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NS MAYPORT
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SITE REHABILITATION COMPLETION REPORT FOR FORMER TANK SITE 283 NS MAYPORT FL
07/18/2011
TETRA TECH NUS

TETRA TECH NUS, INC.
8640 Philips Highway, Suite 16 • Jacksonville, FL 32256
Tel 904.636.6125 • Fax 904.636.6165 • www.tetratech.com

Document Tracking Number 11JAX0110

July 18, 2011

Project Number 112G02766

Naval Facilities Engineering Command, Southeast
ATTN: Mr. Brian Syme (OPC 6)
Remedial Project Manager
135 Ajax Street North, Building 903
Naval Air Station Jacksonville
Jacksonville, FL 32212-0030

Reference: CLEAN Contract Number N62470-08-D-1001
Contract Task Order (CTO) Number JM32

Subject Site Rehabilitation Completion Report for Former Tank Site 283
Naval Station Mayport, Jacksonville, Florida

Dear Mr. Syme:

Tetra Tech NUS Inc. (Tetra Tech) is pleased to submit this Site Rehabilitation Completion Report (SRCR) for the former Tank Site 283 (also known as Underground Storage Tank [UST] 7) at Naval Station (NAVSTA) Mayport, Jacksonville, Florida. This report was prepared for the United States Navy, Naval Facilities Engineering Command Southeast (NAVFAC SE) under the Comprehensive Long-term Environmental Action Navy (CLEAN) Contract Number N62470-08-D-1001 for Contract Task Order (CTO) JM32. This SRCR provides the information to support and requests a Site Rehabilitation Completion Order (SRCO). Mr. John Winters of the Florida Department of Environmental Protection (FDEP) has reviewed and concurred with the draft version of this document.

SITE BACKGROUND

Former Tank Site 283 contained a diesel UST and a gasoline above ground storage tank (AST). The tanks were removed in December 1992 in accordance with the then current regulation in Chapter 17-761, Florida Administrative Code (F.A.C.). Petroleum-related hydrocarbon-contaminated soils were removed from the site in February 2007. Groundwater sampling, conducted in 2010 by Tetra Tech, confirmed no petroleum-related hydrocarbons were present in the shallow groundwater at the site. The site is currently used for parking and equipment storage.

SUMMARY OF ASSESSMENT AND REMEDIAL ACTIVITIES

The following assessment and remedial activities have been performed at the former Tank Site 283.

UST Closure Assessment Report (Hydro-Terra Environmental Services, Inc., January 1993)

Hydro-Terra Environmental Services, Inc. removed a 2,000-gallon diesel UST from Tank Site 283 in December 1992. Samples of the excavated soil, bottom, and sidewall from the excavation, and soil samples along the fuel lines were analyzed in the field with an organic vapor analyzer (OVA) equipped

with a flame ionization detector (FID). The OVA detected hydrocarbon vapors in the excavated soils ranging from 2 parts per million (ppm) to 25 ppm. As stated in the UST Closure Assessment Report, the soils were considered contaminated, but not "excessively", because the OVA readings were below 50 ppm. Four of the five samples from the excavation bottom and sidewalls indicated the presence of hydrocarbon vapors; two of the samples indicated the presence of "excessive" contamination. After the tank removal, the excavated soils along with clean soil were placed back in the excavation. Hydrocarbon compounds were not detected in the groundwater sample collected from a temporary well installed in the tank pit area. The UST Closure Assessment Report is provided in Attachment A.

Site Assessment Report (Tetra Tech, December 2003)

Following the Contamination Assessment Plan (Tetra Tech, May 2002) that was approved by the FDEP in a letter (dated July 3, 2002), Tetra Tech conducted soil and groundwater Site Assessment (SA) activities between July 9, 2002, and June 15, 2003, at the Former Tank Site 283 that included the following:

- The installation and surveying of four shallow piezometers used to determine the shallow groundwater elevation and flow direction. Groundwater was encountered at depths of 3.4 feet to 4.9 feet below ground surface (bgs). The groundwater flow direction was determined to be northward at a very shallow gradient. Figures depicting the site plan, location of former piezometers, groundwater flow direction and tables of analytical results from the Site Assessment Report (SAR) are provided in Attachment B.

- The advancement of 39 shallow (3 feet to 5 feet bgs) and one deep (34 feet bgs) soil borings. Soil samples were field screened using an OVA equipped with a FID. The soil samples were analyzed for petroleum-related chemicals of concern (COCs) by an on-site mobile laboratory and a fixed-base laboratory. Additional analyses were conducted for polycyclic aromatic hydrocarbons (PAHs). The analytical results showed PAH concentrations in soils at the site that exceeded the FDEP Soil Cleanup Target Levels (SCTLs). Figures depicting the soil boring locations and exceedances of residential SCTLs and tables of analytical results from the SAR are provided in Attachment B.

- Groundwater was sampled from 10 of the soil borings advanced on July 9 and 10, 2002, and analyzed by the mobile laboratory for the same COCs as the soil samples. A permanent monitoring well (MPT-283-MW-01), with a total depth of 13.5 feet bgs, was constructed at the former gasoline AST location. The monitoring well was sampled on July 30, 2002, and the sample was analyzed for COCs at a fixed-base laboratory. The analytical results indicated that the groundwater did not contain detectable levels of petroleum hydrocarbons. Analytical results tables from the SAR are provided in Attachment B.

Based on the soil analytical results, Tetra Tech recommended soils containing PAHs exceeding FDEP SCTLs be excavated and removed from the Former Tank Site 283. A letter from the FDEP dated February 13, 2004, confirmed the SAR met the requirements of Chapter 62-770, F.A.C., and requested a Remedial Action Plan (RAP) be prepared. The Soil Excavation and Groundwater Monitoring Work Plan (Rev. 2) for Tank Site 283 (Tetra Tech, July 2005) was accepted by the FDEP to be the RAP.

Soil Excavation and Groundwater Monitoring Work Plan, Rev. 2 (Tetra Tech, 2005)

The Soil Characterization and Excavation Monitoring Plan was revised and re-titled the Soil Excavation and Groundwater Monitoring Work Plan. The revision consisted of the statistical analyses of the soil samples laboratory analytical data to determine the 95 percent (%) Upper Confidence Level (UCL) using the Florida UCL computer software. Based on the UCL analyses, and as agreed to in partnering meetings, soils exceeding the 95% UCL were designated for removal. The excavation area would continue until a sample location was reached that was less than the 95% UCL and the excavation would continue to a depth reaching the water table. The excavation area was estimated to be approximately 1,500 square feet, and the estimated soil volume was approximately 167 cubic yards. Attachment C

contains the Soil Excavation and Groundwater Monitoring Work Plan. Figure 1-3 in the Work Plan shows the extent of soil contamination and the proposed excavation area. The following details the actual excavation work that was performed by TN & Associates, Inc. in 2007.

UST 7 – Site 283 Soil Excavation and Disposal Removal Action Completion Report (TN & Associates, Inc., March 2007)

Following the Work Plan - Excavation of Contaminated Soil at UST 7 (TN & Associates, Inc., February 2006), the Navy contractor, TN & Associates, Inc., performed excavation and disposal of contaminated soils and associated site restoration at Tank Site 283 in February 2007. The Work Plan by TN & Associates, Inc. referenced the Soil Excavation and Groundwater Monitoring Work Plan (Tetra Tech, 2005) for the extent of soils to be remediated. The contaminated soil was excavated to a depth of approximately 36 inches bgs and a total of 211.9 tons of contaminated soil were excavated and disposed of at Chesser Island Road Landfill, Inc. Disposal documentation is provided in the Completion Report by TN & Associates, Inc. The excavation was backfilled with low organic clean fill and compacted in 8-inch to 12-inch lifts. The site was cleared of construction-related debris and restored. Figure 2 in Attachment D is from the Soil Excavation and Disposal Removal Action Completion Report and depicts the remediated area.

Post Remediation Groundwater Sampling and Analysis (Tetra Tech, October 2010)

As reported in the SAR (Tetra Tech, December 2003) no groundwater impact was noted during the SA activities conducted between July 9, 2002 and June 15, 2003. Therefore, one groundwater sampling event (Post Active Remediation Monitoring) was conducted to meet the requirement of Chapter 62-770.750, F.A.C. Groundwater sampling was conducted on October 1, 2010, for two groundwater monitoring wells following the installation of monitoring well MPT-293-MW02S, which was assumed downgradient from the remediated area. Monitoring well MPT-283-MW01S, which was installed in the former source area, and downgradient monitoring well MPT-283-MW02S were purged using low flow methods and sampled for Gasoline and Kerosene Analytical Group-related compounds. The analytical results show that petroleum-related compounds were not detected in either of the groundwater samples exceeding detection limits or FDEP Groundwater Cleanup Target Levels (GCTLs). The chloromethane concentration in MPT-283-MW01S near the detection limit at an estimated concentration of 0.46 microgram per liter (µg/L) is less than the FDEP GCTL of 2.7 µg/L.

Attachment E contains a figure depicting the monitoring well locations, analytical summary table, laboratory report with chain of custody, monitoring well construction log (MPT-283-MW02S), and groundwater sampling logs.

RECOMMENDATION

Based on the assessment and remedial actions detailed in this SRCR, the Former Tank Site 283 at NAVSTA Mayport has satisfied the No Further Action Criteria as stated in Chapter 62-770.680(1), F.A.C. Therefore, Tetra Tech recommends that the FDEP issue an SRCO for the site.

If you have any questions with regard to this submittal, please do not hesitate to contact me by telephone at (904) 730-4669, extension 215, or via e-mail at Gregory.Roof@TetraTech.com.

Sincerely,

Gregory S. Roof, P.E.
Project Manager

GSR/jt

Enclosure

c: John Winters, FDEP (1 hardcopy, 1 CD)
Paul Malewicki, NAVSTA Mayport (1 hardcopy, 1 CD)
Garth Glenn, Tetra Tech (letter only)
RDM, Tetra Tech (Pittsburgh) (unbound, CD)
Administrative Record (electronic only)
CTO JM32 Project File

PROFESSIONAL ENGINEER CERTIFICATION

The professional opinions rendered in this decision document identified as the Site Rehabilitation Completion Report for Former Tank Site 283 at Naval Station Mayport, Jacksonville, Florida, dated July 18, 2011, were developed in accordance with commonly accepted procedures consistent with applicable standards of practice. This document was prepared under the supervision of the signing engineer and is based in part on information obtained from others. If conditions are determined to exist differently than those described in this document, then the undersigned professional engineer should be notified to evaluate the effects of any additional information on the project described in this document.

Gregory S. Roof, P.E.
July 18, 2011
Registered Professional Engineer
Florida License Number 50842
Tetra Tech NUS, Inc. Engineering Number 7988

ATTACHMENT A

UNDERGROUND STORAGE TANK CLOSURE ASSESSMENT REPORT
OF BUILDING NO. 283 SITE, MAYPORT NAVAL BASE, MAYPORT, FLORIDA

PREPARED BY HYDRO TERRA ENVIRONMENTAL SERVICES, INC.
JANUARY 10, 1993

HYDRO TERRA Environmental Services, Inc.

13997 Beach Boulevard • Jacksonville, Florida 32224 • (904) 223-4042

UNDERGROUND STORAGE TANK CLOSURE ASSESSMENT REPORT

OF

BUILDING NO. 283 SITE
MAYPORT NAVAL BASE
MAYPORT, FLORIDA

Prepared for:

DAVID BOLAND, INC.
P.O. BOX 1870
TITUSVILLE, FLORIDA
32781-1870

AND

UNITED STATES NAVAL STATION
MAYPORT, FLORIDA
ENGINEERING DEPARTMENT
MAYPORT, FLORIDA 32228-0067

AND

CITY OF JACKSONVILLE
DEPARTMENT OF REGULATORY & ENVIRONMENTAL SERVICES
WATER QUALITY DIVISION-STORAGE TANK SECTION
421 WEST CHURCH STREET - SUITE 412
JACKSONVILLE, FLORIDA 32202-4111

JANUARY 10, 1993

Prepared by:

HYDRO TERRA ENVIRONMENTAL SERVICES, INC.
13997 BEACH BOULEVARD
JACKSONVILLE, FLORIDA 32224

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DER Form 17-761.900(1)

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DER Form 17-761.900(5)

DER Form 17-761.900(6)

Tank Disposal Certificate

Tank Fluid Disposal Manifest

UNDERGROUND STORAGE TANK
CLOSURE ASSESSMENT REPORT
OF
BUILDING NO. 283 SITE
MAYPORT NAVAL BASE
MAYPORT, FLORIDA

Section 1. INTRODUCTION

One 2,000-gallon underground storage tank (UST) was removed from the Building No. 283 (Pump House) located on Massey Avenue,approximately 350 feet east of Maine Street, Mayport Naval Base, Duval County, Florida (Figure 1). The UST was used to store and dispense diesel fuel for an on-site generator. The UST was located approximately 110 feet north of Massey Avenue and 25 feet west of the pump house (Figure 2). The following paragraphs summarize the field activities and test results of the UST removal and closure assessment.

Section 2. WORK PERFORMED

Tank Removal Activities - On December 23, 1992 one 2,000-gallon diesel UST was removed from the site. The tank removal activities were conducted in accordance with DER's Chapter 17-761 Florida Administrative Code (FAC) by Hydro Terra Environmental, Inc. (HTE), a state certified pollutant storage contractor (PSCC # 050718). The liquid contents were removed from the UST prior to its removal. A copy of the manifest documenting the liquid disposal is attached in Section 5.

Following the UST removal, a visual inspection of the UST revealed some evidence of corrosion, but no pitholes or cracks, or evidence of a discharge was observed. The UST was subsequently cleaned, degassed, and transported off site for proper disposal. A copy of the disposal ticket for the UST, and the Tank Removal Form - DER 17-761.900(5) are attached in Section 5.

Environmental Monitoring Activities - During the tank removal activities, eight samples (A through H) were collected from the excavated soils. In addition, seven soil samples (3 through 7) were collected from the bottom and walls of the open tank pit, and along the underground product line (samples 1 and 2) between the generator's day tank and the UST. Product line samples were collected every twenty feet of pipe. Approximate soil sample locations and cross-sections of the tank pit area are shown in Figure 3 (see Section 3).

Each soil sample was placed in a half-filled 16-ounce mason jar which was sealed with aluminum foil. In accordance with DER's Chapter 17-770.200 Florida Administrative Code (FAC) "Petroleum Contamination Cleanup Criteria", all samples were field analyzed for petroleum hydrocarbon vapors using a Foxboro Century 128GC - Organic Vapor Analyzer (OVA) equipped with a flame ionization detector. In addition to screening the samples with the standard (unfiltered) OVA probe, a probe equipped with an activated charcoal filter was used to screen for naturally occurring vapors (e.g., methane). The water table was encountered at a depth of approximately 5.0 feet below land surface (bls) during the tank removal activities.

OVA screening results for samples collected from the excavated soils indicated the presence of no "excessively" contaminated soils at the site. However, OVA results did indicate the presence of moderate levels of petroleum hydrocarbon vapors in five of the eight samples collected during the excavating. OVA readings ranged from 2 parts per million (ppm) to 25 ppm. According to DER's Chapter 17-770.200(2) FAC, soil samples that exhibit OVA readings greater than 50 ppm for soils contaminated by "Kerosene (diesel or mixed fuel) Analytical Group" compounds are considered "excessively" contaminated.

Soils with OVA readings less than 50 ppm are considered contaminated but not "excessively". Four of the five soil samples collected from the bottom and walls of the open tank pit indicated the presence of petroleum hydrocarbon vapors, two of which indicated the presence of "excessively" contaminated soils. However, these two samples were collected at depths below the top of the water table. No hydrocarbon vapors were detected in the two samples collected along the product line. OVA results for all of the soil samples are listed in Table 1.

Following the removal of the UST and the monitoring activities, the excavated soils along with clean soil were placed back into the excavation. After the excavation was backfilled, a water sample was collected from a temporary well point (GW-1) that was installed in the tank pit area. The groundwater sample was subsequently analyzed for "Kerosene Analytical Group" compounds by EPA Method 602 (including MTBE) and Method 610.

Analytical results for sample GW-1 indicated the presence of EPA Method 610 compounds at levels above the current cleanup target levels established in DER's Chapter 17-770 FAC Petroleum Contamination Cleanup Criteria. No EPA Method 602 compounds were detected above the method detection limits. A copy of the laboratory report is attached in Section 4.

A copy of Closure Assessment Form, DER 17-761.900(6) is attached in Section 5.

Section 3. ILLUSTRATIONS

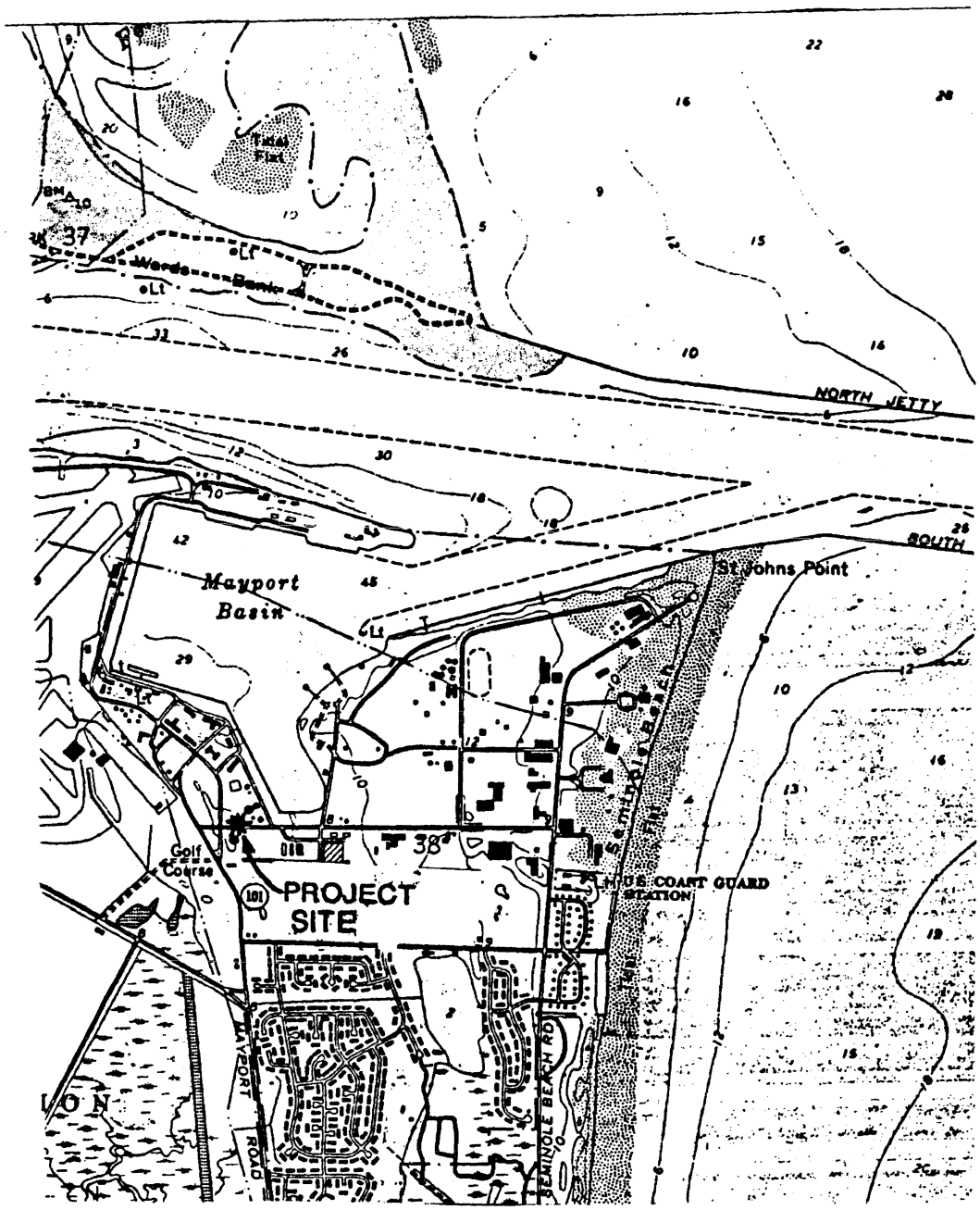


FIGURE 1. SITE LOCATION AND TOPOGRAPHIC MAP

MAYPORT NAVAL BASE MAYPORT, FLORIDA		Project No. Date Drawing No.

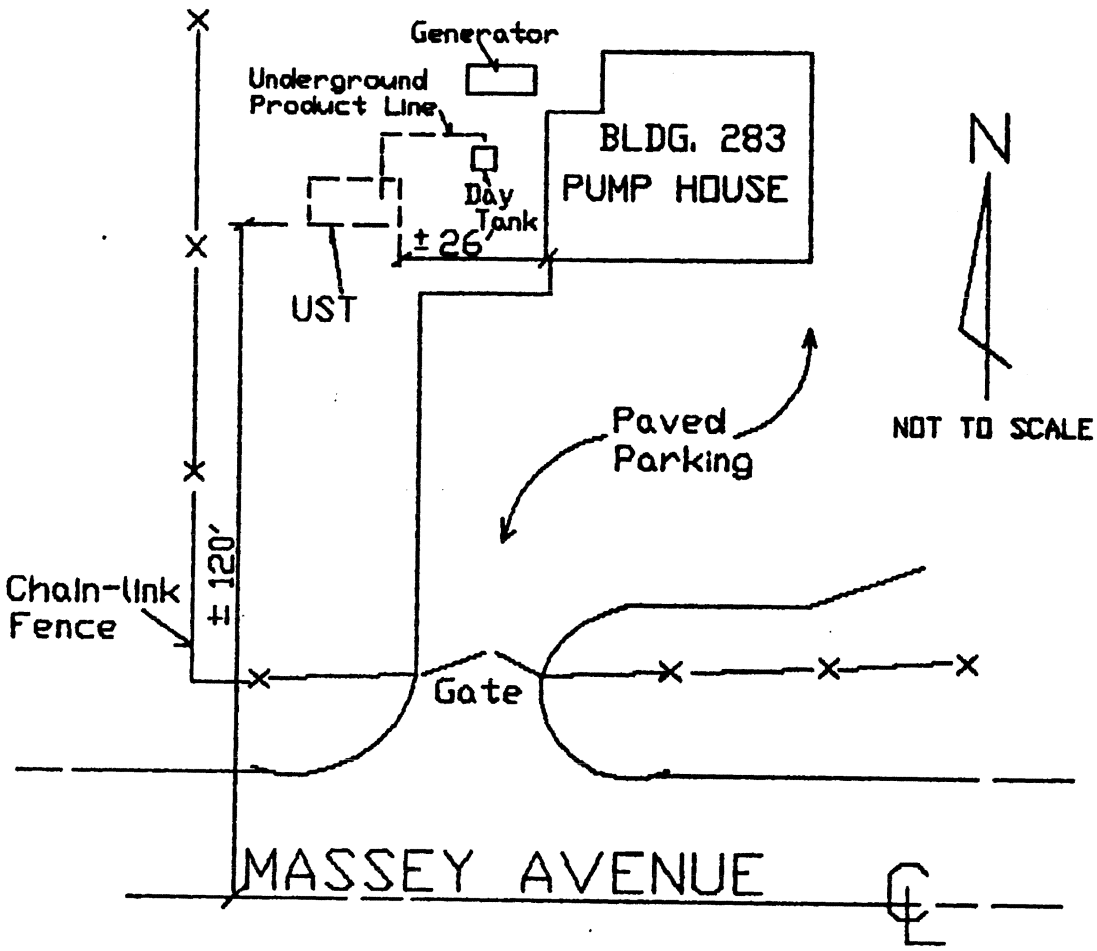


FIGURE 2. Facility Site Base Map

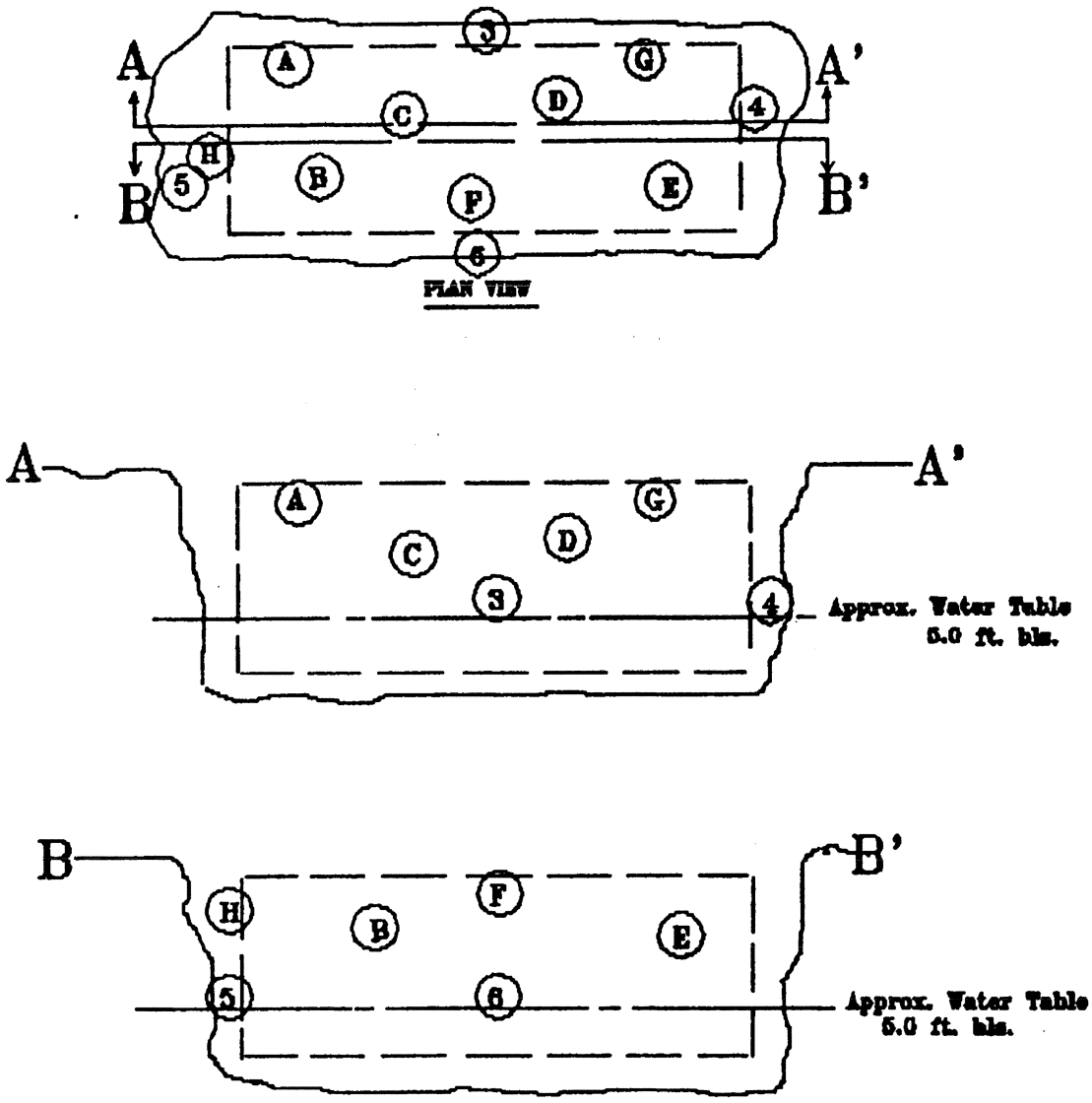


Figure 3. Soil Sample Locations for OVA/FID Measurements

Table 1. Results of the OVA/FID Soil Screening.

SAMPLE LOCATION/ID	OVA - STANDARD PROBE (ppm)	OVA - ACF PROBE (ppm)	ACTUAL OVA READING (ppm)
Excavated Soils:			
A	0	0	0
B	0	0	0
C	0	0	0
D	110	85	25
E	50	35	15
F	5	2	3
G	38	25	13
H	2	0	2
Product Line:			
1	0	0	0
2	3	3	0
Open UST Pit:			
3	0	0	0
4	380	235	145
5	370	245	125
6	6	4	2
7	15	10	5

ft = feet
ppm = parts per million
OVA = organic vapor analyzer
ACF = activated charcoal filter

Section 4. LABORATORY REPORTS AND RECORDS

Environmental Conservation Laboratories
4810 Executive Park Ct., Ste. 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210

ENCO
Laboratories
DHRS Certification No. E82277

CLIENT : Southeastern Environmental Audits, Inc.
ADDRESS: 8711 Perimeter Park Blvd.
Suite 11
Jacksonville, FL 32216

ATTENTION: Randy Pfahler

REPORT # :JX2666
DATE SAMPLED :December 23, 1992
DATE SUBMITTED:December 23, 1992
DATE REPORTED :December 31, 1992

SAMPLE IDENTIFICATION

Aqueous samples submitted and identified by CLIENT as:

AUD-353.11

GW-1 (12/23/92)

LABORATORY MANAGER

Mark E. Inman for
Charles M. Ged

ENCO LABORATORIES
REPORT # :JX2666
DATE REPORTED: December 31, 1992
REFERENCE :AUD-353.11

RESULTS OF ANALYSIS

EPA METHOD 602 - VOLATILE AROMATICS	GW-1	LAB BLANK	UNITS
Methyl-t-butyl Ether	ND(1)	ND(1)	ug/L
Benzene	ND(1)	ND(1)	ug/L
Toluene	ND(1)	ND(1)	ug/L
Ethylbenzene	ND(1)	ND(1)	ug/L
Total Xylenes	ND(1)	ND(1)	ug/L
Chlorobenzene	ND(1)	ND(1)	ug/L
1,2-Dichlorobenzene	ND(1)	ND(1)	ug/L
1,3-Dichlorobenzene	ND(1)	ND(1)	ug/L
1,4-Dichlorobenzene	ND(1)	ND(1)	ug/L
rogate:	**% REC**	**% REC**	**LIMITS**
Bromofluorobenzene	90	94	70-123
Date Analyzed	12/30/92	12/30/92	

= None Detected to level in parentheses

ENCO LABORATORIES
REPORT # :JX2666
DATE REPORTED:December 31, 1992
REFERENCE :AUD-353.11

RESULTS OF ANALYSIS

EPA METHOD 610 - POLY AROMATIC HYDROCARBONS	GW-1*	LAB BLANK	UNITS
Acenaphthene	ND(100)	ND(10)	ug/L
Acenaphthylene	ND(100)	ND(10)	ug/L
Anthracene	ND(100)	ND(10)	ug/L
Benzo (a) anthracene	ND(100)	ND(10)	ug/L
Benzo (b) pyrene	ND(100)	ND(10)	ug/L
Benzo (b) fluoranthene	ND(100)	ND(10)	ug/L
Benzo (g,h,i) perylene	ND(100)	ND(10)	ug/L
Benzo (k) fluoranthene	ND(100)	ND(10)	ug/L
Chrysene	ND(100)	ND(10)	ug/L
Dibenzo (ah) anthracene	ND(100)	ND(10)	ug/L
[illegible]oranthene	ND(100)	ND(10)	ug/L
Fluorene	ND(100)	ND(10)	ug/L
Indeno (123-cd) pyrene	ND(100)	ND(10)	ug/L
1-Methyl naphthalene	ND(100)	ND(10)	ug/L
2-Methyl naphthalene	ND(100)	ND(10)	ug/L
Naphthalene	ND(100)	ND(10)	ug/L
Phenanthrene	ND(100)	ND(10)	ug/L
Pyrene	ND(100)	ND(10)	ug/L
Surrogate:	**% REC**	**% REC**	**LIMITS**
2-Fluorobiphenyl	110	113	30-117
Date Extracted	12/29/92	12/29/92	
Date Analyzed	12/30/92	12/30/92	

* = Higher detection limit due to matrix interference
ND = None Detected to level in parentheses

ENCO LABORATORIES
REPORT # :JX2666
DATE REPORTED:December 31, 1992
REFERENCE :AUD-353.11

QUALITY CONTROL DATA

PARAMETER	% RECOVERY MS/MSD/LCS	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 602				
Benzene	100/100/120	50-131	<1	17
Toluene	98/94/98	56-132	4	14
Ethylbenzene	106/104/106	54-127	2	18
Total Xylene	108/103/114	49-147	5	14
EPA Method 610				
2-Methylnaphthalene	112/109/98	31-126	3	46
Acenaphthene	107/104/93	28-125	3	40
Phenanthrene	113/113/86	35-143	<1	29
Chrysene	84/107/64	14-158	24	42
Benzo(k)pyrene	108/101/94	23-156	7	47

MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference
< = Less Than

JX266

SEA, INC.

SOUTHEASTERN ENVIRONMENTAL AUDITS, INC.
9124 CYPRESS GREEN DRIVE
JACKSONVILLE, FLORIDA 32256

CHAIN OF CUSTODY RECORD

PAGE ____ OF ____

PROJECT NO.:

PROJECT NAME: AUD-353.11

SAMPLERS (Signature): Randy Rabler

STATION NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	602	610									REMARKS
GW-1	12/23			X	tankpit	3	X	X									

RELINQUISHED BY:	DATE / TIME	RECEIVED BY:	METHOD OF SHIPMENT:	REMARKS:
Randy Rabler	12/23	Carrie Driver		
RELINQUISHED BY: Carrie Driver	DATE / TIME	RECEIVED BY:	RECEIVED FOR LABORATORY BY: 1500 T. Weathers 12/23/92	

Section 5. FDER FORMS & MANIFESTS

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761.900(1)
Form Title Discharge Reporting Form
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

Discharge Reporting Form

Use this form to notify the Department of Environmental Regulation of:

1. Results of tank tightness testing that exceed allowable tolerances within ten days of receipt of test result.
2. Petroleum discharges exceeding 25 gallons on pervious surfaces as described in Section 17-761.460 F.A.C. within one working day of discovery.
3. Hazardous substance (CERCLA regulated), discharges exceeding applicable reportable quantities established in 17-761.460(2) F.A.C., within one working day of the discovery.
4. Within one working day of discovery of suspected releases confirmed by: (a) released regulated substances or pollutants discovered in the surrounding area, (b) unusual and unexplained storage system operating conditions, (c) monitoring results from a leak detection method or from a tank closure assessment that indicate a release may have occurred, or (d) manual tank gauging results for tanks of 550 gallons or less, exceeding ten gallons per weekly test or five gallons averaged over four consecutive weekly tests.

Mail to the DER District Office in your area listed on the reverse side of this form

PLEASE PRINT OR TYPE
Complete all applicable blanks

1. DER Facility ID Number: _____ 2. Tank Number: 1 3. Date: 12-30-92
4. Facility Name: Pump House at Water System Storage
   Facility Owner or Operator: NAS Mayport
   Facility Address: Bldg 283 (demolished) Mayport, Florida
   Telephone Number: (_____) _____ County: Duval
   Mailing Address: ROIC P.O. Box 5 NAS Jacksonville, Florida 32212-0005
5. Date of receipt of test results or discovery: 12-31-92 month/day/year
6. Method of initial discovery. (circle one **only**)
   A. Liquid detector (automatic or manual)
   B. Vapor detector (automatic or manual)
   C. Tightness test (underground tanks only).
   D. Emptying and Inspection.
   E. Inventory control.
   F. Vapor or visible signs of a discharge in the vicinity.
   G. Closure: OVA - LAB RESULTS (explain)
   H. Other: _____
7. Estimated number of gallons discharged: Unk
8. What part of storage system has leaked? (circle all that apply) A. Dispenser B. Pipe C. Fitting D. Tank (E.) Unknown
9. Type of regulated substance discharged. (circle one)
   A. leaded gasoline
   B. unleaded gasoline
   C. gasohol
   D. vehicular diesel
   F. aviation gas
   G. jet fuel
   L. used/waste oil
   (M.) diesel
   O. new/lube oil
   V. hazardous substance includes pesticides, ammonia, chlorine and derivatives (write in name or Chemical Abstract Service CAS number) _____
   Z. other (write in name) _____
10. Cause of leak. (circle all that apply)
    (A.) Unknown
    B. Split
    C. Loose connection
    D. Corrosion
    E. Puncture
    F. Installation failure
    G. Spill _____
    H. Overfill
    I. Other (specify) _____
11. Type of financial responsibility. (circle one)
    A. Third party insurance provided by the state insurance contractor
    B. Self-insurance pursuant to Chapter 17-769.500 F.A.C.
    C. Not applicable
    D. None
    E. FED GOVT.

To the best of my knowledge and belief all information submitted on this form is true, accurate, and complete.

Edward A. Smith-Hydro Terra ESI
Printed Name of Owner, Operator or Authorized Representative

Edward A. Smith
Signature of Owner, Operator or Authorized Representative

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761.900(2)
Form Title Storage Tank Registration Form
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

Storage Tank Registration Form

Please Print or Type - Review Instructions Before Completing Form

1. DER Facility ID Number: _____ 2. Facility Type: F
3. New Registration ☐ New Owner Data ☐ Facility Revision ☒ Tank(s) Revision ☐
4. County and Code of tank(s) location: 16 Duval / _____

5. Facility Name: Pump House at Water System Storage
Tank(s) Address: Bldg 283 Massey Ave. (demolished) Mayport, Fla.
City/State/Zip: Mayport, Florida
Contact Person: _____ Telephone: (____) _____
6. Financial Responsibility Type: _____

7a. Tank(s) Owner: Department of the Navy
Owner Mailing Address: ROIC P.O. Box 5
City/State/Zip: NAS Jacksonville, Florida 32212-0005
Contact Person: _____ Telephone: (____) _____

7b. New Owner Signature/Change Date: _____ / ____/____/____

8. Location (optional) Latitude: ___°___'___" Longitude: ___°___'___" Section____ Township____ Range____

Complete One Line For Each Tank At This Facility (Use Codes - See Instructions)

Complete 9 - 16 for tanks in use; 9 - 19 for tanks out of use

9	10	11	12	13	14	15	16	17	18	19
1	2000	G	Unk	U	C	B	M	B	0	12-92
2	300	B-G	Unk	A	C	B	M	B	0	12-92

20. Hydro Terra Environmental Services
Certified Contractor*

DPR# PCC 050718
Department of Professional Regulation License Number*

*For new tank installation or tank removal

To the best of my knowledge and belief all information submitted on this form is true, accurate and complete.

Edward A. Smith
Print name & title of owner or authorized person

Edward A. Smith
Signature

12-30-92
Date

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794
904-436-8300

Northeast District
7825 Baymeadows Way, Suite B 200
Jacksonville, Florida 32207
904-798-4200

Central District
3319 Maguire Blvd Suite 232
Orlando, Florida 32803-3767
407-894-7555

Southwest District
4520 Oak Fair Blvd
Tampa, Florida 33610-7347
813-623-5561

South District
2269 Bay St
Fort Myers, Florida 33901-2896
813-332 6975

Southeast District
1900 S Congress Ave Suite A
West Palm Beach Florida 33406
407-433-2650

Florida Department of Environmental Regulation
Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

DER Form # 17-761.900(8)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage system closure assesment was performed in accordance with Rule 17-761 or 17-762, Florida Administrative Code. Eligible Early Detection Incentive (EDI) and Reimbursement Program sites do not have to perform a closure assessment.

Please Print or Type
Complete All Applicable Blanks

1. Date: 12-30-92
2. DER Facility ID Number: _____ 3. County: Duval
4. Facility Name: Pump House at Water System Storage
5. Facility Owner: United States Government
6. Facility Address: Bldg 283 Massey Ave. (demolished) Mayport, Florida
7. Mailing Address: ROIC P.O. Box 5 NAS Jacksonville, Fla 32212-0005
8. Telephone Number: (____) _____ 9. Facility Operator: Mayport NAS
10. Are the Storage Tank(s): **(Circle one or both)** (A.) Aboveground or (B.) Underground
11. Type of Product(s) Stored: Diesel & Gasoline
12. Were the Tank(s): **(Circle one)** A. Replaced (B.) Removed C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of Tanks Closed: 2 14. Age of Tanks: Unk

Facility Assessment Information

Yes	No	Not Applicable	
☐	☐		1. Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
XX	☐		2. Was a Discharge Reporting Form submitted to the Department? If yes, When: _____ Where: _____
XX	☐		3. Is the depth to ground water less than 20 feet?
☐	XX	☐	4. Are monitoring wells present around the storage system? If yes, specify type: ☐ Water monitoring ☐ Vapor monitoring
☐	XX	☐	5. Is there free product present in the monitoring wells or within the excavation?
☐	XX	☐	6. Were the petroleum hydrocarbon vapor levels in the soils greater than 500 parts per million for gasoline? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
XX	☐	☐	7. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
XX	☐	☐	8. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels? (See target levels on reverse side of this form and supply laboratory data sheets)
☐	☐	XX	9. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
☐	☐	Unk	10. Are any potable wells located within ¼ of a mile radius of the facility?
☐	☐		11. Is there a surface water body within ¼ mile radius of the site? If yes, indicate distance: 1/4 mi.

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794
904-436-8300

Northeast District
7825 Baymeadows Way, Suite B 200
Jacksonville, Florida 32207
904-798-4200

Central District
3319 Maguire Blvd. Suite 232
Orlando, Florida 32803-3767
407-894-7555

Southwest District
4520 Oak Fair Blvd.
Tampa, Florida 33610-7347
813-623-5561

South District
2269 Bay St.
Fort Myers, Florida 33901-2696
813-332-6975

Southeast District
1900 S. Congress Ave., Suite A
West Palm Beach, Florida 33406
407-433-2650

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761.900(5)
Form Title Underground Storage Tank Installation & Removal Form for Certified Contractors
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

Underground Storage Tank Installation and Removal Form For Certified Contractors

Pollutant Storage System Specialty Contractors as defined in Section 489.113, Florida Statutes (Certified contractors as defined in Section 17-761.200, Florida Administrative Code) shall use this form to certify that the installation, replacement or removal of the storage tank system(s) located at the address listed below was performed in accordance with Department Reference Standards.

General Facility Information

1. DER Facility Identification No.: _____
2. Facility Name: Pump House at Water System Storage Telephone: (____) _____
3. Street Address (physical location): Bldg 283 Massey Ave (demolished) Mayport, Fla
4. Owner Name: Department of the Navy Telephone: (____) _____
5. Owner Address: ROIC P.O. Box 5 NAS Jacksonville, Florida 32212-0005
6. Number of Tanks: a. Installed at this time 0 b. Removed at this time 2
7. Tank(s) Manufactured by: Unk
8. Date Work Initiated: 12-23-92 9. Date Work Completed: 12-23-92

Underground Pollutant Tank Installation Checklist

Please certify the completion of the following installation requirements by placing an (X) in the appropriate box.

1. The tanks and piping are corrosion resistant and approved for use by State and Federal Laws. ☐
2. Excavation, backfill and compaction completed in accordance with NFPA (National Fire Protection Association) 30(87), API (American Petroleum Institute) 1615, PEI (Petroleum Equipment Institute) RP100-87 and the manufacturers' specifications. ☐
3. Tanks and piping pretested and installed in accordance with NFPA 30(87), API 1615, PEI/RP100(87) and the manufacturers' specifications. ☐
4. Steel tanks and piping are cathodically protected in accordance with NFPA 30(87), API 1632, UL (Underwriters Laboratory) 1746, STI (Steel Tank Institute) R892-89 and the manufacturer's specifications. ☐
5. Tanks and piping tested for tightness after installation in accordance with NFPA 30(87) and PEI/RP100-87. ☐
6. Monitoring well(s) or other leak detection devices installed and tested in accordance with Section 17-761.640, Florida Administrative Code (F.A.C.) ☐
7. Spill and overfill protection devices installed in accordance with Section 17-761.500, F.A.C. ☐
8. Secondary containment installed for tanks and piping as applicable in accordance with Section 17-761.500, F.A.C. ☐

Please Note: The numbers following the abbreviations (e.g. API 1615) are publication or specification numbers issued by these instututions.

Underground Pollutant Tank Removal Checklist

1. Closure assessment performed in accordance with Section 17-761.800, F.A.C. ☒
2. Underground tank removed and disposed of as specified in API 1604 in acordance with Section 17-761.800, F.A.C. ☒

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794
904-436-8300

Northeast District
7825 Baymeadows Way, Suite B 200
Jacksonville, Florida 32207
904-798-4200

Central District
3319 Maguire Blvd. Suite 232
Orlando, Florida 32803-3767
407-894-7555

Southwest District
4520 Oak Fair Blvd.
Tampa, Florida 33610-7347
813-623-5561

South District
2269 Bay St.
Fort Myers, Florida 33901-2896
813-332-6975

Southeast District
1900 S. Congress Ave. Suite A
West Palm Beach, Florida 33406
407-433-2650

HYDRO TERRA Environmental Services, Inc.

13997 Beach Boulevard • Jacksonville, Florida 32224 • (904) 223-4042

December 30, 1992

TANK DISPOSAL CERTIFICATE

This is to certify that one 2,000 gallon underground storage tank (5.333' dia. X 12' length), and one 300 gallon storage tank (3.083' dia. X 5.833' length) removed on 12-23-92 from Mayport Naval Station Building 283 on Massey Avenue Mayport, Florida, were degassed, decommissioned, cleaned, cut up and transported to Chatham Iron & Metal Company in Jacksonville, Florida for disposal as scrap steel. Visual inspection of these tanks revealed no apparent defects in tank integrety.

Certified By
HYDRO TERRA ESI

Edward A. Smith
Vice President

WASTE MANIFEST № 3055
NOT NEGOTIABLE

INDEPENDENT WASTE OIL, INC.

2146 BoPeep Court
Jacksonville, Fl 32210
Bus: 781-8903

Charge To.

LICENSED COLLECTOR, STORER & TRANSPORTER

FLORIDA D.E.R. REGULATION #50022-UO

IDENTIFICATION

Hydro Terra — DATE SHIPPED 12-23-92
GENERATOR/SHIPPER

13997 Beach Blvd — NAME
ADDRESS

CITY — STATE — ZIP — PHONE

WASTE INFORMATION

NON HAZARDOUS WASTE		EPA HAZ. WASTE ID#	DESCRIPTION AND CLASSIFICATION (Proper Shipping Name, Class and ID# per 172.101, 172.202, 172.203	UN# or NA#	EXEMPTION OR NO LABELS REQ'D	FLASH POINT (IN°C) WHEN REQ'D
YES	✓		Used Oil, Tank Bottom, Combustible Liquid	1993		> 60°
NO			Warbex Used Fuel			

SPECIAL HANDLING INSTRUCTIONS
PICKED UP @ NAS MAYPORT - BOLAND PROJECT

CERTIFICATION
This is to certify under penalty of law that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the U.S. Environmental Protection Agency.

GENERATOR'S SIGNATURE — DATE 12-23-92

TRANSPORTER #1 SIGNATURE & DATE — TRANSPORTER #2 SIGNATURE & DATE (if required)

TSDF SIGNATURE — DATE 12-23-92

NET GALLONS 150
NET BALANCE 150
PRICE PER GALLON
NET DOLLARS
☐ CASH ☐ CHARGE

MANIFEST DOCUMENT NO.

12/29

Cheryl FYI

5090
Ser N4E/5452
31 DEC 92

Water Quality Division
Regulatory & Environmental Services
City of Jacksonville
421 West Church Street, Suite 412
Jacksonville, FL 32202-4111

Subj: DISCHARGE NOTIFICATION
FDER FACILITY 168626008

Gentlemen:

The enclosed Discharge Reporting Form is submitted for petroleum contamination discovered during removal of a 2,000 gallon underground diesel tank located at Building 283, Potable Water Treatment Plant. This site will be included in the Petroleum Contamination Agreement of October 1990, and a contamination assessment report and a remedial action plan will be performed.

If you have any questions, please contact Ms. Cheryl Mitchell or Mr. Michael Davenport, N4E, at 904-270-6730.

Sincerely,

CHRIS A. TAYLOR
Commander, CEC, U.S. Navy
Staff Civil Engineer
By direction of the
Commanding Officer

Encl:
(1) FDER Form 17-761.900(1)

Copy to:
SOUTHNAVFACENGCOM (Code 18237)
FDER Tallahassee (Mr. Eric Nuzie)

bc: N4E Chron

c:\wpdocs\DischNot.283/pl/12-23

12/29

Cheryl FYI

5090
Ser N4E/5452
31 Dec 92

Water Quality Division
Regulatory & Environmental Services
City of Jacksonville
421 West Church Street, Suite 412
Jacksonville, FL 32202-4111

Subj: DISCHARGE NOTIFICATION
FDER FACILITY 168626008

Gentlemen:

The enclosed Discharge Reporting Form is submitted for petroleum contamination discovered during removal of a 2,000 gallon underground diesel tank located at Building 283, Potable Water Treatment Plant. This site will be included in the Petroleum Contamination Agreement of October 1990, and a contamination assessment report and a remedial action plan will be performed.

If you have any questions, please contact Ms. Cheryl Mitchell or Mr. Michael Davenport, N4E, at 904-270-6730.

Sincerely,

CHRIS A. TAYLOR
Commander, CEC, U.S. Navy
Staff Civil Engineer
By direction of the
Commanding Officer

Encl:
(1) FDER Form 17-761.900(1)

Copy to:
SOUTHNAVFACENGCOM (Code 18237)
FDER Tallahassee (Mr. Eric Nuzie)

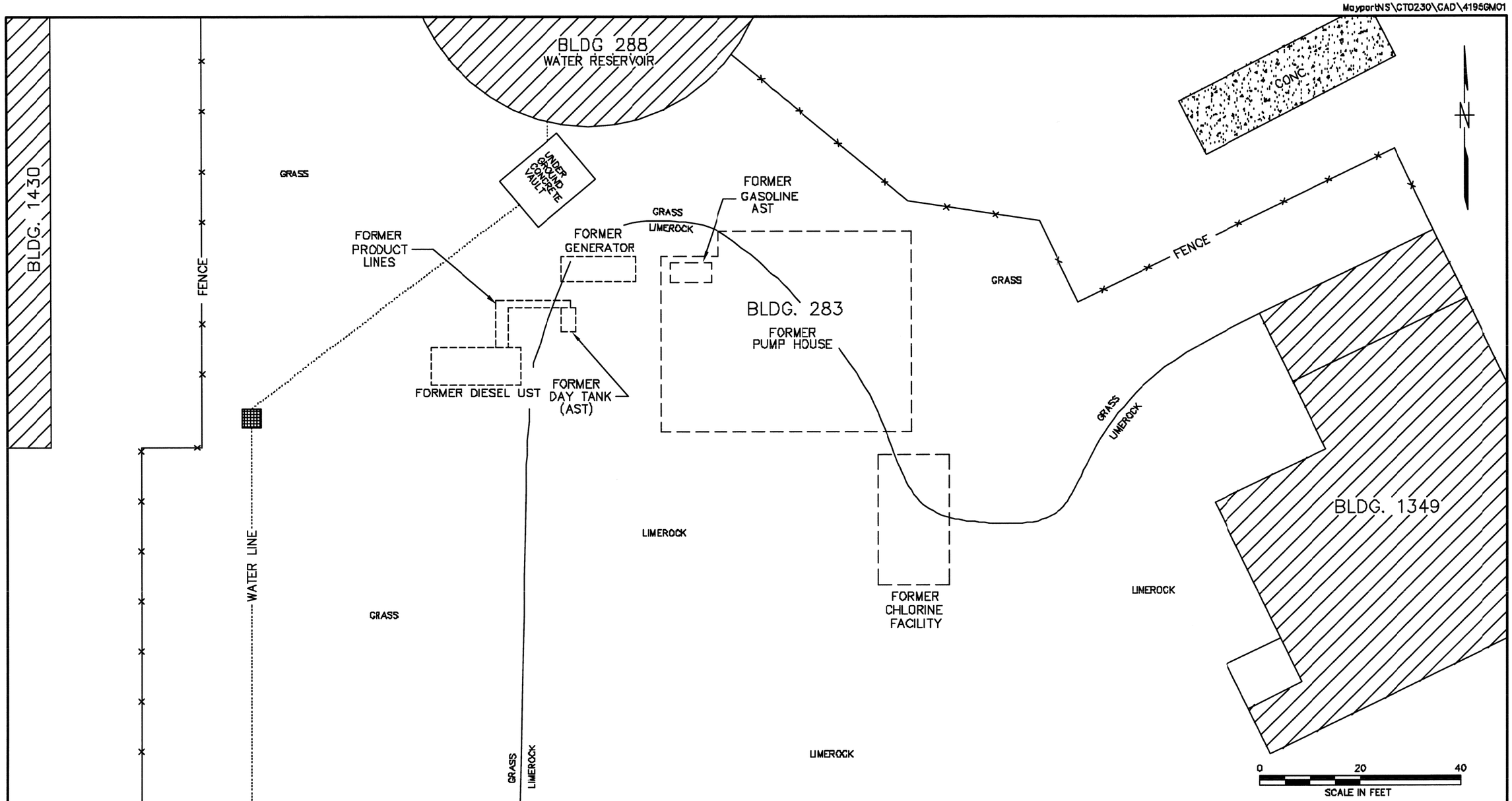
bc: N4E Chron

c:\wpdocs\DischNot.283/pl/12-23

ATTACHMENT B

FIGURES AND TABLES FROM THE
2003 SITE ASSESSMENT REPORT

MayportNS\CTO230\CAD\4195GM01



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

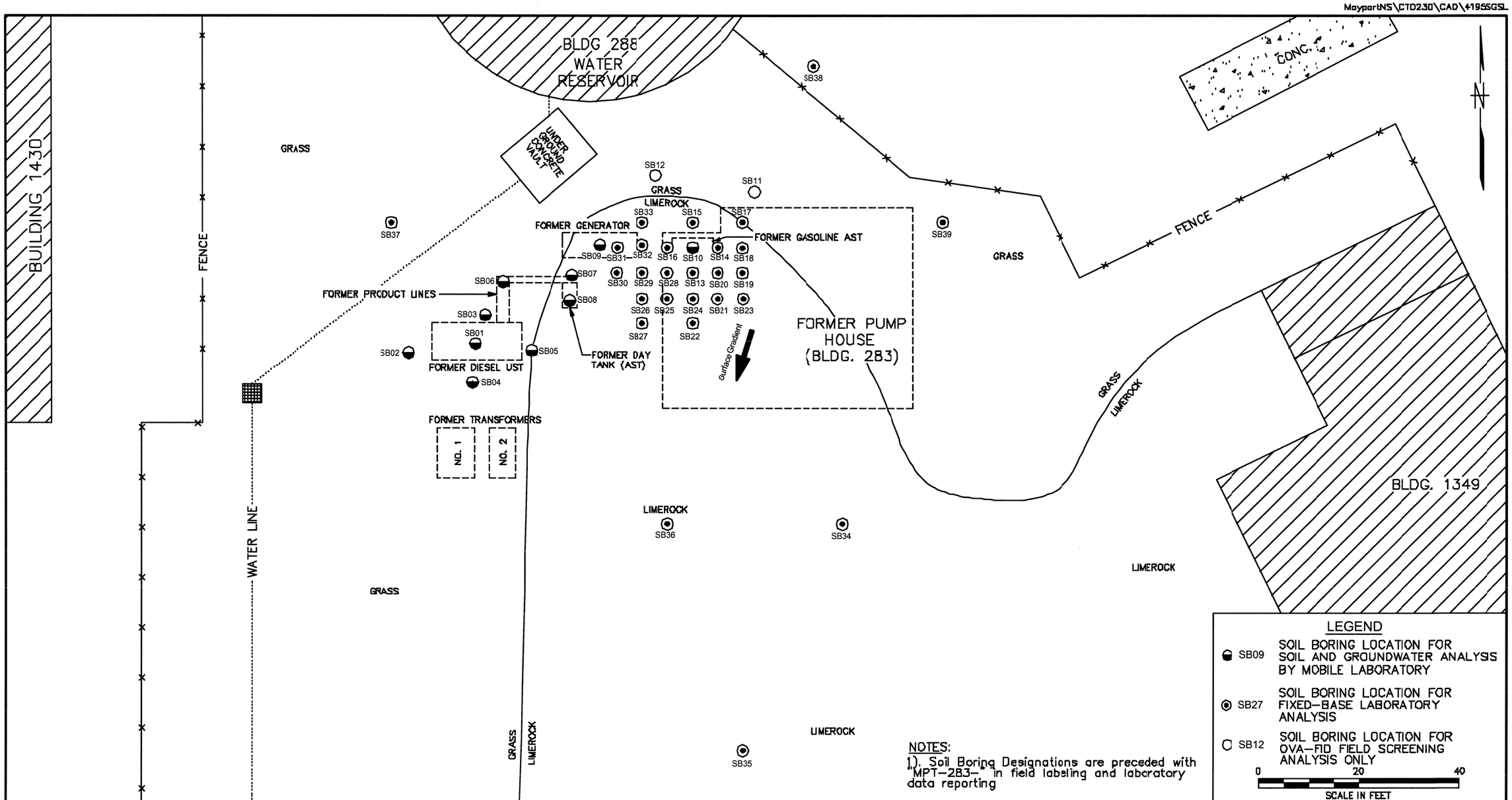
DRAWN BY LLK DATE 9/21/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SITE PLAN
TANK SITE 283
SITE ASSESSMENT REPORT
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

CONTRACT NO. 4195
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 1-5
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/88

MayportNS\CTD230\CAD\4195SGSL



NOTES:
1). Soil Boring Designations are preceded with "MPT-283-" in field labeling and laboratory data reporting

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

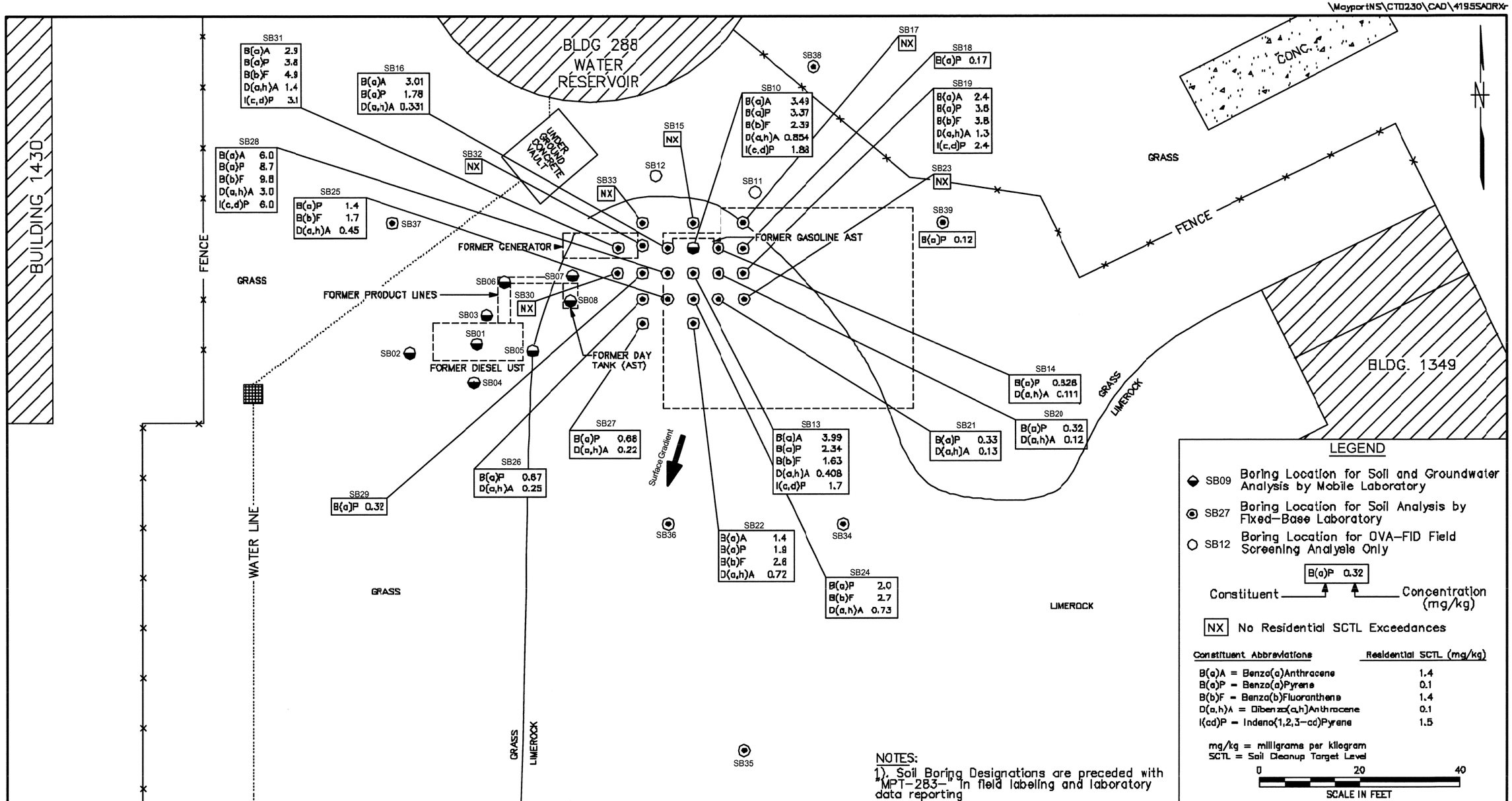
DRAWN BY LLK DATE 11/22/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SOIL AND GROUNDWATER SAMPLE
LOCATION MAP
TANK SITE 283
SITE ASSESSMENT REPORT
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

CONTRACT NO. 4195
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 2-1 REV. 0

FORM CADD NO. SDIV_BHLDWG — REV 0 — 1/20/95

\MayportNS\CTO230\CAD\4195SAOIRX-



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK DATE 10/16/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SOIL ANALYTICAL RESULTS EXCEEDING RESIDENTIAL SCTLs
TANK SITE 283
SITE ASSESSMENT REPORT
MAYPORT NAVAL STATION
MAYPORT, FLORIDA

CONTRACT NO. 4195
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-2 REV. 0

FORM CADD NO. SDIV_BHLDWG — REV 0 — 1/20/95

Table 3-3
Mobile Laboratory Soil Results

Site Assessment Report, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1]	Leachability Based on Groundwater Criteria[1]	SB-01	SB-02	SB-03	SB-04	SB-05
			3/5/2001	3/5/2001	3/5/2001	3/6/2001	3/5/2001
		Sample Interval	3	3	3	3	3
VOCs (USEPA Method 8021B) (mg/kg)							
MTBE	3200	0.2	0.200	0.200	0.200	0.200	0.200
Benzene	1.1	0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Toluene	380	0.5	<0.500	<0.500	<0.500	<0.500	<0.500
Ethylbenzene	1100	0.6	<0.600	<0.600	<0.600	<0.600	<0.600
Total Xylenes	5900	0.2	<0.200	<0.200	<0.200	<0.200	<0.200
Napthalene	40	1.7	<1.7	<1.7	<1.7	<1.7	<1.7
1,Methylnapthalene	68	2.2	<2.2	<2.2	<2.2	<2.2	<2.2
2,Methylnapthalene	80	6.1	<6.1	<6.1	<6.1	<6.1	<6.1

Compound	Direct Exposure Residential[1]	Leachability Based on Groundwater Criteria[1]	SB-06	SB-07	SB-08	SB-09	SB-10
			3/5/2001	3/5/2001	3/5/2001	3/5/2001	3/5/2001
		Sample Interval	2.5	3	3	3	3
VOCs (USEPA Method 8021B) (mg/kg)							
MTBE	3200	0.2	<.200	<.200	<.200	<.200	<.200
Benzene	1.1	0.007	<0.007	<0.007	<0.007	<0.007	<0.007
Toluene	380	0.5	<0.500	<0.500	<0.500	<0.500	<0.500
Ethylbenzene	1100	0.6	<0.600	<0.600	<0.600	<0.600	<0.600
Total Xylenes	5900	0.2	<0.200	<0.200	<0.200	<0.200	<0.200
Napthalene	40	1.7	<1.7	<1.7	<1.7	<1.7	<1.7
1,Methylnapthalene	68	2.2	<2.2	<2.2	<2.2	<2.2	<2.2
2,Methylnapthalene	80	6.1	<6.1	<6.1	<6.1	<6.1	<6.1

Notes:
[1]Chapter 62-770, FAC (April 30, 1999)
µg/kg = micrograms per kilogram

Table 3-4
Summary of Fixed-Base Laboratory Soil Sample Resutls

Site Assessment Report, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial / Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-10	SB-13	SB-14	SB-15	SB-16	SB-17	SB-18
			Sample Date	07/10/02	10/03/02	10/03/02	10/03/02	10/03/02	02/24/03	02/24/03
VOCs (USEPA Method 8021B) (mg/kg)				3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft
Benzene	1.1	1.6	0.007	<0.0058	NA	NA	NA	NA	NA	NA
Toluene	380	2600	0.5	<0.0058	NA	NA	NA	NA	NA	NA
Ethylbenzene	1100	8400	0.6	<0.0058	NA	NA	NA	NA	NA	NA
Total Xylenes	5900	40000	0.2	<0.017	NA	NA	NA	NA	NA	NA
MTBE	3200	22000	0.2	<0.0058	NA	NA	NA	NA	NA	NA
PAHs (USEPA Method 8310) (mg/kg)										
Naphthalene	40	270	1.7	<1.9	<2	<0.42	<0.4	<2.1	<0.0037	0.011
2-methylnaphthalene	80	560	6.1	<1.9	<2	<0.42	<0.4	<2.1	<0.0037	0.01
1-methylnaphthalene	68	470	2.2	<1.9	<2	<0.42	<0.4	<2.1	<0.0037	0.0077
Acenaphthylene	1100	11000	27	<3.8	<2	<0.84	<0.81	<4.2	<0.0037	<0.0037
Acenaphthene	1900	18000	2.1	<3.8	<2	<0.84	<0.81	<4.2	<0.0037	0.034
Anthracene	18000	260000	2500	1.74	<2	0.285	<0.4	<2.1	<0.0037	0.051
Flourene	2200	28000	160	<1.9	<2	0.304	<0.4	<2.1	<0.0037	0.032
Benzo (a) anthracene	1.4	5	3.2	3.49	3.99	0.918	<0.4	3.01	0.0037	0.11
Benzo (a) pyrene	0.1	0.5	8	**3.37**	**2.34**	**0.626**	<0.081	**1.78**	0.006	0.17
Benzo (b) flouranthene	1.4	4.8	10	2.39	1.63	0.427	<0.081	1.22	0.0063	0.2
Benzo (g,h,i) perylene	2300	41000	32000	2.07	1.96	0.576	<0.081	1.32	0.001	0.19
Benzo(k)fluoranthene	15	52	25	1.67	1.36	0.354	<0.081	1.01	0.004	0.11
Chrysene	140	450	77	4.17	3.32	0.898	<0.4	2.73	0.004	0.14
Dibenzo (a,h) anthracene	0.1	0.5	30	**0.854**	0.408	0.111	<0.081	0.331	<0.0037	0.087
Fluoranthene	2900	48000	1200	13.2	9.8	2.37	<0.4	7.58	0.011	0.47
Indeno (1,2,3-cd) pyrene	1.5	5.3	28	1.88	1.7	0.454	<0.081	1.21	<0.0037	0.18
Phenanthrene	2000	30000	250	11.5	8.36	1.87	<0.4	6.95	0.0071	0.34
Pyrene	2200	37000	880	8.31	5.67	1.54	<0.4	4.7	0.0085	0.33
FL-PRO (USEPA Method 8270) (mg/kg)										
TRPH	340	2500	340	56.9	NA	NA	NA	NA	NA	NA

See notes at end of table.

Table 3-4 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Resutls

Site Assessment Report, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial / Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-19	SB-20	SB-21	SB-22	SB-23	SB-24	SB-25
			Sample Date	02/24/03	02/24/03	02/24/03	02/24/03	02/24/03	02/24/03	02/24/03
VOCs (USEPA Method 8021B) (mg/kg)				3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft
Benzene	1.1	1.6	0.007	NA	NA	NA	NA	NA	NA	NA
Toluene	380	2600	0.5	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1100	8400	0.6	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	5900	40000	0.2	NA	NA	NA	NA	NA	NA	NA
MTBE	3200	22000	0.2	NA	NA	NA	NA	NA	NA	NA
PAHs (USEPA Method 8310) (mg/kg)										
Naphthalene	40	270	1.7	0.2	<0.018	0.02	0.18	<0.0038	0.096	0.086
2-methylnaphthalene	80	560	6.1	0.19	<0.018	0.02	0.14	<0.0038	0.096	0.071
1-methylnaphthalene	68	470	2.2	0.14	<0.018	<0.018	0.088	<0.0038	0.080	<0.071
Acenaphthylene	1100	11000	27	<0.073	<0.018	<0.018	<0.072	<0.0038	<0.073	<0.071
Acenaphthene	1900	18000	2.1	0.84	0.048	0.089	0.59	0.012	0.44	0.39
Anthracene	18000	260000	2500	1.4	0.096	0.17	0.77	0.019	0.82	0.86
Flourene	2200	28000	160	0.84	0.048	0.094	0.66	0.01	0.40	0.43
Benzo (a) anthracene	1.4	5	3.2	2.4	0.19	0.23	1.4	0.049	1.30	1.00
Benzo (a) pyrene	0.1	0.5	8	**3.6**	0.32	0.33	**1.9**	0.076	**2.00**	**1.40**
Benzo (b) flouranthene	1.4	4.8	10	3.8	0.4	0.36	2.6	0.095	2.70	1.70
Benzo (g,h,i) perylene	2300	41000	32000	2.7	0.3	0.3	1.6	0.091	1.70	1.30
Benzo(k)fluoranthene	15	52	25	2.7	0.26	0.33	1.4	0.06	1.80	1.00
Chrysene	140	450	77	3.1	0.27	0.31	1.8	0.064	1.80	1.20
Dibenzo (a,h) anthracene	0.1	0.5	30	**1.3**	0.12	0.13	**0.72**	0.037	**0.73**	0.45
Fluoranthene	2900	48000	1200	9.1	0.79	0.94	5.9	0.16	5.10	3.90
Indeno (1,2,3-cd) pyrene	1.5	5.3	28	2.4	0.27	0.28	1.4	0.079	1.60	1.10
Phenanthrene	2000	30000	250	8.0	0.62	0.83	5.9	0.11	4.20	3.60
Pyrene	2200	37000	880	6.4	0.54	0.67	4.0	0.12	3.60	2.60
FL-PRO (USEPA Method 8270) (mg/kg)										
TRPH	340	2500	340	NA	NA	NA	NA	NA	NA	NA

See notes at end of table.

Table 3-4 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Resutls

Site Assessment Report, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial / Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-26	SB-27	SB-28	SB-28	SB-29	SB-30	SB-31
			Sample Date	02/24/03	02/24/03	05/18/03	02/24/03	02/24/03	02/24/03	02/24/03
VOCs (USEPA Method 8021B) (mg/kg)				3 ft	3 ft	1 ft	3 ft	3 ft	3 ft	3 ft
Benzene	1.1	1.6	0.007	NA	NA	NA	NA	NA	NA	NA
Toluene	380	2600	0.5	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1100	8400	0.6	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	5900	40000	0.2	NA	NA	NA	NA	NA	NA	NA
MTBE	3200	22000	0.2	NA	NA	NA	NA	NA	NA	NA
PAHs (USEPA Method 8310) (mg/kg)										
Naphthalene	40	270	1.7	<0.036	<0.036	<0.0034	0.82	<0.018	<0.0038	0.26
2-methylnaphthalene	80	560	6.1	<0.036	<0.036	<0.0034	0.76	<0.018	<0.0038	0.24
1-methylnaphthalene	68	470	2.2	<0.036	<0.036	<0.0034	0.50	<0.018	<0.0038	<0.18
Acenaphthylene	1100	11000	27	<0.036	<0.036	<0.0034	<0.18	<0.018	<0.0038	<0.18
Acenaphthene	1900	18000	2.1	0.14	0.14	0.0076	2.60	0.09	0.01	1.00
Anthracene	18000	260000	2500	0.32	0.31	0.018	4.30	0.17	0.02	2.00
Flourene	2200	28000	160	0.14	0.15	0.0072	2.80	0.09	0.01	1.00
Benzo (a) anthracene	1.4	5	3.2	0.48	0.47	0.07	**6.00**	0.23	0.04	2.90
Benzo (a) pyrene	0.1	0.5	8	**0.67**	**0.68**	0.067	**8.70**	0.32	0.06	**3.80**
Benzo (b) flouranthene	1.4	4.8	10	0.82	0.98	0.079	**9.80**	0.40	0.08	**4.90**
Benzo (g,h,i) perylene	2300	41000	32000	0.66	0.59	0.041	6.00	0.30	0.06	3.40
Benzo(k)fluoranthene	15	52	25	0.62	0.40	0.048	5.40	2.30	0.05	3.60
Chrysene	140	450	77	0.59	0.58	0.067	7.10	2.80	0.05	3.30
Dibenzo (a,h) anthracene	0.1	0.5	30	0.25	0.22	<0.0034	**3.00**	0.06	0.02	**1.40**
Fluoranthene	2900	48000	1200	1.70	1.60	0.140	25.00	0.80	0.15	10.00
Indeno (1,2,3-cd) pyrene	1.5	5.3	28	0.58	0.53	0.038	**6.00**	0.27	0.01	3.10
Phenanthrene	2000	30000	250	1.30	1.30	0.079	22.00	0.69	0.12	8.90
Pyrene	2200	37000	880	1.20	1.10	0.100	17.00	0.53	0.10	7.20
FL-PRO (USEPA Method 8270) (mg/kg)										
TRPH	340	2500	340	NA	NA		NA	NA	NA	NA

See notes at end of table.

Table 3-4 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Resutls

Site Assessment Report, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial / Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-32	SB-33	SB-34	SB-34	SB-35	SB-35	SB-36
			Sample Date	02/24/03	02/24/03	05/15/03	05/15/03	05/15/03	05/15/03	05/15/03
VOCs (USEPA Method 8021B) (mg/kg)				3 ft	3 ft	1 ft	3 ft	1 ft	3 ft	1 ft
Benzene	1.1	1.6	0.007	NA	NA	NA	NA	NA	NA	NA
Toluene	380	2600	0.5	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1100	8400	0.6	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	5900	40000	0.2	NA	NA	NA	NA	NA	NA	NA
MTBE	3200	22000	0.2	NA	NA	NA	NA	NA	NA	NA
PAHs (USEPA Method 8310) (mg/kg)										
Naphthalene	40	270	1.7	<0.0036	<0.0039	<0.0035	<0.0038	<0.0035	<0.0039	<0.0034
2-methylnaphthalene	80	560	6.1	<0.0036	<0.0039	<0.0035	<0.0038	<0.0035	<0.0039	<0.0034
1-methylnaphthalene	68	470	2.2	<0.0036	<0.0039	<0.0035	<0.0038	<0.0035	<0.0039	<0.0034
Acenaphthylene	1100	11000	27	<0.0036	<0.0039	<0.0035	<0.0038	<0.0035	<0.0039	<0.0034
Acenaphthene	1900	18000	2.1	0.0072	<0.0039	<0.0035	<0.0038	<0.0035	<0.0039	<0.0034
Anthracene	18000	260000	2500	0.013	<0.0039	<0.0035	<0.0038	0.005	0.005	<0.0034
Flourene	2200	28000	160	0.0068	<0.0039	<0.0035	<0.0038	0.005	<0.039	<0.0034
Benzo (a) anthracene	1.4	5	3.2	0.038	<0.0039	<0.0035	<0.0038	0.015	0.0093	<0.0034
Benzo (a) pyrene	0.1	0.5	8	0.061	<0.0039	0.0077	<0.0038	0.026	0.016	0.0082
Benzo (b) flouranthene	1.4	4.8	10	0.078	<0.0039	<0.0035	<0.0038	0.032	0.016	0.005
Benzo (g,h,i) perylene	2300	41000	32000	0.066	<0.0039	<0.0035	<0.0038	0.028	0.018	0.001
Benzo(k)fluoranthene	15	52	25	0.063	<0.0039	<0.0035	<0.0038	0.017	0.0093	<0.0034
Chrysene	140	450	77	0.05	<0.0039	<0.0035	<0.0038	0.017	0.0096	<0.0034
Dibenzo (a,h) anthracene	0.1	0.5	30	0.027	<0.0039	<0.0035	<0.0038	<0.0035	<0.0039	<0.0034
Fluoranthene	2900	48000	1200	0.13	<0.0039	0.0038	0.0041	0.027	0.019	0.0058
Indeno (1,2,3-cd) pyrene	1.5	5.3	28	0.059	<0.0039	<0.0035	<0.0038	0.026	0.016	0.0085
Phenanthrene	2000	30000	250	0.087	<0.0039	<0.0035	<0.0038	0.014	0.0089	<0.0034
Pyrene	2200	37000	880	0.098	<0.0039	0.0035	<0.0038	0.020	0.014	0.0048
FL-PRO (USEPA Method 8270) (mg/kg)										
TRPH	340	2500	340	NA	NA	NA	NA	NA	NA	NA

See notes at end of table.

Table 3-4 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Resutls

Site Assessment Report, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial / Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-36	SB-37	SB-37	SB-38	SB-38	SB-39	SB-39
			Sample Date	05/15/03	05/15/03	05/15/03	05/15/03	05/15/03	05/15/03	05/15/03
VOCs (USEPA Method 8021B) (mg/kg)				3 ft	1 ft	3 ft	1 ft	3 ft	1 ft	3 ft
Benzene	1.1	1.6	0.007	NA	NA	NA	NA	NA	NA	NA
Toluene	380	2600	0.5	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1100	8400	0.6	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	5900	40000	0.2	NA	NA	NA	NA	NA	NA	NA
MTBE	3200	22000	0.2	NA	NA	NA	NA	NA	NA	NA
PAHs (USEPA Method 8310) (mg/kg)										
Naphthalene	40	270	1.7	<0.0035	<0.0034	<0.0036	<0.0034	<0.0039	0.005	<0.0038
2-methylnaphthalene	80	560	6.1	<0.0035	<0.0034	<0.0036	<0.0034	<0.0039	0.005	<0.0038
1-methylnaphthalene	68	470	2.2	<0.0035	<0.0034	<0.0036	<0.0034	<0.0039	0.0037	<0.0038
Acenaphthylene	1100	11000	27	<0.0035	0.0037	0.0036	<0.0034	<0.0039	0.004	0.0042
Acenaphthene	1900	18000	2.1	<0.0035	<0.0034	<0.0036	<0.0034	<0.0039	0.0017	0.0014
Anthracene	18000	260000	2500	<0.0035	0.0067	0.0062	<0.0034	<0.0039	0.026	0.03
Flourene	2200	28000	160	<0.0035	<0.0034	<0.0036	<0.0034	<0.0039	0.012	0.015
Benzo (a) anthracene	1.4	5	3.2	<0.0035	0.021	0.015	<0.0034	<0.0039	0.099	0.085
Benzo (a) pyrene	0.1	0.5	8	<0.0035	0.034	0.025	<0.0034	<0.0039	0.12	0.11
Benzo (b) flouranthene	1.4	4.8	10	<0.0035	0.045	0.031	<0.0034	<0.0039	0.2	0.14
Benzo (g,h,i) perylene	2300	41000	32000	<0.0035	0.038	0.025	<0.0034	<0.0039	0.11	0.096
Benzo(k)fluoranthene	15	52	25	<0.0035	0.026	0.021	<0.0034	<0.0039	0.078	0.088
Chrysene	140	450	77	<0.0035	0.023	0.018	<0.0034	<0.0039	0.11	0.098
Dibenzo (a,h) anthracene	0.1	0.5	30	<0.0035	<0.0034	<0.0036	<0.0034	<0.0039	<0.0034	<0.0038
Fluoranthene	2900	48000	1200	<0.0035	0.039	0.032	0.0034	<0.0039	0.22	0.21
Indeno (1,2,3-cd) pyrene	1.5	5.3	28	<0.0035	0.036	0.024	<0.0034	<0.0039	0.11	0.088
Phenanthrene	2000	30000	250	<0.0035	0.017	0.015	<0.0034	<0.0039	0.18	0.17
Pyrene	2200	37000	880	<0.0035	0.030	0.024	<0.0034	<0.0039	0.16	0.14
FL-PRO (USEPA Method 8270) (mg/kg)										
TRPH	340	2500	340	NA	NA	NA	NA	NA	NA	NA

See notes at end of table.

Table 3-4 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Resutls

Site Assessment Report, Tank Site 283
Naval Station Mayport
Mayport, Florida

Notes:
[1]Chapter 62-770, FAC (April 30, 1999)
The quality control for this data has only been checked by the laboratory.
NA = not analyzed
Shaded = Exceeds residential and leachability SCTLs
bold = Exceedes industrail/commercial SCTLs
All samples collected from 1ft or 3 ft bls
mg/kg = milligrams per kilogram

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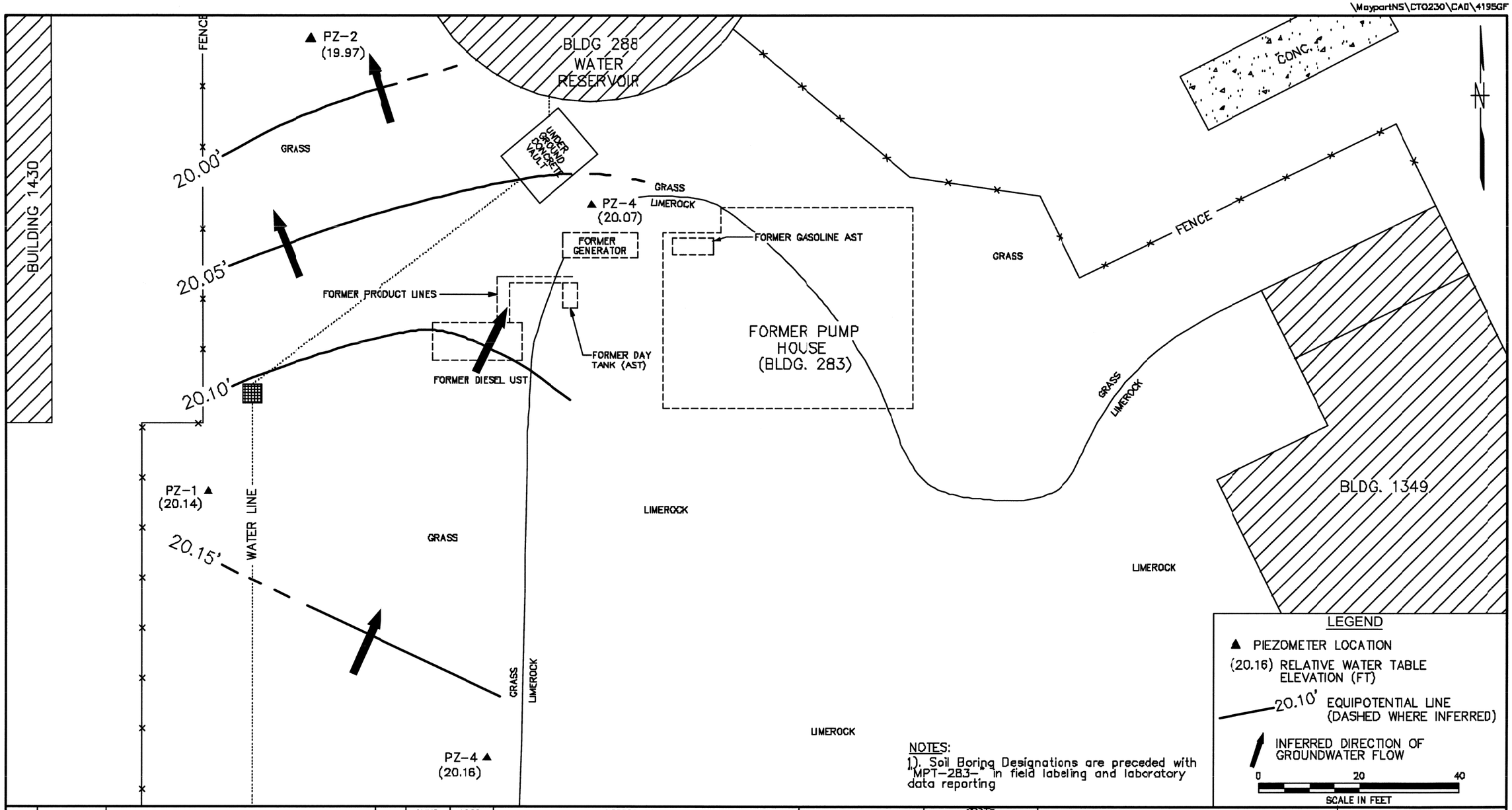

NOTES:
1). Soil Boring Designations are preceded with "MPT-283-" in field labeling and laboratory data reporting

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK DATE 11/22/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

POTENTIOMETRIC SURFACE CONTOUR MAP,
JULY 10, 2002
TANK SITE 283
SITE ASSESSMENT REPORT
MAYPORT NAVAL STATION
MAYPORT, FLORIDA

CONTRACT NO. 4195
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-1 REV. 0

FORM CADD NO. SDIV_B-1.DWG — REV 0 — 1/20/98

Table 3-5
Mobile Laboratory Groundwater Results

Site Assessment Report, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	FDEP Target Level[1]	SB-01	SB-02	SB-03	SB-04	SB-05	SB-06	SB-07
		07/09/02	07/09/02	07/09/02	07/09/02	07/09/02	07/09/02	07/09/02
	Sample Interval (ft)	4'-6'	4'-6'	4'-6'	4'-6'	4'-6'	4'-6'	4'-6'
VOCs (USEPA Method 8021B) (µg/L)								
MTBE	50	<50	<50	<50	<50	<50	<50	<50
Benzene	1	<1	<1	<1	<1	<1	<1	<1
Toluene	40	<40	<40	<40	<40	<40	<40	<40
Ethylbenzene	30	<30	<30	<30	<30	<30	<30	<30
Total Xylenes	20	<20	<20	<20	<20	<20	<20	<20
Napthalene	20	<20	<20	<20	<20	<20	<20	<20
1,Methylnapthalene	20	<20	<20	<20	<20	<20	<20	<20
2,Methylnapthalene	20	<20	<20	<20	<20	<20	<20	<20

Compound	FDEP Target Level[1]	SB-08	SB-09	SB-10	SB-11	SB-12	SB-01	SB-01
		07/09/02	07/09/02	07/09/02	07/10/02	07/10/02	07/10/02	07/10/02
	Sample Interval (ft)	4'-6'	4'-6'	3'-5'	4'-6'	4'-6'	20'-24'	30'-34'
VOCs (USEPA Method 8021B) (µg/L)								
MTBE	50	<50	<50	<50	<50	<50	<50	<50
Benzene	1	<1	<1	<1	<1	<1	<1	<1
Toluene	40	<40	<40	<40	<40	<40	<40	<40
Ethylbenzene	30	<30	<30	<30	<30	<30	<30	<30
Total Xylenes	20	<20	<20	<20	<20	<20	<20	<20
Napthalene	20	<20	<20	<20	<20	<20	<20	<20
1,Methylnapthalene	20	<20	<20	<20	<20	<20	<20	<20
2,Methylnapthalene	20	<20	<20	<20	<20	<20	<20	<20

Notes:
[1]Chapter 62-770, FAC (April 30, 1999)
µg/L = micrograms per liter

Table 3-6
Summary of Fixed-Base Laboratory Groundwater Results

Site Assessment Report, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	FDEP Target Level[1]	MW-1
	Sample Date	07/30/02
VOCs (USEPA Method 8021B) (µg/L)		
Benzene	1	<1
Toluene	40	<1
Ethylbenzene	30	<1
Total Xylenes	20	<1
MTBE	50	<1
USEPA 504.1 (µg/L)		
EDB	0.02	<0.02
PAHs (USEPA Method 8310) (µg/L)		
Naphthalene	20	<2.2
FL-PRO (USEPA Method 8270) (mg/L)		
TRPH	5	<0.29
Metals Analysis (µg/L)		
Total Lead	15	2.7

Notes:
[1]Chapter 62-770, FAC (April 30, 1999)
Well was installed on 07/23/01.

ATTACHMENT C

SOIL EXCAVATION AND GROUNDWATER MONITORING WORK PLAN
(TETRA TECH, 2005)

Soil Excavation and Groundwater Monitoring Work Plan
Revision 2

for

Tank Site 283

Naval Station Mayport

Mayport, Florida

Southern Division
Naval Facilities Engineering Command
Contract Number N62467-94-D-0888
Contract Task Order 0230

July 2005

05JAX0095

SOIL EXCAVATION AND GROUNDWATER MONITORING WORK PLAN
REVISION 2
FOR
TANK SITE 283

NAVAL STATION MAYPORT
MAYPORT, FLORIDA

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

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

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

CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0230

JULY 2005

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

NAVFAC
Naval Facilities Engineering Command

The professional opinions rendered in this decision document identified as Soil Excavation and Groundwater Monitoring Work Plan, Revision 2, for Tank Site 283, Naval Station Mayport, Mayport, Florida were developed in accordance with commonly accepted procedures consistent with applicable standards of practice. Decision documents were prepared under the supervision of the signing engineer and are based on information obtained from others. If conditions are determined to exist differently than those described in this document, then the undersigned professional engineer should be notified to evaluate the effects of any additional information on the project described in this document.

July 8, 2005
Gregory S. Roof, P.E.
Professional Engineering Number 50842
Tetra Tech NUS, Inc. Engineering No. 7988

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ACRONYMS

bls	Below Land Surface
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FLUCL	Florida Upper Confidence Level
ft	Feet or Foot
GAG	Gasoline Analytical Group
HASP	Health and Safety Plan
KAG	Kerosene Analytical Group
mg/KG	Milligrams per Kilogram
NAVFAC EFD SOUTH	Southern Division, Naval Facilities Engineering Command
NAVSTA	Naval Station
Navy	United States Navy
NFA	No Further Action
PAHs	Polynuclear Aromatic Hydrocarbons
SAR	Site Assessment Report
SCTLs	Soil Cleanup Target Levels
SRR	Soil Removal Report
UCL	Upper Confidence Level
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION AND SITE INFORMATION

1.1 INTRODUCTION

This Soil Excavation and Groundwater Monitoring Work Plan provides historical information and select tasks the subcontractor should complete for the environmental closure of Tank Site 283 at Naval Station (NAVSTA) Mayport, in Mayport, Florida. The impacts affect only the soil. The area of interest is a grass and lime rock covered area used to store equipment and reels of heavy gauge electrical chords used to connect to nearby ships.

1.2 SITE INFORMATION

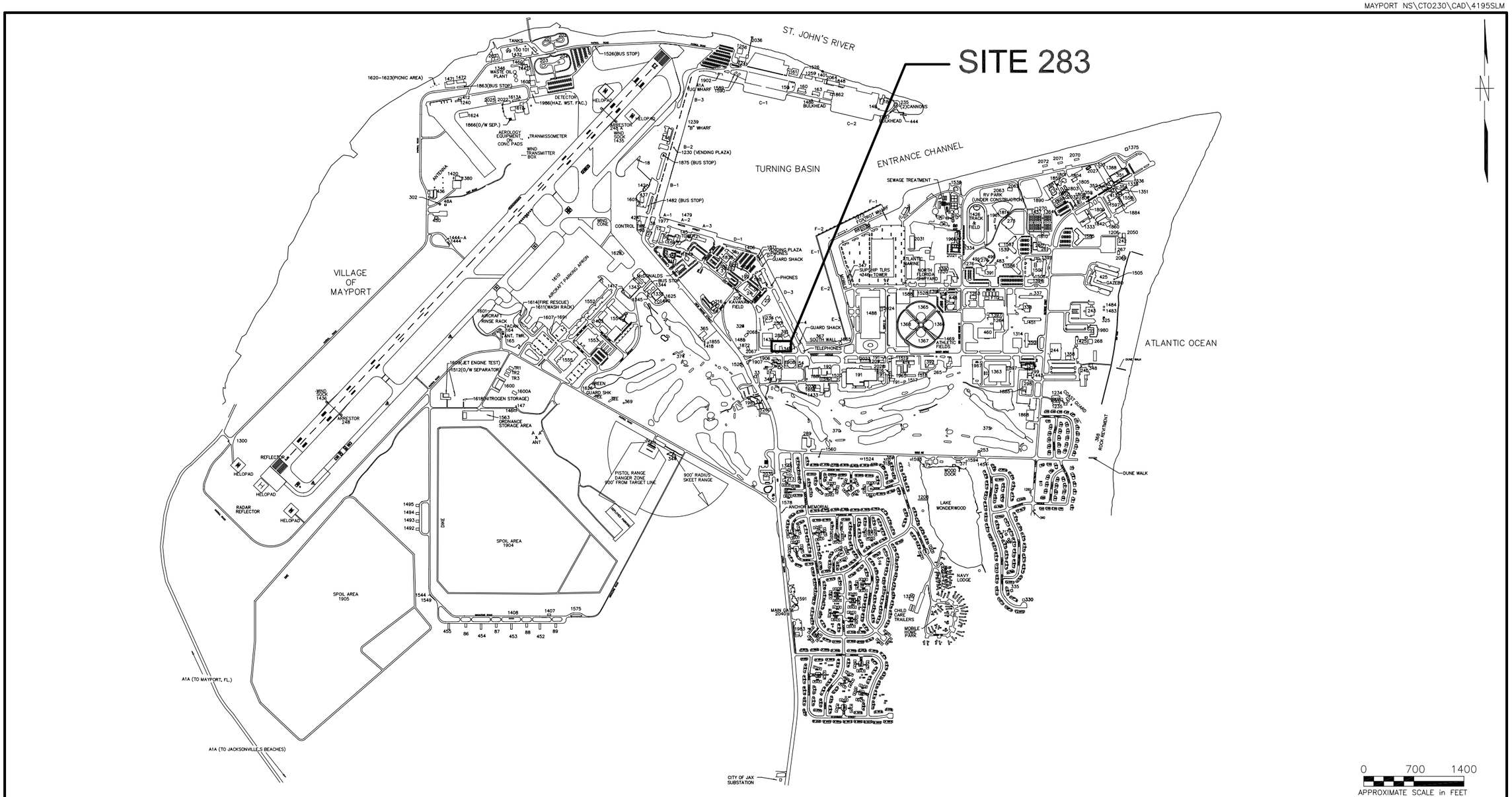
Tank Site 283 is located on NAVSTA Mayport property on the northern side of Massey Avenue approximately 350 feet (ft) to the west of the southern leg of the turning basin. A site location map is provided as Figure 1-1. Since December 1992, a fuel system and generator at Tank Site 283 were removed, but the large water tank (Tank Number 288) remains at the site. The site is located in an industrial/commercial area of the base. Structures in the vicinity of the former tank site include a municipal water tank and maintenance facility garage. The potable water tank is operational, and a main water line is located near the excavation area. A chain link fence encircles the entire grounds. South and east of the municipal water tank is the former location of Building 283. Building 283 was used to house the potable well pumps.

The site is unpaved. The site consists of a lime rock parking area and grass covered areas as shown on a Site Plan provided as Figure 1-2. Vehicles, heavy equipment, and electrical power connector cords for the ships are stored in the gravel parking and grassy areas.

The site is easily accessible and will be able to accommodate all remedial actions to be carried out by the subcontractor. Communication between the contractor and Johnson Controls Hill will need to be maintained to ensure enough time is given to move any items in the area of excavation and to ensure that the operations of an on-site garage are not hindered.

1.3 PRE-EXCAVATION SOIL SAMPLING RESULTS

In accordance with the NAVSTA Mayport Partnering Team-approved closure strategy, Tetra Tech NUS, Inc. conducted additional soil sampling activities designed to narrow the scope of the planned soil removal and to obtain pre-approval of the excavation depths and limits. A copy of the February 13, 2004,



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

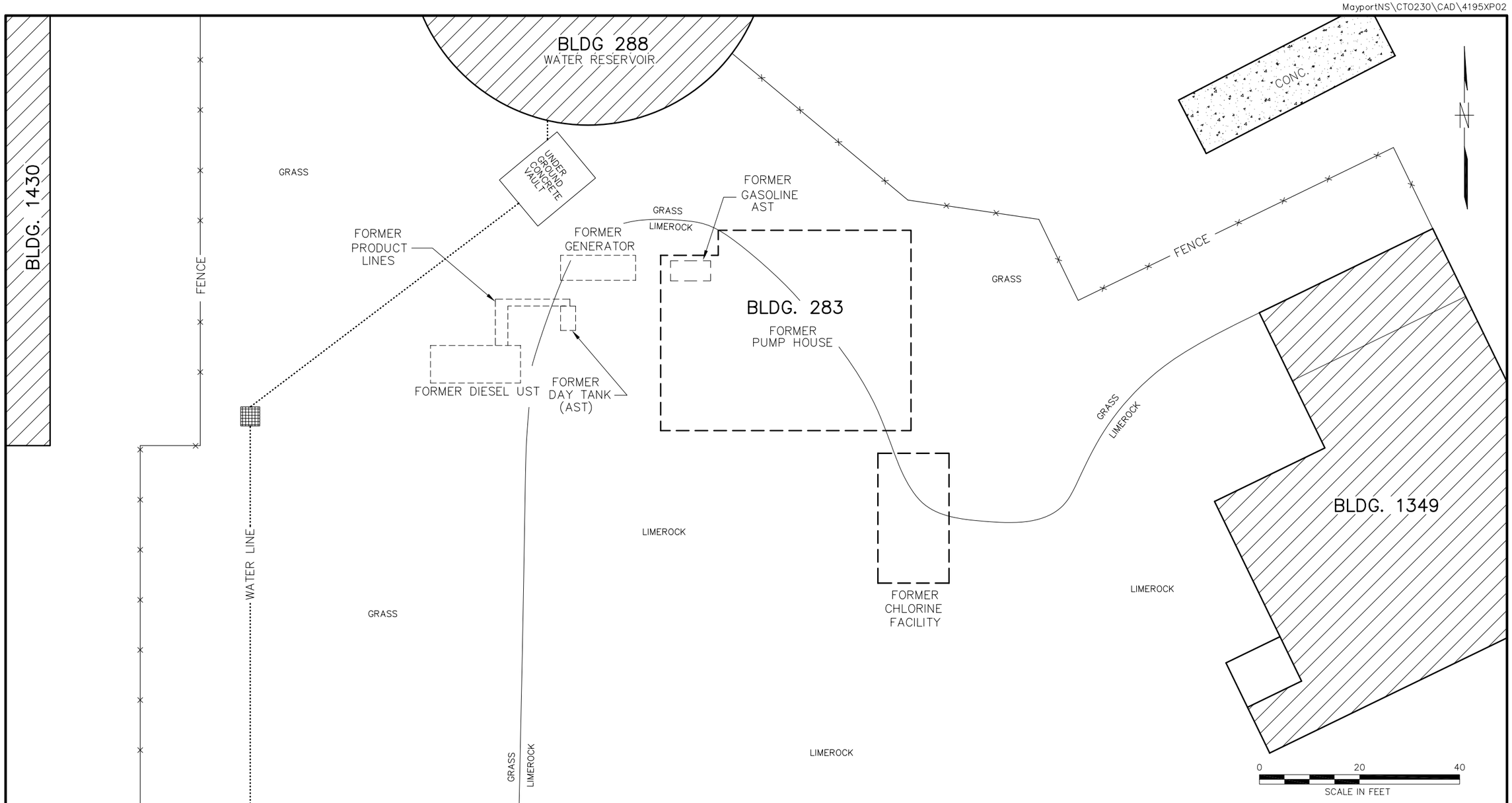
DRAWN BY LLK DATE 10/17/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SITE LOCATION MAP
TANK SITE 283
SITE ASSESSMENT REPORT
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

CONTRACT NO. 4195
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 1-1
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

MayportNS\CTO230\CAD\4195XP02



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK DATE 4/27/04
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SITE PLAN
TANK SITE 283
EXCAVATION PLAN
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

CONTRACT NO. 4195
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 1-2
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

letter from the Florida Department of Environmental Protection (FDEP), which approved the Site Assessment Report (SAR) and requested remedial action, is provided as Appendix A. Soil sampling was conducted in a series of events between October 2002 and April 2005 from locations SB-10 through SB-62 and tested polynuclear aromatic hydrocarbons (PAHs) using United States Environmental Protection Agency (USEPA) Method 8310. The results of the soil analyses are presented in Table 1-1. Shaded values in Table 1-1 indicate values that exceed residential and/or leachability soil cleanup target levels (SCTLs). Bolded values in Table 1-1 exceed industrial/commercial SCTLs. Only PAH analyses were conducted since prior sampling, as documented in the SAR, had shown the lack of other gasoline analytical group (GAG)/kerosene analytical group (KAG) compounds. Soil samples were collected from 1 ft below land surface (bls) and/or 3 ft bls, which is just above the groundwater table. A copy of the soil analytical results is provided in Appendix B.

The locations and testing results are also presented on Figure 1-3 with comparison against SCTLs prior to April 2005. Green colored locations indicate results below residential criteria. Yellow colored locations indicate PAHs concentrations exceed residential but are less than industrial/commercial criteria. Red locations indicated PAH values in excess of industrial/commercial criteria.

Based on a NAVSTA Mayport Partnering Team decision, statistical analyses of the data were conducted using the Florida Upper Confidence Level (FLUCL) software. Results of the statistical analyses are provided in Appendix C. Based on this analysis, soils exceeding the 95% Upper Confidence Level (UCL) number were designated for removal as shown on Figures 1-3. The proposed excavation shown on Figure 1-3 removes all soils exceeding the 95% UCL. Due to the distribution of this data, the excavation also encompasses soil not exceeding the 95% UCL. Removal of soil in this area will allow closure of the site without the need for land use controls.

The proposed excavation limits would encompass the areas exceeding the 95% UCL. Per FDEP direction, excavation will continue until a sample location is encountered that is less than the 95% UCL. Excavation will include all soils within the area indicated at Figure 1-3 from the ground surface to the top of the water table encountered at 3 ft in depth. Excavation below the water table is not required. The excavation size is estimated at 1,500 square ft with an estimated volume of 167 cubic yards in place. Contractors should allow for volume expansion upon removal.

Table 1-2 provides surveyed coordinates for each of the soil sample locations outlining the excavation site. Prior to excavation, the contractor shall have a survey performed to mark the extent of the excavation based on the coordinates provided.

Table 1-1
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-10	SB-13	SB-14	SB-15	SB-16	SB-17	SB-18	SB-19
				7/10/2002	10/3/2002	10/3/2002	10/3/2002	10/3/2002	2/24/2003	2/24/2003	2/24/2003
				3ft	3ft	3ft	3ft	3ft	3ft	3ft	3ft
PAHs (USEPA Method 8310) (mg/kg)											
Naphthalene	40	270	1.7	<1.9	<2	<0.42	<0.4	<2.1	<0.0037	0.011	0.2
2-Methylnaphthalene	80	560	6.1	<1.9	<2	<0.42	<0.4	<2.1	<0.0037	0.01	0.19
1-Methylnaphthalene	68	470	2.2	<1.9	<2	<0.42	<0.4	<2.1	<0.0037	0.0077	0.14
Acenaphthylene	1100	11000	27	<3.8	<2	<0.84	<0.81	<4.2	<0.0037	<0.0037	<0.073
Acenaphthene	1900	18000	2.1	<3.8	<2	<0.84	<0.81	<4.2	<0.0037	0.034	0.84
Anthracene	18000	260000	2500	1.74	<2	0.285	<0.4	<2.1	<0.0037	0.051	1.4
Fluorene	2200	28000	160	<1.9	<2	0.304	<0.4	<2.1	<0.0037	0.032	0.84
Benzo(a)anthracene	1.4	5	3.2	3.49	3.99	0.918	<0.4	3.01	0.0037	0.11	2.4
Benzo(a)pyrene	0.1	0.5	8	**3.37**	**2.34**	**0.626**	<0.081	**1.78**	0.006	0.17	**3.6**
Benzo(b)fluoranthene	1.4	4.8	10	2.39	1.63	0.427	<0.081	1.22	0.0063	0.2	3.8
Benzo(g,h,i)perylene	2300	41000	32000	2.07	1.96	0.576	<0.081	1.32	0.001	0.19	2.7
Benzo(k)fluoranthene	15	52	25	1.67	1.36	0.354	<0.081	1.01	0.004	0.11	2.7
Chrysene	140	450	77	4.17	3.32	0.898	<0.4	2.73	0.004	0.14	3.1
Dibenzo(a,h)anthracene	0.1	0.5	30	**0.854**	0.408	0.111	<0.081	0.331	<0.0037	0.087	**1.3**
Fluoranthene	2900	48000	1200	13.2	9.8	2.37	<0.4	7.58	0.011	0.47	9.1
Indeno(1,2,3-cd)pyrene	1.5	5.3	28	1.88	1.7	0.454	<0.081	1.21	<0.0037	0.18	2.4
Phenanthrene	2000	30000	250	11.5	8.36	1.87	<0.4	6.95	0.0071	0.34	8.0
Pyrene	2200	37000	880	8.31	5.67	1.54	<0.4	4.7	0.0085	0.33	6.4

See notes at end of table.

Table 1-1 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-20	SB-21	SB-22	SB-23	SB-24	SB-25	SB-26	SB-27
				2/24/2003	2/24/2003	2/24/2003	2/24/2003	2/24/2003	2/24/2003	2/24/2003	2/24/2003
				3ft	3ft	3ft	3ft	3ft	3ft	3ft	3ft
PAHs (USEPA Method 8310) (mg/kg)											
Naphthalene	40	270	1.7	<0.018	0.02	0.18	<0.0038	0.096	0.086	<0.036	<0.036
2-Methylnaphthalene	80	560	6.1	<0.018	0.02	0.14	<0.0038	0.096	0.071	<0.036	<0.036
1-Methylnaphthalene	68	470	2.2	<0.018	<0.018	0.088	<0.0038	0.080	<0.071	<0.036	<0.036
Acenaphthylene	1100	11000	27	<0.018	<0.018	<0.072	<0.0038	<0.073	<0.071	<0.036	<0.036
Acenaphthene	1900	18000	2.1	0.048	0.089	0.59	0.012	0.44	0.39	0.14	0.14
Anthracene	18000	260000	2500	0.096	0.17	0.77	0.019	0.82	0.86	0.32	0.31
Fluorene	2200	28000	160	0.048	0.094	0.66	0.01	0.40	0.43	0.14	0.15
Benzo(a)anthracene	1.4	5	3.2	0.19	0.23	1.4	0.049	1.30	1.00	0.48	0.47
Benzo(a)pyrene	0.1	0.5	8	0.32	0.33	**1.9**	0.076	**2.00**	**1.40**	**0.67**	**0.68**
Benzo(b)fluoranthene	1.4	4.8	10	0.4	0.36	2.6	0.095	2.70	1.70	0.82	0.98
Benzo(g,h,i)perylene	2300	41000	32000	0.3	0.3	1.6	0.091	1.70	1.30	0.66	0.59
Benzo(k)fluoranthene	15	52	25	0.26	0.33	1.4	0.06	1.80	1.00	0.62	0.40
Chrysene	140	450	77	0.27	0.31	1.8	0.064	1.80	1.20	0.59	0.58
Dibenzo(a,h)anthracene	0.1	0.5	30	0.12	0.13	**0.72**	0.037	**0.73**	0.45	0.25	0.22
Fluoranthene	2900	48000	1200	0.79	0.94	5.9	0.16	5.10	3.90	1.70	1.60
Indeno(1,2,3-cd)pyrene	1.5	5.3	28	0.27	0.28	1.4	0.079	1.60	1.10	0.58	0.53
Phenanthrene	2000	30000	250	0.62	0.83	5.9	0.11	4.20	3.60	1.30	1.30
Pyrene	2200	37000	880	0.54	0.67	4.0	0.12	3.60	2.60	1.20	1.10

See notes at end of table.

Table 1-1 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-28	SB-28	SB-29	SB-30	SB-31	SB-32	SB-33	SB-34
				5/18/2003	2/24/2003	2/24/2003	2/24/2003	2/24/2003	2/24/2003	2/24/2003	5/15/2003
				1ft	3ft	3ft	3ft	3ft	3ft	3ft	1ft
PAHs (USEPA Method 8310) (mg/kg)											
Naphthalene	40	270	1.7	<0.0034	0.82	<0.018	<0.0038	0.26	<0.0036	<0.0039	<0.0035
2-Methylnaphthalene	80	560	6.1	<0.0034	0.76	<0.018	<0.0038	0.24	<0.0036	<0.0039	<0.0035
1-Methylnaphthalene	68	470	2.2	<0.0034	0.50	<0.018	<0.0038	<0.18	<0.0036	<0.0039	<0.0035
Acenaphthylene	1100	11000	27	<0.0034	<0.18	<0.018	<0.0038	<0.18	<0.0036	<0.0039	<0.0035
Acenaphthene	1900	18000	2.1	0.0076	2.60	0.09	0.01	1.00	0.0072	<0.0039	<0.0035
Anthracene	18000	260000	2500	0.018	4.30	0.17	0.02	2.00	0.013	<0.0039	<0.0035
Fluorene	2200	28000	160	0.0072	2.80	0.09	0.01	1.00	0.0068	<0.0039	<0.0035
Benzo(a)anthracene	1.4	5	3.2	0.07	**6.00**	0.23	0.04	2.90	0.038	<0.0039	<0.0035
Benzo(a)pyrene	0.1	0.5	8	0.067	**8.70**	0.32	0.06	**3.80**	0.061	<0.0039	0.0077
Benzo(b)fluoranthene	1.4	4.8	10	0.079	**9.80**	0.40	0.08	**4.90**	0.078	<0.0039	<0.0035
Benzo(g,h,i)perylene	2300	41000	32000	0.041	6.00	0.30	0.06	3.40	0.066	<0.0039	<0.0035
Benzo(k)fluoranthene	15	52	25	0.048	5.40	2.30	0.05	3.60	0.063	<0.0039	<0.0035
Chrysene	140	450	77	0.067	7.10	2.80	0.05	3.30	0.05	<0.0039	<0.0035
Dibenzo(a,h)anthracene	0.1	0.5	30	<0.0034	**3.00**	0.06	0.02	**1.40**	0.027	<0.0039	<0.0035
Fluoranthene	2900	48000	1200	0.140	25.00	0.80	0.15	10.00	0.13	<0.0039	0.0038
Indeno(1,2,3-cd)pyrene	1.5	5.3	28	0.038	**6.00**	0.27	0.01	3.10	0.059	<0.0039	<0.0035
Phenanthrene	2000	30000	250	0.079	22.00	0.69	0.12	8.90	0.087	<0.0039	<0.0035
Pyrene	2200	37000	880	0.100	17.00	0.53	0.10	7.20	0.098	<0.0039	0.0035

See notes at end of table.

Table 1-1 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-34	SB-35	SB-35	SB-36	SB-36	SB-37	SB-37	SB-38
				5/15/2003	5/15/2003	5/15/2003	5/15/2003	5/15/2003	5/15/2003	5/15/2003	5/15/2003
				3ft	1ft	3ft	1ft	3ft	1ft	3ft	1ft
PAHs (USEPA Method 8310) (mg/kg)											
Naphthalene	40	270	1.7	<0.0038	<0.0035	<0.0039	<0.0034	<0.0035	<0.0034	<0.0036	<0.0034
2-Methylnaphthalene	80	560	6.1	<0.0038	<0.0035	<0.0039	<0.0034	<0.0035	<0.0034	<0.0036	<0.0034
1-Methylnaphthalene	68	470	2.2	<0.0038	<0.0035	<0.0039	<0.0034	<0.0035	<0.0034	<0.0036	<0.0034
Acenaphthylene	1100	11000	27	<0.0038	<0.0035	<0.0039	<0.0034	<0.0035	0.0037	0.0036	<0.0034
Acenaphthene	1900	18000	2.1	<0.0038	<0.0035	<0.0039	<0.0034	<0.0035	<0.0034	<0.0036	<0.0034
Anthracene	18000	260000	2500	<0.0038	0.005	0.005	<0.0034	<0.0035	0.0067	0.0062	<0.0034
Fluorene	2200	28000	160	<0.0038	0.005	<0.039	<0.0034	<0.0035	<0.0034	<0.0036	<0.0034
Benzo(a)anthracene	1.4	5	3.2	<0.0038	0.015	0.0093	<0.0034	<0.0035	0.021	0.015	<0.0034
Benzo(a)pyrene	0.1	0.5	8	<0.0038	0.026	0.016	0.0082	<0.0035	0.034	0.025	<0.0034
Benzo(b)fluoranthene	1.4	4.8	10	<0.0038	0.032	0.016	0.005	<0.0035	0.045	0.031	<0.0034
Benzo(g,h,i)perylene	2300	41000	32000	<0.0038	0.028	0.018	0.001	<0.0035	0.038	0.025	<0.0034
Benzo(k)fluoranthene	15	52	25	<0.0038	0.017	0.0093	<0.0034	<0.0035	0.026	0.021	<0.0034
Chrysene	140	450	77	<0.0038	0.017	0.0096	<0.0034	<0.0035	0.023	0.018	<0.0034
Dibenzo(a,h)anthracene	0.1	0.5	30	<0.0038	<0.0035	<0.0039	<0.0034	<0.0035	<0.0034	<0.0036	<0.0034
Fluoranthene	2900	48000	1200	0.0041	0.027	0.019	0.0058	<0.0035	0.039	0.032	0.0034
Indeno(1,2,3-cd)pyrene	1.5	5.3	28	<0.0038	0.026	0.016	0.0085	<0.0035	0.036	0.024	<0.0034
Phenanthrene	2000	30000	250	<0.0038	0.014	0.0089	<0.0034	<0.0035	0.017	0.015	<0.0034
Pyrene	2200	37000	880	<0.0038	0.020	0.014	0.0048	<0.0035	0.030	0.024	<0.0034

See notes at end of table.

Table 1-1 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-38	SB-39	SB-39	SB-40	SB-41	SB-42	SB-43	SB-44
				5/15/2003	5/15/2003	5/15/2003	1/14/2004	1/14/2004	1/14/2004	1/14/2004	3/22/2004
				3ft	1ft	3ft	3ft	3ft	3ft	3ft	3ft
PAHs (USEPA Method 8310) (mg/kg)											
Naphthalene	40	270	1.7	<0.0039	0.005	<0.0038	NA	NA	NA	NA	NA
2-Methylnaphthalene	80	560	6.1	<0.0039	0.005	<0.0038	NA	NA	NA	NA	NA
1-Methylnaphthalene	68	470	2.2	<0.0039	0.0037	<0.0038	NA	NA	NA	NA	NA
Acenaphthylene	1100	11000	27	<0.0039	0.004	0.0042	NA	NA	NA	NA	NA
Acenaphthene	1900	18000	2.1	<0.0039	0.0017	0.0014	NA	NA	NA	NA	NA
Anthracene	18000	260000	2500	<0.0039	0.026	0.03	NA	NA	NA	NA	NA
Fluorene	2200	28000	160	<0.0039	0.012	0.015	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.4	5	3.2	<0.0039	0.099	0.085	0.95	1.6	**9.8**	<0.036	0.26
Benzo(a)pyrene	0.1	0.5	8	<0.0039	0.12	0.11	**0.72**	**1.1**	**8**	<0.036	0.2
Benzo(b)fluoranthene	1.4	4.8	10	<0.0039	0.2	0.14	0.86	1.2	**10**	<0.036	0.35
Benzo(g,h,i)perylene	2300	41000	32000	<0.0039	0.11	0.096	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	15	52	25	<0.0039	0.078	0.088	NA	NA	NA	NA	NA
Chrysene	140	450	77	<0.0039	0.11	0.098	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.1	0.5	30	<0.0039	<0.0034	<0.0038	0.26	0.12	**2.2**	<0.036	<0.036
Fluoranthene	2900	48000	1200	<0.0039	0.22	0.21	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.5	5.3	23	<0.0039	0.11	0.088	0.74	1.1	**5.4**	<0.036	0.087
Phenanthrene	2000	30000	250	<0.0039	0.18	0.17	NA	NA	NA	NA	NA
Pyrene	2200	37000	880	<0.0039	0.16	0.14	NA	NA	NA	NA	NA

See notes at end of table.

Table 1-1 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-45	SB-46	SB-47	SB-48	SB-49	SB-50	SB-50	SB-51
				3/22/2004	3/22/2004	3/22/2004	3/22/2004	3/22/2004	9/24/2004	9/24/2004	9/24/2004
				3ft	3ft	3ft	3ft	3ft	1ft	3ft	1ft
PAHs (USEPA Method 8310) (mg/kg)											
Naphthalene	40	270	1.7	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	80	560	6.1	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	68	470	2.2	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	1100	11000	27	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	1900	18000	2.1	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	18000	260000	2500	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	2200	28000	160	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.4	5	3.2	0.091	<0.035	<0.036	<0.035	0.54	0.056	**6.70**	0.056
Benzo(a)pyrene	0.1	0.5	8	0.049	<0.035	<0.036	<0.035	0.5	0.049	3.70	0.039
Benzo(b)fluoranthene	1.4	4.8	10	0.1	<0.035	<0.036	<0.035	0.85	0.077	**7.60**	0.063
Benzo(g,h,i)perylene	2300	41000	32000	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	15	52	25	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	140	450	77	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.1	0.5	30	<0.038	<0.035	<0.036	<0.035	0.1	<0.035	0.77	<0.035
Fluoranthene	2900	48000	1200	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.5	5.3	28	<0.038	<0.035	<0.036	<0.035	0.29	0.035	1.90	<0.035
Phenanthrene	2000	30000	250	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	2200	37000	880	NA	NA	NA	NA	NA	NA	NA	NA

See notes at end of table.

Table 1-1 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-51	SB-52	SB-52	SB-53	SB-53	SB-54	SB-54	SB-55
				9/24/2004	9/24/2004	9/24/2004	9/24/2004	9/24/2004	2/10/2004	2/10/2004	2/10/2004
				3ft	1ft	3ft	1ft	3ft	1ft	3ft	1ft
PAHs (USEPA Method 8310) (mg/kg)											
Naphthalene	40	270	1.7	NA	NA	NA	NA	NA	<0.035	<0.036	<0.034
2-Methylnaphthalene	80	560	6.1	NA	NA	NA	NA	NA	<0.035	<0.036	<0.034
1-Methylnaphthalene	68	470	2.2	NA	NA	NA	NA	NA	<0.035	<0.036	<0.034
Acenaphthylene	1100	11000	27	NA	NA	NA	NA	NA	<0.035	<0.036	<0.034
Acenaphthene	1900	18000	2.1	NA	NA	NA	NA	NA	<0.035	<0.036	<0.034
Anthracene	18000	260000	2500	NA	NA	NA	NA	NA	<0.035	0.041	<0.034
Fluorene	2200	28000	160	NA	NA	NA	NA	NA	<0.035	<0.036	<0.034
Benzo(a)anthracene	1.4	5	3.2	0.11	NS	NS	0.036	0.84	<0.035	0.23	<0.034
Benzo(a)pyrene	0.1	0.5	8	0.072	NS	NS	0.036	**0.64**	<0.035	0.20	<0.034
Benzo(b)fluoranthene	1.4	4.8	10	0.11	NS	NS	0.036	0.94	<0.035	0.32	<0.034
Benzo(g,h,i)perylene	2300	41000	32000	NA	NA	NA	NA	NA	<0.045	0.16	<0.034
Benzo(k)fluoranthene	15	52	25	NA	NA	NA	NA	NA	<0.035	0.089	<0.034
Chrysene	140	450	77	NA	NA	NA	NA	NA	0.063	0.3	<0.034
Dibenzo(a,h)anthracene	0.1	0.5	30	<0.038	NS	NS	0.036	0.12	<0.035	<0.036	<0.034
Fluoranthene	2900	48000	1200	NA	NA	NA	NA	NA	0.13	0.68	0.039
Indeno(1,2,3-cd)pyrene	1.5	5.3	23	<0.038	NS	NS	0.036	0.33	<0.035	0.12	<0.034
Phenanthrene	2000	30000	250	NA	NA	NA	NA	NA	0.077	0.45	<0.034
Pyrene	2200	37000	880	NA	NA	NA	NA	NA	0.09	0.48	<0.034

See notes at end of table.

Table 1-1 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-55	SB-56	SB-56	SB-57	SB-57	SB-58	SB-58	SB-59
				2/10/2004	2/10/2004	2/10/2004	2/10/2004	2/10/2004	2/10/2004	2/10/2004	2/10/2004
				3ft	1ft	3ft	1ft	3ft	1ft	3ft	1ft
PAHs (USEPA Method 8310) (mg/kg)											
Naphthalene	40	270	1.7	<0.035	<0.035	<0.036	<0.037	<0.035	<0.038	<0.037	<0.052
2-Methylnaphthalene	80	560	6.1	<0.035	<0.035	<0.036	<0.037	<0.035	<0.038	<0.037	<0.052
1-Methylnaphthalene	68	470	2.2	<0.035	<0.035	<0.036	<0.037	<0.035	<0.038	<0.037	<0.052
Acenaphthylene	1100	11000	27	<0.035	<0.035	<0.036	<0.037	<0.035	<0.038	<0.037	<0.052
Acenaphthene	1900	18000	2.1	<0.035	<0.035	<0.036	<0.037	<0.035	<0.038	<0.037	<0.052
Anthracene	18000	260000	2500	<0.035	<0.035	<0.036	<0.037	<0.035	<0.038	<0.037	<0.052
Fluorene	2200	28000	160	<0.035	<0.035	<0.036	<0.037	<0.035	<0.038	<0.037	<0.052
Benzo(a)anthracene	1.4	5	3.2	<0.035	<0.035	0.076	0.041	<0.035	<0.038	<0.037	<0.052
Benzo(a)pyrene	0.1	0.5	8	<0.035	<0.035	0.057	0.037	<0.035	<0.038	<0.037	<0.052
Benzo(b)fluoranthene	1.4	4.8	10	<0.035	<0.035	0.09	0.059	<0.035	<0.038	<0.037	<0.052
Benzo(g,h,i)perylene	2300	41000	32000	<0.035	<0.035	0.051	0.048	<0.035	<0.038	<0.037	<0.052
Benzo(k)fluoranthene	15	52	25	<0.035	<0.035	<0.036	<0.037	<0.035	<0.038	<0.037	<0.052
Chrysene	140	450	77	<0.035	<0.035	0.082	0.052	<0.035	<0.038	<0.037	<0.052
Dibenzo(a,h)anthracene	0.1	0.5	30	<0.035	<0.035	<0.036	<0.037	<0.035	<0.038	<0.037	<0.052
Fluoranthene	2900	48000	1200	0.045	<0.035	0.18	0.082	<0.035	<0.038	<0.037	<0.052
Indeno(1,2,3-cd)pyrene	1.5	5.3	28	<0.035	<0.035	0.043	0.037	<0.035	<0.038	<0.037	<0.052
Phenanthrene	2000	30000	250	0.035	<0.035	0.13	0.045	<0.035	<0.038	<0.037	<0.052
Pyrene	2200	37000	880	<0.035	<0.035	0.1	0.064	<0.035	<0.038	<0.037	<0.052

See notes at end of table.

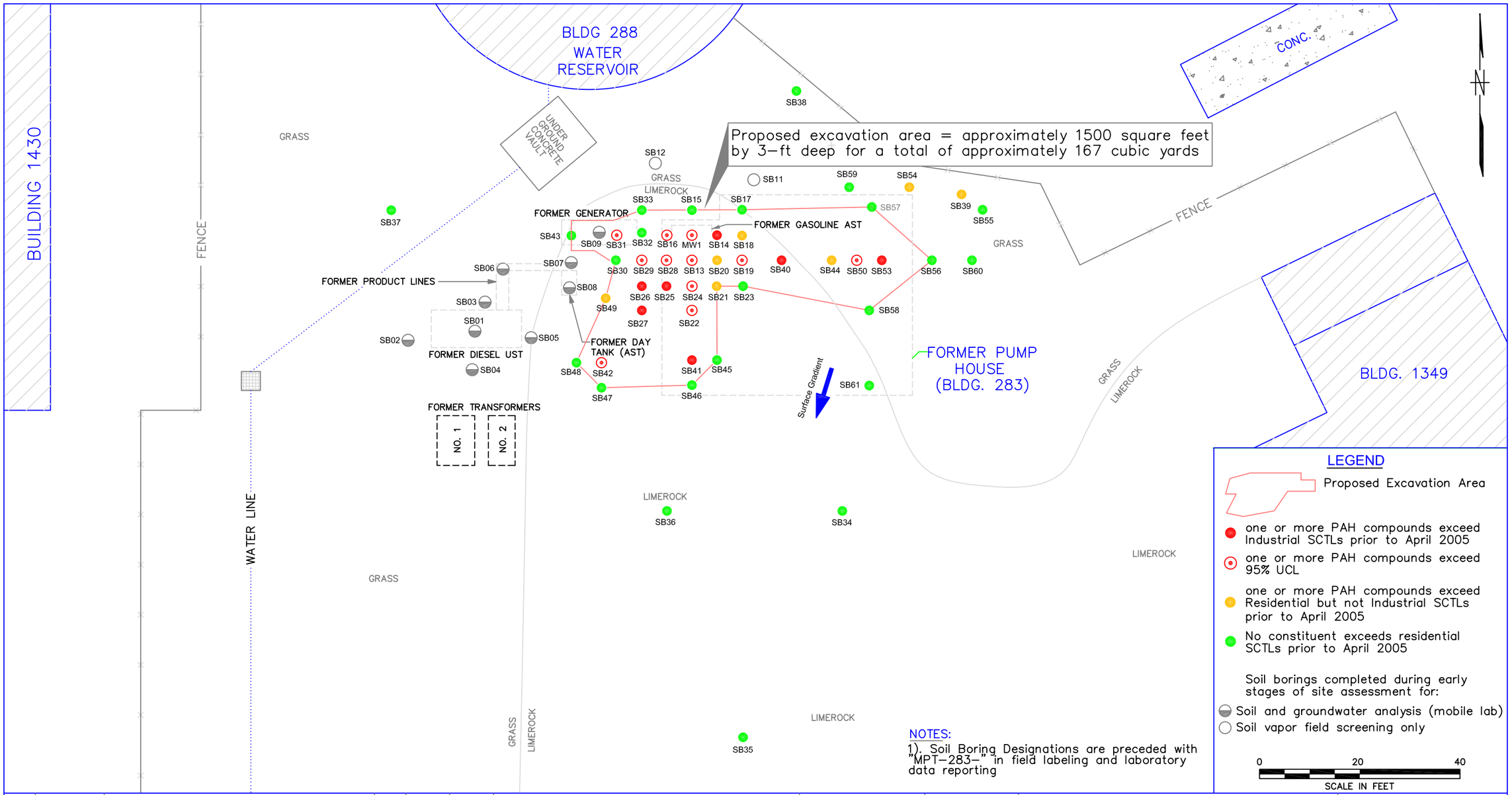
Table 1-1 (Continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial (mg/kg)	Leachability Based Criteria[1] (mg/kg)	SB-59	SB-60	SB-60	SB-61	SB-61	SB-62	SB-62
				2/10/2004	2/10/2004	2/10/2004	2/10/2004	2/10/2004	4/1/2005	4/1/2005
				3ft	1ft	3ft	1ft	3ft	1ft	3ft
PAHs (USEPA Method 8310) (mg/kg)										
Naphthalene	4C	270	1.7	<0.051	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	8C	560	6.1	<0.051	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	6E	470	2.2	<0.051	NA	NA	NA	NA	NA	NA
Acenaphthylene	11C0	11000	27	<0.051	NA	NA	NA	NA	NA	NA
Acenaphthene	19C0	18000	2.1	<0.051	NA	NA	NA	NA	NA	NA
Anthracene	18000	260000	2500	<0.051	NA	NA	NA	NA	NA	NA
Fluorene	22C0	28000	160	<0.051	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	1.4	5	3.2	<0.051	NA	NA	NA	NA	<0.036	<0.042
Benzo(a)pyrene	0.[illegible]	0.5	8	<0.051	NA	NA	NA	NA	<0.036	<0.042
Benzo(b)fluoranthene	1.4	4.8	10	<0.051	NA	NA	NA	NA	0.046	<0.042
Benzo(g,h,i)perylene	23C0	41000	32000	<0.051	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	15	52	25	<0.051	NA	NA	NA	NA	NA	NA
Chrysene	140	450	77	<0.051	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.[illegible]	0.5	30	<0.051	NA	NA	NA	NA	<0.036	<0.042
Fluoranthene	29C0	48000	1200	<0.051	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.5	5.3	28	<0.051	NA	NA	NA	NA	0.11	<0.042
Phenanthrene	20C0	30000	250	<0.051	NA	NA	NA	NA	NA	NA
Pyrene	22C0	37000	880	<0.051	NA	NA	NA	NA	NA	NA

Notes:
[1]Chapter 62-770, Florida Administrative Code (FAC) (April 30, 1999)
The quality control for this data has only been checked by the laboratory.
NA = not analyzed
Shaded = exceeds residential and/or leachability SCTLs
Bold = exceeds industrial/commercial SCTLs
All samples collected from 1ft or 3 ft bls.
mg/kg = milligrams per kilogram

MayportNS\CTO230\CAD\4195XCV02



NOTES:

1). Soil Boring Designations are preceded with "MPT-283-" in field labeling and laboratory data reporting

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK DATE 4/27/04

CHECKED BY DATE

COST/SCHED-AREA

SCALE AS NOTED

NAVFAC

PROPOSED EXCAVATION AREA
TANK SITE 283
SOIL CHARACTERIZATION AND EXCAVATION
MONITORING PLAN
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

CONTRACT NO. 4195

APPROVED BY DATE

APPROVED BY DATE

DRAWING NO. FIGURE 1-3 REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

Table 1-2
Soil Sample Locations Surveyed Coordinates

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

SOIL BORING	NORTHING	EASTING	LATITUDE	LONGITUDE
SB15	2201374.0114	526655.2395	30°23'17.82"	81°24'38.73"
SB17	2201374.3604	526665.2148	30°23'17.83"	81°24'38.61"
SB21	2201355.6171	526661.2775	30°23'17.64"	81°24'38.66"
SB23	2201356.6233	526672.2816	30°23'17.65"	81°24'38.53"
SB30	2201360.1627	526641.6535	30°23'17.68"	81°24'38.88"
SB33	2201373.0867	526645.6999	30°23'17.81"	81°24'38.84"
SB43	2201367.7122	526630.2266	30°23'17.76"	81°24'39.01"
SB45	2201342.3672	526663.0333	30°23'17.51"	81°24'38.64"
SB46	2201337.1217	526657.7729	30°23'17.46"	81°24'38.70"
SB47	2201336.1697	526640.2309	30°23'17.45"	81°24'38.90"
SB48	2201341.2623	526634.3516	30°23'17.50"	81°24'38.97"
SB49	2201351.4126	526638.3312	30°23'17.60"	81°24'38.92"
SB56	2201355.986	526699.8622	30°23'17.66"	81°24'38.48"
SB57	2201374.28	526689.6095	30°23'17.82"	81°24'38.54"
SB58	2201352.586	526688.721	30°23'17.61"	81°24'38.52"

2.0 SOIL REMOVAL AND GROUNDWATER MONITORING PLAN

The objective of the soil and groundwater monitoring effort is to obtain site closure and entry of the site into NAVSTA Mayport's Land Use Control Implementation Plan. In order to achieve this objective, the following work tasks shall be implemented.

1. Pre-excavation Activities
2. Excavation
3. Backfill/Restoration
4. Soil Disposal
5. Documentation and Monitoring

The contractor shall be responsible for maintaining the work schedule agreed to by the United States Navy (Navy) and all documents required by the FDEP associated with this project. All personnel working on the base are required to abide by rules established by NAVSTA Mayport authorities. More detailed description of the above tasks and responsibilities of the contractor are presented below.

2.1 PRE-EXCAVATION ACTIVITIES

Prior to the excavation the following information, reports, and communications shall be completed by the subcontractor:

- The contractor shall oversee all aspects of work-site health and safety throughout the project. A Health and Safety Plan (HASP) documenting all site operations conducted at NAVSTA Mayport, Mayport, Florida shall be kept on site at all times. The HASP must comply with requirements stipulated in the Occupational Safety and Health Administration Standard 29 Code of Federal Regulations 1910.120. The site-specific HASP must be approved by the following Southern Division, Naval Facilities Engineering Command (NAVFAC EFD SOUTH) and the NAVSTA Mayport Environmental Department personnel and submitted no later than 30 days prior to beginning work.

  Ms. Beverly Washington
  NAVFAC EFD SOUTH
  PO Box 190010
  North Charleston, SC 29419-9010

Mr. Scott Dombrosky
Navy Public Works Center
Naval Air Station Jacksonville
Building 902, Box 30: Code320
NAS Jacksonville, FL 32212-0030

- An active garage maintained by Johnson Controls Hill is located on site. It is the contractor's responsibility to notify Johnson Controls Hill (phone number 904-270-6870) two weeks in advance of the beginning of the excavation work. It is common practice that Johnson Controls Hill stores material or equipment in the area of the excavation. It is also the contractor's responsibility to communicate with Johnson Controls Hill to remove all stored materials to a safe distance from the excavation site. The Johnson Controls Hill contact name(s) and time(s) of the conversation should be documented by the subcontractor. If Johnson Controls Hill is not notified, the work to be performed by the subcontractor may be slowed or stopped do to operations ongoing at the garage.

- Survey coordinates have been provided in this Soil Excavation and Groundwater Monitoring Work Plan. The contractor shall conduct a site survey to identify and flag the surveyed coordinates that designated the limits of the excavation.

- Prior to beginning the excavation, the contractor shall obtain a Dig Permit from the Public Works Engineering Division located at Building 1966. This permit process should be initiated no later than three weeks prior to beginning work. The dig permit requires the signatures of multiple personnel and multiple parties. Once the permit is obtained, it is required to remain on site throughout the project. A water main is known to be located along the western side of the property that connects NAVSTA Mayport with the potable water from the storage tank. If utilities are found during excavation activities, hand digging shall be used to remove soils within 3 ft of the located utility. No active utilities are anticipated to be within the excavation area.

- The contractor shall provide written documentation detailing which waste disposal facility and any subcontractors to be used. The soil will be taken to a licensed disposal facility.

2.2 EXCAVATION AND GROUNDWATER MONITORING ACTIVITIES

The contractor shall adhere to all excavation procedures including site control, posting of signs and cones, etc. according to the HASP. Tasks not addressed in the contractor's HASP must be pre-approved by the Mayport Environmental Department. The extent of the excavation has been defined using surveyed coordinates. A copy of the coordinates documenting the sample boring locations is presented in Table 1-2.

- The contractor shall be responsible for maintaining the schedule and documentation of all activities including the excavation. A daily log should include, but is not limited to, work performed, subcontractors, personnel, equipment, site conditions, and all health and safety related matters. Copies of the daily activities log shall be provided to the Navy upon completion of the project.

- One shallow monitoring well is located in the excavation pit. This well should remain intact during the excavation. The well is 13.5 ft deep and completed with 10 ft of screen. If the well is damaged, the subcontractor shall contact the Environmental Department at NAVSTA Mayport, and construction details for the well are provided in Appendix D. The installation of the replacement well shall be provided by the subcontractor at no cost to the Navy.

- No dewatering shall be required. Excavation is above the groundwater level.

- The excavated soils may be stockpiled and covered with heavy-duty polyethylene sheeting at the site. This shall be done in a manner to avoid the potential for contaminating surrounding soil of surface water. Alternately, soil may be stockpiled in properly lined and covered roll-off containers or drums or directly loaded onto trucks for transportation to the approved disposal facility.

- After excavation activities are complete, the contractor shall sample groundwater from monitoring well MPT-283-MW01 for the GAG/KAG analytical group as outlined in Chapter 62-770, FAC. The first event should be conducted immediately after construction/backfilling. This event will be considered the first of four quarterly sampling events. The contractor shall be responsible for subsequent sampling events conducted once per quarter until four events are completed or until two consecutive events indicate non-detect results.

2.3 BACKFILL/SITE RESTORATION

The site shall be backfilled with comparable material as was removed. The backfill shall be void of vegetation and manmade materials. If such materials are found to be in the backfill, the undesirable backfill will be removed and replaced at the subcontractor's expense. All fill material used should be obtained from an uncontaminated source. The materials shall be certified as clean or tested by the excavation contractor to ensure the material is suitable for use as backfill prior to being brought onto the site. The soil shall be tamped or tracked in with equipment to assist with compaction. The original lime rock used to cover the site can be saved for reuse. A minimum of 6 inches of lime rock is required to cover the excavation area. Compaction shall be completed with a sheep's foot or similar device.

2.4 DISPOSAL

The soils will be properly disposed of according to waste characterization activities. A disposal analysis has been collected for total recoverable petroleum hydrocarbons using the Florida Petroleum Range Organics Method, PAHs using USEPA Method 8270, volatile organic aromatics using USEPA Method 8260, and metals (arsenic, cadmium, chromium, and lead) using USEPA Method 6010. Copies of the disposal sample analytical results can be provided upon request. The soil is classified as non-hazardous. The impacted soil must not remain on site longer than two days after its excavation and will be manifested for disposal at a licensed facility. The subcontractor shall have personnel from the Environmental Department at NAVSTA Mayport sign the manifests as the generator.

2.5 DOCUMENTATION

Once the excavation is complete, the subcontractor shall prepare a Source Removal Report (SRR) documenting all remedial action activities including the first round of groundwater monitoring. The SRR shall contain all elements required by the FDEP to obtain site closure including date, time, description of work completed, photographs, figures, tables, analytical results, soil disposal manifests, and clean fill certification. The SRR shall also indicate the land use controls to be implemented at the site. The SRR shall be submitted to Ms. Adrienne Wilson, NAVFAC EFD SOUTH, and Mr. Scott Dombrosky, Navy Public Works Center Jacksonville, in draft form for approval. After Navy approval is obtained, the SRR shall be issued to the FDEP for regulatory approval.

After each subsequent quarterly monitoring event, the contractor shall prepare a brief letter report documenting the results from the well sampling event. The report shall be submitted to the Navy in draft form and, following Navy approval, the report will be issued to the FDEP. If no constituents are detected after the third and fourth quarter monitoring events, the contractor shall recommend no further action (NFA) and obtain FDEP concurrence prior to the next monitoring event. If constituents are detected, but remain below groundwater cleanup target levels, the contractor will recommend NFA. The four quarters of monitoring will begin once the FDEP has approved the monitoring plan in the Closure Report. A Monitoring Only Plan shall be sealed by a registered Professional Geologist or Professional Engineer.

APPENDIX A

FDEP SAR APPROVAL LETTER

DN4195:2.1:03

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

RECEIVED
FEB 19 2004
TETRA TECH NUS
JACKSONVILLE FL

February 13, 2004

Ms. Beverly Washington
Department of the Navy, Petroleum Program
Southern Division - Naval Facilities Engineering Command
P.O. Box 190010
2155 Eagle Drive
North Charleston, SC 29419-9010

file: 283SAR1203.doc

RE: Site Assessment Report for Tank Site 283; Naval Station Mayport, Mayport, FL

Dear Ms. Washington:

I have reviewed the above document dated December 2003 (received December 19, 2003). Information furnished in the document confirms that the requirements of Chapter 62-600, F.A.C. have been met. Please prepare a Remedial Action Plan for the contaminated soil at the site.

If further clarification is required or if you have any questions, please contact me at 850-245-8999.

Sincerely,

James H. Cason, P.G.
Remedial Project Manager

2-13-04
date

JAMES H. CASON
LICENSE
No. [illegible]93
STATE OF
FLORIDA
PROFESSIONAL GEOLOGIST

cc: Mark Peterson, Tetra Tech NUS, Tallahassee
Diane Lancaster, NAVSTA Mayport

JJC JHC ESN ESN

correspondence
CTO 230

APPENDIX B

ANALYTICAL DATA

Sample Summary

Tetra Tech, NUS

Job No: F13797

NAS Mayport-CTO230
Project No: N4195-P2293(SD), Tank 283

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F13797-1	07/10/02	08:15	MD	07/11/02	SO	Soil	MPT-283-SB10-03

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Accutest Laboratories

Report of Analysis

Client Sample ID:	MPT-283-SB10-03		
Lab Sample ID:	F13797-1	Date Sampled:	07/10/02
Matrix:	SO - Soil	Date Received:	07/11/02
Method:	SW846 8260B	Percent Solids:	87.4
Project:	NAS Mayport-CTO230		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0017164.D	1	07/18/02	KW	n/a	n/a	VG558
Run #2							

	Initial Weight
Run #1	4.93 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	5.8	ug/kg	
108-88-3	Toluene	ND	5.8	ug/kg	
100-41-4	Ethylbenzene	ND	5.8	ug/kg	
1330-20-7	Xylene (total)	ND	17	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		75-125%
2037-26-5	Toluene-D8	102%		75-125%
460-00-4	4-Bromofluorobenzene	113%		72-137%
17060-07-0	1,2-Dichloroethane-D4	116%		68-125%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MPT-283-SB10-03		
Lab Sample ID:	F13797-1	Date Sampled:	07/10/02
Matrix:	SO - Soil	Date Received:	07/11/02
Method:	EPA 8310 SW846 3550B	Percent Solids:	87.4
Project:	NAS Mayport-CTO230		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA011338.D	5	07/18/02	MRE	07/16/02	OP5492	GAA526
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	3800	ug/kg	
208-96-8	Acenaphthylene	ND	3800	ug/kg	
120-12-7	Anthracene	1740	1900	ug/kg	J
56 55 3	Benzo(a)anthracene	3490	1900	ug/kg	
50-32-8	Benzo(a)pyrene	3370	380	ug/kg	
205-99-2	Benzo(b)fluoranthene	2390	380	ug/kg	
191-24-2	Benzo(g,h,i)perylene	2070	380	ug/kg	
207-08-9	Benzo(k)fluoranthene	1670	380	ug/kg	
218-01-9	Chrysene	4170	1900	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	854	380	ug/kg	
206-44-0	Fluoranthene	13200	1900	ug/kg	
86-73-7	Fluorene	ND	1900	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1880	380	ug/kg	
91-20-3	Naphthalene	ND	1900	ug/kg	
90-12-0	1-Methylnaphthalene	ND	1900	ug/kg	
91-57-6	2-Methylnaphthalene	ND	1900	ug/kg	
85-01-8	Phenanthrene	11500	1900	ug/kg	
129-00-0	Pyrene	8310	1900	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	66%		37-158%
92-94-4	p-Terphenyl	151% [b]		59-149%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Outside control limits due to matrix interference.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MPT-283-SB10-03		
Lab Sample ID:	F13797-1	Date Sampled:	07/10/02
Matrix:	SO - Soil	Date Received:	07/11/02
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	87.4
Project:	NAS Mayport-CTO230		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP22270.D	1	07/23/02	SKW	07/22/02	OP5525	GOP809
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	56.9	9.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%		66-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. PETERSON**	**DATE:**	**NOVEMBER 13, 2002**
FROM:	**SETH C. STAFFEN**	**COPIES:**	**DV FILE**
SUBJECT:	**ORGANIC DATA VALIDATION – PAH** **CTO 230, NS MAYPORT** **SDG: F14900**		

RECEIVED
NOV 15 2002
TETRA TECH NUS
JACKSONVILLE FL

SAMPLES: 1/AQUEOUS/PAH

MPT-283-EQ BLK

4/SOIL BORINGS/PAH

MPT-283-SB-13-SO-3 MPT-283-SB-14-SO-3
MPT-283-SB-15-SO-3 MPT-283-SB-16-SO-3

OVERVIEW

The sample set for CTO 230, SDG F14900; Naval Station (NS) Mayport consists of one (1) equipment blank and four (4) soil boring environmental samples. The samples were analyzed for select polynuclear aromatic hydrocarbons: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. No field duplicate pairs were included in this SDG.

The samples were collected on October 03, 2002 by Tetra Tech NUS, Inc. and analyzed by Accutest Laboratories. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW 846 Method 8310 analytical and reporting protocol. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
• Initial/Continuing Calibrations
* • Laboratory Method and Field Quality Control Blank Results
• Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A.

PAH FRACTION

The initial calibration on 10/17/02 contained a relative response factor (RRF) that exceeded the 30% quality control limit for anthracene. No qualification action was taken because the other column was compliant.

ADDITIONAL COMMENTS

Positive results < Reporting Limit (RL) were qualified as estimated, J, due to uncertainty near the detection limit.

EXECUTIVE SUMMARY

Laboratory Performance: Initial calibration criteria was not met for anthracene.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the NFESC guidelines "Navy IRCDQM" (September 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Seth C. Staffen

Environmental Scientist/Data Validator
Tetra Tech NUS

Joseph A. Samchuck

Data Validation Quality Assurance Officer
TetraTech NUS

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A	=	Lab Blank Contamination
B	=	Field Blank Contamination
C	=	Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D	=	MS/MSD Noncompliance
E	=	LCS/LCSD Noncompliance
F	=	Lab Duplicate Imprecision
G	=	Field Duplicate Imprecision
H	=	Holding Time Exceedance
I	=	ICP Serial Dilution Noncompliance
J	=	GFAA PDS - GFAA MSA's $r < 0.995$
K	=	ICP Interference - include ICSAB % R's
L	=	Instrument Calibration Range Exceedance
M	=	Sample Preservation
N	=	Internal Standard Noncompliance
N01	=	Internal Standard Noncompliance Dioxins
N02	=	Recovery Standard Noncompliance Dioxins
N03	=	Clean-up Standard Noncompliance Dioxins
O	=	Poor Instrument Performance (i.e., base-time drifting)
P	=	Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q	=	Other problems (can encompass a number of issues)
R	=	Surrogates Recovery Noncompliance
S	=	Pesticide/PCB Resolution
T	=	% Breakdown Noncompliance for DDT and Endrin
U	=	Pest/PCD% between columns for positive results
V	=	Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W	=	EMPC result
X	=	Signal to noise response drop
Y	=	Percent solids <30%
Z	=	Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 4195

SDG: F14900 MEDIA: SOIL DATA FRACTION: PAH

nsample	MPT-283-SB-13-SO-3	nsample	MPT-283-SB-14-SO-3	nsample	MPT-283-SB-15-SO-3
samp_date	10/3/2002	samp_date	10/3/2002	samp_date	10/3/2002
lab_id	F14900-1	lab_id	F14900-2	lab_id	F14900-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	85.3	Pct_Solids	80.4	Pct_Solids	84.4
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)ANTHRACENE	3990		
BENZO(A)PYRENE	2340		
BENZO(B)FLUORANTHENE	1630		
DIBENZO(A,H)ANTHRACENE	408		
INDENO(1,2,3-CD)PYRENE	1700		

Parameter	Result	Val Qual	Qual Code
BENZO(A)ANTHRACENE	918		
BENZO(A)PYRENE	626		
BENZO(B)FLUORANTHENE	427		
DIBENZO(A,H)ANTHRACENE	111		
INDENO(1,2,3-CD)PYRENE	454		

Parameter	Result	Val Qual	Qual Code
BENZO(A)ANTHRACENE	400	U	
BENZO(A)PYRENE	81	U	
BENZO(B)FLUORANTHENE	81	U	
DIBENZO(A,H)ANTHRACENE	81	U	
INDENO(1,2,3-CD)PYFENE	81	U	

PROJ_NO: 4195

SDG: F14900 MEDIA: SOIL DATA FRACTION: PAH

nsample	MPT-283-SB-16-SO-3
samp_date	10/3/2002
lab_id	F14900-4
qc_type	NM
units	UG/KG
Pct_Solids	81.3
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)ANTHRACENE	3010		
BENZO(A)PYRENE	1780		
BENZO(B)FLUORANTHENE	1220		
DIBENZO(A,H)ANTHRACENE	331	J	P
INDENO(1,2,3-CD)PYRENE	1210		

PROJ_NO: 4195

SDG: F14900 MEDIA: WATER DATA FRACTION: PAH

nsample	MPT-283-EQ BLK
samp_date	10/3/2002
lab_id	F14900-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)ANTHRACENE	0.21	U	
BENZO(A)PYRENE	0.21	U	
BENZO(B)FLUORANTHENE	0.21	U	
DIBENZO(A,H)ANTHRACENE	0.21	U	
INDENO(1,2,3-CD)PYRENE	0.21	U	

ENCO LABORATORIES
REPORT # : JAX30002
DATE REPORTED: March 7, 2003
REFERENCE : N4195
PROJECT NAME : CTO 230 Tank 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-17	MPT-283-SB-18	Units
Naphthalene	3.7 U	11	ug/Kg
2-Methylnaphthalene	3.7 U	10	ug/Kg
1-Methylnaphthalene	3.7 U	7.7	ug/Kg
Acenaphthylene	3.7 U	3.7 U	ug/Kg
Acenaphthene	3.7 U	34	ug/Kg
Fluorene	3.7 U	32	ug/Kg
Phenanthrene	7.1	340	ug/Kg
Anthracene	3.7 U	51	ug/Kg
Fluoranthene	11	470	ug/Kg
Pyrene	8.5	330	ug/Kg
Chrysene	4.0	140	ug/Kg
Benzo(a)anthracene	3.7	110	ug/Kg
Benzo(b)fluoranthene	6.3	200	ug/Kg
Benzo(k)fluoranthene	4.0	110	ug/Kg
Benzo(a)pyrene	6.0	170	ug/Kg
Indeno(1,2,3-cd)pyrene	3.7 U	180	ug/Kg
Dibenzo(a,h)anthracene	3.7 U	87	ug/Kg
Benzo(g,h,i)perylene	10	190	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	54	65	19-162
Date Prepared	02/26/03	02/26/03	
Date Analyzed	03/04/03 10:52	03/04/03 11:13	

MISCELLANEOUS	METHOD	MPT-283-SB-17	MPT-283-SB-18	Units
Percent Solids	SM2540G	89	90	%
Date Analyzed		02/25/03 12:00	02/25/03 12:00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JAX30002
DATE REPORTED: March 7, 2003
REFERENCE : N4195
PROJECT NAME : CTO 230 Tank 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-19		MPT-283-SB-20		Units
Naphthalene	200	D1	18 U	D2	ug/Kg
2-Methylnaphthalene	190	D1	18 U	D2	ug/Kg
1-Methylnaphthalene	140	D1	18 U	D2	ug/Kg
Acenaphthylene	73 U	D1	18 U	D2	ug/Kg
Acenaphthene	840	D1	48	D2	ug/Kg
Fluorene	840	D1	48	D2	ug/Kg
Phenanthrene	8000	D1	620	D2	ug/Kg
Anthracene	1400	D1	96	D2	ug/Kg
Fluoranthene	9100	D1	790	D2	ug/Kg
Pyrene	6400	D1	540	D2	ug/Kg
Chrysene	3100	D1	270	D2	ug/Kg
Benzo(a)anthracene	2400	D1	190	D2	ug/Kg
Benzo(b)fluoranthene	3800	D1	400	D2	ug/Kg
Benzo(k)fluoranthene	2700	D1	260	D2	ug/Kg
Benzo(a)pyrene	3600	D1	320	D2	ug/Kg
Indeno(1,2,3-cd)pyrene	2400	D1	270	D2	ug/Kg
Dibenzo(a,h)anthracene	1300	D1	120	D2	ug/Kg
Benzo(g,h,i)perylene	2700	D1	300	D2	ug/Kg
Surrogate:	% RECOV		% RECOV		LIMITS
p-Terphenyl	*		*		19-162
Date Prepared	02/26/03		02/26/03		
Date Analyzed	03/04/03 18:14		03/04/03 18:36		

MISCELLANEOUS	METHOD	MPT-283-SB-19	MPT-283-SB-20	Units
Percent Solids	SM2540G	90	89	%
Date Analyzed		02/25/03 12:00	02/25/03 12:00	

* = Surrogate recovery unavailable due to sample dilution.
U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:20 dilution.
D2 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES
REPORT # : JAX30002
DATE REPORTED: March 7, 2003
REFERENCE : N4195
PROJECT NAME : CTO 230 Tank 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-21		MPT-283-SB-22		Units
Naphthalene	20	D2	180	D1	ug/Kg
2-Methylnaphthalene	20	D2	140	D1	ug/Kg
1-Methylnaphthalene	18 U	D2	88	D1	ug/Kg
Acenaphthylene	18 U	D2	72 U	D1	ug/Kg
Acenaphthene	89	D2	590	D1	ug/Kg
Fluorene	94	D2	660	D1	ug/Kg
Phenanthrene	830	D2	5900	D1	ug/Kg
Anthracene	170	D2	770	D1	ug/Kg
Fluoranthene	940	D2	5900	D1	ug/Kg
Pyrene	670	D2	4000	D1	ug/Kg
Chrysene	310	D2	1800	D1	ug/Kg
Benzo(a)anthracene	230	D2	1400	D1	ug/Kg
Benzo(b)fluoranthene	360	D2	2600	D1	ug/Kg
Benzo(k)fluoranthene	330	D2	1400	D1	ug/Kg
Benzo(a)pyrene	330	D2	1900	D1	ug/Kg
Indeno(1,2,3-cd)pyrene	280	D2	1400	D1	ug/Kg
Dibenzo(a,h)anthracene	130	D2	720	D1	ug/Kg
Benzo(g,h,i)perylene	300	D2	1600	D1	ug/Kg

Surrogate:	% RECOV	% RECOV	LIMITS
p-Terphenyl	*	*	19-162
Date Prepared	02/26/03	02/26/03	
Date Analyzed	03/04/03 18:58	03/04/03 19:19	

MISCELLANEOUS	METHOD	MPT-283-SB-21	MPT-283-SB-22	Units
Percent Solids	SM2540G	90	91	%
Date Analyzed		02/25/03 12:00	02/25/03 12:00	

* = Surrogate recovery unavailable due to sample dilution.
U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:20 dilution.
D2 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES
REPORT # : JAX30002
DATE REPORTED: March 7, 2003
REFERENCE : N4195
PROJECT NAME : CTO 230 Tank 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-23	MPT-283-SB-24	Units
Naphthalene	3.8 U	96 D1	ug/Kg
2-Methylnaphthalene	3.8 U	96 D1	ug/Kg
1-Methylnaphthalene	3.8 U	80 D1	ug/Kg
Acenaphthylene	3.8 U	73 U D1	ug/Kg
Acenaphthene	12	440 D1	ug/Kg
Fluorene	10	400 D1	ug/Kg
Phenanthrene	110	4200 D1	ug/Kg
Anthracene	19	820 D1	ug/Kg
Fluoranthene	160	5100 D1	ug/Kg
Pyrene	120	3600 D1	ug/Kg
Chrysene	64	1800 D1	ug/Kg
Benzo(a)anthracene	49	1300 D1	ug/Kg
Benzo(b)fluoranthene	95	2700 D1	ug/Kg
Benzo(k)fluoranthene	60	1800 D1	ug/Kg
Benzo(a)pyrene	76	2000 D1	ug/Kg
Indeno(1,2,3-cd)pyrene	79	1600 D1	ug/Kg
Dibenzo(a,h)anthracene	37	730 D1	ug/Kg
Benzo(g,h,i)perylene	91	1700 D1	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	57	*	19-162
Date Prepared	02/26/03	02/26/03	
Date Analyzed	03/04/03 13:02	03/04/03 19:41	

MISCELLANEOUS	METHOD	MPT-283-SB-23	MPT-283-SB-24	Units
Percent Solids	SM2540G	86	90	%
Date Analyzed		02/25/03 12:00	02/25/03 12:00	

* = Surrogate recovery unavailable due to sample dilution.
U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:20 dilution.

ENCO LABORATORIES
REPORT # : JAX30002
DATE REPORTED: March 7, 2003
REFERENCE : N4195
PROJECT NAME : CTO 230 Tank 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-25			MPT-283-SB-26			Units
Naphthalene	86		D1	36	U	D3	ug/Kg
2-Methylnaphthalene	71		D1	36	U	D3	ug/Kg
1-Methylnaphthalene	71	U	D1	36	U	D3	ug/Kg
Acenaphthylene	71	U	D1	36	U	D3	ug/Kg
Acenaphthene	390		D1	140		D3	ug/Kg
Fluorene	430		D1	140		D3	ug/Kg
Phenanthrene	3600		D1	1300		D3	ug/Kg
Anthracene	860		D1	320		D3	ug/Kg
Fluoranthene	3900		D1	1700		D3	ug/Kg
Pyrene	2600		D1	1200		D3	ug/Kg
Chrysene	1200		D1	590		D3	ug/Kg
Benzo(a)anthracene	1000		D1	480		D3	ug/Kg
Benzo(b)fluoranthene	1700		D1	820		D3	ug/Kg
Benzo(k)fluoranthene	1000		D1	620		D3	ug/Kg
Benzo(a)pyrene	1400		D1	670		D3	ug/Kg
Indeno(1,2,3-cd)pyrene	1100		D1	580		D3	ug/Kg
Dibenzo(a,h)anthracene	450		D1	250		D3	ug/Kg
Benzo(g,h,i)perylene	1300		D1	660		D3	ug/Kg
Surrogate:	% RECOV			% RECOV			LIMITS
p-Terphenyl	*			*			19-162
Date Prepared	02/26/03			02/26/03			
Date Analyzed	03/04/03 20:02			03/04/03 20:24			

MISCELLANEOUS	METHOD	MPT-283-SB-25	MPT-283-SB-26	Units
Percent Solids	SM2540G	93	92	%
Date Analyzed		02/25/03 12:00	02/25/03 12:00	

* = Surrogate recovery unavailable due to sample dilution.
U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:20 dilution.
D3 = Analyte value determined from a 1:10 dilution.

ENCO LABORATORIES
REPORT # : JAX30002
DATE REPORTED: March 7, 2003
REFERENCE : N4195
PROJECT NAME : CTO 230 Tank 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-27			MPT-283-SB-28			Units
Naphthalene	36	U	D3	820		D4	ug/Kg
2-Methylnaphthalene	36	U	D3	760		D4	ug/Kg
1-Methylnaphthalene	36	U	D3	500		D4	ug/Kg
Acenaphthylene	36	U	D3	180	U	D4	ug/Kg
Acenaphthene	140		D3	2600		D4	ug/Kg
Fluorene	150		D3	2800		D4	ug/Kg
Phenanthrene	1300		D3	22000		D4	ug/Kg
Anthracene	310		D3	4300		D4	ug/Kg
Fluoranthene	1600		D3	25000		D4	ug/Kg
Pyrene	1100		D3	17000		D4	ug/Kg
Chrysene	580		D3	7100		D4	ug/Kg
Benzo(a)anthracene	470		D3	6000		D4	ug/Kg
Benzo(b)fluoranthene	980		D3	9800		D4	ug/Kg
Benzo(k)fluoranthene	400		D3	5400		D4	ug/Kg
Benzo(a)pyrene	680		D3	8700		D4	ug/Kg
Indeno(1,2,3-cd)pyrene	530		D3	6000		D4	ug/Kg
Dibenzo(a,h)anthracene	220		D3	3000		D4	ug/Kg
Benzo(g,h,i)perylene	590		D3	6000		D4	ug/Kg
Surrogate:	% RECOV			% RECOV			LIMITS
p-Terphenyl	*			*			19-162
Date Prepared	02/26/03			02/26/03			
Date Analyzed	03/04/03 20:46			03/04/03 21:07			

MISCELLANEOUS	METHOD	MPT-283-SB-27	MPT-283-SB-28	Units
Percent Solids	SM2540G	91	92	%
Date Analyzed		02/25/03 12:00	02/25/03 12:00	

* = Surrogate recovery unavailable due to sample dilution.
U = Compound was analyzed for but not detected to the level shown.
D3 = Analyte value determined from a 1:10 dilution.
D4 = Analyte value determined from a 1:50 dilution.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-29			MPT-283-SB-30		Units
Naphthalene	18	U	D2	3.8	U	ug/Kg
2-Methylnaphthalene	18	U	D2	3.8	U	ug/Kg
1-Methylnaphthalene	18	U	D2	3.8	U	ug/Kg
Acenaphthylene	18	U	D2	3.8	U	ug/Kg
Acenaphthene	90		D2	11		ug/Kg
Fluorene	90		D2	10		ug/Kg
Phenanthrene	690		D2	120		ug/Kg
Anthracene	170		D2	16		ug/Kg
Fluoranthene	800		D2	150		ug/Kg
Pyrene	530		D2	100		ug/Kg
Chrysene	280		D2	50		ug/Kg
Benzo(a)anthracene	230		D2	39		ug/Kg
Benzo(b)fluoranthene	400		D2	77		ug/Kg
Benzo(k)fluoranthene	230		D2	54		ug/Kg
Benzo(a)pyrene	320		D2	58		ug/Kg
Indeno(1,2,3-cd)pyrene	270		D2	6.4		ug/Kg
Dibenzo(a,h)anthracene	64		D2	24		ug/Kg
Benzo(g,h,i)perylene	300		D2	60		ug/Kg
Surrogate:	% RECOV			% RECOV		LIMITS
p-Terphenyl	*			60		19-162
Date Prepared	02/26/03			02/26/03		
Date Analyzed	03/04/03 21:29			03/04/03 15:34		

MISCELLANEOUS	METHOD	MPT-283-SB-29	MPT-283-SB-30	Units
Percent Solids	SM2540G	94	88	%
Date Analyzed		02/25/03 12:00	02/25/03 12:00	

* = Surrogate recovery unavailable due to sample dilution.
U = Compound was analyzed for but not detected to the level shown.
D2 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES
REPORT # : JAX30002
DATE REPORTED: March 7, 2003
REFERENCE : N4195
PROJECT NAME : CTO 230 Tank 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-31		MPT-283-SB-32	Units
Naphthalene	260	D4	3.6 U	ug/Kg
2-Methylnaphthalene	240	D4	3.6 U	ug/Kg
1-Methylnaphthalene	180 U	D4	3.6 U	ug/Kg
Acenaphthylene	180 U	D4	3.6 U	ug/Kg
Acenaphthene	1000	D4	7.2	ug/Kg
Fluorene	1000	D4	6.8	ug/Kg
Phenanthrene	8900	D4	87	ug/Kg
Anthracene	2000	D4	13	ug/Kg
Fluoranthene	10000	D4	130	ug/Kg
Pyrene	7200	D4	98	ug/Kg
Chrysene	3300	D4	50	ug/Kg
Benzo(a)anthracene	2900	D4	38	ug/Kg
Benzo(b)fluoranthene	4900	D4	78	ug/Kg
Benzo(k)fluoranthene	3600	D4	63	ug/Kg
Benzo(a)pyrene	3800	D4	61	ug/Kg
Indeno(1,2,3-cd)pyrene	3100	D4	59	ug/Kg
Dibenzo(a,h)anthracene	1400	D4	27	ug/Kg
Benzo(g,h,i)perylene	3400	D4	66	ug/Kg
Surrogate:	% RECOV		% RECOV	LIMITS
p-Terphenyl	*		57	19-162
Date Prepared	02/26/03		02/26/03	
Date Analyzed	03/04/03 21:51		03/04/03 16:17	

MISCELLANEOUS	METHOD	MPT-283-SB-31	MPT-283-SB-32	Units
Percent Solids	SM2540G	90	92	%
Date Analyzed		02/25/03 12:00	02/25/03 12:00	

* = Surrogate recovery unavailable due to sample dilution.
U = Compound was analyzed for but not detected to the level shown.
D4 = Analyte value determined from a 1:50 dilution.

ENCO LABORATORIES
REPORT # : JAX30002
DATE REPORTED: March 7, 2003
REFERENCE : N4195
PROJECT NAME : CTO 230 Tank 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-33	LAB BLANK	Units
Naphthalene	3.9 U	3.3 U	ug/Kg
2-Methylnaphthalene	3.9 U	3.3 U	ug/Kg
1-Methylnaphthalene	3.9 U	3.3 U	ug/Kg
Acenaphthylene	3.9 U	3.3 U	ug/Kg
Acenaphthene	3.9 U	3.3 U	ug/Kg
Fluorene	3.9 U	3.3 U	ug/Kg
Phenanthrene	3.9 U	3.3 U	ug/Kg
Anthracene	3.9 U	3.3 U	ug/Kg
Fluoranthene	3.9 U	3.3 U	ug/Kg
Pyrene	3.9 U	3.3 U	ug/Kg
Chrysene	3.9 U	3.3 U	ug/Kg
Benzo(a)anthracene	3.9 U	3.3 U	ug/Kg
Benzo(b)fluoranthene	3.9 U	3.3 U	ug/Kg
Benzo(k)fluoranthene	3.9 U	3.3 U	ug/Kg
Benzo(a)pyrene	3.9 U	3.3 U	ug/Kg
Indeno(1,2,3-cd)pyrene	3.9 U	3.3 U	ug/Kg
Dibenzo(a,h)anthracene	3.9 U	3.3 U	ug/Kg
Benzo(g,h,i)perylene	3.9 U	3.3 U	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	55	64	19-162
Date Prepared	02/26/03	02/26/03	
Date Analyzed	03/04/03 16:39	03/04/03 09:25	

MISCELLANEOUS	METHOD	MPT-283-SB-33	LAB BLANK	Units
Percent Solids	SM2540G	84	NA	%
Date Analyzed		02/25/03 12:00		

NA = Analysis not applicable for this sample.
U = Compound was analyzed for but not detected to the level shown.

CLIENT : Tetra Tech NUS
ADDRESS: 8640 Philips Highway
Suite 16
Jacksonville, FL 32256

REPORT # : JAX31729
DATE SUBMITTED: May 15, 2003
DATE REPORTED : June 1, 2003

ATTENTION: Mr. M. Peterson

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: 4195

Site 283

#1	- MPT-283-SB34(1)	@ 10:15	(05/15/03)
#2	- MPT-283-SB34(3)	@ 10:25	(05/15/03)
#3	- MPT-283-SB35(1)	@ 10:30	(05/15/03)
#4	- MPT-283-SB35(3)	@ 10:35	(05/15/03)
#5	- MPT-283-SB36(1)	@ 10:45	(05/15/03)
#6	- MPT-283-SB36(3)	@ 10:50	(05/15/03)
#7	- MPT-283-SB37(1)	@ 11:50	(05/15/03)
#8	- MPT-283-SB37(3)	@ 11:55	(05/15/03)
#9	- MPT-283-SB38(1)	@ 12:00	(05/15/03)
#10	- MPT-283-SB38(3)	@ 12:05	(05/15/03)
#11	- MPT-283-SB39(1)	@ 12:15	(05/15/03)
#12	- MPT-283-SB39(3)	@ 12:20	(05/15/03)
#13	- EQUIP 1	@ 10:00	(05/15/03)
#14	- EQUIP 2	@ 12:30	(05/15/03)
#15	- MPT-283-SB28(1)	@ 13:00	(05/18/03)

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 1999). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

Note: Analytical values are reported on a dry weight basis.

PROJECT MANAGER _____
Scott D. Martin

ENCO LABORATORIES
REPORT # : JAX31729
DATE REPORTED: June 1, 2003
REFERENCE : 4195
PROJECT NAME : Site 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB34(1)	MPT-283-SB34(3)	Units
Naphthalene	3.5 U	3.8 U	ug/Kg
2-Methylnaphthalene	3.5 U	3.8 U	ug/Kg
1-Methylnaphthalene	3.5 U	3.8 U	ug/Kg
Acenaphthylene	3.5 U	3.8 U	ug/Kg
Acenaphthene	3.5 U	3.8 U	ug/Kg
Fluorene	3.5 U	3.8 U	ug/Kg
Phenanthrene	3.5 U	3.8 U	ug/Kg
Anthracene	3.5 U	3.8 U	ug/Kg
Fluoranthene	**3.8**	**4.1**	ug/Kg
Pyrene	**3.5**	3.8 U	ug/Kg
Chrysene	3.5 U	3.8 U	ug/Kg
Benzo(a)anthracene	3.5 U	3.8 U	ug/Kg
Benzo(b)fluoranthene	3.5 U	3.8 U	ug/Kg
Benzo(k)fluoranthene	3.5 U	3.8 U	ug/Kg
Benzo(a)pyrene	**7.7**	3.8 U	ug/Kg
Indeno(1,2,3-cd)pyrene	3.5 U	3.8 U	ug/Kg
Dibenzo(a,h)anthracene	3.5 U	3.8 U	ug/Kg
Benzo(g,h,i)perylene	3.5 U	3.8 U	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	76	72	19-162
Date Prepared	05/16/03	05/16/03	
Date Analyzed	05/21/03 00:11	05/21/03 00:32	

MISCELLANEOUS	METHOD	MPT-283-SB34(1)	MPT-283-SB34(3)	Units
Percent Solids	SM2540G	**95**	**87**	%
Date Prepared		05/15/03 21:30	05/15/03 21:30	
Date Analyzed		05/16/03 14:30	05/16/03 14:30	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB35(1)	MPT-283-SB35(3)	Units
Naphthalene	3.5 U	3.9 U	ug/Kg
2-Methylnaphthalene	3.5 U	3.9 U	ug/Kg
1-Methylnaphthalene	3.5 U	3.9 U	ug/Kg
Acenaphthylene	3.5 U	3.9 U	ug/Kg
Acenaphthene	3.5 U	3.9 U	ug/Kg
Fluorene	3.5 U	3.9 U	ug/Kg
Phenanthrene	**14**	**8.9**	ug/Kg
Anthracene	**5.0**	**5.0**	ug/Kg
Fluoranthene	**27**	**19**	ug/Kg
Pyrene	**20**	**14**	ug/Kg
Chrysene	**17**	**9.6**	ug/Kg
Benzo(a)anthracene	**15**	**9.3**	ug/Kg
Benzo(b)fluoranthene	**32**	**16**	ug/Kg
Benzo(k)fluoranthene	**17**	**9.3**	ug/Kg
Benzo(a)pyrene	**26**	**16**	ug/Kg
Indeno(1,2,3-cd)pyrene	**26**	**16**	ug/Kg
Dibenzo(a,h)anthracene	3.5 U	3.9 U	ug/Kg
Benzo(g,h,i)perylene	**28**	**18**	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	72	73	19-162
Date Prepared	05/16/03	05/16/03	
Date Analyzed	05/21/03 00:54	05/21/03 01:15	

MISCELLANEOUS	METHOD	MPT-283-SB35(1)	MPT-283-SB35(3)	Units
Percent Solids	SM2540G	**93**	**85**	%
Date Prepared		05/15/03 21:30	05/15/03 21:30	
Date Analyzed		05/16/03 14:30	05/16/03 14:30	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB36(1)	MPT-283-SB36(3)	Units
Naphthalene	3.4 U	3.5 U	ug/Kg
2-Methylnaphthalene	3.4 U	3.5 U	ug/Kg
1-Methylnaphthalene	3.4 U	3.5 U	ug/Kg
Acenaphthylene	3.4 U	3.5 U	ug/Kg
Acenaphthene	3.4 U	3.5 U	ug/Kg
Fluorene	3.4 U	3.5 U	ug/Kg
Phenanthrene	3.4 U	3.5 U	ug/Kg
Anthracene	3.4 U	3.5 U	ug/Kg
Fluoranthene	**5.8**	3.5 U	ug/Kg
Pyrene	**4.8**	3.5 U	ug/Kg
Chrysene	3.4 U	3.5 U	ug/Kg
Benzo(a)anthracene	3.4 U	3.5 U	ug/Kg
Benzo(b)fluoranthene	**5.0**	3.5 U	ug/Kg
Benzo(k)fluoranthene	3.4 U	3.5 U	ug/Kg
Benzo(a)pyrene	**8.2**	3.5 U	ug/Kg
Indeno(1,2,3-cd)pyrene	**8.5**	3.5 U	ug/Kg
Dibenzo(a,h)anthracene	3.4 U	3.5 U	ug/Kg
Benzo(g,h,i)perylene	**10**	3.5 U	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	58	59	19-162
Date Prepared	05/16/03	05/16/03	
Date Analyzed	05/21/03 01:37	05/21/03 01:59	

MISCELLANEOUS	METHOD	MPT-283-SB36(1)	MPT-283-SB36(3)	Units
Percent Solids	SM2540G	**96**	**93**	%
Date Prepared		05/15/03 21:30	05/15/03 21:30	
Date Analyzed		05/16/03 14:30	05/16/03 14:30	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB37(1)	MPT-283-SB37(3)	Units
Naphthalene	3.4 U	3.6 U	ug/Kg
2-Methylnaphthalene	3.4 U	3.6 U	ug/Kg
1-Methylnaphthalene	3.4 U	3.6 U	ug/Kg
Acenaphthylene	**3.7**	**3.6**	ug/Kg
Acenaphthene	3.4 U	3.6 U	ug/Kg
Fluorene	3.4 U	3.6 U	ug/Kg
Phenanthrene	**17**	**15**	ug/Kg
Anthracene	**6.7**	**6.2**	ug/Kg
Fluoranthene	**39**	**32**	ug/Kg
Pyrene	**30**	**24**	ug/Kg
Chrysene	**23**	**18**	ug/Kg
Benzo(a)anthracene	**21**	**15**	ug/Kg
Benzo(b)fluoranthene	**45**	**31**	ug/Kg
Benzo(k)fluoranthene	**26**	**21**	ug/Kg
Benzo(a)pyrene	**34**	**25**	ug/Kg
Indeno(1,2,3-cd)pyrene	**36**	**24**	ug/Kg
Dibenzo(a,h)anthracene	3.4 U	3.6 U	ug/Kg
Benzo(g,h,i)perylene	**38**	**25**	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	57	56	19-162
Date Prepared	05/16/03	05/16/03	
Date Analyzed	05/21/03 02:20	05/21/03 02:42	

MISCELLANEOUS	METHOD	MPT-283-SB37(1)	MPT-283-SB37(3)	Units
Percent Solids	SM2540G	**98**	**91**	%
Date Prepared		05/15/03 21:30	05/15/03 21:30	
Date Analyzed		05/16/03 14:30	05/16/03 14:30	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB38(1)	MPT-283-SB38(3)	Units
Naphthalene	3.4 U	3.9 U	ug/Kg
2-Methylnaphthalene	3.4 U	3.9 U	ug/Kg
1-Methylnaphthalene	3.4 U	3.9 U	ug/Kg
Acenaphthylene	3.4 U	3.9 U	ug/Kg
Acenaphthene	3.4 U	3.9 U	ug/Kg
Fluorene	3.4 U	3.9 U	ug/Kg
Phenanthrene	3.4 U	3.9 U	ug/Kg
Anthracene	3.4 U	3.9 U	ug/Kg
Fluoranthene	**3.4**	3.9 U	ug/Kg
Pyrene	3.4 U	3.9 U	ug/Kg
Chrysene	3.4 U	3.9 U	ug/Kg
Benzo(a)anthracene	3.4 U	3.9 U	ug/Kg
Benzo(b)fluoranthene	3.4 U	3.9 U	ug/Kg
Benzo(k)fluoranthene	3.4 U	3.9 U	ug/Kg
Benzo(a)pyrene	3.4 U	3.9 U	ug/Kg
Indeno(1,2,3-cd)pyrene	3.4 U	3.9 U	ug/Kg
Dibenzo(a,h)anthracene	3.4 U	3.9 U	ug/Kg
Benzo(g,h,i)perylene	3.4 U	3.9 U	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	39	57	19-162
Date Prepared	05/16/03	05/16/03	
Date Analyzed	05/21/03 03:03	05/21/03 03:25	

MISCELLANEOUS	METHOD	MPT-283-SB38(1)	MPT-283-SB38(3)	Units
Percent Solids	SM2540G	**96**	**84**	%
Date Prepared		05/15/03 21:30	05/15/03 21:30	
Date Analyzed		05/16/03 14:30	05/16/03 14:30	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JAX31729
DATE REPORTED: June 1, 2003
REFERENCE : 4195
PROJECT NAME : Site 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB39(1)	MPT-283-SB39(3)	Units
Naphthalene	5.0	3.8 U	ug/Kg
2-Methylnaphthalene	5.0	3.8 U	ug/Kg
1-Methylnaphthalene	3.7	3.8 U	ug/Kg
Acenaphthylene	4.0	4.2	ug/Kg
Acenaphthene	17	14	ug/Kg
Fluorene	12	15	ug/Kg
Phenanthrene	180	170	ug/Kg
Anthracene	26	30	ug/Kg
Fluoranthene	220	210	ug/Kg
Pyrene	160	140	ug/Kg
Chrysene	110	98	ug/Kg
Benzo(a)anthracene	99	85	ug/Kg
Benzo(b)fluoranthene	200	140	ug/Kg
Benzo(k)fluoranthene	78	88	ug/Kg
Benzo(a)pyrene	120	110	ug/Kg
Indeno(1,2,3-cd)pyrene	110	88	ug/Kg
Dibenzo(a,h)anthracene	3.4 U	3.8 U	ug/Kg
Benzo(g,h,i)perylene	110	96	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	53	87	19-162
Date Prepared	05/16/03	05/16/03	
Date Analyzed	05/21/03 03:46	05/21/03 04:08	

MISCELLANEOUS	METHOD	MPT-283-SB39(1)	MPT-283-SB39(3)	Units
Percent Solids	SM2540G	98	86	%
Date Prepared		05/15/03 21:30	05/15/03 21:30	
Date Analyzed		05/16/03 14:30	05/16/03 14:30	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	EQUIP 1	EQUIP 2	Units
Naphthalene	0.10 U	0.10 U	ug/L
2-Methylnaphthalene	0.10 U	0.10 U	ug/L
1-Methylnaphthalene	0.10 U	0.10 U	ug/L
Acenaphthylene	0.10 U	0.10 U	ug/L
Acenaphthene	0.10 U	0.10 U	ug/L
Fluorene	0.10 U	0.10 U	ug/L
Phenanthrene	0.10 U	0.10 U	ug/L
Anthracene	0.10 U	0.10 U	ug/L
Fluoranthene	0.10 U	0.10 U	ug/L
Pyrene	0.10 U	0.10 U	ug/L
Chrysene	0.10 U	0.10 U	ug/L
Benzo(a)anthracene	0.10 U	0.10 U	ug/L
Benzo(b)fluoranthene	0.10 U	0.10 U	ug/L
Benzo(k)fluoranthene	0.10 U	0.10 U	ug/L
Benzo(a)pyrene	0.10 U	0.10 U	ug/L
Indeno(1,2,3-cd)pyrene	0.10 U	0.10 U	ug/L
Dibenzo(a,h)anthracene	0.10 U	0.10 U	ug/L
Benzo(g,h,i)perylene	0.10 U	0.10 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	66	64	20-148
Date Prepared	05/19/03	05/19/03	
Date Analyzed	05/20/03 19:08	05/20/03 19:29	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	LAB BLANK	Units
Naphthalene	0.10 U	ug/L
2-Methylnaphthalene	0.10 U	ug/L
1-Methylnaphthalene	0.10 U	ug/L
Acenaphthylene	0.10 U	ug/L
Acenaphthene	0.10 U	ug/L
Fluorene	0.10 U	ug/L
Phenanthrene	0.10 U	ug/L
Anthracene	0.10 U	ug/L
Fluoranthene	0.10 U	ug/L
Pyrene	0.10 U	ug/L
Chrysene	0.10 U	ug/L
Benzo(a)anthracene	0.10 U	ug/L
Benzo(b)fluoranthene	0.10 U	ug/L
Benzo(k)fluoranthene	0.10 U	ug/L
Benzo(a)pyrene	0.10 U	ug/L
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L
Dibenzo(a,h)anthracene	0.10 U	ug/L
Benzo(g,h,i)perylene	0.10 U	ug/L

Surrogate:	% RECOV	LIMITS
p-Terphenyl	66	20-148
Date Prepared	05/19/03	
Date Analyzed	05/20/03 17:20	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB28(1)	LAB BLANK	Units
Naphthalene	3.4 U	3.3 U	ug/Kg
2-Methylnaphthalene	3.4 U	3.3 U	ug/Kg
1-Methylnaphthalene	3.4 U	3.3 U	ug/Kg
Acenaphthylene	3.4 U	3.3 U	ug/Kg
Acenaphthene	**7.6**	3.3 U	ug/Kg
Fluorene	**7.2**	3.3 U	ug/Kg
Phenanthrene	**79**	3.3 U	ug/Kg
Anthracene	**18**	3.3 U	ug/Kg
Fluoranthene	**140**	3.3 U	ug/Kg
Pyrene	**100**	3.3 U	ug/Kg
Chrysene	**67**	3.3 U	ug/Kg
Benzo(a)anthracene	**70**	3.3 U	ug/Kg
Benzo(b)fluoranthene	**79**	3.3 U	ug/Kg
Benzo(k)fluoranthene	**48**	3.3 U	ug/Kg
Benzo(a)pyrene	**67**	3.3 U	ug/Kg
Indeno(1,2,3-cd)pyrene	**38**	3.3 U	ug/Kg
Dibenzo(a,h)anthracene	3.4 U	3.3 U	ug/Kg
Benzo(g,h,i)perylene	**41**	3.3 U	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	93	63	19-162
Date Prepared	05/21/03	05/16/03	
Date Analyzed	05/22/03 14:22	05/20/03 22:44	

MISCELLANEOUS	METHOD	MPT-283-SB28(1)	LAB BLANK	Units
Percent Solids	SM2540G	**96**	NA	%
Date Prepared		05/23/03 11:00		
Date Analyzed		05/23/03 19:00		

NA = Analysis not applicable for this sample.
U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	LAB BLANK	Units
Naphthalene	3.3 U	ug/Kg
2-Methylnaphthalene	3.3 U	ug/Kg
1-Methylnaphthalene	3.3 U	ug/Kg
Acenaphthylene	3.3 U	ug/Kg
Acenaphthene	3.3 U	ug/Kg
Fluorene	3.3 U	ug/Kg
Phenanthrene	3.3 U	ug/Kg
Anthracene	3.3 U	ug/Kg
Fluoranthene	3.3 U	ug/Kg
Pyrene	3.3 U	ug/Kg
Chrysene	3.3 U	ug/Kg
Benzo(a)anthracene	3.3 U	ug/Kg
Benzo(b)fluoranthene	3.3 U	ug/Kg
Benzo(k)fluoranthene	3.3 U	ug/Kg
Benzo(a)pyrene	3.3 U	ug/Kg
Indeno(1,2,3-cd)pyrene	3.3 U	ug/Kg
Dibenzo(a,h)anthracene	3.3 U	ug/Kg
Benzo(g,h,i)perylene	3.3 U	ug/Kg

Surrogate:	% RECOV	LIMITS
p-Terphenyl	79	19-162
Date Prepared	05/21/03	
Date Analyzed	05/22/03 13:39	

U = Compound was analyzed for but not detected to the level shown.

LABORATORY CERTIFICATIONS

Laboratory Certification: NELAC:E82277

All analyses reported with this project were analyzed by the facility indicated unless identified below.

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 8270				
Naphthalene	58/ 60/ 58	30-112	3	28
Acenaphthene	82/ 84/ 80	28-113	2	32
Benzo(a)pyrene	135/144/129	39-148	6	38
Benzo(g,h,i)perylene	84/100/ 88	20-130	17	43
Naphthalene	62/ 72/ 61	20-131	15	29
Acenaphthene	69/ 86/ 74	24-132	22	23
Benzo(a)pyrene	137/146/122	34-140	6	28
Benzo(g,h,i)perylene	152/183/116	31-152	18	21
Naphthalene	62/ 72/ 72	20-131	15	29
Acenaphthene	69/ 86/ 84	24-132	22	23
Benzo(a)pyrene	137/146/126	34-140	6	28
Benzo(g,h,i)perylene	152/183/104	31-152	18	21

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-54-3	Units
Naphthalene	35 U	ug/Kg
2-Methylnaphthalene	35 U	ug/Kg
1-Methylnaphthalene	35 U	ug/Kg
Acenaphthylene	35 U	ug/Kg
Acenaphthene	**110**	ug/Kg
Fluorene	**56**	ug/Kg
Phenanthrene	**1300**	ug/Kg
Anthracene	**140**	ug/Kg
Fluoranthene	**1700**	ug/Kg
Pyrene	**1200**	ug/Kg
Chrysene	**720**	ug/Kg
Benzo(a)anthracene	**540**	ug/Kg
Benzo(b)fluoranthene	**850**	ug/Kg
Benzo(k)fluoranthene	**380**	ug/Kg
Benzo(a)pyrene	**500**	ug/Kg
Indeno(1,2,3-cd)pyrene	**290**	ug/Kg
Dibenzo(a,h)anthracene	**100**	ug/Kg
Benzo(g,h,i)perylene	**330**	ug/Kg
Surrogate:	**% RECOV**	**LIMITS**
p-Terphenyl	92	19-162
Date Prepared	03/26/04	
Date Analyzed	03/27/04 22:47	

Miscellaneous	METHOD	MPT-283-SB-54-3	Units
Percent Solids	WETS/72	**94**	%
Date Prepared		03/30/04	
Date Analyzed		03/31/04 11:00	

U = Compound was analyzed for but not detected to the level shown.

CLIENT : Tetra Tech NUS
ADDRESS: 8640 Philips Highway
Suite 16
Jacksonville, FL 32256

REPORT # : JAX38278
DATE SUBMITTED: March 22, 2004
DATE REPORTED : March 29, 2004

ATTENTION: Mr. M. Peterson

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: 4195

Site 283

03/22/04

JAX38278-1 : MPT-283-SB-44-3 @ 12:45
JAX38278-2 : MPT-283-SB-45-3 @ 13:00
JAX38278-3 : MPT-283-SB-46-3 @ 13:15
JAX38278-4 : MPT-283-SB-47-3 @ 13:30
JAX38278-5 : MPT-283-SB-48-3 @ 13:45

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (May, 2001). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

Note: Analytical values are reported on a dry weight basis.

PROJECT MANAGER _____
Scott D. Martin

ENCO LABORATORIES
REPORT # : JAX38278
DATE REPORTED: March 29, 2004
REFERENCE : 4195
PROJECT NAME : Site 283

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-44-3	MPT-283-SB-45-3	Units
Benzo(a)anthracene	**260**	**91**	ug/Kg
Benzo(b)fluoranthene	**350**	**100**	ug/Kg
Benzo(a)pyrene	**200**	**49**	ug/Kg
Indeno(1,2,3-cd)pyrene	**87**	38 U	ug/Kg
Dibenzo(a,h)anthracene	36 U	38 U	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	105	110	19-162
Date Prepared	03/24/04	03/24/04	
Date Analyzed	03/26/04 14:36	03/26/04 16:04	

Miscellaneous	METHOD	MPT-283-SB-44-3	MPT-283-SB-45-3	Units
Percent Solids	WETS/72	**92**	**88**	%
Date Prepared		03/23/04	03/23/04	
Date Analyzed		03/24/04 11:00	03/24/04 11:00	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-46-3	MPT-283-SB-47-3	Units
Benzo(a)anthracene	35 U	36 U	ug/Kg
Benzo(b)fluoranthene	35 U	36 U	ug/Kg
Benzo(a)pyrene	35 U	36 U	ug/Kg
Indeno(1,2,3-cd)pyrene	35 U	36 U	ug/Kg
Dibenzo(a,h)anthracene	35 U	36 U	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	94	95	19-162
Date Prepared	03/24/04	03/24/04	
Date Analyzed	03/26/04 16:33	03/26/04 18:17	

Miscellaneous	METHOD	MPT-283-SB-46-3	MPT-283-SB-47-3	Units
Percent Solids	WETS/72	**94**	**93**	%
Date Prepared		03/23/04	03/23/04	
Date Analyzed		03/24/04 11:00	03/24/04 11:00	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-48-3	LAB BLANK	Units
Benzo(a)anthracene	35 U	33 U	ug/Kg
Benzo(b)fluoranthene	35 U	33 U	ug/Kg
Benzo(a)pyrene	35 U	33 U	ug/Kg
Indeno(1,2,3-cd)pyrene	35 U	33 U	ug/Kg
Dibenzo(a,h)anthracene	35 U	33 U	ug/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	96	99	19-162
Date Prepared	03/24/04	03/24/04	
Date Analyzed	03/26/04 18:44	03/26/04 12:43	

Miscellaneous	METHOD	MPT-283-SB-48-3	LAB BLANK	Units
Percent Solids	WETS/72	**95**	NA	%
Date Prepared		03/23/04		
Date Analyzed		03/24/04 11:00		

NA = Analysis not applicable for this sample.
U = Compound was analyzed for but not detected to the level shown.

LABORATORY CERTIFICATIONS

Laboratory Certification: NELAC:E82277

All analyses reported with this project were analyzed by the facility indicated unless identified below.

QUALITY CONTROL DATA

Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS
EPA Method 8270					
Naphthalene	82/ 81/ 79	48-88	20-131	2	29
Acenaphthene	80/ 77/ 76	57-96	24-132	1	23
Benzo(a)pyrene	62/ 82/ 84	37-134	34-140	2	28
Benzo(g,h,i)perylene	52/ 70/ 71	11-145	31-152	1	21

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. PETERSON**	**DATE:**	**MARCH 3, 2004**
FROM:	**SETH C. STAFFEN**	**COPIES:**	**DV FILE**
SUBJECT:	**ORGANIC DATA VALIDATION – PAH** **CTO 230, NS MAYPORT** **SDG: 36653**		
SAMPLES:	4/SOIL BORINGS/PAH		

MPT-283-SB40-3 MPT-283-SB41-3
MPT-283-SB42-3 MPT-283-SB43-3

OVERVIEW

The sample set for CTO 230, SDG 36653; Naval Station (NS) Mayport consists of four (4) soil boring environmental samples. The samples were analyzed for select polynuclear aromatic hydrocarbons. No field duplicate pairs were included in this SDG.

The samples were collected on January 14th, 2004 Tetra Tech NUS, Inc. and analyzed by ENCO Laboratories. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW 846 Method 8270-SIM analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
• Initial/Continuing Calibrations
* • Laboratory Method Blank Results
• Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

PAH FRACTION

The continuing calibration on 1/20/04 at 1327 contained percent differences (%Ds) that exceeded the 25% quality control limit for indeno(1,2,3-cd)pyrene and dibenzo(a,h)anthracene. No qualification action was taken because the exceedances were less than 90%.

ADDITIONAL COMMENTS

Samples MPT-283-SB40-3, MPT-283-SB41-3, and MPT-283-SB43-3 were analyzed at a 10X dilution. Sample MPT-283-SB42-3 was analyzed at a 100X dilution. The dilution caused elevated reporting limits for nondetected PAHs.

The laboratory reported only five PAHs on the Form Is and 18 PAHs on the EDD. According to the statement of work, the laboratory should have reported 18 PAHs on the Form Is. Per conversations with the ENCO and the project office, it was confirmed that only 5 PAHs were to be reported. The EDD was amended to list only the 5 PAHs.

EXECUTIVE SUMMARY

Laboratory Performance: Continuing calibration (%D) noncompliances were noted.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the NFESC guidelines "Navy IRCDQM" (September 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Seth C. Staffen

Environmental Scientist/Data Validator
Tetra Tech NUS

Joseph A. Samchuck

Data Validation Quality Assurance Officer
TetraTech NUS

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's r < 0.995
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient r < 0.995
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 4195

SDG: 36653 MEDIA: SOIL DATA FRACTION: PAH

nsample	MPT-283-SB40-3	nsample	MPT-283-SB41-3	nsample	MPT-283-SB42-3
samp_date	1/14/2004	samp_date	1/14/2004	samp_date	1/14/2004
lab_id	JAX36653-1	lab_id	JAX36653-2	lab_id	JAX36653-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG	units	UG/KG
Pct_Solids	88.0	Pct_Solids	90.0	Pct_Solids	92.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)ANTHRACENE	950		
BENZO(A)PYRENE	720		
BENZO(B)FLUORANTHENE	830		
DIBENZO(A,H)ANTHRACENE	260		
INDENO(1,2,3-CD)PYRENE	740		

Parameter	Result	Val Qual	Qual Code
BENZO(A)ANTHRACENE	1600		
BENZO(A)PYRENE	1100		
BENZO(B)FLUORANTHENE	1200		
DIBENZO(A,H)ANTHRACENE	120		
INDENO(1,2,3-CD)PYRENE	1100		

Parameter	Result	Val Qual	Qual Code
BENZO(A)ANTHRACENE	9800		
BENZO(A)PYRENE	8000		
BENZO(B)FLUORANTHENE	10000		
DIBENZO(A,H)ANTHRACENE	2200		
INDENO(1,2,3-CD)PYRENE	5400		

PROJ_NO: 4195

SDG: 36653 MEDIA: SOIL DATA FRACTION: PAH

nsample	MPT-283-SB43-3
samp_date	1/14/2004
lab_id	JAX36653-4
qc_type	NM
units	UG/KG
Pct_Solids	91.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZO(A)ANTHRACENE	36	U	
BENZO(A)PYRENE	36	U	
BENZO(B)FLUORANTHENE	36	U	
DIBENZO(A,H)ANTHRACENE	36	U	
INDENO(1,2,3-CD)PYRENE	36	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	MPT-283-SB-49-3	Units
Naphthalene	35 U	ug/Kg
2-Methylnaphthalene	35 U	ug/Kg
1-Methylnaphthalene	35 U	ug/Kg
Acenaphthylene	35 U	ug/Kg
Acenaphthene	**110**	ug/Kg
Fluorene	**56**	ug/Kg
Phenanthrene	**1300**	ug/Kg
Anthracene	**140**	ug/Kg
Fluoranthene	**1700**	ug/Kg
Pyrene	**1200**	ug/Kg
Chrysene	**720**	ug/Kg
Benzo(a)anthracene	**540**	ug/Kg
Benzo(b)fluoranthene	**850**	ug/Kg
Benzo(k)fluoranthene	**380**	ug/Kg
Benzo(a)pyrene	**500**	ug/Kg
Indeno(1,2,3-cd)pyrene	**290**	ug/Kg
Dibenzo(a,h)anthracene	**100**	ug/Kg
Benzo(g,h,i)perylene	**330**	ug/Kg

Surrogate:	% RECOV	LIMITS
p-Terphenyl	92	19-162
Date Prepared	03/26/04	
Date Analyzed	03/27/04 22:47	

Miscellaneous	METHOD	MPT-283-SB-49-3	Units
Percent Solids	WETS/72	**94**	%
Date Prepared		03/30/04	
Date Analyzed		03/31/04 11:00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JAX38346
DATE REPORTED: March 31, 2004
REFERENCE : 4195
PROJECT NAME : Site 283

APPENDIX C

FLUCL CALCULATIONS

Appendix C
Table C - 1

Summary of FL UCL Analysis at Site 283

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound	Direct Exposure Residential[1] (mg/kg)	Commercial/ Industrial[1] (mg/kg)	Leachability Based Criteria[1] (mg/kg)	Site 283 3ft Data - FL UCL Recommendation (mg/kg)
Naphthalene	40	270	1.7	0.690
2-Methylnaphthalene	80	560	6.1	0.685
1-Methylnaphthalene	68	470	2.2	0.669
Acenaphthylene	1100	11000	27	1.119
Acenaphthene	1900	18000	2.1	0.852
Anthracene	18000	260000	2500	1.110
Fluorene	2200	28000	160	0.724
Benzo(a)anthracene	1.4	5	3.2	2.341
Benzo(a)pyrene	0.1	0.5	8	2.224
Benzo(b)fluoranthene	1.4	4.8	10	2.719
Benzo(g,h,i)perylene	2300	41000	32000	1.711
Benzo(k)fluoranthene	15	52	25	1.644
Chrysene	140	450	77	2.254
Dibenzo(a,h)anthracene	0.1	0.5	30	0.680
Fluoranthene	2900	48000	1200	6.915
Indeno(1,2,3-cd)pyrene	1.5	5.3	28	1.535
Phenanthrene	2000	30000	250	6.087
Pyrene	2200	37000	880	4.619

Notes:

[1]Chapter 62-770, Florida Administrative Code (FAC) (April 30, 1999) was used in the evaluation of this data.

Appendix C
Table C - 2

3FT SUBSURFACE SOIL EXCEEDANCES

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Compound

Sample ID	Naphthalene	2-Methylnaphthalene	Acenaphthene	Anthracene	Fluorene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
SB-10				X		X	X		X	X	X	X	X	X	X	X
SB-13						X	X		X		X		X	X	X	X
SB-16						X					X		X		X	X
SB-19				X	X	X	X	X	X	X	X	X	X	X	X	X
SB-22												X				
SB-24										X		X		X		
SB-28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SB-29										X	X					
SB-31			X	X	X	X	X	X	X	X	X	X	X	X	X	X
SB-42						X	X	X				X		X		
SB-50						X	X	X				X		X		

Notes:
1 "X" indicates a exceedance of FL UCL recommendation for the respective compound.

Appendix C
Table C-3
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound									
			Naphthalene (mg/kg)		2-Methylnaphthalene (mg/kg)		1-Methylnaphthalene (mg/kg)		Acenaphthylene (mg/kg)		Acenaphthene (mg/kg)	
SB-10	7/10/2002	3ft	1.9	U	1.9	U	1.9	U	3.8	U	3.8	U
SB-13	10/3/2002	3ft	2	U	2	U	2	U	2	U	2	U
SB-14	10/3/2002	3ft	0.42	U	0.42	U	0.42	U	0.84	U	0.84	U
SB-15	10/3/2002	3ft	0.4	U	0.4	U	0.4	U	0.81	U	0.81	U
SB-16	10/3/2002	3ft	2.1	U	2.1	U	2.1	U	4.2	U	4.2	U
SB-17	2/24/2003	3ft	0.0037	U	0.0037	U	0.0037	U	0.0037	U	0.0037	U
SB-18	2/24/2003	3ft	0.011		0.01		0.0077		0.0037	U	0.034	
SB-19	2/24/2003	3ft	0.2		0.19		0.14		0.073	U	0.84	
SB-20	2/24/2003	3ft	0.018	U	0.018	U	0.018	U	0.018	U	0.048	
SB-21	2/24/2003	3ft	0.02		0.02		0.018	U	0.018	U	0.089	
SB-22	2/24/2003	3ft	0.18		0.14		0.088		0.072	U	0.59	
SB-23	2/24/2003	3ft	0.0038	U	0.0038	U	0.0038	U	0.0038	U	0.012	
SB-24	2/24/2003	3ft	0.096		0.096		0.080		0.073	U	0.44	
SB-25	2/24/2003	3ft	0.086		0.071		0.071	U	0.071	U	0.39	
SB-26	2/24/2003	3ft	0.036	U	0.036	U	0.036	U	0.036	U	0.14	
SB-27	2/24/2003	3ft	0.036	U	0.036	U	0.036	U	0.036	U	0.14	
SB-28	5/18/2003	1ft	0.0034	U	0.0034	U	0.0034	U	0.0034	U	0.0076	
SB-28	2/24/2003	3ft	0.82		0.76		0.50		0.18	U	2.60	
SB-29	2/24/2003	3ft	0.02	U	0.02	U	0.02	U	0.02	U	0.09	
SB-30	2/24/2003	3ft	0.00	U	0.00	U	0.00	U	0.00	U	0.01	
SB-31	2/24/2003	3ft	0.26		0.24		0.18	U	0.18	U	1.00	
SB-32	2/24/2003	3ft	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0072	
SB-33	2/24/2003	3ft	0.0039	U	0.0039	U	0.0039	U	0.0039	U	0.0039	U
SB-34	5/15/2003	1ft	0.0035	U	0.0035	U	0.0035	U	0.0035	U	0.0035	U
SB-34	5/15/2003	3ft	0.00	U	0.00	U	0.00	U	0.00	U	0.00	U
SB-35	5/15/2003	1ft	0.0035	U	0.0035	U	0.0035	U	0.0035	U	0.0035	U
SB-35	5/15/2003	3ft	0.0039	U	0.0039	U	0.0039	U	0.0039	U	0.0039	U
SB-36	5/15/2003	1ft	0.0034	U	0.0034	U	0.0034	U	0.0034	U	0.0034	U
SB-36	5/15/2003	3ft	0.0035	U	0.0035	U	0.0035	U	0.0035	U	0.0035	U
SB-37	5/15/2003	1ft	0.0034	U	0.0034	U	0.0034	U	0.0037		0.0034	U
SB-37	5/15/2003	3ft	0.0036	U	0.0036	U	0.0036	U	0.0036		0.0036	U

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound									
			Naphthalene (mg/kg)		2-Methylnaphthalene (mg/kg)		1-Methylnaphthalene (mg/kg)		Acenaphthylene (mg/kg)		Acenaphthene (mg/kg)	
SB-38	5/15/2003	1ft	0.0034	U	0.0034	U	0.0034	U	0.0034	U	0.0034	U
SB-38	5/15/2003	3ft	0.0039	U	0.0039	U	0.0039	U	0.0039	U	0.0039	U
SB-39	5/15/2003	1ft	0.005		0.005		0.0037		0.004		0.0017	
SB-39	5/15/2003	3ft	0.0038	U	0.0038	U	0.0038	U	0.0042		0.0014	
SB-40	1/14/2004	3ft	NA		NA		NA		NA		NA	
SB-41	1/14/2004	3ft	NA		NA		NA		NA		NA	
SB-42	1/14/2004	3ft	NA		NA		NA		NA		NA	
SB-43	1/14/2004	3ft	NA		NA		NA		NA		NA	
SB-44	3/22/2004	3ft	NA		NA		NA		NA		NA	
SB-45	3/22/2004	3ft	NA		NA		NA		NA		NA	
SB-46	3/22/2004	3ft	NA		NA		NA		NA		NA	
SB-47	3/22/2004	3ft	NA		NA		NA		NA		NA	
SB-48	3/22/2004	3ft	NA		NA		NA		NA		NA	
SB-49	3/22/2004	3ft	NA		NA		NA		NA		NA	
SB-50	9/24/2004	1ft	NA		NA		NA		NA		NA	
SB-50	9/24/2004	3ft	NA		NA		NA		NA		NA	
SB-51	9/24/2004	1ft	NA		NA		NA		NA		NA	
SB-51	9/24/2004	3ft	NA		NA		NA		NA		NA	
SB-52	9/24/2004	1ft	NA		NA		NA		NA		NA	
SB-52	9/24/2004	3ft	NA		NA		NA		NA		NA	
SB-53	9/24/2004	1ft	NA		NA		NA		NA		NA	
SB-53	9/24/2004	3ft	NA		NA		NA		NA		NA	
SB-54	2/10/2004	1ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
SB-54	2/10/2004	3ft	0.036	U	0.036	U	0.036	U	0.036	U	0.036	U
SB-55	2/10/2004	1ft	0.034	U	0.034	U	0.034	U	0.034	U	0.034	U
SB-55	2/10/2004	3ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
SB-56	2/10/2004	1ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
SB-56	2/10/2004	3ft	0.036	U	0.036	U	0.036	U	0.036	U	0.036	U
SB-57	2/10/2004	1ft	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U
SB-57	2/10/2004	3ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound									
			Naphthalene (mg/kg)		2-Methylnaphthalene (mg/kg)		1-Methylnaphthalene (mg/kg)		Acenaphthylene (mg/kg)		Acenaphthene (mg/kg)	
SB-58	2/10/2004	1ft	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U
SB-58	2/10/2004	3ft	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U
SB-59	2/10/2004	1ft	0.052	U	0.052	U	0.052	U	0.052	U	0.052	U
SB-59	2/10/2004	3ft	0.051	U	0.051	U	0.051	U	0.051	U	0.051	U
SB-60	2/10/2004	1ft	NA		NA		NA		NA		NA	
SB-60	2/10/2004	3ft	NA		NA		NA		NA		NA	
SB-61	2/10/2004	1ft	NA		NA		NA		NA		NA	
SB-61	2/10/2004	3ft	NA		NA		NA		NA		NA	
SB-62	4/1/2005	1ft	NA		NA		NA		NA		NA	
SB-62	4/1/2005	3ft	NA		NA		NA		NA		NA	

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound									
			Anthracene (mg/kg)		Fluorene (mg/kg)		Benzo(a)anthracene (mg/kg)		Benzo(a)pyrene (mg/kg)		Benzo(b)fluoran-thene (mg/kg)	
SB-10	7/10/2002	3ft	1.74		1.9	U	3.49		3.37		2.39	
SB-13	10/3/2002	3ft	2	U	2	U	3.99		2.34		1.63	
SB-14	10/3/2002	3ft	0.285		0.304		0.918		0.626		0.427	
SB-15	10/3/2002	3ft	0.4	U	0.4	U	0.4	U	0.081	U	0.081	U
SB-16	10/3/2002	3ft	2.1	U	2.1	U	3.01		1.78		1.22	
SB-17	2/24/2003	3ft	0.0037	U	0.0037	U	0.0037		0.006		0.0063	
SB-18	2/24/2003	3ft	0.051		0.032		0.11		0.17		0.2	
SB-19	2/24/2003	3ft	1.4		0.84		2.4		3.6		3.8	
SB-20	2/24/2003	3ft	0.096		0.048		0.19		0.32		0.4	
SB-21	2/24/2003	3ft	0.17		0.094		0.23		0.33		0.36	
SB-22	2/24/2003	3ft	0.77		0.66		1.4		1.9		2.6	
SB-23	2/24/2003	3ft	0.019		0.01		0.049		0.076		0.095	
SB-24	2/24/2003	3ft	0.82		0.40		1.30		2.00		2.70	
SB-25	2/24/2003	3ft	0.86		0.43		1.00		1.40		1.70	
SB-26	2/24/2003	3ft	0.32		0.14		0.48		0.67		0.82	
SB-27	2/24/2003	3ft	0.31		0.15		0.47		0.68		0.98	
SB-28	5/18/2003	1ft	0.018		0.0072		0.07		0.067		0.079	
SB-28	2/24/2003	3ft	4.30		2.80		6.00		8.70		9.80	
SB-29	2/24/2003	3ft	0.17		0.09		0.23		0.32		0.40	
SB-30	2/24/2003	3ft	0.02		0.01		0.04		0.06		0.08	
SB-31	2/24/2003	3ft	2.00		1.00		2.90		3.80		4.90	
SB-32	2/24/2003	3ft	0.013		0.0068		0.038		0.061		0.078	
SB-33	2/24/2003	3ft	0.0039	U	0.0039	U	0.0039	U	0.0039	U	0.0039	U
SB-34	5/15/2003	1ft	0.0035	U	0.0035	U	0.0035	U	0.0077		0.0035	U
SB-34	5/15/2003	3ft	0.00	U	0.00	U	0.0038	U	0.00	U	0.00	U
SB-35	5/15/2003	1ft	0.005		0.005		0.015		0.026		0.032	
SB-35	5/15/2003	3ft	0.005		0.039	U	0.0093		0.016		0.016	
SB-36	5/15/2003	1ft	0.0034	U	0.0034	U	0.0034	U	0.0082		0.005	
SB-36	5/15/2003	3ft	0.0035	U	0.0035	U	0.0035	U	0.0035	U	0.0035	U
SB-37	5/15/2003	1ft	0.0067		0.0034	U	0.021		0.034		0.045	
SB-37	5/15/2003	3ft	0.0062		0.0036	U	0.015		0.025		0.031	

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound									
			Anthracene (mg/kg)		Fluorene (mg/kg)		Benzo(a)anthracene (mg/kg)		Benzo(a)pyrene (mg/kg)		Benzo(b)fluoran-thene (mg/kg)	
SB-38	5/15/2003	1ft	0.0034	U	0.0034	U	0.0034	U	0.0034	U	0.0034	U
SB-38	5/15/2003	3ft	0.0039	U	0.0039	U	0.0039	U	0.0039	U	0.0039	U
SB-39	5/15/2003	1ft	0.026		0.012		0.099		0.12		0.2	
SB-39	5/15/2003	3ft	0.03		0.015		0.085		0.11		0.14	
SB-40	1/14/2004	3ft	NA		NA		0.95		0.72		0.86	
SB-41	1/14/2004	3ft	NA		NA		1.6		1.1		1.2	
SB-42	1/14/2004	3ft	NA		NA		9.8		8		10	
SB-43	1/14/2004	3ft	NA		NA		0.036	U	0.036	U	0.036	U
SB-44	3/22/2004	3ft	NA		NA		0.26		0.2		0.35	
SB-45	3/22/2004	3ft	NA		NA		0.091		0.049		0.1	
SB-46	3/22/2004	3ft	NA		NA		0.035	U	0.035	U	0.035	U
SB-47	3/22/2004	3ft	NA		NA		0.036	U	0.036	U	0.036	U
SB-48	3/22/2004	3ft	NA		NA		0.035	U	0.035	U	0.035	U
SB-49	3/22/2004	3ft	NA		NA		0.54		0.5		0.85	
SB-50	9/24/2004	1ft	NA		NA		0.056		0.049		0.077	
SB-50	9/24/2004	3ft	NA		NA		6.70		3.70		7.60	
SB-51	9/24/2004	1ft	NA		NA		0.056		0.039		0.063	
SB-51	9/24/2004	3ft	NA		NA		0.11		0.072		0.11	
SB-52	9/24/2004	1ft	NA		NA		NS		NS		NS	
SB-52	9/24/2004	3ft	NA		NA		NS		NS		NS	
SB-53	9/24/2004	1ft	NA		NA		0.036		0.036		0.036	
SB-53	9/24/2004	3ft	NA		NA		0.84		0.64		0.94	
SB-54	2/10/2004	1ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
SB-54	2/10/2004	3ft	0.041		0.036	U	0.23		0.20		0.32	
SB-55	2/10/2004	1ft	0.034	U	0.034	U	0.034	U	0.034	U	0.034	U
SB-55	2/10/2004	3ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
SB-56	2/10/2004	1ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
SB-56	2/10/2004	3ft	0.036	U	0.036	U	0.076		0.057		0.09	
SB-57	2/10/2004	1ft	0.037	U	0.037	U	0.041		0.037		0.059	
SB-57	2/10/2004	3ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound									
			Anthracene (mg/kg)		Fluorene (mg/kg)		Benzo(a)anthracene (mg/kg)		Benzo(a)pyrene (mg/kg)		Benzo(b)fluoran-thene (mg/kg)	
SB-58	2/10/2004	1ft	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U
SB-58	2/10/2004	3ft	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U
SB-59	2/10/2004	1ft	0.052	U	0.052	U	0.052	U	0.052	U	0.052	U
SB-59	2/10/2004	3ft	0.051	U	0.051	U	0.051	U	0.051	U	0.051	U
SB-60	2/10/2004	1ft	NA		NA		NA		NA		NA	
SB-60	2/10/2004	3ft	NA		NA		NA		NA		NA	
SB-61	2/10/2004	1ft	NA		NA		NA		NA		NA	
SB-61	2/10/2004	3ft	NA		NA		NA		NA		NA	
SB-62	4/1/2005	1ft	NA		NA		0.036	U	0.036	U	0.046	
SB-62	4/1/2005	3ft	NA		NA		0.042	U	0.042	U	0.042	U

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound									
			Benzo(g,h,i)perylene (mg/kg)		Benzo(k)fluoranthene (mg/kg)		Chrysene (mg/kg)		Dibenzo(a,h)anthracene (mg/kg)		Fluoranthene (mg/kg)	
SB-10	7/10/2002	3ft	2.07		1.67		4.17		0.854		13.2	
SB-13	10/3/2002	3ft	1.96		1.36		3.32		0.408		9.8	
SB-14	10/3/2002	3ft	0.576		0.354		0.898		0.111		2.37	
SB-15	10/3/2002	3ft	0.081	U	0.081	U	0.4	U	0.081	U	0.4	U
SB-16	10/3/2002	3ft	1.32		1.01		2.73		0.331		7.58	
SB-17	2/24/2003	3ft	0.001		0.004		0.004		0.0037	U	0.011	
SB-18	2/24/2003	3ft	0.19		0.11		0.14		0.087		0.47	
SB-19	2/24/2003	3ft	2.7		2.7		3.1		1.3		9.1	
SB-20	2/24/2003	3ft	0.3		0.26		0.27		0.12		0.79	
SB-21	2/24/2003	3ft	0.3		0.33		0.31		0.13		0.94	
SB-22	2/24/2003	3ft	1.6		1.4		1.8		0.72		5.9	
SB-23	2/24/2003	3ft	0.091		0.06		0.064		0.037		0.16	
SB-24	2/24/2003	3ft	1.70		1.80		1.80		0.73		5.10	
SB-25	2/24/2003	3ft	1.30		1.00		1.20		0.45		3.90	
SB-26	2/24/2003	3ft	0.66		0.62		0.59		0.25		1.70	
SB-27	2/24/2003	3ft	0.59		0.40		0.58		0.22		1.60	
SB-28	5/18/2003	1ft	0.041		0.048		0.067		0.0034	U	0.140	
SB-28	2/24/2003	3ft	6.00		5.40		7.10		3.00		25.00	
SB-29	2/24/2003	3ft	0.30		2.30		2.80		0.06		0.80	
SB-30	2/24/2003	3ft	0.06		0.05		0.05		0.02		0.15	
SB-31	2/24/2003	3ft	3.40		3.60		3.30		1.40		10.00	
SB-32	2/24/2003	3ft	0.066		0.063		0.05		0.027		0.13	
SB-33	2/24/2003	3ft	0.0039	U	0.0039	U	0.0039	U	0.0039	U	0.0039	U
SB-34	5/15/2003	1ft	0.0035	U	0.0035	U	0.0035	U	0.0035	U	0.0038	
SB-34	5/15/2003	3ft	0.00	U	0.00	U	0.00	U	0.00	U	0.0041	
SB-35	5/15/2003	1ft	0.028		0.017		0.017		0.0035	U	0.027	
SB-35	5/15/2003	3ft	0.018		0.0093		0.0096		0.0039	U	0.019	
SB-36	5/15/2003	1ft	0.001		0.0034	U	0.0034	U	0.0034	U	0.0058	
SB-36	5/15/2003	3ft	0.0035	U	0.0035	U	0.0035	U	0.0035	U	0.0035	U
SB-37	5/15/2003	1ft	0.038		0.026		0.023		0.0034	U	0.039	
SB-37	5/15/2003	3ft	0.025		0.021		0.018		0.0036	U	0.032	

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound									
			Benzo(g,h,i)perylene (mg/kg)		Benzo(k)fluoranthene (mg/kg)		Chrysene (mg/kg)		Dibenzo(a,h)anthracene (mg/kg)		Fluoranthene (mg/kg)	
SB-38	5/15/2003	1ft	0.0034	U	0.0034	U	0.0034	U	0.0034	U	0.0034	
SB-38	5/15/2003	3ft	0.0039	U	0.0039	U	0.0039	U	0.0039	U	0.0039	U
SB-39	5/15/2003	1ft	0.11		0.078		0.11		0.0034	U	0.22	
SB-39	5/15/2003	3ft	0.096		0.088		0.098		0.0038	U	0.21	
SB-40	1/14/2004	3ft	NA		NA		NA		0.26		NA	
SB-41	1/14/2004	3ft	NA		NA		NA		0.12		NA	
SB-42	1/14/2004	3ft	NA		NA		NA		2.2		NA	
SB-43	1/14/2004	3ft	NA		NA		NA		0.036	U	NA	
SB-44	3/22/2004	3ft	NA		NA		NA		0.036	U	NA	
SB-45	3/22/2004	3ft	NA		NA		NA		0.038	U	NA	
SB-46	3/22/2004	3ft	NA		NA		NA		0.035	U	NA	
SB-47	3/22/2004	3ft	NA		NA		NA		0.036	U	NA	
SB-48	3/22/2004	3ft	NA		NA		NA		0.035	U	NA	
SB-49	3/22/2004	3ft	NA		NA		NA		0.1		NA	
SB-50	9/24/2004	1ft	NA		NA		NA		0.035	U	NA	
SB-50	9/24/2004	3ft	NA		NA		NA		0.77		NA	
SB-51	9/24/2004	1ft	NA		NA		NA		0.035	U	NA	
SB-51	9/24/2004	3ft	NA		NA		NA		0.038	U	NA	
SB-52	9/24/2004	1ft	NA		NA		NA		NS		NA	
SB-52	9/24/2004	3ft	NA		NA		NA		NS		NA	
SB-53	9/24/2004	1ft	NA		NA		NA		0.036		NA	
SB-53	9/24/2004	3ft	NA		NA		NA		0.12		NA	
SB-54	2/10/2004	1ft	0.045	U	0.035	U	0.063		0.035	U	0.13	
SB-54	2/10/2004	3ft	0.16		0.089		0.3		0.036	U	0.68	
SB-55	2/10/2004	1ft	0.034	U	0.034	U	0.034	U	0.034	U	0.039	
SB-55	2/10/2004	3ft	0.035	U	0.035	U	0.035	U	0.035	U	0.045	
SB-56	2/10/2004	1ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
SB-56	2/10/2004	3ft	0.051		0.036	U	0.082		0.036	U	0.18	
SB-57	2/10/2004	1ft	0.048		0.037	U	0.052		0.037	U	0.082	
SB-57	2/10/2004	3ft	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound									
			Benzo(g,h,i)perylene (mg/kg)		Benzo(k)fluoranthene (mg/kg)		Chrysene (mg/kg)		Dibenzo(a,h)anthracene (mg/kg)		Fluoranthene (mg/kg)	
SB-58	2/10/2004	1ft	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U
SB-58	2/10/2004	3ft	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U
SB-59	2/10/2004	1ft	0.052	U	0.052	U	0.052	U	0.052	U	0.052	U
SB-59	2/10/2004	3ft	0.051	U	0.051	U	0.051	U	0.051	U	0.051	U
SB-60	2/10/2004	1ft	NA		NA		NA		NA		NA	
SB-60	2/10/2004	3ft	NA		NA		NA		NA		NA	
SB-61	2/10/2004	1ft	NA		NA		NA		NA		NA	
SB-61	2/10/2004	3ft	NA		NA		NA		NA		NA	
SB-62	4/1/2005	1ft	NA		NA		NA		0.036	U	NA	
SB-62	4/1/2005	3ft	NA		NA		NA		0.042	U	NA	

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound					
			Indeno(1,2,3-cd)pyrene (mg/kg)		Phenanthrene (mg/kg)		Pyrene (mg/kg)	
SB-10	7/10/2002	3ft	1.88		11.5		8.31	
SB-13	10/3/2002	3ft	1.7		8.36		5.67	
SB-14	10/3/2002	3ft	0.454		1.87		1.54	
SB-15	10/3/2002	3ft	0.081	U	0.4	U	0.4	U
SB-16	10/3/2002	3ft	1.21		6.95		4.7	
SB-17	2/24/2003	3ft	0.0037	U	0.0071		0.0085	
SB-18	2/24/2003	3ft	0.18		0.34		0.33	
SB-19	2/24/2003	3ft	2.4		8.0		6.4	
SB-20	2/24/2003	3ft	0.27		0.62		0.54	
SB-21	2/24/2003	3ft	0.28		0.83		0.67	
SB-22	2/24/2003	3ft	1.4		5.9		4.0	
SB-23	2/24/2003	3ft	0.079		0.11		0.12	
SB-24	2/24/2003	3ft	1.60		4.20		3.60	
SB-25	2/24/2003	3ft	1.10		3.60		2.60	
SB-26	2/24/2003	3ft	0.58		1.30		1.20	
SB-27	2/24/2003	3ft	0.53		1.30		1.10	
SB-28	5/18/2003	1ft	0.038		0.079		0.100	
SB-28	2/24/2003	3ft	6.00		22.00		17.00	
SB-29	2/24/2003	3ft	0.27		0.69		0.53	
SB-30	2/24/2003	3ft	0.01		0.12		0.10	
SB-31	2/24/2003	3ft	3.10		8.90		7.20	
SB-32	2/24/2003	3ft	0.059		0.087		0.098	
SB-33	2/24/2003	3ft	0.0039	U	0.0039	U	0.0039	U
SB-34	5/15/2003	1ft	0.0035	U	0.0035	U	0.0035	
SB-34	5/15/2003	3ft	0.00	U	0.00	U	0.00	U
SB-35	5/15/2003	1ft	0.026		0.014		0.020	
SB-35	5/15/2003	3ft	0.016		0.0089		0.014	
SB-36	5/15/2003	1ft	0.0085		0.0034	U	0.0048	
SB-36	5/15/2003	3ft	0.0035	U	0.0035	U	0.0035	U
SB-37	5/15/2003	1ft	0.036		0.017		0.030	
SB-37	5/15/2003	3ft	0.024		0.015		0.024	

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound					
			Indeno(1,2,3-cd)pyrene (mg/kg)		Phenanthrene (mg/kg)		Pyrene (mg/kg)	
SB-38	5/15/2003	1ft	0.0034	U	0.0034	U	0.0034	U
SB-38	5/15/2003	3ft	0.0039	U	0.0039	U	0.0039	U
SB-39	5/15/2003	1ft	0.11		0.18		0.16	
SB-39	5/15/2003	3ft	0.088		0.17		0.14	
SB-40	1/14/2004	3ft	0.74		NA		NA	
SB-41	1/14/2004	3ft	1.1		NA		NA	
SB-42	1/14/2004	3ft	5.4		NA		NA	
SB-43	1/14/2004	3ft	0.036	U	NA		NA	
SB-44	3/22/2004	3ft	0.087		NA		NA	
SB-45	3/22/2004	3ft	0.038	U	NA		NA	
SB-46	3/22/2004	3ft	0.035	U	NA		NA	
SB-47	3/22/2004	3ft	0.036	U	NA		NA	
SB-48	3/22/2004	3ft	0.035	U	NA		NA	
SB-49	3/22/2004	3ft	0.29		NA		NA	
SB-50	9/24/2004	1ft	0.035		NA		NA	
SB-50	9/24/2004	3ft	1.90		NA		NA	
SB-51	9/24/2004	1ft	0.035	U	NA		NA	
SB-51	9/24/2004	3ft	0.038	U	NA		NA	
SB-52	9/24/2004	1ft	NS		NA		NA	
SB-52	9/24/2004	3ft	NS		NA		NA	
SB-53	9/24/2004	1ft	0.036		NA		NA	
SB-53	9/24/2004	3ft	0.33		NA		NA	
SB-54	2/10/2004	1ft	0.035	U	0.077		0.09	
SB-54	2/10/2004	3ft	0.12		0.45		0.48	
SB-55	2/10/2004	1ft	0.034	U	0.034		0.034	U
SB-55	2/10/2004	3ft	0.035	U	0.035		0.035	U
SB-56	2/10/2004	1ft	0.035	U	0.035		0.035	U
SB-56	2/10/2004	3ft	0.043		0.13		0.1	
SB-57	2/10/2004	1ft	0.037		0.045		0.064	
SB-57	2/10/2004	3ft	0.035	U	0.035		0.035	U

Appendix C
Table C-3 (continued)
Summary of Fixed-Base Laboratory Soil Sample Results

Soil Excavation and Groundwater Monitoring Work Plan, Tank Site 283
Naval Station Mayport
Mayport, Florida

Sample ID	Date Collected	Sample Depth	Compound					
			Indeno(1,2,3-cd)pyrene *(mg/kg)*		Phenanthrene *(mg/kg)*		Pyrene *(mg/kg)*	
SB-58	2/10/2004	1ft	0.038	U	0.038		0.038	U
SB-58	2/10/2004	3ft	0.037	U	0.037		0.037	U
SB-59	2/10/2004	1ft	0.052	U	0.052		0.052	U
SB-59	2/10/2004	3ft	0.051	U	0.051		0.051	U
SB-60	2/10/2004	1ft	NA		NA		NA	
SB-60	2/10/2004	3ft	NA		NA		NA	
SB-61	2/10/2004	1ft	NA		NA		NA	
SB-61	2/10/2004	3ft	NA		NA		NA	
SB-62	4/1/2005	1ft	0.11		NA		NA	
SB-62	4/1/2005	3ft	0.042	U	NA		NA	

Table C - 4

FDEP UCL Calculator Version 0.97 7/11/05

Note: Bounding estimates are worst case 95% UCLs based on the Chebyshev (mean, std) method.

Summary Statistics for Naphthalene	
Number of Samples	34
Number of Censored Data	26
Minimum	0.2
Maximum	2.1
Mean	0.26095
Median	0.0355
Standard Deviation	0.574275
Variance	
Coefficient of Variation	2.200707
Skewness	2.672251

95% UCL (Assuming Normal Data)	
Student's-t	NA

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	NA
Modified-t	NA

95% Non-parametric UCL	
CLT	NA
Jackknife	NA
Standard Bootstrap	NA
Bootstrap-t	NA
Chebyshev (Mean, Std)	NA

95% Bounding Method UCL	
Bounding (Max)	0.690246
Bounding (1/2 DL)	0.384347

Summary Statistics for Naphthalene	
Minimum	NA
Maximum	NA
Mean	NA
Standard Deviation	NA
Variance	NA

Goodness-of-Fit Results	
Distribution Recommended	NA
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	NA
MLE Standard Deviation	NA
MLE Median	NA
MLE Coefficient of Variation	NA
MVUE Estimate of Mean	NA
MVUE Estimate of Std. Dev.	NA
MVUE Estimate of SE	NA
MVUE Coefficient of Variation	NA

UCL Assuming Lognormal Distribution	
95% H-UCL	NA
95% Chebyshev (MVUE) UCL	NA
99% Chebyshev (MVUE) UCL	NA

FDEP Recommended UCL to Use:

0.690 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 5

FDEP UCL Calculator Version 0.97 7/11/05

Note: Bounding estimates are worst case 95% UCLs based on the Chebyshev (mean, std) method.

Summary Statistics for 2-Methylnaphthalene	
Number of Samples	34
Number of Censored Data	26
Minimum	0.19
Maximum	2.1
Mean	0.256656
Median	0.0355
Standard Deviation	0.572999
Variance	
Coefficient of Variation	2.232556
Skewness	2.704873

95% UCL (Assuming Normal Data)	
Student's-t	NA

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	NA
Modified-t	NA

95% Non-parametric UCL	
CLT	NA
Jackknife	NA
Standard Bootstrap	NA
Bootstrap-t	NA
Chebyshev (Mean, Std)	NA

95% Bounding Method UCL	
Bounding (Max)	0.684998
Bounding (1/2 DL)	0.377108

Summary Statistics for	2-Methylnaphthalene
Minimum	NA
Maximum	NA
Mean	NA
Standard Deviation	NA
Variance	NA

Goodness-of-Fit Results	
Distribution Recommended	NA
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	NA
MLE Standard Deviation	NA
MLE Median	NA
MLE Coefficient of Variation	NA
MVUE Estimate of Mean	NA
MVUE Estimate of Std. Dev.	NA
MVUE Estimate of SE	NA
MVUE Coefficient of Variation	NA

UCL Assuming Lognormal Distribution	
95% H-UCL	NA
95% Chebyshev (MVUE) UCL	NA
99% Chebyshev (MVUE) UCL	NA

FDEP Recommended UCL to Use:

0.685 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 6

FDEP UCL Calculator Version 0.97 7/11/05

Note: Bounding estimates are worst case 95% UCLs based on the Chebyshev (mean, std) method.

Summary Statistics for 1-Methylnaphthalene	
Number of Samples	34
Number of Censored Data	29
Minimum	0.419999987
Maximum	2.099999905
Mean	0.243647054
Median	0.035499997
Standard Deviation	0.568677425
Variance	
Coefficient of Variation	2.33402133
Skewness	2.81889081

95% UCL (Assuming Normal Data)	
Student's-t	NA

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	NA
Modified-t	NA

95% Non-parametric UCL	
CLT	NA
Jackknife	NA
Standard Bootstrap	NA
Bootstrap-t	NA
Chebyshev (Mean, Std)	NA

95% Bounding Method UCL	
Bounding (Max)	0.668759108
Bounding (1/2 DL)	0.350657552

Summary Statistics for	1-Methylnaphthalene
Minimum	NA
Maximum	NA
Mean	NA
Standard Deviation	NA
Variance	NA

Goodness-of-Fit Results	
Distribution Recommended	NA
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	NA
MLE Standard Deviation	NA
MLE Median	NA
MLE Coefficient of Variation	NA
MVUE Estimate of Mean	NA
MVUE Estimate of Std. Dev.	NA
MVUE Estimate of SE	NA
MVUE Coefficient of Variation	NA

UCL Assuming Lognormal Distribution	
95% H-UCL	NA
95% Chebyshev (MVUE) UCL	NA
99% Chebyshev (MVUE) UCL	NA

FDEP Recommended UCL to Use:

0.669 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 7

FDEP UCL Calculator Version 0.97 7/11/05

Note: Bounding estimates are worst case 95% UCLs based on the Chebyshev (mean, std) method.

Summary Statistics for	Acenaphthylene
Number of Samples	34
Number of Censored Data	31
Minimum	2
Maximum	4.199999809
Mean	0.373541176
Median	0.035499997
Standard Deviation	0.996904433
Variance	
Coefficient of Variation	2.668793917
Skewness	3.235929251

95% UCL (Assuming Normal Data)	
Student's-t	NA

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	NA
Modified-t	NA

95% Non-parametric UCL	
CLT	NA
Jackknife	NA
Standard Bootstrap	NA
Bootstrap-t	NA
Chebyshev (Mean, Std)	NA

95% Bounding Method UCL	
Bounding (Max)	1.118772268
Bounding (1/2 DL)	0.560308695

Summary Statistics for	Acenaphthylene
Minimum	NA
Maximum	NA
Mean	NA
Standard Deviation	NA
Variance	NA

Goodness-of-Fit Results	
Distribution Recommended	NA
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	NA
MLE Standard Deviation	NA
MLE Median	NA
MLE Coefficient of Variation	NA
MVUE Estimate of Mean	NA
MVUE Estimate of Std. Dev.	NA
MVUE Estimate of SE	NA
MVUE Coefficient of Variation	NA

UCL Assuming Lognormal Distribution	
95% H-UCL	NA
95% Chebyshev (MVUE) UCL	NA
99% Chebyshev (MVUE) UCL	NA

FDEP Recommended UCL to Use:

1.12 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

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FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Acenaphthene	
Number of Samples	34
Number of Censored Data	18
Minimum	0.0014
Maximum	2.599999905
Mean	0.364286756
Median	0.029750001
Standard Deviation	0.652945236
Variance	0.426337481
Coefficient of Variation	1.79239356
Skewness	2.286256075

95% UCL (Assuming Normal Data)	
Student's-t	0.553795874

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	0.595413625
Modified-t	0.561113536

95% Non-parametric UCL	
CLT	0.548492491
Jackknife	NA
Standard Bootstrap	0.549599886
Bootstrap-t	0.719448388
Chebyshev (Mean, Std)	0.852403998

Summary Statistics for ln()	
Minimum	-6.57128286
Maximum	0.955511391
Mean	-3.09537766
Standard Deviation	2.445218923
Variance	5.979095582

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	0.899577683
MLE Standard Deviation	17.85798528
MLE Median	0.045257917
MLE Coefficient of Variation	19.85152101
MVUE Estimate of Mean	0.53121382
MVUE Estimate of Std. Dev.	2.358431394
MVUE Estimate of SE	0.372646616
MVUE Coefficient of Variation	4.43970263

UCL Assuming Lognormal Distribution	
95% H-UCL	6.088797569
95% Chebyshev (MVUE) UCL	2.155543089
99% Chebyshev (MVUE) UCL	4.239010334

FDEP Recommended UCL to Use:

0.852 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

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FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Anthracene	
Number of Samples	34
Number of Censored Data	13
Minimum	0.00175
Maximum	4.30000019
Mean	0.46407647
Median	0.046
Standard Deviation	0.86440106
Variance	0.7471892
Coefficient of Variation	1.86262634
Skewness	3.07570267

95% UCL (Assuming Normal Data)	
Student's-t	0.71495795

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	0.79150248
Modified-t	0.72799051

95% Non-parametric UCL	
CLT	0.70793712
Jackknife	NA
Standard Bootstrap	0.72009969
Bootstrap-t	0.97039574
Chebyshev (Mean, Std)	1.11027014

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	1.458615065
Mean	-2.712819704
Standard Deviation	2.359808077
Variance	5.568694159

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	1.074147556
MLE Standard Deviation	17.35643058
MLE Median	0.066349457
MLE Coefficient of Variation	16.15832991
MVUE Estimate of Mean	0.731899202
MVUE Estimate of Std. Dev.	3.585895613
MVUE Estimate of SE	0.471121859
MVUE Coefficient of Variation	4.899439163

UCL Assuming Lognormal Distribution	
95% H-UCL	6.438670158
95% Chebyshev (MVUE) UCL	2.785472155
99% Chebyshev (MVUE) UCL	5.419514656

FDEP Recommended UCL to Use:

1.11 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 10

FDEP UCL Calculator Version 0.97 7/11/05

Note: Results reflect censored parameter estimations based on distributional assumptions.

Censor Estimated Statistics for	Fluorene
Number of Samples	34
Number of Censored Data	17
Minimum Non-censored	0.032
Maximum	2.8
Mean	NA
Median	NA
Standard Deviation	NA
Variance	NA
Coefficient of Variation	NA
Skewness	NA

95% UCL (Assuming Normal Data)	
Student's-t	NA

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	NA
Modified-t	NA

95% Non-parametric UCL	
CLT	NA
Jackknife	NA
Standard Bootstrap	NA
Bootstrap-t	NA
Chebyshev (Mean, Std)	0.72408

Censor Estimated Statistics for	ln()
Minimum	-6.34813929
Maximum	1.02961946
Mean	-2.93045584
Standard Deviation	2.31948704
Variance	5.38002013
Fit	0.98540121

Goodness-of-Fit Results	
Distribution Recommended	Lognormal
Distribution Used	Lognormal

Estimates Assuming Lognormal Distribution	
MLE Mean	0.78627728
MLE Standard Deviation	11.5565815
MLE Median	0.0533727
MLE Coefficient of Variation	14.6978449
MVUE Estimate of Mean	0.51157731
MVUE Estimate of Std. Dev.	2.13208577
MVUE Estimate of SE	0.33895123
MVUE Coefficient of Variation	4.16767072

UCL Assuming Lognormal Distribution	
95% H-UCL	4.45702887
95% Chebyshev (MVUE) UCL	1.98903179
99% Chebyshev (MVUE) UCL	3.88410807

FDEP Recommended UCL to Use:

0.724 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 11

FDEP UCL Calculator Version 0.97 7/11/05

Note: Results reflect censored parameter estimations based on distributional assumptions.

Censor Estimated Statistics for Benzo(a)anthracene		
Number of Samples		47
Number of Censored Data		13
Minimum Non-censored		0.0185
Maximum		9.800000191
Mean	NA	
Median	NA	
Standard Deviation	NA	
Variance	NA	
Coefficient of Variation	NA	
Skewness	NA	

95% UCL (Assuming Normal Data)		
Student's-t	NA	

95% UCL (Adjusted for Skewness)		
Adjusted-CLT	NA	
Modified-t	NA	

95% Non-parametric UCL		
CLT	NA	
Jackknife	NA	
Standard Bootstrap	NA	
Bootstrap-t	NA	
Chebyshev (Mean, Std)		2.340549707

Censor Estimated Statistics for ln()	
Minimum	-6.348139286
Maximum	2.282382488
Mean	-1.887581033
Standard Deviation	2.402303859
Variance	5.771063832
Fit	0.983736753

Goodness-of-Fit Results	
Distribution Recommended	Lognormal
Distribution Used	Lognormal

Estimates Assuming Lognormal Distribution	
MLE Mean	2.712717453
MLE Standard Deviation	48.51738297
MLE Median	0.151437689
MLE Coefficient of Variation	17.885159
MVUE Estimate of Mean	2.064302921
MVUE Estimate of Std. Dev.	14.02665571
MVUE Estimate of SE	1.204025328
MVUE Coefficient of Variation	6.79486308

UCL Assuming Lognormal Distribution	
95% H-UCL	11.93366623
95% Chebyshev (MVUE) UCL	7.312529087
99% Chebyshev (MVUE) UCL	14.04423428

FDEP Recommended UCL to Use:

2.341 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

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FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Benzo(a)pyrene	
Number of Samples	47
Number of Censored Data	13
Minimum	0.00175
Maximum	8.699999809
Mean	1.01689467
Median	0.170000002
Standard Deviation	1.899109565
Variance	3.606617141
Coefficient of Variation	1.867557793
Skewness	2.799628019

95% UCL (Assuming Normal Data)	
Student's-t	1.481906414

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	1.59347415
Modified-t	1.500760317

95% Non-parametric UCL	
CLT	1.472581983
Jackknife	NA
Standard Bootstrap	1.464882851
Bootstrap-t	1.745661736
Chebyshev (Mean, Std)	2.224396944

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	2.163322926
Mean	-1.927276733
Standard Deviation	2.377252178
Variance	5.651327916

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	2.455639523
MLE Standard Deviation	41.35906678
MLE Median	0.145544015
MLE Coefficient of Variation	16.84248295
MVUE Estimate of Mean	1.88542068
MVUE Estimate of Std. Dev.	12.4354142
MVUE Estimate of SE	1.087000539
MVUE Coefficient of Variation	6.595564763

UCL Assuming Lognormal Distribution	
95% H-UCL	10.50304317
95% Chebyshev (MVUE) UCL	6.623547554
99% Chebyshev (MVUE) UCL	12.70096779

FDEP Recommended UCL to Use:

2.224 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 13

FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Benzo(b)fluoranthene	
Number of Samples	47
Number of Censored Data	13
Minimum	0.00175
Maximum	10
Mean	1.221028731
Median	0.200000003
Standard Deviation	2.356150705
Variance	5.551446144
Coefficient of Variation	1.92964395
Skewness	2.776208878

95% UCL (Assuming Normal Data)	
Student's-t	1.797950625

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	1.935113668
Modified-t	1.82114625

95% Non-parametric UCL	
CLT	1.786382198
Jackknife	NA
Standard Bootstrap	1.787576556
Bootstrap-t	2.408434868
Chebyshev (Mean, Std)	2.719129324

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	2.302585125
Mean	-1.777559659
Standard Deviation	2.424303771
Variance	5.877248774

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	3.193331496
MLE Standard Deviation	60.23694724
MLE Median	0.169050184
MLE Coefficient of Variation	18.8633555
MVUE Estimate of Mean	2.410647869
MVUE Estimate of Std. Dev.	16.81371068
MVUE Estimate of SE	1.420202592
MVUE Coefficient of Variation	6.974768439

UCL Assuming Lognormal Distribution	
95% H-UCL	14.40283108
95% Chebyshev (MVUE) UCL	8.601168633
99% Chebyshev (MVUE) UCL	16.54152107

FDEP Recommended UCL to Use:

2.719 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Tabl C - 14

FDEP UCL Calculator Version 0.97 7/11/05

Note: Results reflect censored parameter estimations based on distributional assumptions.

Censor Estimated Statistics for Benzo(g,h,i)perylene		
Number of Samples		34
Number of Censored Data		9
Minimum Non-censored		0.025
Maximum		6
Mean	NA	
Median	NA	
Standard Deviation	NA	
Variance	NA	
Coefficient of Variation	NA	
Skewness	NA	

95% UCL (Assuming Normal Data)		
Student's-t	NA	

95% UCL (Adjusted for Skewness)		
Adjusted-CLT	NA	
Modified-t	NA	

95% Non-parametric UCL		
CLT	NA	
Jackknife	NA	
Standard Bootstrap	NA	
Bootstrap-t	NA	
Chebyshev (Mean, Std)		1.710764885

Censor Estimated Statistics for ln()	
Minimum	-6.907755375
Maximum	1.791759491
Mean	-2.083359273
Standard Deviation	2.386026912
Variance	5.693124424
Fit	0.972887635

Goodness-of-Fit Results	
Distribution Recommended	Lognormal
Distribution Used	Lognormal

Estimates Assuming Lognormal Distribution	
MLE Mean	2.145135969
MLE Standard Deviation	36.89506426
MLE Median	0.124511242
MLE Coefficient of Variation	17.19940591
MVUE Estimate of Mean	1.51921308
MVUE Estimate of Std. Dev.	8.476406789
MVUE Estimate of SE	0.950153973
MVUE Coefficient of Variation	5.579471963

UCL Assuming Lognormal Distribution	
95% H-UCL	13.34091663
95% Chebyshev (MVUE) UCL	5.660839081
99% Chebyshev (MVUE) UCL	10.97315025

FDEP Recommended UCL to Use:

1.711 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

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FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Benzo(k)fluoranthene	
Number of Samples	34
Number of Censored Data	10
Minimum	0.00175
Maximum	5.400000095
Mean	0.730804409
Median	0.088500001
Standard Deviation	1.222127308
Variance	1.493595157
Coefficient of Variation	1.672304235
Skewness	2.342792988

95% UCL (Assuming Normal Data)	
Student's-t	1.085511446

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	1.165579796
Modified-t	1.099546671

95% Non-parametric UCL	
CLT	1.075585008
Jackknife	NA
Standard Bootstrap	1.043979883
Bootstrap-t	1.428172112
Chebyshev (Mean, Std)	1.644420743

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	1.686398983
Mean	-2.236013498
Standard Deviation	2.438023231
Variance	5.943957275

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	2.087495745
MLE Standard Deviation	40.71641135
MLE Median	0.106883748
MLE Coefficient of Variation	19.50490747
MVUE Estimate of Mean	1.425943851
MVUE Estimate of Std. Dev.	8.17657254
MVUE Estimate of SE	0.919533164
MVUE Coefficient of Variation	5.734147618

UCL Assuming Lognormal Distribution	
95% H-UCL	13.98304749
95% Chebyshev (MVUE) UCL	5.434096813
99% Chebyshev (MVUE) UCL	10.57520676

FDEP Recommended UCL to Use:

1.644 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

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FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Chrysene	
Number of Samples	34
Number of Censored Data	9
Minimum	0.00175
Maximum	7.1
Mean	1.031475
Median	0.17
Standard Deviation	1.634822
Variance	2.672642
Coefficient of Variation	1.584936
Skewness	2.059003

95% UCL (Assuming Normal Data)	
Student's-t	1.505961

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	1.598485
Modified-t	1.522462

95% Non-parametric UCL	
CLT	1.492683
Jackknife	NA
Standard Bootstrap	1.562893
Bootstrap-t	1.769975
Chebyshev (Mean, Std)	2.253606

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	1.96009481
Mean	-1.962586134
Standard Deviation	2.572310769
Variance	6.616782694

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	3.841278344
MLE Standard Deviation	104.9545342
MLE Median	0.140494613
MLE Coefficient of Variation	27.32281412
MVUE Estimate of Mean	2.484847307
MVUE Estimate of Std. Dev.	16.74262132
MVUE Estimate of SE	1.671736952
MVUE Coefficient of Variation	6.737887383

UCL Assuming Lognormal Distribution	
95% H-UCL	31.39899445
95% Chebyshev (MVUE) UCL	9.771781921
99% Chebyshev (MVUE) UCL	19.11846352

FDEP Recommended UCL to Use:

2.254 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 17

FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Dibenzo(a,h)anthracene	
Number of Samples	47
Number of Censored Data	22
Minimum	0.00175
Maximum	3
Mean	0.300649999
Median	0.037
Standard Deviation	0.596642404
Variance	0.355982158
Coefficient of Variation	1.984508254
Skewness	3.061009884

95% UCL (Assuming Normal Data)	
Student's-t	0.446742535

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	0.485339701
Modified-t	0.453218877

95% Non-parametric UCL	
CLT	0.443813086
Jackknife	NA
Standard Bootstrap	0.444841444
Bootstrap-t	0.590545714
Chebyshev (Mean, Std)	0.680010438

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	1.098612309
Mean	-2.970833295
Standard Deviation	2.12505192
Variance	4.515845661

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	0.490215365
MLE Standard Deviation	4.662328863
MLE Median	0.051260577
MLE Coefficient of Variation	9.510776685
MVUE Estimate of Mean	0.385014325
MVUE Estimate of Std. Dev.	1.641053861
MVUE Estimate of SE	0.213334269
MVUE Coefficient of Variation	4.262318966

UCL Assuming Lognormal Distribution	
95% H-UCL	1.605268836
95% Chebyshev (MVUE) UCL	1.314917088
99% Chebyshev (MVUE) UCL	2.507668972

FDEP Recommended UCL to Use:

0.680 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 18

FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Fluoranthene	
Number of Samples	34
Number of Censored Data	7
Minimum	0.00175
Maximum	25
Mean	2.945242659
Median	0.340000004
Standard Deviation	5.310735883
Variance	28.20391562
Coefficient of Variation	1.803157328
Skewness	2.662214994

95% UCL (Assuming Normal Data)	
Student's-t	4.486616611

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	4.887872219
Modified-t	4.555922508

95% Non-parametric UCL	
CLT	4.443481922
Jackknife	NA
Standard Bootstrap	4.306028366
Bootstrap-t	5.68805027
Chebyshev (Mean, Std)	6.91534853

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	3.218875885
Mean	-1.238686976
Standard Deviation	2.832742015
Variance	8.024427325

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	16.01501447
MLE Standard Deviation	884.9902598
MLE Median	0.289764436
MLE Coefficient of Variation	55.26003496
MVUE Estimate of Mean	9.200527191
MVUE Estimate of Std. Dev.	85.7341059
MVUE Estimate of SE	6.653115551
MVUE Coefficient of Variation	9.318390579

UCL Assuming Lognormal Distribution	
95% H-UCL	198.499527
95% Chebyshev (MVUE) UCL	38.20079422
99% Chebyshev (MVUE) UCL	75.39836121

FDEP Recommended UCL to Use:

6.915 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 19

FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Indeno(1,2,3-cd)pyrene	
Number of Samples	47
Number of Censored Data	16
Minimum	0.00175
Maximum	6
Mean	0.712219153
Median	0.088
Standard Deviation	1.293759955
Variance	1.673814822
Coefficient of Variation	1.816519466
Skewness	2.791623354

95% UCL (Assuming Normal Data)	
Student's-t	1.029006362

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	1.104775906
Modified-t	1.041813731

95% Non-parametric UCL	
CLT	1.022654176
Jackknife	NA
Standard Bootstrap	1.031066298
Bootstrap-t	1.220676303
Chebyshev (Mean, Std)	1.534824729

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	1.791759491
Mean	-2.224816281
Standard Deviation	2.341526875
Variance	5.482748108

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	1.676247683
MLE Standard Deviation	25.94161795
MLE Median	0.108087275
MLE Coefficient of Variation	15.47600525
MVUE Estimate of Mean	1.276621342
MVUE Estimate of Std. Dev.	7.677600969
MVUE Estimate of SE	0.741931108
MVUE Coefficient of Variation	6.014000172

UCL Assuming Lognormal Distribution	
95% H-UCL	6.891003609
95% Chebyshev (MVUE) UCL	4.510624886
99% Chebyshev (MVUE) UCL	8.658761978

FDEP Recommended UCL to Use:

1.535 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

TableC - 20

FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Phenanthrene	
Number of Samples	34
Number of Censored Data	5
Minimum	0.00175
Maximum	22
Mean	2.583045552
Median	0.270000011
Standard Deviation	4.687445884
Variance	21.97214892
Coefficient of Variation	1.814697337
Skewness	2.638275623

95% UCL (Assuming Normal Data)	
Student's-t	3.943517685

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	4.294152737
Modified-t	4.004138947

95% Non-parametric UCL	
CLT	3.905445099
Jackknife	NA
Standard Bootstrap	3.941954374
Bootstrap-t	4.258661747
Chebyshev (Mean, Std)	6.087203503

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	3.091042519
Mean	-1.398281514
Standard Deviation	2.835205251
Variance	8.038388814

Goodness-of-Fit Results	
Distribution Recommended	Lognormal
Distribution Used	Lognormal

Estimates Assuming Lognormal Distribution	
MLE Mean	13.74826856
MLE Standard Deviation	765.0535717
MLE Median	0.247021102
MLE Coefficient of Variation	55.64726703
MVUE Estimate of Mean	8.127451897
MVUE Estimate of Std. Dev.	80.66092041
MVUE Estimate of SE	5.804307312
MVUE Coefficient of Variation	9.924502961

UCL Assuming Lognormal Distribution	
95% H-UCL	171.1089783
95% Chebyshev (MVUE) UCL	33.42784882
99% Chebyshev (MVUE) UCL	65.87973022

FDEP Recommended UCL to Use:

6.087 mg/kg

PROUCL 22

Note: These estimates are valid ONLY if samples are random and representative.

Table C - 21

FDEP UCL Calculator Version 0.97 7/11/05

Summary Statistics for Pyrene	
Number of Samples	34
Number of Censored Data	9
Minimum	0.00175
Maximum	17
Mean	1.964443
Median	0.265
Standard Deviation	3.550941
Variance	12.60918
Coefficient of Variation	1.807608
Skewness	2.757062

95% UCL (Assuming Normal Data)	
Student's-t	2.995059

95% UCL (Adjusted for Skewness)	
Adjusted-CLT	3.273938
Modified-t	3.04305

95% Non-parametric UCL	
CLT	2.966217
Jackknife	NA
Standard Bootstrap	3.041049
Bootstrap-t	3.467562
Chebyshev (Mean, Std)	4.618993

Summary Statistics for ln()	
Minimum	-6.348139286
Maximum	2.833213329
Mean	-1.560875745
Standard Deviation	2.752754841
Variance	7.577659217

Goodness-of-Fit Results	
Distribution Recommended	Neither
Distribution Used	Neither

Estimates Assuming Lognormal Distribution	
MLE Mean	9.280856736
MLE Standard Deviation	410.1518788
MLE Median	0.209952126
MLE Coefficient of Variation	44.19332078
MVUE Estimate of Mean	5.419757843
MVUE Estimate of Std. Dev.	43.71650922
MVUE Estimate of SE	3.876876992
MVUE Coefficient of Variation	8.066136992

UCL Assuming Lognormal Distribution	
95% H-UCL	100.7977676
95% Chebyshev (MVUE) UCL	22.3186779
99% Chebyshev (MVUE) UCL	43.99429703

FDEP Recommended UCL to Use:

4.619 mg/kg

PROUCL NA

Note: These estimates are valid ONLY if samples are random and representative.

APPENDIX D

MONITORING WELL SHEET

Tetra Tech NUS, Inc.

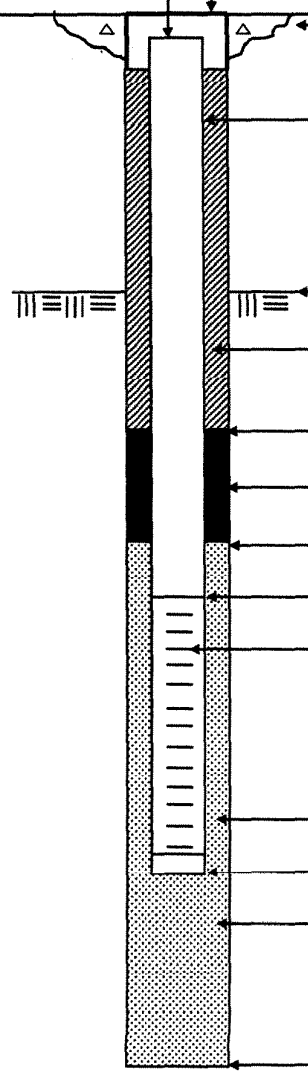
WELL No.: MPT-283-MW1

MONITORING WELL SHEET

PROJECT:	NS MPT	DRILLING Co.:	Preferred	BORING No.:	MW-1
PROJECT No.:	N4195	DRILLER:	Tim Colvard	DATE COMPLETED:	7.23.02
SITE:	Bld 283	DRILLING METHOD:	HS	NORTHING:	
GEOLOGIST:		DEV. METHOD:	Cent. Pump	EASTING:	

Ground Elevation =

Datum:

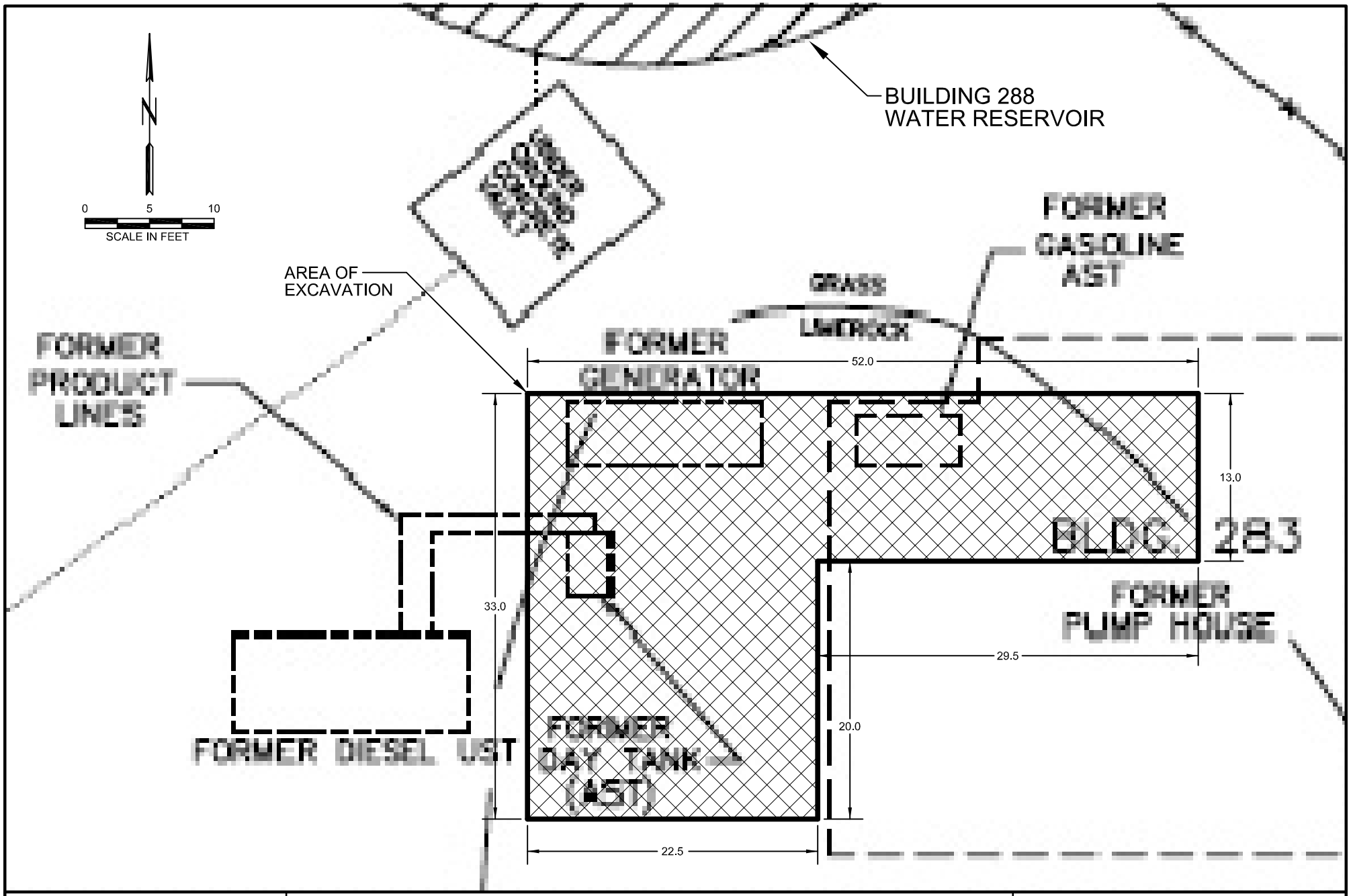


Not to Scale

Elevation / Depth of Top of Riser:		NA /
Elevation / Height of Top of Surface Casing:		NA /
I.D. of Surface Casing:	8"	
Type of Surface Casing:	Steel	
Type of Surface Seal:	Quikreet	
I.D. of Riser:	2"	
Type of Riser:	PVC	
Borehole Diameter:	8"	
Elevation / Depth Top of Rock:		/
Type of Backfill:	Type 1 Portland Grout	
Elevation / Depth of Seal:		/ 0.5'
Type of Seal:	30/65 Sand	
Elevation / Depth of Top of Filter Pack:		/ 1.5'
Elevation / Depth of Top of Screen:		/ 3'
Type of Screen:	PVC	
Slot Size x Length:	0.01 inch	
I.D. of Screen:	2"	
Type of Filter Pack:	20/30	
Elevation / Depth of Bottom of Screen:		/ 13'
Elevation / Depth of Bottom of Filter Pack:		/ 13.5'
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 13.5'

ATTACHMENT D

FIGURE 2 - DEPICTING THE
EXCAVATION AREA



TN&A T N & Associates, Inc.
Engineering and Science

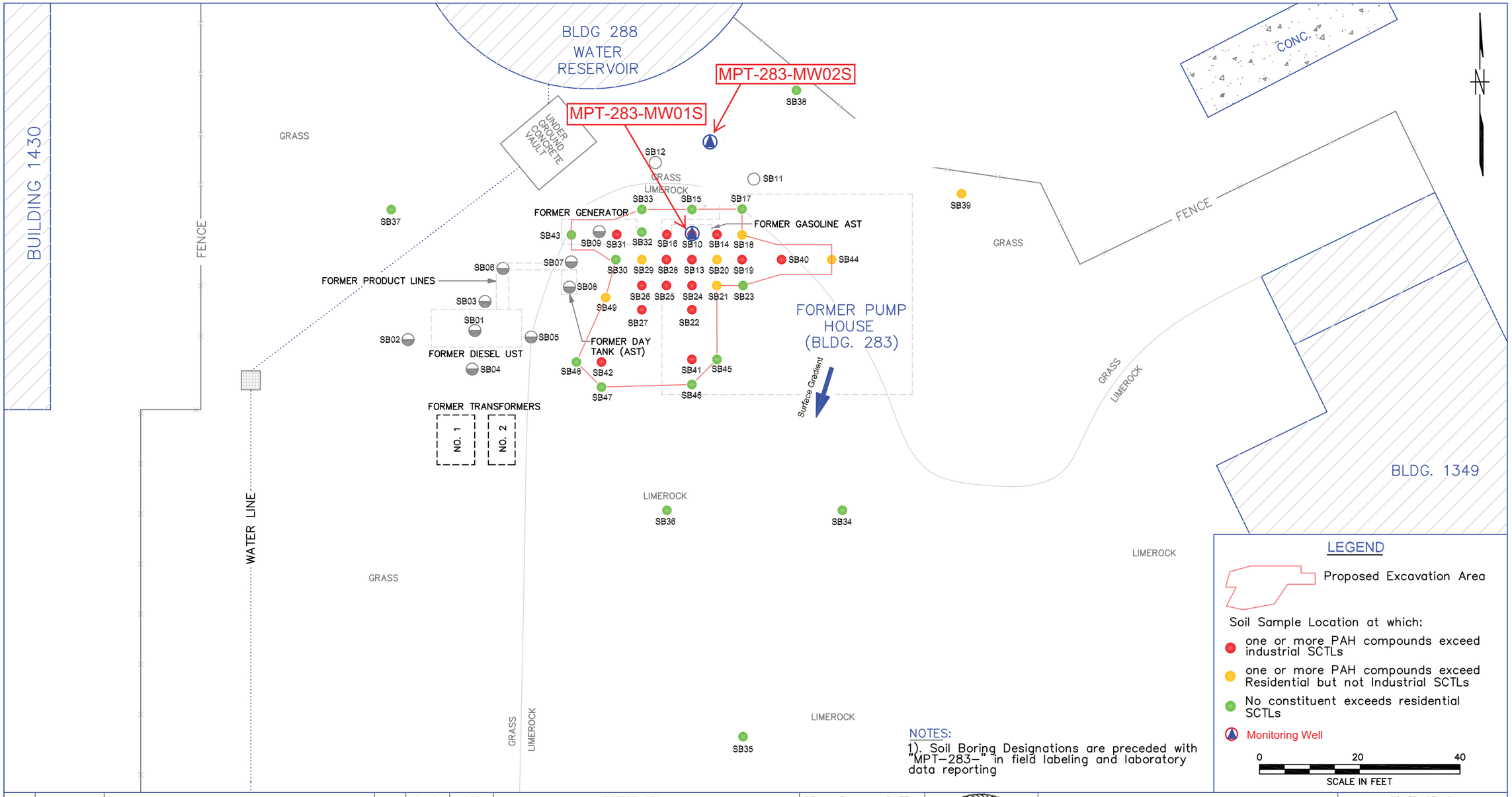
FIGURE 2
SOIL REMOVAL

TANK SITE 283
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

FILE NAME: Figure 2 – Soil Removal .dwg

ATTACHMENT E

FIGURE, ANALYTICAL TABLE, LABORATORY REPORT, WELL CONSTRUCTION LOGS, AND GROUNDWATER SAMPLING LOGS



NOTES:

1). Soil Boring Designations are preceded with "MPT-283-" in field labeling and laboratory data reporting

LEGEND

Proposed Excavation Area

Soil Sample Location at which:

- one or more PAH compounds exceed industrial SCTLs
- one or more PAH compounds exceed Residential but not Industrial SCTLs
- No constituent exceeds residential SCTLs

Monitoring Well

0 20 40
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK DATE 4/27/04
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

PROPOSED EXCAVATION AREA
TANK SITE 283
SOIL CHARACTERIZATION AND EXCAVATION
MONITORING PLAN
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

CONTRACT NO. 4195
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 1-3
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

Tetra Tech NUS, Inc.

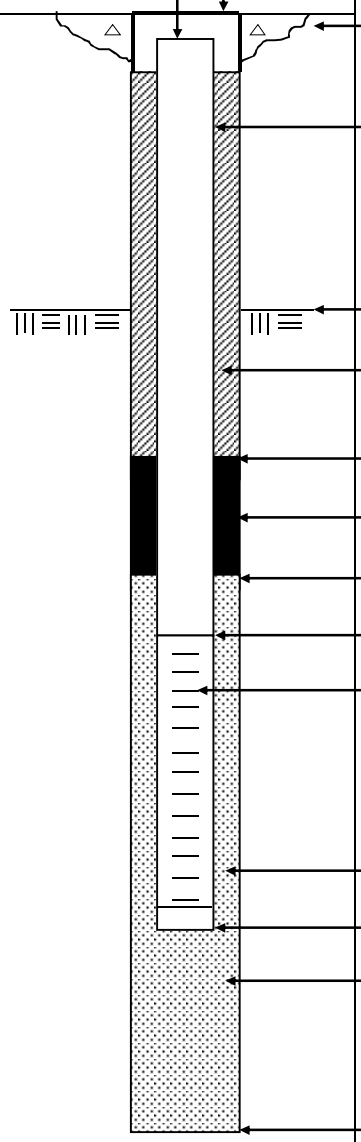
WELL No.: MPT-283-MW2

MONITORING WELL SHEET

PROJECT:	NS MPT	DRILLING Co.:	Preferred	BORING No.:	MW-2
PROJECT No.:	JM 32	DRILLER:	John	DATE COMPLETED:	11.23.10
SITE:	Bld 283	DRILLING METHOD:	DPT	NORTHING:	
GEOLOGIST:		DEV. METHOD:	Cent. Pump	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser:		NA /
Elevation / Height of Top of Surface Casing:		NA /
I.D. of Surface Casing:	8"	
Type of Surface Casing:	Steel	
Type of Surface Seal:	Quikreet	
I.D. of Riser:	2"	
Type of Riser:	PVC	
Borehole Diameter:	4"	
Elevation / Depth Top of Rock:		/
Type of Backfill:	Type 1 Portland Grout	
Elevation / Depth of Seal:		/ 0.0'
Type of Seal:	30/65 Sand	
Elevation / Depth of Top of Filter Pack:		/ 0.5'
Elevation / Depth of Top of Screen:		/ 1'
Type of Screen:	PVC	
Slot Size x Length:	0.01 inch	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30	
Elevation / Depth of Bottom of Screen:		/ 11'
Elevation / Depth of Bottom of Filter Pack:		/ 11.3'
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 11.3'

LOCATION	Florida GCTLs	MPT-283-MW01S	MPT-283-MW02S
SAMPLE ID		MPT-283-MW01S-20101001	MPT-283-MW02S-20101001
SAMPLE DATE		20101001	20101001
SAMPLE CODE		NORMAL	NORMAL
MATRIX		GW	GW
SAMPLE TYPE		NORMAL	NORMAL
SUBMATRIX		NA	NA
TOP DEPTH		-9999	-9999
BOTTOM DEPTH		-9999	-9999
METALS (UG/L)			
LEAD	15	10 U	10 U
PETROLEUM HYDROCARBONS (MG/L)			
TPH (C08-C40)	5000	0.085 U	0.085 U
POLYCYCLIC AROMATIC HYDROCARBONS (UG/L)			
1-METHYLNAPHTHALENE	28	0.03 U	0.03 U
2-METHYLNAPHTHALENE	28	0.031 U	0.031 U
ACENAPHTHENE	20	0.03 U	0.03 U
ACENAPHTHYLENE	210	0.03 U	0.03 U
ANTHRACENE	2100	0.03 U	0.03 U
BENZO(A)ANTHRACENE	0.05	0.03 U	0.03 U
BENZO(A)PYRENE	0.2	0.03 U	0.03 U
BENZO(B)FLUORANTHENE	0.05	0.03 U	0.03 U
BENZO(G,H,I)PERYLENE	210	0.03 U	0.03 U
BENZO(K)FLUORANTHENE	0.5	0.03 U	0.03 U
CHRYSENE	4.8	0.03 U	0.03 U
DIBENZO(A,H)ANTHRACENE	0.005	0.03 U	0.03 U
FLUORANTHENE	280	0.03 U	0.03 U
FLUORENE	280	0.03 U	0.03 U
INDENO(1,2,3-CD)PYRENE	0.05	0.03 U	0.03 U
NAPHTHALENE	14	0.03 U	0.03 U
PHENANTHRENE	210	0.03 U	0.03 U
PYRENE	210	0.03 U	0.03 U
VOLATILES (UG/L)			
1,1,1,2-TETRACHLOROETHANE	1.3	0.5 U	0.5 U
1,1,1-TRICHLOROETHANE	200	0.5 U	0.5 U
1,1,2-TRICHLOROETHANE	5	0.5 U	0.5 U
1,1-DICHLOROETHANE	70	0.5 U	0.5 U
1,1-DICHLOROETHENE	7	0.5 U	0.5 U
1,2,4-TRICHLOROBENZENE	70	0.5 U	0.5 U
1,2-DIBROMOETHANE	0.02	0.02 U	0.02 U
1,2-DICHLOROBENZENE	600	0.5 U	0.5 U
1,2-DICHLOROETHANE	3	0.5 U	0.5 U
1,2-DICHLOROPROPANE	5	1 U	1 U
1,3-DICHLOROBENZENE	210	0.5 U	0.5 U
1,4-DICHLOROBENZENE	75	0.5 U	0.5 U

LOCATION SAMPLE ID SAMPLE DATE SAMPLE CODE MATRIX SAMPLE TYPE SUBMATRIX TOP DEPTH BOTTOM DEPTH	**Florida GCTLs**	**MPT-283-MW01S** **MPT-283-MW01S-20101001** **20101001** **NORMAL** **GW** **NORMAL** **NA** **-9999** **-9999**	**MPT-283-MW02S** **MPT-283-MW02S-20101001** **20101001** **NORMAL** **GW** **NORMAL** **NA** **-9999** **-9999**
2-CHLOROETHYL VINYL ETHER	NC	5 U	5 U
BENZENE	1	0.5 U	0.5 U
BROMODICHLOROMETHANE	0.6	0.5 U	0.5 U
BROMOFORM	4.4	0.5 U	0.5 U
BROMOMETHANE	9.8	1 U	1 U
CARBON TETRACHLORIDE	3	0.5 U	0.5 U
CHLOROBENZENE	100	0.5 U	0.5 U
CHLORODIBROMOMETHANE	0.4	1 U	1 U
CHLOROETHANE	12	0.5 U	0.5 U
CHLOROFORM	70	0.5 U	0.5 U
CHLOROMETHANE	2.7	0.46 J	0.5 U
CIS-1,2-DICHLOROETHENE	70	0.5 U	0.5 U
CIS-1,3-DICHLOROPROPENE	NC	0.5 U	0.5 U
DICHLORODIFLUOROMETHANE	1400	0.5 U	0.5 U
ETHYLBENZENE	30	0.5 U	0.5 U
METHYL TERT-BUTYL ETHER	20	0.5 U	0.5 U
METHYLENE CHLORIDE	5	1 U	1 U
TETRACHLOROETHENE	3	0.5 U	0.5 U
TOLUENE	40	0.5 U	0.5 U
TOTAL XYLENES	20	1 U	1 U
TRANS-1,2-DICHLOROETHENE	100	0.5 U	0.5 U
TRANS-1,3-DICHLOROPROPENE	NC	0.5 U	0.5 U
TRICHLOROETHENE	3	1 U	1 U
TRICHLOROFLUOROMETHANE	2100	0.5 U	0.5 U
VINYL CHLORIDE	1	0.5 U	0.5 U

Florida Department of Environmental Protection
GROUNDWATER SAMPLING LOG

SITE NAME: SITE 283		SITE LOCATION: NAVSTA MAYPORT	
WELL NO: MPT-283-MW02S	SAMPLE ID: MPT-283-MW02S-20101001		DATE: 10/1-10

PURGING DATA

WELL DIAMETER (in): 1.5" ~~1.5~~	TOTAL WELL DEPTH (ft): 11'	STATIC DEPTH TO WATER (ft): 3.78	WELL CAPACITY (gal/ft):

1 WELL VOLUME (gal) = (TOTAL WELL DEPTH – DEPTH TO WATER) X WELL CAPACITY =
(11 - 3.78)(.06)(3.875) = 1.7 L X5 = 8.5 L

PURGE METHOD: PP	PURGE INITIATED AT: 1350	PURGE ENDED AT: 1425	TOTAL VOL. PURGED (~~gal~~): 10.5 L

TIME	VOLUME PURGED (~~gal~~) L	CUMUL. VOLUME PURGED (~~gal~~) L	PURGE RATE (~~gpm~~) mL/min	DEPTH TO WATER (ft)	pH	TEMP. (°C)	COND. (µmhos)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR	ODOR
1350	–	–	300	3.78	–	–	–	–	–	–	–
1405	4.5	4.5	300	3.86	7.59	26.93	643	2.22	18.41	CLEAR	–
1415	3.0	7.5	300	3.86	7.58	26.94	636	2.11	15.57	CLEAR	–
1420	1.5	9.0	300	3.86	7.58	26.91	598	1.66	10.23	CLEAR	–
1425	1.5	10.5	300	3.86	7.57	26.90	597	1.32	7.76	CLEAR	–
1428 – 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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: KEVIN WEICHERT	SAMPLER(S) SIGNATURE(S): K. Wt	
SAMPLING METHOD(S): PP	SAMPLING INITIATED AT: 1428	SAMPLING ENDED AT: 1433
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N)	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (mL)	FINAL pH	
1	AG	1L	–	1L		8270D - PAH
2	AG	1L	H_2SO_4	1L		FLPRO
1	P	200mL	HNO_3	200mL		METALS-200.7 - Pb
3	CG	40mL	HCl	40mL		VOCS - 8260B
2	CG	40mL	–	40mL		EDB - 8011

REMARKS: OVER 5 WELL VOLUMES PURGED

MATERIAL CODES: AG = AMBER GLASS; CG = CLEAR GLASS; PE = POLYETHYLENE; O = OTHER (SPECIFY)

NOTE: The above do not constitute all of the information required by Chapter 62-160, F.A.C.

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: MAYPORT

SITE LOCATION: Site 283

WELL NO: MPT-283-MW01S

SAMPLE ID: MPT-283-MW01S 20100110

DATE: 10-01-10

PURGING DATA

WELL DIAMETER (inches): 2

TUBING DIAMETER (inches): 3/16

WELL SCREEN INTERVAL DEPTH: 2.8 feet to 12.8 feet

STATIC DEPTH TO WATER (feet): 4.14

PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = 5.9 (L) gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 5.0

FINAL PUMP OR TUBING DEPTH IN WELL (feet): 5.0

PURGING INITIATED AT: 1350

PURGING ENDED AT: 1420

TOTAL VOLUME PURGED (gallons): 9.0

TIME	VOLUME PURGED (gallons) (L)	CUMUL. VOLUME PURGED (gallons) (L)	PURGE RATE (L) (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1350	0	0	300	4.14							
1410	6	6	300								
1415	1.5	7.5	300	4.18	7.37	26.58	0.783	1.03	2.82	Clear	–
1420	1.5	9.0	300	4.18	7.34	26.57	0.778	0.95	2.84	Clear	–
				4.18	7.34	26.59	0.776	0.91	2.84	Clear	–
1420 SAMPLE											

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" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: David Stephen / Tt

SAMPLER(S) SIGNATURE(S): [signature]

SAMPLING INITIATED AT: 1420

SAMPLING ENDED AT: 1510

PUMP OR TUBING DEPTH IN WELL (feet):

TUBING MATERIAL CODE:

FIELD-FILTERED: Y (N) Filtration Equipment Type:

FILTER SIZE: ____ µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING (Y) N (replaced)

DUPLICATE: Y (N)

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	SAMPLE PUMP FLOW RATE (mL per minute)
1	2	AG	1000	H_2SO_4	1000	<2	~~8270~~ 8270B	PP	300
2	1	AG	1000	—	1000	7	8270 D	PP	300
3	2	CG	40	HCL	40 x 2	<2	8011	SM	—
4	3	CG	40	HCL	40 x 3	<2	8260	SM	—
5	1	PE	250	HNO_3	250	<2	6010	PP	300

REMARKS: Clear H_2O, good well

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); 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 THREE 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; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

MS / MSD

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

Monday, October 25, 2010

Tetra Tech NUS (BR006)

Attn: Greg Roof

8640 Philips Highway Suite 16

Jacksonville, FL 32256

RE: Laboratory Results for
Project Number: [none], Project Name/Desc: Navsta Mayport CTO JM32 Site 283
ENCO Workorder: B004502

Dear Greg Roof,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, October 1, 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,

Christina M. Tompkins

Chris Tompkins

Project Manager

Enclosure(s)

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511
www.encolabs.com

Client: Tetra Tech NUS (BR006)
Project: Navsta Mayport, CTO JM32 Site 283
SDG Number: BR006-080
Project Manager: Greg Roof
ENCO Project ID: B004502

Overview

The laboratory received two 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. Environmental Conservation Laboratories in Jacksonville, Fl 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.

Laboratory Sample Identification	Client Sample Identification	Analyses
B004502-01	MPT-SWMU23-MW06S-20101001	EPA 6010C
B004502-02	MPT-SWMU01-PO1S-20101001	EPA 6010C
B004502-03	MPT-SWMU45-MW01D-20101001	EPA 6010C
B004502-04	MPT-SWMU01-MW01I-20101001	EPA 6010C
B004502-05	MPT-SWMU45-MW02S-20101001	EPA 6010C
B004502-06	MPT-SWMU44-MW01S-20101001	EPA 6010C
B004502-07	MPT-SWMU44-MW01D-20101001	EPA 6010C
B004502-08	MPT-SWMU01-MW01S-20101001	EPA 6010C
B004502-09	MPT-SWMU01-MW01D-20101001	EPA 6010C
B004502-10	MPT-283-MW02S-20101001	EPA 8260B, EPA 8270D, EPA 6010C, FLPRO, EPA 8011
B004502-11	MPT-283-MW01S-20101001	EPA 8260B, EPA 8270D, EPA 6010C, FLPRO, EPA 8011
B004502-12	MPT-SWMU01-Rinsate01-20101001	EPA 6010C
B004502-13	MPT-SWMU01-Rinsate02-20101001	EPA 6010C
B004502-14	Trip Blank	EPA 8260B

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive, Orlando, FL 32824
4810 Executive Park Court, Suite 211,Jacksonville, FL 32216
102-A Woodwinds Industrial Ct, Cary, NC 27511
www.encolabs.com

Remarks

Analysis: EPA 8011
Affected Samples: 0J05009-BLK1, 0J05009-BS1, 0J05009-MS1, 0J05009-MSD1, MPT-283-MW02S-20101001[B004502-10], MPT-283-MW01S-20101001[B004502-11], BA08028-CCV1, BA08028-CCV2, BA08028-CRL1
Nonconformance: The electronic data package submitted for Navsta Mayport, CTO JM32 Site 283
contains both original and manual integrations performed during sample analysis. Manual integrations were required for EDB and 1,1,1,2-Tetachlorethane for poor integration.

Analysis: EPA 8270D
Affected Samples: BA07972-CAL2
Nonconformance: The electronic data package submitted for Navsta Mayport, CTO JM32 Site 283
contains both original and manual integrations performed during sample analysis. Manual integrations were required for Benzo (b) fluoranthene due to incorrect peak selection/peak not found.

Analysis: EPA 8260B
Affected Samples: 0J13013-BLK1, MPT-283-MW02S-20101001[B004502-10], MPT-283-MW01S-20101001[B004502-11], Trip Blank[B004502-14]
Nonconformance: The surrogate compounds 1,2-Dichloroethane-d4 and Dibromofluoromethane that are added to the sample to monitor sample preparation efficiency were out of control with high bias. However, none of the target analytes for this method was detected in the samples.

Affected Samples: MPT-283-MW02S-20101001[B004502-10], MPT-283-MW01S-20101001[B004502-11], Trip Blank[B004502-14], BA08101-CCV2
Nonconformance: The continuing calibration verification standard exhibited low bias; the associated sample results had ND results and thus the impact of this nonconformance may affect data quality. Hold time restraints prevented re-analysis.

Affected Samples: 0J13013-MS1, 0J13013-MSD1, MPT-283-MW02S-20101001[B004502-10], MPT-283-MW01S-20101001[B004502-11], Trip Blank[B004502-14]
Nonconformance: The matrix spike and matrix spike duplicate had recoveries that were outside acceptance limits for Chloromethane, Bromodichloromethane, Chlorobenzene and 2-Chloroethyl Vinyl Ether, but by virtue of a laboratory control sample being in control, the laboratory has demonstrated to be in control of its internal process.

Affected Samples: 0J13013-MS1, 0J13013-MSD1, MPT-283-MW02S-20101001[B004502-10], MPT-283-MW01S-20101001[B004502-11], Trip Blank[B004502-14]
Nonconformance: Precision between duplicate matrix spikes of the same sample was outside acceptance limits for 2-Chloroethyl Vinyl Ether.

Affected Samples: BA08074-CAL1@RR and BA08074-CAL2@RR
Nonconformance: The electronic data package submitted for Navsta Mayport, CTO JM32 Site 283
contains both original and manual integrations performed during sample analysis. Manual integrations were required for Chloroethane, Acetone, Iodomethane, 1,4 Dichlorobenzene and Isobutyl Alcohol for either incorrect peak selection/peak not found or poor integration.

Analysis: EPA 6010C
Affected Samples: MPT-SWMU23-MW06S-20101001[B004502-1], MPT-SWMU01-PO1S-20101001[B004502-2], MPT-SWMU45-MW01D-20101001[B004502-3], MPT-SWMU01-MW01I-20101001[B004502-4], MPT-SWMU45-MW02S-20101001[B004502-5], MPT-SWMU44-MW01S-20101001[B004502-6], MPT-SWMU44-MW01D-20101001[B004502-7], MPT-SWMU01-MW01S-20101001[B004502-8], MPT-SWMU01-MW01D-20101001[B004502-9], MPT-SWMU01-Rinsate01-20101001[B004502-12], MPT-SWMU01-Rinsate02-20101001[B004502-13]
Nonconformance: The laboratory could not meet the 62-777 Minimum Groundwater Criteria for Antimony due to sample matrix. The client was notified about the limitations.

Chris Tompkins
Project Manager

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MPT-SWMU23-MW06S-20101001 Lab ID: B004502-01 Sampled: 10/01/10 08:37 Received: 10/01/10 16:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	03/30/11	10/05/10 17:00	10/6/2010 10:20

Client ID: MPT-SWMU01-PO1S-20101001 Lab ID: B004502-02 Sampled: 10/01/10 09:40 Received: 10/01/10 16:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	03/30/11	10/05/10 17:00	10/6/2010 10:22

Client ID: MPT-SWMU45-MW01D-20101001 Lab ID: B004502-03 Sampled: 10/01/10 10:18 Received: 10/01/10 16:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	03/30/11	10/05/10 17:00	10/6/2010 10:25

Client ID: MPT-SWMU45-MW01D-20101001 Lab ID: B004502-03RE1 Sampled: 10/01/10 10:18 Received: 10/01/10 16:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	03/30/11	10/05/10 17:00	10/7/2010 11:07

Client ID: MPT-SWMU01-MW01I-20101001 Lab ID: B004502-04 Sampled: 10/01/10 11:03 Received: 10/01/10 16:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	03/30/11	10/05/10 17:00	10/6/2010 10:27

Client ID: MPT-SWMU45-MW02S-20101001 Lab ID: B004502-05 Sampled: 10/01/10 08:30 Received: 10/01/10 16:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	03/30/11	10/05/10 17:00	10/6/2010 10:30

Client ID: MPT-SWMU44-MW01S-20101001 Lab ID: B004502-06 Sampled: 10/01/10 09:15 Received: 10/01/10 16:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	03/30/11	10/05/10 17:00	10/6/2010 10:33

Client ID: MPT-SWMU44-MW01D-20101001 Lab ID: B004502-07 Sampled: 10/01/10 09:45 Received: 10/01/10 16:15

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	03/30/11	10/05/10 17:00	10/6/2010 10:40

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Client ID: MPT-SWMU01-MW01S-20101001 **Lab ID: B004502-08** **Sampled: 10/01/10 11:05** **Received: 10/01/10 16:15**

Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	03/30/11		10/05/10	17:00	10/6/2010 10:43

Client ID: MPT-SWMU01-MW01D-20101001 **Lab ID: B004502-09** **Sampled: 10/01/10 12:30** **Received: 10/01/10 16:15**

Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	03/30/11		10/05/10	17:00	10/6/2010 10:45

Client ID: MPT-283-MW02S-20101001 **Lab ID: B004502-10** **Sampled: 10/01/10 14:28** **Received: 10/01/10 16:15**

Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	03/30/11		10/05/10	17:00	10/6/2010 10:48
EPA 8011	10/15/10	10/19/10	10/05/10	11:33	10/6/2010 13:26
EPA 8260B	10/15/10		10/13/10	11:40	10/14/2010 03:38
EPA 8270D	10/08/10	11/16/10	10/07/10	12:04	10/7/2010 21:56
FLPRO	10/08/10	11/16/10	10/07/10	09:55	10/7/2010 23:22

Client ID: MPT-283-MW01S-20101001 **Lab ID: B004502-11** **Sampled: 10/01/10 14:20** **Received: 10/01/10 16:15**

Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	03/30/11		10/05/10	17:00	10/6/2010 10:50
EPA 8011	10/15/10	10/19/10	10/05/10	11:33	10/6/2010 13:41
EPA 8260B	10/15/10		10/13/10	11:40	10/14/2010 04:07
EPA 8270D	10/08/10	11/16/10	10/07/10	12:04	10/7/2010 21:33
FLPRO	10/08/10	11/16/10	10/07/10	09:55	10/7/2010 23:46

Client ID: MPT-SWMU01-Rinsate01-20101001 **Lab ID: B004502-12** **Sampled: 10/01/10 07:30** **Received: 10/01/10 16:15**

Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	03/30/11		10/05/10	17:00	10/6/2010 10:53

Client ID: MPT-SWMU01-Rinsate02-20101001 **Lab ID: B004502-13** **Sampled: 10/01/10 08:45** **Received: 10/01/10 16:15**

Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	03/30/11		10/05/10	17:00	10/6/2010 10:56

Client ID: Trip Blank **Lab ID: B004502-14** **Sampled: 10/01/10 00:00** **Received: 10/01/10 16:15**

Parameter	Hold Date/Time(s)		Prep Date/Time(s)		Analysis Date/Time(s)
EPA 8260B	10/15/10		10/13/10	11:40	10/14/2010 03:08

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ANALYTICAL RESULTS

Description: MPT-SWMU23-MW06S-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-01
Sampled: 10/01/10 08:37
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:20	ACV	
Arsenic [7440-38-2] ^	**27.9**		ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:20	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:20	ACV	
Silver [7440-22-4] ^	**1.86**	I	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:20	ACV	
Zinc [7440-66-6] ^	<10.0	U	ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:20	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-SWMU01-PO1S-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-02
Sampled: 10/01/10 09:40
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:22	ACV	
Arsenic [7440-38-2] ^	**9.82**	I	ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:22	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:22	ACV	
Silver [7440-22-4] ^	<5.00	U	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:22	ACV	
Zinc [7440-66-6] ^	<10.0	U	ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:22	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-SWMU45-MW01D-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-03
Sampled: 10/01/10 10:18
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:25	ACV	
Arsenic [7440-38-2] ^	**121**	D	ug/L	5	33.5	50.0	100	EPA 6010C	10/07/10 11:07	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:25	ACV	
Silver [7440-22-4] ^	**2.83**	I	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:25	ACV	
Zinc [7440-66-6] ^	**23.4**		ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:25	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-SWMU01-MW01I-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-04
Sampled: 10/01/10 11:03
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:27	ACV	
Arsenic [7440-38-2] ^	<10.0	U	ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:27	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:27	ACV	
Silver [7440-22-4] ^	<5.00	U	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:27	ACV	
Zinc [7440-66-6] ^	**71.0**		ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:27	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-SWMU45-MW02S-20101001 **Lab Sample ID:** B004502-05 **Received:** 10/01/10 16:15
Matrix: Ground Water **Sampled:** 10/01/10 08:30 **Work Order:** B004502
Project: Navsta Mayport CTO JM32 Site 283 **Sampled By:** Client

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:30	ACV	
Arsenic [7440-38-2] ^	**14.0**	I	ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:30	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:30	ACV	
Silver [7440-22-4] ^	<5.00	U	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:30	ACV	
Zinc [7440-66-6] ^	**26.1**		ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:30	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-SWMU44-MW01S-20101001 **Lab Sample ID:** B004502-06 **Received:** 10/01/10 16:15
Matrix: Ground Water **Sampled:** 10/01/10 09:15 **Work Order:** B004502
Project: Navsta Mayport CTO JM32 Site 283 **Sampled By:** Client

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:33	ACV	
Arsenic [7440-38-2] ^	<10.0	U	ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:33	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:33	ACV	
Silver [7440-22-4] ^	<5.00	U	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:33	ACV	
Zinc [7440-66-6] ^	**8.83**	I	ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:33	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-SWMU44-MW01D-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-07
Sampled: 10/01/10 09:45
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:40	ACV	
Arsenic [7440-38-2] ^	**19.4**	I	ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:40	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:40	ACV	
Silver [7440-22-4] ^	<5.00	U	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:40	ACV	
Zinc [7440-66-6] ^	**12.9**		ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:40	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-SWMU01-MW01S-20101001 **Lab Sample ID:** B004502-08 **Received:** 10/01/10 16:15
Matrix: Ground Water **Sampled:** 10/01/10 11:05 **Work Order:** B004502
Project: Navsta Mayport CTO JM32 Site 283 **Sampled By:** Client

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:43	ACV	
Arsenic [7440-38-2] ^	**10.5**	I	ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:43	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:43	ACV	
Silver [7440-22-4] ^	<5.00	U	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:43	ACV	
Zinc [7440-66-6] ^	<10.0	U	ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:43	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-SWMU01-MW01D-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-09
Sampled: 10/01/10 12:30
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:45	ACV	
Arsenic [7440-38-2] ^	**22.4**		ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:45	ACV	
Lead [7439-92-1] ^	**14.1**	I	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:45	ACV	
Silver [7440-22-4] ^	**1.68**	I	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:45	ACV	
Zinc [7440-66-6] ^	**554**		ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:45	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-283-MW02S-20101001 **Lab Sample ID:** B004502-10 **Received:** 10/01/10 16:15
Matrix: Ground Water **Sampled:** 10/01/10 14:28 **Work Order:** B004502
Project: Navsta Mayport CTO JM32 Site 283 **Sampled By:** Client

Volatile Organic Compounds by GCMS

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,1,1-Trichloroethane [71-55-6] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,1,2-Trichloroethane [79-00-5] ^	<0.50	U	ug/L	1	0.40	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,1-Dichloroethane [75-34-3] ^	<0.50	U	ug/L	1	0.30	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,1-Dichloroethene [75-35-4] ^	<0.50	U	ug/L	1	0.21	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,2,4-Trichlorobenzene [120-82-1] ^	<0.50	U	ug/L	1	0.41	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,2-Dibromoethane [106-93-4] ^	<0.50	U	ug/L	1	0.27	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,2-Dichlorobenzene [95-50-1] ^	<0.50	U	ug/L	1	0.24	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,2-Dichloroethane [107-06-2] ^	<0.50	U	ug/L	1	0.28	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,2-Dichloropropane [78-87-5] ^	<1.0	U	ug/L	1	0.30	1.0	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,3-Dichlorobenzene [541-73-1] ^	<0.50	U	ug/L	1	0.27	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
1,4-Dichlorobenzene [106-46-7] ^	<0.50	U	ug/L	1	0.23	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
2-Chloroethyl Vinyl Ether [110-75-8] ^	<5.0	U	ug/L	1	1.5	5.0	5.0	EPA 8260B	10/14/10 03:38	JWJ	QM-07
Benzene [71-43-2] ^	<0.50	U	ug/L	1	0.27	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Bromodichloromethane [75-27-4] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	QM-07
Bromoform [75-25-2] ^	<0.50	U	ug/L	1	0.33	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Bromomethane [74-83-9] ^	<1.0	U	ug/L	1	0.64	1.0	1.0	EPA 8260B	10/14/10 03:38	JWJ	J-05
Carbon tetrachloride [56-23-5] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Chlorobenzene [108-90-7] ^	<0.50	U	ug/L	1	0.24	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	QM-07
Chloroethane [75-00-3] ^	<0.50	U	ug/L	1	0.31	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Chloroform [67-66-3] ^	<0.50	U	ug/L	1	0.21	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Chloromethane [74-87-3] ^	<0.50	U	ug/L	1	0.31	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	QM-07
cis-1,2-Dichloroethene [156-59-2] ^	<0.50	U	ug/L	1	0.22	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
cis-1,3-Dichloropropene [10061-01-5] ^	<0.50	U	ug/L	1	0.35	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Dibromochloromethane [124-48-1] ^	<1.0	U	ug/L	1	0.27	1.0	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Dichlorodifluoromethane [75-71-8] ^	<0.50	U	ug/L	1	0.29	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Ethylbenzene [100-41-4] ^	<0.50	U	ug/L	1	0.26	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Methylene chloride [75-09-2] ^	<1.0	U	ug/L	1	0.62	1.0	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Methyl-tert-Butyl Ether [1634-04-4] ^	<0.50	U	ug/L	1	0.24	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Tetrachloroethene [127-18-4] ^	<0.50	U	ug/L	1	0.21	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Toluene [108-88-3] ^	<0.50	U	ug/L	1	0.30	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
trans-1,2-Dichloroethene [156-60-5] ^	<0.50	U	ug/L	1	0.30	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
trans-1,3-Dichloropropene [10061-02-6] ^	<0.50	U	ug/L	1	0.33	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Trichloroethene [79-01-6] ^	<1.0	U	ug/L	1	0.24	1.0	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Trichlorofluoromethane [75-69-4] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Vinyl chloride [75-01-4] ^	<0.50	U	ug/L	1	0.33	0.50	1.0	EPA 8260B	10/14/10 03:38	JWJ	
Xylenes (Total) [1330-20-7] ^	<1.0	U	ug/L	1	0.50	1.0	1.0	EPA 8260B	10/14/10 03:38	JWJ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
1,2-Dichloroethane-d4	*63*	*1*	*50.0*	*126 %*	*70-120*	*0J13013*	*EPA 8260B*	*10/14/10 03:38*	*JWJ*	*QS-03*
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*75-120*	*0J13013*	*EPA 8260B*	*10/14/10 03:38*	*JWJ*	
Dibromofluoromethane	*59*	*1*	*50.0*	*118 %*	*85-115*	*0J13013*	*EPA 8260B*	*10/14/10 03:38*	*JWJ*	*QS-03*
Toluene-d8	*54*	*1*	*50.0*	*108 %*	*85-120*	*0J13013*	*EPA 8260B*	*10/14/10 03:38*	*JWJ*	

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Description: MPT-283-MW02S-20101001 **Lab Sample ID:** B004502-10 **Received:** 10/01/10 16:15
Matrix: Ground Water **Sampled:** 10/01/10 14:28 **Work Order:** B004502
Project: Navsta Mayport CTO JM32 Site 283 **Sampled By:** Client

Semivolatile Organic Compounds by GCMS SIM

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
1-Methylnaphthalene [90-12-0] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
2-Methylnaphthalene [91-57-6] ^	<0.031	U	ug/L	1	0.031	0.031	0.10	EPA 8270D	10/07/10 21:56	REM	
Acenaphthene [83-32-9] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Acenaphthylene [208-96-8] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Anthracene [120-12-7] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Benzo(a)anthracene [56-55-3] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Benzo(a)pyrene [50-32-8] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Benzo(b)fluoranthene [205-99-2] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Benzo(g,h,i)perylene [191-24-2] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Benzo(k)fluoranthene [207-08-9] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Chrysene [218-01-9] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Dibenzo(a,h)anthracene [53-70-3] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Fluoranthene [206-44-0] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Fluorene [86-73-7] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Indeno(1,2,3-cd)pyrene [193-39-5] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Naphthalene [91-20-3] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Phenanthrene [85-01-8] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	
Pyrene [129-00-0] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:56	REM	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
p-Terphenyl	*2.9*	*1*	*5.00*	*58 %*	*39-148*	*0J07007*	*EPA 8270D*	*10/07/10 21:56*	*REM*	

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Description:	MPT-283-MW02S-20101001	**Lab Sample ID:**	B004502-10	**Received:**	10/01/10 16:15
Matrix:	Ground Water	**Sampled:**	10/01/10 14:28	**Work Order:**	B004502
Project:	Navsta Mayport CTO JM32 Site 283	**Sampled By:**	Client		

Semivolatile Organic Compounds by GC

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
1,2-Dibromoethane [106-93-4] ^	<0.020	U	ug/L	1	0.012	0.020	0.040	EPA 8011	10/06/10 13:26	JSW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
1,1,1,2-Tetrachloroethane	*0.20*	*1*	*0.250*	*78 %*	*33-122*	*0J05009*	*EPA 8011*	*10/06/10 13:26*	*JSW*	

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Description: MPT-283-MW02S-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-10
Sampled: 10/01/10 14:28
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

FL Petroleum Range Organics

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
TPH (C8-C40) [ECL-0175] ^	<85	U	ug/L	1	27	85	170	FLPRO	10/07/10 23:22	JSW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
n-Nonatriacontane	*99*	*1*	*101*	*98 %*	*37-189*	*0J07005*	*FLPRO*	*10/07/10 23:22*	*JSW*	
o-Terphenyl	*54*	*1*	*50.5*	*108 %*	*68-118*	*0J07005*	*FLPRO*	*10/07/10 23:22*	*JSW*	

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Description: MPT-283-MW02S-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-10
Sampled: 10/01/10 14:28
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:48	ACV	

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Description: MPT-283-MW01S-20101001 **Lab Sample ID:** B004502-11 **Received:** 10/01/10 16:15
Matrix: Ground Water **Sampled:** 10/01/10 14:20 **Work Order:** B004502
Project: Navsta Mayport CTO JM32 Site 283 **Sampled By:** Client

Volatile Organic Compounds by GCMS

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,1,1-Trichloroethane [71-55-6] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,1,2-Trichloroethane [79-00-5] ^	<0.50	U	ug/L	1	0.40	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,1-Dichloroethane [75-34-3] ^	<0.50	U	ug/L	1	0.30	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,1-Dichloroethene [75-35-4] ^	<0.50	U	ug/L	1	0.21	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,2,4-Trichlorobenzene [120-82-1] ^	<0.50	U	ug/L	1	0.41	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,2-Dibromoethane [106-93-4] ^	<0.50	U	ug/L	1	0.27	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,2-Dichlorobenzene [95-50-1] ^	<0.50	U	ug/L	1	0.24	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,2-Dichloroethane [107-06-2] ^	<0.50	U	ug/L	1	0.28	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,2-Dichloropropane [78-87-5] ^	<1.0	U	ug/L	1	0.30	1.0	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,3-Dichlorobenzene [541-73-1] ^	<0.50	U	ug/L	1	0.27	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
1,4-Dichlorobenzene [106-46-7] ^	<0.50	U	ug/L	1	0.23	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
2-Chloroethyl Vinyl Ether [110-75-8] ^	<5.0	U	ug/L	1	1.5	5.0	5.0	EPA 8260B	10/14/10 04:07	JWJ	QM-07
Benzene [71-43-2] ^	<0.50	U	ug/L	1	0.27	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Bromodichloromethane [75-27-4] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	QM-07
Bromoform [75-25-2] ^	<0.50	U	ug/L	1	0.33	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Bromomethane [74-83-9] ^	<1.0	U	ug/L	1	0.64	1.0	1.0	EPA 8260B	10/14/10 04:07	JWJ	J-05
Carbon tetrachloride [56-23-5] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Chlorobenzene [108-90-7] ^	<0.50	U	ug/L	1	0.24	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	QM-07
Chloroethane [75-00-3] ^	<0.50	U	ug/L	1	0.31	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Chloroform [67-66-3] ^	<0.50	U	ug/L	1	0.21	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Chloromethane [74-87-3] ^	**0.46**	I	ug/L	1	0.31	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	QM-07
cis-1,2-Dichloroethene [156-59-2] ^	<0.50	U	ug/L	1	0.22	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
cis-1,3-Dichloropropene [10061-01-5] ^	<0.50	U	ug/L	1	0.35	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Dibromochloromethane [124-48-1] ^	<1.0	U	ug/L	1	0.27	1.0	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Dichlorodifluoromethane [75-71-8] ^	<0.50	U	ug/L	1	0.29	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Ethylbenzene [100-41-4] ^	<0.50	U	ug/L	1	0.26	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Methylene chloride [75-09-2] ^	<1.0	U	ug/L	1	0.62	1.0	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Methyl-tert-Butyl Ether [1634-04-4] ^	<0.50	U	ug/L	1	0.24	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Tetrachloroethene [127-18-4] ^	<0.50	U	ug/L	1	0.21	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Toluene [108-88-3] ^	<0.50	U	ug/L	1	0.30	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
trans-1,2-Dichloroethene [156-60-5] ^	<0.50	U	ug/L	1	0.30	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
trans-1,3-Dichloropropene [10061-02-6] ^	<0.50	U	ug/L	1	0.33	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Trichloroethene [79-01-6] ^	<1.0	U	ug/L	1	0.24	1.0	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Trichlorofluoromethane [75-69-4] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Vinyl chloride [75-01-4] ^	<0.50	U	ug/L	1	0.33	0.50	1.0	EPA 8260B	10/14/10 04:07	JWJ	
Xylenes (Total) [1330-20-7] ^	<1.0	U	ug/L	1	0.50	1.0	1.0	EPA 8260B	10/14/10 04:07	JWJ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
1,2-Dichloroethane-d4	*65*	*1*	*50.0*	*130 %*	*70-120*	*0J13013*	*EPA 8260B*	*10/14/10 04:07*	*JWJ*	*QS-03*
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*75-120*	*0J13013*	*EPA 8260B*	*10/14/10 04:07*	*JWJ*	
Dibromofluoromethane	*60*	*1*	*50.0*	*120 %*	*85-115*	*0J13013*	*EPA 8260B*	*10/14/10 04:07*	*JWJ*	*QS-03*
Toluene-d8	*54*	*1*	*50.0*	*108 %*	*85-120*	*0J13013*	*EPA 8260B*	*10/14/10 04:07*	*JWJ*	

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Description: MPT-283-MW01S-20101001 **Lab Sample ID:** B004502-11 **Received:** 10/01/10 16:15
Matrix: Ground Water **Sampled:** 10/01/10 14:20 **Work Order:** B004502
Project: Navsta Mayport CTO JM32 Site 283 **Sampled By:** Client

Semivolatile Organic Compounds by GCMS SIM

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
1-Methylnaphthalene [90-12-0] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
2-Methylnaphthalene [91-57-6] ^	<0.031	U	ug/L	1	0.031	0.031	0.10	EPA 8270D	10/07/10 21:33	REM	
Acenaphthene [83-32-9] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Acenaphthylene [208-96-8] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Anthracene [120-12-7] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Benzo(a)anthracene [56-55-3] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Benzo(a)pyrene [50-32-8] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Benzo(b)fluoranthene [205-99-2] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Benzo(g,h,i)perylene [191-24-2] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Benzo(k)fluoranthene [207-08-9] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Chrysene [218-01-9] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Dibenzo(a,h)anthracene [53-70-3] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Fluoranthene [206-44-0] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Fluorene [86-73-7] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Indeno(1,2,3-cd)pyrene [193-39-5] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Naphthalene [91-20-3] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Phenanthrene [85-01-8] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	
Pyrene [129-00-0] ^	<0.030	U	ug/L	1	0.030	0.030	0.10	EPA 8270D	10/07/10 21:33	REM	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
p-Terphenyl	*2.8*	*1*	*5.00*	*57 %*	*39-148*	*0J07007*	*EPA 8270D*	*10/07/10 21:33*	*REM*	

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Description:	MPT-283-MW01S-20101001	**Lab Sample ID:**	B004502-11	**Received:**	10/01/10 16:15
Matrix:	Ground Water	**Sampled:**	10/01/10 14:20	**Work Order:**	B004502
Project:	Navsta Mayport CTO JM32 Site 283	**Sampled By:**	Client		

Semivolatile Organic Compounds by GC

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
1,2-Dibromoethane [106-93-4] ^	<0.020	U	ug/L	1	0.012	0.020	0.040	EPA 8011	10/06/10 13:41	JSW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
1,1,1,2-Tetrachloroethane	*0.19*	*1*	*0.250*	*75 %*	*33-122*	*0J05009*	*EPA 8011*	*10/06/10 13:41*	*JSW*	

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Description: MPT-283-MW01S-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-11
Sampled: 10/01/10 14:20
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

FL Petroleum Range Organics

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
TPH (C8-C40) [ECL-0175] ^	<85	U	ug/L	1	27	85	170	FLPRO	10/07/10 23:46	JSW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
n-Nonatriacontane	*110*	*1*	*103*	*104 %*	*37-189*	*0J07005*	*FLPRO*	*10/07/10 23:46*	*JSW*	
o-Terphenyl	*58*	*1*	*51.5*	*113 %*	*68-118*	*0J07005*	*FLPRO*	*10/07/10 23:46*	*JSW*	

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Description: MPT-283-MW01S-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-11
Sampled: 10/01/10 14:20
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:50	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: MPT-SWMU01-Rinsate01-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-12
Sampled: 10/01/10 07:30
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:53	ACV	
Arsenic [7440-38-2] ^	<10.0	U	ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:53	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:53	ACV	
Silver [7440-22-4] ^	<5.00	U	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:53	ACV	
Zinc [7440-66-6] ^	<10.0	U	ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:53	ACV	

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Description: MPT-SWMU01-Rinsate02-20101001
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-13
Sampled: 10/01/10 08:45
Sampled By: Client

Received: 10/01/10 16:15
Work Order: B004502

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	<20.0	U	ug/L	1	13.0	20.0	40.0	EPA 6010C	10/06/10 10:56	ACV	
Arsenic [7440-38-2] ^	<10.0	U	ug/L	1	6.70	10.0	20.0	EPA 6010C	10/06/10 10:56	ACV	
Lead [7439-92-1] ^	<10.0	U	ug/L	1	2.90	10.0	20.0	EPA 6010C	10/06/10 10:56	ACV	
Silver [7440-22-4] ^	<5.00	U	ug/L	1	1.50	5.00	10.0	EPA 6010C	10/06/10 10:56	ACV	
Zinc [7440-66-6] ^	<10.0	U	ug/L	1	3.50	10.0	10.0	EPA 6010C	10/06/10 10:56	ACV	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: Trip Blank
Matrix: Ground Water
Project: Navsta Mayport CTO JM32 Site 283

Lab Sample ID: B004502-14
Sampled: 10/01/10 00:00
Sampled By:

Received: 10/01/10 16:15
Work Order: B004502

Volatile Organic Compounds by GCMS

^ - ENCO Jacksonville certified analyte [DOD A2LA: 3000.02]

Analyte [CAS Number]	Results	Flag	Units	DF	DL	LOD	LOQ	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,1,1-Trichloroethane [71-55-6] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,1,2-Trichloroethane [79-00-5] ^	<0.50	U	ug/L	1	0.40	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,1-Dichloroethane [75-34-3] ^	<0.50	U	ug/L	1	0.30	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,1-Dichloroethene [75-35-4] ^	<0.50	U	ug/L	1	0.21	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,2,4-Trichlorobenzene [120-82-1] ^	<0.50	U	ug/L	1	0.41	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,2-Dibromoethane [106-93-4] ^	<0.50	U	ug/L	1	0.27	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,2-Dichlorobenzene [95-50-1] ^	<0.50	U	ug/L	1	0.24	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,2-Dichloroethane [107-06-2] ^	<0.50	U	ug/L	1	0.28	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,2-Dichloropropane [78-87-5] ^	<1.0	U	ug/L	1	0.30	1.0	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,3-Dichlorobenzene [541-73-1] ^	<0.50	U	ug/L	1	0.27	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
1,4-Dichlorobenzene [106-46-7] ^	<0.50	U	ug/L	1	0.23	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
2-Chloroethyl Vinyl Ether [110-75-8] ^	<5.0	U	ug/L	1	1.5	5.0	5.0	EPA 8260B	10/14/10 03:08	JWJ	QM-07
Benzene [71-43-2] ^	<0.50	U	ug/L	1	0.27	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Bromodichloromethane [75-27-4] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	QM-07
Bromoform [75-25-2] ^	<0.50	U	ug/L	1	0.33	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Bromomethane [74-83-9] ^	<1.0	U	ug/L	1	0.64	1.0	1.0	EPA 8260B	10/14/10 03:08	JWJ	J-05
Carbon tetrachloride [56-23-5] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Chlorobenzene [108-90-7] ^	<0.50	U	ug/L	1	0.24	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	QM-07
Chloroethane [75-00-3] ^	<0.50	U	ug/L	1	0.31	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Chloroform [67-66-3] ^	<0.50	U	ug/L	1	0.21	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Chloromethane [74-87-3] ^	**0.65**	I	ug/L	1	0.31	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	QM-07
cis-1,2-Dichloroethene [156-59-2] ^	<0.50	U	ug/L	1	0.22	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
cis-1,3-Dichloropropene [10061-01-5] ^	<0.50	U	ug/L	1	0.35	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Dibromochloromethane [124-48-1] ^	<1.0	U	ug/L	1	0.27	1.0	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Dichlorodifluoromethane [75-71-8] ^	<0.50	U	ug/L	1	0.29	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Ethylbenzene [100-41-4] ^	<0.50	U	ug/L	1	0.26	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Methylene chloride [75-09-2] ^	<1.0	U	ug/L	1	0.62	1.0	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Methyl-tert-Butyl Ether [1634-04-4] ^	<0.50	U	ug/L	1	0.24	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Tetrachloroethene [127-18-4] ^	<0.50	U	ug/L	1	0.21	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Toluene [108-88-3] ^	<0.50	U	ug/L	1	0.30	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
trans-1,2-Dichloroethene [156-60-5] ^	<0.50	U	ug/L	1	0.30	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
trans-1,3-Dichloropropene [10061-02-6] ^	<0.50	U	ug/L	1	0.33	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Trichloroethene [79-01-6] ^	<1.0	U	ug/L	1	0.24	1.0	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Trichlorofluoromethane [75-69-4] ^	<0.50	U	ug/L	1	0.20	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Vinyl chloride [75-01-4] ^	<0.50	U	ug/L	1	0.33	0.50	1.0	EPA 8260B	10/14/10 03:08	JWJ	
Xylenes (Total) [1330-20-7] ^	<1.0	U	ug/L	1	0.50	1.0	1.0	EPA 8260B	10/14/10 03:08	JWJ	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
1,2-Dichloroethane-d4	*62*	*1*	*50.0*	*124 %*	*70-120*	*0J13013*	*EPA 8260B*	*10/14/10 03:08*	*JWJ*	*QS-03*
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*75-120*	*0J13013*	*EPA 8260B*	*10/14/10 03:08*	*JWJ*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*85-115*	*0J13013*	*EPA 8260B*	*10/14/10 03:08*	*JWJ*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*85-120*	*0J13013*	*EPA 8260B*	*10/14/10 03:08*	*JWJ*	

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QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0J13013 - EPA 5030B_MS

Blank (0J13013-BLK1) Prepared: 10/13/2010 11:40 Analyzed: 10/13/2010 12:42

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	<0.50	U	1.0	ug/L							
1,1,1-Trichloroethane	<0.50	U	1.0	ug/L							
1,1,2-Trichloroethane	<0.50	U	1.0	ug/L							
1,1-Dichloroethane	<0.50	U	1.0	ug/L							
1,1-Dichloroethene	<0.50	U	1.0	ug/L							
1,2,4-Trichlorobenzene	<0.50	U	1.0	ug/L							
1,2-Dibromoethane	<0.50	U	1.0	ug/L							
1,2-Dichlorobenzene	<0.50	U	1.0	ug/L							
1,2-Dichloroethane	<0.50	U	1.0	ug/L							
1,2-Dichloropropane	<1.0	U	1.0	ug/L							
1,3-Dichlorobenzene	<0.50	U	1.0	ug/L							
1,4-Dichlorobenzene	<0.50	U	1.0	ug/L							
2-Chloroethyl Vinyl Ether	<5.0	U	5.0	ug/L							
Benzene	<0.50	U	1.0	ug/L							
Bromodichloromethane	<0.50	U	1.0	ug/L							
Bromoform	<0.50	U	1.0	ug/L							
Bromomethane	<1.0	U	1.0	ug/L							
Carbon tetrachloride	<0.50	U	1.0	ug/L							
Chlorobenzene	<0.50	U	1.0	ug/L							
Chloroethane	<0.50	U	1.0	ug/L							
Chloroform	<0.50	U	1.0	ug/L							
Chloromethane	<0.50	U	1.0	ug/L							
cis-1,2-Dichloroethene	<0.50	U	1.0	ug/L							
cis-1,3-Dichloropropene	<0.50	U	1.0	ug/L							
Dibromochloromethane	<1.0	U	1.0	ug/L							
Dichlorodifluoromethane	<0.50	U	1.0	ug/L							
Ethylbenzene	<0.50	U	1.0	ug/L							
Methylene chloride	<1.0	U	1.0	ug/L							
Methyl-tert-Butyl Ether	<0.50	U	1.0	ug/L							
Tetrachloroethene	<0.50	U	1.0	ug/L							
Toluene	<0.50	U	1.0	ug/L							
trans-1,2-Dichloroethene	<0.50	U	1.0	ug/L							
trans-1,3-Dichloropropene	<0.50	U	1.0	ug/L							
Trichloroethene	<1.0	U	1.0	ug/L							
Trichlorofluoromethane	<0.50	U	1.0	ug/L							
Vinyl chloride	<0.50	U	1.0	ug/L							
Xylenes (Total)	<1.0	U	1.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*61*			*ug/L*	*50.0*		*122*	*70-120*			*QS-03*
Surrogate: 4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*105*	*75-120*			
Surrogate: Dibromofluoromethane	*58*			*ug/L*	*50.0*		*117*	*85-115*			*QS-03*
Surrogate: Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*85-120*			

LCS (0J13013-BS1) Prepared: 10/13/2010 11:40 Analyzed: 10/13/2010 13:12

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	47		1.0	ug/L	50.0		93	80-130			
1,1,1-Trichloroethane	49		1.0	ug/L	50.0		97	65-130			
1,1,2-Trichloroethane	46		1.0	ug/L	50.0		92	75-125			

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Batch 0J13013 - EPA 5030B_MS

LCS (0J13013-BS1) Continued Prepared: 10/13/2010 11:40 Analyzed: 10/13/2010 13:12

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethane	50		1.0	ug/L	50.0		101	70-135			
1,1-Dichloroethene	36		1.0	ug/L	50.0		73	70-130			
1,2,4-Trichlorobenzene	48		1.0	ug/L	50.0		97	65-135			
1,2-Dibromoethane	47		1.0	ug/L	50.0		93	80-120			
1,2-Dichlorobenzene	49		1.0	ug/L	50.0		98	70-120			
1,2-Dichloroethane	53		1.0	ug/L	50.0		105	70-130			
1,2-Dichloropropane	50		1.0	ug/L	50.0		100	75-125			
1,3-Dichlorobenzene	49		1.0	ug/L	50.0		98	75-125			
1,4-Dichlorobenzene	49		1.0	ug/L	50.0		97	75-125			
2-Chloroethyl Vinyl Ether	56		5.0	ug/L	50.0		111	10-200			
Benzene	46		1.0	ug/L	50.0		92	80-120			
Bromodichloromethane	50		1.0	ug/L	50.0		101	75-120			
Bromoform	47		1.0	ug/L	50.0		94	70-130			
Bromomethane	41		1.0	ug/L	50.0		82	30-145			
Carbon tetrachloride	45		1.0	ug/L	50.0		90	65-140			
Chlorobenzene	48		1.0	ug/L	50.0		96	80-120			
Chloroethane	51		1.0	ug/L	50.0		102	60-135			
Chloroform	51		1.0	ug/L	50.0		103	65-135			
Chloromethane	53		1.0	ug/L	50.0		107	40-125			
cis-1,2-Dichloroethene	44		1.0	ug/L	50.0		89	70-125			
cis-1,3-Dichloropropene	52		1.0	ug/L	50.0		103	70-130			
Dibromochloromethane	48		1.0	ug/L	50.0		96	60-135			
Dichlorodifluoromethane	57		1.0	ug/L	50.0		113	30-155			
Ethylbenzene	48		1.0	ug/L	50.0		96	75-125			
Methylene chloride	42		1.0	ug/L	50.0		84	55-140			
Methyl-tert-Butyl Ether	53		1.0	ug/L	50.0		106	65-125			
Tetrachloroethene	45		1.0	ug/L	50.0		89	45-150			
Toluene	46		1.0	ug/L	50.0		93	75-120			
trans-1,2-Dichloroethene	43		1.0	ug/L	50.0		86	60-140			
trans-1,3-Dichloropropene	56		1.0	ug/L	50.0		112	55-140			
Trichloroethene	45		1.0	ug/L	50.0		90	70-125			
Trichlorofluoromethane	54		1.0	ug/L	50.0		108	60-145			
Vinyl chloride	61		1.0	ug/L	50.0		123	50-145			
Surrogate: 1,2-Dichloroethane-d4	*59*			*ug/L*	*50.0*		*118*	*70-120*			
Surrogate: 4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*75-120*			
Surrogate: Dibromofluoromethane	*55*			*ug/L*	*50.0*		*109*	*85-115*			
Surrogate: Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*85-120*			

Matrix Spike (0J13013-MS1) Prepared: 10/13/2010 11:40 Analyzed: 10/13/2010 13:50

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	57		1.0	ug/L	50.0	0.20 U	115	80-130		30	
1,1,1-Trichloroethane	61		1.0	ug/L	50.0	0.20 U	122	65-130		30	
1,1,2-Trichloroethane	56		1.0	ug/L	50.0	0.40 U	113	75-125		30	
1,1-Dichloroethane	61		1.0	ug/L	50.0	0.30 U	122	70-135		30	
1,1-Dichloroethene	47		1.0	ug/L	50.0	0.21 U	95	70-130		30	
1,2,4-Trichlorobenzene	62		1.0	ug/L	50.0	0.41 U	124	65-135		30	

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Batch 0J13013 - EPA 5030B_MS

Matrix Spike (0J13013-MS1) Continued Prepared: 10/13/2010 11:40 Analyzed: 10/13/2010 13:50

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	55		1.0	ug/L	50.0	0.27 U	110	80-120		30	
1,2-Dichlorobenzene	60		1.0	ug/L	50.0	0.24 U	120	70-120		30	
1,2-Dichloroethane	63		1.0	ug/L	50.0	0.28 U	126	70-130		30	
1,2-Dichloropropane	61		1.0	ug/L	50.0	0.30 U	123	75-125		30	
1,3-Dichlorobenzene	62		1.0	ug/L	50.0	0.27 U	125	75-125		30	
1,4-Dichlorobenzene	61		1.0	ug/L	50.0	0.23 U	121	75-125		30	
2-Chloroethyl Vinyl Ether	9.4		5.0	ug/L	50.0	1.5 U	19	10-200		50	
Benzene	57		1.0	ug/L	50.0	0.27 U	114	80-120		30	
Bromodichloromethane	62		1.0	ug/L	50.0	0.20 U	124	75-120		30	QM-07
Bromoform	56		1.0	ug/L	50.0	0.33 U	113	70-130		30	
Bromomethane	72		1.0	ug/L	50.0	0.64 U	145	30-145		30	
Carbon tetrachloride	59		1.0	ug/L	50.0	0.20 U	118	65-140		30	
Chlorobenzene	60		1.0	ug/L	50.0	0.24 U	121	80-120		30	QM-07
Chloroethane	54		1.0	ug/L	50.0	0.31 U	109	60-135		30	
Chloroform	63		1.0	ug/L	50.0	0.21 U	126	65-135		30	
Chloromethane	63		1.0	ug/L	50.0	0.46	126	40-125		30	QM-07
cis-1,2-Dichloroethene	55		1.0	ug/L	50.0	0.22 U	110	70-125		30	
cis-1,3-Dichloropropene	64		1.0	ug/L	50.0	0.35 U	127	70-130		30	
Dibromochloromethane	58		1.0	ug/L	50.0	0.27 U	116	60-135		30	
Dichlorodifluoromethane	70		1.0	ug/L	50.0	0.29 U	141	30-155		30	
Ethylbenzene	61		1.0	ug/L	50.0	0.26 U	122	75-125		30	
Methylene chloride	52		1.0	ug/L	50.0	0.62 U	103	55-140		30	
Methyl-tert-Butyl Ether	62		1.0	ug/L	50.0	0.24 U	124	65-125		30	
Tetrachloroethene	58		1.0	ug/L	50.0	0.21 U	116	45-150		30	
Toluene	59		1.0	ug/L	50.0	0.30 U	118	75-120		30	
trans-1,2-Dichloroethene	53		1.0	ug/L	50.0	0.30 U	106	60-140		30	
trans-1,3-Dichloropropene	68		1.0	ug/L	50.0	0.33 U	135	55-140		30	
Trichloroethene	58		1.0	ug/L	50.0	0.24 U	116	70-125		30	
Trichlorofluoromethane	67		1.0	ug/L	50.0	0.20 U	135	60-145		30	
Vinyl chloride	68		1.0	ug/L	50.0	0.33 U	136	50-145		30	
Surrogate: 1,2-Dichloroethane-d4	*60*			*ug/L*	*50.0*		*120*	*70-120*			
Surrogate: 4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*106*	*75-120*			
Surrogate: Dibromofluoromethane	*55*			*ug/L*	*50.0*		*110*	*85-115*			
Surrogate: Toluene-d8	*54*			*ug/L*	*50.0*		*107*	*85-120*			

Matrix Spike Dup (0J13013-MSD1) Prepared: 10/13/2010 11:40 Analyzed: 10/13/2010 15:03

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	54		1.0	ug/L	50.0	0.20 U	108	80-130	6	30	
1,1,1-Trichloroethane	56		1.0	ug/L	50.0	0.20 U	112	65-130	8	30	
1,1,2-Trichloroethane	54		1.0	ug/L	50.0	0.40 U	107	75-125	5	30	
1,1-Dichloroethane	54		1.0	ug/L	50.0	0.30 U	107	70-135	13	30	
1,1-Dichloroethene	41		1.0	ug/L	50.0	0.21 U	81	70-130	15	30	
1,2,4-Trichlorobenzene	55		1.0	ug/L	50.0	0.41 U	111	65-135	12	30	
1,2-Dibromoethane	52		1.0	ug/L	50.0	0.27 U	105	80-120	5	30	
1,2-Dichlorobenzene	56		1.0	ug/L	50.0	0.24 U	112	70-120	6	30	

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Batch 0J13013 - EPA 5030B_MS

Matrix Spike Dup (0J13013-MSD1) Continued Prepared: 10/13/2010 11:40 Analyzed: 10/13/2010 15:03

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dichloroethane	57		1.0	ug/L	50.0	0.28 U	114	70-130	10	30	
1,2-Dichloropropane	57		1.0	ug/L	50.0	0.30 U	114	75-125	7	30	
1,3-Dichlorobenzene	57		1.0	ug/L	50.0	0.27 U	114	75-125	9	30	
1,4-Dichlorobenzene	57		1.0	ug/L	50.0	0.23 U	114	75-125	6	30	
2-Chloroethyl Vinyl Ether	1.6	J	5.0	ug/L	50.0	1.5 U	3	10-200	140	50	QM-07, QM-11
Benzene	52		1.0	ug/L	50.0	0.27 U	103	80-120	10	30	
Bromodichloromethane	58		1.0	ug/L	50.0	0.20 U	117	75-120	6	30	
Bromoform	53		1.0	ug/L	50.0	0.33 U	107	70-130	5	30	
Bromomethane	59		1.0	ug/L	50.0	0.64 U	117	30-145	21	30	
Carbon tetrachloride	53		1.0	ug/L	50.0	0.20 U	106	65-140	11	30	
Chlorobenzene	57		1.0	ug/L	50.0	0.24 U	113	80-120	6	30	
Chloroethane	50		1.0	ug/L	50.0	0.31 U	101	60-135	8	30	
Chloroform	56		1.0	ug/L	50.0	0.21 U	113	65-135	11	30	
Chloromethane	57		1.0	ug/L	50.0	0.46	113	40-125	10	30	
cis-1,2-Dichloroethene	50		1.0	ug/L	50.0	0.22 U	100	70-125	10	30	
cis-1,3-Dichloropropene	57		1.0	ug/L	50.0	0.35 U	114	70-130	11	30	
Dibromochloromethane	55		1.0	ug/L	50.0	0.27 U	111	60-135	5	30	
Dichlorodifluoromethane	63		1.0	ug/L	50.0	0.29 U	126	30-155	11	30	
Ethylbenzene	56		1.0	ug/L	50.0	0.26 U	113	75-125	8	30	
Methylene chloride	47		1.0	ug/L	50.0	0.62 U	94	55-140	9	30	
Methyl-tert-Butyl Ether	55		1.0	ug/L	50.0	0.24 U	110	65-125	12	30	
Tetrachloroethene	56		1.0	ug/L	50.0	0.21 U	112	45-150	4	30	
Toluene	54		1.0	ug/L	50.0	0.30 U	109	75-120	8	30	
trans-1,2-Dichloroethene	47		1.0	ug/L	50.0	0.30 U	95	60-140	11	30	
trans-1,3-Dichloropropene	65		1.0	ug/L	50.0	0.33 U	130	55-140	4	30	
Trichloroethene	52		1.0	ug/L	50.0	0.24 U	104	70-125	11	30	
Trichlorofluoromethane	64		1.0	ug/L	50.0	0.20 U	128	60-145	5	30	
Vinyl chloride	60		1.0	ug/L	50.0	0.33 U	120	50-145	12	30	
Surrogate: 1,2-Dichloroethane-d4	*58*			*ug/L*	*50.0*		*116*	*70-120*			
Surrogate: 4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*107*	*75-120*			
Surrogate: Dibromofluoromethane	*53*			*ug/L*	*50.0*		*107*	*85-115*			
Surrogate: Toluene-d8	*53*			*ug/L*	*50.0*		*107*	*85-120*			

Semivolatile Organic Compounds by GCMS SIM - Quality Control

Batch 0J07007 - EPA 3510C_MS

Blank (0J07007-BLK1) Prepared: 10/07/2010 12:04 Analyzed: 10/07/2010 20:03

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1-Methylnaphthalene	<0.030	U	0.10	ug/L							
2-Methylnaphthalene	<0.031	U	0.10	ug/L							
Acenaphthene	<0.030	U	0.10	ug/L							
Acenaphthylene	<0.030	U	0.10	ug/L							
Anthracene	<0.030	U	0.10	ug/L							
Benzo(a)anthracene	<0.030	U	0.10	ug/L							
Benzo(a)pyrene	<0.030	U	0.10	ug/L							
Benzo(b)fluoranthene	<0.030	U	0.10	ug/L							

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Semivolatile Organic Compounds by GCMS SIM - Quality Control

Batch 0J07007 - EPA 3510C_MS

Blank (0J07007-BLK1) Continued Prepared: 10/07/2010 12:04 Analyzed: 10/07/2010 20:03

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Benzo(g,h,i)perylene	<0.030	U	0.10	ug/L							
Benzo(k)fluoranthene	<0.030	U	0.10	ug/L							
Chrysene	<0.030	U	0.10	ug/L							
Dibenzo(a,h)anthracene	<0.030	U	0.10	ug/L							
Fluoranthene	<0.030	U	0.10	ug/L							
Fluorene	<0.030	U	0.10	ug/L							
Indeno(1,2,3-cd)pyrene	<0.030	U	0.10	ug/L							
Naphthalene	<0.030	U	0.10	ug/L							
Phenanthrene	<0.030	U	0.10	ug/L							
Pyrene	<0.030	U	0.10	ug/L							
Surrogate: p-Terphenyl	*3.3*			*ug/L*	*5.00*		*66*	*39-148*			

LCS (0J07007-BS1) Prepared: 10/07/2010 12:04 Analyzed: 10/07/2010 20:25

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1-Methylnaphthalene	1.1		0.10	ug/L	2.00		53	41-120			
2-Methylnaphthalene	1.1		0.10	ug/L	2.00		57	45-105			
Acenaphthene	1.2		0.10	ug/L	2.00		60	35-105			
Acenaphthylene	1.0		0.10	ug/L	2.00		52	35-115			
Anthracene	1.3		0.10	ug/L	2.00		66	40-110			
Benzo(a)anthracene	1.4		0.10	ug/L	2.00		68	50-110			
Benzo(a)pyrene	1.4		0.10	ug/L	2.00		68	45-115			
Benzo(b)fluoranthene	1.5		0.10	ug/L	2.00		73	50-110			
Benzo(g,h,i)perylene	1.0		0.10	ug/L	2.00		52	35-120			
Benzo(k)fluoranthene	1.5		0.10	ug/L	2.00		74	50-110			
Chrysene	1.4		0.10	ug/L	2.00		68	50-115			
Dibenzo(a,h)anthracene	1.1		0.10	ug/L	2.00		53	20-110			
Fluoranthene	1.4		0.10	ug/L	2.00		69	50-115			
Fluorene	1.2		0.10	ug/L	2.00		62	35-105			
Indeno(1,2,3-cd)pyrene	1.1		0.10	ug/L	2.00		54	45-110			
Naphthalene	1.1		0.10	ug/L	2.00		57	35-105			
Phenanthrene	1.2		0.10	ug/L	2.00		61	40-120			
Pyrene	1.3		0.10	ug/L	2.00		65	50-110			
Surrogate: p-Terphenyl	*3.2*			*ug/L*	*5.00*		*64*	*39-148*			

Matrix Spike (0J07007-MS1) Prepared: 10/07/2010 12:04 Analyzed: 10/07/2010 20:48

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1-Methylnaphthalene	1.1		0.10	ug/L	2.00	0.030 U	54	41-120			
2-Methylnaphthalene	1.2		0.10	ug/L	2.00	0.031 U	59	45-105			
Acenaphthene	1.2		0.10	ug/L	2.00	0.030 U	60	35-105			
Acenaphthylene	1.1		0.10	ug/L	2.00	0.030 U	53	35-115			
Anthracene	1.4		0.10	ug/L	2.00	0.030 U	68	40-110			
Benzo(a)anthracene	1.3		0.10	ug/L	2.00	0.030 U	67	50-110			
Benzo(a)pyrene	1.4		0.10	ug/L	2.00	0.030 U	70	45-115			
Benzo(b)fluoranthene	1.4		0.10	ug/L	2.00	0.030 U	69	50-110			

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Semivolatile Organic Compounds by GCMS SIM - Quality Control

Batch 0J07007 - EPA 3510C_MS

Matrix Spike (0J07007-MS1) Continued Prepared: 10/07/2010 12:04 Analyzed: 10/07/2010 20:48

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Benzo(g,h,i)perylene	1.0		0.10	ug/L	2.00	0.030 U	51	35-120			
Benzo(k)fluoranthene	1.4		0.10	ug/L	2.00	0.030 U	72	50-110			
Chrysene	1.3		0.10	ug/L	2.00	0.030 U	66	50-115			
Dibenzo(a,h)anthracene	1.1		0.10	ug/L	2.00	0.030 U	53	20-110			
Fluoranthene	1.4		0.10	ug/L	2.00	0.030 U	69	50-115			
Fluorene	1.2		0.10	ug/L	2.00	0.030 U	62	35-105			
Indeno(1,2,3-cd)pyrene	1.1		0.10	ug/L	2.00	0.030 U	54	45-110			
Naphthalene	1.2		0.10	ug/L	2.00	0.030 U	59	35-105			
Phenanthrene	1.2		0.10	ug/L	2.00	0.030 U	60	40-120			
Pyrene	1.3		0.10	ug/L	2.00	0.030 U	66	50-110			
Surrogate: p-Terphenyl	*3.1*			*ug/L*	*5.00*		*62*	*39-148*			

Matrix Spike Dup (0J07007-MSD1) Prepared: 10/07/2010 12:04 Analyzed: 10/07/2010 21:11

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1-Methylnaphthalene	1.2		0.10	ug/L	2.00	0.030 U	58	41-120	5	30	
2-Methylnaphthalene	1.2		0.10	ug/L	2.00	0.031 U	62	45-105	5	30	
Acenaphthene	1.3		0.10	ug/L	2.00	0.030 U	64	35-105	7	30	
Acenaphthylene	1.1		0.10	ug/L	2.00	0.030 U	56	35-115	6	30	
Anthracene	1.4		0.10	ug/L	2.00	0.030 U	71	40-110	5	30	
Benzo(a)anthracene	1.4		0.10	ug/L	2.00	0.030 U	71	50-110	6	30	
Benzo(a)pyrene	1.5		0.10	ug/L	2.00	0.030 U	73	45-115	5	30	
Benzo(b)fluoranthene	1.5		0.10	ug/L	2.00	0.030 U	73	50-110	6	30	
Benzo(g,h,i)perylene	1.1		0.10	ug/L	2.00	0.030 U	56	35-120	8	30	
Benzo(k)fluoranthene	1.5		0.10	ug/L	2.00	0.030 U	76	50-110	5	30	
Chrysene	1.4		0.10	ug/L	2.00	0.030 U	70	50-115	4	30	
Dibenzo(a,h)anthracene	1.1		0.10	ug/L	2.00	0.030 U	56	20-110	6	30	
Fluoranthene	1.4		0.10	ug/L	2.00	0.030 U	72	50-115	4	30	
Fluorene	1.3		0.10	ug/L	2.00	0.030 U	66	35-105	6	30	
Indeno(1,2,3-cd)pyrene	1.1		0.10	ug/L	2.00	0.030 U	57	45-110	6	30	
Naphthalene	1.2		0.10	ug/L	2.00	0.030 U	62	35-105	4	30	
Phenanthrene	1.2		0.10	ug/L	2.00	0.030 U	62	40-120	4	30	
Pyrene	1.4		0.10	ug/L	2.00	0.030 U	68	50-110	4	30	
Surrogate: p-Terphenyl	*3.2*			*ug/L*	*5.00*		*64*	*39-148*			

Semivolatile Organic Compounds by GC - Quality Control

Batch 0J05009 - EPA 8011

Blank (0J05009-BLK1) Prepared: 10/05/2010 11:33 Analyzed: 10/06/2010 12:29

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	<0.020	U	0.040	ug/L							
Surrogate: 1,1,1,2-Tetrachloroethane	*0.19*			*ug/L*	*0.250*		*75*	*33-122*			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC - Quality Control

Batch 0J05009 - EPA 8011

LCS (0J05009-BS1) Prepared: 10/05/2010 11:33 Analyzed: 10/06/2010 12:43

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	0.20		0.040	ug/L	0.250		79	49-154		30	
Surrogate: 1,1,1,2-Tetrachloroethane	*0.18*			*ug/L*	*0.250*		*73*	*33-122*			

Matrix Spike (0J05009-MS1) Prepared: 10/05/2010 11:33 Analyzed: 10/06/2010 12:57

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	0.21		0.040	ug/L	0.250	0.012 U	83	49-154		30	
Surrogate: 1,1,1,2-Tetrachloroethane	*0.19*			*ug/L*	*0.250*		*75*	*33-122*			

Matrix Spike Dup (0J05009-MSD1) Prepared: 10/05/2010 11:33 Analyzed: 10/06/2010 13:12

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromoethane	0.23		0.040	ug/L	0.250	0.012 U	91	49-154	9	30	
Surrogate: 1,1,1,2-Tetrachloroethane	*0.18*			*ug/L*	*0.250*		*72*	*33-122*			

FL Petroleum Range Organics - Quality Control

Batch 0J07005 - EPA 3510C

Blank (0J07005-BLK1) Prepared: 10/07/2010 09:55 Analyzed: 10/07/2010 21:48

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
TPH (C8-C40)	<85	U	170	ug/L							
Surrogate: n-Nonatriacontane	*100*			*ug/L*	*100*		*105*	*37-189*			
Surrogate: o-Terphenyl	*56*			*ug/L*	*50.0*		*112*	*68-118*			

LCS (0J07005-BS1) Prepared: 10/07/2010 09:55 Analyzed: 10/07/2010 22:11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
TPH (C8-C40)	1700		170	ug/L	1700		101	55-118			
Surrogate: n-Nonatriacontane	*91*			*ug/L*	*100*		*91*	*42-193*			
Surrogate: o-Terphenyl	*52*			*ug/L*	*50.0*		*105*	*82-142*			

Matrix Spike (0J07005-MS1) Prepared: 10/07/2010 09:55 Analyzed: 10/07/2010 22:35

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
TPH (C8-C40)	1900		170	ug/L	1790	27 U	104	65-126		15	
Surrogate: n-Nonatriacontane	*100*			*ug/L*	*105*		*98*	*37-189*			
Surrogate: o-Terphenyl	*57*			*ug/L*	*52.6*		*108*	*68-118*			

Matrix Spike Dup (0J07005-MSD1) Prepared: 10/07/2010 09:55 Analyzed: 10/07/2010 22:58

Source: B004502-11

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QUALITY CONTROL

FL Petroleum Range Organics - Quality Control

Batch 0J07005 - EPA 3510C

Matrix Spike Dup (0J07005-MSD1) Continued Prepared: 10/07/2010 09:55 Analyzed: 10/07/2010 22:58

Source: B004502-11

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
TPH (C8-C40)	1800		170	ug/L	1790	27 U	100	65-126	4	15	
Surrogate: n-Nonatriacontane	*100*			*ug/L*	*105*		*97*	*37-189*			
Surrogate: o-Terphenyl	*54*			*ug/L*	*52.6*		*104*	*68-118*			

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0J05019 - EPA 3005A

Blank (0J05019-BLK1) Prepared: 10/05/2010 17:00 Analyzed: 10/06/2010 10:12

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	<20.0	U	40.0	ug/L							
Arsenic	<10.0	U	20.0	ug/L							
Lead	<10.0	U	20.0	ug/L							
Silver	<5.00	U	10.0	ug/L							
Zinc	<10.0	U	10.0	ug/L							

LCS (0J05019-BS1) Prepared: 10/05/2010 17:00 Analyzed: 10/06/2010 10:14

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	481		40.0	ug/L	500		96	85-115			
Arsenic	492		20.0	ug/L	500		98	85-115			
Lead	499		20.0	ug/L	500		100	85-115			
Silver	101		10.0	ug/L	100		101	85-115			
Zinc	492		10.0	ug/L	500		98	85-115			

Matrix Spike (0J05019-MS1) Prepared: 10/05/2010 17:00 Analyzed: 10/06/2010 10:16

Source: B004502-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	500		40.0	ug/L	500	13.0 U	100	80-120			
Arsenic	543		20.0	ug/L	500	27.9	103	80-120			
Lead	500		20.0	ug/L	500	2.90 U	100	80-120			
Silver	106		10.0	ug/L	100	1.86	104	80-120			
Zinc	492		10.0	ug/L	500	3.50 U	98	80-120			

Matrix Spike Dup (0J05019-MSD1) Prepared: 10/05/2010 17:00 Analyzed: 10/06/2010 10:18

Source: B004502-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	491		40.0	ug/L	500	13.0 U	98	80-120	2	30	
Arsenic	534		20.0	ug/L	500	27.9	101	80-120	2	30	
Lead	491		20.0	ug/L	500	2.90 U	98	80-120	2	30	
Silver	104		10.0	ug/L	100	1.86	102	80-120	1	30	
Zinc	480		10.0	ug/L	500	3.50 U	96	80-120	2	30	

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
I	The reported result is an estimated value.
U	Analyte was not detected and is reported as less than the LOD or as defined by the client. The LOD has been adjusted for any dilution or concentration of the sample.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
N	Non-target analyte.
Q	One or more quality control criteria failed.
J-05	Result estimated, calibration verification standard failed with low bias.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-11	Precision between duplicate matrix spikes of the same sample was outside acceptance limits.
QS-03	Surrogate recovery outside acceptance limits.

B004502

TETRA TECH NUS, INC. CHAIN OF CUSTODY NUMBER 0981 PAGE ____ OF _____

PROJECT NO:	FACILITY: NAVSTA MAYPORT	PROJECT MANAGER: GREG ROOF	PHONE NUMBER: 904-636-6125	LABORATORY NAME AND CONTACT: ENCO - CHRIS TOMPKINS
SAMPLERS (SIGNATURE): K-W-L+		FIELD OPERATIONS LEADER: DAVID SIEFKEN	PHONE NUMBER: 904-636-6125	ADDRESS:
		CARRIER/WAYBILL NUMBER: DROP OFF		CITY, STATE: JACKSONVILLE, FL

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

DATE YEAR 2010	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	METALS - 200.7 Sb, Ba, As, Ag, Zn	8270D - PAH	TLPHC	METALS - 200.7 - Pb	VOCS - 8260B	EDB - 8011			COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)									P	G	G	P	G	G			
PRESERVATIVE USED									HNO3	-	H2SO4	HNO3	HCl	Het			
10/1	0837	MPT-SWMU23-MW06S-20101001				GW	G	3	3								- MS/MSD COLLECTED
	0940	MPT-SWMU01-P01S-20101001				GW	G	1	1								- ALL SAMPLES COOLED TO 4°C
	1018	MPT-SWMU45-MW01D-20101001				GW	G	1	1								
	1103	MPT-SWMU01-MW01I-20101001				GW	G	1	1								
	0830	MPT-SWMU45-MW02S-20101001				GW	G	1	1								- TRIPBLANK INCLUDED 0000
	0915	MPT-SWMU44-MW01S-20101001				GW	G	1	1								
	0945	MPT-SWMU44-MW01D-20101001				GW	G	1	1								
	1105	MPT-SWMU01-MW01S-20101001				GW	G	1	1								
	1230	MPT-SWMU01-MW01D-20101001				GW	G	1	1								
	1428	MPT-283-MW02S-20101001				GW	G	9		1	2	1	3	2			
	1420	MPT-283-MW01S-20101001				GW	G	27		3	6	3	9	6			- MS/MSD COLLECTED
	0730	MPT-SWMU01-RINSATE01-20101001				QC	G	1	1								
	0845	MPT-SWMU01-RINSATE02-20101001				QC	G	1	1								- RINSATE

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY: K-W-L+	10-1-10	1615	1. RECEIVED BY: C. Tomp	10/1/10	1615
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS: LR 16 @ 4.1°C JK 215 @ 1.2

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

4/02R
FORM NO. TtNUS-001