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NAS CECIL FIELD, FL
5090.3a

SITE ASSESSMENT REPORT FOR BUILDING 437 TANK 437 BASE REALIGNMENT AND
CLOSURE NAS CECIL FIELD FL
2/11/2000
TETRA TECH NUS INC

Site Assessment Report
for
Building 437, Tank 437

Base Realignment and Closure

Naval Air Station Cecil Field
Jacksonville, Florida



Southern Division
Naval Facilities Engineering Command
Contract Number N62467-94-D-0888
Contract Task Order 0108

February 2000

**SITE ASSESSMENT REPORT
FOR
BUILDING 437, TANK 437
BASE REALIGNMENT AND CLOSURE**

**NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, 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**

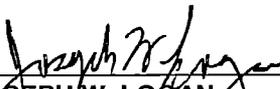
**Submitted by:
Tetra Tech NUS, Inc.
661 Andersen Drive
Foster Plaza 7
Pittsburgh, Pennsylvania 15220**

**CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0108**

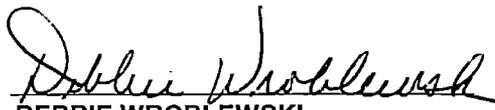
FEBRUARY 2000

PREPARED UNDER THE SUPERVISION OF:

APPROVED FOR SUBMITTAL BY:



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CERTIFICATION OF TECHNICAL DATA CONFORMITY

The Contractor, Tetra Tech NUS, Inc., hereby certifies that, to the best of it's knowledge and belief, the technical data delivered herewith under the Contract No. N62467-94-D-0888 are complete and accurate and comply with all requirement of this contract.

Date 02/11/00

Name and Title of Certifying Official: Joseph W. Logan
Task Order Manager

Name and Title of Certifying Official: Mervin W. Dale, P.G.
Technical Lead

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ACRONYMS

AST	Above Ground Storage Tank
BTOC	Below Top of Casing
CompQAP	Comprehensive Quality Assurance Plan
CSR	Confirmatory Sampling Report
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
GCTL	Groundwater Cleanup Target Level
HLA	Harding Lawson Associates
KAG	Kerosene Analytical Group
NAS	Naval Air Station
UST	Underground Storage Tank
SA	Site Assessment
SAR	Site Assessment Report
SCTL	Soil Cleanup Target Level
PAH	Polycyclic Aromatic Hydrocarbons
TRPH	Total Recoverable Petroleum Hydrocarbons

1.0 INTRODUCTION

Tetra Tech NUS, Inc. was authorized by Southern Division, Naval Facilities Engineering Command to conduct a site assessment (SA) and develop a Site Assessment Report (SAR) for the Tank Site 437 at Naval Air Station (NAS) Cecil Field in Jacksonville, Duval County, Florida. A Site Assessment Plan for the assessment of soil and groundwater at Tank Sites 337, 437, 815, 860 (Tanks A, B, and D) and G-82/G-82A was prepared by Tetra Tech NUS, Inc. in August 1999. Attached figures show the location of NAS Cecil Field and the general location of Tank 437.

Tank Site 437 is a former underground storage tank (UST) used to store heating oil. The UST was located in an area north of Building 437 (base housing). The 350 gallon tank was installed in 1955 and removed in 1995. Closure documentation prepared by Innovative Services International, Inc (ISI, 1995) indicated that vinyl chloride was present in groundwater at a concentration of 1.5 micrograms per liter ($\mu\text{g/L}$) which is above the Florida groundwater cleanup target level (GCTL) of 1.0 $\mu\text{g/L}$.

Confirmatory sampling conducted by Harding Lawson Associates (HLA, 1999) consisted of the installation and sampling of a monitoring well (CEF-437-1S) for the kerosene analytical group (KAG). The results of this sampling indicated several hydrocarbon constituents were present, but only total xylenes detected at 21.0 $\mu\text{g/L}$ exceeded the appropriate GCTLs. The results of the sampling effort were reported in a Confirmatory Sampling Report (CSR) in April (HLA, 1999). The CSR recommended that a site assessment be conducted.

2.0 FIELD INVESTIGATION

The SA was initiated on September 28, 1999 and included:

- Installation and sampling of two monitoring wells.
- One hand auger soil boring and collection of one soil sample for analyses.
- Collection of a groundwater sample from a previously existing well.
- Analyses of all samples for KAG constituents.

The methodologies and equipment that were used during this SA are in accordance with the Tetra Tech NUS, Inc. Comprehensive Quality Assurance Plan (Comp QAP # 980038) as approved by the Florida Department of Environmental Protection (FDEP). Field investigations performed during the site assessment sampling are included to provide a thorough overview of all investigative work performed. A site location map is provided in Figure 2-1.

On October 13, 1999, a hand auger boring was advanced 1.5 feet to the south of the previously installed well CEF-437-1S to obtain a soil sample for analyses. The soil boring was advanced to a depth of 2.5 feet where groundwater was encountered. Field screening conducted with an organic vapor analyzer (OVA) indicated no volatile organic constituents were detected in soil samples collected from the boring. A soil sample was collected from the 1.5-foot interval and submitted to the laboratory to be tested for KAG constituents. The location of the soil boring is provided on Figure 2-2.

On September 28, 1999, Tetra Tech NUS, Inc. personnel supervised the drilling and installation of two monitoring wells at Tank Site 437. The upgradient and downgradient locations of the monitoring wells were based on other tank investigations in the housing area conducted by HLA. Monitoring well construction details are presented in Table 2-1. Monitoring Well locations are shown on Figure 2-2. Well CEF-437-2S was installed upgradient of the former tank location and completed to a depth of approximately 12 feet. Well CEF-437-3S was installed downgradient of the former tank location and completed to approximately 13 feet in depth. Well CEF-437-1S was previously installed adjacent to the former tank location and is approximately 12 feet in depth.

The monitoring wells (2S and 3S) were installed using the hollow-stem auger drilling method. These monitoring wells were constructed of 2-inch diameter, Schedule 40 PVC screen and casing. The screen lengths were 10 feet with a slotted opening of 0.010 inch. A 20/30-grade quartz sand filter pack was placed around the screen extending from the bottom of the bore hole to a minimum depth of one foot above the top of screen. The seals consisted of 0.5 feet of 30/65-grade fine sand placed directly on top of the filter pack.

The remainder of the annular space on the wells was filled with neat cement to the ground surface. Monitoring well boring and construction logs are presented in Appendix A.

In October of 1999, groundwater quality samples were collected from two newly installed and one existing monitoring well using low flow sampling techniques. Turbidity, temperature, conductivity, and pH were monitored during purging to ensure that groundwater samples were representative of aquifer conditions.

Accutest Laboratories, Orlando, Florida, analyzed the samples. The samples were analyzed for the FAC Chapter 62-770, KAG which include volatile organic compounds (8260B), polynuclear aromatic hydrocarbons (8310B), lead (239.2), 1,2 dibromoethane – EDB (504.1), and TRPH (FL-PRO).

In October 1999, a Florida registered land surveyor conducted a formal monitoring well elevation and location survey at the site.

3.0 SITE ASSESSMENT RESULTS

This chapter presents the results of the soil and groundwater investigations conducted at Tank 437. The results are summarized in tables and on figures presented herein. A complete soil and groundwater analytical data set is presented in Appendix B.

Groundwater elevations obtained from the monitoring wells indicate that groundwater is slightly mounded in the vicinity of the former tank location. Due to this mounding effect, no groundwater contour map was constructed. Based on other investigations in the housing area, groundwater flow in the vicinity of the site is to the southeast.

Analytical results of the soil sample collected from the soil boring advanced adjacent to well CEF-437-1S indicated that no KAG parameters were detected.

KAG constituent results were obtained from groundwater samples collected from the three monitoring wells at Tank 437. The results of laboratory analyses are presented in Table 3-1. Review of the Table show all results are either below method detection limits, or if detected the results are below their respective GCTL values.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on the results of this SA.

Based on the field investigation and laboratory analyses of soil and groundwater, the following conclusions are made:

- The contaminant source, Tank 437, has been removed and no longer presents a potential threat for environmental impact.
- Soils at Tank 437 are below respective SCTLs. As a result, no further action is required to address soil impacts.
- The results of groundwater analyses indicate all constituents of concern are below respective GCTLs. As a result, no further action is required to address groundwater impacts.

Based on the lack concentrations in soils and groundwater above respective KAG target level concentrations, no further action is recommended.



40 0 40 Feet

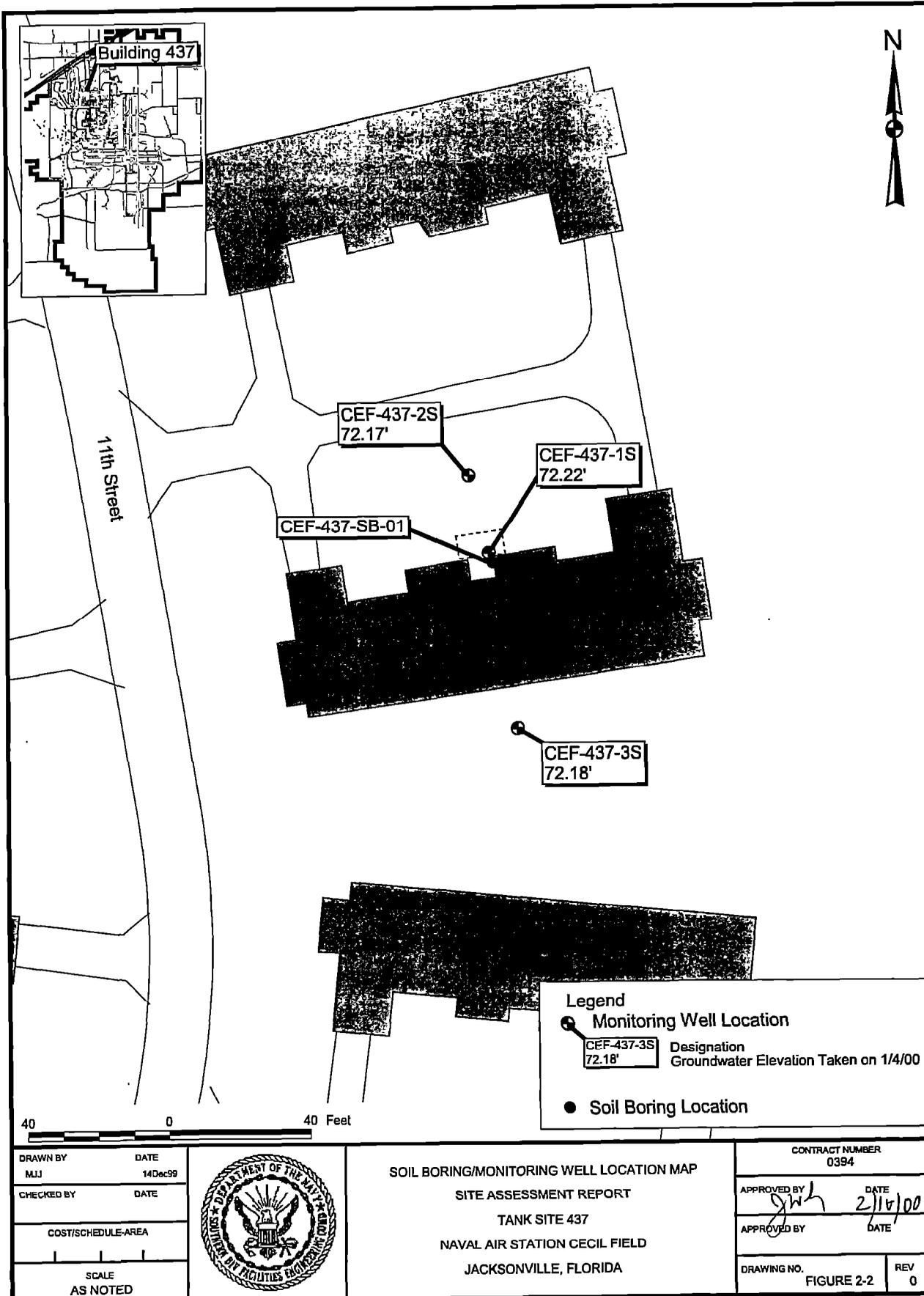
Legend
 ---- Former Tank Location

DRAWN BY MJJ	DATE 14Dec99
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



SITE PLAN
 SITE ASSESSMENT REPORT
 TANK SITE 437
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER 0394	
APPROVED BY <i>JWH</i>	DATE 2/18/00
APPROVED BY	DATE
DRAWING NO. FIGURE 2-1	REV 0



DRAWN BY MJJ	DATE 14Dec99
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



SOIL BORING/MONITORING WELL LOCATION MAP
 SITE ASSESSMENT REPORT
 TANK SITE 437
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER 0394	
APPROVED BY <i>gwh</i>	DATE 2/16/00
APPROVED BY	DATE
DRAWING NO. FIGURE 2-2	REV 0

<p align="center">Table 2-1 Monitoring Well Construction and Water Table Elevation Data</p> <p align="center">Site Assessment Report Tank Site 437 Naval Air Station Cecil Field Jacksonville, Florida</p>					
Monitoring Well	Well Depth (ft BTOC)	Top-of-Casing Elevation	Screened Interval (feet bls)	January 4, 2000	
				Depth to Water (BTOC)	Water-Level Elevation
CEF-437-1S	11.51	76.75	2.0 to 12.0	4.53	72.22
CEF-437-2S	11.82	76.5	2.0 to 12.0	4.33	72.17
CEF-437-3S	12.95	76.49	3.0 to 13.0	4.31	72.18
<p>Notes: bls = below land surface. BTOC = below top of casing</p>					

Table 3-1
Summary of Groundwater Analytical Results

Site Assessment Report
Tank 437
Naval Air Station Cecil Field
Jacksonville, Florida

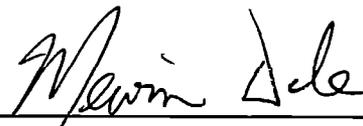
Parameter	Groundwater Cleanup Target Levels ¹	October 6, 1999			
		Monitoring Well Number, CEF-437-			
		1S	1SD	2S	3S
<u>Volatile Organic Compounds (µg/L)</u>					
Benzene	1	ND	ND	ND	ND
Toluene	40	ND	ND	ND	ND
Ethylbenzene	30	ND	ND	ND	ND
Xylenes, Total	20	ND	ND	ND	ND
<u>Polynuclear Aromatic Hydrocarbons (µg/L)</u>					
1-Methylnaphthalene	20	6.4	6.2	ND	ND
2-Methylnaphthalene	20	6.7	6.3	ND	ND
Acenaphthene	20	ND	ND	ND	ND
Acenaphthylene	210	ND	ND	ND	ND
Benzo (g,h,i) Perylene	210	ND	ND	ND	ND
Fluoranthene	280	ND	ND	ND	ND
Fluorene	280	ND	ND	ND	ND
Naphthalene	20	4.8	4.7	ND	ND
Phenanthrene	210	2	2	ND	ND
<u>Lead (µg/L)</u>					
Lead	15	ND	ND	2.4	ND
<u>TRPH (mg/L)</u>					
TRPH	5	ND	ND	ND	ND

¹Based on Chapter 62-770, Florida Administrative Code.

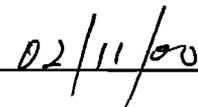
Notes: µg/L = micrograms per liter.
mg/L = milligrams per liter.
ND = not detected.
TRPH = total recoverable petroleum hydrocarbons.
1SD = duplicate sample of monitoring well 1S.

5.0 PROFESSIONAL REVIEW CERTIFICATION

The SA contained in this report was prepared using sound hydrogeologic principles and judgement. This assessment is based on the geologic investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of any additional information on the assessment described in this report. This SA report was developed for Tank 437 at the former NAS Cecil Field, Jacksonville, Florida, and should not be construed to apply to any other site.



Mervin Dale
Florida Professional Geologist
P.G. No. 0001917



Date

REFERENCES

Harding Lawson Associates. 1999. *Confirmatory Sampling Report, Building 437, Tank 437, Naval Air Station Cecil Field, Jacksonville, Florida.* Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina, April.

Innovative Services International, Inc. 1995. *Closure Report for Underground Storage Tank Removals. Naval Air Station Cecil Field, Jacksonville, Florida.*

Tetra Tech NUS, Inc. (TiNUS). 1999. *Site Assessment Plan for Tank Sites 337, 437, 815, 860 (Tanks A, B, and D) and G-82. Naval Air Station at Cecil Field.* Prepared for Southern Division Naval Facilities Engineering Command SOUTHNAVFACENGCOM, September.

Appendix A

Monitoring Well Boring and Construction Logs



Tetra Tech NUS, Inc.

WELL No.:

CEF-437-28

MONITORING WELL SHEET

PROJECT: NAS CECIL FIELD

DRILLING Co.:

GPI

BORING No.:

PROJECT No.: ~~0039~~ 0394

DRILLER:

J. Ziegler

DATE COMPLETED:

09/28/99

SITE: BLDG. 437

DRILLING METHOD:

Hollow Stem

NORTHING:

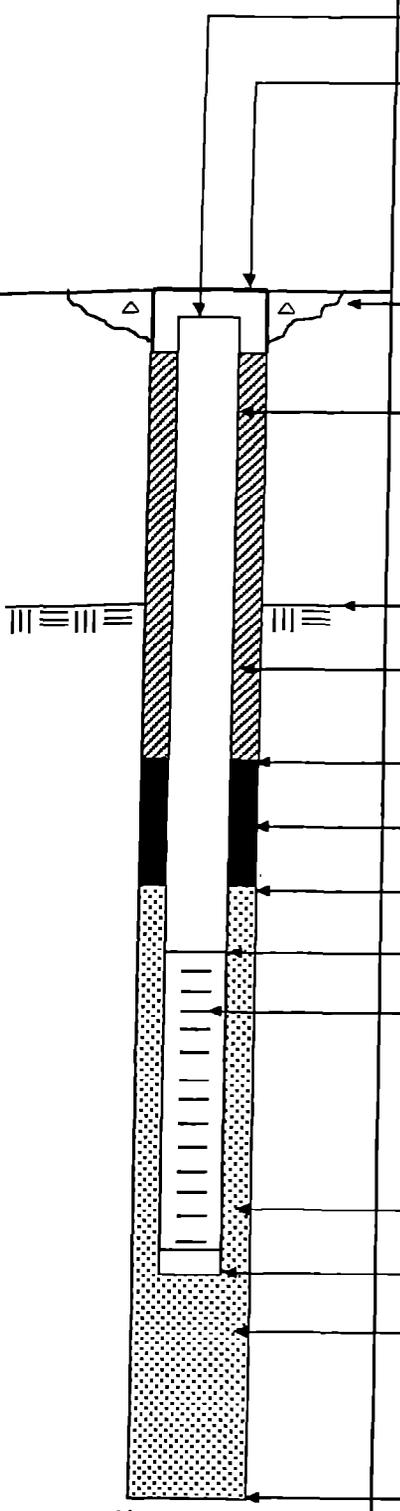
GEOLOGIST: M. DALE

DEV. METHOD:

Submersible

EASTING:

Ground Elevation = Datum:



Elevation / Depth of Top of Riser: 1

Elevation / Height of Top of Surface Casing: 1

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Flush mt. Steel w/skirt, bolt down

Type of Surface Seal: Quikrete Concrete

I.D. of Riser: 2 inch

Type of Riser: Sch. 40 PVC

Borehole Diameter: 8 inch

Elevation / Depth Top of Rock: N/A

Type of Backfill: Type 1
Por + land Cement

Elevation / Depth of Seal: 1 0.5 FT.

Type of Seal: 30/65 Grade Sand

Elevation / Depth of Top of Filter Pack: 1 1 FT.

Elevation / Depth of Top of Screen: 1 2 FT.

Type of Screen: Sch. 40 PVC

Slot Size x Length: 0.010 inch x 10 feet

I.D. of Screen: 2 inch

Type of Filter Pack: 20/30 GRADE SAND

Elevation / Depth of Bottom of Screen: 1 12 FT.

Elevation / Depth of Bottom of Filter Pack: 1 12.5 FT.

Type of Backfill Below Well: 20/30 GRADE SAND

Elevation / Total Depth of Borehole: 1 12.5 FT.

Not to Scale



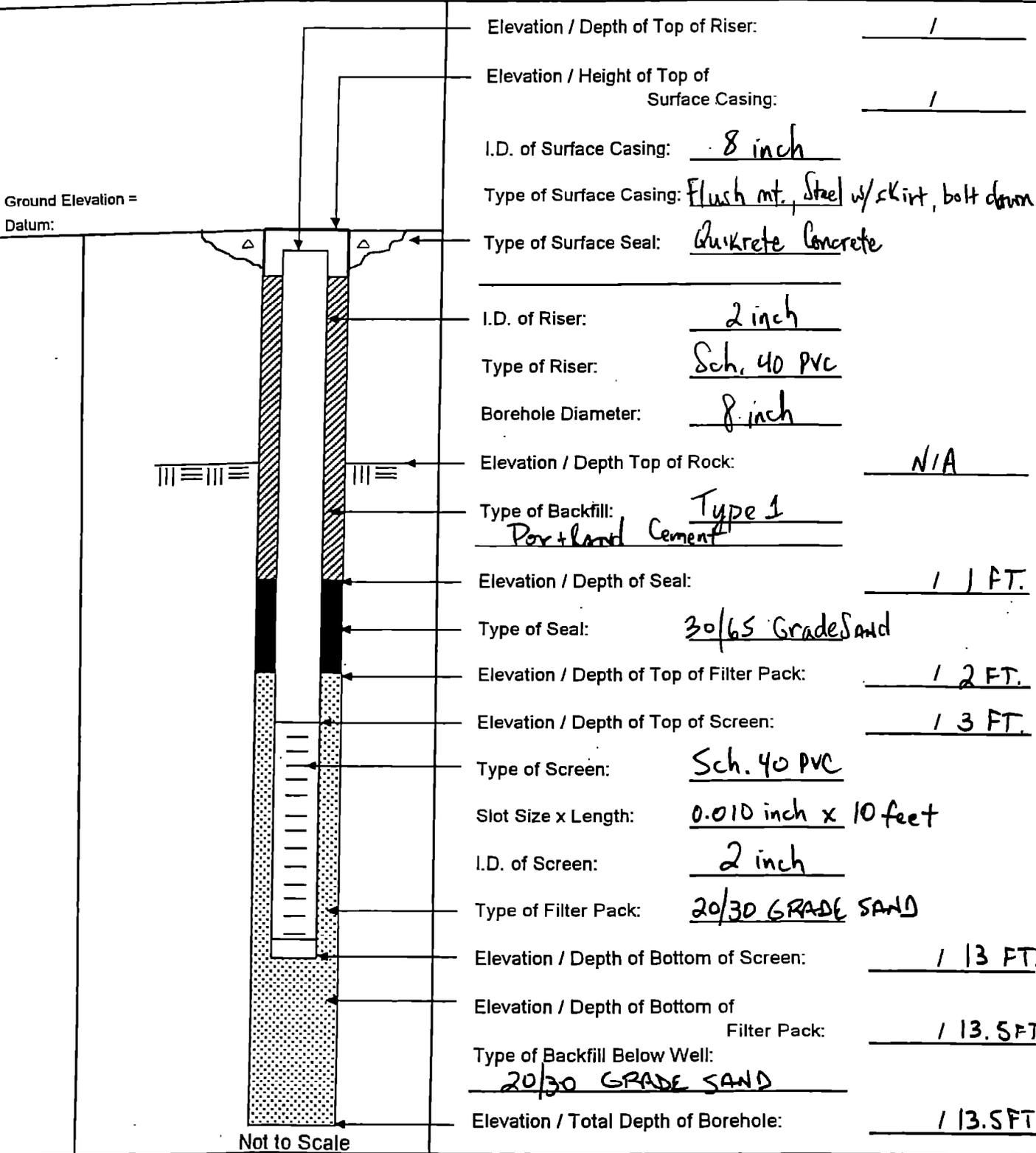
Tetra Tech NUS, Inc.

WELL No.:

CEF-437-3F

MONITORING WELL SHEET

PROJECT: NAS CECIL FIELD DRILLING Co.: GPI BORING No.: _____
 PROJECT No.: ~~0000~~ 0394 DRILLER: J. Ziegler DATE COMPLETED: 09/28/99
 SITE: BLDG. 437 DRILLING METHOD: Hollow Stem NORTHING: _____
 GEOLOGIST: M. DALE DEV. METHOD: Submersible EASTING: _____



Elevation / Depth of Top of Riser: 1
 Elevation / Height of Top of Surface Casing: 1
 I.D. of Surface Casing: 8 inch
 Type of Surface Casing: Flush mt. Steel w/skirt, bolt down
 Type of Surface Seal: Quikrete Concrete
 I.D. of Riser: 2 inch
 Type of Riser: Sch. 40 PVC
 Borehole Diameter: 8 inch
 Elevation / Depth Top of Rock: N/A
 Type of Backfill: Type 1 Por + Land Cement
 Elevation / Depth of Seal: 1 1 FT.
 Type of Seal: 30/65 Grade Sand
 Elevation / Depth of Top of Filter Pack: 1 2 FT.
 Elevation / Depth of Top of Screen: 1 3 FT.
 Type of Screen: Sch. 40 PVC
 Slot Size x Length: 0.010 inch x 10 feet
 I.D. of Screen: 2 inch
 Type of Filter Pack: 20/30 GRADE SAND
 Elevation / Depth of Bottom of Screen: 1 13 FT.
 Elevation / Depth of Bottom of Filter Pack: 1 13.5 FT.
 Type of Backfill Below Well: 20/30 GRADE SAND
 Elevation / Total Depth of Borehole: 1 13.5 FT.

Not to Scale

Appendix B
Laboratory Data Sheets



Report of Analysis

Client Sample ID: CEF-437-SB-01-01.5

Lab Sample ID: F5074-1

Date Sampled: 10/13/99

Matrix: SO - Soil

Date Received: 10/14/99

Method: SW846 8260B

Percent Solids: 83.5

Project: NAS Cecil Field (PO#PITT-N0394/N7895/N0389-P99689(sd))

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K004537.D	1	10/26/99	RAW	n/a	n/a	VK114
Run #2							

VOA 8021 List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	2.1	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	ug/kg	
75-25-2	Bromoform	ND	2.1	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	ug/kg	
75-00-3	Chloroethane	ND	5.2	ug/kg	
67-66-3	Chloroform	ND	2.1	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	5.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	2.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.1	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.2	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	2.1	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	ug/kg	
541-73-1	m-Dichlorobenzene	ND	2.1	ug/kg	
95-50-1	o-Dichlorobenzene	ND	2.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	2.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	2.1	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	ug/kg	
74-83-9	Methyl bromide	ND	5.2	ug/kg	
74-87-3	Methyl chloride	ND	5.2	ug/kg	
75-09-2	Methylene chloride	ND	10	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	ug/kg	
127-18-4	Tetrachloroethylene	ND	2.1	ug/kg	
108-88-3	Toluene	ND	2.1	ug/kg	
79-01-6	Trichloroethylene	ND	2.1	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.2	ug/kg	
75-01-4	Vinyl chloride	ND	5.2	ug/kg	
1330-20-7	Xylene (total)	ND	6.2	ug/kg	

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

00004



Report of Analysis

Client Sample ID:	CEF-437-SB-01-01.5	Date Sampled:	10/13/99
Lab Sample ID:	F5074-1	Date Received:	10/14/99
Matrix:	SO - Soil	Percent Solids:	83.5
Method:	FLORIDA-PRO		
Project:	NAS Cecil Field (PO#PITT-N0394/N7895/N0389-P99689(sd))		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP05577.D	1	10/18/99	ME	10/15/99	OP1025	GOP267
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	100	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%		40-140%

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

100006



Report of Analysis

Client Sample ID: CEF-437-SB-01-01.5		Date Sampled: 10/13/99
Lab Sample ID: F5074-1		Date Received: 10/14/99
Matrix: SO - Soil		Percent Solids: 83.5
Method: SW846 8310		
Project: NAS Cecil Field (PO#PITT-N0394/N7895/N0389-P99689(sd))		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LC6445.D	1	10/18/99	AMA	10/18/99	M:OP1470	M:GLC39
Run #2							

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	76	ug/kg	
208-96-8	Acenaphthylene	ND	76	ug/kg	
120-12-7	Anthracene	ND	76	ug/kg	
56-55-3	Benzo (a) anthracene	ND	11	ug/kg	
50-32-8	Benzo (a) pyrene	ND	11	ug/kg	
205-99-2	Benzo (b) fluoranthene	ND	11	ug/kg	
191-24-2	Benzo (g,h,i) perylene	ND	11	ug/kg	
207-08-9	Benzo (k) fluoranthene	ND	11	ug/kg	
218-01-9	Chrysene	ND	11	ug/kg	
53-70-3	Dibenz(a,h)anthracene	ND	11	ug/kg	
206-44-0	Fluoranthene	ND	11	ug/kg	
86-73-7	Fluorene	ND	76	ug/kg	
193-39-5	Indeno (1,2,3-cd) pyrene	ND	11	ug/kg	
90-12-0	1-Methylnaphthalene	ND	76	ug/kg	
91-57-6	2-Methylnaphthalene	ND	76	ug/kg	
91-20-3	Naphthalene	ND	76	ug/kg	
85-01-8	Phenanthrene	ND	76	ug/kg	
129-00-0	Pyrene	ND	11	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	32%		20-130%

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



Report of Analysis

Client Sample ID: CEF-437-IDW-01	Date Sampled: 10/13/99
Lab Sample ID: F5074-2	Date Received: 10/14/99
Matrix: SO - Soil	Percent Solids: n/a
Project: NAS Cecil Field (PO#PITT-N0394/N7895/N0389-P99689(sd))	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method
Arsenic	<0.010	0.010	mg/l	1	10/21/99	10/22/99 JK	SW846 6010A
Barium	<0.20	0.20	mg/l	1	10/21/99	10/22/99 JK	SW846 6010A
Cadmium	0.018	0.0050	mg/l	1	10/21/99	10/22/99 JK	SW846 6010A
Chromium	<0.010	0.010	mg/l	1	10/21/99	10/22/99 JK	SW846 6010A
Lead	0.091	0.0050	mg/l	1	10/21/99	10/22/99 JK	SW846 6010A
Mercury	0.00060 U	0.0020	mg/l	1	10/23/99	10/25/99 SJL	SW846 7470A
Selenium	<0.010	0.010	mg/l	1	10/21/99	10/22/99 JK	SW846 6010A
Silver	<0.010	0.010	mg/l	1	10/21/99	10/22/99 JK	SW846 6010A

RL = Reporting Limit



Report of Analysis

Client Sample ID: CEF-437-SB-01-01.5	Date Sampled: 10/13/99
Lab Sample ID: F5074-1	Date Received: 10/14/99
Matrix: SO - Soil	Percent Solids: 83.5
Method: SW846 8260B	
Project: NAS Cecil Field (PO#PITT-N0394/N7895/N0389-P99689(sd))	

VOA 8021 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		71-122%
2037-26-5	Toluene-D8	97%		73-128%
460-00-4	4-Bromofluorobenzene	98%		53-158%
17060-07-0	1,2-Dichloroethane-D4	98%		71-122%

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

300005

Report of Analysis

Client Sample ID: CEF-437-GW-2S-01
 Lab Sample ID: F5033-1
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: NAS Cecil Field

Date Sampled: 10/06/99
 Date Received: 10/08/99
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0010799.D	1	10/20/99	CJP	n/a	n/a	VG297
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-34-5	1,1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	

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

Report of Analysis

Client Sample ID:	CEF-437-GW-2S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-1	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	NAS Cecil Field		

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		80-116%
17060-07-0	1,2-Dichloroethane-D4	89%		74-120%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	97%		86-115%

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

Report of Analysis

Client Sample ID: CEF-437-GW-2S-01	Date Sampled: 10/06/99
Lab Sample ID: F5033-1	Date Received: 10/08/99
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 504.1	
Project: NAS Cecil Field	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST00845.D	1	10/12/99	SKW	n/a	n/a	GST37
Run #2							

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

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

Report of Analysis

Client Sample ID: CEF-437-GW-2S-01	Date Sampled: 10/06/99
Lab Sample ID: F5033-1	Date Received: 10/08/99
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: FLORIDA-PRO	
Project: NAS Cecil Field	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP05470.D	1	10/11/99	ME	10/11/99	OP1019	GOP264
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	102%		40-140%

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

Report of Analysis

Client Sample ID:	CEF-437-GW-2S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-1	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8310		
Project:	NAS Cecil Field		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LC6479.D	1	10/21/99	AMA	10/13/99	M:OP1481	M:GLC41
Run #2							

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	1.1	ug/l	
208-96-8	Acenaphthylene	ND	1.1	ug/l	
120-12-7	Anthracene	ND	1.1	ug/l	
56-55-3	Benzo (a) anthracene	ND	0.17	ug/l	
50-32-8	Benzo (a) pyrene	ND	0.17	ug/l	
205-99-2	Benzo (b) fluoranthene	ND	0.17	ug/l	
191-24-2	Benzo (g,h,i) perylene	ND	0.17	ug/l	
207-08-9	Benzo (k) fluoranthene	ND	0.17	ug/l	
218-01-9	Chrysene	ND	0.17	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	0.17	ug/l	
206-44-0	Fluoranthene	ND	1.1	ug/l	
86-73-7	Fluorene	ND	1.1	ug/l	
193-39-5	Indeno (1,2,3-cd) pyrene	ND	0.17	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.1	ug/l	
91-20-3	Naphthalene	ND	1.1	ug/l	
85-01-8	Phenanthrene	ND	1.1	ug/l	
129-00-0	Pyrene	ND	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	75%		20-160%

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

Report of Analysis

Client Sample ID:	CEF-437-GW-2S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-1	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NAS Cecil Field		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method
Lead	2.4 B	5.0	ug/l	1	10/11/99	10/13/99 JK	SW846 6010A

RL = Reporting Limit

Report of Analysis

Client Sample ID: CEF-437-GW-3S-01
 Lab Sample ID: F5033-2
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: NAS Cecil Field

Date Sampled: 10/06/99
 Date Received: 10/08/99
 Percent Solids: n/a

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	G0010800.D	1	10/20/99	CJP	n/a	n/a	VG297

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	

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

Report of Analysis

Client Sample ID:	CEF-437-GW-3S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-2	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	NAS Cecil Field		

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		80-116%
17060-07-0	1,2-Dichloroethane-D4	97%		74-120%
2037-26-5	Toluene-D8	103%		80-120%
460-00-4	4-Bromofluorobenzene	96%		86-115%

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

Report of Analysis

Page 1 of 1

Client Sample ID:	CEF-437-GW-3S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-2	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 504.1		
Project:	NAS Cecil Field		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST00846.D	1	10/12/99	SKW	n/a	n/a	GST37
Run #2							

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

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

Report of Analysis

Client Sample ID:	CEF-437-GW-3S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-2	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	FLORIDA-PRO		
Project:	NAS Cecil Field		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP05473.D	1	10/11/99	ME	10/11/99	OP1019	GOP264
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.50	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	98%		40-140%	

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

Report of Analysis

Page 1 of 1

Client Sample ID: CEF-437-GW-3S-01	Date Sampled: 10/06/99
Lab Sample ID: F5033-2	Date Received: 10/08/99
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8310	
Project: NAS Cecil Field	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LC6480.D	1	10/22/99	AMA	10/13/99	M:OP1481	M:GLC41
Run #2							

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	1.1	ug/l	
208-96-8	Acenaphthylene	ND	1.1	ug/l	
120-12-7	Anthracene	ND	1.1	ug/l	
56-55-3	Benzo (a) anthracene	ND	0.16	ug/l	
50-32-8	Benzo (a) pyrene	ND	0.16	ug/l	
205-99-2	Benzo (b) fluoranthene	ND	0.16	ug/l	
191-24-2	Benzo (g,h,i) perylene	ND	0.16	ug/l	
207-08-9	Benzo (k) fluoranthene	ND	0.16	ug/l	
218-01-9	Chrysene	ND	0.16	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	0.16	ug/l	
206-44-0	Fluoranthene	ND	1.1	ug/l	
86-73-7	Fluorene	ND	1.1	ug/l	
193-39-5	Indeno (1,2,3-cd) pyrene	ND	0.16	ug/l	
90-12-0	1-Methylnaphthalene	ND	1.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.1	ug/l	
91-20-3	Naphthalene	ND	1.1	ug/l	
85-01-8	Phenanthrene	ND	1.1	ug/l	
129-00-0	Pyrene	ND	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		20-160%

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

Report of Analysis

Client Sample ID: CEF-437-GW-3S-01
Lab Sample ID: F5033-2
Matrix: AQ - Ground Water
Project: NAS Cecil Field

Date Sampled: 10/06/99
Date Received: 10/08/99
Percent Solids: n/a

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method
Lead	2.5 B	1.6	ug/l	1	10/12/99	10/14/99 JK	EPA 200.7

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CEF-437-GW-1S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-3	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	NAS Cecil Field		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	G0010801.D	1	10/20/99	CJP	n/a	n/a	VG297

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	

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

Report of Analysis

Client Sample ID:	CEF-437-GW-1S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-3	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	NAS Cecil Field		

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		80-116%
17060-07-0	1,2-Dichloroethane-D4	89%		74-120%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	98%		86-115%

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

Report of Analysis

Page 1 of 1

Client Sample ID:	CEF-437-GW-1S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-3	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 504.1		
Project:	NAS Cecil Field		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST00847.D	1	10/12/99	SKW	n/a	n/a	GST37
Run #2							

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

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

Report of Analysis

Client Sample ID: CEF-437-GW-1S-01	Date Sampled: 10/06/99
Lab Sample ID: F5033-3	Date Received: 10/08/99
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: FLORIDA-PRO	
Project: NAS Cecil Field	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP05475.D	1	10/11/99	ME	10/11/99	OP1019	GOP264
Run #2							

CAS No.	Compound	Result	RL	Units Q
	TPH (C8-C40)	ND	0.50	mg/l

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	97%		40-140%

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

Report of Analysis

Client Sample ID:	CEF-437-GW-1S-01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-3	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8310		
Project:	NAS Cecil Field		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LC6481.D	1	10/22/99	AMA	10/13/99	M:OP1481	M:GLC41
Run #2							

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	1.1	ug/l	
208-96-8	Acenaphthylene	ND	1.1	ug/l	
120-12-7	Anthracene	ND	1.1	ug/l	
56-55-3	Benzo (a) anthracene	ND	0.17	ug/l	
50-32-8	Benzo (a) pyrene	ND	0.17	ug/l	
205-99-2	Benzo (b) fluoranthene	ND	0.17	ug/l	
191-24-2	Benzo (g,h,i) perylene	ND	0.17	ug/l	
207-08-9	Benzo (k) fluoranthene	ND	0.17	ug/l	
218-01-9	Chrysene	ND	0.17	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	0.17	ug/l	
206-44-0	Fluoranthene	ND	1.1	ug/l	
86-73-7	Fluorene	ND	1.1	ug/l	
193-39-5	Indeno (1,2,3-cd) pyrene	ND	0.17	ug/l	
90-12-0	1-Methylnaphthalene	6.4	1.1	ug/l	
91-57-6	2-Methylnaphthalene	6.7	1.1	ug/l	
91-20-3	Naphthalene	4.8	1.1	ug/l	
85-01-8	Phenanthrene	2.0	1.1	ug/l	
129-00-0	Pyrene	ND	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	83%		20-160%

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

Report of Analysis

Client Sample ID: CEF-437-GW-1S-01
Lab Sample ID: F5033-3
Matrix: AQ - Ground Water
Project: NAS Cecil Field

Date Sampled: 10/06/99
Date Received: 10/08/99
Percent Solids: n/a

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method
Lead	1.6 U	1.6	ug/l	1	10/12/99	10/14/99 JK	EPA 200.7

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CEF-437-GW-DU01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-4	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	NAS Cecil Field		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0010802.D	1	10/20/99	CJP	n/a	n/a	VG297
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	

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

Report of Analysis

Client Sample ID:	CEF-437-GW-DU01	Date Sampled:	10/06/99
Lab Sample ID:	F5033-4	Date Received:	10/08/99
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	NAS Cecil Field		

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		80-116%
17060-07-0	1,2-Dichloroethane-D4	86%		74-120%
2037-26-5	Toluene-D8	104%		80-120%
460-00-4	4-Bromofluorobenzene	97%		86-115%

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

Report of Analysis

Client Sample ID: CEF-437-GW-DU01 Lab Sample ID: F5033-4 Matrix: AQ - Ground Water Method: EPA 504.1 Project: NAS Cecil Field	Date Sampled: 10/06/99 Date Received: 10/08/99 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST00848.D	1	10/12/99	SKW	n/a	n/a	GST37
Run #2							

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

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

Report of Analysis

Client Sample ID: CEF-437-GW-DU01
 Lab Sample ID: F5033-4
 Matrix: AQ - Ground Water
 Method: FLORIDA-PRO
 Project: NAS Cecil Field

Date Sampled: 10/06/99
 Date Received: 10/08/99
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP05476.D	1	10/11/99	ME	10/11/99	OP1019	GOP264
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	100%		40-140%

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

Report of Analysis

Client Sample ID: CEF-437-GW-DU01	Date Sampled: 10/06/99
Lab Sample ID: F5033-4	Date Received: 10/08/99
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8310	
Project: NAS Cecil Field	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LC6482.D	1	10/22/99	AMA	10/13/99	M:OP1481	M:GLC41
Run #2							

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	1.1	ug/l	
208-96-8	Acenaphthylene	ND	1.1	ug/l	
120-12-7	Anthracene	ND	1.1	ug/l	
56-55-3	Benzo (a) anthracene	ND	0.16	ug/l	
50-32-8	Benzo (a) pyrene	ND	0.16	ug/l	
205-99-2	Benzo (b) fluoranthene	ND	0.16	ug/l	
191-24-2	Benzo (g,h,i) perylene	ND	0.16	ug/l	
207-08-9	Benzo (k) fluoranthene	ND	0.16	ug/l	
218-01-9	Chrysene	ND	0.16	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	0.16	ug/l	
206-44-0	Fluoranthene	ND	1.1	ug/l	
86-73-7	Fluorene	ND	1.1	ug/l	
193-39-5	Indeno (1,2,3-cd) pyrene	ND	0.16	ug/l	
90-12-0	1-Methylnaphthalene	6.2	1.1	ug/l	
91-57-6	2-Methylnaphthalene	6.3	1.1	ug/l	
91-20-3	Naphthalene	4.7	1.1	ug/l	
85-01-8	Phenanthrene	2.0	1.1	ug/l	
129-00-0	Pyrene	ND	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	81%		20-160%

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

Report of Analysis

Client Sample ID: CEF-437-GW-DU01	Date Sampled: 10/06/99
Lab Sample ID: F5033-4	Date Received: 10/08/99
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: NAS Cecil Field	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method
Lead	1.6 U	1.6	ug/l	1	10/12/99	10/14/99 JK	EPA 200.7

RL = Reporting Limit