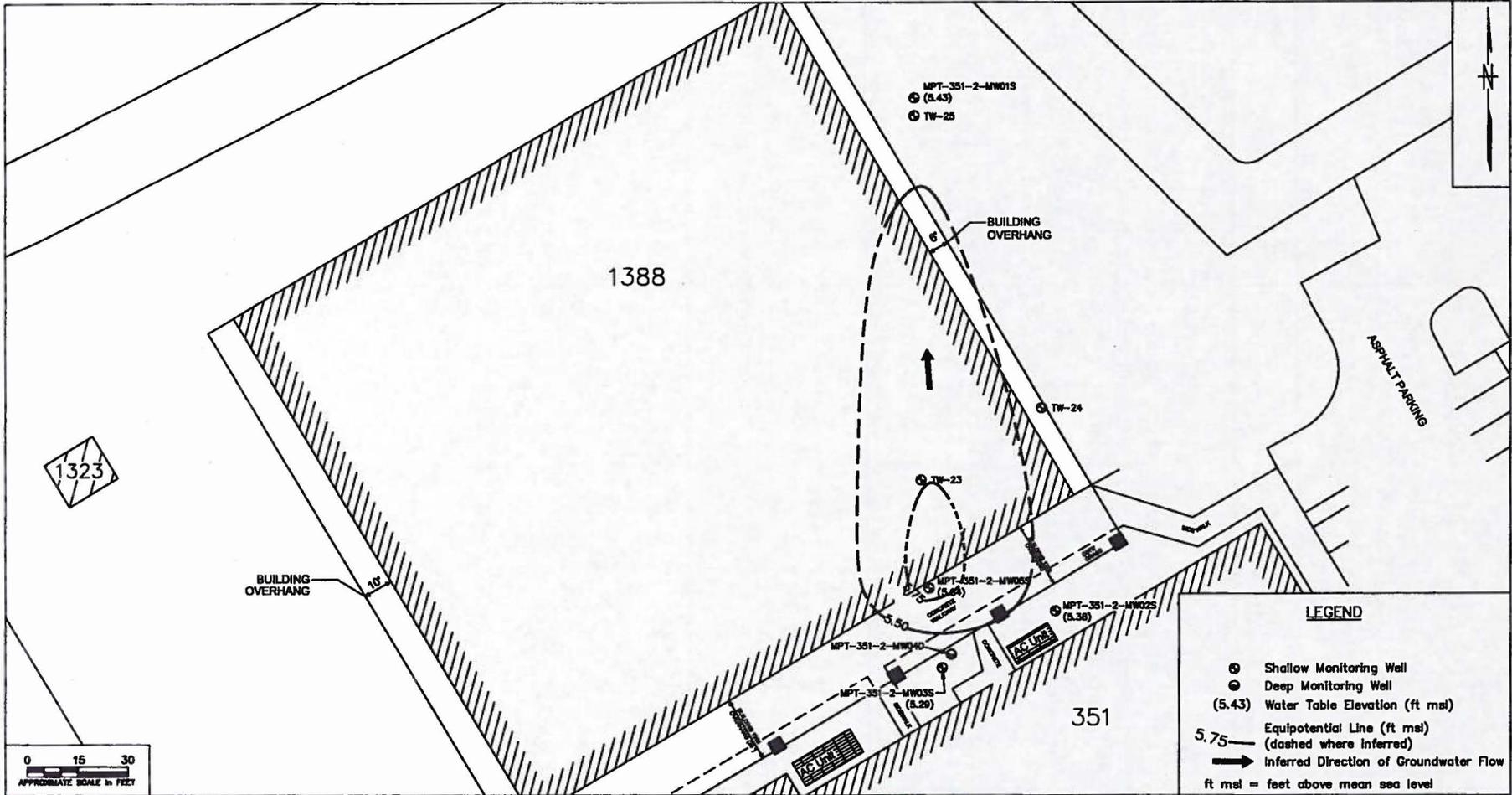
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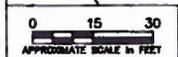
GROUNDWATER CONTOUR, JANUARY 20, 2007  
TREATABILITY STUDY WORK PLAN  
SITE 351-2  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA

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LEGEND	
○	Shallow Monitoring Well
●	Deep Monitoring Well
(5.43)	Water Table Elevation (ft msl)
5.75	Equipotential Line (ft msl) (dashed where inferred)
→	Inferred Direction of Groundwater Flow
ft msl = feet above mean sea level	



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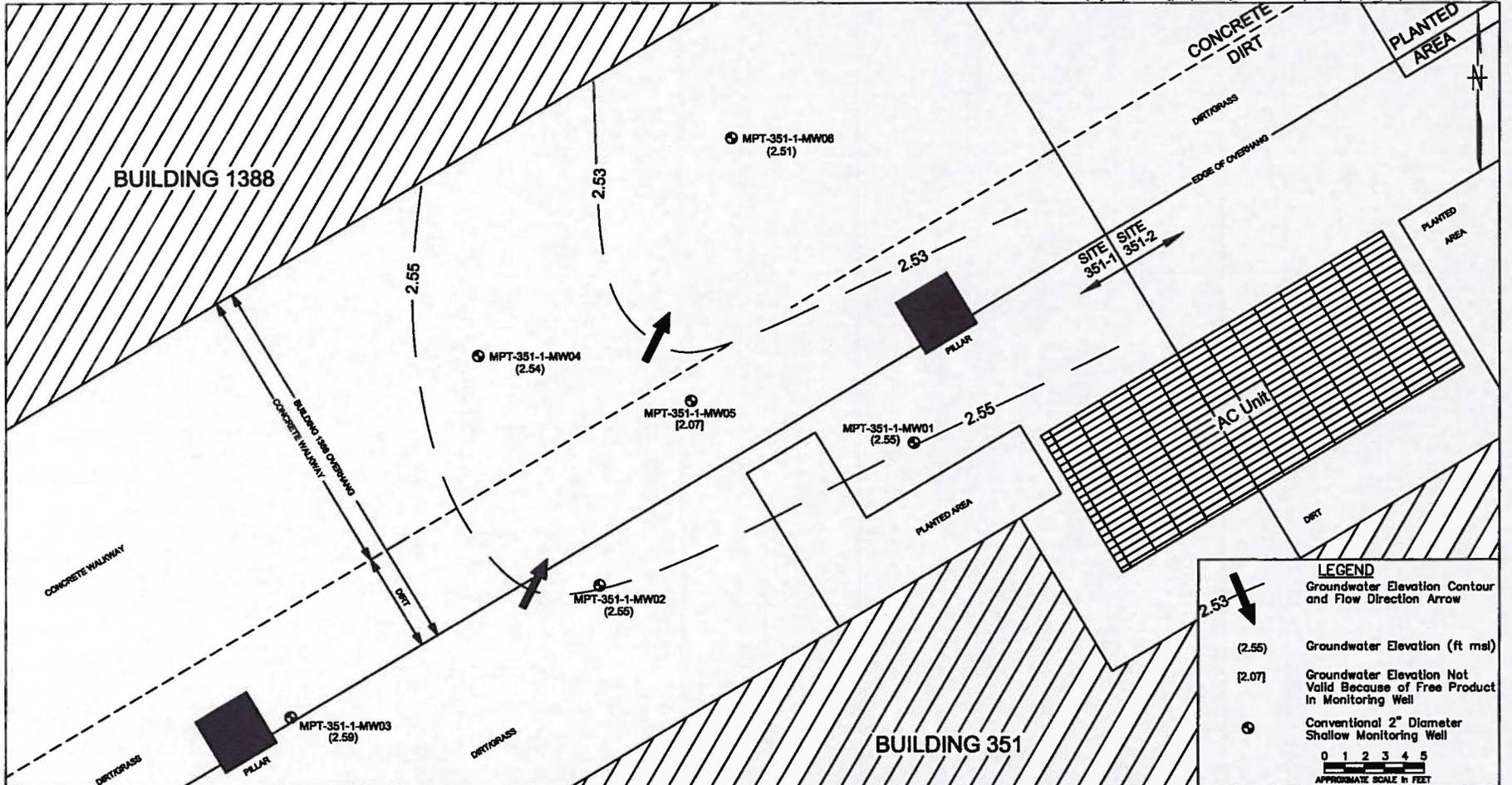
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GROUNDWATER CONTOUR, FEBRUARY 13, 2007  
TREATABILITY STUDY WORK PLAN  
SITE 351-2  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA

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**LEGEND**

- Groundwater Elevation Contour and Flow Direction Arrow
- Groundwater Elevation (ft msl)
- Groundwater Elevation Not Valid Because of Free Product in Monitoring Well
- Conventional 2" Diameter Shallow Monitoring Well

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APPROXIMATE SCALE IN FEET

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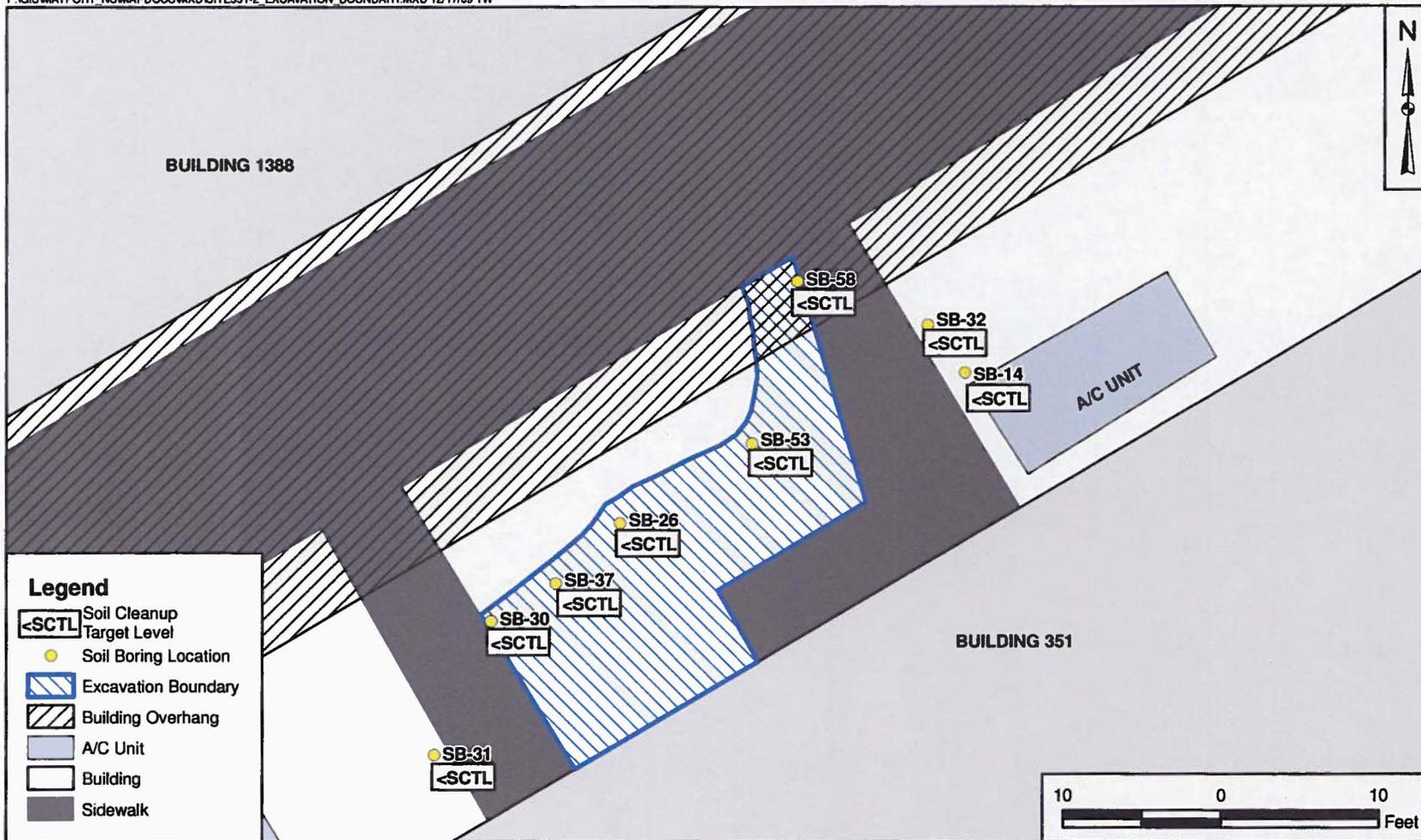


GROUNDWATER CONTOUR AT SITE 351-1,  
AUGUST 16, 2007  
TREATABILITY STUDY WORK PLAN  
SITE 351-2  
NAVAL STATION MAYPORT  
JACKSONVILLE, FLORIDA

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D. SIEFKEN	12/17/09
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SCALE AS NOTED	



PRE-CHARACTERIZATION SOIL SAMPLE  
 LOCATIONS AND EXCAVATION BOUNDARY  
 TREATABILITY STUDY WORK PLAN  
 SITE 351-2  
 NAVAL STATION MAYPORT  
 JACKSONVILLE, FLORIDA

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FIGURE 2-4	0

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Based on depth to groundwater measurements collected from 2006 to present, the depth of groundwater fluctuates between 3.5 feet bls and 5.0 feet bls. Since the high water mark for groundwater begins at 3.5 feet bls, the application of Biox<sup>®</sup> will begin at a depth of 3 feet bls and injections will continue at 2-foot intervals to ensure all soils within the smear zone are treated.

## **2.4 SITE GROUNDWATER CONDITIONS**

The most recent groundwater analytical data for Site 351-2 was obtained on July 25, 2008, when groundwater samples were collected from monitoring wells MPT-351-2-MW01, MPT-351-2-MW02, and MPT-351-2-MW04 (deep well) and analyzed at a fixed-base laboratory for volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260B, polynuclear aromatic hydrocarbons (PAHs) using USEPA Method 8270, and total petroleum hydrocarbons (TPH) using the Florida Petroleum Range Organics (FL-PRO) method. Monitoring wells MPT-351-2-MW03 and MPT-351-2-MW05, located near the source area, were not sampled due to the presence of free product at the time of the sampling event. Free product is discussed further in Section 2.5.

The recent findings mirrored the previous results from 2005. No FDEP GCTL exceedances were recorded for the three wells sampled outside the source area. The vertical extent, down gradient, and side gradient monitoring wells remain below FDEP GCTLs. Only trace levels of petroleum constituents were identified. The 2008 groundwater analytical results are provided in Table 2-2 and are depicted on Figure 2-5. Groundwater analytical results are provided in Appendix C.

### **2.4.1 Treatability Groundwater Boundary**

The treatability study boundaries are by design an estimation of where the groundwater may be impacted above FDEP GCTLs, but at concentrations that do not exceed natural attenuation concentrations. To establish the treatability boundary, mobile laboratory data obtained during the 2005 site assessment was used. The final adjustment of the groundwater treatability study boundary will be made in the field and will be based on, but not limited to, field observations of such occurrences as severity of oxidation of Biox<sup>®</sup>, soil staining, and petroleum odor.

To establish a treatment boundary, the midpoint between a groundwater sample location that exceeded the FDEP natural attenuation default concentrations per Chapter 62-777 Table V, F.A.C., and a sample location, which did not exceed FDEP GCTLs were selected.

**Table 2-2  
Fixed-Base Laboratory Groundwater Analytical Results (2008)**

Treatability Study Work Plan, Site 351-2  
Naval Station Mayport  
Jacksonville, Florida

Compound	FDEP GCTL	Sample ID (MPT-351-2-) and Sample Date													
		TMW-23	TMW-24	TMW-25	MW01	MW01	MW02	MW02	MW03	MW03*	MW04	MW04	MW05	MW05*	
		12/29/05	12/29/05	12/29/05	01/20/06	07/25/08	01/20/06	07/25/08	01/20/06	07/25/08	01/20/06	07/25/08	2/6/2009	07/25/08	
<b>VOCs (USEPA Method 8260B) (µg/L)</b>															
Benzene	1	31	1 U	1 U	0.2 U	0.11 U	0.2 U	11 U	42.8	NS	0.2 U	0.11 U	87.5	NS	
Ethylbenzene	30	1 U	1 U	1 U	0.3 U	0.14 U	0.310 I	0.14 U	37.8	NS	0.620 I	0.14 U	14.2	NS	
MTBE	20	10	1 U	1 U	3.27	0.17 U	0.2 U	0.17 U	0.2 U	NS	0.2 U	0.17 U	0.2 U	NS	
Toluene	40	1 U	1 U	1 U	0.2 U	0.18 U	0.2 U	0.18 U	1.5	NS	0.2 U	0.18 U	0.2 U	NS	
m+p Xylenes	20	2	2 U	2 U	0.3 U	0.21 U	1.15 I	0.21 U	163	NS	3.27	0.21 U	42.1	NS	
o Xylene	20	1 U	1 U	1 U	0.2 U	0.21 U	0.2 U	0.21 U	22	NS	0.690 I	0.21 U	0.2 U	NS	
Xylenes (total)	20	2	1 U	1 U	1 U	0.21 U	1 U	0.21 U	185	NS	1 U	0.21 U	42.1	NS	
<b>PAHs (USEPA Method 8270) (µg/L)</b>															
Acenaphthene	20	0.1 U	0.1 U	0.1 U	0.14	0.041 I	0.02 U	0.015 U	2.4	NS	0.75	0.015 U	2.43	NS	
Anthracene	2100	0.1 U	0.1 U	0.1 U	0.02 U	0.015 U	0.02 U	0.028 I	0.08 I	NS	0.02 U	0.032 I	0.02 U	NS	
Benzo(a)anthracene	0.05	0.1 U	0.1 U	0.1 U	0.1 U	0.015 U	0.1 U	0.035 I	0.1 U	NS	0.1 U	0.015 U	0.1 U	NS	
Benzo(a)pyrene	0.2	0.1 U	0.1 U	0.1 U	0.1 U	0.015 U	0.1 U	0.015 U	0.1 U	NS	0.1 U	0.023 I	0.1 U	NS	
Chrysene	4.8	0.1 U	0.1 U	0.1 U	0.2 U	0.015 U	0.2 U	0.033 I	0.2 U	NS	0.2 U	0.015 U	0.2 U	NS	
Fluoranthene	280	0.1 U	0.1 U	0.1 U	0.01 U	0.015 U	0.01 U	0.015 U	0.05 I	NS	0.01 U	0.015 U	0.05 I	NS	
Fluorene	280	0.1 U	0.1 U	0.1 U	0.02 U	0.015 U	0.02 U	0.015 U	5.32	NS	2.05	0.015 U	4.89	NS	
2-Methylnaphthalene	28	0.5 U	0.5 U	0.5 U	0.02 U	0.018 U	0.02 U	0.046	122 D	NS	13.5	0.018 U	87.6	NS	
1-Methylnaphthalene	28	0.5 U	0.5 U	0.5 U	0.02 U	0.017 U	0.02 U	0.068	75.5 D	NS	10.1	0.017 U	55.6	NS	
Naphthalene	14	0.5 U	0.5 U	0.5 U	0.02 U	0.018 U	0.05 I	0.018 U	102 D	NS	1.85	0.018 U	151	NS	
Phenanthrene	210	0.1 U	0.1 U	0.1 U	0.02 U	0.015 U	0.02 U	0.053	5.06	NS	2.68	0.061	3.58	NS	
Pyrene	210	0.1 U	0.1 U	0.1 U	0.02 U	0.015 U	0.02 U	0.041 I	0.56	NS	0.45	0.015 U	0.08 I	NS	
<b>Metal (USEPA Method 6010)</b>															
Total lead	15	0.01 U	0.01 U	0.01 U	0.002 U	NS	0.002 U	NS	0.002 I	NS	0.002 U	NS	0.003 I	NS	
<b>Petroleum Hydrocarbons (FL-PRO Method) (mg/L)</b>															
TPH (C8-C40)	5	6	0.2 U	0.2 U	0.536	0.85	0.094 U	0.16 U	3.55	NS	0.604	0.16 U	3.94	NS	
<b>EDB (USEPA Method 504.1)</b>															
EDB	0.02	0.02 U	0.02 U	0.02 U	0.01 U	NS									

**Notes:**

\* MW03 and MW05 were not sampled on July 25, 2008, due to the presence of free product.  
mg/L = Milligram per liter.  
EDB = Ethylene dibromide.  
NS = Not sampled.

U = Not detected.  
D = Data reported from dilution.  
I = Detected, but below reporting limits.  
Bold indicates exceedance of the FDEP GCTL.

Two sample points (SB-08 and SB-09; SB-07 and SB-14) form the eastern boundary, and sample points (SB-12 and SB-13; SB-10 and SB-11) form the western boundary. Using these midpoints as eastern and western boundaries, the maximum treatment area is 35 feet wide and the length extends to 55 feet. Figure 2-6 depicts the 2005 sample locations and associated mobile laboratory data, and Table 2-3 depicts the 2005 assessment data. The length of the treatability study area may increase or decrease based on field observation of groundwater impacts, but will serve as a starting point for the treatability study. No Biox<sup>®</sup> treatment injection points will be installed inside the building.

The vertical extent of treatability study injection depth is based on groundwater analyzed from sample SB-06, which was collected in the source area. In an attempt to define the vertical extent during the 2005 assessment, boring SB-06 was selected to be advanced via DPT to an approximate depth of 40 feet bls. While pushing to depth, boring SB-06 met refusal at 20 feet bls due very densely packed fine grained sand. Unable to push deeper, a groundwater sample was collected from a screened depth of 16 to 20 feet bls and analyzed by a mobile laboratory for MTBE, BTEX, and the naphthalene constituents. 1-Methylnaphthalene (63.6 µg/L), 2-methylnaphthalene (98.8 µg/L), total xylenes (50 µg/L), and naphthalene (50.5 µg/L) were detected above their respective GCTLs of 28 µg/L, 28 µg/L, 20 µg/L, and 14 µg/L. Although no constituents exceeded the natural attenuation default criteria, it was determined that Biox<sup>®</sup> injection points should be advanced to a depth of 20 feet, if possible.

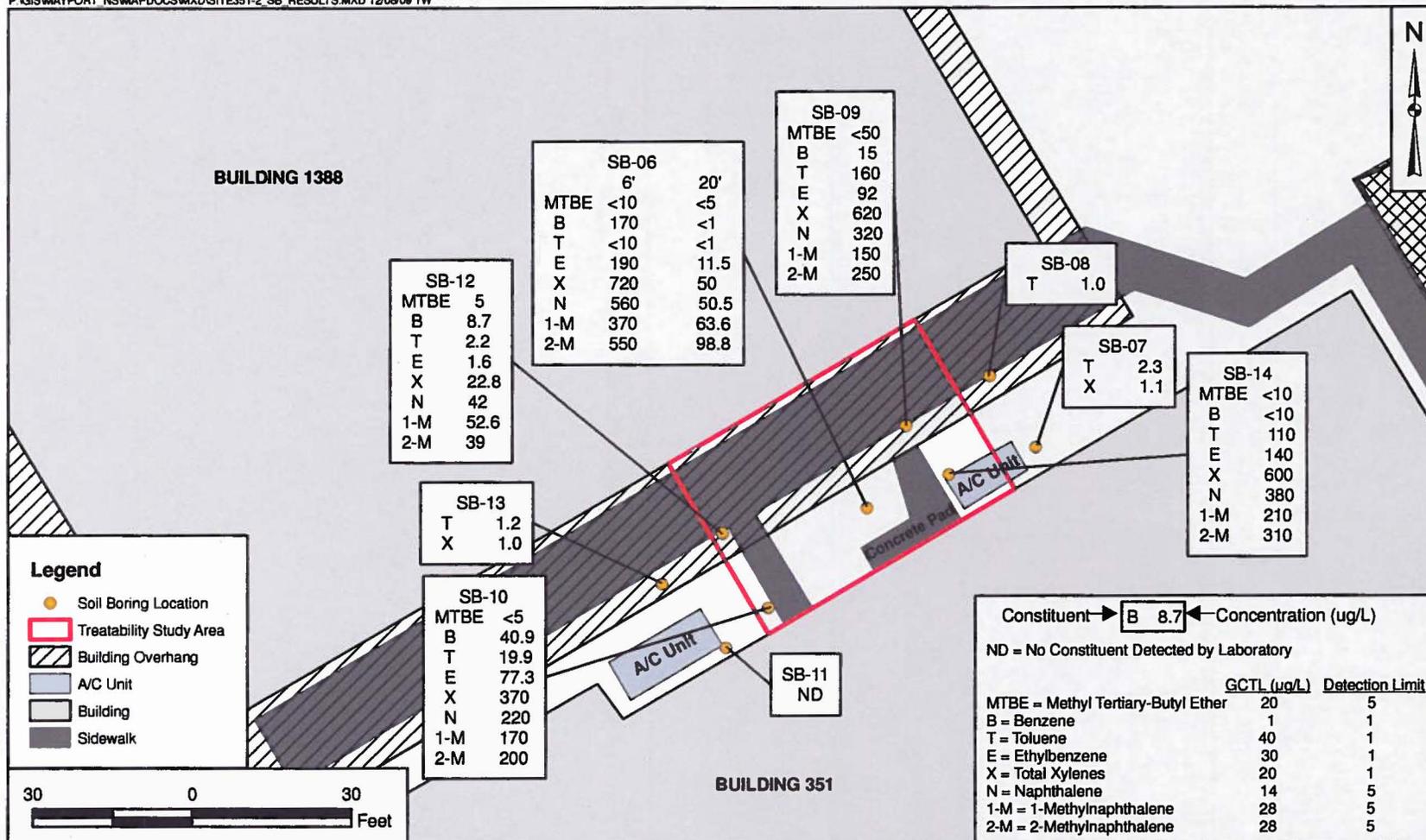
## 2.5 FREE PRODUCT

Free product was first observed September 20, 2006, when 0.14 foot of free product was measured during routine water level measurements in monitoring well MPT-351-2-MW03, which is located at the northern (downgradient) edge of the ISR excavation boundary. During the January 2007 ISR soil removal, no free product was observed. Monthly free product removal began on April 7, 2008, when free product was observed in monitoring well MPT-351-2-MW03. On June 20, 2008, 1.85 feet of free product was observed in monitoring well MPT-351-2-MW03, and free product has also been observed in monitoring well MPT-351-2-MW-05 located in the sidewalk along the southern wall of Building 1388. To better facilitate the free product removal, thirteen 2-inch piezometers were installed from January 6 through 8, 2009, near monitoring wells MPT-351-2-MW03 and MPT-351-2-MW05. Figure 2-7 presents the location of the free product recovery wells. Each piezometer was installed in January 2009 to a depth of 12 feet bls.

Since the installation of the monitoring wells and piezometers, free product has come and gone. When the free product is present, it is removed two-fold. First, petroleum sorbent material is left in the monitoring wells and changed when fully saturated. Second, low flow skimming of free product is conducted during which a peristaltic pump is used to remove free product from the monitoring wells when the sorbent sock does not collect all of the free product. As of November 2009, approximately 111 liters of free product have been removed from the site.

09JAX0075

2-11



DRAWN BY	DATE
T. WHEATON	12/08/09
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D. SIEFKEN	12/08/09
COST/SCHEDULE AREA	
SCALE AS NOTED	



MOBILE LABORATORY GROUNDWATER ANALYTICAL RESULTS (2005)  
 TREATABILITY STUDY WORK PLAN  
 SITE 351-2  
 NAVAL STATION MAYPORT  
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER	
00103	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO.	REV
FIGURE 2-6	0

CTO 0050

Rev. 0  
01/13/10

**Table 2-3  
Mobile Laboratory Groundwater Analytical Results (2005)**

Treatability Study Work Plan, Site 351-2  
Naval Station Mayport  
Jacksonville, Florida

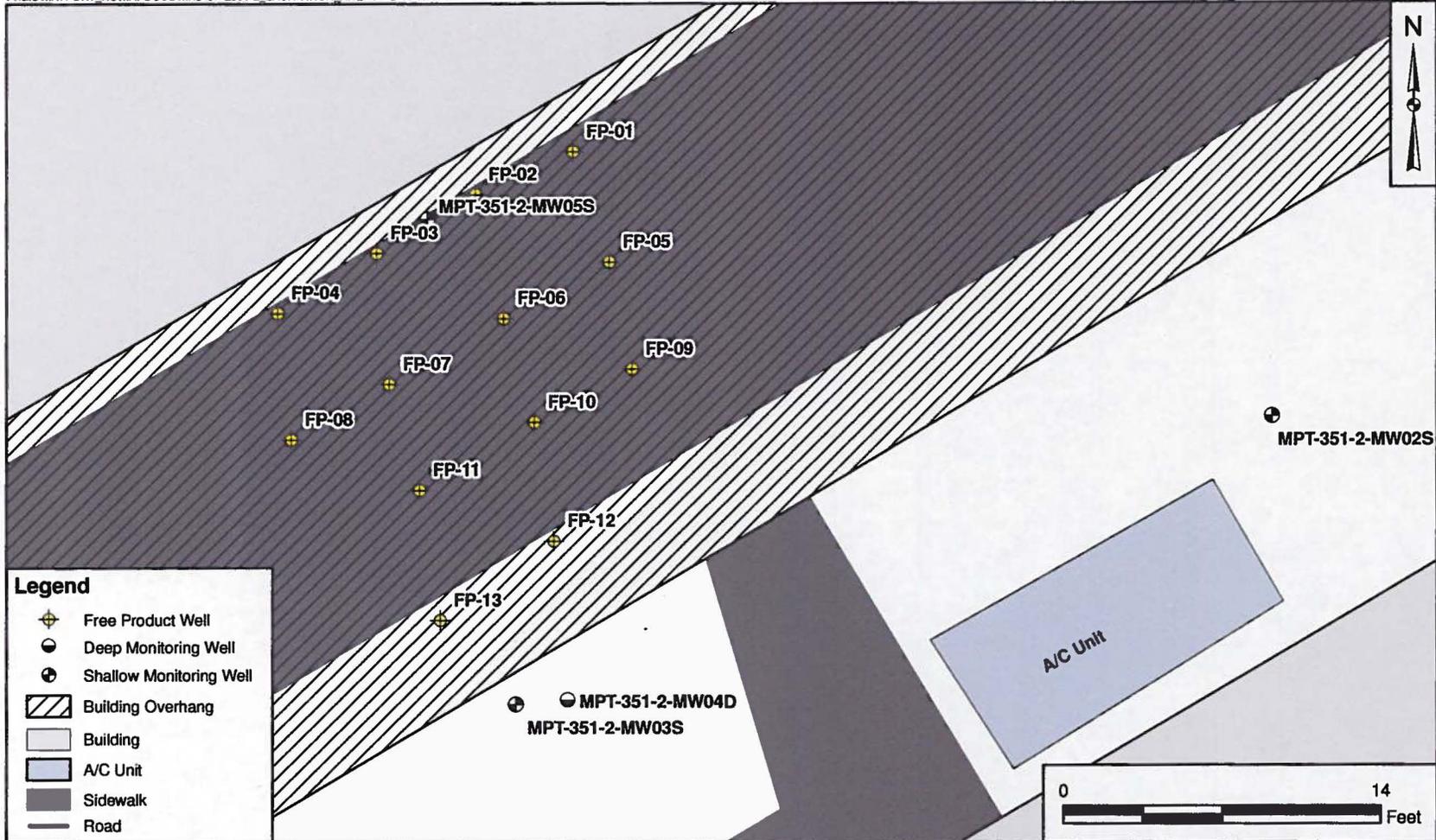
Compound	FDEP GCTL	Sample ID (MPT-351-2-) and Sample Date											
		SB-01	SB-02	SB-04	SB-06	SB-06-20	SB-07	SB-08	SB-09	SB-10	SB-11	SB-12	SB-13
		08/10/05	08/10/05	08/11/05	08/11/05	08/12/05	08/10/05	08/10/05	08/10/05	08/10/05	08/10/05	08/10/05	08/10/05
<b>VOCs (USEPA Method 8260B) (µg/L)</b>													
1-Methylnaphthalene	28	<b>160</b>	<b>140</b>	<b>590</b>	<b>370</b>	<b>63.6</b>	5 U	5 U	<b>180</b>	<b>170</b>	5 U	<b>52.6</b>	5 U
2-Methylnaphthalene	28	<b>200</b>	<b>200</b>	<b>890</b>	<b>550</b>	<b>98.8</b>	5 U	5 U	<b>250</b>	<b>200</b>	5 U	<b>39</b>	5 U
Benzene	1	<b>57.2</b>	<b>110</b>	<b>150</b>	<b>170</b>	1 U	1 U	1 U	<b>18</b>	<b>40.9</b>	1 U	<b>8.7</b>	1 U
Ethylbenzene	30	<b>68.4</b>	<b>80</b>	<b>140</b>	<b>190</b>	11.8	1 U	1 U	<b>92</b>	<b>77.3</b>	1 U	<b>1.8</b>	1 U
m+p Xylenes	20	<b>240</b>	<b>190</b>	<b>460</b>	<b>720</b>	<b>50</b>	1.1	1 U	<b>360</b>	<b>180</b>	1 U	<b>20</b>	1
MTBE	20	<b>26.4</b>	<b>100 U</b>	<b>100</b>	<b>10 U</b>	<b>5 U</b>	<b>5 U</b>	<b>5 U</b>	<b>50 U</b>	<b>5 U</b>	<b>5 U</b>	<b>8</b>	<b>5 U</b>
Naphthlene	14	<b>190</b>	<b>260</b>	<b>620</b>	<b>560</b>	<b>50.5</b>	5 U	5 U	<b>320</b>	<b>220</b>	5 U	<b>42</b>	5 U
o Xylene	20	<b>160</b>	<b>26</b>	<b>140</b>	<b>10 U</b>	1 U	1 U	1 U	<b>260</b>	<b>190</b>	1 U	<b>2.8</b>	1 U
Toluene	40	<b>21.5</b>	<b>20 U</b>	<b>120</b>	<b>10 U</b>	1 U	2.3	1	<b>180</b>	<b>19.9</b>	1 U	<b>2.2</b>	<b>1.2</b>
Total Xylenes	20	<b>400</b>	<b>216</b>	<b>600</b>	<b>720</b>	<b>50</b>	1.1	1 U	<b>620</b>	<b>370</b>	1 U	<b>22.8</b>	1

Compound	FDEP GCTL	Sample ID (MPT-351-2-) and Sample Date							
		SB-14	SB-17	SB-18	SB-19	SB-19 DUP	SB-20	SB-21	SWMU- 17-05-S
		08/11/05	08/10/05	08/11/05	08/11/05	08/11/05	08/11/05	08/11/05	08/11/05
<b>VOCs (USEPA Method 8260B) (µg/L)</b>									
1-Methylnaphthalene	28	<b>210</b>	<b>110</b>	5 U	5 U	5 U	5 U	5 U	5 U
2-Methylnaphthalene	28	<b>310</b>	<b>140</b>	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	1	10 U	<b>97</b>	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	30	<b>140</b>	<b>37.2</b>	7.9	1 U	1 U	1 U	1 U	1 U
m+p Xylenes	20	<b>250</b>	<b>180</b>	10.9	1 U	1 U	1 U	1 U	1 U
MTBE	20	10 U	<b>45.9</b>	5 U	<b>51.7</b>	<b>120</b>	5 U	5 U	5 U
Naphthlene	14	<b>380</b>	<b>210</b>	5 U	5 U	5 U	5 U	5 U	5 U
o Xylene	20	<b>350</b>	<b>65.1</b>	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	40	<b>110</b>	1.6	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	20	<b>600</b>	<b>245.1</b>	10.9	1 U	1 U	1 U	1 U	1 U

**Notes:**  
**Bold** indicates exceedance of the  
FDEP GCTL.  
U = Not detected.

09JAX0075

2-13



**Legend**

- Free Product Well
- Deep Monitoring Well
- Shallow Monitoring Well
- Building Overhang
- Building
- A/C Unit
- Sidewalk
- Road

DRAWN BY	DATE
T. WHEATON	11/03/09
CHECKED BY	DATE
D. SIEFKEN	11/03/09
COST/SCHEDULE AREA	
SCALE AS NOTED	



**FREE PRODUCT RECOVERY WELL LOCATIONS**  
**TREATABILITY STUDY WORK PLAN**  
**SITE 351-2**  
**NAVAL STATION MAYPORT**  
**JACKSONVILLE, FLORIDA**

CONTRACT NUMBER	
CTO 0050	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO.	REV
FIGURE 2-7	0

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01/13/10

Based on the most recent free product information recorded November 25, 2009, no free product was observed in any monitoring wells and has been absent from view since July 31, 2009, when oil-soaked sorbent material was observed in piezometer PZ-13.

### 3.0 TREATABILITY STUDY DESIGN

The treatability study will be conducted to evaluate the effectiveness of the treatment of COCs within the soil vadose smear zone and shallow and intermediate saturated zones at the site with Biox<sup>®</sup>. The Biox<sup>®</sup> process combines controlled chemical oxidation and enhanced biodegradation of contaminants in soil and groundwater. Biox<sup>®</sup> will be injected into the shallow groundwater zone (3 to 20 feet bls). The goal of the treatability study is to determine if the Biox<sup>®</sup> injections are capable of reducing COC and free product concentrations in groundwater to levels less than FDEP Natural Attenuation Default Concentrations.

#### 3.1 BIOX<sup>®</sup> TECHNOLOGY

The Biox<sup>®</sup> process is a remedial technology that combines controlled chemical oxidation with enhanced biodegradation of contaminants in both soil and groundwater. The Biox<sup>®</sup> formulation includes combinations of solid peroxides, pH buffer systems, and nutrients. The Biox<sup>®</sup> formulation will be adjusted to area-specific soil, geochemical, and contaminant conditions. The pH of the Biox<sup>®</sup> fluids will range from 7 to 8.5.

The chemical oxidation component of the Biox<sup>®</sup> process is based on Fenton-type reactions. In Fenton-type reactions, ferrous and ferric iron decompose hydrogen peroxide to molecular oxygen, radicals (predominantly hydroxyl radicals), and water. The Fenton-type reactions of the Biox<sup>®</sup> process include reactions of low concentrations of hydrogen peroxide evolving from the dissolution of solid peroxides (e.g., magnesium or calcium peroxide or sodium percarbonate) with dissolved iron, as well as iron containing minerals and fulvic and humic substances in soil. An iron catalyst may be supplemented if the naturally occurring iron species are insufficient for the activation of Fenton-type reactions.

The Biox<sup>®</sup> formulation prevents excessive degassing. Further, the controlled Fenton-type reactions induced by the Biox<sup>®</sup> formulation generate only minimal increases in groundwater temperature (less than 5 degrees Fahrenheit). Fenton-type reactions can completely oxidize organic compounds to their elemental oxides, such as carbon dioxide and water. Fenton-type reactions also yield products of partial oxidation such as hydroxylated hydrocarbons. These hydroxylated hydrocarbons are surface active and tend to desorb and dissolve organic contaminants making them more available for remediation. Additionally, partially oxidized products of the reaction are more soluble in water and are more readily degraded by microorganisms present in soil. Typically, the heterotrophic microbial population increases significantly in soil and groundwater within weeks after the application of the Biox<sup>®</sup>.

A letter from the FDEP Bureau of Petroleum Storage System accepting Biox<sup>®</sup> for remediation of petroleum and other suitable contaminants in groundwater and soil is included in Appendix A.

### 3.1.1 Field Operations

The pilot test will consist of the following field activities:

- Mobilization/demobilization
- Installation of soil borings in areas of groundwater contamination and injection of Biox<sup>®</sup>
- Environmental sampling following injection to evaluate COCs and geochemical parameters

Figure 3-1 shows the proposed Biox<sup>®</sup> injection area.

Biox<sup>®</sup> will be injected in 1- to 2-foot lifts using a soft advance fluid-jetting system to install the borings. After completing each injection point, the probe hole will be sealed with bentonite chips and capped with a cement grout where appropriate.

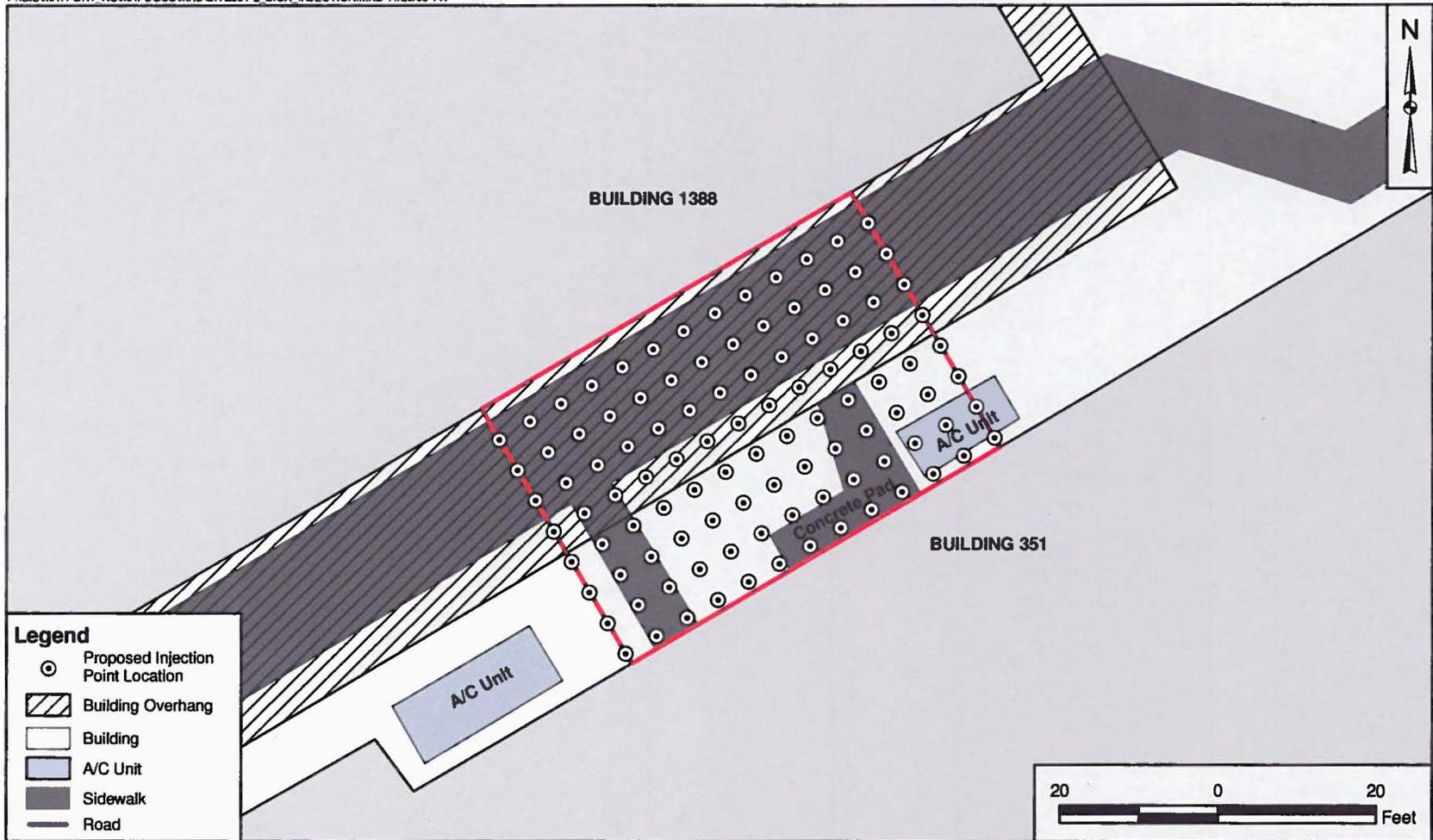
### 3.1.2 Investigation-Derived Waste Management

Investigation-derived waste accumulated during installation, well purging and sampling, and decontamination will be collected, containerized, and stored in Department of Transportation (17C)/UN (1A2)-approved 55-gallon drums. The drums will be labeled after they are filled. Following receipt of analytical results, TtNUS will arrange for a certified waste management contractor to properly dispose of the drums.

### 3.1.3 Decontamination

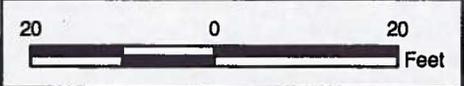
Personnel will perform decontamination procedures as required by the *Health and Safety Plan for Site Assessments and Site Characterizations, Evaluations, and Remedial Actions* (TtNUS, 2005). The equipment involved in field sampling activities will be decontaminated prior to and upon completion of drilling and sampling activities. This equipment includes down-hole tools, augers, and all non-dedicated sampling equipment.

Used personal protective equipment will be disposed of with solid drill cuttings as investigative derived waste as described in the Health and Safety Plan. These items include Tyvek<sup>™</sup> suits, disposable latex gloves, and paper towels.



**Legend**

- Proposed Injection Point Location
- ▨ Building Overhang
- Building
- A/C Unit
- Sidewalk
- Road



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T. WHEATON	11/20/09
CHECKED BY	DATE
D. SIEFKEN	11/20/09
COST/SCHEDULE AREA	
SCALE AS NOTED	



**PROPOSED BIOX INJECTION AREA**  
**TREATABILITY STUDY WORK PLAN**  
**SITE 351-2**  
**NAVAL STATION MAYPORT**  
**JACKSONVILLE, FLORIDA**

CONTRACT NUMBER	
00103	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO.	REV
FIGURE 3-1	0

## **3.2 MONITORING**

Site groundwater will be sampled and analyzed before and after the Biox<sup>®</sup> injection to monitor the geochemical parameters (pH, conductivity, temperature, dissolved oxygen, and oxidation-reduction potential), COC concentrations, and FDEP-required parameters at the injection areas. Monitoring wells MPT-351-2-MW01, MPT-351-2-MW03, MPT-351-2-MW05, and three additional monitoring wells will be installed to form a six well monitoring network. Two of the three additional monitoring wells will be installed along the western treatability study boundary with one monitoring well being located within 5 feet of the wall of Building 1388 and the other monitoring well approximately 9 feet from the northern wall of Building 351. The third monitoring well will be installed along the eastern treatability study boundary within 5 feet of the southern wall of Building 1388. This monitoring well network will be sampled within 30 days prior to the Biox<sup>®</sup> injection to determine baseline conditions. Upon completion of injection activities, these monitoring wells will be sampled quarterly for one year. Figure 3-2 depicts the proposed locations of the three new monitoring wells to be added.

Samples collected from the monitoring wells will be analyzed for analysis of VOCs, semivolatile organic compounds (SVOCs), TPH, sulfate, total dissolved solids (TDS), sodium, iron, ammonia, and nitrate. Field activities will be completed in general accordance with the FDEP Standard Operating Procedures (SOPs) (FDEP, 2008).

### **3.2.1 Field Operations**

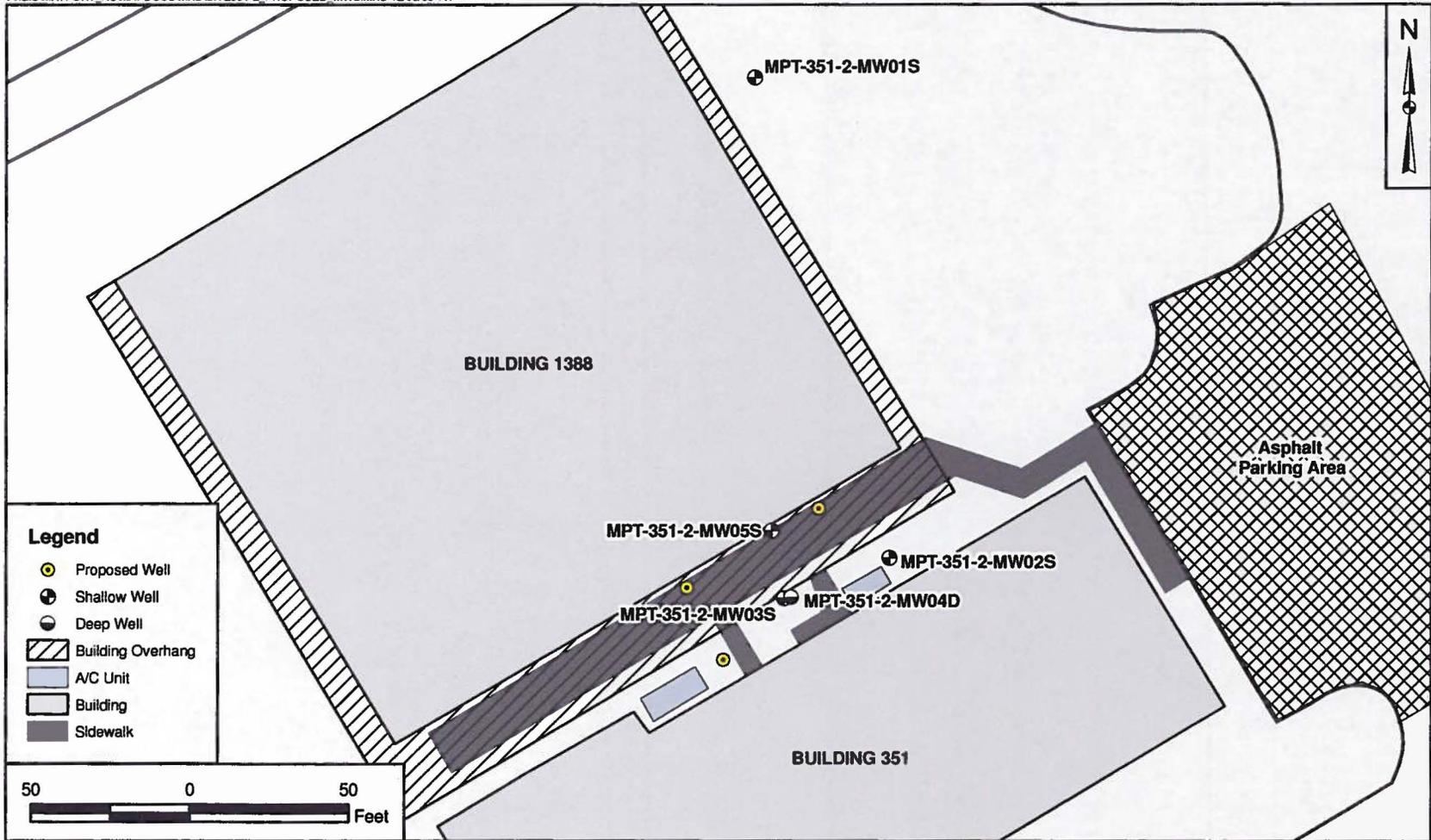
Groundwater sampling will be conducted in general accordance with FDEP SOPs (FDEP, 2008 and FDEP, 2001). After collection, samples will be placed on ice and delivered to a Florida-approved laboratory for analyses of VOCs, SVOCs, TPH, iron, sodium, TDS, ammonia, sulfate, and nitrate.

## **3.3 REPORTING**

A total of four sampling event reports will be provided to NAVFAC SE documenting activities undertaken in conjunction with the treatability study. The first Groundwater Monitoring Report will include sample results of the first quarter and will also detail the injection activities that were conducted at Site 351-2. The second and third quarter reports will address the site conditions, and the fourth quarter report will address the site conditions and effectiveness of the treatability study. Each report will be submitted to FDEP and NAVFAC SE.

09JAX0075

3-5



DRAWN BY	DATE
T. WHEATON	12/08/09
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D. SIEFKEN	12/08/09
COST/SCHEDULE AREA	
SCALE AS NOTED	



**PROPOSED MONITORING WELL LOCATIONS**  
**TREATABILITY STUDY WORK PLAN**  
**SITE 351-2**  
**NAVAL STATION MAYPORT**  
**JACKSONVILLE, FLORIDA**

CONTRACT NUMBER	
00103	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO.	REV
FIGURE 3-2	0

CTO 0050

Rev. 0  
01/13/10

## REFERENCES

Aerostar (Aerostar Environmental Services, Inc.), 2004. Excavation Completion Report, Soil Removal, Building 351, Tank N1388, Naval Station Mayport, Florida. Prepared for Naval Facilities Engineering Command, Southern Division, North Charleston, South Carolina. August.

Driscoll, Fletcher G., 1986. Groundwater and Wells, St. Paul, Minnesota.

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FDEP, 2008. Department of Environmental Protection Standard Operating Procedures for Field Activities, DEP-SOP-001/01. March.

TtNUS (Tetra Tech NUS, Inc.), 2001. Site Assessment Report for Building 351. Prepared for Naval Facilities Engineering Command, Southern Division, North Charleston, South Carolina. January.

TtNUS, 2005. Health and Safety Plan for Site Assessments and Site Characterizations, Evaluations, and Remedial Actions. Prepared for Naval Facilities Engineering Command Southeast, North Charleston, South Carolina. June.

TtNUS, 2008. Draft Site Assessment Report for Site 351-2 at Naval Station Mayport, Florida. Prepared for Naval Facilities Engineering Command Southeast, Jacksonville, Florida. March.

**APPENDIX A**

**FDEP BIOX® ACCEPTANCE LETTER**



# Department of Environmental Protection

Jeb Bush  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Colleen M. Castille  
Secretary

February 14, 2005

Andreas D. Jazdanian, Ph.D.  
BioManagement Services, Inc.  
506 East Summit Street  
Crown Point, Indiana 46307

Re: **BIOX™ Process**

Dear Dr. Jazdanian:

The Bureau of Petroleum Storage Systems hereby accepts the BIOX™ Process for remediation of petroleum and other suitable contaminants in groundwater and soil, in situ and ex situ. BIOX™ acts first as a chemical oxidation process, in the relatively neutral pH range of 7.0 to 8.5, and with a minimal temperature rise of 5 °F or less, and then as a bioremediation process by providing nutrients and oxygen for the indigenous aerobic microorganisms at the remediation site.

The chemical oxidation aspect of the process is a Fenton-type reaction involving hydrogen peroxide and ferrous sulfate. The source of the hydrogen peroxide can be from any or a mixture of the following: liquid hydrogen peroxide, or solid compounds such as calcium peroxide, magnesium peroxide, and sodium percarbonate, which produce hydrogen peroxide when mixed with water. The hydroxyls produced by the Fenton reaction break down the contaminants at a remediation site to intermediate compounds that are more easily degraded by the site's indigenous microorganisms. The ultimate degradation products of petroleum hydrocarbon contaminants are carbon dioxide and water, and the ultimate degradation products of chlorinated hydrocarbon contaminants are carbon dioxide, water and chloride. The elemental chemical composition of BIOX™ is shown in Enclosure 1.

This acceptance applies only to the regulatory jurisdiction and the remediation needs of the Bureau of Petroleum Storage Systems, which is primarily the cleanup of subsurface petroleum contamination pursuant to Chapter 62-770, Florida Administrative Code (F.A.C.). Other state agencies and local governments may choose to recognize this acceptance if their needs and regulations are similar. This Bureau, however, is not responsible for applications beyond its jurisdiction.

For vadose remediation, where the underlying groundwater will not be affected by the leaching of BIOX™, there are no special concerns beyond those that would normally need to be addressed in preparing a Remedial Action Plan and conducting a cleanup in accordance with Chapters 62-770 and 62-777, F.A.C. However, for injection-type in situ groundwater

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*Printed on recycled paper.*

Andreas D. Jazdanian, Ph.D.  
February 14, 2005  
Page 2

remediation, via direct injection of BIOX™ into an aquifer, there are underground injection control regulations that must be observed. Since injection-type in situ aquifer remediation is likely to be the most common application of this product, the bulk of the regulatory requirements discussed herein will be directed to that topic.

The Bureau recognizes BIOX™ as a viable process for the remediation of petroleum contaminated sites in Florida. There are no objections to its use provided: (a) the considerations of this letter are taken into account; (b) a variance from Rule 62-522.300(3), F.A.C., allowing a temporary zone of discharge for ammonia nitrogen is granted by the Department's Division of Water Resource Management; (c) a site-specific Remedial Action Plan is submitted pursuant to Chapter 62-770, F.A.C., and approved by the Department for each site where the use of the BIOX™ Process is proposed; and (d) the Remedial Action Plan specifies the injection zone of discharge size and duration for iron, sodium, sulfate, and total dissolved solids, and proposes adequate groundwater monitoring for them, pursuant to Rule 62-522.300(2)(c), F.A.C. Some major regulatory considerations that apply to the BIOX™ Process are discussed in Enclosure 2.

While the Department of Environmental Protection does not provide endorsement of specific or brand name remediation products or processes, it does recognize the need to determine their acceptability from an environmental standpoint with respect to applicable rules and regulations, and the interests of public health and safety. Vendors must then market the products and processes on their own merits regarding performance, cost, and safety in comparison to competing alternatives in the marketplace. In no way, however, shall this regulatory acceptance letter be construed as Department certification of performance. Additionally, the Department emphasizes a distinction between its regulatory "acceptance" letters and an approval. Products and processes are accepted but they are not approved.

Also, it is not a requirement that a particular remediation product or process have an official acceptance letter in order for it to be proposed in a site-specific Remedial Action Plan. The plan, however, must contain sufficient information about the product or process to show that it meets all applicable and appropriate rules and regulations, especially those of the Florida Administrative Code pertaining to underground injection control.

Those who prepare Remedial Action Plans are advised to include a copy of this letter in the appendix, and call attention to it in the text of their document. In this way, technical reviewers will be informed that you have contacted the Department of Environmental Protection to inquire about the environmental acceptability of the BIOX™ Process. To aid those reviewers, the Bureau of Petroleum Storage Systems provides supplemental information as Enclosure 3.

The Department reserves the right to revoke its acceptance of a product or process if it has been falsely represented. Additionally, Department acceptance of any product or process does not imply it has been deemed applicable for all cleanup situations, or that it is preferred over other treatment or cleanup techniques in any particular case. A site-specific evaluation of applicability and cost-effectiveness must be considered for any product or process, whether conventional or

Andreas D. Jazdanian, Ph.D.  
February 14, 2005  
Page 3

innovative, and adequate site-specific design details must be provided in a Remedial Action Plan. You may contact me at (850) 877-1133, extension 29, if there are any questions.

Sincerely,

Rick Ruscito, P.E.  
Ecology and Environment, Inc.  
Bureau of Petroleum Storage Systems  
Petroleum Cleanup Section 6

Rebecca S. Lockenbach  
FDEP Section Leader  
Bureau of Petroleum Storage Systems  
Petroleum Cleanup Section 6

c: Tom Conrardy - FDEP/Tallahassee

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2/14/05

ENCLOSURE 1

BIOX™  
February 14, 2005

BIOX™ ELEMENTAL CHEMICAL COMPOSITION †

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Iron, Fe	100 mg/L ▲
Sulfur, S	8,887 mg/L
Nitrogen, N	2,592 mg/L
Phosphorus, P	9,362 mg/L
Sodium, Na	6,417 mg/L
Calcium, Ca	35,297 mg/L
Magnesium, Mg	33,707 mg/L
Potassium, K	8,263 mg/L
Oxygen, O §	125,943 mg/L
Carbon, C	1,285 mg/L

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† Maximum concentrations expected in BIOX fluids to be injected.

▲ mg/L (milligrams per liter)

§ Elemental oxygen, not the diatomic molecule.

## REGULATORY CONSIDERATIONS

For BIOX™ Process applications, the major regulatory considerations are listed below.

- a. **Groundwater cleanup standards:** The onus shall be on users of the BIOX™ Process to ensure that all applicable groundwater contaminant standards will be met at the time of project completion, for petroleum and other contaminants that may be present, any residuals associated with the ingredients of BIOX™ and any byproducts produced as a result of chemical or biochemical reactions involving those ingredients. The following chapters of the Florida Administrative Code (F.A.C.) are cited: Chapter 62-550, F.A.C., for primary and secondary water quality standards; Chapter 62-520, F.A.C. for groundwater classes and standards, and minimum criteria; Chapter 62-522, F.A.C., for groundwater permitting and monitoring requirements; Chapter 62-528, F.A.C., for underground injection control, particularly Part V, for Class V, Group 4 aquifer remediation projects; Chapter 62-770, F.A.C., for petroleum cleanup criteria; and Chapter 62-777, F.A.C., also for cleanup and minimum groundwater criteria.

A noteworthy aspect of the minimum criteria set forth in Chapter 62-520, F.A.C., is that it requires groundwater to be free from substances that are harmful to plants, animals, and organisms, and free from substances that are carcinogenic, mutagenic, teratogenic or toxic to human beings. In effect, these "free from" requirements form a catchall. They close what would otherwise be a loophole in the regulations by preventing injection of a potentially harmful product in the event that any of its ingredients is not regulated as a specific primary or secondary drinking water contaminant.

- b. **Injection well permit:** The issuance of a site-specific Remedial Action Plan Approval Order by either the Bureau of Petroleum Storage Systems or the Bureau of Waste Cleanup, for remediation via injection of the BIOX™ Process into an aquifer, constitutes the granting of a Class V injection well permit. [62-528.630(2)(c) and 62-528.640(1)(c), F.A.C.]
- c. **Groundwater injection standards:** For in situ aquifer remediation, the composition of an injected fluid must meet the drinking water standards set forth in Chapter 62-550, F.A.C., and the minimum groundwater criteria of Chapter 62-520, F.A.C., pursuant to underground injection control Rule 62-528.600(2)(d), F.A.C. Aquifer remediation fluids that do not meet these requirements must obtain an injection zone of discharge. Depending on the ingredients of the fluid, it will be necessary to obtain an injection zone of discharge by either one or both of the following methods: by Rule 62-522.300(2)(c), F.A.C., or by variance from Rule 62-522.300(3), F.A.C. The nature of the reagents used in the BIOX™ process are such that both of these methods will be necessary.
- d. **Variance:** In order for BIOX™ reagents to be used for injection-type in situ aquifer remediation, BioManagement Services Incorporated must obtain a variance for a deviation from Rule 62-522.300(3), F.A.C., in order to allow a temporary injection zone of discharge for ammonia nitrogen. Once granted, a variance will allow a temporary zone of discharge of specified dimensions around each injection point (usually expressed as a radius of influence) for a specified period of time. The measurement of the time period usually begins after the final injection. By the end of the time period, the groundwater concentration of any residual

ammonia nitrogen in the zone of discharge must not exceed the 2.8-milligram per liter (mg/L) maximum allowed by Chapter 62-777, F.A.C. If the groundwater's natural-occurring background concentration of ammonia nitrogen at a specific remediation site is already in excess of the established minimum groundwater criterion, then its residual concentration at the completion of remediation shall be no greater than the pre-existing background concentration.

If the variance granted by the Department is not site-specific, then it may be considered as portable from one BIOX™ cleanup project to another in Florida, provided a site-specific Remedial Action Plan is submitted for each site. With a portable variance, BioManagement Services, Inc. and users of the BIOX™ Process do not have to petition for a new variance each time the BIOX™ Process is proposed for the remediation of a site, provided there is no deviation from the terms of the variance. Instructions on how to petition for a temporary injection zone of discharge variance are currently located at web page [www.dep.state.fl.us/waste/categories/pcp/pages/innovative.htm](http://www.dep.state.fl.us/waste/categories/pcp/pages/innovative.htm).

- e. Zone of discharge by rule: Rule 62-522.300(2)(c), F.A.C., applies to the iron, sodium, sulfate and total dissolved solids in BIOX™. Each site-specific Remedial Action Plan proposing its use must: (a) indicate that the concentrations of iron, sodium, sulfate, and total dissolved solids in the fluid to be injected will be in excess of their groundwater injection standards; (b) specify a temporary zone of discharge size; (c) specify the period of time for which the temporary zone of discharge will be needed; and (d) propose groundwater monitoring of these parameters. The current groundwater standards for the BIOX™ parameters that require a zone of discharge by rule are iron (0.3 mg/L), sodium (160 mg/L), sulfate (250 mg/L), and total dissolved solids (500 mg/L).
- f. Utilization of wells: If a remediation site happens to have an abundance of monitoring wells, then the Department has no objection to the use of some wells for the application of the BIOX™ Process. However, no "designated" monitoring well, dedicated to the tracking of remediation progress (by sampling) shall be used to apply BIOX™ reagents. This will avoid premature conclusions that the entire site meets cleanup goals. By making sure that designated tracking wells are not also used for treatment, there will be more assurance that the treatment process has permeated the entire site and that it did not remain localized to the area immediately surrounding each injection well.
- g. Additional nutrients: If, in the future, either BioManagement Services Incorporated or a user of the BIOX™ Process decides to augment it with other nutrients and/or chemicals, then the injection of such nutrients and other chemicals into an aquifer must also be in accordance with the underground injection control requirements of Chapter 62-528, F.A.C., which requires that substances injected meet the drinking water standards set forth Chapter 62-550, F.A.C., and the minimum groundwater criteria of Chapter 62-520, F.A.C.

**h. Groundwater monitoring:**

1. **Active remediation petroleum monitoring:** During the period of active remediation, groundwater shall be monitored in accordance with the requirements set forth in Section 62-770.700, F.A.C., for the petroleum contaminants of concern. Two noteworthy rules within that section are 62-770.700(3)(i), F.A.C., for frequency of sampling, and 62-770.700(5)(f), F.A.C., which requires a sampling schedule for bioremediation.
  2. **Post remediation petroleum monitoring:** At least one (1) year of quarterly post remediation groundwater monitoring for the petroleum contaminants of concern shall be conducted at a minimum of two (2) wells, one located in the area of maximum petroleum contamination, the other downgradient of the area of maximum petroleum contamination, pursuant to Section 62-770.750, F.A.C.
  3. **Underground injection control monitoring:** A variance from Rule 62-522.300(3), F.A.C., when granted, allowing a temporary zone of discharge, will include groundwater monitoring requirements for underground injection control purposes, for the ammonia nitrogen in BIOX™. Such monitoring will occur before and after the injection of BIOX™. For the iron, sodium, sulfate and total dissolved solids, for which a temporary injection zone of discharge is permitted by rule for BIOX™, the groundwater shall be monitored in accordance with the Department-approved Remedial Action Plan that addresses the monitoring of these parameters.
- i. **Underground injection control inventory:** Remedial Action Plans prescribing injection-type in situ aquifer remediation shall include information pursuant to Rule 62-528.630(2)(c)1 through 6, F.A.C., for the inventory purposes of underground injection control. Per Rule 62-528.630(2)(c), F.A.C., aquifer remediation projects involving injection wells may be authorized under the provisions of a Remedial Action Plan, provided the construction, operation, and monitoring requirements of Chapter 62-528, F.A.C., are met. A memorandum outlining the inventory information about injection-type aquifer remediation plans to be transmitted by Department reviewers to the Underground Injection Control Section is provided as Enclosure 4. Only reviewers within the Department, including its district offices, may approve in situ injection-type remediation plans in which the approval constitutes a Class V injection permit; local programs are not authorized to grant such approvals. See Enclosure 3.

**j. Operation:**

1. **Avoidance of migration:** For injection-type in situ aquifer remediation projects, injection of the BIOX™ reagents shall be performed in such a way, and at such a rate and volume, that no undesirable migration of either the reagents or the petroleum contaminants in the aquifer results, pursuant to Rule 62-528.630(3), F.A.C.
2. **Underground injection control operating permit:** Although an operating permit is not required for aquifer remediation wells pursuant to Rule 62-528.640(1)(b), and

62-528.640(1)(c), F.A.C., since no movement of the petroleum contamination plume is expected to accompany the treatment process, the Department requests that the information items listed in Rule 62-528.640(1)(b), F.A.C., be considered and included in Remedial Action Plan proposals as a matter of good and thorough design practice. Briefly summarized, they are: quality of water in the aquifer; quality of the injected fluid; existing and potential uses of the affected aquifer; and well construction details. Additionally, each Remedial Action Plan should clearly indicate the total volume of the BIOX™ reagents that will be injected.

3. Operating parameter measurements: Rule 62-770.700(9)(h), F.A.C., sets forth frequency requirements for the measurement of bioremediation operating parameters such as dissolved oxygen levels, rates of nutrient addition, temperature, etc. It also includes an option for reduction in the frequency or discontinuation of some measurements in situations when appropriate.
  
- k. Abandonment of wells: Upon issuance of a petroleum Site Rehabilitation Completion Order, or a declaration of "No Further Action", injection wells shall be abandoned pursuant to Section 62-528.645, F.A.C. The Underground Injection Control Section of the Department shall be notified so that the injection wells can be removed from the inventory-tracking list.
  
- l. Phosphate: The Bureau has considered the orthophosphate present in BIOX™, which serves as a macronutrient for bioremediation purposes. Phosphate, which is an element essential for life, occurs naturally in Florida's groundwater and is not a regulated groundwater contaminant. At a Panama City, Florida site, total phosphorus in the groundwater was measured at 800 to 1,100 micrograms per liter (ug/L). At a Volusia County site in Florida, it was measured at 1,200 ug/L, as PO<sub>4</sub>. For comparison purposes, the European Community Guide level for phosphorus in drinking water is 400 ug/L, as P<sub>2</sub>O<sub>5</sub>. While phosphorus may not be a matter of great toxicological concern for in situ injection-type groundwater remediation projects, the Bureau would like to remind users of the BIOX™ Process that it could become an environmental concern if surface water is very close or present at a remediation site. In that case, if there could be any interaction between the groundwater being remediated and the nearby surface water body, then the state's surface water regulations should be reviewed first for information about phosphorus.
  
- m. Open-pit applications: While open-pit applications of BIOX™ reagents is not an injection-type application, and notification of the Underground Injection Control Section therefore not required, the user of BIOX™ must still be mindful of groundwater quality. For open-pit applications, the Bureau of Petroleum Storage Systems suggests that groundwater in the application area be monitored for the same parameters that would have required monitoring had the application been an injection: ammonia nitrogen, iron, sodium, sulfate, and total dissolved solids.

## SUPPLEMENTAL INFORMATION

The information below, compiled from several sources, may be helpful to reviewers of Remedial Action Plans prescribing bioremediation.

- a. Department of Environmental Protection reviewers of injection-type in situ aquifer remediation plans, regardless of whether in Tallahassee or district offices, must fill in the blanks on the Enclosure 4 memorandum, whose subject is "Proposed Injection Well(s) for In situ Aquifer Remediation at a Petroleum Remedial Action Site". The completed form must be submitted to the Underground Injection Control Section at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 (Mail Station 3530).

Only reviewers within the Department and its district offices may approve injection-type in situ remediation plans in which the approval constitutes the issuance of a Class V injection permit; local programs are not authorized to grant such approvals. Reason: Although an arrangement between the Environmental Protection Agency and the Department delegates underground injection control authority to the Department, it does not allow the Department to delegate that authority any further. This includes delegation to the Department's contracted remediation review agencies such as those operated by the counties and other local governments.

- b. Pilot study: For bioremediation, per rule 62-770.700(2), Florida Administrative Code (F.A.C.), a pilot study proposal shall be submitted for review, and a pilot test shall be performed prior to designing a treatment system. If conditions or the situation at a site does not warrant a pilot study, then a proposal explaining the rationale for the decision not to perform a pilot study shall be submitted for review. For state funded projects, reviewers are encouraged to use judgment in balancing cost and the need for technical information to be obtained from a pilot study.
- c. Dosage and application rate: It is recommended that the dosage and application details of the BIOX™ Process be determined on a site-specific basis, but for information and planning purposes, the following may be helpful:
- Delivery methods: Injection, open-pit application, or overspraying
  - Injection delivery: 1.25-inch diameter direct-push at 2-foot depth intervals
  - Injection rate and pressure: 3 to 5 gallons per minute; 30 to 200 pounds per sq. in.
  - Injection spacing: 3 to 7 ft for free product or low contaminant concentrations,  
10 to 15 for low contaminant concentrations
  - Number of injections: One or more may be necessary, depending on conditions
- d. Oxidation reaction: In the first step of the BIOX™ treatment process, reagents partially oxidizing contaminants in order to produce intermediates that are more readily biodegradable in the second step. Unlike a conventional Fenton reaction, the BIOX™ Process is not highly exothermic -- it generates minimal heat -- and does not need to occur a low pH.

- e. Degradation products: Carbon dioxide and water are the ultimate products of aerobic and most anaerobic biodegradations of petroleum hydrocarbons. The intermediate products may include simple acids, alcohols, and fatty acids. Aerobic processes use oxygen as an electron acceptor to produce the carbon dioxide and water.
- f. Sampling frequency and sample parameters: BioManagement Services Incorporated has provided information about indicator parameters and the frequency of sampling that it believes are important to the BIOX™ treatment process, and the Bureau of Petroleum Storage Systems would like to pass that information along to both potential users and technical reviewers of the process. Pre-treatment baseline sampling no earlier than 30 days prior to BIOX™ application is recommended, and post-treatment sampling is recommended at 30, 60 and 90 days as follows:

Soil Analytical Parameters

Groundwater Analytical Parameters

Contaminants of Concern (COC)

COC

Chemical Oxygen Demand (COD)

COD

Biological Oxygen Demand (BOD)

BOD

Total Organic Carbon (TOC)

TOC

Total Heterotrophic Plate Count

Total Heterotrophic Plate Count

Dissolved Oxygen (DO)

Oxidation-Reduction Potential (ORP)

BioManagement Services Incorporated indicates how these parameters are useful as follows:

- Declining trends in the TOC of soil and concomitant increasing trends in the groundwater can be indicative of the extent of desorption caused by the BIOX™ process.
- Comparison of pre- to post-treatment COD and BOD of soil allows for assessment of the transformation of the soil organic matter, including contaminants, to more biodegradable species.
- Increasing trends in COD and BOD of groundwater are also indicative of desorption processes.
- Comparison of pre- to post-treatment COD and BOD of groundwater allows for the assessment of the biodegradability of the dissolved organic fraction.
- Comparison of trends in post-treatment BOD/COD ratios for soil to trends in post-treatment BOD/COD ratios for the groundwater allows for assessment of the effectiveness of enhanced biodegradation and bioavailability of contaminants over time.
- Analysis of trends in dissolved oxygen concentration, heterotrophic plate counts and biodegradability indicators (BOD, COD, BOD/COD ratio) can be used to derive limiting factors for natural and enhanced biodegradation of a cleanup site.

**Florida Department of  
Environmental Protection**

**Memorandum**

TO: Richard Deuerling, Mail Station 3530  
Division of Water Facilities  
Underground Injection Control Section  
Florida Department of Environmental Protection  
2600 Blair Stone Road, Tallahassee, FL 32399-2400

FROM: \_\_\_\_\_ (Note 1.)  
\_\_\_\_\_  
\_\_\_\_\_

DATE: \_\_\_\_\_

SUBJ: **Proposed Injection Well(s) for In situ Aquifer  
Remediation at a Petroleum Remedial Action Site**

Pursuant to Rule 62-528.630(2)(c), F.A.C, inventory information is hereby provided regarding the proposed construction of temporary injection well(s) for the purpose of in situ aquifer remediation at a petroleum-contaminated site.

Site name: \_\_\_\_\_  
Site address: \_\_\_\_\_  
City/County: \_\_\_\_\_  
Latitude/Longitude: \_\_\_\_\_  
FDEP Facility Number: \_\_\_\_\_

Site owner's name: \_\_\_\_\_  
Site owner's address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Well contractor's name: \_\_\_\_\_ (Note 2.)  
Well contractor's address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Brief description of the in situ injection-type aquifer remediation project:  
\_\_\_\_\_  
\_\_\_\_\_

Summary of major design considerations and features of the project:

Areal extent of contamination (square feet): \_\_\_\_\_  
Number of injection wells: \_\_\_\_\_  
Composition of injected fluid (Note 3)  
(ingredient, wt. %): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Injection volume per well (gallons): \_\_\_\_\_  
Single or multiple injection events: \_\_\_\_\_  
Injection volume total (all wells, all  
events): \_\_\_\_\_

Richard Deuerling  
Page Two  
Date: \_\_\_\_\_

Site name: \_\_\_\_\_  
FDEP facility no.: \_\_\_\_\_

A site map showing the areal extent of the groundwater contamination plume, and the location and spacing of injection wells and associated monitoring wells is attached.

The following is a summary description of the affected aquifer:

Name of aquifer: \_\_\_\_\_  
Depth to groundwater (feet): \_\_\_\_\_  
Aquifer thickness (feet): \_\_\_\_\_

The injection well(s) features are summarized below, and/or a schematic of the injection well(s) is attached.

Direct-push or Conventional (circle the appropriate well type)  
Diameter of well(s) (i.e., riser pipe & screen) (inches): \_\_\_\_\_  
Total depth of well(s) (feet): \_\_\_\_\_  
Screened interval: \_\_\_\_\_ to \_\_\_\_\_ feet below surface  
Grouted interval: \_\_\_\_\_ to \_\_\_\_\_ feet below surface  
Casing diameter, if applicable (inches): \_\_\_\_\_  
Cased depth, if applic.: \_\_\_\_\_ to \_\_\_\_\_ feet below surface  
Casing material, if applic.: \_\_\_\_\_

The in situ injection-type aquifer remediation plan for this petroleum contaminated site is intended to meet the groundwater petroleum cleanup criteria set forth in Chapter 62-770, F.A.C. Additionally, all other groundwater standards will be met at the time of project completion for any residuals associated with the ingredients of the injected remediation products, and any by-products or intermediates produced as a result of the chemical or biochemical transformation of those ingredients or the contaminating petroleum during their use. Applicable primary and secondary drinking water standards are set forth in Chapter 62-550, F.A.C., and additional groundwater quality criteria are set forth in Chapter 62-520, F.A.C.

The remediation plan estimates that site remediation will take \_\_\_\_\_ months. We will notify you if there are any modifications to the remediation strategy, which will affect the injection well design or the chemical composition and volume of the injected remediation product(s).

The proposed remediation plan was approved on \_\_\_\_\_ by an enforceable approval order. A copy is attached. The remediation system installation is expected to commence within 60 days. Please call me at \_\_\_\_\_ if you require additional information.

---

Note 1. Local programs are not authorized to approve underground injections into aquifers. Reason: Per agreement with EPA, the FDEP cannot delegate this authority. Local programs, after reviewing a Remedial Action Plan or an injection proposal document, should arrange for Department headquarters' execution of an approval order, and then complete this form. This form is primarily for use by state and local program technical reviewers, but petroleum remediation contractors may fill in all blanks except those labeled "FROM", "DATE", and "approval date", and "telephone number" blanks in the last paragraph. Those blanks should be completed only by a state or local program reviewer.

Note 2. If an injection well installation contractor has not yet been selected, then indicate the name and address of the project's general remediation contractor/consultant.

Note 3. Complete chemical analysis of injected fluid is required by Chapter 62-528, Florida Administrative Code. Proprietary formulations shall make confidential disclosure. Injected fluids must meet drinking water standards of Chapter 62-550, F.A.C., unless an exemption or variance has been granted.

**APPENDIX B**

**JOHNSON CONTROLS HILL SPILL REPORT**

# Johnson Controls

**HILL**

Date: December 23, 2003  
File No. 2301-0136

Mr. Tommy Surrency  
Facilities Support Contract Manager  
Department of the Navy  
Naval Facilities Engineering Command

Subject: Contract No. N62467-00-D-2451

Reference: Annex 4  
Para 4.2.4.2a  
Title Post Spill Requirements

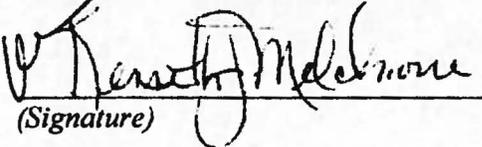
Contract deliverable is forwarded pursuant to cited contract reference. Enclosed is our Spill/Clean-Up Report Form, Table 4-10, Annex 4 and Site Specific Safety and Health Plan from a December 16, 2003, 650 gallon diesel fuel spill at bldg 351/1388, NS Mayport. Our Mr. Bob Lacy provided an advance copy of the Table 4-10 report to Mr. Pat McGugan and Mr. Dave Kiebler on December 17, 2003 by email. The clean-up of the spill was accomplished on work order 275011.

Should you require any further information in this matter, please contact me at your convenience.

Name: Kenneth J. Melchiorre P.E.

Title: Site Manager, NAS Jacksonville

Telephone: (904) 778-3868 ext. 12

  
(Signature)

Cc:

Mr. David Kelly  
NAS Jacksonville  
P.O. Box 30, Bldg. 103  
Jacksonville, FL 32212-0139

Mr. Pat McGugan  
NS Mayport  
P.O. Box 2807, Bldg. 1966  
Mayport, FL 32228-0157

Mr. Frank Janosick  
Ms. Kathy Kramer  
JC-H Contracts Manager  
Mr. Robert Stewart  
JC-H Utilities Supervisor (Bob Lacy, w/ enclosures)

**Johnson Controls**

Environment

**HILL****Spill / Clean Up Report Form**

<b>Spill Date:</b> 12/16/03	<b>Time of Spill:</b> 1150	<b>Time JC-H SCRCD Received call:</b> 1150
<b>Time OSOT Leader w/OSOT Member Arrived On Site (enter time here):</b>		1205
<b>Location</b>		
<input type="checkbox"/> NAS Jacksonville <input checked="" type="checkbox"/> NAVSTA Mayport <input type="checkbox"/> Other:		
<b>Building Number:</b> 351/1388	<b>Area / Bldg. :</b>	FTC
<b>Substance:</b> Fuel Oil		
<b>Amount Spilled:</b>	Approx. 650 gallons	<b>Amount Recovered:</b> 100 gallons
<b>Source / Cause of Spill (explain here):</b> Fuel supply line from AST N1388 to Boiler in Bldg. 351 broke off in fuel piping sump located north side of Bldg. 351. Piping sump overflowed and spilled fuel in surrounding area. Fuel also backed up into secondary piping containment and into 2 <sup>nd</sup> piping sump.		
<b>Rate of Spilling:</b>	Unknown	
<b>Anticipated Movement of Spill:</b>	Into ground	
<b>Injuries: Be Specific:</b>	None	
<b>Approximate Temperature:</b>	65 deg.	<b>Weather Condition:</b> Sunny
<b>Immediate Dangers to Personnel or Environment:</b> Fuel oil entering St. Johns and Ocean.		
<b>Spill Contact Surface Water?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<b>Spill Enter Storm Drain?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<b>Spill Contained on Impervious Surface?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<b>Type of Surface:</b>	<input type="checkbox"/> Concrete <input type="checkbox"/> Asphalt <input type="checkbox"/> Secondary Containment <input checked="" type="checkbox"/> Soil    Other:	
<b>Spill Extend Beyond Station Boundaries?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<b>COTR Contacted?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Time/Date:</b> 12/16/03 @ 1226
<b>Station Fire Department Contacted?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Time/Date:</b> 12/16/03 @ 1153
<b>Station Environmental Contacted?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Time/Date:</b> 12/16/03 @ 1230
<b>Additional Comments/Information:</b> Fire Department had responded and secured area when JCH arrived.		
<b>Person Completing Report</b>		
<b>Name:</b> Julie Kaiser	<b>Title:</b> Sr. Environ. Coordinator	<b>Phone:</b> 247-2225
<b>Signature:</b>		<b>Date:</b> 12/17/03
<b>Additional Post Report Information</b>		
<b>Environmental Damages:</b>		
<b>Amount of Disposal Material:</b> 7-55gl drums	<b>Hazardous Waste:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>Spill Residue Disposal Source:</b> PWC Part B	<b>Location:</b> 1966	
<b>Resources</b>		
<b>Number of OSOT Members:</b> 7	<b>Total clean-up Time:</b> 30-manhours	
<b>Equipment Used:</b>		
<b>Additional Information/Remarks:</b> Cleanup of spill is not complete.		

**Johnson Controls**  
**FILE**

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

**A. SITE DESCRIPTION:**

1. Date: 12/16/03 2. Location: FTC/351/1388  
3. Material Spilled: Fuel Oil (No. 2) 4. Size of Spill: 15' x 5' <sup>est 650 gal</sup>

5. Hazard Class (a thru e):

(a) Fire  (b) Reactive  (c) Pressure Release  (d) Acute Health   
(e) Chronic Health

6. Quantity Estimated: 650 gal 7. Area Affected: 15' x 5' x est 2-3'

8. Cause of Release (Be Specific): Fuel Supply line valve shut + initially believed to have caused spill  
Piping Sump @ NE side of Bldg 351 opened + fuel supply line found broken, overflow drained into 2nd piping sump (green medium sump). Assumed fuel in secondary line.

*joining sump*

9. Weather Conditions: Sunny Temperature (F): 65 - 70 deg F

Wind Direction: N/NE

10. Topography/Terrain: Soil

**B. ON-SCENE OPERATIONS TEAM (OSOT):**

Title	Name	Time on Scene	Function / Assignment
Safety Officer	Jim Bryant	1330	Safety Officer
OSOT Leader	Julia Kaiser	1200	
OSOT Team Member	Chris Atchinson	1330	
OSOT Team Member	Mike Threlow	1330	
OSOT Team Member	Scott Brown	1500	
OSOT Team Member			
OSOT Team Member			

*ACCESS Ctl.*

**Johnson Controls**  
**HILL**

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

**C. INITIAL ENTRANCE TO AFFECTED SITE (Specific Health and Safety Plan):**

Initial Entrance Objective: The objective of the initial entrance to the contaminated area is To describe actions, and tasks to be accomplished (i.e. identify contaminate, clean-up area, monitoring conditions, etc.):

Deploy Boom @ break wall. Recover fuel in  
tidal pool. Remove fuel oil from 2 piping  
sumps + 3rd non-spill related storm drain

**D. ON SITE CONTROL:** Jim Bryant OSOT Team Member  
has been designated to coordinate access control and security on site. A safe perimeter  
has been established at (distance or description of the controlled area):  
2'

(No Unauthorized personnel should be in this area)

**1. Exclusion Zone:**

a. Time the Zone is Secured off: 1200 a.m.  p.m.

b. Entrance Control Point: Yellow Tape

c. Location and Marker Type: Yellow Tape

**2. Contamination Reduction Zone (if necessary):**

a. Time the Zone is Secured off: nil a.m.  p.m.

b. Entrance Control Point: \_\_\_\_\_

c. Location and Marker Type: \_\_\_\_\_

**3. Support Zone:**

a. FD/JCH Command Post Location (if established): Bldg 12

b. Time JCH Command Post Established: 1200 a.m.  p.m.

**4. Substances Involved:**

a. Substance Known? Yes  No

b. MSDS: Yes  No

c. Substance Description: No. 2 Fuel Oil

**Johnson Controls**  
**HILL**

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

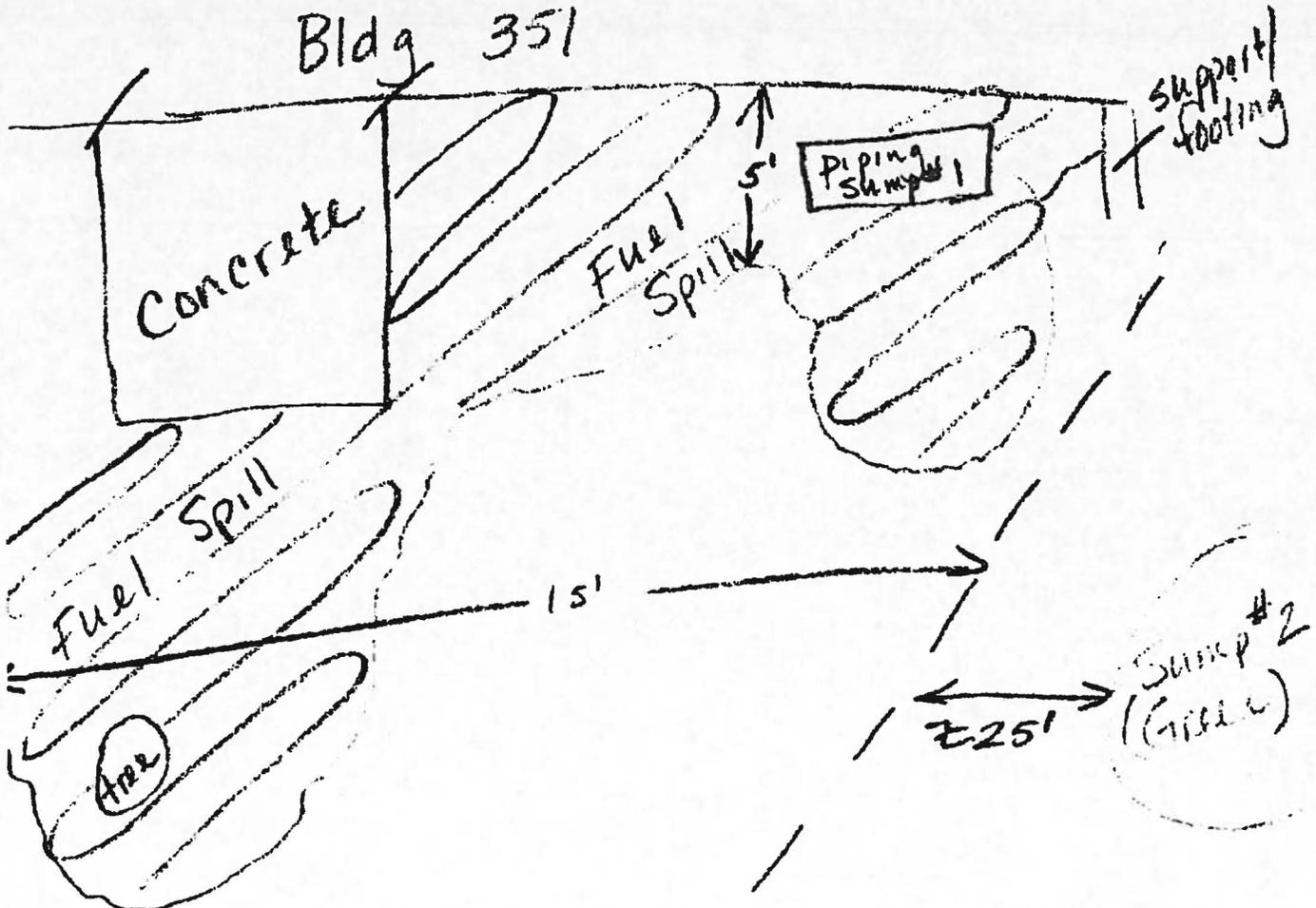
**E. HAZARDS:**

- a. Flammable      Yes  No
- b. Explosive        Yes  No
- c. Water Reactive    Yes  No
- d. Corrosive        Yes  No
- e. Acid              Yes  No
- f. Base              Yes  No
- g. Toxic             Yes  No
- h. Inhalation        Yes  No
- i. Skin                Yes  No

Flash Point: 130° F

pH: \_\_\_\_\_  
pH: \_\_\_\_\_  
pH: \_\_\_\_\_

**F. SITE PLAN (Sketch of Area):**



Johnson Controls

~~\_\_\_\_\_~~

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

**G. DECON SITE PLAN (Sketch of Area):**



NIOSH (PPE TYVEK)

Decon Officer: NIA

Decon Equipment: NIA

Description of Decon: Remove PPE + Place into 55-gal drum

**H. PERSONAL PROTECTION EQUIPMENT (PPE)- (LEVEL D FOR THIS FORM):**

- a. Exclusion Zone (Spill Area): AT A MINIMUM, PPE FOR LEVEL D IS: BOOTS, GLOVES, and TYVEK SUIT. Additional Level D PPE if needed: Hard Hat/Face Protection
- b. Contamination Zone (DECON AREA): NIA
- c. Reduction Zone: NIA

**I. INSTALLATION RESTORATION (IR) SITE:**

- 1. Is the Site an Installation Restoration Site? Yes  No
- 2. If answer is YES, what is the known IR site contaminant? \_\_\_\_\_
- 3. MSDS: Yes  No

IR in Area  
Not in specific  
Spill location

**Johnson Controls**  
**FILE**

Annex 4-Environmental  
 Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
 SITE SPECIFIC HEALTH AND SAFETY PLAN**

**4. IR SITE HAZARDS:**

- a. Flammable      Yes     No       Flash Point: \_\_\_\_\_ F
- b. Explosive        Yes     No
- c. Water Reactive    Yes     No
- d. Corrosive        Yes     No       pH: \_\_\_\_\_
- e. Acid              Yes     No       pH: \_\_\_\_\_
- f. Base              Yes     No       pH: \_\_\_\_\_
- g. Toxic             Yes     No
- h. Inhalation        Yes     No
- i. Skin                Yes     No

**J. COMMUNICATION:**

**1. Contact Information**

Name	Work Phone	Cell/Beeper Number	Home Phone
Rick Hicks, Safety Manager	542-3962	318-1799	221-8423
Ken Melchiorre, Environmental Manager	778-3868	318-2188	886-9964
Wade Musgrave, Environmental Coordinator	778-3868	707-4416	880-4646
Julie Kaiser, Sr. Environmental Coordinator	270-6761	707-4415	306-0547
Bob Lacy, Environmental Training Officer	778-3868	813-1989	246-7100
Fire Department/Ambulance (Jacksonville)	911 or 542-3333		
Fire Department/Ambulance (Mayport)	911 or 270-5333		
PWC CDO		509-5125	
David Kelly, COTR (NAS Jacksonville)	542-4558 x 520		
Pat McGugan, COTR (NAVSTA Mayport)	270-5189		
<b>"Emergency Treatment Facility"</b>			
NAS Jacksonville: Naval Hospital	911 if an emergency		
NAVSTA Mayport: Medical Clinic	911 if an emergency		

**Johnson Controls**  
**HILL**

Annex 4-Environmental  
Ref. Process: 12-02.51

**OIL/HAZARDOUS SUBSTANCE SPILL RELEASE - LEVEL D PROTECTION  
SITE SPECIFIC HEALTH AND SAFETY PLAN**

- K. SAFETY BRIEF HELD?** Yes  No  *Reviewed Fuel Oil Hazards w/C. Atkinson*
- a. Confined Space? Yes  No  *(If yes, follow JC-H confined space entry procedures)*
  - b. Heat stress can be a factor when temperatures are > 70° F and humidity is > 50%.
  - c. Is a dig locate required? Yes  No  *(trenches > 4 feet must have slope sides or shoring installed) Did not dig any soil*
  - d. Does the clean up site have adequate oxygen? Yes  No  *(If not, level B or A PPE is required) Use JC-H form 3010-600 if levels C, B, or A are required*

**Oxygen Level Detection Equipment Calibration Information:**

Equip. \_\_\_\_\_ MFR: \_\_\_\_\_ Model No.: \_\_\_\_\_

Date of Calibration: \_\_\_\_\_ Name of Calibrator: \_\_\_\_\_

- e. Where is the closest eye wash station? 351
- f. What communication means is available?  Cell Phone  Radio  Land Line
- g. Discuss the possible use of respirators. N/A
- h. Ensure newly arriving JC-H OSOT members are briefed on the spill site clean up scenario.
- i. If in doubt, call the JC-H Environmental Manager for assistance.

**L. DISPOSAL METHOD:**

- a. HW: Yes  No  *flash @ 130° F per MSDS*
- b. Size of Disposal Containers: Gallons: 55 Other: \_\_\_\_\_
- c. Number of Containers: 6 liquid, 1 solid
- d. Container Pick-Up Notification (NASIAX Only) Time/Date: 12/18 POC: KAISER

Site and/or Area Clean-up Completed at (Specify Time of Day): 0715 a.m.  p.m.

OSOT Leader: [Signature] Date: 12/17/03  
*(Signature required)*

**APPENDIX C**

**GROUNDWATER ANALYTICAL DATA**



# KB LABS, INC.

Final Data Report

Project Number 05-167

MS Mayport CTO 386

Jacksonville, FL

Prepared for: Tetra Tech NUS

Well ID	Analysis Date	Matrix	Dilution Factor	MTBE	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene
MPT-351-OF-SB-01-03	8/10/05	Soil	1	< 0.050	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050
MPT-351-OF-SB-02-03	8/10/05	Soil	1	< 0.050	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050
MPT-351-OF-SB-05-03	8/10/05	Soil	1	< 0.050	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050
MPT-351-OF-SB-09-03	8/10/05	Soil	1	< 0.050	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050
MPT-351-OF-SB-10-03	8/10/05	Soil	1	< 0.050	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050
MPT-351-OF-SB-14-03	8/11/05	Soil	1	< 0.050	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050
MPT-351-OF-TMW-01	8/10/05	Water	1,10	26.4	57.2	21.5	68.4	240	160	190	200	160
MPT-351-OF-TMW-02	8/10/05	Water	20	< 100	110	< 20	80	190	26	260	200	140
MPT-351-OF-TMW-07	8/10/05	Water	1	< 5.0	< 1.0	2.3	< 1.0	1.1	< 1.0	< 5.0	< 5.0	< 5.0
MPT-351-OF-Rinseate	8/10/05	Water	1	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0
MPT-351-OF-TMW-08	8/10/05	Water	1	< 5.0	< 1.0	1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0
MPT-351-OF-TMW-09	8/10/05	Water	10	< 50	18	180	92	360	260	320	250	180
MPT-351-OF-TMW-10	8/10/05	Water	1,10	< 5.0	40.9	19.9	77.3	180	190	220	200	170
MPT-351-OF-TMW-11	8/10/05	Water	1	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0
MPT-351-OF-TMW-12	8/10/05	Water	1	8.0	8.7	2.2	1.8	20.0	2.8	42.0	39.0	52.6
MPT-351-OF-TMW-13	8/10/05	Water	1	< 5.0	< 1.0	1.2	< 1.0	1.0	< 1.0	< 5.0	< 5.0	< 5.0
MPT-351-OF-TMW-17	8/10/05	Water	1,10	45.9	97	1.6	37.2	180	65.1	210	140	110



# KB LABS, INC.

Final Data Report  
 Project Number 05-167  
 MS Mayport CTO 386  
 Jacksonville, FL

Prepared for: Tetra Tech NUS

Well ID	Analysis Date	Matrix	Dilution Factor	MTBE	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene
MPT-351-OF-TMW-18	8/11/05	Water	1	< 5.0	< 1.0	< 1.0	7.9	10.9	< 1.0	< 5.0	< 5.0	< 5.0
MPT-351-OF-TMW-19	8/11/05	Water	1	51.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0
MPT-351-OF-TMW-20	8/11/05	Water	1	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0
SWMU-17-05-S	8/11/05	Water	1	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0
MPT-351-OF-TMW-21	8/11/05	Water	1	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0
MPT-351-OF-TMW-14	8/11/05	Water	10	< 10	< 10	110	140	250	350	380	310	210
MPT-351-OF-TMW-06	8/11/05	Water	10	< 10	170	< 10	190	720	< 10	560	550	370
MPT-351-OF-TMW-04	8/11/05	Water	100	100	150	120	140	460	140	620	890	590
MPT-351-OF-TMW-06-20	8/12/05	Water	1	< 5.0	< 1.0	< 1.0	11.8	50.0	< 1.0	50.5	98.8	63.6
MPT-351-OF-TMW-19 Dup	8/11/05	Water	1	120	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0

**ANALYTICAL REPORT**  
**MAIN DATA PACKAGE - ORGANICS**

**TETRA TECH NUS, INC.**

**SDG #MAYPORT\_002**

A handwritten signature in black ink, appearing to read 'Marcia K. McGinnity', with a large, sweeping flourish extending to the right.

**Marcia K. McGinnity**  
**Senior Project Manager**  
**Empirical Laboratories, LLC**

**August 7, 2008**

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**SDG #MAYPORT\_002**

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**ORGANIC CASE NARRATIVE**  
**Tetra Tech NUS, Inc./NAVSTA Mayport**  
**Project Manager: S. Ballard**  
**SDG: Mayport 002**

Date Sampled	Date Received	Work Order	Client ID	Abbreviated Report ID
7/24/08 11:35	07/26/08	0807219-01	MPT-A+D-RW01-0708	A+D-RW01
7/24/08 12:28	07/26/08	0807219-02	MPT-A+D-RW04-0708	A+D-RW04
7/24/08 13:35	07/26/08	0807219-03	MPT-A+D-1406-16-0708	A+D-1406-16
7/24/08 14:25	07/26/08	0807219-04	MPT-A+D-RW03-0708	A+D-RW03
7/24/08 15:20	07/26/08	0807219-05	MPT-A+D-RW02-0708	A+D-RW02
7/25/08 12:00	07/26/08	0807219-06	MPT-351-2-MW02-0708	351-2-MW02
7/25/08 12:33	07/26/08	0807219-07	MPT-351-2-MW04-0708	351-2-MW04
7/25/08 13:10	07/26/08	0807219-08	MPT-351-2-MW01-0708	351-2-MW01
7/25/08 0:00	07/26/08	0807219-09	Trip Blanks	Trip Blanks

### Volatile Samples

**Method:** The samples were extracted/analyzed for a client specified analyte list by SW-846 Methods 5030B/8260B (purge and trap followed by capillary column GC/MS) for waters upon receipt to the laboratory in satisfactory condition.

**Comments:** The volatile analyses for these samples were satisfactorily completed within sample holding times and met the corresponding specifications with the following exceptions:

- Method blank V4BLK0730 reported a concentration of methylene chloride at less than ½ the quantitation limit. Reported concentrations in the associated samples are qualified with a "V".
- In spike samples V4BLK0730LCS/LCSD, the relative percent difference for bromomethane exceeded the limit of 30 at 39. All other recoveries and relative percent differences were within limits.
- In sample 351-2-MW02, recovery of the surrogate d8-toluene exceeded the limit of 115% at 116%. All associated results are non-detect or detected less than the quantitation limit and qualified as estimated with an "I".

### PAH Samples

**Method:** The samples were extracted/analyzed for polynuclear aromatic hydrocarbons by USEPA SW-846 Methods 3510C/8270C (separatory funnel extraction followed by capillary column GC/MS) for waters upon receipt to the laboratory in satisfactory condition.

**Comments:** The analyses for these samples were satisfactorily completed within sample holding times and met the corresponding specifications with the following exceptions:

- Note: These samples were analyzed for full-scan, low-concentration PAHs by employing a combination of sensitivity enhancing techniques in the extraction and analysis processes.
- In spike samples SBLK00730BW1LCS/LCSD, recoveries of 1-methylnaphthalene and 2-methylnaphthalene exceeded the limit of 115% at 120%/119% and 116%/(108%), respectively. All other recoveries and relative percent differences were within limits.
- Recovery of the surrogate d5-nitrobenzene exceeded the limit of 110% at 116% in spike sample SBLK00730BW1LCS. Recoveries of the surrogate 2-fluorobiphenyl exceeded the limit of 110% at 148% and 188% in samples A+D-RW03 and A+D-RW02, respectively, due to sample matrix. All

other surrogate recoveries were within limits.

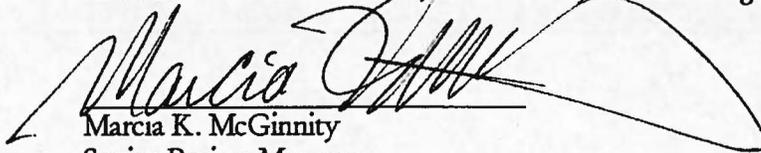
- Area counts for the internal standard d10-phenanthrene exceeded 200% of that found in the associated calibration verification standard at 225% for sample A+D-RW04. This internal standard is associated to targets anthracene, fluoranthene and phenanthrene.

### Petroleum Range Organics

**Method:** The samples were analyzed by the Florida Petroleum Range Organics Method (FL-PRO, separatory funnel extraction followed by capillary column GC/FID) for waters upon receipt to the laboratory in satisfactory condition.

**Comments:** The analyses for these samples were satisfactorily completed within sample holding times and met the corresponding specifications.

I certify that, to the best of my knowledge and based upon my inquiry of those individuals immediately responsible for obtaining the information, the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the conditions detailed in the case narrative, as verified by the following signature.



Marcia K. McGinnity  
Senior Project Manager

## ANALYTICAL REPORT TERMS AND QUALIFIERS (FLORIDA)

- MDL:** The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The MDL is determined from analysis of a sample containing the analyte in a given matrix.
- EQL/RL:** The estimated quantitation limit (EQL)/reporting limit (RL) is defined as the estimated concentration above which quantitative results can be obtained with a specific degree of confidence. ELAB defines the EQL to be at or near the lowest standard of the calibration curve.
- U:** The presence of a "U" indicates that the analyte was analyzed for but was not detected or the concentration of the analyte quantitated below the MDL.
- D:** When a sample (or sample extract) is rerun diluted because one of the compound concentrations exceeded the highest concentration range for the standard curve, all of the values obtained in the dilution run will be flagged with a "D".
- I:** The presence of an "I" to the right of an analytical result indicates that the reported result is estimated. The data pass the identification criteria indicating that the compound is present, but the calculated result is less than the EQL/RL.
- L:** The concentration for any compound found which exceeds the highest concentration level on the standard curve for that compound will be flagged with a "L". Usually the sample will be rerun at a dilution to quantitate the flagged compound.
- V:** The presence of a "V" to the right of an analytical value indicates that this compound was also detected in the method blank and the data should be interpreted with caution. One should consider the possibility that the correct sample result might be less than the reported result and, perhaps, zero.
- J1:** The reported analyte concentration may have a low bias as the CCV exceeded the limit on the low side.
- J2:** The reported analyte concentration may have a high bias as the CCV exceeded the limit on the high side.
- J3:** The associated numerical value is an estimated quantity. There is greater than a 40% difference between the two GC columns for the detected concentrations. The higher of the two values is reported unless matrix interference is obvious.
- J4:** The presence of a "J4" to the right of an analytical result indicates that the sample matrix interfered with the quantitation of the analyte. In GC and HPLC, results are reported from the column with the lower concentration.



PROJECT NO: 112G00133		FACILITY: NAUSTA MAYPORT		PROJECT MANAGER SHINA BALLARD		PHONE NUMBER 904-636-6125		LABORATORY NAME AND CONTACT: EMPIRICAL LABORATORIES				
SAMPLERS (SIGNATURE) <i>K. W. L.</i>				FIELD OPERATIONS LEADER KEVIN WEICHERT		PHONE NUMBER 904-636-6125		ADDRESS 227 FRENCH LANDING DR.				
				CARRIER/WAYBILL NUMBER				CITY, STATE NASHVILLE, TN				
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/> <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day								CONTAINER TYPE PLASTIC (P) or GLASS (G)		- G G G		
								PRESERVATIVE USED		- H <sub>2</sub> SO <sub>4</sub> HCl		
								TYPE OF ANALYSIS		PAHS / 8270C TRPH / FL-PRO BTEX M 8260B + PP / 12DCA		
DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS				6867219. COMMENTS
7/24	1135	MPT-A+D-RW01-0708				GW	G	7	2	2	3	Cool to 4°C -01
	1228	MPT-A+D-RW04-0708				GW	G	7	2	2	3	-02
	1335	MPT-A+D-1406-16-0708				GW	G	7	2	2	3	* -03
	1425	MPT-A+D-RW03-0708				GW	G	7	2	2	3	-04
	1520	MPT-A+D-RW02-0708				GW	G	7	2	2	3	-05
7/25	1200	MPT-351-2-MW02-0708				GW	G	7	2	2	3	-06
	1233	MPT-351-2-MW04-0708				GW	G	7	2	2	3	-07
	1310	MPT-351-2-MW01-0708				GW	G	7	2	2	3	-08
	0000	TRIP BLANK				QC		3			3	-TRIP BLANK -09 -1 per cooler w/ BTEX

1. RELINQUISHED BY: <i>K. W. L.</i>	DATE: 7-25-08	TIME: 1600	1. RECEIVED BY:	DATE:	TIME:
2. RELINQUISHED BY:	DATE:	TIME:	2. RECEIVED BY:	DATE:	TIME:
3. RELINQUISHED BY:	DATE:	TIME:	3. RECEIVED BY: <i>M. H. H.</i>	DATE: 7/26/08	TIME: 10:00

COMMENTS: \* 16 Amber containers (all) have sample collection time of 13:55 on container labels, not 13:35!

# EMPIRICAL LABORATORIES COOLER RECEIPT FORM

LIMS Number: 0867219 COC ID(s): 26344

Client Tetra Tech WWS Project Mayport CTD-050

Sample Custodian WS Today's Date 7/26/08

Date/Time Samples Received 7/26/08 10:00

Courier (& Tracking Number) Fedex - 7376, 6746, 5496, 3746

Cooler Opened: Date&Time 7/26/08 10:00

Custody seals intact? Date?	Yes	<input checked="" type="radio"/> No	_____
Chain of custody provided?	<input checked="" type="radio"/> Yes	No	_____
Sample labels present?	<input checked="" type="radio"/> Yes	No	_____
Bottle labels correspond w/COC?	<input checked="" type="radio"/> Yes	No	_____
Preservation at correct levels?	<input checked="" type="radio"/> Yes	No	N/A

Number of Custody Seals on Cooler(s): - Seal Date(s): -

Type of coolant used Ice

Coolant condition : Melted \_\_\_\_\_ Partially melted/frozen \_\_\_\_\_  
Frozen \_\_\_\_\_

# of Coolers 4 Temp. of Coolers 4.5°C // 4.8°C // 1.8°C // 0.9°C // //

Condition of Bottles in Shipment: Broken Leaking Intact Missing

If broken, leaking, or missing, list sample ID#s and bottle types affected:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Comments:

Sample MPT-A+D-1406-16-0708 on all amber 1L containers  
have sample collection times as 13:55, not 13:35 as listed on  
COC. 10°C containers have 13:35.

**Sample Delivery Group Assignment Form**

**Matrix:** Water  
**QC LEVEL:** Level III/EDD  
**Analyt. Due:** 8/6/2008  
**Report Due:** 8/11/2008

**Client:** TetraTech NUS, Inc.  
**Project Name:** NAS Mayport CTO050  
**SDG #:** Mayport\_002

**10BD TAT**

Sample Type/count	Date Sampled	Date Received	Work Order	Client ID	Abbreviated Report ID	BTEXM/VOH	Low PAH	FLPRO
						8260B	8270C	
1	7/24/08 11:35	07/26/08	0807219-01	MPT-A+D-RW01-0708	A+D-RW01	X	X	X
2	7/24/08 12:28	07/26/08	0807219-02	MPT-A+D-RW04-0708	A+D-RW04	X	X	X
3	7/24/08 13:35	07/26/08	0807219-03	MPT-A+D-1406-16-0708	A+D-1406-16	X	X	X
4	7/24/08 14:25	07/26/08	0807219-04	MPT-A+D-RW03-0708	A+D-RW03	X	X	X
5	7/24/08 15:20	07/26/08	0807219-05	MPT-A+D-RW02-0708	A+D-RW02	X	X	X
6	7/25/08 12:00	07/26/08	0807219-06	MPT-351-2-MW02-0708	351-2-MW02	X	X	X
7	7/25/08 12:33	07/26/08	0807219-07	MPT-351-2-MW04-0708	351-2-MW04	X	X	X
8	7/25/08 13:10	07/26/08	0807219-08	MPT-351-2-MW01-0708	351-2-MW01	X	X	X
TB	7/25/08 0:00	07/26/08	0807219-09	Trip Blanks	Trip Blanks	X		

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW01

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0721901

Level: (low/med) LOW Date Sampled: 07/24/08 11:35

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 12:29

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:			UG/L Q
		MDL	(ug/L or ug/Kg) RL	CONC	
71-43-2	Benzene	0.11	1.0		U
75-27-4	Bromodichloromethane	0.086	0.60		U
75-25-2	Bromoform	0.24	1.0		U
74-83-9	Bromomethane	0.33	2.0		U
56-23-5	Carbon tetrachloride	0.14	1.0		U
108-90-7	Chlorobenzene	0.28	1.0		U
75-00-3	Chloroethane	0.38	2.0		U
110-75-8	2-Chloroethyl vinyl ether	0.53	1.0		U
67-66-3	Chloroform	0.10	1.0		U
74-87-3	Chloromethane	0.40	2.0	0.56	I
124-48-1	Dibromochloromethane	0.080	0.40		U
95-50-1	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8	Dichlorodifluoromethane	0.24	2.0		U
75-34-3	1,1-Dichloroethane	0.15	1.0		U
107-06-2	1,2-Dichloroethane	0.15	1.0		U
75-35-4	1,1-Dichloroethene	0.42	1.0		U
156-59-2	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5	1,2-Dichloropropane	0.18	1.0		U
10061-01-5	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4	Ethylbenzene	0.14	1.0		U
75-09-2	Methylene chloride	0.26	2.0		U
1634-04-4	Methyl tert-butyl ether	0.17	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	0.070	0.25		U
127-18-4	Tetrachloroethene	0.14	1.0		U
108-88-3	Toluene	0.18	1.0		U
120-82-1	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6	Trichloroethene	0.28	1.0		U
75-69-4	Trichlorofluoromethane	0.15	2.0		U
75-01-4	Vinyl chloride	0.19	1.0		U
1330-20-7	Xylene (total)	0.21	1.0		U

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW04

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0721902

Level: (low/med) LOW Date Sampled: 07/24/08 12:28

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 12:58

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L  
MDL RL CONC Q

CAS NO.	COMPOUND	MDL	RL	CONC	Q
71-43-2	Benzene	0.11	1.0		U
75-27-4	Bromodichloromethane	0.086	0.60		U
75-25-2	Bromoform	0.24	1.0		U
74-83-9	Bromomethane	0.33	2.0		U
56-23-5	Carbon tetrachloride	0.14	1.0		U
108-90-7	Chlorobenzene	0.28	1.0		U
75-00-3	Chloroethane	0.38	2.0		U
110-75-8	2-Chloroethyl vinyl ether	0.53	1.0		U
67-66-3	Chloroform	0.10	1.0		U
74-87-3	Chloromethane	0.40	2.0	0.57	I
124-48-1	Dibromochloromethane	0.080	0.40		U
95-50-1	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8	Dichlorodifluoromethane	0.24	2.0		U
75-34-3	1,1-Dichloroethane	0.15	1.0		U
107-06-2	1,2-Dichloroethane	0.15	1.0		U
75-35-4	1,1-Dichloroethene	0.42	1.0		U
156-59-2	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5	1,2-Dichloropropane	0.18	1.0		U
10061-01-5	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4	Ethylbenzene	0.14	1.0		U
75-09-2	Methylene chloride	0.26	2.0		U
1634-04-4	Methyl tert-butyl ether	0.17	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	0.070	0.25		U
127-18-4	Tetrachloroethene	0.14	1.0		U
108-88-3	Toluene	0.18	1.0		U
120-82-1	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6	Trichloroethene	0.28	1.0		U
75-69-4	Trichlorofluoromethane	0.15	2.0		U
75-01-4	Vinyl chloride	0.19	1.0		U
1330-20-7	Xylene (total)	0.21	1.0	0.57	I

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-1406-16

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0721903

Level: (low/med) LOW Date Sampled: 07/24/08 13:55

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 13:28

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		UG/L CONC	Q
		MDL	(ug/L or ug/Kg) RL		
71-43-2	Benzene	0.11	1.0		U
75-27-4	Bromodichloromethane	0.086	0.60		U
75-25-2	Bromoform	0.24	1.0		U
74-83-9	Bromomethane	0.33	2.0		U
56-23-5	Carbon tetrachloride	0.14	1.0		U
108-90-7	Chlorobenzene	0.28	1.0		U
75-00-3	Chloroethane	0.38	2.0		U
110-75-8	2-Chloroethyl vinyl ether	0.53	1.0		U
67-66-3	Chloroform	0.10	1.0		U
74-87-3	Chloromethane	0.40	2.0	0.45	I
124-48-1	Dibromochloromethane	0.080	0.40		U
95-50-1	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8	Dichlorodifluoromethane	0.24	2.0		U
75-34-3	1,1-Dichloroethane	0.15	1.0		U
107-06-2	1,2-Dichloroethane	0.15	1.0		U
75-35-4	1,1-Dichloroethene	0.42	1.0		U
156-59-2	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5	1,2-Dichloropropane	0.18	1.0		U
10061-01-5	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4	Ethylbenzene	0.14	1.0		U
75-09-2	Methylene chloride	0.26	2.0		U
1634-04-4	Methyl tert-butyl ether	0.17	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	0.070	0.25		U
127-18-4	Tetrachloroethene	0.14	1.0		U
108-88-3	Toluene	0.18	1.0		U
120-82-1	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6	Trichloroethene	0.28	1.0		U
75-69-4	Trichlorofluoromethane	0.15	2.0		U
75-01-4	Vinyl chloride	0.19	1.0		U
1330-20-7	Xylene (total)	0.21	1.0	0.27	I

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW03

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0721904

Level: (low/med) LOW Date Sampled: 07/24/08 14:25

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 13:58

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:			UG/L Q
		MDL	(ug/L or ug/Kg) RL	CONC	
71-43-2	Benzene	0.11	1.0		U
75-27-4	Bromodichloromethane	0.086	0.60		U
75-25-2	Bromoform	0.24	1.0		U
74-83-9	Bromomethane	0.33	2.0		U
56-23-5	Carbon tetrachloride	0.14	1.0		U
108-90-7	Chlorobenzene	0.28	1.0		U
75-00-3	Chloroethane	0.38	2.0		U
110-75-8	2-Chloroethyl vinyl ether	0.53	1.0		U
67-66-3	Chloroform	0.10	1.0		U
74-87-3	Chloromethane	0.40	2.0	0.41	I
124-48-1	Dibromochloromethane	0.080	0.40		U
95-50-1	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8	Dichlorodifluoromethane	0.24	2.0		U
75-34-3	1,1-Dichloroethane	0.15	1.0		U
107-06-2	1,2-Dichloroethane	0.15	1.0		U
75-35-4	1,1-Dichloroethene	0.42	1.0		U
156-59-2	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5	1,2-Dichloropropane	0.18	1.0		U
10061-01-5	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4	Ethylbenzene	0.14	1.0	0.16	I
75-09-2	Methylene chloride	0.26	2.0		U
1634-04-4	Methyl tert-butyl ether	0.17	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	0.070	0.25		U
127-18-4	Tetrachloroethene	0.14	1.0		U
108-88-3	Toluene	0.18	1.0	0.27	I
120-82-1	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6	Trichloroethene	0.28	1.0		U
75-69-4	Trichlorofluoromethane	0.15	2.0		U
75-01-4	Vinyl chloride	0.19	1.0		U
1330-20-7	Xylene (total)	0.21	1.0	0.42	I

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW02

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0721905

Level: (low/med) LOW Date Sampled: 07/24/08 15:20

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 14:27

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:			UG/L Q
		MDL	(ug/L or ug/Kg) RL	CONC	
71-43-2	Benzene	0.11	1.0		U
75-27-4	Bromodichloromethane	0.086	0.60		U
75-25-2	Bromoform	0.24	1.0		U
74-83-9	Bromomethane	0.33	2.0		U
56-23-5	Carbon tetrachloride	0.14	1.0		U
108-90-7	Chlorobenzene	0.28	1.0		U
75-00-3	Chloroethane	0.38	2.0		U
110-75-8	2-Chloroethyl vinyl ether	0.53	1.0		U
67-66-3	Chloroform	0.10	1.0		U
74-87-3	Chloromethane	0.40	2.0	0.48	I
124-48-1	Dibromochloromethane	0.080	0.40		U
95-50-1	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8	Dichlorodifluoromethane	0.24	2.0		U
75-34-3	1,1-Dichloroethane	0.15	1.0		U
107-06-2	1,2-Dichloroethane	0.15	1.0		U
75-35-4	1,1-Dichloroethene	0.42	1.0		U
156-59-2	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5	1,2-Dichloropropane	0.18	1.0		U
10061-01-5	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4	Ethylbenzene	0.14	1.0		U
75-09-2	Methylene chloride	0.26	2.0		U
1634-04-4	Methyl tert-butyl ether	0.17	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	0.070	0.25		U
127-18-4	Tetrachloroethene	0.14	1.0		U
108-88-3	Toluene	0.18	1.0		U
120-82-1	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6	Trichloroethene	0.28	1.0		U
75-69-4	Trichlorofluoromethane	0.15	2.0		U
75-01-4	Vinyl chloride	0.19	1.0		U
1330-20-7	Xylene (total)	0.21	1.0	0.47	I

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

351-2-MW02

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-06

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0721906

Level: (low/med) LOW Date Sampled: 07/25/08 12:00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 14:57

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		UG/L CONC	UG/L Q
		MDL	(ug/L or ug/Kg) RL		
71-43-2	Benzene	0.11	1.0		U
75-27-4	Bromodichloromethane	0.086	0.60		U
75-25-2	Bromoform	0.24	1.0		U
74-83-9	Bromomethane	0.33	2.0		U
56-23-5	Carbon tetrachloride	0.14	1.0		U
108-90-7	Chlorobenzene	0.28	1.0		U
75-00-3	Chloroethane	0.38	2.0		U
110-75-8	2-Chloroethyl vinyl ether	0.53	1.0		U
67-66-3	Chloroform	0.10	1.0		U
74-87-3	Chloromethane	0.40	2.0	0.41	I
124-48-1	Dibromochloromethane	0.080	0.40		U
95-50-1	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8	Dichlorodifluoromethane	0.24	2.0		U
75-34-3	1,1-Dichloroethane	0.15	1.0		U
107-06-2	1,2-Dichloroethane	0.15	1.0		U
75-35-4	1,1-Dichloroethene	0.42	1.0		U
156-59-2	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5	1,2-Dichloropropane	0.18	1.0		U
10061-01-5	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4	Ethylbenzene	0.14	1.0		U
75-09-2	Methylene chloride	0.26	2.0		U
1634-04-4	Methyl tert-butyl ether	0.17	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	0.070	0.25		U
127-18-4	Tetrachloroethene	0.14	1.0		U
108-88-3	Toluene	0.18	1.0		U
120-82-1	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6	Trichloroethene	0.28	1.0		U
75-69-4	Trichlorofluoromethane	0.15	2.0		U
75-01-4	Vinyl chloride	0.19	1.0		U
1330-20-7	Xylene (total)	0.21	1.0		U

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

351-2-MW04

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-07

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0721907

Level: (low/med) LOW Date Sampled: 07/25/08 12:33

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 15:27

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:			UG/L Q
		MDL	(ug/L or ug/Kg) RL CONC	UG/L	
71-43-2	Benzene	0.11	1.0		U
75-27-4	Bromodichloromethane	0.086	0.60		U
75-25-2	Bromoform	0.24	1.0		U
74-83-9	Bromomethane	0.33	2.0		U
56-23-5	Carbon tetrachloride	0.14	1.0		U
108-90-7	Chlorobenzene	0.28	1.0		U
75-00-3	Chloroethane	0.38	2.0		U
110-75-8	2-Chloroethyl vinyl ether	0.53	1.0		U
67-66-3	Chloroform	0.10	1.0		U
74-87-3	Chloromethane	0.40	2.0	0.48	I
124-48-1	Dibromochloromethane	0.080	0.40		U
95-50-1	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8	Dichlorodifluoromethane	0.24	2.0		U
75-34-3	1,1-Dichloroethane	0.15	1.0		U
107-06-2	1,2-Dichloroethane	0.15	1.0		U
75-35-4	1,1-Dichloroethene	0.42	1.0		U
156-59-2	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5	1,2-Dichloropropane	0.18	1.0		U
10061-01-5	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4	Ethylbenzene	0.14	1.0		U
75-09-2	Methylene chloride	0.26	2.0		U
1634-04-4	Methyl tert-butyl ether	0.17	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	0.070	0.25		U
127-18-4	Tetrachloroethene	0.14	1.0		U
108-88-3	Toluene	0.18	1.0		U
120-82-1	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6	Trichloroethene	0.28	1.0		U
75-69-4	Trichlorofluoromethane	0.15	2.0		U
75-01-4	Vinyl chloride	0.19	1.0		U
1330-20-7	Xylene (total)	0.21	1.0		U

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

351-2-MW01

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-08

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0721908

Level: (low/med) LOW Date Sampled: 07/25/08 13:10

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 15:56

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:			UG/L Q
		MDL	(ug/L or ug/Kg) RL	CONC	
71-43-2	Benzene	0.11	1.0		U
75-27-4	Bromodichloromethane	0.086	0.60		U
75-25-2	Bromoform	0.24	1.0		U
74-83-9	Bromomethane	0.33	2.0		U
56-23-5	Carbon tetrachloride	0.14	1.0		U
108-90-7	Chlorobenzene	0.28	1.0		U
75-00-3	Chloroethane	0.38	2.0		U
110-75-8	2-Chloroethyl vinyl ether	0.53	1.0		U
67-66-3	Chloroform	0.10	1.0		U
74-87-3	Chloromethane	0.40	2.0		U
124-48-1	Dibromochloromethane	0.080	0.40		U
95-50-1	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8	Dichlorodifluoromethane	0.24	2.0		U
75-34-3	1,1-Dichloroethane	0.15	1.0		U
107-06-2	1,2-Dichloroethane	0.15	1.0		U
75-35-4	1,1-Dichloroethene	0.42	1.0		U
156-59-2	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5	1,2-Dichloropropane	0.18	1.0		U
10061-01-5	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4	Ethylbenzene	0.14	1.0		U
75-09-2	Methylene chloride	0.26	2.0		U
1634-04-4	Methyl tert-butyl ether	0.17	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	0.070	0.25		U
127-18-4	Tetrachloroethene	0.14	1.0		U
108-88-3	Toluene	0.18	1.0		U
120-82-1	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6	Trichloroethene	0.28	1.0		U
75-69-4	Trichlorofluoromethane	0.15	2.0		U
75-01-4	Vinyl chloride	0.19	1.0		U
1330-20-7	Xylene (total)	0.21	1.0		U

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIP BLANKS

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-09

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0721909

Level: (low/med) LOW Date Sampled: 07/25/08 :

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 11:59

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L  
MDL RL CONC Q

CAS NO.	COMPOUND	MDL	RL	CONC	Q
71-43-2	Benzene	0.11	1.0		U
75-27-4	Bromodichloromethane	0.086	0.60		U
75-25-2	Bromoform	0.24	1.0		U
74-83-9	Bromomethane	0.33	2.0		U
56-23-5	Carbon tetrachloride	0.14	1.0		U
108-90-7	Chlorobenzene	0.28	1.0		U
75-00-3	Chloroethane	0.38	2.0		U
110-75-8	2-Chloroethyl vinyl ether	0.53	1.0		U
67-66-3	Chloroform	0.10	1.0		U
74-87-3	Chloromethane	0.40	2.0		U
124-48-1	Dibromochloromethane	0.080	0.40		U
95-50-1	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8	Dichlorodifluoromethane	0.24	2.0		U
75-34-3	1,1-Dichloroethane	0.15	1.0		U
107-06-2	1,2-Dichloroethane	0.15	1.0		U
75-35-4	1,1-Dichloroethene	0.42	1.0		U
156-59-2	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5	1,2-Dichloropropane	0.18	1.0		U
10061-01-5	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4	Ethylbenzene	0.14	1.0		U
75-09-2	Methylene chloride	0.26	2.0	2.3	V
1634-04-4	Methyl tert-butyl ether	0.17	1.0		U
79-34-5	1,1,2,2-Tetrachloroethane	0.070	0.25		U
127-18-4	Tetrachloroethene	0.14	1.0		U
108-88-3	Toluene	0.18	1.0		U
120-82-1	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6	Trichloroethene	0.28	1.0		U
75-69-4	Trichlorofluoromethane	0.15	2.0		U
75-01-4	Vinyl chloride	0.19	1.0		U
1330-20-7	Xylene (total)	0.21	1.0		U

FORM I VOA

FORM 2  
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA                      Case No.: NA                      SAS No.: NA                      SDG No.: MAYPORT\_002

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (DCE) #	SMC3 (TOL) #	SMC4 (BFB) #	TOT OUT
01	V4BLK0730LCS	98	100	106	104	0
02	V4BLK0730	102	106	110	106	0
03	TRIP BLANKS	108	105	108	101	0
04	A+D-RW01	107	101	106	106	0
05	A+D-RW04	102	95	106	102	0
06	A+D-1406-16	101	102	107	108	0
07	A+D-RW03	99	102	114	112	0
08	A+D-RW02	100	101	111	106	0
09	351-2-MW02	99	99	116*	112	1
10	351-2-MW04	98	97	106	104	0
11	351-2-MW01	96	99	111	106	0
12	V4BLK0730LCS	98	98	102	104	0
13						
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		EL	SPIKE
		QC LIMITS	CONC (ug/L)
SMC1	(DFM) = Dibromofluoromethane	(85-120)	30
SMC2	(DCE) = 1,2-Dichloroethane-d4	(80-135)	30
SMC3	(TOL) = Toluene-d8	(85-115)	30
SMC4	(BFB) = Bromofluorobenzene	(85-120)	30

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D Surrogate results reported from a diluted analysis

FORM 3  
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Matrix Spike - Client Sample No.: V4BLK0730

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Benzene	50.00	0.0000	43.12	86	80-120
Bromodichloromethane	50.00	0.0000	42.69	85	75-120
Bromoform	50.00	0.0000	49.95	100	70-130
Bromomethane	50.00	0.0000	41.12	82	30-145
Carbon tetrachloride	50.00	0.0000	43.74	87	65-140
Chlorobenzene	50.00	0.0000	46.11	92	80-120
Chloroethane	50.00	0.0000	45.80	92	60-135
2-Chloroethyl vinyl eth	100.0	0.0000	70.84	71	10-165
Chloroform	50.00	0.0000	39.18	78	65-135
Chloromethane	50.00	0.0000	52.35	105	40-125
Dibromochloromethane	50.00	0.0000	51.45	103	60-135
1,2-Dichlorobenzene	50.00	0.0000	42.64	85	70-120
1,3-Dichlorobenzene	50.00	0.0000	38.31	77	75-125
1,4-Dichlorobenzene	50.00	0.0000	42.29	84	75-125
Dichlorodifluoromethane	50.00	0.0000	54.76	110	30-155
1,1-Dichloroethane	50.00	0.0000	43.12	86	70-135
1,2-Dichloroethane	50.00	0.0000	44.05	88	70-130
1,1-Dichloroethene	50.00	0.0000	48.13	96	70-130
cis-1,2-Dichloroethene	50.00	0.0000	42.25	84	70-125
trans-1,2-Dichloroethen	50.00	0.0000	42.18	84	60-140
1,2-Dichloropropane	50.00	0.0000	43.06	86	75-125
cis-1,3-Dichloropropene	50.00	0.0000	46.58	93	70-130
trans-1,3-Dichloroprope	50.00	0.0000	51.00	102	55-140
Ethylbenzene	50.00	0.0000	47.12	94	75-125
Methylene chloride	50.00	0.2801	43.02	85	55-140
Methyl tert-butyl ether	50.00	0.0000	45.38	91	65-125
1,1,2,2-Tetrachloroetha	50.00	0.0000	43.28	86	65-130
Tetrachloroethene	50.00	0.0000	54.00	108	45-150

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

COMMENTS: \_\_\_\_\_

FORM 3  
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Matrix Spike - Client Sample No.: V4BLK0730

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Toluene	50.00	0.0000	45.02	90	75-120
1,2,4-Trichlorobenzene	50.00	0.0000	38.64	77	65-135
1,1,1-Trichloroethane	50.00	0.0000	42.13	84	65-130
1,1,2-Trichloroethane	50.00	0.0000	49.47	99	75-125
Trichloroethene	50.00	0.0000	40.97	82	70-125
Trichlorofluoromethane	50.00	0.0000	46.33	93	60-145
Vinyl chloride	50.00	0.0000	49.82	100	50-145
Xylene(total)	150.0	0.0000	137.0	91	75-130

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

COMMENTS: \_\_\_\_\_

FORM 3  
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA                      Case No.: NA                      SAS No.: NA                      SDG No.: MAYPORT\_002

Matrix Spike - Client Sample No.: V4BLK0730

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Benzene	50.00	44.08	88	2	30	80-120
Bromodichloromethane	50.00	45.38	91	6	30	75-120
Bromoform	50.00	54.50	109	9	30	70-130
Bromomethane	50.00	27.76	56	39*	30	30-145
Carbon tetrachloride	50.00	45.01	90	3	30	65-140
Chlorobenzene	50.00	47.68	95	3	30	80-120
Chloroethane	50.00	47.21	94	3	30	60-135
2-Chloroethyl vinyl eth	100.0	75.57	76	6	30	10-165
Chloroform	50.00	42.30	85	8	30	65-135
Chloromethane	50.00	50.06	100	4	30	40-125
Dibromochloromethane	50.00	54.54	109	6	30	60-135
1,2-Dichlorobenzene	50.00	45.73	91	7	30	70-120
1,3-Dichlorobenzene	50.00	47.11	94	21	30	75-125
1,4-Dichlorobenzene	50.00	47.23	94	11	30	75-125
Dichlorodifluoromethane	50.00	54.53	109	0	30	30-155
1,1-Dichloroethane	50.00	44.97	90	4	30	70-135
1,2-Dichloroethane	50.00	45.88	92	4	30	70-130
1,1-Dichloroethene	50.00	46.53	93	3	30	70-130
cis-1,2-Dichloroethene	50.00	43.54	87	3	30	70-125
trans-1,2-Dichloroethen	50.00	42.70	85	1	30	60-140
1,2-Dichloropropane	50.00	45.79	92	6	30	75-125
cis-1,3-Dichloropropene	50.00	47.92	96	3	30	70-130
trans-1,3-Dichloropropene	50.00	51.98	104	2	30	55-140
Ethylbenzene	50.00	48.43	97	3	30	75-125
Methylene chloride	50.00	45.34	90	5	30	55-140
Methyl tert-butyl ether	50.00	48.82	98	7	30	65-125
1,1,2,2-Tetrachloroetha	50.00	51.66	103	18	30	65-130
Tetrachloroethene	50.00	57.54	115	6	30	45-150

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

COMMENTS: \_\_\_\_\_

FORM 3  
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA                      Case No.: NA                      SAS No.: NA                      SDG No.: MAYPORT\_002

Matrix Spike - Client Sample No.: V4BLK0730

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Toluene	50.00	44.79	90	0	30	75-120
1,2,4-Trichlorobenzene	50.00	44.09	88	13	30	65-135
1,1,1-Trichloroethane	50.00	43.23	86	2	30	65-130
1,1,2-Trichloroethane	50.00	51.98	104	5	30	75-125
Trichloroethene	50.00	42.63	85	4	30	70-125
Trichlorofluoromethane	50.00	48.40	97	4	30	60-145
Vinyl chloride	50.00	47.52	95	5	30	50-145
Xylene(total)	150.0	139.4	93	2	30	75-130

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: 1 out of 36 outside limits

Spike Recovery: 0 out of 72 outside limits

COMMENTS: \_\_\_\_\_

FORM 4  
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

V4BLK0730

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Lab File ID: V4BLK01 Lab Sample ID: V4BLK0730

Date Analyzed: 07/30/08 Time Analyzed: 1001

Column: DB-VRX ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA4

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V4BLK0730LCS	V4BLK0730LCS	V4LCS01	0835
02	TRIP BLANKS	0807219-09	0721909	1159
03	A+D-RW01	0807219-01	0721901	1229
04	A+D-RW04	0807219-02	0721902	1258
05	A+D-1406-16	0807219-03	0721903	1328
06	A+D-RW03	0807219-04	0721904	1358
07	A+D-RW02	0807219-05	0721905	1427
08	351-2-MW02	0807219-06	0721906	1457
09	351-2-MW04	0807219-07	0721907	1527
10	351-2-MW01	0807219-08	0721908	1556
11	V4BLK0730LCS	V4BLK0730LCS	V4LCSD01	1853
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COMMENTS:

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FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V4BLK0730

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: V4BLK0730

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V4BLK01

Level: (low/med) LOW Date Sampled: \_\_\_\_\_

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 07/30/08 10:01

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:			UG/L Q
		MDL	(ug/L or ug/Kg) RL	CONC	
71-43-2-----	Benzene	0.11	1.0		U
75-27-4-----	Bromodichloromethane	0.086	1.0		U
75-25-2-----	Bromoform	0.24	1.0		U
74-83-9-----	Bromomethane	0.33	1.0		U
56-23-5-----	Carbon tetrachloride	0.14	1.0		U
108-90-7-----	Chlorobenzene	0.28	1.0		U
75-00-3-----	Chloroethane	0.38	1.0		U
110-75-8-----	2-Chloroethyl vinyl ether	0.53	5.0		U
67-66-3-----	Chloroform	0.10	1.0		U
74-87-3-----	Chloromethane	0.40	1.0		U
124-48-1-----	Dibromochloromethane	0.080	1.0		U
95-50-1-----	1,2-Dichlorobenzene	0.17	1.0		U
541-73-1-----	1,3-Dichlorobenzene	0.21	1.0		U
106-46-7-----	1,4-Dichlorobenzene	0.12	1.0		U
75-71-8-----	Dichlorodifluoromethane	0.24	1.0		U
75-34-3-----	1,1-Dichloroethane	0.15	1.0		U
107-06-2-----	1,2-Dichloroethane	0.15	1.0		U
75-35-4-----	1,1-Dichloroethene	0.42	1.0		U
156-59-2-----	cis-1,2-Dichloroethene	0.44	1.0		U
156-60-5-----	trans-1,2-Dichloroethene	0.40	1.0		U
78-87-5-----	1,2-Dichloropropane	0.18	1.0		U
10061-01-5----	cis-1,3-Dichloropropene	0.13	1.0		U
10061-02-6----	trans-1,3-Dichloropropene	0.22	1.0		U
100-41-4-----	Ethylbenzene	0.14	1.0		U
75-09-2-----	Methylene chloride	0.26	2.0	0.28	I
1634-04-4-----	Methyl tert-butyl ether	0.17	1.0		U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.070	1.0		U
127-18-4-----	Tetrachloroethene	0.14	1.0		U
108-88-3-----	Toluene	0.18	1.0		U
120-82-1-----	1,2,4-Trichlorobenzene	0.14	1.0		U
71-55-6-----	1,1,1-Trichloroethane	0.15	1.0		U
79-00-5-----	1,1,2-Trichloroethane	0.17	1.0		U
79-01-6-----	Trichloroethene	0.28	1.0		U
75-69-4-----	Trichlorofluoromethane	0.15	1.0		U
75-01-4-----	Vinyl chloride	0.19	1.0		U
1330-20-7-----	Xylene(total)	0.21	3.0		U

FORM I VOA



FORM 5  
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Lab File ID: V4BFB01      BFB Injection Date: 07/30/08

Instrument ID: VOA4      BFB Injection Time: 0706

GC Column: DB-VRX      ID: 0.25 (mm)      Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.3
75	30.0 - 60.0% of mass 95	44.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.0
173	Less than 2.0% of mass 174	0.0 ( 0.0)1
174	Greater than 50.0% of mass 95	70.6
175	5.0 - 9.0% of mass 174	6.2 ( 8.7)1
176	95.0 - 101.0% of mass 174	70.0 ( 99.1)1
177	5.0 - 9.0% of mass 176	5.0 ( 7.2)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V4STD50PPB	V4STD50PPB	V4CCV01	07/30/08	0736
02	V4BLK0730LCS	V4BLK0730LCS	V4LCS01	07/30/08	0835
03	V4BLK0730	V4BLK0730	V4BLK01	07/30/08	1001
04	TRIP BLANKS	0807219-09	0721909	07/30/08	1159
05	A+D-RW01	0807219-01	0721901	07/30/08	1229
06	A+D-RW04	0807219-02	0721902	07/30/08	1258
07	A+D-1406-16	0807219-03	0721903	07/30/08	1328
08	A+D-RW03	0807219-04	0721904	07/30/08	1358
09	A+D-RW02	0807219-05	0721905	07/30/08	1427
10	351-2-MW02	0807219-06	0721906	07/30/08	1457
11	351-2-MW04	0807219-07	0721907	07/30/08	1527
12	351-2-MW01	0807219-08	0721908	07/30/08	1556
13	V4BLK0730LCS	V4BLK0730LCSD	V4LCSD01	07/30/08	1853
14					
15					
16					
17					
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FORM 8  
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Lab File ID (Standard): V4CCV01      Date Analyzed: 07/30/08

Instrument ID: VOA4      Time Analyzed: 0736

GC Column: DB-VRX      ID: 0.25 (mm)      Heated Purge: (Y/N) N

	IS1 (FLB) AREA #	RT #	IS2 (CBZ) AREA #	RT #	IS3 (DCB) AREA #	RT #
12 HOUR STD	811593	13.29	352460	16.62	335555	18.58
UPPER LIMIT	1623186	13.79	704920	17.12	671110	19.08
LOWER LIMIT	405797	12.79	176230	16.12	167778	18.08
CLIENT SAMPLE NO.						
01 V4BLK0730LCS	819709	13.29	350461	16.63	347172	18.59
02 V4BLK0730	715054	13.29	295796	16.63	285979	18.59
03 TRIP BLANKS	640402	13.29	280434	16.63	255999	18.58
04 A+D-RW01	639932	13.29	273467	16.62	259546	18.58
05 A+D-RW04	655404	13.29	277223	16.63	250964	18.59
06 A+D-1406-16	672990	13.30	279849	16.63	269630	18.59
07 A+D-RW03	698868	13.29	280029	16.63	280168	18.59
08 A+D-RW02	734162	13.29	306984	16.63	311180	18.59
09 351-2-MW02	815644	13.29	327742	16.63	337378	18.58
10 351-2-MW04	836697	13.29	346640	16.63	337950	18.59
11 351-2-MW01	844590	13.30	339387	16.63	341975	18.59
12 V4BLK0730LCS	737568	13.30	324274	16.63	308121	18.59
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (FLB) = Fluorobenzene  
IS2 (CBZ) = Chlorobenzene-d5  
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area  
AREA LOWER LIMIT = - 50% of internal standard area  
RT UPPER LIMIT = + 0.50 minutes of internal standard RT  
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.  
\* Values outside of QC limits.

FORM 6  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: SDGA34379

Instrument ID: VOA4      Calibration Date(s): 07/15/08      07/16/08

Column: DB-VRX      ID: 0.25 (mm)      Calibration Time(s): 2222      0247

LAB FILE ID:      RF0.25: V4STD01      RF0.5: V4STD02      RF1: V4STD03  
RF2: V4STD04      RF10: V4STD05

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF10
Acetone			0.153	0.098	0.105
Acrolein		0.045	0.036	0.039	0.032
Acrylonitrile	0.093	0.104	0.116	0.111	0.099
Benzene	1.198	1.192	1.329	1.197	1.069
Bromobenzene	0.875	1.018	1.015	0.977	0.821
Bromochloromethane	0.194	0.166	0.187	0.172	0.163
Bromodichloromethane	0.447	0.472	0.514	0.444	0.420
Bromoform	0.413	0.440	0.469	0.457	0.461
Bromomethane	0.407	0.485	0.398	0.333	0.284
2-Butanone		0.163	0.126	0.110	0.124
n-Butylbenzene		2.227	2.534	2.201	1.872
sec-Butylbenzene	3.176	2.965	3.206	3.074	2.446
tert-Butylbenzene	2.305	2.000	2.253	1.941	1.663
Carbon disulfide	1.072	0.998	1.249	1.100	0.942
Carbon tetrachloride	0.474	0.369	0.438	0.387	0.350
Chlorobenzene	2.046	1.894	2.096	1.979	1.738
Chloroethane	0.352	0.277	0.363	0.275	0.270
2-Chloroethyl vinyl ether	0.166	0.195	0.177	0.183	0.163
Chloroform	0.672	0.573	0.753	0.642	0.541
1-Chlorohexane		1.182	1.166	0.999	0.823
Chloromethane	0.762	0.612	0.769	0.536	0.496
2-Chlorotoluene	3.241	2.792	3.023	2.551	2.253
4-Chlorotoluene	3.493	3.079	3.492	3.077	2.551
Cyclohexane	0.434	0.400	0.404	0.421	0.340
Dibromochloromethane	0.698	0.683	0.754	0.765	0.741
1,2-Dibromo-3-chloropropane		0.112	0.182	0.129	0.120
1,2-Dibromoethane	0.635	0.691	0.734	0.725	0.618
Dibromomethane	0.256	0.213	0.224	0.202	0.188
1,2-Dichlorobenzene	1.646	1.460	1.752	1.638	1.326
1,3-Dichlorobenzene	2.082	1.745	1.946	1.628	1.507
1,4-Dichlorobenzene	2.138	1.809	1.953	1.913	1.638
Dichlorodifluoromethane	0.444	0.465	0.440	0.435	0.382
1,1-Dichloroethane	0.545	0.650	0.732	0.609	0.570
1,2-Dichloroethane	0.414	0.417	0.559	0.422	0.413
1,1-Dichloroethene	0.288	0.276	0.334	0.291	0.257
cis-1,2-Dichloroethene	0.364	0.362	0.399	0.361	0.304
trans-1,2-Dichloroethene	0.309	0.373	0.395	0.324	0.303

FORM VI VOA

M 7/16/08

RAW  
7-16-08

FORM 6  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: SDGA34379

Instrument ID: VOA4      Calibration Date(s): 07/15/08      07/16/08

Column: DB-VRX      ID: 0.25 (mm)      Calibration Time(s): 2222      0247

LAB FILE ID:      RF0.25: V4STD01      RF0.5: V4STD02      RF1: V4STD03  
RF2: V4STD04      RF10: V4STD05

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF10
1,2-Dichloroethene (total)	0.336	0.367	0.397	0.343	0.303
1,2-Dichloropropane	0.304	0.344	0.407	0.304	0.295
1,3-Dichloropropane	1.033	1.022	1.081	1.199	1.007
2,2-Dichloropropane	0.437	0.353	0.478	0.360	0.331
1,1-Dichloropropene	0.426	0.480	0.533	0.438	0.382
cis-1,3-Dichloropropene	0.359	0.454	0.541	0.529	0.466
trans-1,3-Dichloropropene	0.964	0.924	0.937	0.975	0.914
Ethylbenzene	3.359	3.088	3.548	3.372	3.006
Ethyl methacrylate	0.892	0.699	0.746	0.818	0.764
Hexachlorobutadiene	0.460	0.470	0.554	0.462	0.310
2-Hexanone	0.432	0.442	0.458	0.441	0.399
Iodomethane		0.278	0.414	0.327	0.398
Isopropylbenzene	2.528	2.461	3.237	2.598	2.376
p-Isopropyltoluene		2.621	2.753	2.351	2.009
Methyl acetate		0.207	0.300	0.258	0.247
Methyl cyclohexane		0.328	0.328	0.311	0.276
Methylene chloride		2.022	1.183	0.690	0.419
Methyl methacrylate	0.255	0.259	0.270	0.269	0.228
MTBE	0.604	0.646	0.829	0.794	0.709
4-Methyl-2-pentanone	0.292	0.269	0.273	0.249	0.237
Naphthalene	2.515	2.084	2.098	2.163	1.600
n-Propylbenzene	4.467	3.774	4.372	3.975	3.344
Styrene	2.115	2.224	2.088	1.966	1.897
1,1,1,2-Tetrachloroethane	0.621	0.658	0.679	0.699	0.635
1,1,2,2-Tetrachloroethane	0.899	0.774	0.836	0.902	0.718
Tetrachloroethene	0.817	0.644	0.815	0.710	0.642
Tetrahydrofuran			0.079	0.081	0.064
Toluene	2.056	1.778	1.973	1.817	1.574
1,2,3-Trichlorobenzene	1.024	1.101	0.977	0.930	0.706
1,2,4-Trichlorobenzene		1.053	1.016	0.967	0.725
1,1,1-Trichloroethane	0.484	0.356	0.584	0.432	0.407
1,1,2-Trichloroethane	0.304	0.508	0.508	0.501	0.518
Trichloroethene	0.386	0.326	0.415	0.340	0.293
Trichlorofluoromethane	0.561	0.539	0.578	0.547	0.496
Trichlorotrifluoroethane	0.210	0.275	0.263	0.288	0.251
1,2,3-Trichloropropane		0.255	0.193	0.166	0.214
1,2,4-Trimethylbenzene	2.983	2.687	3.178	2.836	2.418

FORM VI VOA

FORM 6  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: NA                      Case No.: NA                      SAS No.: NA                      SDG No.: SDGA34379

Instrument ID: VOA4                      Calibration Date(s): 07/15/08      07/16/08

Column: DB-VRX                      ID: 0.25 (mm)                      Calibration Time(s): 2222                      0247

LAB FILE ID:                      RF0.25: V4STD01      RF0.5: V4STD02      RF1: V4STD03  
RF2: V4STD04                      RF10: V4STD05

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF10
1,3,5-Trimethylbenzene	2.756	2.583	3.042	2.686	2.259
Vinyl acetate		0.529	0.603	0.645	0.579
Vinyl chloride	0.445	0.487	0.552	0.475	0.408
m,p-Xylene	2.678	2.629	2.982	2.570	2.368
Xylene (total)	2.737	2.769	2.912	2.608	2.505
Dibromofluoromethane	0.320	0.328	0.312	0.306	0.299
1,2-Dichloroethane-d4	0.064	0.062	0.066	0.064	0.058
Toluene-d8	1.986	2.057	2.024	2.127	2.143
Bromofluorobenzene	0.932	0.939	0.912	0.921	0.942

FORM VI VOA

FORM 6  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: SDGA34379

Instrument ID: VOA4      Calibration Date(s): 07/15/08    07/16/08

Column: DB-VRX      ID: 0.25 (mm)      Calibration Time(s): 2222      0247

LAB FILE ID:      RF20: V4STD06      RF50: V4STD07      RF100: V4STD08  
RF200: V4STD09

COMPOUND	RF20	RF50	RF100	RF200
Acetone	0.109	0.118	0.125	0.134
Acrolein	0.030	0.032	0.031	0.034
Acrylonitrile	0.112	0.118	0.123	0.120
Benzene	1.176	1.204	1.192	1.136
Bromobenzene	0.911	0.880	0.899	0.859
Bromochloromethane	0.171	0.188	0.184	0.177
Bromodichloromethane	0.448	0.446	0.460	0.439
Bromoform	0.508	0.507	0.502	0.478
Bromomethane	0.320	0.352	0.363	0.342
2-Butanone	0.135	0.142	0.151	0.153
n-Butylbenzene	1.930	2.028	2.011	1.960
sec-Butylbenzene	2.525	2.619	2.639	2.545
tert-Butylbenzene	1.795	1.828	1.893	1.798
Carbon disulfide	0.950	1.045	1.070	1.021
Carbon tetrachloride	0.354	0.392	0.399	0.391
Chlorobenzene	1.788	1.761	1.619	1.438
Chloroethane	0.265	0.300	0.299	0.280
2-Chloroethyl vinyl ether	0.179	0.191	0.193	0.186
Chloroform	0.572	0.592	0.592	0.570
1-Chlorohexane	0.809	0.841	0.782	0.704
Chloromethane	0.506	0.515	0.487	0.478
2-Chlorotoluene	2.460	2.436	2.380	2.380
4-Chlorotoluene	2.672	2.686	2.653	2.612
Cyclohexane	0.352	0.418	0.432	0.417
Dibromochloromethane	0.792	0.765	0.727	0.681
1,2-Dibromo-3-chloropropane	0.154	0.160	0.168	0.186
1,2-Dibromoethane	0.670	0.650	0.615	0.585
Dibromomethane	0.209	0.220	0.223	0.217
1,2-Dichlorobenzene	1.413	1.441	1.416	1.400
1,3-Dichlorobenzene	1.487	1.504	1.562	1.449
1,4-Dichlorobenzene	1.688	1.508	1.550	1.516
Dichlorodifluoromethane	0.364	0.448	0.448	0.439
1,1-Dichloroethane	0.588	0.639	0.640	0.601
1,2-Dichloroethane	0.416	0.437	0.446	0.430
1,1-Dichloroethene	0.261	0.297	0.307	0.289
cis-1,2-Dichloroethene	0.338	0.347	0.346	0.338
trans-1,2-Dichloroethene	0.311	0.330	0.333	0.319

FORM VI VOA

FORM 6  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: SDGA34379

Instrument ID: VOA4      Calibration Date(s): 07/15/08    07/16/08

Column: DB-VRX      ID: 0.25 (mm)      Calibration Time(s): 2222      0247

LAB FILE ID:      RF20: V4STD06      RF50: V4STD07      RF100: V4STD08  
RF200: V4STD09

COMPOUND	RF20	RF50	RF100	RF200
1,2-Dichloroethene (total)	0.324	0.338	0.340	0.329
1,2-Dichloropropane	0.311	0.335	0.330	0.322
1,3-Dichloropropane	1.085	1.023	0.946	0.892
2,2-Dichloropropane	0.349	0.382	0.394	0.395
1,1-Dichloropropene	0.388	0.422	0.426	0.404
cis-1,3-Dichloropropene	0.481	0.508	0.504	0.492
trans-1,3-Dichloropropene	0.971	0.955	0.897	0.833
Ethylbenzene	3.026	2.992	2.758	2.431
Ethyl methacrylate	0.864	0.841	0.800	0.759
Hexachlorobutadiene	0.320	0.335	0.357	0.329
2-Hexanone	0.430	0.420	0.415	0.402
Iodomethane	0.455	0.535	0.554	0.531
Isopropylbenzene	2.343	2.374	2.216	1.988
p-Isopropyltoluene	2.064	2.150	2.202	2.061
Methyl acetate	0.251	0.263	0.281	0.281
Methyl cyclohexane	0.261	0.314	0.325	0.310
Methylene chloride	0.422	0.413	0.412	0.386
Methyl methacrylate	0.242	0.263	0.269	0.281
MTBE	0.788	0.851	0.858	0.835
4-Methyl-2-pentanone	0.263	0.278	0.282	0.281
Naphthalene	1.809	1.815	2.029	2.016
n-Propylbenzene	3.545	3.555	3.443	3.313
Styrene	2.032	2.011	1.831	1.666
1,1,1,2-Tetrachloroethane	0.681	0.662	0.619	0.563
1,1,2,2-Tetrachloroethane	0.752	0.785	0.782	0.789
Tetrachloroethene	0.629	0.651	0.599	0.558
Tetrahydrofuran	0.072	0.078	0.080	0.079
Toluene	1.631	1.637	1.471	1.345
1,2,3-Trichlorobenzene	0.748	0.779	0.840	0.837
1,2,4-Trichlorobenzene	0.849	0.855	0.924	0.915
1,1,1-Trichloroethane	0.423	0.457	0.455	0.444
1,1,2-Trichloroethane	0.513	0.509	0.482	0.443
Trichloroethene	0.301	0.323	0.321	0.308
Trichlorofluoromethane	0.476	0.545	0.560	0.549
Trichlorotrifluoroethane	0.228	0.282	0.286	0.278
1,2,3-Trichloropropane	0.208	0.201	0.194	0.190
1,2,4-Trimethylbenzene	2.547	2.589	2.608	2.456

FORM VI VOA

FORM 6  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: SDGA34379

Instrument ID: VOA4      Calibration Date(s): 07/15/08      07/16/08

Column: DB-VRX      ID: 0.25 (mm)      Calibration Time(s): 2222      0247

LAB FILE ID:      RF20: V4STD06      RF50: V4STD07      RF100: V4STD08  
RF200: V4STD09

COMPOUND	RF20	RF50	RF100	RF200
1,3,5-Trimethylbenzene	2.441	2.382	2.417	2.312
Vinyl acetate	0.630	0.721	0.740	0.708
Vinyl chloride	0.430	0.458	0.454	0.408
m,p-Xylene	2.401	2.370	2.106	1.783
Xylene (total)	2.464	2.420	2.201	1.973
Dibromofluoromethane	0.305	0.306	0.312	0.312
1,2-Dichloroethane-d4	0.061	0.063	0.064	0.060
Toluene-d8	2.095	1.946	1.865	1.815
Bromofluorobenzene	0.955	0.892	0.837	0.819

FORM VI VOA

FORM 6  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: SDGA34379

Instrument ID: VOA4      Calibration Date(s): 07/15/08    07/16/08

Column: DB-VRX      ID: 0.25 (mm)      Calibration Time(s): 2222      0247

COMPOUND	CURVE	COEFFICIENTS		%RSD OR R <sup>2</sup>
		A0	A1	
Acetone	LINR	0.00000000	0.13119072	0.998
Acrolein	LINR	0.00000000	3.332e-002	0.998
Acrylonitrile	AVRG		0.11099945	9.1
Benzene	AVRG		1.18803682	5.7
Bromobenzene	AVRG		0.91723641	7.6
Bromochloromethane	AVRG		0.17824412	6.1
Bromodichloromethane	AVRG		0.45437649	5.8
Bromoform	AVRG		0.47069615	6.8
Bromomethane	LINR	0.00000000	0.34624661	0.999
2-Butanone	AVRG		0.13812948	12.6
n-Butylbenzene	AVRG		2.09540974	10.3
sec-Butylbenzene	AVRG		2.79933911	10.8
tert-Butylbenzene	AVRG		1.94164730	11.0
Carbon disulfide	AVRG		1.04969076	8.8
Carbon tetrachloride	AVRG		0.39498646	10.1
Chlorobenzene	AVRG		1.81773370	11.6
Chloroethane	AVRG		0.29785496	12.0
2-Chloroethyl vinyl ether	AVRG		0.18154198	6.3
Chloroform	AVRG		0.61182192	10.8
1-Chlorohexane	LINR	0.00000000	0.72897970	0.995
Chloromethane	LINR	0.00000000	0.48186451	1.000
2-Chlorotoluene	AVRG		2.61288443	12.8
4-Chlorotoluene	AVRG		2.92407537	12.8
Cyclohexane	AVRG		0.40216874	8.3
Dibromochloromethane	AVRG		0.73405326	5.4
1,2-Dibromo-3-chloropropane	LINR	0.00000000	0.18192321	0.996
1,2-Dibromoethane	AVRG		0.65814573	7.8
Dibromomethane	AVRG		0.21677268	8.6
1,2-Dichlorobenzene	AVRG		1.49904259	9.6
1,3-Dichlorobenzene	AVRG		1.65668579	13.5
1,4-Dichlorobenzene	AVRG		1.74585179	12.7
Dichlorodifluoromethane	AVRG		0.42966270	7.8
1,1-Dichloroethane	AVRG		0.61932484	8.8
1,2-Dichloroethane	AVRG		0.43941740	10.6
1,1-Dichloroethene	AVRG		0.28894246	8.1
cis-1,2-Dichloroethene	AVRG		0.35106237	7.4
trans-1,2-Dichloroethene	AVRG		0.33292729	9.3

FORM VI VOA

FORM 6  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: NA                      Case No.: NA                      SAS No.: NA                      SDG No.: SDGA34379

Instrument ID: VOA4                      Calibration Date(s): 07/15/08      07/16/08

Column: DB-VRX      ID: 0.25 (mm)      Calibration Time(s): 2222      0247

COMPOUND	CURVE	COEFFICIENTS		%RSD OR R <sup>2</sup>
		A0	A1	
1,2-Dichloroethene (total)	AVRG		0.34199483	7.8
1,2-Dichloropropane	AVRG		0.32807892	10.3
1,3-Dichloropropane	AVRG		1.03224837	8.4
2,2-Dichloropropane	AVRG		0.38660758	12.1
1,1-Dichloropropene	AVRG		0.43313408	11.0
cis-1,3-Dichloropropene	AVRG		0.48150154	11.2
trans-1,3-Dichloropropene	AVRG		0.93009433	4.9
Ethylbenzene	AVRG		3.06434516	11.1
Ethyl methacrylate	AVRG		0.79817579	7.8
Hexachlorobutadiene	LINR	0.00000000	0.33481727	0.998
2-Hexanone	AVRG		0.42649573	4.5
Iodomethane	LINR	0.00000000	0.53517234	0.999
Isopropylbenzene	AVRG		2.45792053	13.9
p-Isopropyltoluene	AVRG		2.27638551	12.2
Methyl acetate	AVRG		0.26100376	10.9
Methyl cyclohexane	AVRG		0.30668612	8.2
Methylene chloride	LINR	0.00000000	0.39287735	0.998
Methyl methacrylate	AVRG		0.25966907	6.2
MTBE	AVRG		0.76815210	12.1
4-Methyl-2-pentanone	AVRG		0.26935370	6.5
Naphthalene	AVRG		2.01453012	12.9
n-Propylbenzene	AVRG		3.75437162	11.5
Styrene	AVRG		1.98107346	8.4
1,1,1,2-Tetrachloroethane	AVRG		0.64645417	6.4
1,1,2,2-Tetrachloroethane	AVRG		0.80422641	7.8
Tetrachloroethene	AVRG		0.67387616	13.4
Tetrahydrofuran	AVRG		7.61e-002	8.0
Toluene	AVRG		1.69798784	13.6
1,2,3-Trichlorobenzene	LINR	0.00000000	0.83460597	0.999
1,2,4-Trichlorobenzene	AVRG		0.91313189	11.4
1,1,1-Trichloroethane	AVRG		0.44914093	13.8
1,1,2-Trichloroethane	AVRG		0.47636355	14.4
Trichloroethene	AVRG		0.33484198	12.1
Trichlorofluoromethane	AVRG		0.53902140	6.0
Trichlorotrifluoroethane	AVRG		0.26243266	10.4
1,2,3-Trichloropropane	AVRG		0.20269736	12.5
1,2,4-Trimethylbenzene	AVRG		2.70022024	9.4

FORM VI VOA

FORM 6  
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: NA                      Case No.: NA      SAS No.: NA                      SDG No.: SDGA34379

Instrument ID: VOA4                      Calibration Date(s): 07/15/08    07/16/08

Column: DB-VRX      ID: 0.25 (mm)      Calibration Time(s): 2222      0247

COMPOUND	CURVE	COEFFICIENTS		%RSD OR R <sup>2</sup>
		A0	A1	
1,3,5-Trimethylbenzene	AVRG		2.54190535	9.9
Vinyl acetate	AVRG		0.64445693	11.5
Vinyl chloride	AVRG		0.45755750	9.8
m,p-Xylene	AVRG		2.43213126	14.2
Xylene (total)	AVRG		2.50994529	11.6
Dibromofluoromethane	AVRG		0.31136560	2.8
1,2-Dichloroethane-d <sub>4</sub>	AVRG		6.243e-002	3.7
Toluene-d <sub>8</sub>	AVRG		2.00653229	5.7
Bromofluorobenzene	AVRG		0.90547517	5.2

VOLATILE INITIAL CALIBRATION VERIFICATION

Lab Name: EMPIRICAL LABS Contract:  
 Lab Code: NA Case No.: NA SAS No.: NA SDG No.: SDGA30743  
 Instrument ID: VOA4 Calibration Date: 07/15/08 Time: 2350  
 Lab File ID: V4ICV01 Init. Calib. Date(s): 07/15/08 07/16/08  
 Heated Purge: (Y/N) N Init. Calib. Times: 2222 0247  
 GC Column: DB-VRX ID: 0.25 (mm)

COMPOUND	RRF	RRF50	CURVE AMOUNT	CCAL AMOUNT	MIN RRF	CURVE	%D	MAX %D
Acetone	0.120	0.120	100.0	91.68		LINR	-8.3	25.0
Acrolein	0.035	0.038	250.0	286.4		LINR	14.5	25.0
Acrylonitrile	0.111	0.121	250.0	273.4		AVRG	9.4	25.0
Benzene	1.188	1.090	50.00	45.88		AVRG	-8.2	25.0
Bromobenzene	0.917	0.838	50.00	45.70		AVRG	-8.6	25.0
Bromochloromethane	0.178	0.170	50.00	47.82		AVRG	-4.4	25.0
Bromodichloromethane	0.454	0.440	50.00	48.37		AVRG	-3.2	25.0
Bromoform	0.470	0.468	50.00	49.69	0.100	AVRG	-0.6	25.0
Bromomethane	0.365	0.339	50.00	48.90		LINR	-2.2	25.0
2-Butanone	0.138	0.148	100.0	106.9		AVRG	6.9	25.0
n-Butylbenzene	2.095	1.953	50.00	46.60		AVRG	-6.8	25.0
sec-Butylbenzene	2.799	2.507	50.00	44.78		AVRG	-10.4	25.0
tert-Butylbenzene	1.942	1.812	50.00	46.66		AVRG	-6.7	25.0
Carbon disulfide	1.050	1.169	50.00	55.67		AVRG	11.3	25.0
Carbon tetrachloride	0.395	0.368	50.00	46.66		AVRG	-6.7	25.0
Chlorobenzene	1.818	1.691	50.00	46.53	0.300	AVRG	-6.9	25.0
Chloroethane	0.298	0.293	50.00	49.25		AVRG	-1.5	25.0
2-Chloroethyl vinyl ether	0.181	0.203	100.0	111.6		AVRG	11.6	25.0
Chloroform	0.612	0.551	50.00	45.04		AVRG	-9.9	25.0
1-Chlorohexane	0.913	0.822	50.00	56.38		LINR	12.8	25.0
Chloromethane	0.573	0.535	50.00	55.52	0.100	LINR	11.0	25.0
2-Chlorotoluene	2.613	2.297	50.00	43.95		AVRG	-12.1	25.0
4-Chlorotoluene	2.924	2.349	50.00	40.17		AVRG	-19.7	25.0
Cyclohexane	0.402	0.430	50.00	53.42		AVRG	6.8	25.0
Dibromochloromethane	0.734	0.759	50.00	51.73		AVRG	3.4	25.0
1,2-Dibromo-3-chloropropane	0.151	0.148	50.00	40.58		LINR	-18.8	25.0
1,2-Dibromoethane	0.658	0.610	50.00	46.33		AVRG	-7.3	25.0
Dibromomethane	0.217	0.209	50.00	48.24		AVRG	-3.5	25.0
1,2-Dichlorobenzene	1.499	1.367	50.00	45.60		AVRG	-8.8	25.0
1,3-Dichlorobenzene	1.657	1.398	50.00	42.20		AVRG	-15.6	25.0
1,4-Dichlorobenzene	1.746	1.513	50.00	43.33		AVRG	-13.3	25.0
Dichlorodifluoromethane	0.429	0.463	50.00	53.87		AVRG	7.7	25.0
1,1-Dichloroethane	0.619	0.599	50.00	48.34	0.100	AVRG	-3.3	25.0
1,2-Dichloroethane	0.439	0.421	50.00	47.92		AVRG	-4.2	25.0
1,1-Dichloroethene	0.289	0.287	50.00	49.64		AVRG	-0.7	25.0
cis-1,2-Dichloroethene	0.351	0.328	50.00	46.66		AVRG	-6.7	25.0
trans-1,2-Dichloroethene	0.333	0.312	50.00	46.95		AVRG	-6.1	25.0

VOLATILE INITIAL CALIBRATION VERIFICATION

Lab Name: EMPIRICAL LABS Contract:  
 Lab Code: NA Case No.: NA SAS No.: NA SDG No.: SDGA30743  
 Instrument ID: VOA4 Calibration Date: 07/15/08 Time: 2350  
 Lab File ID: V4ICV01 Init. Calib. Date(s): 07/15/08 07/16/08  
 Heated Purge: (Y/N) N Init. Calib. Times: 2222 0247  
 GC Column: DB-VRX ID: 0.25 (mm)

COMPOUND	RRF	RRF50	CURVE AMOUNT	CCAL AMOUNT	MIN RRF	CURVE	%D	MAX %D
1,2-Dichloroethene (total)	0.342	0.320	100.0	93.60		AVRG	-6.4	25.0
1,2-Dichloropropane	0.328	0.306	50.00	46.66		AVRG	-6.7	25.0
1,3-Dichloropropane	1.032	0.903	50.00	43.74		AVRG	-12.5	25.0
2,2-Dichloropropane	0.386	0.360	50.00	46.53		AVRG	-6.9	25.0
1,1-Dichloropropene	0.433	0.394	50.00	45.47		AVRG	-9.0	25.0
cis-1,3-Dichloropropene	0.482	0.492	50.00	51.12		AVRG	2.2	25.0
trans-1,3-Dichloropropene	0.930	0.968	50.00	52.03		AVRG	4.1	25.0
Ethylbenzene	3.064	2.833	50.00	46.23		AVRG	-7.5	25.0
Ethyl methacrylate	0.798	0.789	50.00	49.40		AVRG	-1.2	25.0
Hexachlorobutadiene	0.400	0.295	50.00	44.06		LINR	-11.9	25.0
2-Hexanone	0.426	0.448	100.0	105.0		AVRG	5.0	25.0
Iodomethane	0.436	0.545	50.00	50.90		LINR	1.8	25.0
Isopropylbenzene	2.458	2.512	50.00	51.10		AVRG	2.2	25.0
p-Isopropyltoluene	2.276	2.177	50.00	47.82		AVRG	-4.3	25.0
Methyl acetate	0.261	0.278	50.00	53.32		AVRG	6.6	25.0
Methyl cyclohexane	0.307	0.319	50.00	52.03		AVRG	4.0	25.0
Methylene chloride	0.743	0.396	50.00	50.34		LINR	0.7	25.0
Methyl methacrylate	0.260	0.269	50.00	51.86		AVRG	3.7	25.0
MTBE	0.768	0.813	50.00	52.95		AVRG	5.9	25.0
4-Methyl-2-pentanone	0.269	0.279	100.0	103.5		AVRG	3.5	25.0
Naphthalene	2.014	1.748	50.00	43.39		AVRG	-13.2	25.0
n-Propylbenzene	3.754	3.546	50.00	47.23		AVRG	-5.5	25.0
Styrene	1.981	1.920	50.00	48.47		AVRG	-3.0	25.0
1,1,1,2-Tetrachloroethane	0.646	0.602	50.00	46.60		AVRG	-6.8	25.0
1,1,2,2-Tetrachloroethane	0.804	0.761	50.00	47.31	0.300	AVRG	-5.4	25.0
Tetrachloroethene	0.674	0.608	50.00	45.08		AVRG	-9.8	25.0
Tetrahydrofuran	0.076	0.077	50.00	50.42		AVRG	0.8	25.0
Toluene	1.698	1.543	50.00	45.45		AVRG	-9.1	25.0
1,2,3-Trichlorobenzene	0.882	0.728	50.00	43.61		LINR	-12.8	25.0
1,2,4-Trichlorobenzene	0.913	0.808	50.00	44.22		AVRG	-11.5	25.0
1,1,1-Trichloroethane	0.449	0.414	50.00	46.14		AVRG	-7.7	25.0
1,1,2-Trichloroethane	0.476	0.478	50.00	50.14		AVRG	0.3	25.0
Trichloroethene	0.335	0.299	50.00	44.64		AVRG	-10.7	25.0
Trichlorofluoromethane	0.539	0.539	50.00	50.04		AVRG	0.1	25.0
Trichlorotrifluoroethane	0.262	0.303	50.00	57.81		AVRG	15.6	25.0
1,2,3-Trichloropropane	0.203	0.191	50.00	47.15		AVRG	-5.7	25.0
1,2,4-Trimethylbenzene	2.700	2.485	50.00	46.01		AVRG	-8.0	25.0

VOLATILE INITIAL CALIBRATION VERIFICATION

Lab Name: EMPIRICAL LABS      Contract:  
 Lab Code: NA                    Case No.: NA                    SAS No.: NA                    SDG No.: SDGA30743  
 Instrument ID: VOA4            Calibration Date: 07/15/08    Time: 2350  
 Lab File ID: V4ICV01        Init. Calib. Date(s): 07/15/08    07/16/08  
 Heated Purge: (Y/N) N        Init. Calib. Times:    2222                    0247  
 GC Column: DB-VRX        ID: 0.25 (mm)

COMPOUND	RRF	RRF50	CURVE AMOUNT	CCAL AMOUNT	MIN RRF	CURVE	%D	MAX %D
1,3,5-Trimethylbenzene	2.542	2.395	50.00	47.10		AVRG	-5.8	25.0
Vinyl acetate	0.644	0.728	100.0	113.0		AVRG	13.0	25.0
Vinyl chloride	0.457	0.450	50.00	49.15		AVRG	-1.7	25.0
Xylene (total)	2.510	2.397	150.0	138.5		AVRG	-4.5	25.0
Dibromofluoromethane	0.311	0.312	30.00	30.02		AVRG	0.1	25.0
1,2-Dichloroethane-d4	0.062	0.061	30.00	29.31		AVRG	-2.3	25.0
Toluene-d8	2.006	2.044	30.00	30.56		AVRG	1.9	25.0
Bromofluorobenzene	0.905	0.921	30.00	30.52		AVRG	1.7	25.0

FORM 7  
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT  
 Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002  
 Instrument ID: VOA4      Calibration Date: 07/30/08      Time: 0736  
 Lab File ID: V4CCV01      Init. Calib. Date(s): 03/05/08      07/16/08  
 Heated Purge: (Y/N) N      Init. Calib. Times:      0908      0247  
 GC Column: DB-VRX      ID: 0.25 (mm)

COMPOUND	RRF	RRF50	CURVE AMOUNT	CCAL AMOUNT	MIN RRF	CURVE	%D	MAX %D
Benzene	1.188	1.096	50.00	46.12		AVRG	-7.8	
Bromodichloromethane	0.454	0.428	50.00	47.05		AVRG	-5.9	
Bromoform	0.470	0.523	50.00	55.59	0.100	AVRG	11.2	
Bromomethane	0.365	0.311	50.00	44.93		LINR	-10.1	
Carbon tetrachloride	0.395	0.379	50.00	48.00		AVRG	-4.0	
Chlorobenzene	1.818	1.814	50.00	49.91	0.300	AVRG	-0.2	
Chloroethane	0.298	0.281	50.00	47.18		AVRG	-5.6	
2-Chloroethyl vinyl ether	0.181	0.097	100.0	53.32		AVRG	-46.7	
Chloroform	0.612	0.547	50.00	44.68		AVRG	-10.6	20.0
Chloromethane	0.573	0.519	50.00	53.90	0.100	LINR	7.8	
Dibromochloromethane	0.734	0.805	50.00	54.85		AVRG	9.7	
1,2-Dichlorobenzene	1.499	1.427	50.00	47.59		AVRG	-4.8	
1,3-Dichlorobenzene	1.657	1.692	50.00	51.06		AVRG	2.1	
1,4-Dichlorobenzene	1.746	1.646	50.00	47.14		AVRG	-5.7	
Dichlorodifluoromethane	0.429	0.480	50.00	55.84		AVRG	11.7	
1,1-Dichloroethane	0.619	0.611	50.00	49.35	0.100	AVRG	-1.3	
1,2-Dichloroethane	0.439	0.426	50.00	48.51		AVRG	-3.0	
1,1-Dichloroethene	0.289	0.299	50.00	51.72		AVRG	3.4	20.0
cis-1,2-Dichloroethene	0.351	0.338	50.00	48.10		AVRG	-3.8	
trans-1,2-Dichloroethene	0.333	0.319	50.00	47.89		AVRG	-4.2	
1,2-Dichloropropane	0.328	0.312	50.00	47.58		AVRG	-4.8	20.0
cis-1,3-Dichloropropene	0.482	0.491	50.00	51.00		AVRG	2.0	
trans-1,3-Dichloropropene	0.930	0.978	50.00	52.58		AVRG	5.2	
Ethylbenzene	3.064	3.049	50.00	49.74		AVRG	-0.5	20.0
Methylene chloride	0.743	0.395	50.00	50.27		LINR	0.5	
Methyl tert-butyl ether	0.768	0.805	50.00	52.39		AVRG	4.8	
1,1,2,2-Tetrachloroethane	0.804	0.770	50.00	47.85	0.300	AVRG	-4.3	
Tetrachloroethene	0.674	0.668	50.00	49.60		AVRG	-0.8	
Toluene	1.698	1.632	50.00	48.07		AVRG	-3.8	20.0
1,2,4-Trichlorobenzene	0.913	0.790	50.00	43.24		AVRG	-13.5	
1,1,1-Trichloroethane	0.449	0.432	50.00	48.15		AVRG	-3.7	
1,1,2-Trichloroethane	0.476	0.503	50.00	52.84		AVRG	5.7	
Trichloroethene	0.335	0.312	50.00	46.53		AVRG	-6.9	
Trichlorofluoromethane	0.539	0.544	50.00	50.44		AVRG	0.9	
Vinyl chloride	0.457	0.482	50.00	52.64		AVRG	5.3	20.0
Xylene (total)	2.510	2.430	150.0	143.8		AVRG	-3.2	

FORM 7  
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT  
 Lab Code: NA                    Case No.: NA                    SAS No.: NA                    SDG No.: MAYPORT\_002  
 Instrument ID: VOA4            Calibration Date: 07/30/08    Time: 0736  
 Lab File ID: V4CCV01          Init. Calib. Date(s): 03/05/08    07/16/08  
 Heated Purge: (Y/N) N          Init. Calib. Times:    0908                    0247  
 GC Column: DB-VRX            ID: 0.25 (mm)

COMPOUND	RRF	RRF50	CURVE AMOUNT	CCAL AMOUNT	MIN RRF	CURVE	%D	MAX %D
Dibromofluoromethane	0.311	0.318	30.00	30.67		AVRG	2.2	
1,2-Dichloroethane-d4	0.062	0.064	30.00	30.52		AVRG	1.7	
Toluene-d8	2.006	2.106	30.00	31.48		AVRG	4.9	
Bromofluorobenzene	0.905	0.934	30.00	30.94		AVRG	3.2	

Sequence Name: C:\HPCHEM\1\SEQUENCE\071508V4.S  
 Comment: 8260b  
 Operator: ADM  
 Data Path: C:\HPCHEM\1\DATA\071408V4\  
 Pre-Seq Cmd:  
 Post-Seq Cmd:

8393

M 7/15/08

Method Sections To Run      On A Barcode Mismatch  
 (X) Full Method              (X) Inject Anyway  
 ( ) Reprocessing Only        ( ) Don't Inject

Line Type	Vial	DataFile	Method	Sample Name
1 BFB	50	V4BFB01	V4BFB	V4BFB25NG; ; ; ; ; 21:23, 7/15
2 Calibration	1	V4STD09A	VWATER4	V4STD200ppb; ; ; ; ;
3 Calibration	2	V4STD09	VWATER4	V4STD200ppb; ; ; ; ;
4 Calibration	3	V4STD08	VWATER4	V4STD100ppb; ; ; ; ;
5 Calibration	4	V4STD07	VWATER4	V4STD50ppb; ; ; ; ;
6 Spike	5	V4ICV01	VWATER4	V4BLK0715LCS; ; ; ; ;
7 Calibration	6	V4STD06	VWATER4	V4STD20ppb; ; ; ; ;
8 Calibration	7	V4STD05	VWATER4	V4STD10ppb; ; ; ; ;
9 Calibration	8	V4STD04	VWATER4	V4STD2ppb; ; ; ; ;
10 Calibration	9	V4STD03	VWATER4	V4STD1ppb; ; ; ; ;
11 Calibration	10	V4STD02	VWATER4	V4STD0.5ppb; ; ; ; ;
12 Calibration	11	V4STD01	VWATER4	V4STD0.25ppb; ; ; ; ;
13 Spike	12	V4LCS01	VWATER4	V4BLK0715LCS; ; ; ; ;
14 Blank	100	BLANK01	VWATER4	V4BLK; ; ; ; ;
15 Blank	100	V4BLK01	VWATER4	V4BLK0715; ; ; ; ;
16 Sample	13	0704326	VWATER4	0807043-26; ; ; ; ; vial 14:42, 7/16
17 BFB	100	V4BFB	V4BFB	V4BFB50NG; ; ; ; ;

KACH20

Sequence Name: C:\HPCHEM\1\SEQUENCE\071508V4.S  
 Comment: 8260b  
 Operator: ADM  
 Data Path: C:\HPCHEM\1\DATA\071408V4\  
 Pre-Seq Cmd:  
 Post-Seq Cmd:

8394

Method Sections To Run      On A Barcode Mismatch  
 (X) Full Method              (X) Inject Anyway  
 ( ) Reprocessing Only        ( ) Don't Inject

Line	Sample Name/Misc Info
1	Type: BFB                    V4BFB25NG;;;;; Vial: 50                    ;3;;;;all.sub;#5473 Meth: V4BFB.M            Barcode: Data: V4BFB01.D        Samp Amt: 0                    Multiplr: 1 Area% Report            :per Method            Lib. Search Rep :per Method Quant Report            :per Method            Post-Quant Macro:per Method CR Database             :per Method            CR Spreadsheet :per Method
2	Type: Calibration V4STD200ppb;;;;; Vial: 1                    ;1;;;9;gm-all.sub;#5494,5513 Meth: VWATER4.M        Barcode: Data: V4STD09A.D      LvlId:            UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd Area% Report            :per Method            Lib. Search Rep :per Method Quant Report            :per Method            Post-Quant Macro:per Method CR Database             :per Method            CR Spreadsheet :per Method
3	Type: Calibration V4STD200ppb;;;;; Vial: 2                    ;1;;;9;gm-all.sub;#5494,5513 Meth: VWATER4.M        Barcode: Data: V4STD09.D      LvlId:            UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd Area% Report            :per Method            Lib. Search Rep :per Method Quant Report            :per Method            Post-Quant Macro:per Method CR Database             :per Method            CR Spreadsheet :per Method
4	Type: Calibration V4STD100ppb;;;;; Vial: 3                    ;1;;;8;gm-all.sub;#5494,5513 Meth: VWATER4.M        Barcode: Data: V4STD08.D      LvlId:            UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd Area% Report            :per Method            Lib. Search Rep :per Method Quant Report            :per Method            Post-Quant Macro:per Method CR Database             :per Method            CR Spreadsheet :per Method
5	Type: Calibration V4STD50ppb;;;;; Vial: 4                    ;1;;;7;gm-all.sub;#5494,5513 Meth: VWATER4.M        Barcode: Data: V4STD07.D      LvlId:            UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd Area% Report            :per Method            Lib. Search Rep :per Method Quant Report            :per Method            Post-Quant Macro:per Method CR Database             :per Method            CR Spreadsheet :per Method
6	Type: Spike                V4BLK0715LCS;;;;; Vial: 5                    ;3;LCS;;;gm-all.sub;#5494,5514 Meth: VWATER4.M        Barcode: Data: V4ICV01.D        Samp Amt: 0                    Multiplr: 1 Area% Report            :per Method            Lib. Search Rep :per Method Quant Report            :per Method            Post-Quant Macro:per Method CR Database             :per Method            CR Spreadsheet :per Method
7	Type: Calibration V4STD20ppb;;;;; Vial: 6                    ;1;;;6;gm-all.sub;#5494,5513 Meth: VWATER4.M        Barcode: Data: V4STD06.D      LvlId:            UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd Area% Report            :per Method            Lib. Search Rep :per Method Quant Report            :per Method            Post-Quant Macro:per Method CR Database             :per Method            CR Spreadsheet :per Method

8395

- 8 Type: Calibration V4STD10ppb;;;;  
 Vial: 7 ;1;;;5;gm-all.sub;#5494,5513  
 Meth: VWATER4.M Barcode:  
 Data: V4STD05.D LvlId: UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

---

- 9 Type: Calibration V4STD2ppb;;;;  
 Vial: 8 ;1;;;4;gm-all.sub;#5494,5513  
 Meth: VWATER4.M Barcode:  
 Data: V4STD04.D LvlId: UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

---

- 10 Type: Calibration V4STD1ppb;;;;  
 Vial: 9 ;1;;;3;gm-all.sub;#5494,5513  
 Meth: VWATER4.M Barcode:  
 Data: V4STD03.D LvlId: UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

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- 11 Type: Calibration V4STD0.5ppb;;;;  
 Vial: 10 ;1;;;2;gm-all.sub;#5494,5513  
 Meth: VWATER4.M Barcode:  
 Data: V4STD02.D LvlId: UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

---

- 12 Type: Calibration V4STD0.25ppb;;;;  
 Vial: 11 ;1;;;1;gm-all.sub;#5494,5513  
 Meth: VWATER4.M Barcode:  
 Data: V4STD01.D LvlId: UpdRF:No Upd UpdRT:No Upd UpdQI:No Upd  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

---

- 13 Type: Spike V4BLK0715LCS;;;;  
 Vial: 12 ;3;LCS;;;gm-all.sub;#5494,5514  
 Meth: VWATER4.M Barcode:  
 Data: V4LCS01.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

---

- 14 Type: Blank V4BLK;;;;  
 Vial: 100 ;3;BLANK;;;gm-all.sub;#5494  
 Meth: VWATER4.M Barcode:  
 Data: BLANK01.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

---

- 15 Type: Blank V4BLK0715;;;;  
 Vial: 100 ;3;BLANK;;;gm-all.sub;#5494  
 Meth: VWATER4.M Barcode:  
 Data: V4BLK01.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

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- 16 Type: Sample 0807043-26;;;;; vial 1  
 Vial: 13 sha.v07043;0;;;gm-all.sub;#5494  
 Meth: VWATER4.M Barcode:  
 Data: 0704326.D Samp Amt: 0 Multiplr: 1

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Area Report :per Method      Lib. Search Rep :per Method  
Quant Report :per Method      Post-Quant Macro:per Method  
CR Database :per Method      CR Spreadsheet :per Method

-----  
17 Type: BFB                    V4BFB50NG;;;;;  
Vial: 100                     ;3;;;all.sub;#5473  
Meth: V4BFB.M                Barcode:  
Data: V4BFB.D                Samp Amt: 0                    Multiplr: 1  
Area Report                  :per Method                    Lib. Search Rep :per Method  
Quant Report                 :per Method                    Post-Quant Macro:per Method  
CR Database                  :per Method                    CR Spreadsheet :per Method  
-----

8396

Sequence Name: C:\HPCHEM\1\SEQUENCE\073008V4.S  
 Comment: 8260b  
 Operator: ADM  
 Data Path: C:\HPCHEM\1\DATA\073008V4\  
 Pre-Seq Cmd:  
 Post-Seq Cmd:

8938

Method Sections To Run On A Barcode Mismatch  
 (X) Full Method (X) Inject Anyway  
 ( ) Reprocessing Only ( ) Don't Inject

7/30/18

Line Type	Vial	DataFile	Method	Sample Name
1 BFB	50	V4BFB01	V4BFB	V4BFB50NG;;;;; 7:06, 7/30
2 DailyCal	1	V4CCV01	VWATER4	V4STD50ppb;;;;;
3 DailyCal	2	V4A9CCV	VWATER4	V4ap9ccv;;;;;
4 Spike	3	V4LCS01	VWATER4	V4BLK0730LCS;;;;; w/ap9
5 Spike	4	V4RL01	VWATER4	V4r11ppb;;;;;
6 Blank	100	BLANK01	VWATER4	V4BLK;;;;;
7 Blank	100	V4BLK01	VWATER4	V4BLK0730;;;;;
8 Sample	5	0721809	VWATER4	0807218-09;;;;; ab/vial 1
9 Sample	6	0721810	VWATER4	0807218-10;;;;; eb/vial 1
10 Sample	7	0721811	VWATER4	0807218-11;;;;; tb/vial 1
11 Sample	8	0721909	VWATER4	0807219-09;;;;; tb/vial 1
12 Sample	9	0721901	VWATER4	0807219-01;;;;; vial 1
13 Sample	10	0721902	VWATER4	0807219-02;;;;; vial 1
14 Sample	11	0721903	VWATER4	0807219-03;;;;; vial 1
15 Sample	12	0721904	VWATER4	0807219-04;;;;; vial 1
16 Sample	13	0721905	VWATER4	0807219-05;;;;; vial 1
17 Sample	14	0721906	VWATER4	0807219-06;;;;; vial 1
18 Sample	15	0721907	VWATER4	0807219-07;;;;; vial 1
19 Sample	16	0721908	VWATER4	0807219-08;;;;; vial 1
20 Sample	17	0721804	VWATER4	0807218-04;;;;; vial 1
21 Sample	18	0721808D	VWATER4	0807218-08;;;;; 25x/vial 1 ✓
22 Sample	19	721808D1	VWATER4	0807218-08;;;;; 50x/vial 1 NK
23 Sample	20	0721802D	VWATER4	0807218-02;;;;; 50x/vial 1 -KR 257
24 Sample	21	0721109D	VWATER4	0807210-09;;;;; 200x/vial #2 -KR 17
25 Spike	22	V4LCSD01	VWATER4	V4BLK0730LCSD;;;;; w/ap9 18:53, 7/30
26 BFB	50	V4BFB01E	V4BFB	V4BFB50NG;;;;; 7:14, 7/30
27 Sample	23	V4CCV01E	VWATER4	V4STD50ppb;;;;;
28 Spike	24	V4LCS01E	VWATER4	V4BLK0730ELCS;;;;;
29 Spike	25	V4RL01E	VWATER4	V4r11ppb;;;;;
30 Blank	100	BLANK01E	VWATER4	V4BLK;;;;;
31 Blank	100	V4BLK01E	VWATER4	V4BLK0730E;;;;;
32 Sample	26	0721009	VWATER4	0807210-09;;;;; vial #2
33 Sample	27	0721020D	VWATER4	0807210-20;;;;; 5x
34 Sample	28	0721023D	VWATER4	0807210-23;;;;; 5x
35 Sample	29	0720402D	VWATER4	0807204-02;;;;; 2x
36 Sample	30	721802D2	VWATER4	0807218-02;;;;; 25x
37 BFB	100	V4BFB	V4BFB	V4BFB50NG;;;;;

Sequence Name: C:\HPCHEM\1\SEQUENCE\073008V4.S  
 Comment: 8260b  
 Operator: ADM  
 Data Path: C:\HPCHEM\1\DATA\073008V4\  
 Pre-Seq Cmd:  
 Post-Seq Cmd:

8039

Method Sections To Run      On A Barcode Mismatch  
 (X) Full Method              (X) Inject Anyway  
 ( ) Reprocessing Only        ( ) Don't Inject

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-----
Line                Sample Name/Misc Info
-----
1  Type: BFB        V4BFB50NG;;;;;
   Vial: 50         ;3;;;;all.sub;#5473
   Meth: V4BFB.M   Barcode:
   Data: V4BFB01.D Samp Amt: 0           Multiplr: 1
   Area% Report    :per Method          Lib. Search Rep :per Method
   Quant Report    :per Method          Post-Quant Macro:per Method
   CR Database     :per Method          CR Spreadsheet  :per Method
-----
2  Type: DailyCal   V4STD50ppb;;;;;
   Vial: 1          ;2;;;;gm-all.sub;#5494,5524
   Meth: VWATER4.M Barcode:
   Data: V4CCV01.D Samp Amt: 0           Multiplr: 1
   Area% Report    :per Method          Lib. Search Rep :per Method
   Quant Report    :per Method          Post-Quant Macro:per Method
   CR Database     :per Method          CR Spreadsheet  :per Method
-----
3  Type: DailyCal   V4ap9ccv;;;;;
   Vial: 2          ;2;;;;ap9hex.sub;#5494,5522
   Meth: VWATER4.M Barcode:
   Data: V4A9CCV.D Samp Amt: 0           Multiplr: 1
   Area% Report    :per Method          Lib. Search Rep :per Method
   Quant Report    :per Method          Post-Quant Macro:per Method
   CR Database     :per Method          CR Spreadsheet  :per Method
-----
4  Type: Spike      V4BLK0730LCS;;;;; w/ap9
   Vial: 3          ;3;LCS;;;;gm-allap9.sub;#5494,5525,5523
   Meth: VWATER4.M Barcode:
   Data: V4LCS01.D Samp Amt: 0           Multiplr: 1
   Area% Report    :per Method          Lib. Search Rep :per Method
   Quant Report    :per Method          Post-Quant Macro:per Method
   CR Database     :per Method          CR Spreadsheet  :per Method
-----
5  Type: Spike      V4r11ppb;;;;;
   Vial: 4          ;3;;;;gm-all.sub;#5494,5524
   Meth: VWATER4.M Barcode:
   Data: V4RL01.D  Samp Amt: 0           Multiplr: 1
   Area% Report    :per Method          Lib. Search Rep :per Method
   Quant Report    :per Method          Post-Quant Macro:per Method
   CR Database     :per Method          CR Spreadsheet  :per Method
-----
6  Type: Blank      V4BLK;;;;;
   Vial: 100        ;3;BLANK;;;;gm-all.sub;#5494
   Meth: VWATER4.M Barcode:
   Data: BLANK01.D Samp Amt: 0           Multiplr: 1
   Area% Report    :per Method          Lib. Search Rep :per Method
   Quant Report    :per Method          Post-Quant Macro:per Method
   CR Database     :per Method          CR Spreadsheet  :per Method
-----
7  Type: Blank      V4BLK0730;;;;;
   Vial: 100        ;3;BLANK;;;;gm-allap9.sub;#5494
   Meth: VWATER4.M Barcode:
   Data: V4BLK01.D Samp Amt: 0           Multiplr: 1
   Area% Report    :per Method          Lib. Search Rep :per Method
   Quant Report    :per Method          Post-Quant Macro:per Method
   CR Database     :per Method          CR Spreadsheet  :per Method
-----

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-----  
8 Type: Sample 0807218-09;;;;; ab/vial 1  
Vial: 5 ch2.v07218;0;;;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721809.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
9 Type: Sample 0807218-10;;;;; eb/vial 1  
Vial: 6 ch2.v07218;0;;;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721810.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
10 Type: Sample 0807218-11;;;;; tb/vial 1  
Vial: 7 ch2.v07218;0;;;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721811.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
11 Type: Sample 0807219-09;;;;; tb/vial 1  
Vial: 8 tet.v07219;0;;;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721909.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
12 Type: Sample 0807219-01;;;;; vial 1  
Vial: 9 tet.v07219;0;;;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721901.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
13 Type: Sample 0807219-02;;;;; vial 1  
Vial: 10 tet.v07219;0;;;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721902.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
14 Type: Sample 0807219-03;;;;; vial 1  
Vial: 11 tet.v07219;0;;;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721903.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
15 Type: Sample 0807219-04;;;;; vial 1  
Vial: 12 tet.v07219;0;;;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721904.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
16 Type: Sample 0807219-05;;;;; vial 1  
Vial: 13 tet.v07219;0;;;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721905.D Samp Amt: 0 Multiplr: 1  
-----

Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

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17 Type: Sample 0807219-06;;;;; vial 1  
Vial: 14 tet.v07219;0;;;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721906.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

18 Type: Sample 0807219-07;;;;; vial 1  
Vial: 15 tet.v07219;0;;;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721907.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

19 Type: Sample 0807219-08;;;;; vial 1  
Vial: 16 tet.v07219;0;;;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721908.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

20 Type: Sample 0807218-04;;;;; vial 1  
Vial: 17 ch2.v07218;0;;;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721804.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

21 Type: Sample 0807218-08;;;;; 25x/vial 1  
Vial: 18 ch2.v07218;0;;;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721808D.D Samp Amt: 0 Multiplr: 25  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

22 Type: Sample 0807218-08;;;;; 50x/vial 1  
Vial: 19 ch2.v07218;0;;;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 721808D1.D Samp Amt: 0 Multiplr: 50  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

23 Type: Sample 0807218-02;;;;; 50x/vial 1  
Vial: 20 ch2.v07218;0;;;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721802D.D Samp Amt: 0 Multiplr: 50  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

24 Type: Sample 0807210-09;;;;; 200x/vial #2  
Vial: 21 ch2.v07218;0;;;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721109D.D Samp Amt: 0 Multiplr: 200  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

25 Type: Spike V4BLK0730LCSD;;;;; w/ap9

Vial: 22 ;3;LCSD;;;gm-allap9.sub;#5494,5525,5523  
Meth: VWATER4.M Barcode:  
Data: V4LCSD01.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

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26 Type: BFB V4BFB50NG;;;;;  
Vial: 50 ;3;;;all.sub;#5473  
Meth: V4BFB.M Barcode:  
Data: V4BFB01E.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

27 Type: Sample V4STD50ppb;;;;;  
Vial: 23 ;;;;gm-all.sub;#5494,5524  
Meth: VWATER4.M Barcode:  
Data: V4CCV01E.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

28 Type: Spike V4BLK0730ELCS;;;;;  
Vial: 24 ;3;LCS;;;gm-all.sub;#5494,5525,5523  
Meth: VWATER4.M Barcode:  
Data: V4LCS01E.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

29 Type: Spike V4rl1ppb;;;;;  
Vial: 25 ;3;;;gm-all.sub;#5494,5524  
Meth: VWATER4.M Barcode:  
Data: V4RL01E.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

30 Type: Blank V4BLK;;;;;  
Vial: 100 ;3;BLANK;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: BLANK01E.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

31 Type: Blank V4BLK0730E;;;;;  
Vial: 100 ;3;BLANK;;;gm-allap9.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: V4BLK01E.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

32 Type: Sample 0807210-09;;;;; vial #2  
Vial: 26 pip.v07210;0;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721009.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

33 Type: Sample 0807210-20;;;;; 5x  
Vial: 27 pip.v07210;0;;;gm-all.sub;#5494  
Meth: VWATER4.M Barcode:  
Data: 0721020.D Samp Amt: 0 Multiplr: 5  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method

	CR Database	:per Method	CR Spreadsheet	:per Method
-----				
34	Type: Sample	0807210-23;;;;; 5x		
	Vial: 28	pip.v07210;0;;;;;gm-all.sub;#5494		
	Meth: VWATER4.M	Barcode:		
	Data: 0721023D.D	Samp Amt: 0	Multiplr: 5	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
-----				
35	Type: Sample	0807204-02;;;;; 2x		
	Vial: 29	arc.v07204;0;;;;;gm-all.sub;#5494		
	Meth: VWATER4.M	Barcode:		
	Data: 0720402D.D	Samp Amt: 0	Multiplr: 2	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
-----				
36	Type: Sample	0807218-02;;;;; 25x		
	Vial: 30	ch2.v07218;0;;;;;gm-all.sub;#5494		
	Meth: VWATER4.M	Barcode:		
	Data: 721802D2.D	Samp Amt: 0	Multiplr: 5	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
-----				
37	Type: BFB	V4BFB50NG;;;;;		
	Vial: 100	;3;;;;;all.sub;#5473		
	Meth: V4BFB.M	Barcode:		
	Data: V4BFB.D	Samp Amt: 0	Multiplr: 1	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
-----				

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FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW01

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER      Lab Sample ID: 0807219-01

Sample wt/vol:      1080 (g/mL) ML      Lab File ID:      0721901

% Moisture:      \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_      Date Sampled:      07/24/08 11:35

Extraction: (SepF/Cont/Sonc/Soxh) SEPF      Date Extracted: 07/30/08

Concentrated Extract Volume:      500.0 (uL)      Date Analyzed: 08/04/08 16:34

Injection Volume:      2.0 (uL)      Dilution Factor: 1.0

GPC Cleanup: (Y/N) N      pH: NA

CAS NO.	COMPOUND	CONCENTRATION UNITS:			UG/L Q
		MDL	(ug/L or ug/Kg) RL	CONC	
83-32-9-----	Acenaphthene	0.015	0.046		U
208-96-8-----	Acenaphthylene	0.015	0.046		U
120-12-7-----	Anthracene	0.015	0.046		U
56-55-3-----	Benzo (a) anthracene	0.015	0.046		U
205-99-2-----	Benzo (b) fluoranthene	0.015	0.046		U
207-08-9-----	Benzo (k) fluoranthene	0.015	0.046		U
191-24-2-----	Benzo (g, h, i) perylene	0.015	0.046		U
50-32-8-----	Benzo (a) pyrene	0.015	0.046		U
218-01-9-----	Chrysene	0.015	0.046		U
53-70-3-----	Dibenz (a, h) anthracene	0.015	0.046		U
206-44-0-----	Fluoranthene	0.015	0.046		U
86-73-7-----	Fluorene	0.015	0.046		U
193-39-5-----	Indeno (1, 2, 3-cd) pyrene	0.017	0.046		U
91-57-6-----	2-Methylnaphthalene	0.018	0.046		U
90-12-0-----	1-Methylnaphthalene	0.017	0.046		U
91-20-3-----	Naphthalene	0.018	0.046		U
85-01-8-----	Phenanthrene	0.015	0.046		U
129-00-0-----	Pyrene	0.015	0.046		U

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW04

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-02

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0721902

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/24/08 12:28

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/04/08 17:12

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:		UG/L CONC	UG/L Q
		MDL	(ug/L or ug/Kg) RL		
83-32-9-----	Acenaphthene	0.015	0.046	4.1	
208-96-8-----	Acenaphthylene	0.015	0.046		U
120-12-7-----	Anthracene	0.015	0.046		U
56-55-3-----	Benzo (a) anthracene	0.015	0.046		U
205-99-2-----	Benzo (b) fluoranthene	0.015	0.046		U
207-08-9-----	Benzo (k) fluoranthene	0.015	0.046		U
191-24-2-----	Benzo (g, h, i) perylene	0.015	0.046		U
50-32-8-----	Benzo (a) pyrene	0.015	0.046		U
218-01-9-----	Chrysene	0.015	0.046		U
53-70-3-----	Dibenz (a, h) anthracene	0.015	0.046		U
206-44-0-----	Fluoranthene	0.015	0.046		U
86-73-7-----	Fluorene	0.015	0.046	9.8	
193-39-5-----	Indeno (1, 2, 3-cd) pyrene	0.017	0.046		U
91-57-6-----	2-Methylnaphthalene	0.018	0.046		U
90-12-0-----	1-Methylnaphthalene	0.017	0.046	2.9	
91-20-3-----	Naphthalene	0.018	0.046		U
85-01-8-----	Phenanthrene	0.015	0.046		U
129-00-0-----	Pyrene	0.015	0.046		U

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-1406-16

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-03

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0721903

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/24/08 13:55

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/04/08 17:50

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:		UG/L CONC	UG/L Q
		MDL	(ug/L or ug/Kg) RL		
83-32-9-----	Acenaphthene	0.015	0.046	2.6	
208-96-8-----	Acenaphthylene	0.015	0.046		U
120-12-7-----	Anthracene	0.015	0.046		U
56-55-3-----	Benzo (a) anthracene	0.015	0.046		U
205-99-2-----	Benzo (b) fluoranthene	0.015	0.046		U
207-08-9-----	Benzo (k) fluoranthene	0.015	0.046		U
191-24-2-----	Benzo (g, h, i) perylene	0.015	0.046		U
50-32-8-----	Benzo (a) pyrene	0.015	0.046		U
218-01-9-----	Chrysene	0.015	0.046		U
53-70-3-----	Dibenz (a, h) anthracene	0.015	0.046		U
206-44-0-----	Fluoranthene	0.015	0.046		U
86-73-7-----	Fluorene	0.015	0.046	7.8	
193-39-5-----	Indeno (1, 2, 3-cd) pyrene	0.017	0.046		U
91-57-6-----	2-Methylnaphthalene	0.018	0.046		U
90-12-0-----	1-Methylnaphthalene	0.017	0.046	1.9	
91-20-3-----	Naphthalene	0.018	0.046		U
85-01-8-----	Phenanthrene	0.015	0.046		U
129-00-0-----	Pyrene	0.015	0.046		U

FORM I SV

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW03

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-04

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0721904

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/24/08 14:25

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/04/08 18:29

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:		UG/L CONC	UG/L Q
		MDL	(ug/L or ug/Kg) RL		
83-32-9-----	Acenaphthene	0.015	0.046	6.4	
208-96-8-----	Acenaphthylene	0.015	0.046	1.2	
120-12-7-----	Anthracene	0.015	0.046		U
56-55-3-----	Benzo (a) anthracene	0.015	0.046		U
205-99-2-----	Benzo (b) fluoranthene	0.015	0.046		U
207-08-9-----	Benzo (k) fluoranthene	0.015	0.046		U
191-24-2-----	Benzo (g, h, i) perylene	0.015	0.046		U
50-32-8-----	Benzo (a) pyrene	0.015	0.046		U
218-01-9-----	Chrysene	0.015	0.046		U
53-70-3-----	Dibenz (a, h) anthracene	0.015	0.046		U
206-44-0-----	Fluoranthene	0.015	0.046		U
86-73-7-----	Fluorene	0.015	0.046	19	L
193-39-5-----	Indeno (1, 2, 3-cd) pyrene	0.017	0.046		U
91-57-6-----	2-Methylnaphthalene	0.018	0.046	6.1	
90-12-0-----	1-Methylnaphthalene	0.017	0.046	53	L
91-20-3-----	Naphthalene	0.018	0.046		U
85-01-8-----	Phenanthrene	0.015	0.046		U
129-00-0-----	Pyrene	0.015	0.046		U

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW03DL

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-04DL

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0721904D

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/24/08 14:25

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/05/08 17:16

Injection Volume: 2.0 (uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:		UG/L	Q
		MDL	(ug/L or ug/Kg) RL CONC		
83-32-9	Acenaphthene	0.15	0.46	4.8	D
208-96-8	Acenaphthylene	0.15	0.46		UD
120-12-7	Anthracene	0.15	0.46		UD
56-55-3	Benzo (a) anthracene	0.15	0.46		UD
205-99-2	Benzo (b) fluoranthene	0.15	0.46		UD
207-08-9	Benzo (k) fluoranthene	0.15	0.46		UD
191-24-2	Benzo (g, h, i) perylene	0.15	0.46		UD
50-32-8	Benzo (a) pyrene	0.15	0.46		UD
218-01-9	Chrysene	0.15	0.46		UD
53-70-3	Dibenz (a, h) anthracene	0.15	0.46		UD
206-44-0	Fluoranthene	0.15	0.46		UD
86-73-7	Fluorene	0.15	0.46	11	D
193-39-5	Indeno (1, 2, 3-cd) pyrene	0.17	0.46		UD
91-57-6	2-Methylnaphthalene	0.18	0.46	6.9	D
90-12-0	1-Methylnaphthalene	0.17	0.46	44	D
91-20-3	Naphthalene	0.18	0.46		UD
85-01-8	Phenanthrene	0.15	0.46	5.7	D
129-00-0	Pyrene	0.15	0.46		UD

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW02

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-05

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0721905

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/24/08 15:20

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0(uL) Date Analyzed: 08/04/08 19:07

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:		UG/L	Q
		MDL	(ug/L or ug/Kg) RL CONC		
83-32-9	Acenaphthene	0.015	0.046	48	L
208-96-8	Acenaphthylene	0.015	0.046		U
120-12-7	Anthracene	0.015	0.046		U
56-55-3	Benzo(a)anthracene	0.015	0.046		U
205-99-2	Benzo(b)fluoranthene	0.015	0.046		U
207-08-9	Benzo(k)fluoranthene	0.015	0.046		U
191-24-2	Benzo(g,h,i)perylene	0.015	0.046		U
50-32-8	Benzo(a)pyrene	0.015	0.046		U
218-01-9	Chrysene	0.015	0.046		U
53-70-3	Dibenz(a,h)anthracene	0.015	0.046		U
206-44-0	Fluoranthene	0.015	0.046		U
86-73-7	Fluorene	0.015	0.046	39	L
193-39-5	Indeno(1,2,3-cd)pyrene	0.017	0.046		U
91-57-6	2-Methylnaphthalene	0.018	0.046	4.5	
90-12-0	1-Methylnaphthalene	0.017	0.046	27	L
91-20-3	Naphthalene	0.018	0.046		U
85-01-8	Phenanthrene	0.015	0.046	5.5	
129-00-0	Pyrene	0.015	0.046		U

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW02DL

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-05DL

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0721905D

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/24/08 15:20

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/05/08 17:55

Injection Volume: 2.0 (uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		
		MDL	RL	CONC Q
83-32-9-----	Acenaphthene	0.15	0.46	19 D
208-96-8-----	Acenaphthylene	0.15	0.46	UD
120-12-7-----	Anthracene	0.15	0.46	UD
56-55-3-----	Benzo (a) anthracene	0.15	0.46	UD
205-99-2-----	Benzo (b) fluoranthene	0.15	0.46	UD
207-08-9-----	Benzo (k) fluoranthene	0.15	0.46	UD
191-24-2-----	Benzo (g, h, i) perylene	0.15	0.46	UD
50-32-8-----	Benzo (a) pyrene	0.15	0.46	UD
218-01-9-----	Chrysene	0.15	0.46	UD
53-70-3-----	Dibenz (a, h) anthracene	0.15	0.46	UD
206-44-0-----	Fluoranthene	0.15	0.46	0.68 D
86-73-7-----	Fluorene	0.15	0.46	16 D
193-39-5-----	Indeno (1, 2, 3-cd) pyrene	0.17	0.46	UD
91-57-6-----	2-Methylnaphthalene	0.18	0.46	5.0 D
90-12-0-----	1-Methylnaphthalene	0.17	0.46	21 D
91-20-3-----	Naphthalene	0.18	0.46	UD
85-01-8-----	Phenanthrene	0.15	0.46	5.7 D
129-00-0-----	Pyrene	0.15	0.46	UD

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

351-2-MW02

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-06

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0721906

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/25/08 12:00

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/04/08 19:46

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:		UG/L CONC	UG/L Q
		MDL	(ug/L or ug/Kg) RL		
83-32-9	Acenaphthene	0.015	0.046		U
208-96-8	Acenaphthylene	0.015	0.046		U
120-12-7	Anthracene	0.015	0.046	0.028	I
56-55-3	Benzo (a) anthracene	0.015	0.046	0.035	I
205-99-2	Benzo (b) fluoranthene	0.015	0.046		U
207-08-9	Benzo (k) fluoranthene	0.015	0.046		U
191-24-2	Benzo (g, h, i) perylene	0.015	0.046		U
50-32-8	Benzo (a) pyrene	0.015	0.046		U
218-01-9	Chrysene	0.015	0.046	0.033	I
53-70-3	Dibenz (a, h) anthracene	0.015	0.046		U
206-44-0	Fluoranthene	0.015	0.046		U
86-73-7	Fluorene	0.015	0.046		U
193-39-5	Indeno (1, 2, 3-cd) pyrene	0.017	0.046		U
91-57-6	2-Methylnaphthalene	0.018	0.046	0.046	
90-12-0	1-Methylnaphthalene	0.017	0.046	0.068	
91-20-3	Naphthalene	0.018	0.046		U
85-01-8	Phenanthrene	0.015	0.046	0.053	
129-00-0	Pyrene	0.015	0.046	0.041	I

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

351-2-MW04

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-07

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0721907

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/25/08 12:33

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/04/08 20:24

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:			UG/L CONC	UG/L Q
		MDL	(ug/L or RL)	ug/Kg		
83-32-9-----	Acenaphthene	0.015	0.046		U	
208-96-8-----	Acenaphthylene	0.015	0.046		U	
120-12-7-----	Anthracene	0.015	0.046	0.032	I	
56-55-3-----	Benzo (a) anthracene	0.015	0.046		U	
205-99-2-----	Benzo (b) fluoranthene	0.015	0.046		U	
207-08-9-----	Benzo (k) fluoranthene	0.015	0.046		U	
191-24-2-----	Benzo (g, h, i) perylene	0.015	0.046		U	
50-32-8-----	Benzo (a) pyrene	0.015	0.046	0.023	I	
218-01-9-----	Chrysene	0.015	0.046		U	
53-70-3-----	Dibenz (a, h) anthracene	0.015	0.046		U	
206-44-0-----	Fluoranthene	0.015	0.046		U	
86-73-7-----	Fluorene	0.015	0.046		U	
193-39-5-----	Indeno (1, 2, 3-cd) pyrene	0.017	0.046		U	
91-57-6-----	2-Methylnaphthalene	0.018	0.046		U	
90-12-0-----	1-Methylnaphthalene	0.017	0.046		U	
91-20-3-----	Naphthalene	0.018	0.046		U	
85-01-8-----	Phenanthrene	0.015	0.046	0.061	U	
129-00-0-----	Pyrene	0.015	0.046		U	

FORM I SV

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

351-2-MW01

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-08

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0721908

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/25/08 13:10

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/04/08 21:02

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L  
MDL RL CONC Q

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	0.015	0.046	0.041	I
208-96-8	Acenaphthylene	0.015	0.046		U
120-12-7	Anthracene	0.015	0.046		U
56-55-3	Benzo(a) anthracene	0.015	0.046		U
205-99-2	Benzo(b) fluoranthene	0.015	0.046		U
207-08-9	Benzo(k) fluoranthene	0.015	0.046		U
191-24-2	Benzo(g,h,i) perylene	0.015	0.046		U
50-32-8	Benzo(a) pyrene	0.015	0.046		U
218-01-9	Chrysene	0.015	0.046		U
53-70-3	Dibenz(a,h) anthracene	0.015	0.046		U
206-44-0	Fluoranthene	0.015	0.046		U
86-73-7	Fluorene	0.015	0.046		U
193-39-5	Indeno(1,2,3-cd) pyrene	0.017	0.046		U
91-57-6	2-Methylnaphthalene	0.018	0.046		U
90-12-0	1-Methylnaphthalene	0.017	0.046		U
91-20-3	Naphthalene	0.018	0.046		U
85-01-8	Phenanthrene	0.015	0.046		U
129-00-0	Pyrene	0.015	0.046		U

FORM 2  
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	SBLK0730BW1	108	102	97						0
02	SBLK0730BW1L	116*	102	97						1
03	SBLK0730BW1L	110	100	89						0
04	A+D-RW01	84	77	75						0
05	A+D-RW04	94	96	97						0
06	A+D-1406-16	94	110	82						0
07	A+D-RW03	78	148*	105						1
08	A+D-RW02	86	188*	106						1
09	351-2-MW02	90	85	93						0
10	351-2-MW04	89	78	86						0
11	351-2-MW01	82	69	69						0
12	A+D-RW03DL	164D	101D	75D						0
13	A+D-RW02DL	149D	74D	83D						0
14										
15										
16										
17										
18										
19										
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21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

	EL	SPIKE
	QC LIMITS	CONC (ug/L)
S1 (NBZ) = Nitrobenzene-d5	(30-110)	1.0
S2 (FBP) = 2-Fluorobiphenyl	(35-110)	1.0
S3 (TPH) = Terphenyl-d14	(55-125)	1.0

# Column to be used to flag recovery values  
 \* Values outside of contract required QC limits  
 D Surrogate results reported from a diluted analysis

FORM 3  
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Matrix Spike - Client Sample No.: SBLK0730BW1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acenaphthene	1.000	0.0000	1.093	109	35-120
Acenaphthylene	1.000	0.0000	0.9587	96	40-115
Anthracene	1.000	0.0000	0.9256	92	45-120
Benzo (a) anthracene	1.000	0.0000	0.9806	98	45-120
Benzo (b) fluoranthene	1.000	0.0000	0.9196	92	35-130
Benzo (k) fluoranthene	1.000	0.0000	0.8339	83	30-135
Benzo (g, h, i) perylene	1.000	0.0000	0.9553	96	25-135
Benzo (a) pyrene	1.000	0.0000	0.7446	74	45-120
Chrysene	1.000	0.0000	0.9644	96	45-120
Dibenz (a, h) anthracene	1.000	0.0000	0.8940	89	30-140
Fluoranthene	1.000	0.0000	1.240	124	45-125
Fluorene	1.000	0.0000	1.078	108	40-120
Indeno (1, 2, 3-cd) pyrene	1.000	0.0000	0.9059	90	30-140
2-Methylnaphthalene	1.000	0.0000	1.205	120*	35-115
1-Methylnaphthalene	1.000	0.0000	1.156	116*	35-115
Naphthalene	1.000	0.0000	1.042	104	30-115
Phenanthrene	1.000	0.0000	1.024	102	40-130
Pyrene	1.000	0.0000	0.9825	98	35-140

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

COMMENTS: \_\_\_\_\_

FORM 3  
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA                      Case No.: NA                      SAS No.: NA                      SDG No.: MAYPORT\_002

Matrix Spike - Client Sample No.: SBLK0730BW1

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Acenaphthene	1.000	1.093	109	0	40	35-120
Acenaphthylene	1.000	0.9640	96	0	40	40-115
Anthracene	1.000	0.8863	89	4	40	45-120
Benzo (a) anthracene	1.000	0.9287	93	5	40	45-120
Benzo (b) fluoranthene	1.000	0.8164	82	12	40	35-130
Benzo (k) fluoranthene	1.000	0.8351	84	0	40	30-135
Benzo (g, h, i) perylene	1.000	0.9494	95	1	40	25-135
Benzo (a) pyrene	1.000	0.7442	74	0	40	45-120
Chrysene	1.000	0.9220	92	4	40	45-120
Dibenz (a, h) anthracene	1.000	0.9135	91	2	40	30-140
Fluoranthene	1.000	1.147	115	8	40	45-125
Fluorene	1.000	1.089	109	1	40	40-120
Indeno (1, 2, 3-cd) pyrene	1.000	0.9067	91	0	40	30-140
2-Methylnaphthalene	1.000	1.189	119*	1	40	35-115
1-Methylnaphthalene	1.000	1.083	108	6	40	35-115
Naphthalene	1.000	1.048	105	0	40	30-115
Phenanthrene	1.000	1.010	101	1	40	40-130
Pyrene	1.000	0.9232	92	6	40	35-140

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: 0 out of 18 outside limits

Spike Recovery: 3 out of 36 outside limits

COMMENTS: \_\_\_\_\_



FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLK0730BW1

Lab Name: EMPIRICAL LABS Contract: TETRATECH-MAYPORT

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: SBLK0730BW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1BW0730

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: \_\_\_\_\_

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/04/08 12:05

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS:			UG/L Q
		MDL	(ug/L or ug/Kg) RL	CONC	
83-32-9	Acenaphthene	0.016	0.050		U
208-96-8	Acenaphthylene	0.016	0.050		U
120-12-7	Anthracene	0.016	0.050		U
56-55-3	Benzo (a) anthracene	0.016	0.050		U
205-99-2	Benzo (b) fluoranthene	0.016	0.050		U
207-08-9	Benzo (k) fluoranthene	0.016	0.050		U
191-24-2	Benzo (g, h, i) perylene	0.016	0.050		U
50-32-8	Benzo (a) pyrene	0.016	0.050		U
218-01-9	Chrysene	0.016	0.050		U
53-70-3	Dibenz (a, h) anthracene	0.016	0.050		U
206-44-0	Fluoranthene	0.016	0.050		U
86-73-7	Fluorene	0.016	0.050		U
193-39-5	Indeno (1, 2, 3-cd) pyrene	0.018	0.050		U
91-57-6	2-Methylnaphthalene	0.019	0.050		U
90-12-0	1-Methylnaphthalene	0.018	0.050		U
91-20-3	Naphthalene	0.020	0.050		U
85-01-8	Phenanthrene	0.016	0.050		U
129-00-0	Pyrene	0.016	0.050		U

FORM 5  
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMPIRICAL LABS      Contract:

Lab Code:                      Case No.:                      SAS No.: NA                      SDG No.: SDGA92299

Lab File ID: DF0114B2                      DFTPP Injection Date: 01/14/08

Instrument ID: BNA3                      DFTPP Injection Time: 1734

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.1
68	Less than 2.0% of mass 69	0.0 ( 0.0)1
69	Mass 69 relative abundance	47.3
70	Less than 2.0% of mass 69	0.2 ( 0.5)1
127	40.0 - 60.0% of mass 198	55.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	26.6
365	Greater than 1.0% of mass 198	3.08
441	Present, but less than mass 443	9.6
442	Greater than 40.0% of mass 198	55.7
443	17.0 - 23.0% of mass 442	11.2 ( 20.1)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	LPAHCAL30PPM	LPAHCAL30PPM	LPAHCAL8	01/14/08	1754
02	LPAHCAL20PPM	LPAHCAL20PPM	LPAHCAL7	01/14/08	1834
03	LPAHCAL10PPM	LPAHCAL10PPM	LPAHCAL6	01/14/08	1914
04	LPAHCAL5PPM	LPAHCAL5PPM	LPAHCAL5	01/14/08	1953
05	LPAHCAL1PPM	LPAHCAL1PPM	LPAHCAL4	01/14/08	2033
06	LPAHCAL0.4PP	LPAHCAL0.4PPM	LPAHCAL3	01/14/08	2113
07	LPAHCAL0.2PP	LPAHCAL0.2PPM	LPAHCAL2	01/14/08	2152
08	LPAHCAL0.1PP	LPAHCAL0.1PPM	LPAHCAL1	01/14/08	2232
09	LPAHICV5PPM	LPAHICV5PPM	LPAHICV	01/14/08	2311
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 5  
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Lab File ID: DF0804B1      DFTPP Injection Date: 08/04/08

Instrument ID: BNA3      DFTPP Injection Time: 0911

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.5
68	Less than 2.0% of mass 69	0.0 ( 0.0)1
69	Mass 69 relative abundance	48.3
70	Less than 2.0% of mass 69	0.3 ( 0.7)1
127	40.0 - 60.0% of mass 198	49.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	26.3
365	Greater than 1.0% of mass 198	2.99
441	Present, but less than mass 443	9.3
442	Greater than 40.0% of mass 198	58.3
443	17.0 - 23.0% of mass 442	10.4 ( 17.9)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	LOWPAH5PPM	LOWPAH5PPM	LPAHCCV	08/04/08	0931
02	SBLK0730BW1	SBLK0730BW1	S1BW0730	08/04/08	1205
03	SBLK0730BW1L	SBLK0730BW1LCS	S1LW0730	08/04/08	1243
04	SBLK0730BW1L	SBLK0730BW1LCS	S1DW0730	08/04/08	1322
05	A+D-RW01	0807219-01	0721901	08/04/08	1634
06	A+D-RW04	0807219-02	0721902	08/04/08	1712
07	A+D-1406-16	0807219-03	0721903	08/04/08	1750
08	A+D-RW03	0807219-04	0721904	08/04/08	1829
09	A+D-RW02	0807219-05	0721905	08/04/08	1907
10	351-2-MW02	0807219-06	0721906	08/04/08	1946
11	351-2-MW04	0807219-07	0721907	08/04/08	2024
12	351-2-MW01	0807219-08	0721908	08/04/08	2102
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 5  
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Lab File ID: DF0805B1      DFTPP Injection Date: 08/05/08

Instrument ID: BNA3      DFTPP Injection Time: 0910

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.3
68	Less than 2.0% of mass 69	0.0 ( 0.0)1
69	Mass 69 relative abundance	49.2
70	Less than 2.0% of mass 69	0.3 ( 0.7)1
127	40.0 - 60.0% of mass 198	49.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.3
275	10.0 - 30.0% of mass 198	25.9
365	Greater than 1.0% of mass 198	3.14
441	Present, but less than mass 443	8.1
442	Greater than 40.0% of mass 198	46.1
443	17.0 - 23.0% of mass 442	8.9 ( 19.3)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	LOWPAH5PPM	LOWPAH5PPM	LPAHCCV	08/05/08	0929
02	A+D-RW03DL	0807219-04DL	0721904D	08/05/08	1716
03	A+D-RW02DL	0807219-05DL	0721905D	08/05/08	1755
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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16					
17					
18					
19					
20					
21					
22					

FORM 8  
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Lab File ID (Standard): LPAHCCV      Date Analyzed: 08/04/08

Instrument ID: BNA3      Time Analyzed: 0931

	IS1 (DCB)		IS2 (NPT)		IS3 (ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	36403	2.71	135231	5.74	74939	9.85
UPPER LIMIT	72806	3.21	270462	6.24	149878	10.35
LOWER LIMIT	18202	2.21	67616	5.24	37470	9.35
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 SBLK0730BW1	36615	2.71	126406	5.75	68962	9.86
02 SBLK0730BW1L	38523	2.71	143980	5.74	84682	9.86
03 SBLK0730BW1L	41728	2.71	153597	5.75	87622	9.86
04 A+D-RW01	33777	2.71	125553	5.75	74820	9.86
05 A+D-RW04	40093	2.70	148025	5.75	77389	9.88
06 A+D-1406-16	38819	2.71	137949	5.74	75018	9.87
07 A+D-RW03	37025	2.72	137750	5.78	55045	9.92
08 A+D-RW02	48842	2.72	173291	5.77	52456	9.92
09 351-2-MW02	49596	2.72	171932	5.76	105154	9.87
10 351-2-MW04	41926	2.71	142429	5.75	86862	9.87
11 351-2-MW01	40038	2.71	144185	5.75	97718	9.86
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4  
 IS2 (NPT) = Naphthalene-d8  
 IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area  
 AREA LOWER LIMIT = - 50% of internal standard area  
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT  
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT

# Column used to flag internal standard area values with an asterisk.  
 \* Values outside of QC limits.

FORM 8  
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA                      Case No.: NA                      SAS No.: NA                      SDG No.: MAYPORT\_002

Lab File ID (Standard): LPAHCCV                      Date Analyzed: 08/04/08

Instrument ID: BNA3                      Time Analyzed: 0931

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	131234	13.20	143494	19.29	114316	22.34
UPPER LIMIT	262468	13.70	286988	19.79	228632	22.84
LOWER LIMIT	65617	12.70	71747	18.79	57158	21.84
CLIENT SAMPLE NO.						
01 SBLK0730BW1	116851	13.20	125875	19.30	100495	22.34
02 SBLK0730BWL	151146	13.20	167866	19.31	149525	22.33
03 SBLK0730BWL	158523	13.20	176445	19.30	155750	22.34
04 A+D-RW01	123763	13.20	132567	19.32	122260	22.34
05 A+D-RW04	295596*	13.26	215112	19.46	193633	22.46
06 A+D-1406-16	217490	13.22	241492	19.36	155196	22.39
07 A+D-RW03	231980	13.36	119010	19.54	164150	22.53
08 A+D-RW02	250550	13.34	206989	19.58	187356	22.62
09 351-2-MW02	180429	13.22	203042	19.32	179479	22.36
10 351-2-MW04	149283	13.21	159714	19.32	146601	22.36
11 351-2-MW01	131596	13.22	158433	19.33	157126	22.37
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS4 (PHN) = Phenanthrene-d10  
IS5 (CRY) = Chrysene-d12  
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area  
AREA LOWER LIMIT = - 50% of internal standard area  
RT UPPER LIMIT = + 0.50 minutes of internal standard RT  
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

# Column used to flag internal standard area values with an asterisk.  
\* Values outside of QC limits.

FORM 8  
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Lab File ID (Standard): LPAHCCV      Date Analyzed: 08/05/08

Instrument ID: BNA3      Time Analyzed: 0929

	IS1 (DCB)		IS2 (NPT)		IS3 (ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	47290	2.68	178666	5.72	98764	9.82
UPPER LIMIT	94580	3.18	357332	6.22	197528	10.32
LOWER LIMIT	23645	2.18	89333	5.22	49382	9.32
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 A+D-RW03DL	42301	2.67	159822	5.72	84875	9.83
02 A+D-RW02DL	45040	2.67	171675	5.71	104685	9.83
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4  
 IS2 (NPT) = Naphthalene-d8  
 IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area  
 AREA LOWER LIMIT = - 50% of internal standard area  
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT  
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT

# Column used to flag internal standard area values with an asterisk.  
 \* Values outside of QC limits.

FORM 8  
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA      Case No.: NA      SAS No.: NA      SDG No.: MAYPORT\_002

Lab File ID (Standard): LPAHCCV      Date Analyzed: 08/05/08

Instrument ID: BNA3      Time Analyzed: 0929

	IS4 (PHN)		IS5 (CRY)		IS6 (PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	166120	13.15	170989	19.26	128263	22.30
UPPER LIMIT	332240	13.65	341978	19.76	256526	22.80
LOWER LIMIT	83060	12.65	85495	18.76	64132	21.80
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 A+D-RW03DL	177836	13.18	236782	19.30	191532	22.32
02 A+D-RW02DL	184606	13.17	232692	19.30	177968	22.33
03						
04						
05						
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09						
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12						
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14						
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17						
18						
19						
20						
21						
22						

IS4 (PHN) = Phenanthrene-d10  
 IS5 (CRY) = Chrysene-d12  
 IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area  
 AREA LOWER LIMIT = - 50% of internal standard area  
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT  
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT

# Column used to flag internal standard area values with an asterisk.  
 \* Values outside of QC limits.

FORM 6  
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code:                      Case No.:                      SAS No.: NA                      SDG No.: SDGA70651

Instrument ID: BNA3                      Calibration Date(s): 01/14/08      01/14/08

Column: FUSED SILICA ID: 0.25 (mm)      Calibration Time(s): 1754                      2232

LAB FILE ID:                      RF0.1: LPAHCAL1      RF0.2: LPAHCAL2      RF0.4: LPAHCAL3  
RF1: LPAHCAL4                      RF5: LPAHCAL5

COMPOUND	RF0.1	RF0.2	RF0.4	RF1	RF5
Acenaphthene	1.038	1.001	0.977	1.052	1.058
Acenaphthylene	0.936	1.010	1.049	1.338	1.582
Anthracene	0.581	0.641	0.684	0.938	1.051
Benzo (a) anthracene	0.455	0.466	0.525	0.704	0.915
Benzo (b) fluoranthene	0.706	0.790	0.792	0.965	1.151
Benzo (k) fluoranthene	1.043	0.912	1.043	1.395	1.532
Benzo (g, h, i) perylene	0.616	0.629	0.685	0.862	1.047
Benzo (a) pyrene	0.568	0.490	0.509	0.764	1.099
Chrysene	1.082	1.122	1.078	1.177	1.080
Dibenz (a, h) anthracene	0.376	0.377	0.446	0.601	0.886
Fluoranthene	0.563	0.642	0.700	0.903	1.073
Fluorene	0.708	0.756	0.846	1.003	1.137
Indeno (1, 2, 3-cd) pyrene	0.338	0.318	0.513	0.450	0.755
2-Methylnaphthalene	0.380	0.371	0.400	0.447	0.493
1-Methylnaphthalene	0.469	0.445	0.451	0.498	0.509
Naphthalene	0.918	0.853	0.860	0.888	0.874
Phenanthrene	1.108	1.066	1.049	1.132	1.122
Pyrene	1.117	1.015	1.073	1.215	1.223
Nitrobenzene-d5	0.140	0.153	0.170	0.208	0.262
2-Fluorobiphenyl	1.245	1.225	1.203	1.308	1.277
Terphenyl-d14	0.832	0.730	0.766	0.862	0.866

FORM 6  
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code:                      Case No.:                      SAS No.: NA                      SDG No.: SDGA70651

Instrument ID: BNA3                      Calibration Date(s): 01/14/08      01/14/08

Column: FUSED SILICA ID: 0.25 (mm)      Calibration Time(s): 1754                      2232

LAB FILE ID:                      RF10: LPAHCAL6                      RF20: LPAHCAL7                      RF30: LPAHCAL8

COMPOUND	RF10	RF20	RF30
Acenaphthene	1.067	1.049	0.993
Acenaphthylene	1.618	1.659	1.557
Anthracene	1.070	1.051	1.008
Benzo (a) anthracene	0.977	1.049	1.051
Benzo (b) fluoranthene	1.287	1.379	1.325
Benzo (k) fluoranthene	1.530	1.408	1.409
Benzo (g,h,i) perylene	1.020	0.903	0.964
Benzo (a) pyrene	1.171	1.201	1.197
Chrysene	1.068	1.062	1.041
Dibenz (a,h) anthracene	0.888	0.888	0.904
Fluoranthene	1.093	1.076	1.037
Fluorene	1.138	1.161	1.102
Indeno (1,2,3-cd) pyrene	0.797	0.816	0.890
2-Methylnaphthalene	0.484	0.478	0.468
1-Methylnaphthalene	0.500	0.489	0.480
Naphthalene	0.858	0.838	0.807
Phenanthrene	1.122	1.059	1.028
Pyrene	1.315	1.238	1.226
Nitrobenzene-d5	0.263	0.277	0.277
2-Fluorobiphenyl	1.261	1.254	1.166
Terphenyl-d14	0.913	0.894	0.898

FORM 6  
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code:                      Case No.:                      SAS No.: NA                      SDG No.: SDGA70651

Instrument ID: BNA3                      Calibration Date(s): 01/14/08      01/14/08

Column: FUSED SILICA ID: 0.25 (mm)      Calibration Time(s): 1754                      2232

COMPOUND	CURVE	COEFFICIENTS		%RSD OR R^2
		A0	A1	
Acenaphthene	AVRG		1.02950848	3.3
Acenaphthylene	LINR	0.00000000	1.59123098	0.998
Anthracene	LINR	0.00000000	1.02541699	0.999
Benzo (a) anthracene	LINR	0.00000000	1.04339882	0.999
Benzo (b) fluoranthene	LINR	0.00000000	1.33538156	0.999
Benzo (k) fluoranthene	LINR	0.00000000	1.42019837	0.999
Benzo (g, h, i) perylene	LINR	0.00000000	0.95332202	0.998
Benzo (a) pyrene	LINR	0.00000000	1.19454344	1.000
Chrysene	AVRG		1.08898009	3.9
Dibenz (a, h) anthracene	LINR	0.00000000	0.89793055	1.000
Fluoranthene	LINR	0.00000000	1.05271841	0.999
Fluorene	LINR	0.00000000	1.12226395	0.999
Indeno (1, 2, 3-cd) pyrene	LINR	0.00000000	0.86214757	0.996
2-Methylnaphthalene	AVRG		0.44026924	11.2
1-Methylnaphthalene	AVRG		0.48037708	4.9
Naphthalene	AVRG		0.86201971	3.8
Phenanthrene	AVRG		1.08579490	3.6
Pyrene	AVRG		1.17792752	8.4
Nitrobenzene-d5	LINR	0.20450048	0.27826515	1.000
2-Fluorobiphenyl	AVRG		1.24226628	3.5
Terphenyl-d14	AVRG		0.84499758	7.8

SEMIVOLATILE INITIAL CALIBRATION VERIFICATION

Lab Name: EMPIRICAL LABS Contract:  
 Lab Code: Case No.: SAS No.: NA SDG No.: SDGA70651  
 Instrument ID: BNA3 Calibration Date: 01/14/08 Time: 2311  
 Lab File ID: LPAHICV Init. Calib. Date(s): 01/14/08 01/14/08  
 Init. Calib. Times: 1754 2232

COMPOUND	RRF	RRF5	CURVE AMOUNT	CCAL AMOUNT	MIN RRF	CURVE	%D	MAX %D
Acenaphthene	1.029	1.102	5.000	5.351		AVRG	7.0	25.0
Acenaphthylene	1.344	1.589	5.000	4.994		LINR	-0.1	25.0
Anthracene	0.878	1.071	5.000	5.224		LINR	4.5	25.0
Benzo (a) anthracene	0.768	1.037	5.000	4.970		LINR	-0.6	25.0
Benzo (b) fluoranthene	1.049	1.381	5.000	5.171		LINR	3.4	25.0
Benzo (k) fluoranthene	1.284	1.652	5.000	5.816		LINR	16.3	25.0
Benzo (g, h, i) perylene	0.841	0.945	5.000	4.956		LINR	-0.9	25.0
Benzo (a) pyrene	0.875	1.145	5.000	4.793		LINR	-4.1	25.0
Chrysene	1.089	1.135	5.000	5.212		AVRG	4.2	25.0
Dibenz (a, h) anthracene	0.671	0.799	5.000	4.449		LINR	-11.0	25.0
Fluoranthene	0.886	1.115	5.000	5.296		LINR	5.9	25.0
Fluorene	0.981	1.196	5.000	5.329		LINR	6.6	25.0
Indeno (1, 2, 3-cd) pyrene	0.610	0.670	5.000	3.887		LINR	-22.3	25.0
2-Methylnaphthalene	0.440	0.523	5.000	5.938		AVRG	18.8	25.0
1-Methylnaphthalene	0.480	0.496	5.000	5.168		AVRG	3.4	25.0
Naphthalene	0.862	0.915	5.000	5.308		AVRG	6.2	25.0
Phenanthrene	1.086	1.106	5.000	5.093		AVRG	1.8	25.0
Pyrene	1.178	1.395	5.000	5.920		AVRG	18.4	25.0
Nitrobenzene-d5	0.219	0.262	5.000	0.0000		LINR	-99.9	25.0
2-Fluorobiphenyl	1.242	1.277	5.000	0.0000		AVRG	2.8	25.0
Terphenyl-d14	0.845	0.866	5.000	0.0000		AVRG	2.5	25.0

FORM 7  
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA                      Case No.: NA                      SAS No.: NA                      SDG No.: MAYPORT\_002

Instrument ID: BNA3                      Calibration Date: 08/05/08      Time: 0929

Lab File ID: LPAHCCV                      Init. Calib. Date(s): 01/14/08      01/14/08

Init. Calib. Times:      1754                      2232

COMPOUND	RRF	RRF5	CURVE AMOUNT	CCAL AMOUNT	MIN RRF	CURVE	%D	MAX %D
Acenaphthene	1.029	1.064	5.000	5.170		AVRG	3.4	20.0
Acenaphthylene	1.344	1.590	5.000	4.996		LINR	-0.1	20.0
Anthracene	0.878	0.972	5.000	4.739		LINR	-5.2	20.0
Benzo (a) anthracene	0.768	0.945	5.000	4.531		LINR	-9.4	20.0
Benzo (b) fluoranthene	1.049	1.174	5.000	4.398		LINR	-12.0	20.0
Benzo (k) fluoranthene	1.284	1.439	5.000	5.066		LINR	1.3	20.0
Benzo (g, h, i) perylene	0.841	1.051	5.000	5.511		LINR	10.2	20.0
Benzo (a) pyrene	0.875	1.037	5.000	4.340		LINR	-13.2	20.0
Chrysene	1.089	1.029	5.000	4.726		AVRG	-5.5	20.0
Dibenz (a, h) anthracene	0.671	0.928	5.000	5.168		LINR	3.4	20.0
Fluoranthene	0.886	1.094	5.000	5.194		LINR	3.9	20.0
Fluorene	0.981	1.104	5.000	4.920		LINR	-1.6	20.0
Indeno (1, 2, 3-cd) pyrene	0.610	0.861	5.000	4.996		LINR	-0.1	20.0
2-Methylnaphthalene	0.440	0.502	5.000	5.701		AVRG	14.0	20.0
1-Methylnaphthalene	0.480	0.536	5.000	5.585		AVRG	11.7	20.0
Naphthalene	0.862	0.858	5.000	4.974		AVRG	-0.5	20.0
Phenanthrene	1.086	1.026	5.000	4.725		AVRG	-5.5	20.0
Pyrene	1.178	1.147	5.000	4.867		AVRG	-2.6	20.0
Nitrobenzene-d5	0.219	0.253	5.000	4.750		LINR	-5.0	
2-Fluorobiphenyl	1.242	1.336	5.000	5.378		AVRG	7.6	
Terphenyl-d14	0.845	0.812	5.000	4.803		AVRG	-3.9	

FORM 7  
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMPIRICAL LABS      Contract: TETRATECH-MAYPORT

Lab Code: NA                      Case No.: NA                      SAS No.: NA                      SDG No.: MAYPORT\_002

Instrument ID: BNA3                      Calibration Date: 08/04/08      Time: 0931

Lab File ID: LPAHCCV                      Init. Calib. Date(s): 01/14/08      01/14/08

Init. Calib. Times:      1754                      2232

COMPOUND	RRF	RRF5	CURVE AMOUNT	CCAL AMOUNT	MIN RRF	CURVE	%D	MAX %D
Acenaphthene	1.029	1.087	5.000	5.278		AVRG	5.6	20.0
Acenaphthylene	1.344	1.670	5.000	5.249		LINR	5.0	20.0
Anthracene	0.878	0.972	5.000	4.739		LINR	-5.2	20.0
Benzo (a) anthracene	0.768	0.946	5.000	4.535		LINR	-9.3	20.0
Benzo (b) fluoranthene	1.049	1.168	5.000	4.375		LINR	-12.5	20.0
Benzo (k) fluoranthene	1.284	1.341	5.000	4.721		LINR	-5.6	20.0
Benzo (g, h, i) perylene	0.841	1.021	5.000	5.353		LINR	7.1	20.0
Benzo (a) pyrene	0.875	1.029	5.000	4.306		LINR	-13.9	20.0
Chrysene	1.089	1.044	5.000	4.795		AVRG	-4.1	20.0
Dibenz (a, h) anthracene	0.671	0.915	5.000	5.094		LINR	1.9	20.0
Fluoranthene	0.886	1.134	5.000	5.387		LINR	7.7	20.0
Fluorene	0.981	1.157	5.000	5.154		LINR	3.1	20.0
Indeno (1, 2, 3-cd) pyrene	0.610	0.816	5.000	4.733		LINR	-5.3	20.0
2-Methylnaphthalene	0.440	0.512	5.000	5.821		AVRG	16.4	20.0
1-Methylnaphthalene	0.480	0.549	5.000	5.710		AVRG	14.2	20.0
Naphthalene	0.862	0.892	5.000	5.174		AVRG	3.5	20.0
Phenanthrene	1.086	1.019	5.000	4.691		AVRG	-6.2	20.0
Pyrene	1.178	1.117	5.000	4.740		AVRG	-5.2	20.0
Nitrobenzene-d5	0.219	0.304	5.000	5.676		LINR	13.5	
2-Fluorobiphenyl	1.242	1.337	5.000	5.382		AVRG	7.6	
Terphenyl-d14	0.845	0.783	5.000	4.631		AVRG	-7.4	

Sequence Name: C:\HPCHEM\1\SEQUENCE\011408B3.S  
 Comment: SW846-8270C/625  
 Operator: ADM  
 Data Path: F:\HPCHEM\1\DATA\011408b3\  
 Pre-Seq Cmd:  
 Post-Seq Cmd:

346 M111418

Method Sections To Run On A Barcode Mismatch  
 (X) Full Method (X) Inject Anyway  
 ( ) Reprocessing Only ( ) Don't Inject

Line Type	Vial	DataFile	Method	Sample Name
1	Blank	100	BLANK	DFTPPBN3
2	DailyCal	2	PRIMER	IXBN3 BNACCV50PPM;;;;;SV4270
3	DFTPP	1	DF0114B1	DFTPPBN3 DF0114B1;;;;;SV4242 8:09, 1/14
4	DailyCal	2	CCV050	IXBN3 BNACCV50PPM;;;;;SV4270
5	Sample	3	MDLCKW1	IXBN3 mdlchk-1ppm;1;1000;1000;1;UG/
6	Sample	4	MDLCKW2	IXBN3 mdlchk-2ppm;1;1000;1000;1;UG/
7	Sample	5	MDLCKW10	IXBN3 mdlchk-10ppm;1;1000;1000;1;UG
8	Sample	6	MDLCKS10	IXBN3 mdlchk-10ppm;1;15;1000;1;UG/K
9	Sample	7	MDLCKS2	IXBN3 mdlchk-2ppm;1;15;1000;1;UG/KG
10	Sample	8	MDLCKS1	IXBN3 mdlchk-1ppm;1;15;1000;1;UG/KG
11	Sample	9	0101902D	IXBN3 0801019-02;5;1060;1000;1;UG/L
12	Sample	10	0104005	IXBN3 0801040-05;1;1080;1000;1;UG/L
13	Sample	11	0104006	IXBN3 0801040-06;1;1080;1000;1;UG/L
14	Sample	12	0104007	IXBN3 0801040-07;1;1080;1000;1;UG/L
15	Sample	13	0104008	IXBN3 0801040-08;1;1070;1000;1;UG/L
16	Sample	14	0103208	IXBN3 0801032-08;1;1000;1000;1;UG/L
17	Sample	35	0103208D	IXBN3 0801032-08;5;1000;1000;1;UG/L
18	Sample	15	0103209	IXBN3 0801032-09;1;1020;1000;1;UG/L 15:42, 1/14
19	Blank	100	BLANK	DFTPPLOW
20	Blank	100	BLANK	DFTPPLOW
21	Blank	100	BLANK	DFTPPLOW
22	DailyCal	99	PRIMER1	PAHLOW LPAHCCV5PPM;;;;;SV4282
23	Sample	16	DF0114B2	DFTPPLOW DF0114B2;;;;;SV4283 17:36, 1/14
24	Sample	17	LPAHCAL8	PAHLOW LPAHCAL30PPM;;;;;SV4285-8
25	Sample	18	LPAHCAL7	PAHLOW LPAHCAL20PPM;;;;;SV4285-7
26	Sample	19	LPAHCAL6	PAHLOW LPAHCAL10PPM;;;;;SV4285-6
27	Sample	20	LPAHCAL5	PAHLOW LPAHCAL5PPM;;;;;SV4285-5
28	Sample	21	LPAHCAL4	PAHLOW LPAHCAL1PPM;;;;;SV4285-4
29	Sample	22	LPAHCAL3	PAHLOW LPAHCAL0.4PPM;;;;;SV4285-3
30	Sample	23	LPAHCAL2	PAHLOW LPAHCAL0.2PPM;;;;;SV4285-2
31	Sample	24	LPAHCAL1	PAHLOW LPAHCAL0.1PPM;;;;;SV4285-1
32	Sample	25	LPAHICV	PAHLOW LPAHICV5PPM;;;;;SV4286
33	DailyCal	99	LPAHCCV1	PAHLOW LPAHCCV5PPM;;;;;SV4282
34	Spike	26	MDLLPHS1	PAHLOW mdlchkslpah;1;15;500;1;UG/KG;
35	Spike	27	MDLLPHW1	PAHLOW mdlchkwlpah;1;1000;500;1;UG/L
36	Spike	28	S1LW1220	PAHLOW SBLK1220BW1LCS;1;1000;500;1;U
37	Blank	29	S1BW1220	PAHLOW SBLK1220BW1;1;1000;500;1;UG/L
38	Spike	30	S1LW1226	PAHLOW SBLK1226BW1LCS;1;1000;500;1;U
39	Spike	31	S1DW1226	PAHLOW SBLK1226BW1LCS;1;1000;500;1;U
40	Blank	32	S1BW1226	PAHLOW SBLK1226BW1;1;1000;500;1;UG/L 4:27, 1/15

MDLCKS  
#20/soil

LL PATH'S

Sequence Name: C:\HPCHEM\1\SEQUENCE\011408B3.S  
 Comment: SW846-8270C/625  
 Operator: ADM  
 Data Path: F:\HPCHEM\1\DATA\011408b3\  
 Pre-Seq Cmd:  
 Post-Seq Cmd:

3217

Method Sections To Run      On A Barcode Mismatch  
 (X) Full Method              (X) Inject Anyway  
 ( ) Reprocessing Only        ( ) Don't Inject

Line	Sample Name/Misc Info
1	Type: Blank Vial: 100 Meth: DFTPPBN3.M    Barcode: Data: BLANK.D        Samp Amt: 0                    Multiplr: 1 Area% Report        :per Method            Lib. Search Rep :per Method Quant Report        :per Method            Post-Quant Macro:per Method CR Database         :per Method            CR Spreadsheet :per Method
2	Type: DailyCal        BNACCV50PPM;;;;;SV4270 Vial: 2                ;2;;;;;all.sub;4269 Meth: IXBN3.M        Barcode: Data: PRIMER.D       Samp Amt: 0                    Multiplr: 1 Area% Report        :per Method            Lib. Search Rep :per Method Quant Report        :per Method            Post-Quant Macro:per Method CR Database         :per Method            CR Spreadsheet :per Method
3	Type: DFTPP            DF0114B1;;;;;SV4242 Vial: 1                ;3;DFTPP;;;;; Meth: DFTPPBN3.M    Barcode: Data: DF0114B1.D    Samp Amt: 0                    Multiplr: 1 Area% Report        :per Method            Lib. Search Rep :per Method Quant Report        :per Method            Post-Quant Macro:per Method CR Database         :per Method            CR Spreadsheet :per Method
4	Type: DailyCal        BNACCV50PPM;;;;;SV4270 Vial: 2                ;2;;;;;all.sub;4269 Meth: IXBN3.M        Barcode: Data: CCV050.D       Samp Amt: 0                    Multiplr: 1 Area% Report        :per Method            Lib. Search Rep :per Method Quant Report        :per Method            Post-Quant Macro:per Method CR Database         :per Method            CR Spreadsheet :per Method
5	Type: Sample            mdlchk-1ppm;1;1000;1000;1;UG/L;10-JAN-2008 Vial: 3                ;3;;;;011008BW1;ppbna.sub;4276 Meth: IXBN3.M        Barcode: Data: MDLCKW1.D     Samp Amt: 0                    Multiplr: 1 Area% Report        :per Method            Lib. Search Rep :per Method Quant Report        :per Method            Post-Quant Macro:per Method CR Database         :per Method            CR Spreadsheet :per Method
6	Type: Sample            mdlchk-2ppm;1;1000;1000;1;UG/L;10-JAN-2008 Vial: 4                ;3;;;;011008BW1;ppbna.sub;4276 Meth: IXBN3.M        Barcode: Data: MDLCKW2.D     Samp Amt: 0                    Multiplr: 1 Area% Report        :per Method            Lib. Search Rep :per Method Quant Report        :per Method            Post-Quant Macro:per Method CR Database         :per Method            CR Spreadsheet :per Method
7	Type: Sample            mdlchk-10ppm;1;1000;1000;1;UG/L;10-JAN-2008 Vial: 5                ;3;;;;011008BW1;ppbna.sub;4276 Meth: IXBN3.M        Barcode: Data: MDLCKW10.D    Samp Amt: 0                    Multiplr: 1 Area% Report        :per Method            Lib. Search Rep :per Method Quant Report        :per Method            Post-Quant Macro:per Method CR Database         :per Method            CR Spreadsheet :per Method

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8  Type: Sample      mdlchk-10ppm;1;15;1000;1;UG/KG;10-JAN-2008
   Vial: 6           ;3;;;011008BS1;ppbna.sub;4276
   Meth: IXBN3.M     Barcode:
   Data: MDLCKS10.D  Samp Amt: 0           Multiplr: 1
   Area% Report      :per Method      Lib. Search Rep :per Method
   Quant Report      :per Method      Post-Quant Macro:per Method
   CR Database       :per Method      CR Spreadsheet  :per Method
-----
9  Type: Sample      mdlchk-2ppm;1;15;1000;1;UG/KG;10-JAN-2008
   Vial: 7           ;3;;;011008BS1;ppbna.sub;4276
   Meth: IXBN3.M     Barcode:
   Data: MDLCKS2.D   Samp Amt: 0           Multiplr: 1
   Area% Report      :per Method      Lib. Search Rep :per Method
   Quant Report      :per Method      Post-Quant Macro:per Method
   CR Database       :per Method      CR Spreadsheet  :per Method
-----
10 Type: Sample      mdlchk-1ppm;1;15;1000;1;UG/KG;10-JAN-2008
    Vial: 8           ;3;;;011008BS1;ppbna.sub;4276
    Meth: IXBN3.M     Barcode:
    Data: MDLCKS1.D   Samp Amt: 0           Multiplr: 1
    Area% Report      :per Method      Lib. Search Rep :per Method
    Quant Report      :per Method      Post-Quant Macro:per Method
    CR Database       :per Method      CR Spreadsheet  :per Method
-----
11 Type: Sample      0801019-02;5;1060;1000;1;UG/L;09-JAN-2008
    Vial: 9           ch2.b01019;0;;;010908BW1;ppbna.sub;4276
    Meth: IXBN3.M     Barcode:
    Data: 0101902.D   Samp Amt: 0           Multiplr: 5
    Area% Report      :per Method      Lib. Search Rep :per Method
    Quant Report      :per Method      Post-Quant Macro:per Method
    CR Database       :per Method      CR Spreadsheet  :per Method
-----
12 Type: Sample      0801040-05;1;1080;1000;1;UG/L;09-JAN-2008
    Vial: 10          ch2.b01040;0;;;010908BW1;ppbna.sub;4276
    Meth: IXBN3.M     Barcode:
    Data: 0104005.D   Samp Amt: 0           Multiplr: 1
    Area% Report      :per Method      Lib. Search Rep :per Method
    Quant Report      :per Method      Post-Quant Macro:per Method
    CR Database       :per Method      CR Spreadsheet  :per Method
-----
13 Type: Sample      0801040-06;1;1080;1000;1;UG/L;09-JAN-2008
    Vial: 11          ch2.b01040;0;;;010908BW1;ppbna.sub;4276
    Meth: IXBN3.M     Barcode:
    Data: 0104006.D   Samp Amt: 0           Multiplr: 1
    Area% Report      :per Method      Lib. Search Rep :per Method
    Quant Report      :per Method      Post-Quant Macro:per Method
    CR Database       :per Method      CR Spreadsheet  :per Method
-----
14 Type: Sample      0801040-07;1;1080;1000;1;UG/L;09-JAN-2008
    Vial: 12          ch2.b01040;0;;;010908BW1;ppbna.sub;4276
    Meth: IXBN3.M     Barcode:
    Data: 0104007.D   Samp Amt: 0           Multiplr: 1
    Area% Report      :per Method      Lib. Search Rep :per Method
    Quant Report      :per Method      Post-Quant Macro:per Method
    CR Database       :per Method      CR Spreadsheet  :per Method
-----
15 Type: Sample      0801040-08;1;1070;1000;1;UG/L;09-JAN-2008
    Vial: 13          ch2.b01040;0;;;010908BW1;ppbna.sub;4276
    Meth: IXBN3.M     Barcode:
    Data: 0104008.D   Samp Amt: 0           Multiplr: 1
    Area% Report      :per Method      Lib. Search Rep :per Method
    Quant Report      :per Method      Post-Quant Macro:per Method
    CR Database       :per Method      CR Spreadsheet  :per Method
-----
16 Type: Sample      0801032-08;1;1000;1000;1;UG/L;09-JAN-2008
    Vial: 14          ch2.b01032;0;;;010908BW1;ppbna.sub;4276
    Meth: IXBN3.M     Barcode:
    Data: 0103208.D   Samp Amt: 0           Multiplr: 1

```

3218

Area% Report	:per Method	Lib. Search Rep	:per Method
Quant Report	:per Method	Post-Quant Macro	:per Method
CR Database	:per Method	CR Spreadsheet	:per Method

17 Type: Sample 0801032-08;5;1000;1000;1;UG/L;09-JAN-2008  
 Vial: 35 ch2.b01032;0;;;010908BW1;ppbna.sub;4276  
 Meth: IXBN3.M Barcode:  
 Data: 0103208D.D Samp Amt: 0 Multiplr: 5  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

3219

18 Type: Sample 0801032-09;1;1020;1000;1;UG/L;09-JAN-2008  
 Vial: 15 ch2.b01032;0;;;010908BW1;ppbna.sub;4276  
 Meth: IXBN3.M Barcode:  
 Data: 0103209.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

19 Type: Blank  
 Vial: 100  
 Meth: DFTPPLOW.M Barcode:  
 Data: BLANK.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

20 Type: Blank  
 Vial: 100  
 Meth: DFTPPLOW.M Barcode:  
 Data: BLANK.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

21 Type: Blank  
 Vial: 100  
 Meth: DFTPPLOW.M Barcode:  
 Data: BLANK.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

22 Type: DailyCal LPAHCCV5PPM;;;;;SV4282  
 Vial: 99 ;2;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M Barcode:  
 Data: PRIMER1.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

23 Type: Sample DF0114B2;;;;;SV4283  
 Vial: 16 ;;DFTPP;;;;  
 Meth: DFTPPLOW.M Barcode:  
 Data: DF0114B2.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

24 Type: Sample LPAHCAL30PPM;;;;;SV4285-8  
 Vial: 17 ;;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M Barcode:  
 Data: LPAHCAL8.D Samp Amt: 0 Multiplr: 1  
 Area% Report :per Method Lib. Search Rep :per Method  
 Quant Report :per Method Post-Quant Macro:per Method  
 CR Database :per Method CR Spreadsheet :per Method

25 Type: Sample LPAHCAL20PPM;;;;;SV4285-7

3220

Vial: 18                    ;;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M           Barcode:  
 Data: LPAHCAL7.D        Samp Amt: 0                    Multiplr: 1  
 Area% Report            :per Method            Lib. Search Rep :per Method  
 Quant Report            :per Method            Post-Quant Macro:per Method  
 CR Database             :per Method            CR Spreadsheet :per Method

26 Type: Sample            LPAHCAL10PPM;;;;;SV4285-6  
 Vial: 19                   ;;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M           Barcode:  
 Data: LPAHCAL6.D        Samp Amt: 0                    Multiplr: 1  
 Area% Report            :per Method            Lib. Search Rep :per Method  
 Quant Report            :per Method            Post-Quant Macro:per Method  
 CR Database             :per Method            CR Spreadsheet :per Method

27 Type: Sample            LPAHCAL5PPM;;;;;SV4285-5  
 Vial: 20                   ;;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M           Barcode:  
 Data: LPAHCAL5.D        Samp Amt: 0                    Multiplr: 1  
 Area% Report            :per Method            Lib. Search Rep :per Method  
 Quant Report            :per Method            Post-Quant Macro:per Method  
 CR Database             :per Method            CR Spreadsheet :per Method

28 Type: Sample            LPAHCAL1PPM;;;;;SV4285-4  
 Vial: 21                   ;;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M           Barcode:  
 Data: LPAHCAL4.D        Samp Amt: 0                    Multiplr: 1  
 Area% Report            :per Method            Lib. Search Rep :per Method  
 Quant Report            :per Method            Post-Quant Macro:per Method  
 CR Database             :per Method            CR Spreadsheet :per Method

29 Type: Sample            LPAHCAL0.4PPM;;;;;SV4285-3  
 Vial: 22                   ;;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M           Barcode:  
 Data: LPAHCAL3.D        Samp Amt: 0                    Multiplr: 1  
 Area% Report            :per Method            Lib. Search Rep :per Method  
 Quant Report            :per Method            Post-Quant Macro:per Method  
 CR Database             :per Method            CR Spreadsheet :per Method

30 Type: Sample            LPAHCAL0.2PPM;;;;;SV4285-2  
 Vial: 23                   ;;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M           Barcode:  
 Data: LPAHCAL2.D        Samp Amt: 0                    Multiplr: 1  
 Area% Report            :per Method            Lib. Search Rep :per Method  
 Quant Report            :per Method            Post-Quant Macro:per Method  
 CR Database             :per Method            CR Spreadsheet :per Method

31 Type: Sample            LPAHCAL0.1PPM;;;;;SV4285-1  
 Vial: 24                   ;;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M           Barcode:  
 Data: LPAHCAL1.D        Samp Amt: 0                    Multiplr: 1  
 Area% Report            :per Method            Lib. Search Rep :per Method  
 Quant Report            :per Method            Post-Quant Macro:per Method  
 CR Database             :per Method            CR Spreadsheet :per Method

32 Type: Sample            LPAHICV5PPM;;;;;SV4286  
 Vial: 25                   ;;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M           Barcode:  
 Data: LPAHICV.D        Samp Amt: 0                    Multiplr: 1  
 Area% Report            :per Method            Lib. Search Rep :per Method  
 Quant Report            :per Method            Post-Quant Macro:per Method  
 CR Database             :per Method            CR Spreadsheet :per Method

33 Type: DailyCal          LPAHCCV5PPM;;;;;SV4282  
 Vial: 99                   ;2;;;;;pahsurr.sub;4277  
 Meth: PAHLOW.M           Barcode:  
 Data: LPAHCCV1.D        Samp Amt: 0                    Multiplr: 1  
 Area% Report            :per Method            Lib. Search Rep :per Method  
 Quant Report            :per Method            Post-Quant Macro:per Method

	CR Database	:per Method	CR Spreadsheet	:per Method
34	Type: Spike Vial: 26 Meth: PAHLOW.M Data: MDLLPHS1.D Area% Report Quant Report CR Database	mdlchkslpah;1;15;500;1;UG/KG;04-JAN-2008 ;3;;;010408BS2;pahsurr.sub;4277 Barcode: Samp Amt: 0	Multiplr: 1 Lib. Search Rep :per Method Post-Quant Macro:per Method CR Spreadsheet :per Method	
35	Type: Spike Vial: 27 Meth: PAHLOW.M Data: MDLLPHW1.D Area% Report Quant Report CR Database	mdlchkwlpah;1;1000;500;1;UG/L;04-JAN-2008 ;3;;;010408BW2;pahsurr.sub;4277 Barcode: Samp Amt: 0	Multiplr: 1 Lib. Search Rep :per Method Post-Quant Macro:per Method CR Spreadsheet :per Method	
36	Type: Spike Vial: 28 Meth: PAHLOW.M Data: S1LW1220.D Area% Report Quant Report CR Database	SBLK1220BW1LCS;1;1000;500;1;UG/L;20-DEC-2007 ;3;LCS;;;122007BW1;pahsurr.sub;4277 Barcode: Samp Amt: 0	Multiplr: 1 Lib. Search Rep :per Method Post-Quant Macro:per Method CR Spreadsheet :per Method	
37	Type: Blank Vial: 29 Meth: PAHLOW.M Data: S1BW1220.D Area% Report Quant Report CR Database	SBLK1220BW1;1;1000;500;1;UG/L;20-DEC-2007 ;3;BLANK;;;122007BW1;pahsurr.sub;4277 Barcode: Samp Amt: 0	Multiplr: 1 Lib. Search Rep :per Method Post-Quant Macro:per Method CR Spreadsheet :per Method	
38	Type: Spike Vial: 30 Meth: PAHLOW.M Data: S1LW1226.D Area% Report Quant Report CR Database	SBLK1226BW1LCS;1;1000;500;1;UG/L;26-DEC-2007 ;3;LCS;;;122607BW1;pahsurr.sub;4277 Barcode: Samp Amt: 0	Multiplr: 1 Lib. Search Rep :per Method Post-Quant Macro:per Method CR Spreadsheet :per Method	
39	Type: Spike Vial: 31 Meth: PAHLOW.M Data: S1DW1226.D Area% Report Quant Report CR Database	SBLK1226BW1LCSD;1;1000;500;1;UG/L;26-DEC-2007 ;3;LCSD;;;122607BW1;pahsurr.sub;4277 Barcode: Samp Amt: 0	Multiplr: 1 Lib. Search Rep :per Method Post-Quant Macro:per Method CR Spreadsheet :per Method	
40	Type: Blank Vial: 32 Meth: PAHLOW.M Data: S1BW1226.D Area% Report Quant Report CR Database	SBLK1226BW1;1;1000;500;1;UG/L;26-DEC-2007 ;3;BLANK;;;122607BW1;pahsurr.sub;4277 Barcode: Samp Amt: 0	Multiplr: 1 Lib. Search Rep :per Method Post-Quant Macro:per Method CR Spreadsheet :per Method	

3221

Sequence Name: C:\HPCHEM\1\SEQUENCE\080408B3.S

Comment: SW846-8270C/625

Operator: ADM

Data Path: F:\HPCHEM\1\DATA\080408b3\

Pre-Seq Cmd:

Post-Seq Cmd:

3640

M8/11/8

Method Sections To Run      On A Barcode Mismatch  
 (X) Full Method              (X) Inject Anyway  
 ( ) Reprocessing Only      ( ) Don't Inject

LLPAH'S

Line Type	Vial	DataFile	Method	Sample Name
1 Sample	99	PRIMER	DFTPPLOW	
2 Sample	100	BLANK	DFTPPLOW	
3 DailyCal	2	PRIMER	PAHLOW1	LOWPAH5PPM;;;;; SV4460B
4 Sample	1	DF0804B1	DFTPPLOW	DF0804B1;;;;;SV4411 9:11, 8/4
5 DailyCal	2	LPAHCCV	PAHLOW1	LOWPAH5PPM;;;;; SV4460B
6 Blank	3	S1BW0729	PAHLOW1	SBLK0729BW1;1;1000;500;1;UG/L
7 Spike	4	S1LW0729	PAHLOW1	SBLK0729BW1LCS;1;1000;500;1;U
8 Spike	5	S1DW0729	PAHLOW1	SBLK0729BW1LCD;1;1000;500;1;U
9 Blank	6	S1BW0730	PAHLOW1	SBLK0730BW1;1;1000;500;1;UG/L
10 Spike	7	S1LW0730	PAHLOW1	SBLK0730BW1LCS;1;1000;500;1;U
11 Spike	8	S1DW0730	PAHLOW1	SBLK0730BW1LCD;1;1000;500;1;U
12 Sample	9	0721017	PAHLOW1	0807210-17;1;1080;500;1;UG/L;
13 Sample	10	0721018	PAHLOW1	0807210-18;1;1080;500;1;UG/L;
14 Sample	11	0721021	PAHLOW1	0807210-21;1;1080;500;1;UG/L;
15 Sample	12	0721022	PAHLOW1	0807210-22;1;1080;500;1;UG/L;
16 Sample	13	0721901	PAHLOW1	0807219-01;1;1080;500;1;UG/L;
17 Sample	14	0721902	PAHLOW1	0807219-02;1;1080;500;1;UG/L;
18 Sample	15	0721903	PAHLOW1	0807219-03;1;1080;500;1;UG/L;
19 Sample	16	0721904	PAHLOW1	0807219-04;1;1080;500;1;UG/L; - RR 10X
20 Sample	17	0721905	PAHLOW1	0807219-05;1;1080;500;1;UG/L; - RR 10X
21 Sample	18	0721906	PAHLOW1	0807219-06;1;1080;500;1;UG/L;
22 Sample	19	0721907	PAHLOW1	0807219-07;1;1080;500;1;UG/L;
23 Sample	20	0721908	PAHLOW1	0807219-08;1;1080;500;1;UG/L; 21:02, 8/4

Sequence Name: C:\HPCHEM\1\SEQUENCE\080408B3.S

Comment: SW846-8270C/625

Operator: ADM

Data Path: F:\HPCHEM\1\DATA\080408b3\

Pre-Seq Cmd:

Post-Seq Cmd:

Method Sections To Run            On A Barcode Mismatch  
(X) Full Method                    (X) Inject Anyway  
( ) Reprocessing Only            ( ) Don't Inject

3641

Line	Sample Name/Misc Info
1	Type: Sample Vial: 99 Meth: DFTPPLOW.M Barcode: Data: PRIMER.D Samp Amt: 0 Multiplr: 1 Area% Report :per Method Lib. Search Rep :per Method Quant Report :per Method Post-Quant Macro:per Method CR Database :per Method CR Spreadsheet :per Method
2	Type: Sample Vial: 100 Meth: DFTPPLOW.M Barcode: Data: BLANK.D Samp Amt: 0 Multiplr: 1 Area% Report :per Method Lib. Search Rep :per Method Quant Report :per Method Post-Quant Macro:per Method CR Database :per Method CR Spreadsheet :per Method
3	Type: DailyCal      LOWPAH5PPM;;;;; SV4460B Vial: 2              ;2;;;;;pahsurr.sub;4432 Meth: PAHLOW1.M Barcode: Data: PRIMER.D Samp Amt: 0 Multiplr: 1 Area% Report :per Method Lib. Search Rep :per Method Quant Report :per Method Post-Quant Macro:per Method CR Database :per Method CR Spreadsheet :per Method
4	Type: Sample        DF0804B1;;;;;SV4411 Vial: 1              ;3;DFTPP;;;;; Meth: DFTPPLOW.M Barcode: Data: DF0804B1.D Samp Amt: 0 Multiplr: 1 Area% Report :per Method Lib. Search Rep :per Method Quant Report :per Method Post-Quant Macro:per Method CR Database :per Method CR Spreadsheet :per Method
5	Type: DailyCal      LOWPAH5PPM;;;;; SV4460B Vial: 2              ;2;;;;;pahsurr.sub;4432 Meth: PAHLOW1.M Barcode: Data: LPAHCCV.D Samp Amt: 0 Multiplr: 1 Area% Report :per Method Lib. Search Rep :per Method Quant Report :per Method Post-Quant Macro:per Method CR Database :per Method CR Spreadsheet :per Method
6	Type: Blank         SBLK0729BW1;1;1000;500;1;UG/L;29-JUL-2008 Vial: 3              ;3;BLANK;;;072908BW1;pahsurr.sub;4432 Meth: PAHLOW1.M Barcode: Data: S1BW0729.D Samp Amt: 0 Multiplr: 1 Area% Report :per Method Lib. Search Rep :per Method Quant Report :per Method Post-Quant Macro:per Method CR Database :per Method CR Spreadsheet :per Method
7	Type: Spike         SBLK0729BW1LCS;1;1000;500;1;UG/L;29-JUL-2008 Vial: 4              ;3;LCS;;;072908BW1;pahsurr.sub;4432 Meth: PAHLOW1.M Barcode: Data: S1LW0729.D Samp Amt: 0 Multiplr: 1 Area% Report :per Method Lib. Search Rep :per Method Quant Report :per Method Post-Quant Macro:per Method CR Database :per Method CR Spreadsheet :per Method

3642

8 Type: Spike SBLK0729BW1LCD;1;1000;500;1;UG/L;29-JUL-2008  
Vial: 5 ;3;LCSD;;;072908BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: S1DW0729.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

9 Type: Blank SBLK0730BW1;1;1000;500;1;UG/L;30-JUL-2008  
Vial: 6 ;3;BLANK;;;073008BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: S1BW0730.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

10 Type: Spike SBLK0730BW1LCS;1;1000;500;1;UG/L;30-JUL-2008  
Vial: 7 ;3;LCS;;;073008BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: S1LW0730.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

11 Type: Spike SBLK0730BW1LCD;1;1000;500;1;UG/L;30-JUL-2008  
Vial: 8 ;3;LCSD;;;073008BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: S1DW0730.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

12 Type: Sample 0807210-17;1;1080;500;1;UG/L;29-JUL-2008  
Vial: 9 pip.b07210;0;;;072908BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0721017.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

13 Type: Sample 0807210-18;1;1080;500;1;UG/L;29-JUL-2008  
Vial: 10 pip.b07210;0;;;072908BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0721018.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

14 Type: Sample 0807210-21;1;1080;500;1;UG/L;29-JUL-2008  
Vial: 11 pip.b07210;0;;;072908BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0721021.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

15 Type: Sample 0807210-22;1;1080;500;1;UG/L;29-JUL-2008  
Vial: 12 pip.b07210;0;;;072908BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0721022.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

16 Type: Sample 0807219-01;1;1080;500;1;UG/L;30-JUL-2008  
Vial: 13 tet.b07219;0;;;073008BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0721901.D Samp Amt: 0 Multiplr: 50

	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
17	Type: Sample	0807219-02;1;1080;500;1;UG/L;30-JUL-2008		
	Vial: 14	tet.b07219;0;;;073008BW1;pahsurr.sub;4432		
	Meth: PAHLOW1.M	Barcode:		
	Data: 0721902.D	Samp Amt: 0	Multiplr: 50	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
18	Type: Sample	0807219-03;1;1080;500;1;UG/L;30-JUL-2008		
	Vial: 15	tet.b07219;0;;;073008BW1;pahsurr.sub;4432		
	Meth: PAHLOW1.M	Barcode:		
	Data: 0721903.D	Samp Amt: 0	Multiplr: 50	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
19	Type: Sample	0807219-04;1;1080;500;1;UG/L;30-JUL-2008		
	Vial: 16	tet.b07219;0;;;073008BW1;pahsurr.sub;4432		
	Meth: PAHLOW1.M	Barcode:		
	Data: 0721904.D	Samp Amt: 0	Multiplr: 50	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
20	Type: Sample	0807219-05;1;1080;500;1;UG/L;30-JUL-2008		
	Vial: 17	tet.b07219;0;;;073008BW1;pahsurr.sub;4432		
	Meth: PAHLOW1.M	Barcode:		
	Data: 0721905.D	Samp Amt: 0	Multiplr: 50	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
21	Type: Sample	0807219-06;1;1080;500;1;UG/L;30-JUL-2008		
	Vial: 18	tet.b07219;0;;;073008BW1;pahsurr.sub;4432		
	Meth: PAHLOW1.M	Barcode:		
	Data: 0721906.D	Samp Amt: 0	Multiplr: 50	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
22	Type: Sample	0807219-07;1;1080;500;1;UG/L;30-JUL-2008		
	Vial: 19	tet.b07219;0;;;073008BW1;pahsurr.sub;4432		
	Meth: PAHLOW1.M	Barcode:		
	Data: 0721907.D	Samp Amt: 0	Multiplr: 50	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method
23	Type: Sample	0807219-08;1;1080;500;1;UG/L;30-JUL-2008		
	Vial: 20	tet.b07219;0;;;073008BW1;pahsurr.sub;4432		
	Meth: PAHLOW1.M	Barcode:		
	Data: 0721908.D	Samp Amt: 0	Multiplr: 50	
	Area% Report	:per Method	Lib. Search Rep	:per Method
	Quant Report	:per Method	Post-Quant Macro	:per Method
	CR Database	:per Method	CR Spreadsheet	:per Method

3643

Sequence Name: C:\HPCHEM\1\SEQUENCE\080508B3.S  
 Comment: SW846-8270C/625  
 Operator: ADM  
 Data Path: F:\HPCHEM\1\DATA\080508b3\  
 Pre-Seq Cmd:  
 Post-Seq Cmd:

3644

M 8/5/8

Method Sections To Run      On A Barcode Mismatch  
 (X) Full Method              (X) Inject Anyway  
 ( ) Reprocessing Only        ( ) Don't Inject

LLPAH's

Line Type	Vial	DataFile	Method	Sample Name
1 Sample	99	PRIMER	DFTPPLOW	
2 Sample	100	BLANK	DFTPPLOW	
3 DailyCal	2	PRIMER	PAHLOW1	LOWPAH5PPM;;;;; SV4460B
4 Sample	1	DF0805B1	DFTPPLOW	DF0805B1;;;;;SV4411 9:10, 8/5
5 DailyCal	2	LPAHCCV	PAHLOW1	LOWPAH5PPM;;;;; SV4460B
6 Blank	3	S1BW0731	PAHLOW1	SBLK0731BW1;1;1000;500;1;UG/L
7 Spike	4	S1LW0731	PAHLOW1	SBLK0731BW1LCS;1;1000;500;1;U
8 Spike	5	S1DW0731	PAHLOW1	SBLK0731BW1LCD;1;1000;500;1;U
9 Blank	6	S1BS0804	PAHLOW1	SBLK0804BS1;1;15;500;1;UG/KG;
10 Spike	7	S1LS0804	PAHLOW1	SBLK0804BS1LCS;1;15;500;1;UG/
11 Spike	8	S1DS0804	PAHLOW1	SBLK0804BS1LCSD;1;15;500;1;UG
12 Sample	9	0724505	PAHLOW1	0807245-05;1;1000;500;1;UG/L;
13 Sample	10	0724506	PAHLOW1	0807245-06;1;1000;500;1;UG/L;
14 Sample	11	0724507	PAHLOW1	0807245-07;1;1000;500;1;UG/L;
15 Sample	12	0724508	PAHLOW1	0807245-08;1;1000;500;1;UG/L;
16 Sample	13	0724509	PAHLOW1	0807245-09;1;1000;500;1;UG/L;
17 Sample	14	0721904D	PAHLOW1	0807219-04;10;1080;500;1;UG/L
18 Sample	15	0721905D	PAHLOW1	0807219-05;10;1080;500;1;UG/L
19 Sample	16	0724501	PAHLOW1	0807245-01;1;15;500;1;UG/KG;0
20 Sample	17	0724502	PAHLOW1	0807245-02;1;15;500;1;UG/KG;0
21 Sample	18	0724503	PAHLOW1	0807245-03;1;15;500;1;UG/KG;0
22 Sample	19	0724504	PAHLOW1	0807245-04;1;15;500;1;UG/KG;0 20.29, 8/5

Sequence Name: C:\HPCHEM\1\SEQUENCE\080508B3.S  
 Comment: SW846-8270C/625  
 Operator: ADM  
 Data Path: F:\HPCHEM\1\DATA\080508b3\  
 Pre-Seq Cmd:  
 Post-Seq Cmd:

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Method Sections To Run      On A Barcode Mismatch  
 (X) Full Method              (X) Inject Anyway  
 ( ) Reprocessing Only        ( ) Don't Inject

```

-----
Line                            Sample Name/Misc Info
-----
1    Type: Sample
     Vial: 99
     Meth: DFTPPLOW.M    Barcode:
     Data: PRIMER.D      Samp Amt: 0                    Multiplr: 1
     Area% Report        :per Method            Lib. Search Rep :per Method
     Quant Report        :per Method            Post-Quant Macro:per Method
     CR Database         :per Method            CR Spreadsheet :per Method
-----
2    Type: Sample
     Vial: 100
     Meth: DFTPPLOW.M    Barcode:
     Data: BLANK.D        Samp Amt: 0                    Multiplr: 1
     Area% Report        :per Method            Lib. Search Rep :per Method
     Quant Report        :per Method            Post-Quant Macro:per Method
     CR Database         :per Method            CR Spreadsheet :per Method
-----
3    Type: DailyCal        LOWPAH5PPM;;;;; SV4460B
     Vial: 2                ;2;;;;;pahsurr.sub;4432
     Meth: PAHLOW1.M      Barcode:
     Data: PRIMER.D        Samp Amt: 0                    Multiplr: 1
     Area% Report        :per Method            Lib. Search Rep :per Method
     Quant Report        :per Method            Post-Quant Macro:per Method
     CR Database         :per Method            CR Spreadsheet :per Method
-----
4    Type: Sample         DF0805B1;;;;;SV4411
     Vial: 1                ;3;DFTPP;;;;;
     Meth: DFTPPLOW.M      Barcode:
     Data: DF0805B1.D      Samp Amt: 0                    Multiplr: 1
     Area% Report        :per Method            Lib. Search Rep :per Method
     Quant Report        :per Method            Post-Quant Macro:per Method
     CR Database         :per Method            CR Spreadsheet :per Method
-----
5    Type: DailyCal        LOWPAH5PPM;;;;; SV4460B
     Vial: 2                ;2;;;;;pahsurr.sub;4432
     Meth: PAHLOW1.M      Barcode:
     Data: LPAHCCV.D       Samp Amt: 0                    Multiplr: 1
     Area% Report        :per Method            Lib. Search Rep :per Method
     Quant Report        :per Method            Post-Quant Macro:per Method
     CR Database         :per Method            CR Spreadsheet :per Method
-----
6    Type: Blank            SBLK0731BW1;1;1000;500;1;UG/L;31-JUL-2008
     Vial: 3                ;3;BLANK;;;073108BW1;pahsurr.sub;4432
     Meth: PAHLOW1.M      Barcode:
     Data: S1BW0731.D      Samp Amt: 0                    Multiplr: 1
     Area% Report        :per Method            Lib. Search Rep :per Method
     Quant Report        :per Method            Post-Quant Macro:per Method
     CR Database         :per Method            CR Spreadsheet :per Method
-----
7    Type: Spike            SBLK0731BW1LCS;1;1000;500;1;UG/L;31-JUL-2008
     Vial: 4                ;3;LCS;;;073108BW1;pahsurr.sub;4432
     Meth: PAHLOW1.M      Barcode:
     Data: S1LW0731.D      Samp Amt: 0                    Multiplr: 1
     Area% Report        :per Method            Lib. Search Rep :per Method
     Quant Report        :per Method            Post-Quant Macro:per Method
     CR Database         :per Method            CR Spreadsheet :per Method
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8 Type: Spike SBLK0731BW1LCD;1;1000;500;1;UG/L;31-JUL-2008  
Vial: 5 ;3;LCSD;;;073108BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: S1DW0731.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
9 Type: Blank SBLK0804BS1;1;15;500;1;UG/KG;04-AUG-2008  
Vial: 6 ;3;BLANK;;;080408BS1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: S1BS0804.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
10 Type: Spike SBLK0804BS1LCS;1;15;500;1;UG/KG;04-AUG-2008  
Vial: 7 ;3;LCS;;;080408BS1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: S1LS0804.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
11 Type: Spike SBLK0804BS1LCSD;1;15;500;1;UG/KG;04-AUG-2008  
Vial: 8 ;3;LCSD;;;080408BS1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: S1DS0804.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
12 Type: Sample 0807245-05;1;1000;500;1;UG/L;31-JUL-2008  
Vial: 9 arc.b07245;0;;;073108BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0724505.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
13 Type: Sample 0807245-06;1;1000;500;1;UG/L;31-JUL-2008  
Vial: 10 arc.b07245;0;;;073108BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0724506.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
14 Type: Sample 0807245-07;1;1000;500;1;UG/L;31-JUL-2008  
Vial: 11 arc.b07245;0;;;073108BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0724507.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
15 Type: Sample 0807245-08;1;1000;500;1;UG/L;31-JUL-2008  
Vial: 12 arc.b07245;0;;;073108BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0724508.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method  
-----  
16 Type: Sample 0807245-09;1;1000;500;1;UG/L;31-JUL-2008  
Vial: 13 arc.b07245;0;;;073108BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0724509.D Samp Amt: 0 Multiplr: 1  
-----

Area% Report	:per Method	Lib. Search Rep	:per Method
Quant Report	:per Method	Post-Quant Macro	:per Method
CR Database	:per Method	CR Spreadsheet	:per Method

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17 Type: Sample 0807219-04;10;1080;500;1;UG/L;30-JUL-2008  
Vial: 14 tet.b07219;0;;;073008BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0721904D.D Samp Amt: 0 Multiplr: 10  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

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18 Type: Sample 0807219-05;10;1080;500;1;UG/L;30-JUL-2008  
Vial: 15 tet.b07219;0;;;073008BW1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0721905D.D Samp Amt: 0 Multiplr: 10  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

---

19 Type: Sample 0807245-01;1;15;500;1;UG/KG;04-AUG-2008  
Vial: 16 arc.b07245;0;;;080408BS1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0724501.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

---

20 Type: Sample 0807245-02;1;15;500;1;UG/KG;04-AUG-2008  
Vial: 17 arc.b07245;0;;;080408BS1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0724502.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

---

21 Type: Sample 0807245-03;1;15;500;1;UG/KG;04-AUG-2008  
Vial: 18 arc.b07245;0;;;080408BS1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0724503.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

---

22 Type: Sample 0807245-04;1;15;500;1;UG/KG;04-AUG-2008  
Vial: 19 arc.b07245;0;;;080408BS1;pahsurr.sub;4432  
Meth: PAHLOW1.M Barcode:  
Data: 0724504.D Samp Amt: 0 Multiplr: 1  
Area% Report :per Method Lib. Search Rep :per Method  
Quant Report :per Method Post-Quant Macro:per Method  
CR Database :per Method CR Spreadsheet :per Method

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**Empirical Laboratories**  
 EMPIRICAL LABORATORIES, LLC  
 LABORATORY SAMPLE CUSTODY FORM  
 WALK-IN REFRIGERATOR

Sample Log # (s)	Time/Date/Initials Removed	Time/Date/Initials Returned (Note if all Sample Used)	Notes/Comments	Task Performed
0804177	8:50 7-29-08 TES	KH 7/29/08 9:40		metals
7210 77, 8, 21, 22	9:50 7/29/08 AF		Used all	ILPAH
7205-15, 16	↓		Used all	PIPES
7205-15, 16 7198-5	↓		Used all	BNA
7226-01-04	7/29/08 10:20 (CAT)	7/29/08 12:21 (CAT)		TSS/VSS
7195-01 7180-01 7177-01, 02 7205-15, 16 7203-01-02 7203-04-05 7226-01-02	10:22 7/29/08 KAG AH 10:50 7/29	11:15 KBZ 7/29/08 7/29/08 14:30 (CAT)		Hg AIR/VFA
7210-01, 07, 09 7224-01 7072-01	12:00 KBZ 7/29/08	15:20 KAG 7/29/08		Anions
7150-01 7153-01	CA 8:15 CA 7/28/08	CA 3:43 7/30/08		NH <sub>4</sub>
7157-01 7167-01 7168-01 7167-01 7208-01-706				
7210-01-709 7255-0107				
6007, 09, 01, 6012-01 6009-02, 5, 6	9:25 KH 7/30/08	10:04 KH 7/30/08		Metals
7219-1-B 7219-1-B	(30) 9:21 7/30/08	Used all		FLEORS ILPAH
7234-01-04	7/30/08 11:05 (CAT)	7/30/08 13:00 (CAT)		VSS/TSS
7150-01 7153-01 7168-01 7167-01 7168-01				
7208-01-706 7210-01-709	CA 6:10 7/31/08	CA 7/31/08 7:33		NH <sub>4</sub> Al/cyanide
7235-0107 7145-01A				
7249-01-04	7/31/08 0900 (CAT)	7/31/08 14:30 (CAT)		BOD/CBOD

# HOBART SAMPLE EXTRACT CUSTODY FORM

Sample	Parameter	Inserted	Removed	Analysis	Signature	Date	Initials
7176-1-12	EXP	7/24/08 9:10	7/26/08 0605				X
7196-1-35-9	EPH	2:45 AF 7/28/08					Y
7209-1-10 7220-1-3	EVP	3:40 AF 7/28/08					Y
7205-1-14	PIPCB	4:24 AF 7/25/08					Y
7200-1-2			7/29/08 9:15 AP taken to analyst				X
7076-10,11 7135-2-7	DRO	1:20 / J.H. 7/29/08	1:40 / J.H. 7/29/08				X
7191-1-4 7201-01	PCB	1:40 / J.H. 7/29/08	1:40 / J.H. 7/29/08				X
7209-1-10 7220-1-3	EXPL	4:15 / J.H. 7/29/08	1:40 / J.H. 7/29/08				X
7118-22	EXP		1:40 / J.H. 7/29/08				Y
7205-15,16	PIPCB	3:25 AF 7/29/08					X
7198-5 7225-15,16 7205-1-14	BHA	3:25 AF 7/29/08					X
7210-11,13,24,22 7227-1-13	UHPA	4:10 AF 7/29/08					X
7227-1-13	LL OPHT	5:10 7/30/08 B7E	5:25 / 30/08				✓
7230-1-3	RB	6:15 / J.H. 7/30/08	1:30 7/30/08 AP taken to analyst				X
7219-1-8 7214-1-8	UHPA ALPHA	9:09 7/30/08					

# HOBART SAMPLE EXTRACT CUSTODY FORM

Sample ID	Extraction	Time/Date/Initial		Retention of Custody						
		Inserted	Removed	Supervising Analyst	Responsible Analyst	Analyst	Analyst	Analyst	Analyst	
7194-1-3, 5-9 7194-10-11	TN EPH	8/11/08 1450	J.H. 5:05 PM / 7:30:08						X	
7227-1-13 7236-1-3	LL LPH	07:20 8/01/08 B7D	5:00 7/31/08						✓	
7205-15,16, 7198-5 7207-1-14	BWA	07:20 8/01/08 B7D	↓						✓	
7230-1	Exp	8AM 7/31/08								X
7230-01	Exp	1545 7/31/08	147 7/31/08 1330						X	
7231-01 7242-1-4 7241-14 7243-14 7241-1		↓	TANENTUMALYD 147 7/31/08 1320						X	
7252-1-6	PCB	1140 AP 7/31/08								X
7252-1-6	PCB	5:00 J.H. 5 PM / 7:31:08	7:10 J.H. 7 PM / 7:31:08	X						
7245-1-4 7252-7-10 7245-5-9	LLPH	10 4:17 7/31/08								
7249-01-04 7249-01-01 7252-11	PCB	↓								
7219-201-08 7210-17,18,21,22	LLPH	8-1-08 1:15 PM (87)	06:45 8/01/08 B7D						X	
7253-07-10	LLPH	↓	↓						X	
7117-22	Exp	14 7/1/08 1511	14 8/1/08 1400						X	
7243-3 7241-01-02, 04	Exp	↓	14 8/1/08 1410						X	X
7231-07	Exp	14 8/1/08 1630	14 8/1/08 1511						X	

# HOBART SAMPLE EXTRACT CUSTODY FORM

Sample Log #s	Description	Time/Date/Initials		Reason for Inverting Sample						
		Inserted	Removed	Sample Clean	Analysis	Analysis	Dilution	Transfer	Re-analysis	Re-analysis
7220-3 7252-2, 16	PCB		3:40 AF 8/11/08 taken to analysis		X					
7249-1-4 7252-2, 6 7230-3	PCB		08:11:05 16:12							
7229 1-6 7252 7252 -11 8001-13	L		L							
<del>7249</del> 7219-01-08 7245-2-9	PAH BVA	06:50 B7D 8/5/8	06:45 8/4/08 B7D		X					
7210-17, 18, 21, 22	PAH	↓	↓							
7257-01	BVA	8/4/08 8:05								X
8018-1-5	BVA	8/4/08 3:05								X
7245-1-4 7252-7-10	LLPAH	8/4/08 AF 17:00								X
7245-4-4 7252-7-10	LLPAH	08:05 B7D 8/05/08	06:50 B7D 8/05/08		X					
7245-5-9	LLPAH	06:45 8/6/8 B7A	06:50 B7D 8/05/08		X					
7257-01	BVA	08:25 8/5/8 B7D	↓		X					
8018-1-5	Fyp	8/5/08 8:40 1300	8/5/08 8:14 10:00		X					
7245-1-4 7252-7-10	LLPAH	11:38 8/5/8 B7D	10:20 8/5/8 B7D		X	X				
0808017-11-12 0808022-011 0818005-12	LLPAH BVA	2:10 8/5/08 AC								
7245-1-4	LLPAH	06:45 8/6/8 B7A	15:05 8/5/8 B7D		X					

# HOBART SAMPLE EXTRACT CUSTODY FORM

Sample Log #s	Fraction	Time/Date/Initial		Reasons for Inserting/Removal								
		Inserted	Removed	Size Control	Re-ward Size	Analysis	Offshore	Excess	Inserted in Error	Excess	Inserted in Error	
080408BWI 8007-01	008 Waste	8:53 8/5/08										
8001-4 8002-1 8012-1-3	P/RB	4:05 AF 8/5/08										X
8002-1 8014-2	BNA	4:05 AF 8/5/08										X
8018-14.5	FV	11/8/5/08 1625	8/5/08 14 1615						X			
7205-12 7257-01	8002-01 8014-02 BNA		06:45 8/6/08 BTD						X			
8017-11,12 8022-01	LLPAH		↓						X			
7252-07-10 Dilutions x2, x10	LLPAH		↓						X			
7118-19, 20, 26 8001-04; 8002-01 8002-1-3; 8014-02	P/P		11am 8/6/08			X	X					
7205-1-14 7205-15,14	P/P		↓						X			
7219-1-8	FL FLO		12:45 J.H. 8/6/08						X			
8017-13-14 8002-2-4	LLPAH	1:27 8/6/08										

added to 080408BWI ←



FORM 1  
 PRO ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-1406-16
-------------

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: EL Case No.: SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-03

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 010R0101

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_\_ Date Sampled: 07/24/08 13:55

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:07/30/08

Concentrated Extract Volume: 2.0 (mL) Date Analyzed: 08/06/08 19:23

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L		
		MDL	RL	CONC Q
PRO-8-40-----	Petroleum Range _____	0.16	0.46	3.5

FORM 1  
 PRO ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW04

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: EL Case No.: SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-02

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 009R0101

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_\_ Date Sampled: 07/24/08 12:28

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:07/30/08

Concentrated Extract Volume: 2.0 (mL) Date Analyzed: 08/06/08 18:41

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L  
 MDL RL CONC Q

CAS NO.	COMPOUND	MDL	RL	CONC	Q
PRO-8-40-----	Petroleum Range _____	0.16	0.46	10	

FORM 1  
 PRO ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW01
----------

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: EL Case No.: SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-01

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 008R0101

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_\_ Date Sampled: 07/24/08 11:35

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:07/30/08

Concentrated Extract Volume: 2.0 (mL) Date Analyzed: 08/06/08 17:58

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L		
		MDL	RL	CONC Q

PRO-8-40-----Petroleum Range _____	0.16	0.46	0.27	I
------------------------------------	------	------	------	---

FORM 1  
 PRO ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW03
----------

Lab Name: EMPIRICAL LABS      Contract: TETRATECH

Lab Code: EL      Case No.:      SAS No.: NA      SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER      Lab Sample ID: 0807219-04

Sample wt/vol:      1080 (g/mL) ML      Lab File ID: 003R0101

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_      Date Sampled: 07/24/08 14:25

Extraction: (SepF/Cont/Sonc/Soxh) SEPF      Date Extracted: 07/30/08

Concentrated Extract Volume:      2.0 (mL)      Date Analyzed: 08/07/08 12:45

Injection Volume:      1.0 (uL)      Dilution Factor: 10.0

GPC Cleanup: (Y/N) N      pH: NA      Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L		
		MDL	RL	CONC Q

PRO-8-40-----Petroleum Range _____	1.6	4.6	34	D
------------------------------------	-----	-----	----	---

FORM 1  
 PRO ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

A+D-RW02
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Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: EL Case No.: SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-05

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 004R0101

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_\_ Date Sampled: 07/24/08 15:20

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:07/30/08

Concentrated Extract Volume: 2.0 (mL) Date Analyzed: 08/07/08 13:27

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L	
		MDL	RL CONC Q

PRO-8-40-----Petroleum Range _____	1.6	4.6	30	D
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FORM 1  
 PRO ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

351-2-MW02

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: EL Case No.: SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-06

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 013R0101

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Sampled: 07/25/08 12:00

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 07/30/08

Concentrated Extract Volume: 2.0 (mL) Date Analyzed: 08/06/08 21:31

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L  
 MDL RL CONC Q

CAS NO.	COMPOUND	MDL	RL	CONC	Q
PRO-8-40-----	Petroleum Range _____	0.16	0.46		U

FORM 1  
 PRO ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

351-2-MW04
------------

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: EL Case No.: SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-07

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 014R0101

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_\_ Date Sampled: 07/25/08 12:33

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:07/30/08

Concentrated Extract Volume: 2.0 (mL) Date Analyzed: 08/06/08 22:13

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L			Q
		MDL	RL	CONC	

PRO-8-40-----Petroleum Range _____	0.16	0.46		U
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FORM 1  
 PRO ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

351-2-MW01

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: EL Case No.: SAS No.: NA SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER Lab Sample ID: 0807219-08

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 015R0101

% Moisture: \_\_\_\_\_ decanted: (Y/N)\_\_\_\_ Date Sampled: 07/25/08 13:10

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:07/30/08

Concentrated Extract Volume: 2.0 (mL) Date Analyzed: 08/06/08 22:56

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L  
 MDL RL CONC Q

CAS NO.	COMPOUND	MDL	RL	CONC	Q
PRO-8-40-----	Petroleum Range _____	0.16	0.46	0.85	

FORM 2  
WATER PRO SURROGATE RECOVERY

Lab Name: EMPIRICAL LABS      Contract: TETRATECH

Lab Code: EL                      Case No.:                      SAS No.: NA                      SDG No.: MAYPORT\_002

Column(1) : ZB-5                      ID: 0.32 (mm)

	CLIENT SAMPLE NO.	S1 %REC #	FBP %REC #	S3 %REC #	S4 %REC #	S5 %REC #	S6 %REC #	TOT OUT
01	FW1BLK0730	97	83					0
02	FW1BLK0730LC	95	86					0
03	FW1BLK0730LC	99	91					0
04	A+D-RW01	101	84					0
05	A+D-RW04	114	106					0
06	A+D-1406-16	92	82					0
07	351-2-MW02	104	84					0
08	351-2-MW04	96	81					0
09	351-2-MW01	96	74					0
10	A+D-RW03	84D	60D					0
11	A+D-RW02	85D	84D					0
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

	EL	SPIKE
	QC LIMITS	CONC (mg/L)
S1 = Ortho-Terphenyl	(30-140)	0.050
S2 (FBP) = 2-Fluorobiphenyl	(50-150)	0.050

# Column to be used to flag recovery values  
 \* Values outside of QC limits  
 D Surrogate results reported from a diluted analysis

FORM 3  
WATER PRO LAB CONTROL SAMPLE

Lab Name: EMPIRICAL LABS      Contract: TETRATECH

Lab Code: EL                      Case No.:                      SAS No.: NA                      SDG No.: MAYPORT\_002

Matrix Spike - Client Sample No.: FW1BLK0730

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC #	QC. LIMITS REC.
Petroleum Range	3.200	0.0000	3.129	98	55-118

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
Petroleum Range	3.200	3.189	100	2	30	55-118

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

FORM 4  
PRO METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

FW1BLK0730

Lab Name: EMPIRICAL LABS      Contract: TETRATECH  
 Lab Code: EL                      Case No.:                      SAS No.: NA                      SDG No.: MAYPORT\_002  
 Lab Sample ID: FW1BLK0730                      Lab File ID: 005R0101  
 Matrix (soil/water) WATER                      Extraction: (SepF/Cont/Sonc/Soxh) SEPF  
 Sulfur Cleanup (Y/N) N                      Date Extracted: 07/30/08  
 Date Analyzed (1): 08/06/08                      Date Analyzed (2):  
 Time Analyzed (1): 1556                      Time Analyzed (2):  
 Instrument ID (1): GCTCDFID                      Instrument ID (2):  
 Column (1): ZB-5                      ID: 0.32 (mm)                      Column (2):                      ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	FW1BLK0730LC	FW1BLK0730LCS	08/06/08	
02	FW1BLK0730LC	FW1BLK0730LCSD	08/06/08	
03	A+D-RW01	0807219-01	08/06/08	
04	A+D-RW04	0807219-02	08/06/08	
05	A+D-1406-16	0807219-03	08/06/08	
06	351-2-MW02	0807219-06	08/06/08	
07	351-2-MW04	0807219-07	08/06/08	
08	351-2-MW01	0807219-08	08/06/08	
09	A+D-RW03	0807219-04	08/07/08	
10	A+D-RW02	0807219-05	08/07/08	
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS: \_\_\_\_\_

FORM 1  
 PRO ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

FW1BLK0730
------------

Lab Name: EMPIRICAL LABS      Contract: TETRATECH

Lab Code: EL      Case No.:      SAS No.: NA      SDG No.: MAYPORT\_002

Matrix: (soil/water) WATER      Lab Sample ID: FW1BLK0730

Sample wt/vol:      1000 (g/mL) ML      Lab File ID:      005R0101

% Moisture:      \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_      Date Sampled:      \_\_\_\_\_

Extraction: (SepF/Cont/Sonc/Soxh) SEPF      Date Extracted: 07/30/08

Concentrated Extract Volume:      2.0 (mL)      Date Analyzed: 08/06/08 15:56

Injection Volume:      1.0 (uL)      Dilution Factor: 1.0

GPC Cleanup: (Y/N) N      pH: NA      Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L			Q
		MDL	RL	CONC	
PRO-8-40-----	Petroleum Range _____	0.17	0.50		U

FORM 6  
PRO ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: EL                      Case No.:                      SAS No.: NA                      SDG No.: SDGA38549

Instrument ID: GCTCDFID                      Calibration Date(s): 07/05/08      07/05/08

Column: ZB-5                      ID: 0.32 (mm)                      Calibration Time(s): 1511                      1843

LAB FILE ID:                      RF8500: 002R0201      RF5950: 003R0201      RF4250: 004R0201  
RF2550: 005R0201      RF850: 006R0201

COMPOUND	RF8500	RF5950	RF4250	RF2550	RF850
Petroleum Range	X 755.251	746.226	811.872	X 834.559	X 898.141
Ortho-Terphenyl	1387.280	1346.960	X 1438.440	1493.880	1476.320
2-Fluorobiphenyl	1435.040	X 1364.880	1359.560	1384.400	1326.960

*J.H.* 7.7.08  
B7D 7/8/8

FORM 6  
PRO ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: EL                      Case No.:                      SAS No.: NA                      SDG No.: SDGA38549

Instrument ID: GCTCDFID                      Calibration Date(s): 07/05/08      07/05/08

Column: ZB-5                      ID: 0.32 (mm)                      Calibration Time(s): 1511                      1843

RF85: 007R0201

COMPOUND	RF85	CURVE	COEFFICIENT A1	%RSD OR R <sup>2</sup>
Petroleum Range	952.059	AVRG	833.018031	9.7
Ortho-Terphenyl	1653.600	AVRG	1466.08000	7.3
2-Fluorobiphenyl	1425.160	AVRG	1382.66667	3.0

FORM 6  
PRO ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: EL                      Case No.:                      SAS No.: NA                      SDG No.: SDGA38549

Instrument ID: GCTCDFID                      Calibration Date(s): 07/05/08      07/05/08

Column: ZB-5                      ID: 0.32 (mm)                      Calibration Time(s): 1511                      1843

LAB FILE ID:                      RT1: 002R0201                      RT2: 003R0201                      RT3: 004R0201  
RT4: 005R0201                      RT5: 006R0201

COMPOUND	RT1	RT2	RT3	RT4	RT5
Petroleum Range	15.439	15.439	15.439	15.439	15.439
Ortho-Terphenyl	14.570	14.567	14.567	14.567	14.563
2-Fluorobiphenyl	8.420	8.417	8.417	8.417	8.417

FORM 6  
PRO ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS      Contract:  
 Lab Code: EL                      Case No.:                      SAS No.: NA                      SDG No.: SDGA38549  
 Instrument ID: GCTCDFID                      Calibration Date(s): 07/05/08      07/05/08  
 Column: ZB-5                      ID: 0.32 (mm)                      Calibration Time(s): 1511                      1843

RT6: 007R0201

COMPOUND	RT6	MEAN RT	RT WINDOW	
			FROM	TO
Petroleum Range	15.439	15.439	1.137	29.740
Ortho-Terphenyl	14.567	14.567	14.427	14.707
2-Fluorobiphenyl	8.417	8.417	8.367	8.467

Data File: 008R0201.D  
Report Date: 06-Jul-2008 18:41

Page 2

Empirical Laboratories, LLC

ICV ~~CONTINUING CALIBRATION~~ COMPOUNDS

J.H. 7.7.08  
BTD 7/8/8

Instrument ID: gctcdfid.i Injection Date: 05-JUL-2008 19:26  
Lab File ID: 008R0201.D Init. Cal. Date(s): 16-MAR-2007 05-JUL-2008  
Analysis Type: SOIL Init. Cal. Times: 10:21 18:43  
Lab Sample ID: PRO ICV #7020 Quant Type: ESTD  
Method: \\ELABNSH05\TARGET\chem\gctcdfid.i\070508.b\070508.b\FLPROR.m

COMPOUND	RRF	RF4250	MIN RRF	MAX RRF
S 1 Petroleum Range	833	872	0.010	25.0
		920		20.0

Data File: 004R0101.D  
Report Date: 07-Aug-2008 12:22

Page 2

*J.H. 8-7-08*

Empirical Laboratories, LLC

CONTINUING CALIBRATION COMPOUNDS

*11/8/08*

Instrument ID: gctcdfid.i      Injection Date: 06-AUG-2008 14:42  
Lab File ID: 004R0101.D      Init. Cal. Date(s): 16-MAR-2007 05-JUL-2008  
Analysis Type:                      Init. Cal. Times: 10:21 18:43  
Lab Sample ID: PRO 4250 #7055G Quant Type: ESTD  
Method: \\ELABNSH05\TARGET\chem\gctcdfid.i\080608.b\080608.b\FLPROR.m

COMPOUND	RRF	RF4250	MIN RRF	%D	MAX %D
S 1 Petroleum Range	833	X 855	0.010	2.6	25.0
\$ 2 2-Fluorobiphenyl	1383	- 1300	0.010	-6.0	25.0
\$ 3 Ortho-Terphenyl	1466	1413	0.010	-3.6	25.0

Data File: 016R0101.D  
Report Date: 07-Aug-2008 12:22

Page 2

*J.H. 8-7-08*

Empirical Laboratories, LLC  
CONTINUING CALIBRATION COMPOUNDS

*4/9/08*

Instrument ID: gctcdfid.i      Injection Date: 06-AUG-2008 23:39  
Lab File ID: 016R0101.D      Init. Cal. Date(s): 16-MAR-2007 05-JUL-2008  
Analysis Type:                      Init. Cal. Times: 10:21 18:43  
Lab Sample ID: PRO 4250 #7055G Quant Type: ESTD  
Method: \\ELABNSH05\TARGET\chem\gctcdfid.i\080608.b\080608.b\FLPROR.m

COMPOUND	RRF	RF4250	MIN RRF	%D	MAX %D
S 1 Petroleum Range	833	857	0.010	2.8	25.0
\$ 2 2-Fluorobiphenyl	1383	X 1322	0.010	-4.4	25.0
\$ 3 Ortho-Terphenyl	1466	1390	0.010	-5.2	25.0

Data File: 002R0101.D  
Report Date: 07-Aug-2008 14:30

Page 2  
J.H. 8.7.8  
11/17/09

Empirical Laboratories, LLC  
CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gctcdfid.i      Injection Date: 07-AUG-2008 12:02  
Lab File ID: 002R0101.D      Init. Cal. Date(s): 16-MAR-2007 05-JUL-2008  
Analysis Type:                      Init. Cal. Times: 10:21 18:43  
Lab Sample ID: PRO 4250 #7055G Quant Type: ESTD  
Method: \\ELABNSH05\TARGET\chem\gctcdfid.i\080708.b\080708.b\FLPROR.m

COMPOUND	RRF	RF4250	MIN RRF	%D	MAX %D
1 Petroleum Range	833	837	0.010	0.5	25.0
2 2-Fluorobiphenyl	1383	1215	0.010	-12.1	25.0
3 Ortho-Terphenyl	1466	X 1347	0.010	-8.1	25.0

Data File: 005R0101.D  
Report Date: 07-Aug-2008 14:56

Page 2  
J.H. 8.7.08  
14/7/07

Empirical Laboratories, LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gctcdfid.i Injection Date: 07-AUG-2008 14:10  
Lab File ID: 005R0101.D Init. Cal. Date(s): 16-MAR-2007 05-JUL-2008  
Analysis Type: Init. Cal. Times: 10:21 18:43  
Lab Sample ID: PRO 4250 #7055G Quant Type: ESTD  
Method: \\ELABNSH05\TARGET\chem\gctcdfid.i\080708.b\080708.b\FLPROR.m

COMPOUND	RRF	RF4250	MIN RRF	%D	MAX %D
S 1 Petroleum Range	833	X 876	0.010	5.1	25.0
\$ 2 2-Fluorobiphenyl	1383	1379	0.010	-0.3	25.0
\$ 3 Ortho-Terphenyl	1466	1451	0.010	-1.0	25.0

FORM 8  
PRO ANALYTICAL SEQUENCE

Lab Name: EMPIRICAL LABS      Contract:

Lab Code: EL                      Case No.:                      SAS No.: NA                      SDG No.: SDGA38549

Column: ZB-5                      ID: 0.32 (mm) Cont. Calib. Date(s): 07/05/08

Instrument ID: GCTCDFID

THE ANALYTICAL SEQUENCE OF PERFORMANCE BLANKS, AND SAMPLES  
GIVEN BELOW:

SURROGATE RT FROM CONTINUING CALIBRATION					
		S1 : 14.57		S2 : 8.42	
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	PRO 8500 #70	07/05/08	1511	14.57	8.42
02	PRO 5950 #70	07/05/08	1553	14.57	8.42
03	PRO 4250 #70	07/05/08	1636	14.57	8.42
04	PRO 2550 #70	07/05/08	1718	14.57	8.42
05	PRO 850 #705	07/05/08	1801	14.56	8.42
06	PRO 85 #7055	07/05/08	1843	14.57	8.42
07	PRO ICV #702	07/05/08	1926		
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					

QC LIMITS  
S1 = Ortho-Terphenyl                      (+/- 0.14 MINUTES)  
S2 = 2-Fluorobiphenyl                      (+/- 0.05 MINUTES)

# Column used to flag retention time values with an asterisk.  
\* Values outside of QC limits.

FORM 8  
PRO ANALYTICAL SEQUENCE

Lab Name: EMPIRICAL LABS      Contract: TETRATECH  
 Lab Code: EL                    Case No.:                    SAS No.: NA                    SDG No.: MAYPORT\_002  
 Column: ZB-5                    ID: 0.32 (mm) Cont. Calib. Date(s): 08/06/08  
 Instrument ID: GCTCDFID

THE ANALYTICAL SEQUENCE OF PERFORMANCE BLANKS, AND SAMPLES  
GIVEN BELOW:

SURROGATE RT FROM CONTINUING CALIBRATION					
		S1 : 14.57		S2 : 8.42	
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		PRO 4250 #70	08/06/08	1442	14.57    8.42
02	FW1BLK0730	FW1BLK0730	08/06/08	1556	14.57    8.43
03	FW1BLK0730LC	FW1BLK0730LC	08/06/08	1633	14.57    8.43
04	FW1BLK0730LC	FW1BLK0730LC	08/06/08	1716	14.57    8.42
05	A+D-RW01	0807219-01	08/06/08	1758	14.57    8.43
06	A+D-RW04	0807219-02	08/06/08	1841	14.57    8.42
07	A+D-1406-16	0807219-03	08/06/08	1923	14.57    8.42
08	351-2-MW02	0807219-06	08/06/08	2131	14.57    8.43
09	351-2-MW04	0807219-07	08/06/08	2213	14.57    8.43
10	351-2-MW01	0807219-08	08/06/08	2256	14.57    8.42
11		PRO 4250 #70	08/06/08	2339	14.57    8.42
12					

QC LIMITS  
 S1 = Ortho-Terphenyl                    (+/- 0.14 MINUTES)  
 S2 = 2-Fluorobiphenyl                (+/- 0.05 MINUTES)

# Column used to flag retention time values with an asterisk.  
 \* Values outside of QC limits.

FORM 8  
PRO ANALYTICAL SEQUENCE

Lab Name: EMPIRICAL LABS      Contract: TETRATECH  
 Lab Code: EL                    Case No.:                    SAS No.: NA                    SDG No.: MAYPORT\_002  
 Column: ZB-5                    ID: 0.32 (mm) Cont. Calib. Date(s): 08/07/08  
 Instrument ID: GCTCDFID

THE ANALYTICAL SEQUENCE OF PERFORMANCE BLANKS, AND SAMPLES  
GIVEN BELOW:

SURROGATE RT FROM CONTINUING CALIBRATION					
		S1 : 14.57		S2 : 8.42	
CLIENT	LAB	DATE	TIME	S1	S2
SAMPLE NO.	SAMPLE ID	ANALYZED	ANALYZED	RT #	RT #
=====	=====	=====	=====	=====	=====
01	PRO 4250 #70	08/07/08	1202	14.57	8.42
02	A+D-RW03	0807219-04	08/07/08	14.56	8.43
03	A+D-RW02	0807219-05	08/07/08	14.56	8.43
04	PRO 4250 #70	08/07/08	1410	14.57	8.42
05					

QC LIMITS  
 S1 = Ortho-Terphenyl                    (+/- 0.14 MINUTES)  
 S2 = 2-Fluorobiphenyl                (+/- 0.05 MINUTES)

# Column used to flag retention time values with an asterisk.  
 \* Values outside of QC limits.



**Empirical Laboratories**  
 EMPIRICAL LABORATORIES, LLC  
 LABORATORY SAMPLE CUSTODY FORM  
 WALK-IN REFRIGERATOR

Sample Log # (s)	Time/Date/Initials Removed	Time/Date/Initials Returned (Note if all Sample Used)	Notes/Comments	Task Performed
0804177	8:50 7-29-08 TES	KH 7/29/08 9:45		metals
7210-77, 18, 21, 22	9:50 7/29/08 AF		Used all	ILPAH
7205-15, 16	↓		Used all	PIPES
7205-15, 16 7198-5	↓		Used all	DNA
7226-01-04	7/29/08 10:20 (CAT)	7/29/08 12:21 (CAT)		TSS/VSS
7095-01 7180-01 7177-01, 02 7205-15, 16	10:22 7/29/08 KAG	11:15 KBZ 7/29/08		Hg
7223-01-03 7223-04-03 7226-01-03	AH 10:50 7/29	7/29/08 14:30 (CAT)		AIK/VFA
7210-01-07, 09 7224-01 7072-01	12:00 KBZ 7/29/08	15:20 KAG 7/29/08		Anions
7150-01 7157-01	CT 8:15 CAT 7/28/08	CT 3:43 7/30/08		NH <sub>4</sub>
7157-01 7167-01 7168-01 7157-01 7258-01-706 7210-01-709 7255-0107				
6007-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12 6009-02, 5, 6	KAT 9:15 7/30/08	KH 10:04 7/30/08		metals
7219-1-B 7219-1-B	(P) 9:24 7/30/08	Used all		FLUORO ILPAH
7234-01-04	7/30/08 11:05 (CAT)	7/30/08 13:00 (CAT)		VSS/TSS
7150-01 7157-01 7168-01 7157-01				
7205-01-706 7210-01-709	CT 6:10 7/31/08	CT 7/31/08 7:38		NH <sub>4</sub> Nitrate
7235-0107 7145-01A				
7249-01-04	7/31/08 09:00 (CAT)	7/31/08 14:30 (CAT)		BOD/CBOD

# HOBART SAMPLE EXTRACT CUSTODY FORM

Sample ID	Fraction	Time/Date/Initial		Analysis										
		Inserted	Removed	1	2	3	4	5	6	7	8			
<del>800509-04</del>	008 Waste	8:53 8/5/08												
8001-4 8014-2 8002-1 8012-1-3	PIRB	4:05 AF 8/5/08												X
8002-1 8014-2	BNA	4:05 AF 8/5/08												X
8018-14.5	FV	11/8/5:00 1625	8/5/08 11:15										X	
7205-12 8002-01 7257-01 8014-02	BNA	14:50 8/6/8 B7A	06:45 8/6/08 B7D										X	
8017-11,12 8022-01	LLPAT	10:35 8/7/8 B7D	↓										X	
7252-07-10 Dilutions x2, x10	LLPAT	↓	↓										X	
7118-19, 20, 26 8004-04, 8002-01 8002-15, 8014-02	P/P	5:15 8/6-08	11:00 8/6-08										X	X
7205-14 7205-15,14	P/P	↓	↓										X	
7219-1-8	FL FLO	↓	12:45 8/6-08										X	
8017-13-14 8002-12-4	LLPAT	1:47 8/6/08												
8019-1-6	EPH	5:03 8/6/08												
8019-01-06	EPH	14 8/6/08 1030	14 8/6/08 1715										X	
8017-13,14 8022-2-4	LL PAT		5:45 8/7/8											✓
8001-4 8014-2 8002-1 7229-09 8012-1-3	P B	14 8/7/08 1050	9 8/7/08 905										X	

added to 080408BWI

5-10  
8/6-08



EMPIRICAL LABORATORIES

Fraction: EPH/PRO/DRO Matrix: Water / Soil

Logbook # EX085 Supervisor

#	Client	Lab No.	Date Extracted	Setup Initials	pH	Initial g / mL	Final Volume	Surr Added	Surr Initials	Spike Added	Spike Initials	KD	10ml Conc.	15ml Cent.	Conc. Initials	Solvent MeCl2	Lot/Vendor Hexane	Na2SO4 Lot Used	Cartridge Lot Used	Fract. Sur. Added	Date Fract.	Fract. Initials	Notes/ Comments	#
1	Tetra Tech	027-79.0	12:00	JL	12	1000mL	2.0mL	1.0mL	JL	NA	NA	612	NA	NA	20	100035	NA							1
2		02	12:00							NA	NA	615												2
3		03								NA	NA	610												3
4		04								NA	NA	612												4
5		05								NA	NA	610												5
6		06								NA	NA	610												6
7		07								NA	NA	613												7
8		08								NA	NA	612												8
9										NA	NA													9
10										NA	NA													10
11										NA	NA													11
12										NA	NA													12
13										NA	NA													13
14										NA	NA													14
15										NA	NA													15
16										NA	NA													16
17										NA	NA													17
18										NA	NA													18
19										NA	NA													19
20										NA	NA													20
	URS	1-8	SAS	SAS	12	1000mL	2.0mL	SAS	SAS			611	NA	NA	20	SAS	SAS	SAS	SAS	SAS	SAS	SAS		
	LCS		SAS	SAS				SAS	SAS	1.0mL	20	614				SAS	SAS	SAS	SAS	SAS	SAS	SAS		
	ICSD		SAS	SAS				SAS	SAS	2.0mL	20	613				SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		
			SAS	SAS				SAS	SAS							SAS	SAS	SAS	SAS	SAS	SAS	SAS		

Note: All volumes are in milliliters and weights are in grams.

GCTCS.FID\FID.R\070508\FL PRO

Pa. 118

*Paul J. Hill*  
7-7-08

```
NAME SeqFileMacro
DELSEQUENCE
VERSION 3
SETPARAMS "KP", "", 0, 0, 1
SETDATAPATH "070508"
SETMETHODPATH
SETPRESEQ ""
SETPOSTSEQ ""
SETCOMMENT
SETNAMEMODE 1
SETSIG1FLEX "SIG1", "0001"
SETSIG2FLEX "SIG2", "0001"
SETSEQLINE 1,1,"",-1,-1,-1,-1
SETSEQLINE 2,1,"FLPROR",1,1,2,-1
SETSEQLINE 2,2,"FLPROR",2,69,1,-1
DELSAMPLE 1,100
SETSAMPLE 1,"MECL2 Blank",,,
SETINFO 1
SETINFO 1,";;;;;\\"
SETSAMPLE 2,"PRO 8500 #7055A",,,
SETINFO 2
SETINFO 2,";;;;;\\"
SETSAMPLE 3,"PRO 5950 #7055B",,,
SETINFO 3
SETINFO 3,";;;;;\\"
SETSAMPLE 4,"PRO 4250 #7055C",,,
SETINFO 4
SETINFO 4,";;;;;\\"
SETSAMPLE 5,"PRO 2550 #7055D",,,
SETINFO 5
SETINFO 5,";;;;;\\"
SETSAMPLE 6,"PRO 850 #7055E",,,
SETINFO 6
SETINFO 6,";;;;;\\"
SETSAMPLE 7,"PRO 85 #7055F",,,
SETINFO 7
SETINFO 7,";;;;;\\"
SETSAMPLE 8,"PRO ICV #7020",,,
SETINFO 8
SETINFO 8,";;;;;\\"
SETSAMPLE 9,"PRO 4250 #7055G",,, ID.#7239
SETINFO 9
SETINFO 9,";;;;;\\"
SETSAMPLE 10,"FW1BLK0626",,, 4208.1-5; 4281.1-4
SETINFO 10
SETINFO 10,"ch2.f06268;1000;2;062608FW1|mg/L;;;26-Jun-2008\"
SETSAMPLE 11,"FW1BLK0626LCS",,,
SETINFO 11
SETINFO 11,"ch2.f06268;1000;2;062608FW1;mg/L;;;26-Jun-2008\"
SETSAMPLE 12,"0806268-01",,,
SETINFO 12
SETINFO 12,"ch2.f06268;1080;2;062608FW1;mg/L;;;26-Jun-2008\"
SETSAMPLE 13,"0806268-02",,,
SETINFO 13
SETINFO 13,"ch2.f06268;1080;2;062608FW1;mg/L;;;26-Jun-2008\"
SETSAMPLE 14,"0806268-03",,,
SETINFO 14
```

x 1

*Paula J. Hill*  
8.7.08

```

NAME SeqFileMacro
DELSEQUENCE
VERSION 3
SETPARAMS "JH", "", 0, 0, 1
SETDATAPATH "080608"
SETMETHODPATH
SETPRESEQ ""
SETPOSTSEQ ""
SETCOMMENT
SETNAMEMODE 1
SETSIG1FLEX "SIG1", "0001"
SETSIG2FLEX "SIG2", "0001"
SETSEQLINE 1,1,"",-1,-1,-1,-1
SETSEQLINE 2,1,"FLPROR",1,27,1,-1
DELSAMPLE 1,100
SETSAMPLE 1,"MECL2 Blank",,,
SETINFO 1
SETINFO 1,";;;;;\\"
SETSAMPLE 2,"SyringeTest otp",,,
SETINFO 2
SETINFO 2,";;;;;\\"
SETSAMPLE 3,"SyringeTest lcs",,,
SETINFO 3
SETINFO 3,";;;;;\\"
SETSAMPLE 4,"PRO 4250 #7055G",,,
SETINFO 4
SETINFO 4,";;;;;\\"
SETSAMPLE 5,"FW1BLK0730",,, 7219.1-8
SETINFO 5
SETINFO 5,"Mayport_002;1000;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 6,"FW1BLK0730LCS",,,
SETINFO 6
SETINFO 6,"Mayport_002;1000;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 7,"FW1BLK0730LCSD",,,
SETINFO 7
SETINFO 7,"Mayport_002;1000;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 8,"0807219-01",,,
SETINFO 8
SETINFO 8,"Mayport_002;1080;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 9,"0807219-02",,,
SETINFO 9
SETINFO 9,"Mayport_002;1080;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 10,"0807219-03",,,
SETINFO 10
SETINFO 10,"Mayport_002;1080;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 11,"0807219-04",,,
SETINFO 11
SETINFO 11,"Mayport_002;1080;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 12,"0807219-05",,,
SETINFO 12
SETINFO 12,"Mayport_002;1080;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 13,"0807219-06",,,
SETINFO 13
SETINFO 13,"Mayport_002;1080;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 14,"0807219-07",,,
SETINFO 14
SETINFO 14,"Mayport_002;1080;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 15,"0807219-08",,,

```

x |

*Paul Hill*  
8-7-08

```

SETINFO 15
SETINFO 15,"Mayport_002;1080;2;073008TW1;mg/L;;;30-Jul-2008\"
SETSAMPLE 16,"PRO 4250 #7055G",,,
SETINFO 16
SETINFO 16,";;;;;\\"
SETSAMPLE 17,"EPH 4250 #7272G",,,
SETINFO 17
SETINFO 17,";;;;;\\"
SETSAMPLE 18,"TS1BLK0806",,, 8019.1-6
SETINFO 18
SETINFO 18,"env.t08019;25.0;1;080608TS1;mg/Kg;;;06-Aug-2008\"
SETSAMPLE 19,"TS1BLK0806LCS",,,
SETINFO 19
SETINFO 19,"env.t08019;25.0;1;080608TS1;mg/Kg;;;06-Aug-2008\"
SETSAMPLE 20,"TS1BLK0806LCS",,,
SETINFO 20
SETINFO 20,"env.t08019;25.0;1;080608TS1;mg/Kg;;;06-Aug-2008\"
SETSAMPLE 21,"0808019-01",,,
SETINFO 21
SETINFO 21,"env.t08019;25.0;1;080608TS1;mg/Kg;;;06-Aug-2008\"
SETSAMPLE 22,"0808019-02",,,
SETINFO 22
SETINFO 22,"env.t08019;25.0;1;080608TS1;mg/Kg;;;06-Aug-2008\"
SETSAMPLE 23,"0808019-03",,,
SETINFO 23
SETINFO 23,"env.t08019;25.0;1;080608TS1;mg/Kg;;;06-Aug-2008\"
SETSAMPLE 24,"0808019-04",,,
SETINFO 24
SETINFO 24,"env.t08019;25.0;1;080608TS1;mg/Kg;;;06-Aug-2008\"
SETSAMPLE 25,"0808019-05",,,
SETINFO 25
SETINFO 25,"env.t08019;25.0;1;080608TS1;mg/Kg;;;06-Aug-2008\"
SETSAMPLE 26,"0808019-06",,,
SETINFO 26
SETINFO 26,"env.t08019;25.0;1;080608TS1;mg/Kg;;;06-Aug-2008\"
SETSAMPLE 27,"EPH 4250 #7272G",,,
SETINFO 27
SETINFO 27,";;;;;\\"
RETURN

```

x |



**ATTACHMENT C**  
**FIELD DATA SHEETS**





U.S. Naval Station Mayport Gw Sampling Site 351-2

14 May 10

Personnel: Jeff Kron

Truck: 2006 F250

PPE: Level D

Weather: Partly Cloudy 90°

Objective: Ground Water Sampling

0810 Departed office for NAUSTA.

0940 Arrived at site, began equipment calibration and purge

1030 Completed calibration, commenced sample event.

Well ID	Sample ID	Start	Stop	Sample time	Analysis
MW 05 $\frac{1}{2}$	MPT-351-2-MW05 $\frac{1}{2}$ -20100519	0950	1051	1057	1,2,3,4,5,6,7
MW-06 $\frac{1}{2}$	MPT-351-2-MW06 $\frac{1}{2}$ -20100519	0950	1126	1133	1,2,3,4,5,6,7
MW-07 $\frac{1}{2}$	MPT-351-2-MW07 $\frac{1}{2}$ -20100519	1120	1206	1212	1,2,3,4,5,6,7
Rinsate	MPT-351-2-Rinsate $\frac{1}{2}$ -20100519			1330	1,2,3,4,5,6,7

Analysis key 1: VOCs 2: PAHs 3: TRPH 4: Ammonia and sulfate 5: TDS  
6: Iron and Sodium 7: Nitrate All Samples cooled to 4°C

1345 Packed up equipment and transferred IOW to drum  
MPT-351-2-012

1420 Departed site

1445 Arrived at A/D Pier began uncapping wells.

1520 Began groundwater level measurements

1600 Completed measurements, Packed equipment and departed  
site

1705 Relinquished samples to ENCO Labs

K

U.S. Naval Station Mayport Groundwater Sampling Site 351-2 18 May 11

Personnel: Jeff Krome

Truck: 2006 F-250

PPE: Level D

Weather: Partly Cloudy 88°

Objective Groundwater Sampling at Site 351-2

0830 Departed office for Mayport

0920 Arrived on site, commenced calibration and uncapping wells.

1015 Completed calibration, began groundwater measurement

1040 Completed groundwater levels, commenced sampling event (see table below for details).

Well ID	Sample ID	Start	Stop	Sample Date	Analyses
MW-01S	MPT-351-2-MW01S-20100518	1045	1116	1020	1, 2, 3, 4, 5, 6
MW-02S	MPT-351-2-MW02S-20100518	1055	1201	1212	1, 2, 3, 4, 5, 6
MW-040	MPT-351-2-MW040-20100518	1150	1246	1303	1, 2, 3, 4, 5, 6
MW-03S	MPT-351-2-MW03S-20100518*	1240	1446	1451	1, 2, 3, 4, 5, 6
MW-08S	MPT-351-2-MW08S-20100518	1435	1531	1539	1, 2, 3, 4, 5, 6

Analysis Key 1=VOCs 2=PAHs 3=TRPH 4=Ammonia & Sulfate 5=Total dissolved Solids  
6=Iron & Sodium 7=Nitrate

\* Indicates ms/msd sample All samples cooled to 4°C

1600 Completed sampling for the day.

1645 Transferred IDW to drum <sup>MPT</sup> 351-2-011

1700 Completed clean up and stowage of equipment and departed NAVSTA.

Tetra Tech NUS / FDEP Groundwater Sampling Sheet

SITE NAME: <b>Building 351-2</b> WELL NO: <b>351-2-MW018</b>	SITE LOCATION: <b>NAVSTA Mayport</b> SAMPLE ID: <b>MPT-351-2-MW018-20100519</b>	DATE: <b>5/18</b> / 2010
---	--	--------------------------

**PURGING DATA**

WELL DIAMETER (in): <b>2</b>	TUBING DIAMETER (Inches): <b>3/16</b>	TOTAL WELL DEPTH (ft.): <b>11.75</b>	STATIC DEPTH TO WATER (ft): <b>4.30</b>	PURGE PUMP TYPE OR BAILER: <b>Peristaltic Pump</b>
WELL VOLUME PURGE: <b>1</b> WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable) <span style="margin-left: 100px;"><b>4.49</b> Liters</span>				
EQUIPMENT VOLUME PURGE: <b>1</b> EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <span style="margin-left: 100px;"><b>6.2</b> Liters</span>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>5</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>5</b>	PURGE INITIATED AT: <b>1045</b>	PURGE ENDED AT: <b>1116</b>	TOTAL VOLUME PURGED (Liters): <b>6.2</b>

TIME	VOLUME PURGED (Liters)	CUMUL VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR
<del>1045</del>	—	—	<b>200</b>	—	—	—	—	—	—	—	—
<b>1010</b>	<b>5.00</b>	<b>5.00</b>	<b>200</b>	<b>4.41</b>	<b>7.59</b>	<b>22.41</b>	<b>.1755</b>	<b>1.03</b>	<b>3.05</b>	<b>-176.4</b>	<b>clear</b>
<b>1013</b>	<b>.6</b>	<b>5.6</b>	<b>200</b>	<b>4.42</b>	<b>7.59</b>	<b>22.45</b>	<b>.1754</b>	<b>1.02</b>	<b>3.05</b>	<b>-180.8</b>	<b>clear</b>
<b>1016</b>	<b>16</b>	<b>6.2</b>	<b>200</b>	<b>4.42</b>	<b>7.59</b>	<b>22.44</b>	<b>.1755</b>	<b>1.05</b>	<b>2.87</b>	<b>-178.6</b>	<b>clear</b>
<b>1020</b>	<b>Sample time</b>										

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.08; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.018

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: <b>TtNUS/ Jeff Krone</b>			SAMPLER(S) SIGNATURES: <i>[Signature]</i>			SAMPLING INITIATED AT: <b>1020</b>		SAMPLING ENDED AT: <b>1040</b>		
PUMP OR TUBING DEPTH IN WELL (feet): <b>5</b>			SAMPLE PUMP FLOW RATE (mL per minute): <b>200</b>			TUBING MATERIAL CODE: <b>Teflon</b>				
FIELD DECONTAMINATION: <b>Y</b> <input checked="" type="radio"/> <b>N</b>			FIELD-FILTERED: <b>Y</b> <input checked="" type="radio"/> <b>N</b>			FILTER SIZE: _____ µm		MS/MSD: <b>Y</b> <input checked="" type="radio"/> <b>N</b>		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
PP	3	CG	40 mL	HCL	NONE	<2	VOCs (BTEX + MTBE)/8260B	RFPP
PP	1	AG	1 L	NONE	NONE	--	PAHs/8270C	APP
PP	2	AG	1 L	H2SO4	NONE	--	TRPH/FL-PRO	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Ammonia & Sulfate	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Total Dissolved Solids (TDS)	APP
PP	1	PE	250 OR 500 ML	HNO3	NONE		Iron & Sodium	APP
PP	1	PE	250 OR 500 ML	Cool to 4° C	NONE		Nitrate	APP

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Notes: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. Stabilization criteria for range of variation of last 3 consecutive readings (see FS 2212, section 3)  
 pH: ±0.2 units Temperature: ±0.2°C Specific Conductance: ±5% Dissolved Oxygen: all readings ≤ 20% saturation (see table FS 2200-2);

# Tetra Tech NUS / FDEP Groundwater Sampling Sheet

optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU or ± 10% (whichever is greater)

SITE NAME: <b>Building 351-2</b>	SITE LOCATION: <b>NAVSTA Mayport</b>	DATE: <b>5 / 18 / 2010</b>
WELL NO: <b>351-2-MW028</b>	SAMPLE ID: <b>MPT-351-2-MW028-20100518</b>	

## PURGING DATA

WELL DIAMETER (in): <b>2</b>	TUBING DIAMETER (Inches): <b>3/16</b>	TOTAL WELL DEPTH (ft.): <b>13.5</b>	STATIC DEPTH TO WATER (ft): <b>5.59</b>	PURGE PUMP TYPE OR BAILER: <b>Peristaltic Pump</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY <small>only fill out if applicable</small> $13.5 - 5.59 = 7.91 \times 0.16 = 1.26 \times 3.785 = 4.79$ Liters				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME <small>only fill out if applicable</small> $13.5 - 5.59 = 7.91$ Liters				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>6</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>6</b>	PURGE INITIATED AT: <b>1055</b>	PURGE ENDED AT: <b>1201</b>	TOTAL VOLUME PURGED (Liters): <b>6.4</b>

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR
1055			100								
1155	6.0	6.0	100	5.61	7.41	23.40	6.433	0.87	1.61	-39.2	clear
1158	.3	6.3	100	5.61	7.42	23.41	0.433	0.87	1.07	-36.3	clear
1201	.3	6.6	100	5.62	7.42	23.47	0.433	0.86	0.91	-33.5	clear
1212	Sample time										

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.66; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.018

## SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: TINUS/Jeff Krone	SAMPLER(S) SIGNATURES: 	SAMPLING INITIATED AT: <b>1212</b>	SAMPLING ENDED AT: <b>1225</b>					
PUMP OR TUBING DEPTH IN WELL (feet): <b>6</b>	SAMPLE PUMP FLOW RATE (mL per minute): <b>100</b>	TUBING MATERIAL CODE: <b>Teflon</b>						
FIELD DECONTAMINATION: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	FIELD-FILTERED: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	FILTRATION EQUIPMENT TYPE: <b>100</b>	FILTER SIZE: _____ µm					
SAMPLE CONTAINER SPECIFICATION		SAMPLE PRESERVATION						
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
PP	3	CG	40 mL	HCL	NONE	<2	VOCs (BTEX + MTBE)/8260B	RFPP
PP	1	AG	1 L	NONE	NONE	--	PAHs/8270C	APP
PP	2	AG	1 L	H2SO4	NONE	--	TRPH/FL-PRO	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Ammonia & Sulfate	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Total Dissolved Solids (TDS)	APP
PP	1	PE	250 OR 500 ML	HNO3	NONE		Iron & Sodium	APP
PP	1	PE	250 OR 500 ML	Cool to 4°C	NONE		Nitrate	APP
REMARKS:								

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)  
 SAMPLING/PURGING: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump  
 EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Notes: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. Stabilization criteria for range of variation of last 3 consecutive readings (see FS 2212, section 3)  
 pH: ±0.2 units Temperature: ±0.2°C Specific Conductance: ±5% Dissolved Oxygen: all readings ≤ 20% saturation (see table FS 2200-2);

**Tetra Tech NUS / FDEP Groundwater Sampling Sheet**

optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU or ± 10% (whichever is greater)

SITE NAME: <b>Building 351-2</b>	SITE LOCATION: <b>NAVSTA Mayport</b>
WELL NO: <b>351-2-MW03S</b>	SAMPLE ID: <b>MPT-351-2-MW03S-20100517</b> DATE: <b>5 / 18 / 2010</b>

**PURGING DATA**

WELL DIAMETER (in): <b>2</b>	TUBING DIAMETER (Inches): <b>3/16</b>	TOTAL WELL DEPTH (ft.): <b>13</b>	STATIC DEPTH TO WATER (ft): <b>5.59</b>	PURGE PUMP TYPE OR BAILER: <b>Peristaltic Pump</b>							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable) <b>13 - 5.59 = 7.41 x .16 = 1.18 x 3.7852 = 4.48 Liters</b>											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <b>Liters</b>											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>6</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>6</b>	PURGE INITIATED AT: <b>1240</b>	PURGE ENDED AT: <b>1446</b>	TOTAL VOLUME PURGED (Liters): <b>12.64</b>							
TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR
<b>1240</b>	—	—	<b>100</b>	—	—	—	—	—	—	—	—
<b>1440</b>	<b>12.0</b>	<b>12.0</b>	<b>100</b>	<b>5.64</b>	<b>6.74</b>	<b>25.31</b>	<b>.596</b>	<b>0.11</b>	<b>1.23</b>	<b>-123.3</b>	<b>clear</b>
<b>1443</b>	<b>.3</b>	<b>12.3</b>	<b>100</b>	<b>5.64</b>	<b>6.74</b>	<b>25.34</b>	<b>.596</b>	<b>0.14</b>	<b>1.10</b>	<b>-117.7</b>	<b>clear</b>
<b>1446</b>	<b>.3</b>	<b>12.6</b>	<b>100</b>	<b>5.64</b>	<b>6.74</b>	<b>25.33</b>	<b>.593</b>	<b>0.14</b>	<b>0.91</b>	<b>-108.1</b>	<b>clear</b>
<b>1451 Sample + 1m</b>											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88											
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: TINUS/ <b>Jeff Kron</b>	SAMPLER(S) SIGNATURES: <i>[Signature]</i>	SAMPLING INITIATED AT: <b>1451</b>	SAMPLING ENDED AT: <b>1508</b>					
PUMP OR TUBING DEPTH IN WELL (feet): <b>Jeff Kron 6</b>	SAMPLE PUMP FLOW RATE (mL per minute): <b>100</b>	TUBING MATERIAL CODE: <b>Teflon</b>						
FIELD DECONTAMINATION: <b>Y</b> <input checked="" type="radio"/> <b>N</b> <input type="radio"/>	FIELD-FILTERED: <b>Y</b> <input type="radio"/> <b>N</b> <input checked="" type="radio"/> Filtration Equipment Type: <b>[Signature]</b>	FILTER SIZE: _____ µm	MS/MSD: <b>Y</b> <input type="radio"/> <b>N</b> <input checked="" type="radio"/>					
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
PP	3	CG	40 mL	HCL	NONE	<2	VOCs (BTEX + MTBE)/8260B	RFPP
PP	1	AG	1 L	NONE	NONE	--	PAHs/8270C	APP
PP	2	AG	1 L	H2SO4	NONE	--	TRPH/FL-PRO	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Ammonia & Sulfate	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Total Dissolved Solids (TDS)	APP
PP	1	PE	250 OR 500 ML	HNO3	NONE		Iron & Sodium	APP
PP	1	PE	250 OR 500 ML	Cool to 4°C	NONE		Nitrate	APP
REMARKS:								

**MATERIAL CODES:** AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

**SAMPLING/PURGING EQUIPMENT CODES:** APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Notes: 1. The above do not constitute all of the information required by Chapter 82-160, F.A.C.

2. Stabilization criteria for range of variation of last 3 consecutive readings (see FS 2212, section 3)

pH: ±0.2 units Temperature: ±0.2°C Specific Conductance: ±5% Dissolved Oxygen: all readings ≤ 20% saturation (see table FS 2200-2);

**Tetra Tech NUS / FDEP Groundwater Sampling Sheet**

optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU or ± 10% (whichever is greater)

SITE NAME: <b>Building 351-2</b> WELL NO: <b>351-2-MW04D</b>	SITE LOCATION: <b>NAVSTA Mayport</b> SAMPLE ID: <b>MPT-351-2-MW04D-20100618</b>	DATE: <b>5 / 18 / 2010</b>
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**PURGING DATA**

WELL DIAMETER (in): <b>2</b>	TUBING DIAMETER (inches): <b>3/16</b>	TOTAL WELL DEPTH (ft.): <b>29.4</b>	STATIC DEPTH TO WATER (ft): <b>5.71</b>	PURGE PUMP TYPE OR BAILER: <b>Peristaltic Pump</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) $3 \times 3.55 = 1.185$ Liters $.0014 \times 35 = .049 \times 3.785 = .185 + 1 = 1.185$				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>25</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>25</b>	PURGE INITIATED AT: <b>1150</b>	PURGE ENDED AT:	TOTAL VOLUME PURGED (Liters):

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (ml/min)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR
<b>1150</b>	—	—	<b>100</b>								
<b>1240</b>	<b>5.0</b>	<b>5.0</b>	<b>100</b>	<b>5.81</b>	<b>7.54</b>	<b>21.78</b>	<b>.815</b>	<b>0.33</b>	<b>3.67</b>	<b>-176.9</b>	<b>clear</b>
<b>1243</b>	<b>.3</b>	<b>5.3</b>	<b>100</b>	<b>5.82</b>	<b>7.54</b>	<b>24.79</b>	<b>.817</b>	<b>0.32</b>	<b>0.60</b>	<b>-178.2</b>	<b>clear</b>
<b>1246</b>	<b>.3</b>	<b>5.6</b>	<b>100</b>	<b>5.82</b>	<b>5.55</b>	<b>24.80</b>	<b>.817</b>	<b>0.32</b>	<b>0.60</b>	<b>-179.6</b>	<b>clear</b>
<b>1303 Sample time</b>											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0009; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: <b>TINUS/ Jeff Krone</b>			SAMPLER(S) SIGNATURES:			SAMPLING INITIATED AT: <b>1303</b>		SAMPLING ENDED AT: <b>1330</b>		
PUMP OR TUBING DEPTH IN WELL (feet): <b>25</b>			SAMPLE PUMP FLOW RATE (mL per minute): <b>100</b>			TUBING MATERIAL CODE: <b>Teflon</b>				
FIELD DECONTAMINATION: <b>Y</b> <input checked="" type="radio"/> <b>N</b> <input type="radio"/>			FIELD-FILTERED: <b>Y</b> <input type="radio"/> <b>N</b> <input checked="" type="radio"/>			FILTER SIZE: _____ µm		MS/MSD: <input checked="" type="radio"/> <b>Y</b> <input type="radio"/> <b>N</b>		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
PP	3	CG	40 mL	HCL	NONE	<2	VOCs (BTEX + MTBE)/8260B	RFPP
PP	1	AG	1 L	NONE	NONE	--	PAHs/8270C	APP
PP	2	AG	1 L	H2SO4	NONE	--	TRPH/FL-PRO	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Ammonia & Sulfate	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Total Dissolved Solids (TDS)	APP
PP	1	PE	250 OR 500 ML	HNO3	NONE		Iron & Sodium	APP
PP	1	PE	250 OR 500 ML	Cool to 4° C	NONE		Nitrate	APP

REMARKS:

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump, B = Bailor, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), VT = Vacuum Trap, O = Other (Specify)

Notes: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. Stabilization criteria for range of variation of last 3 consecutive readings (see FS 2212, section 3)  
 pH: ±0.2 units Temperature: ±0.2°C Specific Conductance: ±5% Dissolved Oxygen: all readings ≤ 20% saturation (see table FS 2200-2);

**Tetra Tech NUS / FDEP Groundwater Sampling Sheet**

optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU or ± 10% (whichever is greater)

SITE NAME: <b>Building 351-2</b>	SITE LOCATION: <b>NAVSTA Mayport</b>
WELL NO: <b>351-2-MW058</b>	SAMPLE ID: <b>MPT-351-2-MW058-20100519</b> DATE: <b>5 / 19 / 2010</b>

**PURGING DATA**

WELL DIAMETER (in): <b>.75</b>	TUBING DIAMETER (Inches): <b>3/16</b>	TOTAL WELL DEPTH (ft.): <b>10.5</b>	STATIC DEPTH TO WATER (ft): <b>6.59</b>	PURGE PUMP TYPE OR BAILER: <b>Peristaltic Pump</b>							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable) <b>.29 Liters</b> $10.5 - 6.59 = 3.91 \times .02 = .078 \times 3.785 = .29$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <b>Liters</b>											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>8</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>8</b>	PURGE INITIATED AT: <b>0950</b>	PURGE ENDED AT: <b>1051</b>	TOTAL VOLUME PURGED (Liters): <b>6.1</b>							
TIME	VOLUME PURGED (Liters)	CUMUL VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR
<b>0950</b>	<b>—</b>	<b>—</b>	<b>100</b>	<b>6.61</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>1045</b>	<b>5.5</b>	<b>3.5</b>	<b>100</b>	<b>6.62</b>	<b>6.87</b>	<b>22.09</b>	<b>0.471</b>	<b>0.33</b>	<b>4.41</b>	<b>-72.7</b>	<b>clear</b>
<b>1048</b>	<b>.3</b>	<b>5.8</b>	<b>100</b>	<b>6.62</b>	<b>6.88</b>	<b>22.07</b>	<b>0.470</b>	<b>0.31</b>	<b>1.50</b>	<b>-75.2</b>	<b>clear</b>
<b>1051</b>	<b>.3</b>	<b>6.1</b>	<b>100</b>	<b>6.62</b>	<b>6.88</b>	<b>22.01</b>	<b>0.480</b>	<b>0.30</b>	<b>0.93</b>	<b>-76.4</b>	<b>clear</b>
<b>1057 Sample time</b>											
WELL CAPACITY (Gallons Per Foot): <b>0.75" = 0.02</b> 1" = 0.04;    1.25" = 0.06;    2" = 0.16;    3" = 0.37;    4" = 0.66;    5" = 1.02;    6" = 1.47;    12" = 5.88											
TUBING INSIDE DIA. CAPACITY (Gal./ft.): <b>1/8" = 0.0008</b> ;    3/16" = 0.0014;    1/4" = 0.0028;    5/16" = 0.004;    3/8" = 0.008;    1/2" = 0.010;    5/8" = 0.016											

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: <b>TINUS/ Jeff Krone</b>				SAMPLER(S) SIGNATURES:				SAMPLING INITIATED AT: <b>1057</b>		SAMPLING ENDED AT: <b>1115</b>	
PUMP OR TUBING DEPTH IN WELL (feet): <b>8</b>				SAMPLE PUMP FLOW RATE (ml. per minute): <b>100</b>				TUBING MATERIAL CODE: <b>Teflon</b>			
FIELD DECONTAMINATION:    Y <b>N</b>				FIELD-FILTERED:    Y <b>N</b>				FILTER SIZE:    ___ µm		MS/MSD:    Y <b>N</b>	
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
<b>PP</b>	<b>3</b>	<b>CG</b>	<b>40 mL</b>	<b>HCL</b>	<b>NONE</b>	<b>&lt;2</b>	<b>VOCs (BTEX + MTBE)/8260B</b>		<b>RFPP</b>		
<b>PP</b>	<b>1</b>	<b>AG</b>	<b>1 L</b>	<b>NONE</b>	<b>NONE</b>	<b>--</b>	<b>PAHs/8270C</b>		<b>APP</b>		
<b>PP</b>	<b>2</b>	<b>AG</b>	<b>1 L</b>	<b>H2SO4</b>	<b>NONE</b>	<b>--</b>	<b>TRPH/FL-PRO</b>		<b>APP</b>		
<b>PP</b>	<b>1</b>	<b>PE</b>	<b>250 OR 500 ML</b>	<b>COOL TO 4°C</b>	<b>NONE</b>		<b>Ammonia &amp; Sulfate</b>		<b>APP</b>		
<b>PP</b>	<b>1</b>	<b>PE</b>	<b>250 OR 500 ML</b>	<b>COOL TO 4°C</b>	<b>NONE</b>		<b>Total Dissolved Solids (TDS)</b>		<b>APP</b>		
<b>PP</b>	<b>1</b>	<b>PE</b>	<b>250 OR 500 ML</b>	<b>HNO3</b>	<b>NONE</b>		<b>Iron &amp; Sodium</b>		<b>APP</b>		
<b>PP</b>	<b>1</b>	<b>PE</b>	<b>250 OR 500 ML</b>	<b>Cool to 4° C</b>	<b>NONE</b>		<b>Nitrate</b>		<b>APP</b>		
REMARKS:											

**MATERIAL CODES:**    AG = Amber Glass;    CG = Clear Glass;    PE = Polyethylene;    PP = Polypropylene;    S = Silicone;    T = Teflon;    O = Other (Specify)

**SAMPLING/PURGING EQUIPMENT CODES:**    APP = After Peristaltic Pump;    B = Bailer;    BP = Bladder Pump;    ESP = Electric Submersible Pump;    PP = Peristaltic Pump  
 RFPP = Reverse Flow Peristaltic Pump;    SM = Straw Method (Tubing Gravity Drain);    VT = Vacuum Trap;    O = Other (Specify)

Notes: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. Stabilization criteria for range of variation of last 3 consecutive readings (see FS 2212, section 3)  
 pH: ±0.2 units    Temperature: ±0.2°C    Specific Conductance: ±5%    Dissolved Oxygen: all readings ≤ 20% saturation (see table FS 2200-2);

# Tetra Tech NUS / FDEP Groundwater Sampling Sheet

optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU or ± 10% (whichever is greater)

SITE NAME: Building 351-2	SITE LOCATION: NAVSTA Mayport	DATE: 5 / 19 / 2010
WELL NO: 351-2-MW068	SAMPLE ID: MPT-351-2-MW068-201005 19	

## PURGING DATA

WELL DIAMETER (in): .75	TUBING DIAMETER (Inches): 3/16	TOTAL WELL DEPTH (ft.): 10.5	STATIC DEPTH TO WATER (ft): 6.43	PURGE PUMP TYPE OR BAILER: Peristaltic Pump
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY <small>(only fill out if applicable)</small> $10.5 - 6.43 = 4.07 \times 0.09 = .366 \times 3.785 = .308$ Liters				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME <small>(only fill out if applicable)</small>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 8	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 8	PURGE INITIATED AT: 0950	PURGE ENDED AT: 1126	TOTAL VOLUME PURGED (Liters): 9.6

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR
0950	—	—	100								
1120	9.0	9.0	100	6.49	6.67	21.84	1.173	0.18	3.06	-73.2	clear
1123	.3	9.3	100	6.49	6.66	21.81	1.172	0.18	2.93	-71.4	clear
1126	.3	9.6	100	6.49	6.67	21.89	1.174	0.17	2.83	-69.9	yellow
1133 Sample time											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016

## SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: TINUS/ Jeff Krone			SAMPLER(S) SIGNATURES:			SAMPLING INITIATED AT: 1133		SAMPLING ENDED AT: 1150		
PUMP OR TUBING DEPTH IN WELL (feet): 8			SAMPLE PUMP FLOW RATE (mL per minute): 100			TUBING MATERIAL CODE: Teflon				
FIELD DECONTAMINATION: Y <input checked="" type="radio"/> N <input type="radio"/>			FIELD-FILTERED: Y <input type="radio"/> N <input checked="" type="radio"/>			FILTRATION EQUIPMENT TYPE:		MS/MSD: Y <input type="radio"/> N <input checked="" type="radio"/>		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
PP	3	CG	40 mL	HCL	NONE	<2	VOCs (BTEX + MTBE)/8260B	RFPF
PP	1	AG	1 L	NONE	NONE	--	PAHs/8270C	APP
PP	2	AG	1 L	H2SO4	NONE	--	TRPH/FL-PRO	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Ammonia & Sulfate	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Total Dissolved Solids (TDS)	APP
PP	1	PE	250 OR 500 ML	HNO3	NONE		Iron & Sodium	APP
PP	1	PE	250 OR 500 ML	Cool to 4°C	NONE		Nitrate	APP

REMARKS: \* Petroleum odor & sheen on IDW

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)  
 SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump  
 RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Notes: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. Stabilization criteria for range of variation of last 3 consecutive readings (see FS 2212, section 3)  
 pH: ±0.2 units Temperature: ±0.2°C Specific Conductance: ±5% Dissolved Oxygen: all readings ≤ 20% saturation (see table FS 2200-2); optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU or ± 10% (whichever is greater)

**Tetra Tech NUS / FDEP Groundwater Sampling Sheet**

SITE NAME: <b>Building 351-2</b> WELL NO: <b>351-2-MW078</b>	SITE LOCATION: <b>NAVSTA Mayport</b> SAMPLE ID: <b>MPT-351-2-MW078-201005</b> <span style="float:right">9</span> DATE: <b>5 / 19 / 2010</b>
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**PURGING DATA**

WELL DIAMETER (in): <b>.75</b>	TUBING DIAMETER (inches): <b>3/16</b>	TOTAL WELL DEPTH (ft.): <b>10.5</b>	STATIC DEPTH TO WATER (ft):	PURGE PUMP TYPE OR BAILER: <b>Peristaltic Pump</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable) <span style="float:right"><b>.29</b> Liters</span>				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <span style="float:right"><b>10.5 - 6.59 = 3.91 x .02 = .078 x 3.785 = .29</b></span>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>7</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>8</b>	PURGE INITIATED AT: <b>1120</b>	PURGE ENDED AT: <b>1206</b>	TOTAL VOLUME PURGED (Liters): <b>4.6</b>

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR
1120	—	—	100	—	—	—	—	—	—	—	—
1200	4.0	4.0	100	6.68	7.67	20.64	0.403	0.20	5.81	-141.9	clear
1203	.3	4.3	100	6.68	7.67	20.78	.403	0.21	5.53	-142.1	clear
1206	.3	4.6	100	6.68	7.66	20.87	.403	0.22	5.42	-130.9	clear
<b>1212 Sample time</b>											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.08; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal/Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: TINUS/ Jeff Krone	SAMPLER(S) SIGNATURES: 	SAMPLING INITIATED AT: <b>1212</b>	SAMPLING ENDED AT: <b>1230</b>
PUMP OR TUBING DEPTH IN WELL (feet): <b>8</b>	SAMPLE PUMP FLOW RATE (mL per min): <b>100</b>	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/>	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/>	FILTER SIZE: _____ µm	MS/MSD: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/>

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
PP	3	CG	40 mL	HCL	NONE	<2	VOCs (BTEX + MTBE)/8260B	RFPP
PP	1	AG	1 L	NONE	NONE	--	PAHs/8270C	APP
PP	2	AG	1 L	H2SO4	NONE	--	TRPH/FL-PRO	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Ammonia & Sulfate	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Total Dissolved Solids (TDS)	APP
PP	1	PE	250 OR 500 ML	HNO3	NONE		Iron & Sodium	APP
PP	1	PE	250 OR 500 ML	Cool to 4° C	NONE		Nitrate	APP

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)  
 SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump  
 RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Notes: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. Stabilization criteria for range of variation of last 3 consecutive readings (see FS 2212, section 3)  
 pH: ±0.2 units Temperature: ±0.2°C Specific Conductance: ±5% Dissolved Oxygen: all readings ≤ 20% saturation (see table FS 2200-2); optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU or ± 10% (whichever is greater)

**Tetra Tech NUS / FDEP Groundwater Sampling Sheet**

SITE NAME: <b>Building 351-2</b> WELL NO: <b>351-2-MW088</b>	SITE LOCATION: <b>NAVSTA Mayport</b> SAMPLE ID: <b>MPT-351-2-MW088-201005 18</b>	DATE: <b>5/12/2010</b>
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**PURGING DATA**

WELL DIAMETER (in): <b>.75</b>	TUBING DIAMETER (Inches): <b>3/16</b>	TOTAL WELL DEPTH (ft.): <b>10.5</b>	STATIC DEPTH TO WATER (ft): <b>5.97</b>	PURGE PUMP TYPE OR BAILER: <b>Peristaltic Pump</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable $10.5 - 5.97 = 4.53 \times .02 = 0.0906 \times 3.785 = .34$				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME only fill out if applicable $5 + (0.0008 \times 10.5) + 0 = 5.0084$				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>5</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>5</b>	PURGE INITIATED AT: <b>1435</b>	PURGE ENDED AT: <b>1531</b>	TOTAL VOLUME PURGED (Liters): <b>5.6</b>

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ODOR
1435	—	—	100	—	—	—	—	—	—	—	—
1525	5.0	5.0	100	6.28	7.29	23.06	.505	0.15	3.00	-127.1	clear
1528	.3	5.3	100	6.28	7.27	23.16	.506	0.15	2.80	-120.7	clear
1531	.3	5.6	100	6.28	7.27	23.16	.506	0.14	2.68	-113.5	clear

1539 Sample time

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: <b>TINUS/ Jeff Krone</b>	SAMPLER(S) SIGNATURES: 	SAMPLING INITIATED AT: <b>1539</b>	SAMPLING ENDED AT: <b>1600</b>
PUMP OR TUBING DEPTH IN WELL (feet): <b>5</b>	SAMPLE PUMP FLOW RATE (mL per minute): <b>100</b>	TUBING MATERIAL CODE: <b>Teflon</b>	
FIELD DECONTAMINATION: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	FIELD-FILTERED: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	FILTER SIZE: _____ µm	MS/MSD: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
PP	3	CG	40 mL	HCL	NONE	<2	VOCs (BTEX + MTBE)/8260B	RFPP
PP	1	AG	1 L	NONE	NONE	--	PAHs/8270C	APP
PP	2	AG	1 L	H2SO4	NONE	--	TRPH/FL-PRO	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Ammonia & Sulfate	APP
PP	1	PE	250 OR 500 ML	COOL TO 4°C	NONE		Total Dissolved Solids (TDS)	APP
PP	1	PE	250 OR 500 ML	HNO3	NONE		Iron & Sodium	APP
PP	1	PE	250 OR 500 ML	Cool to 4°C	NONE		Nitrate	APP

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)  
 SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump  
 RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Notes: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. Stabilization criteria for range of variation of last 3 consecutive readings (see FS 2212, section 3)  
 pH: ±0.2 units Temperature: ±0.2°C Specific Conductance: ±5% Dissolved Oxygen: all readings ≤ 20% saturation (see table FS 2200-2); optionally, ± 0.2 mg/l or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU or ± 10% (whichever is greater)



**ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD**

10778 Central Port Dr.  
Orlando, FL 32824  
(407) 826-6314 Fax (407) 850-8946

4810 Executive Park Court, Suite 211  
Jacksonville, FL 32216-8089  
(904) 298-3007 Fax (904) 298-8210

1016 Passport Way  
Cary, NC 27513  
(919) 677-1689 Fax (919) 677-9846

Client Name <b>Tetra Tech NUS (BR006)</b>		Project Number <b>N62467-04-D-0055</b>		Requested Analyses								Requested Turnaround Times				
Address <b>8640 Phillips Highway Suite 16</b>		Project Name/Desc <b>CTO 50 NAS Mayport, Fl</b>		8260B DOD	8270D PAH SIM DOD	Ammonia 350.1	Fe,Na	FLPRO DOD	Nitrate as N 8058 DOD, Sulfate 8056A DOD	TDS SM2540C DOD					Note : Rush requests subject to acceptance by the facility	
City/ST/Zip <b>Jacksonville, FL 32256</b>		PO # / Billing Info <b>112600538</b>													<input checked="" type="checkbox"/> Standard	
Tel <b>(904) 636-6125</b>	Fax <b>(904) 636-6165</b>	Reporting Contact <b>Mark Peterson</b>													<input type="checkbox"/> Expedited	
Sampler(s) Name, Affiliation (Print) <b>Yette Krone T-NUS</b>		Billing Contact <b>Mark Peterson</b>													Due <u>  </u> / <u>  </u> / <u>  </u>	
Sampler(s) Signature 		Facility # (if required) <b>Building 351-2</b>													Lab Workorder <b>B002351</b>	

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	Preservation (See Codes) (Combine as necessary)										Sample Comments
1	MPT-351-2-MW01S	20100519	1020	G	GW	8	X	X	X	X	X	X	X	X	X	X	Cool to 4°C
2	MPT-351-2-MW02S	20100519	1212	G	GW	8	X	X	X	X	X	X	X	X	X	X	Cool to 4°C
3	MPT-351-2-MW04D	20100519	1303	G	GW	8	X	X	X	X	X	X	X	X	X	X	ms/msp
4	MPT-351-2-MW03S	20100519	1451	G	GW	8	X	X	X	X	X	X	X	X	X	X	Cool to 4°C
5	MPT-351-2-MW08S	20100519	1539	G	GW	8	X	X	X	X	X	X	X	X	X	X	
6	MPT-351-2-MW05S	20100519	1057	G	GW	8	X	X	X	X	X	X	X	X	X	X	
7	MPT-351-2-MW06S	20100519	1133	G	GW	8	X	X	X	X	X	X	X	X	X	X	
8	MPT-351-2-MW07S	20100519	1212	G	GW	8	X	X	X	X	X	X	X	X	X	X	
9	MPT-351-2-Rinsate 01	20100519	1330	G	GW	8	X	X	X	X	X	X	X	X	X	X	Cool to 4°C
					GW	8	X	X	X	X	X	X	X	X	X	X	
					GW	8	X	X	X	X	X	X	X	X	X	X	
	Matrix Spike and Matrix Spike Duplicates				GW	18	X	X	X	X	X	X	X	X	X	X	

<<- Total # of Containers

Sample Kit Prepared By <b>dfc</b>	Date/Time <b>5/14/10 1700</b>	Relinquished By 	Date/Time <b>5-14-10 1715</b>	Received By 	Date/Time <b>5/14/10 1715</b>
Comments		Relinquished By 	Date/Time <b>5/19/10 1700</b>	Received By 	Date/Time <b>5/19/10 1700</b>
		Relinquished By	Date/Time	Received By	Date/Time
Cooler #'s & Temps on Receipt				Condition Upon Receipt <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable	

Matrix : GW-Groundwater SO-Soil SE-Sediment SW-Surface Water WW-Wastewater A-Air O-Other (detail in comments) Preservation: I-Ice H-HCl N-HNO3 S-H2SO4 NO-NaOH O-Other (detail in comments)  
Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist



**ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD**

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(904) 296-3007 Fax (904) 296-8210

1016 Passport Way  
Cary, NC 27513  
(919) 877-1689 Fax (919) 877-8846

Client Name <b>Tetra Tech NUS (BR008)</b>		Project Number <b>N62467-04-D-0055</b>		Requested Analytes						Requested Turnaround Times		
Address <b>8640 Phillips Highway Suite 16</b>		Project Name/Desc <b>CTO 50 NAS Mayport, Fl</b>		8260B DOD	8270D PAH SIM DOD	Ammonia 350.1	Fe,Na	FLPRO DOD	Nitrate as N 8058 DOD, Sulfate 8058A DOD	TDS SM2540C DOD	Note: Rush requests subject to acceptance by the facility	
City/ST/Zip <b>Jacksonville, FL 32256</b>		PO # / Billing Info <b>112600538</b>									<input checked="" type="checkbox"/> Standard	
Tel <b>(904) 838-6125</b>		Fax <b>(904) 838-6165</b>									<input type="checkbox"/> Expedited	
Sampler(s) Name, Affiliation (Print) <b>Mark Peterson</b>		Reporting Contact <b>Mark Peterson</b>									Due <u>  </u> / <u>  </u> / <u>  </u>	
Sampler(s) Signature <i>[Signature]</i>		Billing Contact <b>Mark Peterson</b>									Lab Workorder <b>B002351</b>	
		Facility # (if required) <b>B01119 3512</b>		Preservation (See Codes) (Combine as necessary)								

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers						Sample Comments
1	mpt-3512-mw015- Trip Blank	20100515	1030	G	GW	2	X					Cool to 4°C
2	mpt-3512-mw025- Trip Blank	20100515	1210	G	GW	2	X					Cool to 4°C
3	mpt-3512-mw035- Trip Blank	20100515	1303	G	GW	2	X					ms/mso
4	mpt-3512-mw035	20100515	1451	G								Cool to 4°C
5	mpt-3512-mw085	20100515	1539	G								
6	mpt-3512-mw055	20100519	1057	G								
7	mpt-3512-mw065	20100519	1133	G								
8	mpt-3512-mw075	20100519	1210	G								
9	mpt-3512-Rinse	20100519	1330	G								Cool to 4°C

← Total # of Containers

Sample Kit Prepared By <i>[Signature]</i>	Date/Time <b>5/14/10 1700</b>	Relinquished By <i>[Signature]</i>	Date/Time <b>5/14/10 1715</b>	Received By <i>[Signature]</i>	Date/Time <b>5/14/10 1715</b>
Comments		Relinquished By <i>[Signature]</i>	Date/Time <b>5/19/10 1700</b>	Received By <i>[Signature]</i>	Date/Time <b>5/19/10 1700</b>
		Relinquished By	Date/Time	Received By	Date/Time
	Cooler #'s & Temps on Receipt				Condition Upon Receipt <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable

Matrix : GW-Groundwater SO-Soil SE-Sediment SW-Surface Water WW-Wastewater A-Air O-Other (detail in comments) Preservation: I-Ice H-HCl N-HNO3 S-H2SO4 NO-NaOH O-Other (detail in comments)  
Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

**ATTACHMENT D**  
**GROUNDWATER ANALYTICAL REPORT**

**Environmental Conservation Laboratories, Inc.**

4810 Executive Park Court, Suite 211

Jacksonville FL, 32216-6069

Phone: 904.296.3007 FAX: 904.296.6210



www.encolabs.com

Tuesday, June 8, 2010

Tetra Tech NUS (BR006)

Attn: Mark Peterson

8640 Philips Highway Suite 16

Jacksonville, FL 32256

**RE: Laboratory Results for**

**Project Number: N62467-04-D-0055, Project Name/Desc: CTO 50 NAS Mayport, FI**

**ENCO Workorder: B002351**

Dear Mark Peterson,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, May 19, 2010.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Jacksonville. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Chris Tompkins". The signature is written in a cursive, flowing style.

Chris Tompkins

Project Manager

Enclosure(s)

**PROJECT NARRATIVE**

Client: Tetra Tech NUS (BR006)  
Project: CTO 50 NAS Mayport, FI  
SDG Number: BR006-070  
Project Manager: Mark Peterson  
ENCO Project ID: B002351

**Overview**

The laboratory received three coolers for this project. The coolers were received properly sealed with the custody seals intact. The coolers were received on wet ice and within temperature compliance. All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Samples submitted for EPA 350.1 and EPA 9056A were subcontracted to Environmental Conservation Laboratories in Orlando, FI and there A2LA Certification number is 3000.01. Environmental Conservation Laboratories in Jacksonville, FI A2LA Certification number is 3000.02. There were no analyses performed outside method specified holding times. All analyses were reported using State of Florida requirements under Rule 62-160 Florida Administrative Code. A list of the data qualifier flags is summarized on page 3 of the report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

**Remarks**

Analysis: EPA 8270D

Affected Samples: MPT-351-2-MW05S-20100519[B002351-06RE1],  
MPT-351-2-MW06S-20100519[B002351-07RE1]

Nonconformance: The sample extracts were diluted by a factor of 10 due to compounds being above linear calibration range.

Affected Samples: 0E21010-BLK1, MPT-351-2-MW01S-20100518[B002351-01],  
MPT-351-2-MW02S-20100518[B002351-02], MPT-351-2-MW04S-20100518[B002351-03],  
MPT-351-2-MW03S-20100518[B002351-04], MPT-351-2-MW08S-20100518[B002351-05],  
MPT-351-2-MW05S-20100519[B002351-06], MPT-351-2-MW05S-20100519[B002351-06RE1],  
MPT-351-2-MW06S-20100519[B002351-07], MPT-351-2-MW06S-20100519[B002351-07RE1],  
MPT-351-2-MW07S-20100519[B002351-08], MPT-351-2-RINSATE01-20100519[B002351-09]

Nonconformance: The method blank (0E21010-BLK1) had a positive result for phenanthrene which is less than 1/2 the MRL (0.1 ug/L). Per the DoD QSM 4.1, a method blank with a result that is less than 1/2 MRL is considered DoD QSM compliant.

Analysis: FLPRO

Affected Samples: MPT-351-2-MW01S-20100518[B002351-01],  
MPT-351-2-MW01S-20100518[B002351-01RE1]

Nonconformance: The surrogate recovery for n-Nonatriacontane was outside specified control limits and the sample was re-analyzed with passing recoveries - both sets of data were reported.



Affected Samples: MPT-351-2-MW06S-20100519[B002351-07],  
MPT-351-2-MW06S-20100519[B002351-07RE1]

Nonconformance: One or more surrogate compounds added to the sample to monitor sample preparation efficiency were out of control with high bias. Technical review of the chromatographic data indicates that this was caused by matrix interferences that could not be resolved from the surrogate peak.

Affected Samples: MPT-351-2-MW06S-20100519[B002351-07]

Nonconformance: The sample extract was diluted by a factor of 5 due to sample being above calibration range.

Affected Samples: MPT-351-2-MW01S-20100518[B002351-01],  
MPT-351-2-MW01S-20100518[B002351-01RE1], MPT-351-2-MW03S-20100518[B002351-04],  
MPT-351-2-MW05S-20100519[B002351-06], MPT-351-2-MW06S-20100519[B002351-07],  
MPT-351-2-MW06S-20100519[B002351-07RE1], MPT-351-2-RINSATE01-20100519[B002351-09]

Nonconformance: The electronic data package submitted for above samples contains both original and manual integrations performed during sample analysis. Manual integrations were required for chromatographic integration.

Affected Samples: MPT-351-2-MW01S-20100518[B002351-01RE1],  
MPT-351-2-MW03S-20100518[B002351-04], MPT-351-2-MW08S-20100518[B002351-05],  
MPT-351-2-MW05S-20100519[B002351-06], MPT-351-2-MW06S-20100519[B002351-07],  
MPT-351-2-MW06S-20100519[B002351-07RE1], MPT-351-2-RINSATE01-20100519[B002351-09]

Nonconformance: The electronic data package submitted for the above samples contains both original and manual integrations performed during sample analysis. Manual integrations were required for o-terphenyl due to poor baseline selection.

Analysis: EPA 350.1

Affected Sample (s): MPT-351-2-MW06S-20100519 [A002711-07]

Nonconformance: The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

Analysis: EPA 8260B

Nonconformance: The electronic data package submitted contains both original and manual integrations performed on Calibration Standard 1 for 4-Bromofluorobenzene. Manual integration was required due to poor baseline selection.

Analysis: EPA 8260B

Affected Sample: Trip Blank 3(B002351-12), Trip Blank 3(B002351-12RE)

Nonconformance: The above sample was analyzed on 5/30/10; however due to instrument failure the results were invalid. The sample was re-analyzed on 6/1/10.

Chris Tompkins  
Project Manager



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**SAMPLE SUMMARY/LABORATORY CHRONICLE**

Client ID:	MPT-351-2-MW01S-20100518	Lab ID:	B002351-01	Sampled:	05/18/10 10:20	Received:	05/19/10 17:00
Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)		
EPA 350.1	06/15/10		05/21/10 10:37		5/21/2010 12:16		
EPA 6010C	11/14/10		05/20/10 15:01		5/21/2010 12:11		
EPA 8260B	06/01/10		05/30/10 12:02		5/30/2010 15:19		
EPA 8270D	05/25/10	06/30/10	05/21/10 10:22		5/24/2010 17:14		
EPA 9056A	05/20/10	10:20	05/20/10 09:00		5/20/2010 09:55		
EPA 9056A	06/15/10		05/20/10 09:00		5/20/2010 09:55		
FLPRO	05/25/10	07/03/10	05/24/10 09:30		5/24/2010 16:44		
SM 2540C	05/25/10		05/24/10 15:16		5/25/2010 15:54		

Client ID:	MPT-351-2-MW01S-20100518	Lab ID:	B002351-01RE1	Sampled:	05/18/10 10:20	Received:	05/19/10 17:00
Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)		
FLPRO	05/25/10	07/03/10	05/24/10 09:30		5/24/2010 20:37		

Client ID:	MPT-351-2-MW02S-20100518	Lab ID:	B002351-02	Sampled:	05/18/10 12:12	Received:	05/19/10 17:00
Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)		
EPA 350.1	06/15/10		05/21/10 10:37		5/21/2010 12:17		
EPA 6010C	11/14/10		05/20/10 15:01		5/21/2010 12:13		
EPA 8260B	06/01/10		05/30/10 12:02		5/30/2010 15:58		
EPA 8270D	05/25/10	06/30/10	05/21/10 10:22		5/24/2010 17:37		
EPA 9056A	05/20/10	12:12	05/20/10 09:00		5/20/2010 10:13		
EPA 9056A	06/15/10		05/20/10 09:00		5/20/2010 10:13		
FLPRO	05/25/10	07/03/10	05/24/10 09:30		5/24/2010 17:07		
SM 2540C	05/25/10		05/24/10 15:16		5/25/2010 15:54		

Client ID:	MPT-351-2-MW04S-20100518	Lab ID:	B002351-03	Sampled:	05/18/10 13:03	Received:	05/19/10 17:00
Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)		
EPA 350.1	06/15/10		05/21/10 10:37		5/21/2010 12:11		
EPA 6010C	11/14/10		05/20/10 15:01		5/21/2010 12:15		
EPA 8260B	06/01/10		05/30/10 12:02		5/30/2010 16:37		
EPA 8270D	05/25/10	06/30/10	05/21/10 10:22		5/24/2010 16:52		
EPA 9056A	05/20/10	13:03	05/20/10 09:00		5/20/2010 10:30		
EPA 9056A	06/15/10		05/20/10 09:00		5/20/2010 10:30		
FLPRO	05/25/10	07/03/10	05/24/10 09:30		5/24/2010 16:21		
SM 2540C	05/25/10		05/24/10 15:16		5/25/2010 15:54		



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Client ID:	MPT-351-2-MW03S-20100518	Lab ID:	B002351-04	Sampled:	05/18/10 14:51	Received:	05/19/10 17:00
Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)		
EPA 350.1	06/15/10		05/21/10	10:37	5/21/2010 12:18		
EPA 6010C	11/14/10		05/20/10	15:01	5/21/2010 12:18		
EPA 8260B	06/01/10		05/30/10	12:02	5/30/2010 18:35		
EPA 8270D	05/25/10	06/30/10	05/21/10	10:22	5/24/2010 17:59		
EPA 9056A	05/20/10	14:51	05/20/10	09:00	5/20/2010 13:10		
EPA 9056A	06/15/10		05/20/10	09:00	5/20/2010 13:10		
FLPRO	05/25/10	07/03/10	05/24/10	09:30	5/24/2010 17:31		
SM 2540C	05/25/10		05/24/10	15:16	5/25/2010 15:54		

Client ID:	MPT-351-2-MW08S-20100518	Lab ID:	B002351-05	Sampled:	05/18/10 15:39	Received:	05/19/10 17:00
Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)		
EPA 350.1	06/15/10		05/21/10	10:37	5/21/2010 12:19		
EPA 6010C	11/14/10		05/20/10	15:01	5/21/2010 12:20		
EPA 8260B	06/01/10		05/30/10	12:02	5/30/2010 19:14		
EPA 8270D	05/25/10	06/30/10	05/21/10	10:22	5/24/2010 18:22		
EPA 9056A	05/20/10	15:39	05/20/10	09:00	5/20/2010 13:28		
EPA 9056A	06/15/10		05/20/10	09:00	5/20/2010 13:28		
FLPRO	05/25/10	07/03/10	05/24/10	09:30	5/24/2010 17:54		
SM 2540C	05/25/10		05/24/10	15:16	5/25/2010 15:54		

Client ID:	MPT-351-2-MW05S-20100519	Lab ID:	B002351-06	Sampled:	05/19/10 10:57	Received:	05/19/10 17:00
Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)		
EPA 350.1	06/16/10		05/21/10	10:37	5/21/2010 12:23		
EPA 6010C	11/15/10		05/20/10	15:01	5/21/2010 12:22		
EPA 8260B	06/02/10		05/30/10	12:02	5/30/2010 19:53		
EPA 8270D	05/26/10	06/30/10	05/21/10	10:22	5/24/2010 18:44		
EPA 9056A	05/21/10	10:57	05/20/10	09:00	5/20/2010 14:21		
EPA 9056A	06/16/10		05/20/10	09:00	5/20/2010 14:21		
FLPRO	05/26/10	07/03/10	05/24/10	09:30	5/24/2010 18:41		
SM 2540C	05/26/10		05/24/10	15:16	5/25/2010 15:54		

Client ID:	MPT-351-2-MW05S-20100519	Lab ID:	B002351-06RE1	Sampled:	05/19/10 10:57	Received:	05/19/10 17:00
Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)		
EPA 8270D	05/26/10	06/30/10	05/21/10	10:22	5/25/2010 13:34		

Client ID:	MPT-351-2-MW06S-20100519	Lab ID:	B002351-07	Sampled:	05/19/10 11:33	Received:	05/19/10 17:00
Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)		
EPA 350.1	06/16/10		05/21/10	10:37	5/21/2010 12:24		
EPA 6010C	11/15/10		05/20/10	15:01	5/21/2010 12:29		
EPA 8260B	06/02/10		05/30/10	12:02	5/30/2010 20:33		
EPA 8270D	05/26/10	06/30/10	05/21/10	10:22	5/24/2010 19:52		
EPA 9056A	05/21/10	11:33	05/20/10	09:00	5/20/2010 14:59		
EPA 9056A	06/16/10		05/20/10	09:00	5/20/2010 14:59		
FLPRO	05/26/10	07/03/10	05/24/10	09:30	5/24/2010 19:51		
SM 2540C	05/26/10		05/24/10	15:16	5/25/2010 15:54		



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Client ID: MPT-351-2-MW06S-20100519 Lab ID: B002351-07RE1 Sampled: 05/19/10 11:33 Received: 05/19/10 17:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8270D	05/26/10 06/30/10	05/21/10 10:22	5/24/2010 20:15
FLPRO	05/26/10 07/03/10	05/24/10 09:30	5/24/2010 20:14

Client ID: MPT-351-2-MW07S-20100519 Lab ID: B002351-08 Sampled: 05/19/10 12:12 Received: 05/19/10 17:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 350.1	06/16/10	05/21/10 10:37	5/21/2010 12:25
EPA 6010C	11/15/10	05/20/10 15:01	5/21/2010 12:31
EPA 8260B	06/02/10	05/30/10 12:02	5/30/2010 21:12
EPA 8270D	05/26/10 06/30/10	05/21/10 10:22	5/24/2010 19:07
EPA 9056A	05/21/10 12:12	05/20/10 09:00	5/20/2010 15:17
EPA 9056A	06/16/10	05/20/10 09:00	5/20/2010 15:17
FLPRO	05/26/10 07/03/10	05/24/10 09:30	5/24/2010 19:04
SM 2540C	05/26/10	05/24/10 15:16	5/25/2010 15:54

Client ID: MPT-351-2-RINSATE01-20100519 Lab ID: B002351-09 Sampled: 05/19/10 13:30 Received: 05/19/10 17:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 350.1	06/16/10	05/21/10 10:37	5/21/2010 12:26
EPA 6010C	11/15/10	05/20/10 15:01	5/21/2010 12:34
EPA 8260B	06/02/10	05/30/10 12:02	5/30/2010 21:51
EPA 8270D	05/26/10 06/30/10	05/21/10 10:22	5/24/2010 19:29
EPA 9056A	05/21/10 13:30	05/20/10 09:00	5/20/2010 15:35
EPA 9056A	06/16/10	05/20/10 09:00	5/20/2010 15:35
FLPRO	05/26/10 07/03/10	05/24/10 09:30	5/24/2010 19:27
SM 2540C	05/26/10	05/24/10 15:16	5/25/2010 15:54

Client ID: MPT-351-2-RINSATE01-20100519 Lab ID: B002351-09RE1 Sampled: 05/19/10 13:30 Received: 05/19/10 17:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	11/15/10	05/20/10 15:01	5/24/2010 14:25

Client ID: Trip Blank 1 Lab ID: B002351-10 Sampled: 05/18/10 00:00 Received: 05/19/10 17:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	06/01/10	05/30/10 12:02	5/30/2010 22:30

Client ID: Trip Blank 2 Lab ID: B002351-11 Sampled: 05/18/10 00:00 Received: 05/19/10 17:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	06/01/10	05/30/10 12:02	5/30/2010 23:09

Client ID: Trip Blank 3 Lab ID: B002351-12 Sampled: 05/18/10 00:00 Received: 05/19/10 17:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	06/01/10	05/30/10 12:02	5/30/2010 23:48



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Client ID: Trip Blank 3      Lab ID: B002351-12RE1      Sampled: 05/18/10 00:00      Received: 05/19/10 17:00

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	06/01/10	05/30/10 12:02	6/1/2010 21:45



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### SAMPLE DETECTION SUMMARY

Client ID: MPT-351-2-MW01S-20100518 Lab ID: B002351-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
1-Methylnaphthalene	0.21		0.025	0.10	ug/L	EPA 8270D	
Acenaphthene	0.13		0.011	0.10	ug/L	EPA 8270D	
Ammonia as N	0.17		0.010	0.020	mg/L	EPA 350.1	
Fluorene	0.023	I	0.014	0.10	ug/L	EPA 8270D	
Iron - Total	3370		10.0	50.0	ug/L	EPA 6010C	
Naphthalene	0.056	I	0.023	0.10	ug/L	EPA 8270D	
Nitrate as N	0.13	I	0.10	1.0	mg/L	EPA 9056A	
Pyrene	0.022	I	0.016	0.10	ug/L	EPA 8270D	
Sodium - Total	238000	LV	150	500	ug/L	EPA 6010C	
Sulfate	40		0.11	5.0	mg/L	EPA 9056A	
Total Dissolved Solids	1020		10	10	mg/L	SM 2540C	
TPH (C8-C40)	1.7		0.054	0.34	mg/L	FLPRO	

Client ID: MPT-351-2-MW01S-20100518 Lab ID: B002351-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
TPH (C8-C40)	2.0		0.054	0.34	mg/L	FLPRO	

Client ID: MPT-351-2-MW02S-20100518 Lab ID: B002351-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ammonia as N	0.039		0.010	0.020	mg/L	EPA 350.1	
Iron - Total	32.2	I	10.0	50.0	ug/L	EPA 6010C	
Naphthalene	0.032	I	0.023	0.10	ug/L	EPA 8270D	
Nitrate as N	0.35	I	0.10	1.0	mg/L	EPA 9056A	
Phenanthrene	0.023	IV	0.011	0.10	ug/L	EPA 8270D	
Sodium - Total	19800	V	150	500	ug/L	EPA 6010C	
Sulfate	21		0.11	5.0	mg/L	EPA 9056A	
Total Dissolved Solids	276		10	10	mg/L	SM 2540C	

Client ID: MPT-351-2-MW04S-20100518 Lab ID: B002351-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ammonia as N	1.1		0.010	0.020	mg/L	EPA 350.1	
Nitrate as N	0.12	I	0.10	1.0	mg/L	EPA 9056A	
Sodium - Total	55200	LV	150	500	ug/L	EPA 6010C	
Sulfate	47		0.11	5.0	mg/L	EPA 9056A	
Total Dissolved Solids	492		10	10	mg/L	SM 2540C	

Client ID: MPT-351-2-MW03S-20100518 Lab ID: B002351-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
1-Methylnaphthalene	12		0.025	0.10	ug/L	EPA 8270D	
2-Methylnaphthalene	1.3		0.031	0.10	ug/L	EPA 8270D	
Acenaphthene	1.9		0.011	0.10	ug/L	EPA 8270D	
Ammonia as N	0.57		0.010	0.020	mg/L	EPA 350.1	
Benzene	1.8		0.27	1.0	ug/L	EPA 8260B	
Ethylbenzene	6.0		0.26	1.0	ug/L	EPA 8260B	
Fluoranthene	0.078	I	0.011	0.10	ug/L	EPA 8270D	
Fluorene	3.1		0.014	0.10	ug/L	EPA 8270D	
Iron - Total	1670		10.0	50.0	ug/L	EPA 6010C	
Naphthalene	8.9		0.023	0.10	ug/L	EPA 8270D	



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Client ID: MPT-351-2-MW03S-20100518 Lab ID: B002351-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Nitrate as N	0.13	I	0.10	1.0	mg/L	EPA 9056A	
Phenanthrene	0.062	IV	0.011	0.10	ug/L	EPA 8270D	
Pyrene	0.88		0.016	0.10	ug/L	EPA 8270D	
Sodium - Total	12600	V	150	500	ug/L	EPA 6010C	
Sulfate	2.1	I	0.11	5.0	mg/L	EPA 9056A	
Toluene	0.97	I	0.30	1.0	ug/L	EPA 8260B	
Total Dissolved Solids	320		10	10	mg/L	SM 2540C	
TPH (C8-C40)	3.6		0.054	0.34	mg/L	FLPRO	
Xylenes (Total)	6.8		0.50	1.0	ug/L	EPA 8260B	

Client ID: MPT-351-2-MW08S-20100518 Lab ID: B002351-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ammonia as N	0.077		0.010	0.020	mg/L	EPA 350.1	
Iron - Total	1330		10.0	50.0	ug/L	EPA 6010C	
Naphthalene	0.041	I	0.023	0.10	ug/L	EPA 8270D	
Nitrate as N	0.31	I	0.10	1.0	mg/L	EPA 9056A	
Pyrene	0.15		0.016	0.10	ug/L	EPA 8270D	
Sodium - Total	19600	V	150	500	ug/L	EPA 6010C	
Sulfate	29		0.11	5.0	mg/L	EPA 9056A	
Total Dissolved Solids	280		10	10	mg/L	SM 2540C	
TPH (C8-C40)	0.12	I	0.057	0.36	mg/L	FLPRO	

Client ID: MPT-351-2-MW05S-20100519 Lab ID: B002351-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
1-Methylnaphthalene	66	L	0.025	0.10	ug/L	EPA 8270D	
2-Methylnaphthalene	88	L	0.031	0.10	ug/L	EPA 8270D	
Acenaphthene	3.1		0.011	0.10	ug/L	EPA 8270D	
Ammonia as N	1.0		0.010	0.020	mg/L	EPA 350.1	
Benzene	1.4		0.27	1.0	ug/L	EPA 8260B	
Fluoranthene	0.078	I	0.011	0.10	ug/L	EPA 8270D	
Fluorene	7.3		0.014	0.10	ug/L	EPA 8270D	
Iron - Total	2610		10.0	50.0	ug/L	EPA 6010C	
Naphthalene	80	L	0.023	0.10	ug/L	EPA 8270D	
Nitrate as N	0.13	I	0.10	1.0	mg/L	EPA 9056A	
Phenanthrene	5.1	V	0.011	0.10	ug/L	EPA 8270D	
Pyrene	0.76		0.016	0.10	ug/L	EPA 8270D	
Sodium - Total	4880	V	150	500	ug/L	EPA 6010C	
Total Dissolved Solids	240		10	10	mg/L	SM 2540C	
TPH (C8-C40)	2.9		0.054	0.34	mg/L	FLPRO	

Client ID: MPT-351-2-MW05S-20100519 Lab ID: B002351-06RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
1-Methylnaphthalene	110		0.25	1.0	ug/L	EPA 8270D	
2-Methylnaphthalene	150		0.31	1.0	ug/L	EPA 8270D	
Acenaphthene	4.0		0.11	1.0	ug/L	EPA 8270D	
Fluorene	9.3		0.14	1.0	ug/L	EPA 8270D	
Naphthalene	120		0.23	1.0	ug/L	EPA 8270D	
Phenanthrene	6.8	V	0.11	1.0	ug/L	EPA 8270D	
Pyrene	0.91	I	0.16	1.0	ug/L	EPA 8270D	



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Client ID: MPT-351-2-MW06S-20100519 Lab ID: B002351-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
1-Methylnaphthalene	110		0.25	1.0	ug/L	EPA 8270D	
2-Methylnaphthalene	140		0.31	1.0	ug/L	EPA 8270D	
Acenaphthene	3.7		0.11	1.0	ug/L	EPA 8270D	
Ammonia as N	2.4		0.020	0.040	mg/L	EPA 350.1	
Benzene	6.0		0.27	1.0	ug/L	EPA 8260B	
Ethylbenzene	0.70	I	0.26	1.0	ug/L	EPA 8260B	
Fluorene	8.4		0.14	1.0	ug/L	EPA 8270D	
Iron - Total	10500	L	10.0	50.0	ug/L	EPA 6010C	
Naphthalene	180		0.23	1.0	ug/L	EPA 8270D	
Nitrate as N	0.13	I	0.10	1.0	mg/L	EPA 9056A	
Phenanthrene	5.1	V	0.11	1.0	ug/L	EPA 8270D	
Pyrene	0.55	I	0.16	1.0	ug/L	EPA 8270D	
Sodium - Total	75600	LV	150	500	ug/L	EPA 6010C	
Total Dissolved Solids	688		10	10	mg/L	SM 2540C	
TPH (C8-C40)	13		0.27	1.7	mg/L	FLPRO	
Xylenes (Total)	1.2		0.50	1.0	ug/L	EPA 8260B	

Client ID: MPT-351-2-MW06S-20100519 Lab ID: B002351-07RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
1-Methylnaphthalene	68	L	0.025	0.10	ug/L	EPA 8270D	
2-Methylnaphthalene	93	L	0.031	0.10	ug/L	EPA 8270D	
Acenaphthene	3.0		0.011	0.10	ug/L	EPA 8270D	
Fluoranthene	0.077	I	0.011	0.10	ug/L	EPA 8270D	
Fluorene	6.9		0.014	0.10	ug/L	EPA 8270D	
Naphthalene	120	L	0.023	0.10	ug/L	EPA 8270D	
Phenanthrene	4.0	V	0.011	0.10	ug/L	EPA 8270D	
Pyrene	0.47		0.016	0.10	ug/L	EPA 8270D	
TPH (C8-C40)	14		0.054	0.34	mg/L	FLPRO	

Client ID: MPT-351-2-MW07S-20100519 Lab ID: B002351-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ammonia as N	0.046		0.010	0.020	mg/L	EPA 350.1	
Iron - Total	384		10.0	50.0	ug/L	EPA 6010C	
Naphthalene	0.027	I	0.023	0.10	ug/L	EPA 8270D	
Nitrate as N	0.54	I	0.10	1.0	mg/L	EPA 9056A	
Phenanthrene	0.021	IV	0.011	0.10	ug/L	EPA 8270D	
Pyrene	0.037	I	0.016	0.10	ug/L	EPA 8270D	
Sodium - Total	22000	V	150	500	ug/L	EPA 6010C	
Sulfate	34		0.11	5.0	mg/L	EPA 9056A	
Total Dissolved Solids	268		10	10	mg/L	SM 2540C	

Client ID: MPT-351-2-RINSATE01-20100519 Lab ID: B002351-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sodium - Total	168	IV	150	500	ug/L	EPA 6010C	
TPH (C8-C40)	0.41		0.059	0.37	mg/L	FLPRO	



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**ANALYTICAL RESULTS**

**Description:** MPT-351-2-MW01S-20100518

**Lab Sample ID:** B002351-01

**Received:** 05/19/10 17:00

**Matrix:** Ground Water

**Sampled:** 05/18/10 10:20

**Work Order:** B002351

**Project:** CTO 50 NAS Mayport, Fl

**Sampled By:** Jeff Krone

**Volatile Organic Compounds by GCMS**

<b>Analyte [CAS Number]</b>	<b>Results</b>	<b>Flag</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 15:19	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 15:19	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 15:19	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 15:19	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 15:19	LTS	
<b>Surrogates</b>	<b>Results</b>	<b>DF</b>	<b>Spike Lvl</b>	<b>% Rec</b>	<b>% Rec Limits</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>	
4-Bromofluorobenzene	45	1	50.0	91 %	70-120	0F01019	EPA 8260B	05/30/10 15:19	LTS		
Dibromofluoromethane	49	1	50.0	99 %	74-124	0F01019	EPA 8260B	05/30/10 15:19	LTS		
Toluene-d8	49	1	50.0	98 %	77-120	0F01019	EPA 8260B	05/30/10 15:19	LTS		



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Description: MPT-351-2-MW01S-20100518

Lab Sample ID: B002351-01

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 10:20

Work Order: B002351

Project: CTO 50 NAS Mayport, FI

Sampled By: Jeff Krone

Semivolatile Organic Compounds by GCMS SIM

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	POL	Batch	Method	Analyzed	By	Notes
1-Methylnaphthalene [90-12-0]	0.21		ug/L	1	0.025	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
2-Methylnaphthalene [91-57-6]	0.031	U	ug/L	1	0.031	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Acenaphthene [83-32-9]	0.13		ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Acenaphthylene [208-96-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Anthracene [120-12-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Benzo(a)anthracene [56-55-3]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Benzo(a)pyrene [50-32-8]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Benzo(b)fluoranthene [205-99-2]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Benzo(g,h,i)perylene [191-24-2]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Benzo(k)fluoranthene [207-08-9]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Chrysene [218-01-9]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Dibenzo(a,h)anthracene [53-70-3]	0.027	U	ug/L	1	0.027	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Fluoranthene [206-44-0]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Fluorene [86-73-7]	0.023	I	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Indeno(1,2,3-cd)pyrene [193-39-5]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Naphthalene [91-20-3]	0.056	I	ug/L	1	0.023	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Phenanthrene [85-01-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
Pyrene [129-00-0]	0.022	I	ug/L	1	0.016	0.10	0E21010	EPA 8270D	05/24/10 17:14	JWJ	
<b>Surrogates</b>	<b>Results</b>	<b>DF</b>	<b>Spike Lvl</b>	<b>% Rec</b>	<b>% Rec Limits</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>	
<i>p</i> -Terphenyl	4.6	1	5.00	92 %	53-132	0E21010	EPA 8270D	05/24/10 17:14	JWJ		



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Description: MPT-351-2-MW01S-20100518

Lab Sample ID: B002351-01

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 10:20

Work Order: B002351

Project: CTO 50 NAS Mayport, FI

Sampled By: Jeff Krone

FL Petroleum Range Organics

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
TPH (C8-C40) [ECL-0175]	1.7		mg/L	1	0.054	0.34	0E24005	FLPRO	05/24/10 16:44	JWJ	
TPH (C8-C40) [ECL-0175]	2.0		mg/L	1	0.054	0.34	0E24005	FLPRO	05/24/10 20:37	JWJ	
Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes	
n-Nonatriacontane	0.070	1	0.200	35 %	37-189	0E24005	FLPRO	05/24/10 16:44	JWJ	QS-03	
n-Nonatriacontane	0.090	1	0.200	45 %	37-189	0E24005	FLPRO	05/24/10 20:37	JWJ		
o-Terphenyl	0.11	1	0.100	113 %	68-118	0E24005	FLPRO	05/24/10 16:44	JWJ		
o-Terphenyl	0.097	1	0.100	97 %	68-118	0E24005	FLPRO	05/24/10 20:37	JWJ		

Metals (total recoverable) by EPA 6000/7000 Series Methods

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Iron [7439-89-6]	3370		ug/L	1	10.0	50.0	0E20011	EPA 6010C	05/21/10 12:11	ACV	
Sodium [7440-23-5]	238000	LV	ug/L	1	150	500	0E20011	EPA 6010C	05/21/10 12:11	ACV	



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Description: MPT-351-2-MW01S-20100518

Lab Sample ID: B002351-01

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 10:20

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

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<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DE</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Total Dissolved Solids [ECL-0156]	1020		mg/L	1	10	10	0E24010	SM 2540C	05/25/10 15:54	GMB	



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Description: MPT-351-2-MW01S-20100518

Lab Sample ID: B002351-01

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 10:20

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ammonia as N [7664-41-7]	0.17		mg/L	1	0.010	0.020	0E21017	EPA 350.1	05/21/10 12:16	KG	
Nitrate as N [14797-55-8]	0.13	I	mg/L	1	0.10	1.0	0E20001	EPA 9056A	05/20/10 09:55	RSA	
Sulfate [14808-79-8]	40		mg/L	1	0.11	5.0	0E20001	EPA 9056A	05/20/10 09:55	RSA	

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Description: MPT-351-2-MW02S-20100518

Lab Sample ID: B002351-02

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Volatile Organic Compounds by GCMS**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 15:58	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 15:58	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 15:58	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 15:58	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 15:58	LTS	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
4-Bromofluorobenzene	43	1	50.0	87 %	70-120	0F01019	EPA 8260B	05/30/10 15:58	LTS	
Dibromofluoromethane	50	1	50.0	100 %	74-124	0F01019	EPA 8260B	05/30/10 15:58	LTS	
Toluene-d8	50	1	50.0	100 %	77-120	0F01019	EPA 8260B	05/30/10 15:58	LTS	



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Description: MPT-351-2-MW02S-20100518

Lab Sample ID: 8002351-02

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, FI

Sampled By: Jeff Krone

Semivolatile Organic Compounds by GCMS SIM

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1-Methylnaphthalene [90-12-0]	0.025	U	ug/L	1	0.025	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
2-Methylnaphthalene [91-57-6]	0.031	U	ug/L	1	0.031	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Acenaphthene [83-32-9]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Acenaphthylene [208-96-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Anthracene [120-12-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Benzo(a)anthracene [56-55-3]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Benzo(a)pyrene [50-32-8]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Benzo(b)fluoranthene [205-99-2]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Benzo(g,h,i)perylene [191-24-2]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Benzo(k)fluoranthene [207-08-9]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Chrysene [218-01-9]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Dibenzo(a,h)anthracene [53-70-3]	0.027	U	ug/L	1	0.027	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Fluoranthene [206-44-0]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Fluorene [86-73-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Indeno(1,2,3-cd)pyrene [193-39-5]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Naphthalene [91-20-3]	0.032	I	ug/L	1	0.023	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Phenanthrene [85-01-8]	0.023	IV	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	
Pyrene [129-00-0]	0.016	U	ug/L	1	0.016	0.10	0E21010	EPA 8270D	05/24/10 17:37	JWJ	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
p-Terphenyl	4.8	1	5.00	96 %	53-132	0E21010	EPA 8270D	05/24/10 17:37	JWJ	



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Description: MPT-351-2-MW02S-20100518

Lab Sample ID: B002351-02

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

FL Petroleum Range Organics

<b>Analyte [CAS Number]</b>	<b>Results</b>	<b>Flag</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>
TPH (C8-C40) [ECL-0175]	0.054	U	mg/L	1	0.054	0.34	0E24005	FLPRO	05/24/10 17:07	JWJ	
<b>Surrogates</b>	<b>Results</b>	<b>DF</b>	<b>Spike Lvl</b>	<b>% Rec</b>	<b>% Rec Limits</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>	
<i>n</i> -Nonatriacontane	0.088	1	0.200	44 %	37-189	0E24005	FLPRO	05/24/10 17:07	JWJ		
<i>o</i> -Terphenyl	0.095	1	0.100	95 %	68-118	0E24005	FLPRO	05/24/10 17:07	JWJ		



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Description: MPT-351-2-MW02S-20100518

Lab Sample ID: B002351-02

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Metals (total recoverable) by EPA 6000/7000 Series Methods**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Iron [7439-89-6]	32.2	I	ug/L	1	10.0	50.0	0E20011	EPA 6010C	05/21/10 12:13	ACV	
Sodium [7440-23-5]	19800	V	ug/L	1	150	500	0E20011	EPA 6010C	05/21/10 12:13	ACV	



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Description: MPT-351-2-MW02S-20100518

Lab Sample ID: B002351-02

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Total Dissolved Solids [ECL-0156]	276		mg/L	1	10	10	0E24010	SM 2540C	05/25/10 15:54	GMB	



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Description: MPT-351-2-MW02S-20100518

Lab Sample ID: B002351-02

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, FI

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Ammonia as N [7664-41-7]	0.039		mg/L	1	0.010	0.020	0E21017	EPA 350.1	05/21/10 12:17	KG	
Nitrate as N [14797-55-8]	0.35	I	mg/L	1	0.10	1.0	0E20001	EPA 9056A	05/20/10 10:13	RSA	
Sulfate [14808-79-8]	21		mg/L	1	0.11	5.0	0E20001	EPA 9056A	05/20/10 10:13	RSA	

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Description: MPT-351-2-MW04S-20100518

Lab Sample ID: B002351-03

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 13:03

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Volatile Organic Compounds by GCMS**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	POL	Batch	Method	Analyzed	By	Notes
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 16:37	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 16:37	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 16:37	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 16:37	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 16:37	LTS	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
4-Bromofluorobenzene	46	1	50.0	91 %	70-120	0F01019	EPA 8260B	05/30/10 16:37	LTS	
Dibromofluoromethane	50	1	50.0	100 %	74-124	0F01019	EPA 8260B	05/30/10 16:37	LTS	
Toluene-d8	50	1	50.0	99 %	77-120	0F01019	EPA 8260B	05/30/10 16:37	LTS	



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Description: MPT-351-2-MW04S-20100518

Lab Sample ID: B002351-03

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 13:03

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

Semivolatile Organic Compounds by GCMS SIM

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1-Methylnaphthalene [90-12-0]	0.025	U	ug/L	1	0.025	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
2-Methylnaphthalene [91-57-6]	0.031	U	ug/L	1	0.031	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Acenaphthene [83-32-9]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Acenaphthylene [208-96-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Anthracene [120-12-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Benzo(a)anthracene [56-55-3]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Benzo(a)pyrene [50-32-8]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Benzo(b)fluoranthene [205-99-2]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Benzo(g,h,i)perylene [191-24-2]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Benzo(k)fluoranthene [207-08-9]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Chrysene [218-01-9]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Dibenzo(a,h)anthracene [53-70-3]	0.027	U	ug/L	1	0.027	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Fluoranthene [206-44-0]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Fluorene [86-73-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Indeno(1,2,3-cd)pyrene [193-39-5]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Naphthalene [91-20-3]	0.023	U	ug/L	1	0.023	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Phenanthrene [85-01-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	
Pyrene [129-00-0]	0.016	U	ug/L	1	0.016	0.10	0E21010	EPA 8270D	05/24/10 16:52	JWJ	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
p-Terphenyl	4.5	1	5.00	90 %	53-132	0E21010	EPA 8270D	05/24/10 16:52	JWJ	



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Description: MPT-351-2-MW04S-20100518

Lab Sample ID: B002351-03

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 13:03

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**FL Petroleum Range Organics**

<b>Analyte [CAS Number]</b>	<b>Results</b>	<b>Flag</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>
TPH (C8-C40) [ECL-0175]	0.054	U	mg/L	1	0.054	0.34	0E24005	FLPRO	05/24/10 16:21	JWJ	
<b>Surrogates</b>											
	<b>Results</b>	<b>DF</b>	<b>Spike Lvl</b>	<b>% Rec</b>	<b>% Rec Limits</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>	
n-Nonatriacontane	0.15	1	0.200	77 %	37-189	0E24005	FLPRO	05/24/10 16:21	JWJ		
o-Terphenyl	0.10	1	0.100	100 %	68-118	0E24005	FLPRO	05/24/10 16:21	JWJ		



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Description: MPT-351-2-MW04S-20100518

Lab Sample ID: B002351-03

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 13:03

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Metals (total recoverable) by EPA 6000/7000 Series Methods**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>POL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Iron [7439-89-6]	10.0	U	ug/L	1	10.0	50.0	0E20011	EPA 6010C	05/21/10 12:15	ACV	
Sodium [7440-23-5]	55200	LV	ug/L	1	150	500	0E20011	EPA 6010C	05/21/10 12:15	ACV	



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**Description:** MPT-351-2-MW04S-20100518

**Lab Sample ID:** B002351-03

**Received:** 05/19/10 17:00

**Matrix:** Ground Water

**Sampled:** 05/18/10 13:03

**Work Order:** B002351

**Project:** CTO 50 NAS Mayport, FL

**Sampled By:** Jeff Krone

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**Classical Chemistry Parameters**

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<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>POL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Total Dissolved Solids [ECL-0156]	492		mg/L	1	10	10	0E24010	SM 2540C	05/25/10 15:54	GMB	



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Description: MPT-351-2-MW04S-20100518

Lab Sample ID: 8002351-03

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 13:03

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DE</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Ammonia as N [7664-41-7]	1.1		mg/L	1	0.010	0.020	0E21017	EPA 350.1	05/21/10 12:11	KG	
Nitrate as N [14797-55-8]	0.12	I	mg/L	1	0.10	1.0	0E20001	EPA 9056A	05/20/10 10:30	RSA	
Sulfate [14808-79-8]	47		mg/L	1	0.11	5.0	0E20001	EPA 9056A	05/20/10 10:30	RSA	

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Description: MPT-351-2-MW03S-20100518

Lab Sample ID: B002351-04

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 14:51

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Volatile Organic Compounds by GCMS**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Benzene [71-43-2]	1.8		ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 18:35	LTS	
Ethylbenzene [100-41-4]	6.0		ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 18:35	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 18:35	LTS	
Toluene [108-88-3]	0.97	I	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 18:35	LTS	
Xylenes (Total) [1330-20-7]	6.8		ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 18:35	LTS	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
4-Bromofluorobenzene	46	1	50.0	91 %	70-120	0F01019	EPA 8260B	05/30/10 18:35	LTS	
Dibromofluoromethane	51	1	50.0	101 %	74-124	0F01019	EPA 8260B	05/30/10 18:35	LTS	
Toluene-d8	50	1	50.0	99 %	77-120	0F01019	EPA 8260B	05/30/10 18:35	LTS	



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Description: MPT-351-2-MW03S-20100518

Lab Sample ID: B002351-04

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 14:51

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

Semivolatile Organic Compounds by GCMS SIM

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1-Methylnaphthalene [90-12-0]	12		ug/L	1	0.025	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
2-Methylnaphthalene [91-57-6]	1.3		ug/L	1	0.031	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Acenaphthene [83-32-9]	1.9		ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Acenaphthylene [208-96-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Anthracene [120-12-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Benzo(a)anthracene [56-55-3]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Benzo(a)pyrene [50-32-8]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Benzo(b)fluoranthene [205-99-2]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Benzo(g,h,i)perylene [191-24-2]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Benzo(k)fluoranthene [207-08-9]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Chrysene [218-01-9]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Dibenzo(a,h)anthracene [53-70-3]	0.027	U	ug/L	1	0.027	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Fluoranthene [206-44-0]	0.078	I	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Fluorene [86-73-7]	3.1		ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Indeno(1,2,3-cd)pyrene [193-39-5]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Naphthalene [91-20-3]	8.9		ug/L	1	0.023	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Phenanthrene [85-01-8]	0.062	IV	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
Pyrene [129-00-0]	0.88		ug/L	1	0.016	0.10	0E21010	EPA 8270D	05/24/10 17:59	JWJ	
<b>Surrogates</b>	<b>Results</b>	<b>DF</b>	<b>Spike Lvl</b>	<b>% Rec</b>	<b>% Rec Limits</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>	
p-Terphenyl	4.3	1	5.00	87 %	53-132	0E21010	EPA 8270D	05/24/10 17:59	JWJ		



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Description: MPT-351-2-MW03S-20100518

Lab Sample ID: B002351-04

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 14:51

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

FL Petroleum Range Organics

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
TPH (C8-C40) [ECL-0175]	3.6		mg/L	1	0.054	0.34	0E24005	FLPRO	05/24/10 17:31	JWJ	
<i>Surrogates</i>											
	Results	DF	Spike Lvl	% Rec	% Rec Limits		Batch	Method	Analyzed	By	Notes
<i>n</i> -Nonatriacontane	0.084	1	0.200	42 %	37-189		0E24005	FLPRO	05/24/10 17:31	JWJ	
<i>o</i> -Terphenyl	0.097	1	0.100	97 %	68-118		0E24005	FLPRO	05/24/10 17:31	JWJ	



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Description: MPT-351-2-MW03S-20100518

Lab Sample ID: B002351-04

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 14:51

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Metals (total recoverable) by EPA 6000/7000 Series Methods**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DE</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Iron [7439-89-6]	1670		ug/L	1	10.0	50.0	0E20011	EPA 6010C	05/21/10 12:18	ACV	
Sodium [7440-23-5]	12600	V	ug/L	1	150	500	0E20011	EPA 6010C	05/21/10 12:18	ACV	



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**Description:** MPT-351-2-MW03S-20100518

**Lab Sample ID:** B002351-04

**Received:** 05/19/10 17:00

**Matrix:** Ground Water

**Sampled:** 05/18/10 14:51

**Work Order:** B002351

**Project:** CTO 50 NAS Mayport, FL

**Sampled By:** Jeff Krone

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**Classical Chemistry Parameters**

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<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Total Dissolved Solids [ECL-0156]	320		mg/L	1	10	10	0E24010	SM 2540C	05/25/10 15:54	GMB	



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Description: MPT-351-2-MW03S-20100518

Lab Sample ID: B002351-04

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 14:51

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ammonia as N [7664-41-7]	0.57		mg/L	1	0.010	0.020	0E21017	EPA 350.1	05/21/10 12:18	KG	
Nitrate as N [14797-55-8]	0.13	I	mg/L	1	0.10	1.0	0E20001	EPA 9056A	05/20/10 13:10	RSA	
Sulfate [14808-79-8]	2.1	I	mg/L	1	0.11	5.0	0E20001	EPA 9056A	05/20/10 13:10	RSA	

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Description: MPT-351-2-MW08S-20100518

Lab Sample ID: B002351-05

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 15:39

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Volatile Organic Compounds by GCMS**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 19:14	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 19:14	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 19:14	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 19:14	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 19:14	LTS	

<u>Surrogates</u>	<u>Results</u>	<u>DF</u>	<u>Spike Lvl</u>	<u>% Rec</u>	<u>% Rec Limits</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
4-Bromofluorobenzene	44	1	50.0	88 %	70-120	0F01019	EPA 8260B	05/30/10 19:14	LTS	
Dibromofluoromethane	50	1	50.0	99 %	74-124	0F01019	EPA 8260B	05/30/10 19:14	LTS	
Toluene-d8	48	1	50.0	97 %	77-120	0F01019	EPA 8260B	05/30/10 19:14	LTS	



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Description: MPT-351-2-MW08S-20100518

Lab Sample ID: B002351-05

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 15:39

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

Semivolatile Organic Compounds by GCMS SIM

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1-Methylnaphthalene [90-12-0]	0.025	U	ug/L	1	0.025	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
2-Methylnaphthalene [91-57-6]	0.031	U	ug/L	1	0.031	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Acenaphthene [83-32-9]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Acenaphthylene [208-96-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Anthracene [120-12-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Benzo(a)anthracene [56-55-3]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Benzo(a)pyrene [50-32-8]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Benzo(b)fluoranthene [205-99-2]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Benzo(g,h,i)perylene [191-24-2]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Benzo(k)fluoranthene [207-08-9]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Chrysene [218-01-9]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Dibenzo(a,h)anthracene [53-70-3]	0.027	U	ug/L	1	0.027	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Fluoranthene [206-44-0]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Fluorene [86-73-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Indeno(1,2,3-cd)pyrene [193-39-5]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
<b>Naphthalene [91-20-3]</b>	<b>0.041</b>	<b>I</b>	ug/L	1	0.023	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Phenanthrene [85-01-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	
Pyrene [129-00-0]	0.15		ug/L	1	0.016	0.10	0E21010	EPA 8270D	05/24/10 18:22	JWJ	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
p-Terphenyl	4.6	1	5.00	92 %	53-132	0E21010	EPA 8270D	05/24/10 18:22	JWJ	



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Description: MPT-351-2-MW08S-20100518

Lab Sample ID: B002351-05

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 15:39

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

FL Petroleum Range Organics

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
TPH (C8-C40) [ECL-0175]	0.12	I	mg/L	1	0.057	0.36	0E24005	FLPRO	05/24/10 17:54	JWJ	
<b>Surrogates</b>											
	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes	
n-Nonatriacontane	0.15	1	0.213	70 %	37-189	0E24005	FLPRO	05/24/10 17:54	JWJ		
o-Terphenyl	0.11	1	0.106	99 %	68-118	0E24005	FLPRO	05/24/10 17:54	JWJ		



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Description: MPT-351-2-MW08S-20100518

Lab Sample ID: B002351-05

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 15:39

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Metals (total recoverable) by EPA 6000/7000 Series Methods**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Iron [7439-89-6]	1330		ug/L	1	10.0	50.0	0E20011	EPA 6010C	05/21/10 12:20	ACV	
Sodium [7440-23-5]	19600	V	ug/L	1	150	500	0E20011	EPA 6010C	05/21/10 12:20	ACV	



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Description: MPT-351-2-MW08S-20100518

Lab Sample ID: B002351-05

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 15:39

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

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**Classical Chemistry Parameters**

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<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Total Dissolved Solids [ECL-0156]	280		mg/L	1	10	10	0E24010	SM 2540C	05/25/10 15:54	GMB	



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Description: MPT-351-2-MW08S-20100518

Lab Sample ID: B002351-05

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/18/10 15:39

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ammonia as N [7664-41-7]	0.077		mg/L	1	0.010	0.020	0E21017	EPA 350.1	05/21/10 12:19	KG	
Nitrate as N [14797-55-8]	0.31	I	mg/L	1	0.10	1.0	0E20001	EPA 9056A	05/20/10 13:28	RSA	
Sulfate [14808-79-8]	29		mg/L	1	0.11	5.0	0E20001	EPA 9056A	05/20/10 13:28	RSA	

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Description: MPT-351-2-MW05S-20100519

Lab Sample ID: B002351-06

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 10:57

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

**Volatile Organic Compounds by GCMS**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Benzene [71-43-2]	1.4		ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 19:53	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 19:53	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 19:53	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 19:53	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 19:53	LTS	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
4-Bromofluorobenzene	44	1	50.0	87 %	70-120	0F01019	EPA 8260B	05/30/10 19:53	LTS	
Dibromofluoromethane	49	1	50.0	98 %	74-124	0F01019	EPA 8260B	05/30/10 19:53	LTS	
Toluene-d8	48	1	50.0	96 %	77-120	0F01019	EPA 8260B	05/30/10 19:53	LTS	



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Description: MPT-351-2-MW05S-20100519

Lab Sample ID: B002351-06

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 10:57

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

Semivolatile Organic Compounds by GCMS SIM

Table with 11 columns: Analyte [CAS Number], Results, Flag, Units, DF, MDL, PQL, Batch, Method, Analyzed, By, Notes. Lists various organic compounds like 1-Methylnaphthalene, Acenaphthene, etc.

Table with 11 columns: Surrogates, Results, DF, Spike Lvl, % Rec, % Rec Limits, Batch, Method, Analyzed, By, Notes. Lists p-Terphenyl and o-Terphenyl.

FL Petroleum Range Organics

Table with 11 columns: Analyte [CAS Number], Results, Flag, Units, DF, MDL, PQL, Batch, Method, Analyzed, By, Notes. Lists TPH (CB-C40) [ECL-0175].

Table with 11 columns: Surrogates, Results, DF, Spike Lvl, % Rec, % Rec Limits, Batch, Method, Analyzed, By, Notes. Lists n-Nonatriacontane and o-Terphenyl.



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Description: MPT-351-2-MW05S-20100519

Lab Sample ID: 8002351-06

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 10:57

Work Order: 8002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Metals (total recoverable) by EPA 6000/7000 Series Methods**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Iron [7439-89-6]	2610		ug/L	1	10.0	50.0	0E20011	EPA 6010C	05/21/10 12:22	ACV	
Sodium [7440-23-5]	4880	V	ug/L	1	150	500	0E20011	EPA 6010C	05/21/10 12:22	ACV	



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**Description:** MPT-351-2-MW05S-20100519

**Lab Sample ID:** B002351-06

**Received:** 05/19/10 17:00

**Matrix:** Ground Water

**Sampled:** 05/19/10 10:57

**Work Order:** B002351

**Project:** CTO 50 NAS Mayport, Fl

**Sampled By:** Jeff Krone

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**Classical Chemistry Parameters**

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<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DE</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Total Dissolved Solids [ECL-0156]	240		mg/L	1	10	10	0E24010	SM 2540C	05/25/10 15:54	GMB	



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Description: MPT-351-2-MW05S-20100519

Lab Sample ID: B002351-06

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 10:57

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>POL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Ammonia as N [7664-41-7]	1.0		mg/L	1	0.010	0.020	0E21017	EPA 350.1	05/21/10 12:23	KG	
Nitrate as N [14797-55-8]	0.13	I	mg/L	1	0.10	1.0	0E20001	EPA 9056A	05/20/10 14:21	RSA	
Sulfate [14808-79-8]	0.11	U	mg/L	1	0.11	5.0	0E20001	EPA 9056A	05/20/10 14:21	RSA	

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Description: MPT-351-2-MW06S-20100519

Lab Sample ID: B002351-07

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 11:33

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Volatiles Organic Compounds by GCMS**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Benzene [71-43-2]	6.0		ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 20:33	LTS	
Ethylbenzene [100-41-4]	0.70	I	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 20:33	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 20:33	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 20:33	LTS	
Xylenes (Total) [1330-20-7]	1.2		ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 20:33	LTS	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
4-Bromofluorobenzene	48	1	50.0	97 %	70-120	0F01019	EPA 8260B	05/30/10 20:33	LTS	
Dibromofluoromethane	50	1	50.0	100 %	74-124	0F01019	EPA 8260B	05/30/10 20:33	LTS	
Toluene-d8	48	1	50.0	95 %	77-120	0F01019	EPA 8260B	05/30/10 20:33	LTS	



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Description: MPT-351-2-MW06S-20100519

Lab Sample ID: B002351-07

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 11:33

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

Semivolatile Organic Compounds by GCMS SIM

Table with 11 columns: Analyte [CAS Number], Results, Flag, Units, DF, MDL, PQL, Batch, Method, Analyzed, By, Notes. Lists various organic compounds like 1-Methylnaphthalene, Acenaphthene, Anthracene, etc.

Table with 11 columns: Surrogates, Results, DF, Spike Lvl, % Rec, % Rec Limits, Batch, Method, Analyzed, By, Notes. Lists p-Terphenyl.

FL Petroleum Range Organics

Table with 11 columns: Analyte [CAS Number], Results, Flag, Units, DF, MDL, PQL, Batch, Method, Analyzed, By, Notes. Lists TPH (C8-C40).

Table with 11 columns: Surrogates, Results, DF, Spike Lvl, % Rec, % Rec Limits, Batch, Method, Analyzed, By, Notes. Lists n-Nonatriacontane.



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Description: MPT-351-2-MW06S-20100519

Lab Sample ID: B002351-07

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 11:33

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

FL Petroleum Range Organics

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
<i>Surrogates</i>	<i>Results</i>	<i>DF</i>	<i>Spike Lvl</i>	<i>% Rec</i>	<i>% Rec Limits</i>		<i>Batch</i>	<i>Method</i>	<i>Analyzed</i>	<i>By</i>	<i>Notes</i>
<i>o-Terphenyl</i>	0.10	5	0.100	101 %	68-118		0E24005	FLPRO	05/24/10 19:51	JWJ	QS-04
<i>o-Terphenyl</i>	0.12	1	0.100	121 %	68-118		0E24005	FLPRO	05/24/10 20:14	JWJ	QM-13

Metals (total recoverable) by EPA 6000/7000 Series Methods

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Iron [7439-89-6]	10500	L	ug/L	1	10.0	50.0	0E20011	EPA 6010C	05/21/10 12:29	ACV	
Sodium [7440-23-5]	75600	LV	ug/L	1	150	500	0E20011	EPA 6010C	05/21/10 12:29	ACV	



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Description: MPT-351-2-MW06S-20100519

Lab Sample ID: B002351-07

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 11:33

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Total Dissolved Solids [ECL-0156]	688		mg/L	1	10	10	0E24010	SM 2540C	05/25/10 15:54	GMB	



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Description: MPT-351-2-MW06S-20100519

Lab Sample ID: B002351-07

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 11:33

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Ammonia as N [7664-41-7]	2.4		mg/L	2	0.020	0.040	0E21017	EPA 350.1	05/21/10 12:24	KG	
Nitrate as N [14797-55-8]	0.13	I	mg/L	1	0.10	1.0	0E20001	EPA 9056A	05/20/10 14:59	RSA	
Sulfate [14808-79-8]	0.11	U	mg/L	1	0.11	5.0	0E20001	EPA 9056A	05/20/10 14:59	RSA	

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Description: MPT-351-2-MW07S-20100519

Lab Sample ID: B002351-08

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

**Volatile Organic Compounds by GCMS**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 21:12	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 21:12	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 21:12	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 21:12	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 21:12	LTS	
<b>Surrogates</b>	<b>Results</b>	<b>DF</b>	<b>Spike Lvl</b>	<b>% Rec</b>	<b>% Rec Limits</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>	
4-Bromofluorobenzene	44	1	50.0	88 %	70-120	0F01019	EPA 8260B	05/30/10 21:12	LTS		
Dibromofluoromethane	50	1	50.0	100 %	74-124	0F01019	EPA 8260B	05/30/10 21:12	LTS		
Toluene-d8	50	1	50.0	100 %	77-120	0F01019	EPA 8260B	05/30/10 21:12	LTS		



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Description: MPT-351-2-MW07S-20100519

Lab Sample ID: B002351-08

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

Semivolatile Organic Compounds by GCMS SIM

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1-Methylnaphthalene [90-12-0]	0.025	U	ug/L	1	0.025	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
2-Methylnaphthalene [91-57-6]	0.031	U	ug/L	1	0.031	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Acenaphthene [83-32-9]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Acenaphthylene [208-96-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Anthracene [120-12-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Benzo(a)anthracene [56-55-3]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Benzo(a)pyrene [50-32-8]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Benzo(b)fluoranthene [205-99-2]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Benzo(g,h,i)perylene [191-24-2]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Benzo(k)fluoranthene [207-08-9]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Chrysene [218-01-9]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Dibenzo(a,h)anthracene [53-70-3]	0.027	U	ug/L	1	0.027	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Fluoranthene [206-44-0]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Fluorene [86-73-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Indeno(1,2,3-cd)pyrene [193-39-5]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Naphthalene [91-20-3]	0.027	I	ug/L	1	0.023	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Phenanthrene [85-01-8]	0.021	IV	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	
Pyrene [129-00-0]	0.037	I	ug/L	1	0.016	0.10	0E21010	EPA 8270D	05/24/10 19:07	JWJ	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
p-Terphenyl	4.8	1	5.00	95 %	53-132	0E21010	EPA 8270D	05/24/10 19:07	JWJ	



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Description: MPT-351-2-MW07S-20100519

Lab Sample ID: 8002351-08

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, FI

Sampled By: Jeff Krone

FL Petroleum Range Organics

Analyte [CAS Number]	Results	Flag	Units	DE	MDL	PQL	Batch	Method	Analyzed	By	Notes
TPH (C8-C40) [ECL-0175]	0.054	U	mg/L	1	0.054	0.34	0E24005	FLPRO	05/24/10 19:04	JWJ	
<i>Surrogates</i>											
	Results	DF	Spike Lvl	% Rec	% Rec Limits		Batch	Method	Analyzed	By	Notes
<i>n</i> -Nonatriacontane	0.082	1	0.200	41 %	37-189		0E24005	FLPRO	05/24/10 19:04	JWJ	
<i>o</i> -Terphenyl	0.097	1	0.100	97 %	68-118		0E24005	FLPRO	05/24/10 19:04	JWJ	



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Description: MPT-351-2-MW07S-20100519

Lab Sample ID: B002351-08

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, FI

Sampled By: Jeff Krone

**Metals (total recoverable) by EPA 6000/7000 Series Methods**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Iron [7439-89-6]	384		ug/L	1	10.0	50.0	0E20011	EPA 6010C	05/21/10 12:31	ACV	
Sodium [7440-23-5]	22000	V	ug/L	1	150	500	0E20011	EPA 6010C	05/21/10 12:31	ACV	



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Description: MPT-351-2-MW07S-20100519

Lab Sample ID: B002351-08

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

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**Classical Chemistry Parameters**

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<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Total Dissolved Solids [ECL-0156]	268		mg/L	1	10	10	0E24010	SM 2540C	05/25/10 15:54	GMB	



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Description: MPT-351-2-MW07S-20100519

Lab Sample ID: B002351-08

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 12:12

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Ammonia as N [7664-41-7]	0.046		mg/L	1	0.010	0.020	0E21017	EPA 350.1	05/21/10 12:25	KG	
Nitrate as N [14797-55-8]	0.54	I	mg/L	1	0.10	1.0	0E20001	EPA 9056A	05/20/10 15:17	RSA	
Sulfate [14808-79-8]	34		mg/L	1	0.11	5.0	0E20001	EPA 9056A	05/20/10 15:17	RSA	

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Description: MPT-351-2-RINSATE01-20100519

Lab Sample ID: B002351-09

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 13:30

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Volatile Organic Compounds by GCMS**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 21:51	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 21:51	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 21:51	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 21:51	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 21:51	LTS	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
4-Bromofluorobenzene	45	1	50.0	90 %	70-120	0F01019	EPA 8260B	05/30/10 21:51	LTS	
Dibromofluoromethane	51	1	50.0	102 %	74-124	0F01019	EPA 8260B	05/30/10 21:51	LTS	
Toluene-d8	47	1	50.0	95 %	77-120	0F01019	EPA 8260B	05/30/10 21:51	LTS	



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Description: MPT-351-2-RINSATE01-20100519

Lab Sample ID: B002351-09

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 13:30

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

Semivolatile Organic Compounds by GCMS SIM

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1-Methylnaphthalene [90-12-0]	0.025	U	ug/L	1	0.025	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
2-Methylnaphthalene [91-57-6]	0.031	U	ug/L	1	0.031	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Acenaphthene [83-32-9]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Acenaphthylene [208-96-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Anthracene [120-12-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Benzo(a)anthracene [56-55-3]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Benzo(a)pyrene [50-32-8]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Benzo(b)fluoranthene [205-99-2]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Benzo(g,h,i)perylene [191-24-2]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Benzo(k)fluoranthene [207-08-9]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Chrysene [218-01-9]	0.010	U	ug/L	1	0.010	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Dibenzo(a,h)anthracene [53-70-3]	0.027	U	ug/L	1	0.027	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Fluoranthene [206-44-0]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Fluorene [86-73-7]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Indeno(1,2,3-cd)pyrene [193-39-5]	0.014	U	ug/L	1	0.014	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Naphthalene [91-20-3]	0.023	U	ug/L	1	0.023	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Phenanthrene [85-01-8]	0.011	U	ug/L	1	0.011	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	
Pyrene [129-00-0]	0.016	U	ug/L	1	0.016	0.10	0E21010	EPA 8270D	05/24/10 19:29	JWJ	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
p-Terphenyl	4.4	1	5.00	89 %	53-132	0E21010	EPA 8270D	05/24/10 19:29	JWJ	



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Description: MPT-351-2-RINSATE01-20100519

Lab Sample ID: B002351-09

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 13:30

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

FL Petroleum Range Organics

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
TPH (C8-C40) [ECL-0175]	0.41		mg/L	1	0.059	0.37	0E24005	FLPRO	05/24/10 19:27	JWJ	
<i>Surrogates</i>											
<i>Surrogates</i>	<i>Results</i>	<i>DF</i>	<i>Spike Lvl</i>	<i>% Rec</i>	<i>% Rec Limits</i>	<i>Batch</i>	<i>Method</i>	<i>Analyzed</i>	<i>By</i>	<i>Notes</i>	
<i>n-Nonatriacontane</i>	<i>0.096</i>	<i>1</i>	<i>0.217</i>	<i>44 %</i>	<i>37-189</i>	<i>0E24005</i>	<i>FLPRO</i>	<i>05/24/10 19:27</i>	<i>JWJ</i>		
<i>o-Terphenyl</i>	<i>0.11</i>	<i>1</i>	<i>0.109</i>	<i>98 %</i>	<i>68-118</i>	<i>0E24005</i>	<i>FLPRO</i>	<i>05/24/10 19:27</i>	<i>JWJ</i>		



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Description: MPT-351-2-RINSATE01-20100519

Lab Sample ID: B002351-09

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 13:30

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Metals (total recoverable) by EPA 6000/7000 Series Methods**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Iron [7439-89-6]	10.0	U	ug/L	1	10.0	50.0	0E20011	EPA 6010C	05/21/10 12:34	ACV	
Sodium [7440-23-5]	168	IV	ug/L	1	150	500	0E20011	EPA 6010C	05/21/10 12:34	ACV	
Sodium [7440-23-5]	150	U	ug/L	1	150	500	0E20011	EPA 6010C	05/24/10 14:25	ACV	

**Classical Chemistry Parameters**

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Total Dissolved Solids [ECL-0156]	10	U	mg/L	1	10	10	0E24010	SM 2540C	05/25/10 15:54	GMB	



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Description: MPT-351-2-RINSATE01-20100519

Lab Sample ID: B002351-09

Received: 05/19/10 17:00

Matrix: Ground Water

Sampled: 05/19/10 13:30

Work Order: B002351

Project: CTO 50 NAS Mayport, Fl

Sampled By: Jeff Krone

**Classical Chemistry Parameters**

Analyte [CAS Number]	Results	Flag	Units	DE	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ammonia as N [7664-41-7]	0.010	U	mg/L	1	0.010	0.020	0E21017	EPA 350.1	05/21/10 12:26	KG	
Nitrate as N [14797-55-8]	0.10	U	mg/L	1	0.10	1.0	0E20001	EPA 9056A	05/20/10 15:35	RSA	
Sulfate [14808-79-8]	0.11	U	mg/L	1	0.11	5.0	0E20001	EPA 9056A	05/20/10 15:35	RSA	

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Description: Trip Blank 1

Lab Sample ID: B002351-10

Received: 05/19/10 17:00

Matrix: Water

Sampled: 05/18/10 00:00

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Enco Jacksonville

**Volatile Organic Compounds by GCMS**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 22:30	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 22:30	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 22:30	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 22:30	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 22:30	LTS	

<u>Surrogates</u>	<u>Results</u>	<u>DF</u>	<u>Spike Lvl</u>	<u>% Rec</u>	<u>% Rec Limits</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
4-Bromofluorobenzene	43	1	50.0	86 %	70-120	0F01019	EPA 8260B	05/30/10 22:30	LTS	
Dibromofluoromethane	50	1	50.0	101 %	74-124	0F01019	EPA 8260B	05/30/10 22:30	LTS	
Toluene-d8	50	1	50.0	101 %	77-120	0F01019	EPA 8260B	05/30/10 22:30	LTS	

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Description: Trip Blank 2

Lab Sample ID: B002351-11

Received: 05/19/10 17:00

Matrix: Water

Sampled: 05/18/10 00:00

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Enco Jacksonville

**Volatile Organic Compounds by GCMS**

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 23:09	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 23:09	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 23:09	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 23:09	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 23:09	LTS	

<u>Surrogates</u>	<u>Results</u>	<u>DF</u>	<u>Spike Lvl</u>	<u>% Rec</u>	<u>% Rec Limits</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
4-Bromofluorobenzene	45	1	50.0	90 %	70-120	0F01019	EPA 8260B	05/30/10 23:09	LTS	
Dibromofluoromethane	51	1	50.0	101 %	74-124	0F01019	EPA 8260B	05/30/10 23:09	LTS	
Toluene-d8	53	1	50.0	105 %	77-120	0F01019	EPA 8260B	05/30/10 23:09	LTS	

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Description: Trip Blank 3

Lab Sample ID: B002351-12

Received: 05/19/10 17:00

Matrix: Water

Sampled: 05/18/10 00:00

Work Order: B002351

Project: CTO 50 NAS Mayport, FL

Sampled By: Enco Jacksonville

Volatiles Organic Compounds by GCMS

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	POL	Batch	Method	Analyzed	By	Notes
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	05/30/10 23:48	LTS	
Benzene [71-43-2]	0.27	U	ug/L	1	0.27	1.0	0F01019	EPA 8260B	06/01/10 21:45	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	05/30/10 23:48	LTS	
Ethylbenzene [100-41-4]	0.26	U	ug/L	1	0.26	1.0	0F01019	EPA 8260B	06/01/10 21:45	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	05/30/10 23:48	LTS	
Methyl-tert-Butyl Ether [1634-04-4]	0.24	U	ug/L	1	0.24	1.0	0F01019	EPA 8260B	06/01/10 21:45	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	05/30/10 23:48	LTS	
Toluene [108-88-3]	0.30	U	ug/L	1	0.30	1.0	0F01019	EPA 8260B	06/01/10 21:45	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	05/30/10 23:48	LTS	
Xylenes (Total) [1330-20-7]	0.50	U	ug/L	1	0.50	1.0	0F01019	EPA 8260B	06/01/10 21:45	LTS	

Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits	Batch	Method	Analyzed	By	Notes
4-Bromofluorobenzene	0.0	1	50.0	%	70-120	0F01019	EPA 8260B	05/30/10 23:48	LTS	
4-Bromofluorobenzene	46	1	50.0	92 %	70-120	0F01019	EPA 8260B	06/01/10 21:45	LTS	
Dibromofluoromethane	0.0	1	50.0	%	74-124	0F01019	EPA 8260B	05/30/10 23:48	LTS	
Dibromofluoromethane	47	1	50.0	94 %	74-124	0F01019	EPA 8260B	06/01/10 21:45	LTS	
Toluene-d8	0.0	1	50.0	%	77-120	0F01019	EPA 8260B	05/30/10 23:48	LTS	
Toluene-d8	50	1	50.0	99 %	77-120	0F01019	EPA 8260B	06/01/10 21:45	LTS	

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QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0F01019 - EPA 5035\_MS

Blank (0F01019-BLK1)

Prepared: 05/30/2010 12:02 Analyzed: 05/30/2010 14:00

Table with 12 columns: Analyte, Result, Flag, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Rows include Benzene, Ethylbenzene, Methyl-tert-Butyl Ether, Toluene, Xylenes (Total), and three Surrogate compounds.

LCS (0F01019-BS1)

Prepared: 05/30/2010 12:02 Analyzed: 05/30/2010 14:39

Table with 12 columns: Analyte, Result, Flag, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Rows include Benzene, Ethylbenzene, m,p-Xylenes, Methyl-tert-Butyl Ether, o-Xylene, Toluene, and three Surrogate compounds.

Matrix Spike (0F01019-MS1)

Prepared: 05/30/2010 12:02 Analyzed: 05/30/2010 17:16

Source: B002351-03

Table with 12 columns: Analyte, Result, Flag, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Rows include Benzene, Ethylbenzene, m,p-Xylenes, Methyl-tert-Butyl Ether, o-Xylene, Toluene, and three Surrogate compounds.

Matrix Spike Dup (0F01019-MSD1)

Prepared: 05/30/2010 12:02 Analyzed: 05/30/2010 17:56

Source: B002351-03

Table with 12 columns: Analyte, Result, Flag, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Rows include Benzene, Ethylbenzene, m,p-Xylenes, Methyl-tert-Butyl Ether, o-Xylene, Toluene.



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**QUALITY CONTROL**

**Volatile Organic Compounds by GCMS - Quality Control**

Batch OF01019 - EPA 5035\_MS

Matrix Spike Dup (OF01019-MSD1) Continued  
Source: B002351-03

Prepared: 05/30/2010 12:02 Analyzed: 05/30/2010 17:56

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: 4-Bromofluorobenzene	46			ug/L	50.0		92	70-120			
Surrogate: Dibromofluoromethane	52			ug/L	50.0		104	74-124			
Surrogate: Toluene-d8	50			ug/L	50.0		100	77-120			

**Semivolatile Organic Compounds by GCMS SIM - Quality Control**

Batch OE21010 - EPA 3510C\_MS

Blank (OE21010-BLK1)

Prepared: 05/21/2010 10:22 Analyzed: 05/24/2010 14:32

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1-Methylnaphthalene	0.025	U	0.10	ug/L							
2-Methylnaphthalene	0.031	U	0.10	ug/L							
Acenaphthene	0.011	U	0.10	ug/L							
Acenaphthylene	0.011	U	0.10	ug/L							
Anthracene	0.014	U	0.10	ug/L							
Benzo(a)anthracene	0.010	U	0.10	ug/L							
Benzo(a)pyrene	0.014	U	0.10	ug/L							
Benzo(b)fluoranthene	0.010	U	0.10	ug/L							
Benzo(g,h,i)perylene	0.014	U	0.10	ug/L							
Benzo(k)fluoranthene	0.014	U	0.10	ug/L							
Chrysene	0.010	U	0.10	ug/L							
Dibenzo(a,h)anthracene	0.027	U	0.10	ug/L							
Fluoranthene	0.011	U	0.10	ug/L							
Fluorene	0.014	U	0.10	ug/L							
Indeno(1,2,3-cd)pyrene	0.014	U	0.10	ug/L							
Naphthalene	0.023	U	0.10	ug/L							
Phenanthrene	0.023	I	0.10	ug/L							
Pyrene	0.016	U	0.10	ug/L							
Surrogate: p-Terphenyl	4.3			ug/L	5.00		86	53-132			

LCS (OE21010-BS1)

Prepared: 05/21/2010 10:22 Analyzed: 05/24/2010 15:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1-Methylnaphthalene	1.5		0.10	ug/L	2.00		76	41-120			
2-Methylnaphthalene	1.5		0.10	ug/L	2.00		73	39-121			
Acenaphthene	1.6		0.10	ug/L	2.00		81	49-120			
Acenaphthylene	1.4		0.10	ug/L	2.00		70	40-120			
Anthracene	1.8		0.10	ug/L	2.00		90	48-120			
Benzo(a)anthracene	1.8		0.10	ug/L	2.00		91	53-120			
Benzo(a)pyrene	1.8		0.10	ug/L	2.00		90	44-120			
Benzo(b)fluoranthene	1.9		0.10	ug/L	2.00		97	59-120			
Benzo(g,h,i)perylene	1.5		0.10	ug/L	2.00		75	41-120			
Benzo(k)fluoranthene	2.0		0.10	ug/L	2.00		99	53-128			
Chrysene	2.0		0.10	ug/L	2.00		98	59-128			
Dibenzo(a,h)anthracene	1.5		0.10	ug/L	2.00		74	35-122			
Fluoranthene	1.8		0.10	ug/L	2.00		92	59-128			



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QUALITY CONTROL

Semivolatile Organic Compounds by GCMS SIM - Quality Control

Batch 0E21010 - EPA 3510C\_MS

LCS (0E21010-BS1) Continued

Prepared: 05/21/2010 10:22 Analyzed: 05/24/2010 15:39

Table with 12 columns: Analyte, Result, Flag, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Rows include Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Pyrene, and Surrogate: p-Terphenyl.

Matrix Spike (0E21010-MS1)

Prepared: 05/21/2010 10:22 Analyzed: 05/24/2010 16:02

Source: B002351-03

Table with 12 columns: Analyte, Result, Flag, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Rows include 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Pyrene, and Surrogate: p-Terphenyl.

Matrix Spike Dup (0E21010-MSD1)

Prepared: 05/21/2010 10:22 Analyzed: 05/24/2010 16:24

Source: B002351-03

Table with 12 columns: Analyte, Result, Flag, PQL, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Rows include 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, and Dibenzo(a,h)anthracene.



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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GCMS SIM - Quality Control**

Batch 0E21010 - EPA 3510C\_MS

Matrix Spike Dup (0E21010-MSD1) Continued

Prepared: 05/21/2010 10:22 Analyzed: 05/24/2010 16:24

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Fluoranthene	1.8		0.10	ug/L	2.00	0.011 U	88	59-128	0.9	10	
Fluorene	1.6		0.10	ug/L	2.00	0.014 U	79	49-120	4	19	
Indeno(1,2,3-cd)pyrene	1.4		0.10	ug/L	2.00	0.014 U	69	34-120	5	13	
Naphthalene	1.3		0.10	ug/L	2.00	0.023 U	66	44-120	7	31	
Phenanthrene	1.6		0.10	ug/L	2.00	0.011 U	81	56-120	2	14	
Pyrene	1.7		0.10	ug/L	2.00	0.016 U	85	57-124	3	10	
Surrogate: p-Terphenyl	4.7			ug/L	5.00		94	53-132			

**FL Petroleum Range Organics - Quality Control**

Batch 0E24005 - EPA 3510C

Blank (0E24005-BLK1)

Prepared: 05/24/2010 09:30 Analyzed: 05/24/2010 14:47

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
TPH (C8-C40)	0.054	U	0.34	mg/L							
Surrogate: n-Nonatriacontane	0.14			mg/L	0.200		68	37-189			
Surrogate: o-Terphenyl	0.097			mg/L	0.100		97	68-118			

LCS (0E24005-BS1)

Prepared: 05/24/2010 09:30 Analyzed: 05/24/2010 15:10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
TPH (C8-C40)	3.2		0.34	mg/L	3.40		93	55-118			
Surrogate: n-Nonatriacontane	0.15			mg/L	0.200		73	42-193			
Surrogate: o-Terphenyl	0.10			mg/L	0.100		100	82-142			

Matrix Spike (0E24005-MS1)

Prepared: 05/24/2010 09:30 Analyzed: 05/24/2010 15:34

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
TPH (C8-C40)	3.2		0.34	mg/L	3.40	0.054 U	94	65-126			
Surrogate: n-Nonatriacontane	0.13			mg/L	0.200		65	37-189			
Surrogate: o-Terphenyl	0.10			mg/L	0.100		102	68-118			

Matrix Spike Dup (0E24005-MSD1)

Prepared: 05/24/2010 09:30 Analyzed: 05/24/2010 15:57

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
TPH (C8-C40)	3.2		0.34	mg/L	3.40	0.054 U	93	65-126	0.9	15	
Surrogate: n-Nonatriacontane	0.12			mg/L	0.200		60	37-189			
Surrogate: o-Terphenyl	0.10			mg/L	0.100		103	68-118			

**Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control**

Batch 0E20011 - EPA 3005A



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**QUALITY CONTROL**

**Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control**

Batch 0E20011 - EPA 3005A

Blank (0E20011-BLK1)

Prepared: 05/20/2010 13:13 Analyzed: 05/21/2010 12:01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Iron	10.0	U	50.0	ug/L							
Sodium	220	I	500	ug/L							

Blank (0E20011-BLK2)

Prepared: 05/20/2010 13:13 Analyzed: 05/24/2010 14:23

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sodium	150	U	500	ug/L							

LCS (0E20011-BS1)

Prepared: 05/20/2010 13:13 Analyzed: 05/21/2010 12:04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Iron	2520		50.0	ug/L	2500		101	85-115			
Sodium	25200		500	ug/L	25000		101	85-115			

Matrix Spike (0E20011-MS1)

Prepared: 05/20/2010 13:13 Analyzed: 05/21/2010 12:06

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Iron	2500		50.0	ug/L	2500	10.0 U	100	80-120			
Sodium	78900	L	500	ug/L	25000	55200	95	80-120			

Matrix Spike Dup (0E20011-MSD1)

Prepared: 05/20/2010 13:13 Analyzed: 05/21/2010 12:08

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Iron	2500		50.0	ug/L	2500	10.0 U	100	80-120	0.0004	30	
Sodium	78900	L	500	ug/L	25000	55200	95	80-120	0.05	30	

**Classical Chemistry Parameters - Quality Control**

Batch 0E24010 - Same

Blank (0E24010-BLK1)

Prepared: 05/24/2010 15:16 Analyzed: 05/25/2010 15:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Dissolved Solids	10	U	10	mg/L							

LCS (0E24010-BS1)

Prepared: 05/24/2010 15:16 Analyzed: 05/25/2010 15:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Dissolved Solids	108		10	mg/L	100		108	90-110			

Duplicate (0E24010-DUP1)

Prepared: 05/24/2010 15:16 Analyzed: 05/25/2010 15:54

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Dissolved Solids	504		10	mg/L		492			2	10	



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**QUALITY CONTROL**

**Classical Chemistry Parameters - Quality Control**

Batch 0E24010 - Same

**QUALITY CONTROL**

**Classical Chemistry Parameters - Quality Control**

Batch 0E20001 - NO PREP

Blank (0E20001-BLK1)

Prepared: 05/20/2010 07:00 Analyzed: 05/20/2010 07:42

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Nitrate as N	0.10	U	1.0	mg/L							
Sulfate	0.11	U	5.0	mg/L							

LCS (0E20001-BS1)

Prepared: 05/20/2010 07:00 Analyzed: 05/20/2010 09:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Nitrate as N	10		1.0	mg/L	10.0		103	90-110			
Sulfate	51		5.0	mg/L	50.0		101	90-110			

Duplicate (0E20001-DUP1)

Prepared: 05/20/2010 09:00 Analyzed: 05/21/2010 22:47

Source: B002351-09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Nitrate as N	0.10	U	1.0	mg/L		0.10 U				200	
Sulfate	0.11	U	5.0	mg/L		0.11 U				200	

Matrix Spike (0E20001-MS1)

Prepared: 05/20/2010 09:00 Analyzed: 05/20/2010 10:48

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Nitrate as N	11		1.0	mg/L	10.2	0.12	109	90-110			
Sulfate	100		5.0	mg/L	51.0	47	103	90-110			

Matrix Spike Dup (0E20001-MSD1)

Prepared: 05/20/2010 09:00 Analyzed: 05/20/2010 11:06

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Nitrate as N	11		1.0	mg/L	10.2	0.12	107	90-110	2	10	
Sulfate	99		5.0	mg/L	51.0	47	101	90-110	1	10	

Batch 0E21017 - NO PREP

Blank (0E21017-BLK1)

Prepared: 05/21/2010 10:37 Analyzed: 05/21/2010 12:07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ammonia as N	0.010	U	0.020	mg/L							

LCS (0E21017-BS1)

Prepared: 05/21/2010 10:37 Analyzed: 05/21/2010 12:10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ammonia as N	0.99		0.020	mg/L	1.00		99	90-110			



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**QUALITY CONTROL**

**Classical Chemistry Parameters - Quality Control**

Batch 0E21017 - NO PREP

Duplicate (0E21017-DUP1)

Prepared: 05/21/2010 10:37 Analyzed: 05/21/2010 12:27

Source: B002351-08

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ammonia as N	0.048		0.020	mg/L		0.046			4	200	

Matrix Spike (0E21017-MS1)

Prepared: 05/21/2010 10:37 Analyzed: 05/21/2010 12:12

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ammonia as N	2.0		0.020	mg/L	1.00	1.1	91	90-110			

Matrix Spike Dup (0E21017-MSD1)

Prepared: 05/21/2010 10:37 Analyzed: 05/21/2010 12:13

Source: B002351-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ammonia as N	2.0		0.020	mg/L	1.00	1.1	92	90-110	0.6	10	

**FLAGS/NOTES AND DEFINITIONS**

PQL	PQL: Practical Quantitation Limit.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value. The associated sample note or project narrative indicate the causative reason.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*	Not reported due to interference.
QM-13	Suspected matrix effects
QS-03	Surrogate recovery outside acceptance limits.
QS-04	Surrogate recovery not calculated. Surrogate diluted out of the calibration range.



**ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD**

10775 Central Park Dr.  
Orlando, FL 32824  
(407) 826-5314 Fax (407) 850-6945

4810 Executive Park Court, Suite 211  
Jacksonville, FL 32216-6069  
(904) 296-3007 Fax (904) 296-6210

1015 Passport Way  
Cary, NC 27513  
(919) 677-1669 Fax (919) 677-9846

Client Name <b>Tetra Tech NUS (BR006)</b>		Project Number <b>N62467-04-D-0055</b>		Requested Analyses				Requested Turnaround Times				
Address <b>8640 Phillips Highway Suite 16</b>		Project Name/Desc <b>CTO 50 NAS Mayport, Fl</b>		8260B DOD	8270D PAH SIM DOD	Ammonia 350.1	Fe,Na	FLPRO DOD	Nitrate as N 9056 DOD Sulphate 9056A DOD	TDS SM2540C DOD	Note: Rush requests subject to acceptance by the facility.	
City/ST/Zip <b>Jacksonville, FL 32256</b>		PO # / Billing Info <b>112600539</b>									<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Expedited Due <u>   </u> / <u>   </u> / <u>   </u>	
Tel <b>(904) 636-6125</b>		Fax <b>(904) 636-6165</b>		Reporting Contact <b>Mark Peterson</b>		Billing Contact <b>Mark Peterson</b>		Lab Workorder <b>B002351</b>				
Supplier(s) Name, Address (if any) <b>Jeff Krone T-NUS</b>		Facility # (if required) <b>Building 351-2</b>										

Item #	Sample ID (Field Identification)	Collect on Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	Preservation (See Codes) (Carrying as necessary)								Sample Comments
1	mpt-351-2-mw01\$	20100519	1020	G	GW	8	X	X	X	X	X	X	X	Cool to 4°C	
2	mpt-351-2-mw02\$	20100519	1212	G	GW	8	X	X	X	X	X	X	X	Cool to 4°C	
3	mpt-351-2-mw04	20100519	1303	G	GW	24	X	X	X	X	X	X	X	ms/msd	
4	mpt-351-2-mw03\$	20100519	1451	G	GW	8	X	X	X	X	X	X	X	Cool to 4°C	
5	mpt-351-2-mw08\$	20100519	1539	G	GW	8	X	X	X	X	X	X	X		
6	mpt-351-2-mw05\$	20100519	1057	G	GW	8	X	X	X	X	X	X	X		
7	mpt-351-2-mw06\$	20100519	1133	G	GW	8	X	X	X	X	X	X	X		
8	mpt-351-2-mw07\$	20100519	1212	G	GW	8	X	X	X	X	X	X	X		
9	mpt-351-2-Rinsulate	20100519	1330	G	GW	8	X	X	X	X	X	X	X	Cool to 4°C	
					GW	8	X	X	X	X	X	X	X		
					GW	8	X	X	X	X	X	X	X		
					GW	8	X	X	X	X	X	X	X		
					GW	8	X	X	X	X	X	X	X		
Matrix Spike and Water Spike Duplicate															
							Total # of Containers								

Sample Kit Produced By <b>dlc</b>	Date/Time <b>5/10/1700</b>	Relinquished By <i>[Signature]</i>	Date/Time <b>5/10/1715</b>	Received By <i>[Signature]</i>	Date/Time <b>5/10/1715</b>
Comments		Relinquished By	Date/Time <b>5/19/1700</b>	Received By <i>[Signature]</i>	Date/Time <b>5/19/1700</b>
Coder's A Temp on Receipt			Condition Upon Receipt		
			<input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable		

Matrix: GW-Groundwater SO-Soil SE-Sediment SW-Surface Water WW-Wastewater A-Air O-Other (detail in comments)  
 Preservation: F-Fix H-HCl H-HNO3 S-H2SO4 MO-H2O H-Other (detail in comments)  
 Note: All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist.





**ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD**

10775 Central Park Dr.  
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Page \_\_\_ of \_\_\_

Client Name <b>Tetra Tech NUS (BR006)</b>		Project Number <b>N62467-04-D-0055</b>		Requested Analyses				Requested Turnaround Times				
Address <b>8640 Philips Highway Suite 16</b>		Project Name/Desc <b>CTO 50 NAS Mayport, Fl</b>		8260B DOD	8270D PAH SIM DOD	Ammonia 350.1	Fe,Na	FLPRO DOD	Nitrate as N 9056 DOD, Sulfate 9058A DOD	TDS SM2540C DOD	Note: Rush requests subject to acceptance by the facility	
City/ST/Zip <b>Jacksonville, FL 32256</b>		PO # / Billing Info									Standard	
Tel <b>(904) 636-6125</b>		Fax <b>(904) 636-6165</b>									Expedited	
Sampler(s) Name, Affiliation (Print) <b>Mark Peterson</b>		Billing Contact <b>Mark Peterson</b>									Due <u>  </u> / <u>  </u> / <u>  </u>	
Sampler(s) Signature		Facility # (if required)		Preservation (See Codes) (Combine as necessary)				Lab Workorder <b>B002351</b>				

Item #	Sample ID / Field Identification	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers				Sample Comments
	Trip Blank				GW	2	X			
	Trip Blank				GW	2	X			
	Trip Blank				GW	2	X			
							← Total # of Containers			

Sample Kit Prepared By <i>LTC</i>	Date/Time <b>5/14/10 1700</b>	Requested By <i>[Signature]</i>	Date/Time <b>5/14/10 1715</b>	Received By <i>[Signature]</i>	Date/Time <b>5/14/10 1700</b>
Comments		Relinquished By	Date/Time	Relinquished By	Date/Time
		Relinquished By	Date/Time	Relinquished By	Date/Time
Cooler # & S Temp on Receipt				Condition Upon Receipt	
				Acceptable      Unacceptable	

Matrix: GW-Groundwater SO-Soil SE-Sediment SW-Surface Water WW-Wastewater A-Air O-Other (detail in comments)      Preservation: H-HCl N-NH<sub>4</sub> S-H<sub>2</sub>SO<sub>4</sub> NO-NaOH O-Other (detail in comments)

Note: All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist.

