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NAS CECIL FIELD, FL
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SECOND QUARTER 2004 OPERATION AND MAINTENANCE STATUS REPORT FOR 103RD STREET AND A AVENUE JET FUEL TRANSFER PIPELINE NAS CECIL FIELD FL

10/1/2004

TERRAINE INC ENVIRONMENTAL SERVICES

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Second Quarter 2004
Operations and Maintenance Status Report
April 1, 2004 – June 30, 2004

103RD STREET AND "A" AVENUE
Jet Fuel Transfer Pipeline

Naval Air Station Cecil Field
Jacksonville, Florida

Contract No. N62467-02-G-0352
Contract Task Order No. 0001

Submitted to:

U.S. Naval Facilities Engineering Command
Southern Division

Prepared by:

Terraine, Inc.
2656 NW 97th Ave. Miami, FL 33172

October 2004

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Signature Page

We, James L. Young and Karen L. Baer, do hereby affirm that the information contained in this report is accurate and correct to the best of our knowledge and belief.

		PG-FL2090, REM-6089
James L. Young, P.G., REM President/CEO TERRAINE, Inc.	Date	Registration Nos.

Karen L. Baer Field Superintendent TERRAINE, Inc.	Date

Acronym List

acfm	actual cubic feet per meter
AS	Air Sparge
BGS	Below gound surface
BLS	Below Land Surface
BOA	Blanket Ordering Agreement
ºC	Degrees Celsius
CCI	CH2M HILL Constructors, Inc.
cfm	Cubic Feet Per Minute
DO	Dissolved Oxygen
EPA	U.S. Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
ft.	feet
GAC	Granular Activated Carbon
GCTLs	Groundwater Cleanup Target Levels
Hg	Mercury
in	inches
J.A. Jones	J.A. Jones Environmental Services
lb	pound
mg/L	milligrams per liter
mV	millivolts
msl	feet above mean sea level
s/cm	Micro-siemens per centimeter
LNAPL	Light Non-Aqueous Phase Liquids
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
NTU	Nephelometric Turbidity Units
O&M	operation and maintenance
ORP	oxidation reduction potential
PAHs	Polynuclear Aromatic Hydrocarbons
psi	Pounds Per Square Inch
RAP	Remedial Action Plan
SVE	Soil Vapor Extraction
TERRAINE	Terraine, Inc. Environmental Services
TRPH	Total Recoverable Petroleum Hydrocarbon
TtNUS	TetraTech NUS, Inc.
VOCs	Volatile Organic Compounds

1.0 Introduction

Terraine, Inc. (TERRAINE) has been contracted by the Department of the Navy, Southern Division, Naval Facilities Engineering Command (NAVFAC), to provide operation and maintenance (O&M) services at 103rd Street and "A" Avenue Jet Fuel Transfer Pipeline (103rd Street and "A" Avenue), Naval Air Station (NAS) Cecil Field, Jacksonville, Florida, under Basic Ordering Agreement (BOA) **Contract No. N62467-02-G-0352, Contract Task Order No. 0001**. The purpose of this quarterly O&M Report is to provide a summary of activities performed at the site during the period of April 1, 2004 to June 30, 2004.

Objective

The objective of the remedial action at the site of 103rd Street and "A" Avenue was to reduce the concentrations of petroleum-related contaminants in the groundwater and unsaturated soils to target levels specified by Florida Administrative Code (FAC) 62-777. Air sparging/soil vapor extraction was the technology utilized to achieve this objective. A system description is included in the First Quarter 2004 Operations and Maintenance Status Report submitted by Terraine, Inc.

1.1 Site History

The 103rd Street and "A" Avenue site is located approximately 1/4-mile east of the "A" Avenue gate to former NAS Cecil Field. A base map illustrating the site location is included in **Figure 1, Appendix A**. A site map is included in **Figure 2, Appendix A.**

An 8-inch-diameter, steel jet fuel transfer pipeline was completed in 1952 to transfer jet fuel from NAS Jacksonville to NAS Cecil Field. In July 1997, a small leak (1/8-inch-diameter) was discovered in the pipeline located beneath the eastbound lane of 103rd Street. In July 1997, Bechtel Environmental, Inc. removed approximately 900 cubic yards of petroleum-contaminated soil that had resulted from the leak. The pipeline is currently de-fueled and inactive (Tetra Tech NUS, Inc. [TtNUS], 1999).

Site assessment activities were performed by TtNUS from 1998 to 1999 to delineate the extent of the light non-aqueous phase liquid (LNAPL), and soil and groundwater contamination at the site. A Remedial Action Plan (RAP) was subsequently submitted in August 1999. Air sparging and soil vapor extraction were specified in the RAP as the chosen remedial alternatives to address the soil and groundwater contamination at the site (TtNUS, 1999). The RAP-specified remediation system was constructed by CH2M Hill Constructors, Inc. (CCI) /J.A. Jones Environmental Services (J.A. Jones) during the period of March to May 2000 and start-up was completed on May 23, 2000. The system was operated and maintained by CCI/J.A. Jones from start-up until the Third Quarter of 2002. TERRAINE took control of operation and maintenance beginning in October, 2002.

Due to substantial reduction of contaminant concentrations at the site, the Florida Department of Environmental Protection (FDEP) issued a Post Active Remediation Monitoring Plan Approval Order on April 23, 2003. In accordance with the order, the air sparging system was deactivated and post-active remediation monitoring commenced. For a period of one year, groundwater from the following monitoring wells were to be sampled on a quarterly basis for Volatile Organic Compounds (VOCs), Polynuclear Aromatic

Hydrocarbons (PAHs), Total Recoverable Petroleum Hydrocarbons (TRPH), and lead: CEF-103-SMW03, CEF-103-SMW04, CEF-103-SMW05, CEF-103-SMW06, CEF-103-SMW07, CEF-103-SMW08, CEF-103-SMW09, and CEF-103-SMW11.

2.0 System Performance Monitoring

Post active remediation O&M and system checks were performed April 20, May 27, and June 24, 28, and 29, 2004 during the monitoring period. During a post active remediation O&M check, the system is restarted for a period of 10 minutes, a preventative maintenance checklist (based upon manufacturer's recommendations) is completed, any required maintenance activity is performed, and system performance is evaluated. Upon completion of the O&M check, the system is turned off.

2.1 Summary of Maintenance

During the site visits on April 20, May 27, and June 24 and 28, 2004, the system would not start.

The system was repaired on June 29, 2004. Two starter wires were loose, causing the starter overloads to trip. The wires were tightened and the system was restarted. The system ran for 10 minutes before it was manually shut down.

3.0 Summary of Sampling and Laboratory Analytical Results

3.1 Data Validation

A cursory review of quality control data was performed. This review evaluated data completeness, holding time compliance, laboratory blank contamination, and detection limits. The validation process results in qualifiers that are shown with the analyte concentrations in **Table 2, Appendix B**.

3.2 Water Level Measurements

Depth-to-water measurements were recorded on June 10, 2004 at the monitoring wells which were sampled which included CEF-103-SMW-03, CEF-103-SMW-04, CEF-103-SMW-05, CEF-103-SMW-06, CEF-103-SMW-07, CEF-103-SMW-08, CEF-103-SMW-09, and CEF-103-SMW-11. The top of casing elevation, depth-to-water measurements, and calculated water level elevations are provided in **Table 1, Appendix B**.

LNAPL was not noted in any monitoring well during the monitoring period.

3.3 Groundwater Monitoring

On June 10, 2004 groundwater from monitoring wells CEF-103-SMW-03, CEF-103-SMW-04, CEF-103-SMW-05, CEF-103-SMW-06, CEF-103-SMW-07, CEF-103-SMW-08, CEF-103-SMW-09, and CEF-103-SMW-11, was sampled for VOCs, PAHs, lead, and TRPH. All monitoring wells sampled have exhibited significant decreases in contaminant concentrations from the baseline groundwater-sampling event that was performed on March 20, 2000, prior to system start up. The contaminant concentrations for samples obtained in the 2004 second quarter monitoring event were below groundwater cleanup target levels (GCTLs) for all constituents except lead.

Lead was detected in groundwater sampled from all eight wells and was above the GCTL in six of the eight wells sampled (CEF-103-SMW03, -SMW04, -SMW06, -SMW07, -SMW08, and SMW11).

The locations of the wells are shown on **Figure 2, Appendix A.** Analytical results are summarized in **Table 2, Appendix B**. Copies of the groundwater sampling logs are provided in **Appendix C**.

Temperature, pH, conductivity, and dissolved oxygen (DO) measurements were recorded during sampling of the monitoring wells. The results from the field measurements are summarized on **Table 3, Appendix B**.

4.0 Conclusions and Recommendations

4.1 Conclusions

Laboratory results indicated lead concentrations greater than the GCTL in six monitoring wells during the 2nd quarter 2004 sampling event. These levels could be reflective of naturally occurring background levels and/or a result of recent construction activities near the site. Results from the September 2004 should assist in determining the nature of the lead detections.

For all other COCS, post active remediation groundwater analytical results indicate no evidence of rebound at the site.

4.2 Recommendations

Based on laboratory data obtained to date, the following is recommended for the site:

- Sample monitoring wells for one more quarter (September 2004) to provide further data on lead detections.
- Discontinue groundwater sampling after September 2004.

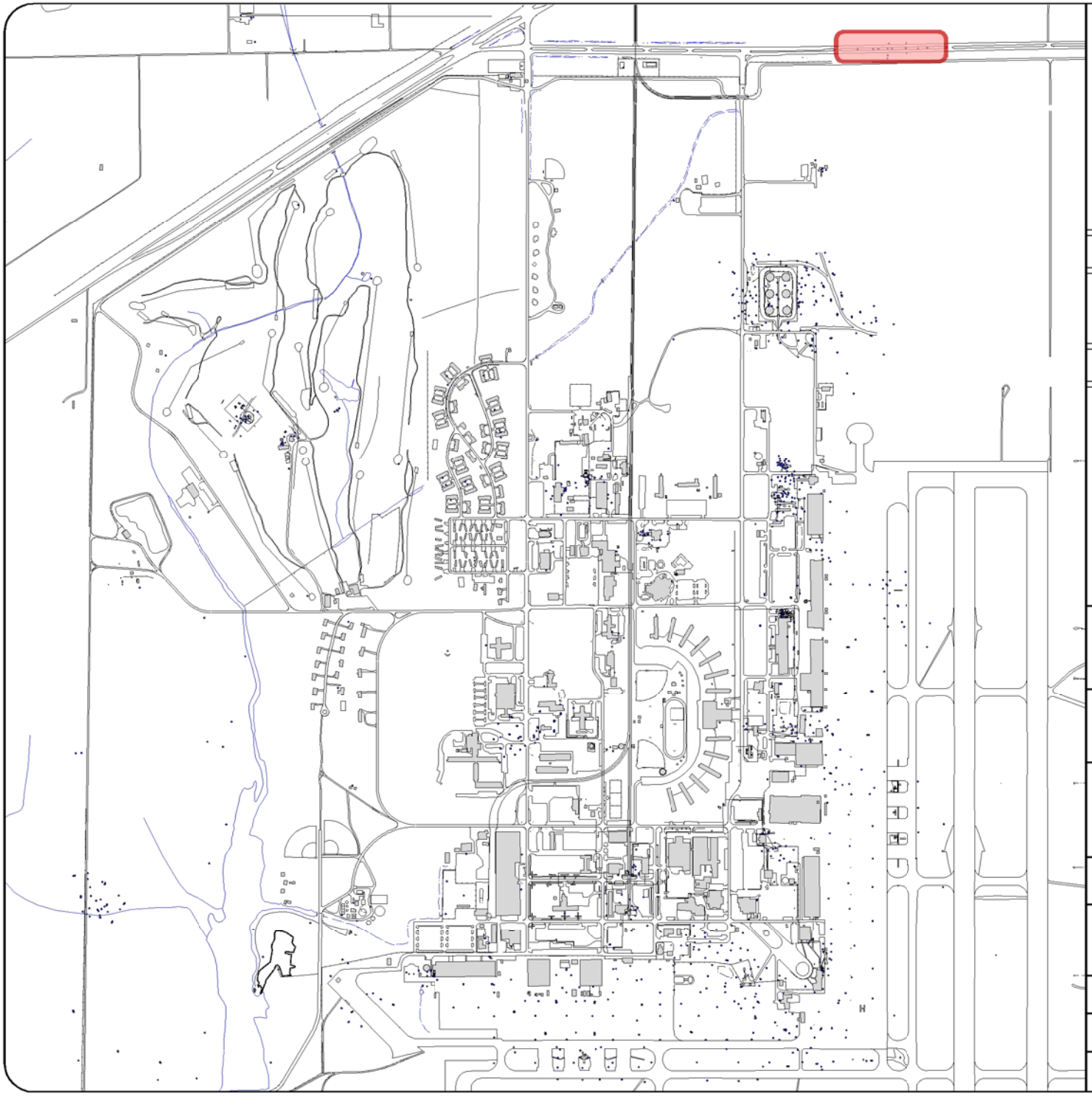
5.0 References

Terraine, Inc. First Quarter Report 2004, Operations and Maintenance Status Report, January 1 – March 31, 2004, Air Sparging and Soil Vapor Extraction System 103rd Street and “A” Avenue, Jet Fuel Transfer Pipeline, Naval Air Station Cecil Field, Jacksonville, Florida.

Tetra Tech NUS, Inc. August 1999. Remedial Action Plan, “A” Avenue Jet Fuel Transfer Pipeline and 103rd Street, Naval Air Station Cecil Field, Jacksonville, Florida.

Appendix A

Figures



N
W E
S

NOTES

Sources: Environmental IR Gateway (www.sdirport.com)

LEGEND

APPROXIMATE SITE BOUNDARY

0 0.25 0.5

APPROXIMATE SCALE IN MILES

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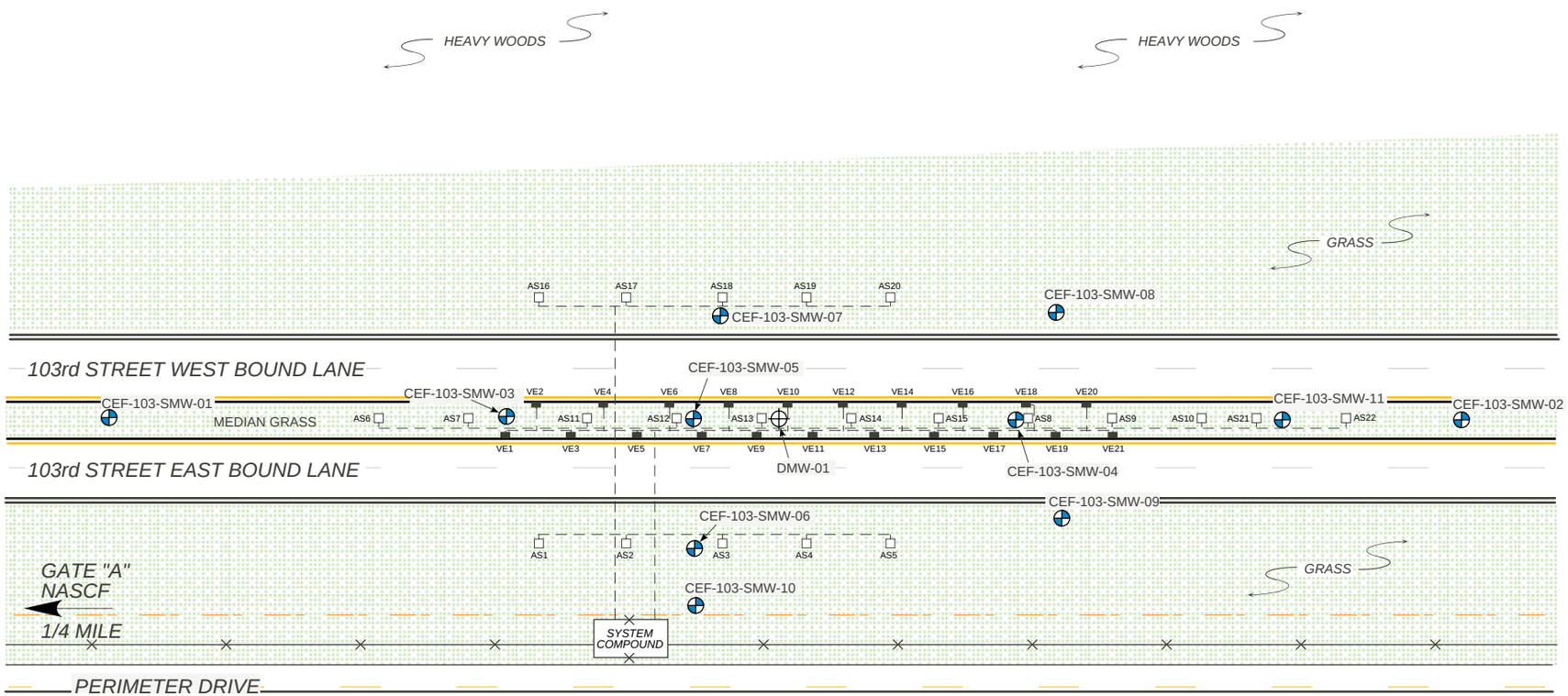
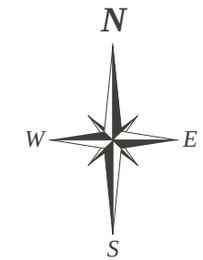
NAS CECIL FIELD
FIGURE 1: SITE LOCATION MAP
103RD STREET

Prepared For:
U.S. Naval Facilities Engineering Command, Southern Division

DWN BY: LFW	CHK BY: KBG
SCALE: SEE LEGEND	APR BY: JLY
DATE:10/12/04	FILE: N/A





NOTES

DASHED LINES INDICATE SUBSURFACE FEATURES

LEGEND

- PERIMETER FENCE
- EDGE OF PAVEMENT
- BELLSOUTH PHONE UTILITY LINE
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- AIR SPARGE WELL VAULT
- SVE WELL VAULT

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FIGURE 2
SITE MAP
103RD STREET

103RD STREET SITE
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

0 40 ft 80 ft 160 ft

1 inch = 80 feet

DWN BY: JLY	CHK BY: MJP
SCALE: 1" = 80'	APR BY: JLY
DATE: 02-21-03	FILE: 04-41001

Appendix B

Tables

TABLE 1
GROUNDWATER MONITORING WELL - WATER LEVEL & FREE PRODUCT DATA
QUARTERLY REPORT JUNE 2004

103rd STREET AND "A" AVENUE JET FUEL TRANSFER PIPELINE
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Well Identification	Well Total Depth (feet bgs)	Date	Top of Casing Elevation (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)
CEF-103-SMW-03	12.60	8/30/2000	82.03	NM	NM	NM
		3/12/2003		-	-	-
		5/13/2003		no product	4.40	77.63
		6/7/2003		no product	4.30	77.73
		9/6/2003		no product	2.60	79.43
		12/13/2003		no product	6.61	75.42
		3/19/2004		no product	4.68	77.35
		6/10/2004		no product	5.90	76.13
CEF-103-SMW-04	12.66	8/30/2000	82.23	NM	NM	NM
		3/12/2003		no product	3.47	78.76
		5/13/2003		no product	6.92	75.31
		6/8/2003		no product	4.90	77.33
		9/6/2003		no product	4.30	77.93
		12/13/2003		no product	6.65	75.58
		3/19/2004		no product	5.78	76.45
		6/10/2004		no product	6.88	75.35
CEF-103-SMW-05	13.26	8/30/2000	82.37	no product	5.52	76.85
		3/12/2003		no product	2.07	80.30
		5/13/2003		no product	4.64	77.73
		6/8/2003		no product	4.05	78.32
		9/6/2003		no product	3.85	78.52
		12/13/2003		no product	5.93	76.44
		3/19/2004		no product	4.90	77.47
		6/10/2004		no product	6.02	76.35
CEF-103-SMW-06	13.18	8/30/2000	77.33	NM	NM	NM
		3/12/2003		no product	0.00	77.33
		5/13/2003		no product	1.70	75.63
		6/8/2003		no product	0.00	77.33
		9/6/2003		no product	0.00	77.33
		12/13/2003		no product	2.50	74.83
		3/19/2004		no product	1.22	76.11
		6/10/2004		no product	2.10	75.23
CEF-103-SMW-07	13.29	8/30/2000	79.35	7.62	7.63	71.72
		3/12/2003		no product	0.42	78.93
		6/8/2003		no product	1.50	77.85
		9/6/2003		no product	1.85	77.50
		12/13/2003		no product	4.70	74.65
		3/19/2004		no product	3.00	76.35
		6/10/2004		no product	4.45	74.90

TABLE 1
GROUNDWATER MONITORING WELL - WATER LEVEL & FREE PRODUCT DATA
QUARTERLY REPORT JUNE 2004

103rd STREET AND "A" AVENUE JET FUEL TRANSFER PIPELINE
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Well Identification	Well Total Depth (feet bgs)	Date	Top of Casing Elevation (Feet)	Depth to Product (Feet)	Depth to Water (Feet)	Water Level Elevation (Feet)
CEF-103-SMW-08	18.23	8/30/2000	79.55	no product	2.53	77.02
		3/12/2003		NM	NM	NM
		5/13/2003		no product	3.98	75.57
		6/8/2003		no product	1.80	77.75
		9/6/2003		no product	1.92	77.63
		12/13/2003		no product	4.50	75.05
		3/19/2004		no product	3.03	76.52
		6/10/2004		no product	4.15	75.40
CEF-103-SMW-09	13.24	8/30/2000	79.67	no product	4.56	75.11
		3/12/2003		NM	NM	NM
		5/13/2003		no product	4.84	74.83
		6/8/2003		no product	2.15	77.52
		9/6/2003		no product	2.65	77.02
		12/13/2003		no product	4.52	75.15
		3/19/2004		no product	3.72	75.95
		6/10/2004		no product	4.90	74.77
CEF-103-SMW-11	16.10	8/30/2000	82.48	no product	5.55	76.93
		3/12/2003		no product	4.17	78.31
		5/13/2003		no product	6.89	75.59
		6/8/2003		no product	5.00	77.48
		9/6/2003		no product	5.12	77.36
		12/13/2003		no product	7.15	75.33
		3/19/2004		no product	6.16	76.32
		6/10/2004		no product	6.71	75.77

NM = Not Measured
bgs = below ground surface
Elevation is referenced to National Geodetic Vertical Datum 1929 (NGVD 1929)
Depth to product measured from top of casing
Depth to water measured from top of casing
- : Data for these wells was lost prior to backup due to Pocket PC problems

TABLE 2
Quarterly Report June 2004
Groundwater Analytical Results
103rd Street - NAS Cecil Field, Jacksonville, Florida

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	4-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthalene (by EPA Method 8021or 8260B)	Naphthalene (by EPA Method 8310 or 8270C)	Petroleum Range Org (PRO) in mg/L	Lead in mg/L	1, 1 - Dichloroethane	N-Butylbenzene	Acenaphthylene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	2 - Hexanone	Chloroform	Bromodichloromethane	Acetone	Chrysene	Pyrene
CEF-103-SMW03	03/20/00	<2	**1.4**	**3.7**	<5	<1.5	<2	**52**	<13	**20**	<6.5	<5.5	**4.6**	<1.5	**4.2**	**12**	**2.2**	<1	<1	**17**	**3.7**	**1.5**	**0.057**	--	--	--	--	--	--	--	--	--	--	--
	09/28/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	**0.89**	<1.04	**0.75**	**0.051**	--	--	--	--	--	--	--	--	--	--	--
	12/20/00	<2	<5.5	<3	<5	<1.5	<2	**0.64**	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	**1.4**	<1	**0.44**	<0.010	--	--	--	--	--	--	--	--	--	--	--
	03/27/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	**0.65**	<2	<6	<6.5	<1	<1	<2	<1	**0.75**	**0.047**	--	--	--	--	--	--	--	--	--	--	--
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	**1.3**	<2	<6	<6.5	<1	<1	<2	<1	<1	**0.013**	--	--	--	--	--	--	--	--	--	--	--
	08/30/01	<0.5	<1	**0.48**	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	<0.52	**0.132**	--	--	--	--	--	--	--	--	--	--	--
	11/28/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	0.95	**0.122**	--	--	--	--	--	--	--	--	--	--	--
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	<0.22	**0.0222**	--	--	--	--	--	--	--	--	--	--	--
	05/21/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	09/12/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	**0.24**	**0.0313**	--	--	--	--	--	--	--	--	--	--	--
	12/17/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.06	<1.06	<2.50	<1.06	<0.200	<0.003	<1.00	<1.00	<1.06	<0.21	<0.21	<5.00	<1.00	<1.00	--	--	--
	03/12/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.7	<2.7	<5.00	<2.7	<0.211	<0.003	<1.00	<1.00	<2.7	<2.7	<2.7	<5.00	<1.00	<1.00	--	--	--
	05/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.0	<2.0	<5.00	<2.0	<0.222	**0.004**	<1.00	<1.00	<2.0	<2.0	<2.0	<5.00	<1.00	<1.00	--	--	--
	06/07/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<1.0	<1.0	NA	**1.13**	<0.222	**0.015**	<1.00	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	09/06/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.10	<0.200	<0.005	<0.10	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	12/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.10	<0.200	0.007	<0.10	<1.00	<0.10	<0.10	<0.10	<5.0	<1.00	<1.00	--	--	--
	03/19/04	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<0.10	<0.200	<0.005	<0.10	<1.00	<0.10	<0.10	<0.10	<5.0	<1.00	<1.00	<25.0	<0.10	<0.10
	06/10/04	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.25	<2.25	<5.00	<2.25	<0.25	**0.0172**	<1.00	<1.00	<2.25	<0.225	<0.225	<1.00	<1.00	<1.00	<10.0	<2.25	<5.62
CEF-103-SMW04	01/03/00	**2.8**	<5.5	**87**	**280**	<1.5	<2	**410**	<13	**130**	<6.5	<5.5	**43**	<1.5	**54**	**89**	**40**	<1	<1	**210**	**58.2**	**8.6**	<0.01	--	--	--	--	--	--	--	--	--	--	--
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	05/23/01	**1**	<5.5	<3	<5	<1.5	<2	**0.69**	<13	**0.72**	<6.5	<5.5	<2.5	**1.1**	<2	<6	<6.5	<1	<1	<2	<1	**4.6**	**0.013**	--	--	--	--	--	--	--	--	--	--	--
	08/30/01	<0.5	<1	**0.47**	**0.71**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	**3.3**	**0.059**	--	--	--	--	--	--	--	--	--	--	--
	11/28/01	<1	<1	<1	<2	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.2	<0.2	<1	<0.2	**7.8**	<0.002	--	--	--	--	--	--	--	--	--	--	--
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	**1.2**	**1.2**	<1	**1.2**	**0.64**	<0.005	--	--	--	--	--	--	--	--	--	--	--
	05/22/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.23	<0.23	<1	<0.23	**1.5**	**0.0035**	--	--	--	--	--	--	--	--	--	--	--
	09/12/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.23	<0.22	<0.22	<0.22	**0.64**	<0.005	--	--	--	--	--	--	--	--	--	--	--
	12/17/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--
	03/12/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.3	<2.3	<5.00	<2.3	**2.420**	<0.003	<1.00	<1.00	<2.3	<2.3	<2.3	<5.00	<5.00	<1.00	--	--	--
	05/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.0	<2.0	<5.00	<2.0	<0.200	**0.016**	<1.00	<1.00	<2.0	<2.0	<2.0	<5.00	<1.00	<1.00	--	--	--
	06/08/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	**0.6**	**1.15**	<0.003	<1.00	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	09/06/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	<0.200	<0.005	<0.10	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	12/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	**5.97**	<0.005	<0.10	<1.00	<0.10	<0.10	<0.10	<5.0	<1.00	<1.00	--	--	--
	03/19/04	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	**0.39**	**0.32**	<5.00	**0.38**	**3.570**	<0.005	<0.12	<1.00	<0.12	<0.12	<0.12	<5.0	<1.00	<1.00	**81.1**	<0.12	<0.12
	06/10/04	<1.00	**1.16**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.550	<1.00	<5.00	<1.00	<1.00	<1.00	<2.35	**0.247**	<5.00	<2.35	**0.92**	**0.0221**	<1.00	<1.00	<5.88	<0.235	<0.235	<1.00	<1.00	<0.600	<10.0	<2.35	<5.88
CEF-103-SMW05	03/20/00	<2	<5.5	<3	<5	<1.5	5.5	<6.5	<13	**130**	<6.5	<5.5	<2.5	<1.5	<2	<2	**2.1**	<1	<1	**9.8**	**3.7**	**11**	**0.025**	--	--	--	--	--	--	--	--	--	--	--
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	**1.1**	<2	<6	<6.5	<1	<1	<2	<1	**1**	**0.021**	--	--	--	--	--	--	--	--	--	--	--
	08/30/01	<0.5	**5.1**	**0.47**	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	**0.49**	**0.018**	--	--	--	--	--	--	--	--	--	--	--
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	**0.37**	<0.002	--	--	--	--	--	--	--	--	--	--	--
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.22	<0.005	--	--	--	--	--	--	--	--	--	--	--
	05/21/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.21	<0.005	--	--	--	--	--	--	--	--	--	--	--
	09/12/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	**0.37**	<0.005	--	--	--	--	--	--	--	--	--	--	--
	12/17/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.04	<1.04	<2.50	<1.04	<0.200	<0.003	<1.00	<1.00	<1.04	<0.21	<0.21	<5.00	<1.00	<1.00	--	--	--
	03/12/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.4	<2.4	<5.00	<2.4	<0.211	<0.003	<1.00	<1.00	<2.4	<2.4	<2.4	<5.00	<1.00	<1.00	--	--	--
	05/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.0	<2.0	<5.00	<2.0	<0.200	<0.003	<1.00	<1.00	<2.0	<2.0	<2.0	<5.00	<1.00	<1.00	--	--	--
	06/08/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.10	<0.211	<0.003	<1.00	<1.00	<0.10	<0.10	<0.10	<5.0	<1.00	<1.00	--	--	--
	09/06/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.10	<0.200	<0.005	<0.10	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	12/03/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<0.10	<0.200	<0.005	<0.10	<1.00	<0.10	**0.31**	**0.27**	**12.2**	<1.00	<1.00	--	--	--
	03/19/04	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<1.0	<1.0	NA	**0.11**	<0.200	<0.005	<0.10	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	<25.0	<0.10	<0.10
	06/10/04	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.550	<1.00	<5.00	<1.00	<1.00	<1.00	<2.33	<2.33	<5.00	<2.33	<0.20	**0.0145**	<1.00	<1.00	<5.81	<0.233	<0.233	<1.00	<1.00	<0.600	<10.0	<2.33	<5.81

TABLE 2
Quarterly Report June 2004
Groundwater Analytical Results
103rd Street - NAS Cecil Field, Jacksonville, Florida

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	4-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2-Methylnaphthalene	Naphthalene (by EPA Method 8021or 8260B)	Naphthalene (by EPA Method 8310 or 8270C)	Petroleum Range Org (PRO) in mg/L	Lead in mg/L	1, 1 - Dichloroethane	N-Butylbenzene	Acenaphthylene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	2 - Hexanone	Chloroform	Bromodichloromethane	Acetone	Chrysene	Pyrene
CEF-103-SMW06	03/20/00	<2	<5.5	**17**	**24**	<1.5	<2	**55**	<13	**16**	<6.5	<5.5	**8.7**	**1.6**	**8.9**	**2.2**	**3.4**	<1	<1	**22**	**8.9**	**0.66**	**0.033**	--	--	--	--	--	--	--	--	--	--	--
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	**0.59**	<5.5	<2.5	**0.95**	<2	<6	<6.5	<1	<1	<2	<1	<1	**0.086**	--	--	--	--	--	--	--	--	--	--	--
	08/30/01	<0.5	<1	**0.51**	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.22	<0.22	NA	<0.22	<0.51	**0.248**	--	--	--	--	--	--	--	--	--	--	--
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.52	**0.068**	--	--	--	--	--	--	--	--	--	--	--
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.21	<0.005	--	--	--	--	--	--	--	--	--	--	--
	05/22/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.2	0.24	<1	**0.2**	<0.52	**0.0101**	--	--	--	--	--	--	--	--	--	--	--
	09/13/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.22	<0.22	<1	<0.22	<0.21	<0.005	--	--	--	--	--	--	--	--	--	--	--
	12/17/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.04	<1.04	<2.50	<1.04	**0.28**	<0.003	<1.00	<1.00	<1.04	<0.21	<0.21	<5.00	<1.00	<1.00	--	--	--
	03/12/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.3	<2.3	<5.00	<2.3	**0.265**	0.003	<1.00	<1.00	<2.3	<2.3	<2.3	<5.00	<1.00	<1.00	--	--	--
	05/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.0	<2.0	<5.00	<2.0	<0.200	**0.004**	<1.00	<1.00	<2.0	<2.0	<2.0	<5.00	<1.00	<1.00	--	--	--
	06/08/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	NA	**0.004**	<1.00	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	09/06/03	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	**1.5**	<2.50	<1.0	<1.0	**2.0**	<0.10	<0.10	NA	<0.10	NA	**0.007**	**2.5**	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	12/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	**2.0**	<0.10	<0.10	NA	<0.10	**1.61**	<0.005	<1.00	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	03/19/04	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.00	<0.11	<0.11	<1.0	<0.11	<0.200	<0.005	<1.00	<1.00	<0.11	<0.11	<0.11	<5.00	<1.00	<1.00	<25.0	<0.11	<0.11
	06/10/04	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.550	<1.00	<5.00	<1.00	<1.00	<1.00	<2.27	<2.27	<5.00	<2.27	<0.20	**0.0158**	<1.00	<1.00	<5.68	<0.227	<0.227	<1.00	<1.00	<0.600	<10.0	<2.27	<5.68
CEF-103-SMW07	03/20/00	<2	<5.5	<3	2.2	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	**1.6**	<2	<6	<6.5	<1	<1	<2	<1.0	**0.72**	**0.013**	--	--	--	--	--	--	--	--	--	--	--
	09/28/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	**0.72**	<1.04	**0.73**	**0.086**	--	--	--	--	--	--	--	--	--	--	--
	12/20/00	<2	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	**1.1**	<1	**0.67**	**0.17**	--	--	--	--	--	--	--	--	--	--	--
	03/27/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	**0.53**	<2	<6	<6.5	<1	<1	<2	<1	**1.3**	**0.07**	--	--	--	--	--	--	--	--	--	--	--
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	0.87	<5.5	<2.5	**1.1**	<2	<6	<6.5	<1	<1	<2	<1	<1	**0.071**	--	--	--	--	--	--	--	--	--	--	--
	08/30/01	<0.5	<1	**0.44**	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.21	<0.21	NA	<0.21	<0.52	**0.049**	--	--	--	--	--	--	--	--	--	--	--
	11/27/01	<1	<1	<1	<2	<1	<1	<1	<0..56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.2	<0.2	<1	<0.2	<0.5	**0.025**	--	--	--	--	--	--	--	--	--	--	--
	02/26/02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.22	**0.0038**	--	--	--	--	--	--	--	--	--	--	--
	05/22/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.21	0.31	<1	<0.21	<0.53	**0.0106**	--	--	--	--	--	--	--	--	--	--	--
	09/13/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	<0.2	**0.0024**	--	--	--	--	--	--	--	--	--	--	--
	12/17/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.14	<1.14	<2.50	<1.14	<0.200	<0.003	<1.00	<1.00	<1.14	<0.23	<0.23	<5.00	<1.00	<1.00	--	--	--
	03/12/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.3	<2.3	<5.00	<2.3	0.293	<0.003	<1.00	<1.00	<2.3	<2.3	<2.3	<5.00	<1.00	<1.00	--	--	--
	05/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.0	<2.0	<5.00	<2.0	<0.200	<0.003	<1.00	<1.00	<2.0	<2.0	<2.0	<5.00	<1.00	<1.00	--	--	--
	06/08/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	<0.211	<0.003	<1.00	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	09/06/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	<0.200	<0.005	<0.10	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	12/13/03	<1.0	<1.0	<1.0	**3.2**	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	**0.252**	<0.005	<0.10	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	03/19/04	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.11	<0.11	<5.00	<0.11	<0.200	<0.005	<0.10	<1.00	<0.11	<0.11	<0.11	<5.00	<1.00	<1.00	<1.00	**0.18**	**0.18**
	06/10/04	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.550	<1.00	<5.00	<1.00	<1.00	<1.00	<2.30	<2.30	<5.00	<2.30	<0.21	**0.0202**	<1.00	<1.00	<5.75	<0.230	<0.230	<1.00	<1.00	<0.600	<10.0	<2.30	<5.75
CEF-103-SMW08	03/20/00	<2	<5.5	<3	2.3	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	<1.5	<2	<6	<6.5	<1	<1	<2	<1.0	**0.54**	**0.042**	--	--	--	--	--	--	--	--	--	--	--
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	**1**	<5.5	<2.5	**1**	<2	<6	<6.5	<1	<1	<2	<1	<1	**0.16**	--	--	--	--	--	--	--	--	--	--	--
	08/30/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	11/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	02/26/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	05/22/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.21	0.31	<1	<0.21	**0.56**	<.005	--	--	--	--	--	--	--	--	--	--	--
	09/13/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	12/17/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--
	03/12/03	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--
	05/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.0	<2.0	<5.00	<2.0	<0.222	<0.003	<1.00	<1.00	<2.0	<2.0	<2.0	<5.00	<1.00	<1.00	--	--	--
	06/08/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	<0.211	<0.003	<1.00	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	09/06/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	<0.200	<0.005	<0.10	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	12/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	0.11	<0.200	<0.005	<0.10	<1.00	0.37	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	03/19/04	<1.0	**1.1**	<1.0	**1.6**	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.11	<0.11	<5.00	0.13	<0.200	<0.005	<0.10	<1.00	<0.11	<0.11	<0.11	<5.00	<1.00	<1.00	<25.0	<0.11	<0.11
	06/10/04	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.550	<1.00	<5.00	<1.00	<1.00	<1.00	<2.30	<2.30	<5.00	<2.30	<0.21	**0.0157**	<1.00	<1.00	<5.75	<0.230	<0.230	<1.00	<1.00	<0.600	<10.0	<2.30	<5.75

TABLE 2
Quarterly Report June 2004
Groundwater Analytical Results
103rd Street - NAS Cecil Field, Jacksonville, Florida

	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,3,5-Trimethylbenzene	Chloromethane	Hexachlorobutadiene	Isopropylbenzene	Methylene Chloride	n-Propylbenzene	4-Isopropyltoluene	sec-Butylbenzene	1- Methylnaphthalene	2- Methylnaphthalene	Naphthalene (by EPA Method 8021or 8260B)	Naphthalene (by EPA Method 8310 or 8270C)	Petroleum Range Org (PRO) in mg/L	Lead in mg/L	1, 1 - Dichloroethane	N-Butylbenzene	Acenaphthylene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	2 - Hexanone	Chloroform	Bromodichloromethane	Acetone	Chrysene	Pyrene
CEF-103-SMW09	03/20/00	<2	<5.5	<3	1.1	<1.5	<2	<6.5	<13	<2.5	<6.5	<5.5	<2.5	**1.2**	<2	<6	<6.5	<1	<1	<2	<1.0	**0.7**	**0.024**	--	--	--	--	--	--	--	--	--	--	--
	09/28/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	12/20/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	03/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	05/23/01	<1	<5.5	<3	<5	<1.5	<2	<6.5	<13	<2.5	0.78	<5.5	<2.5	**1.1**	<2	<6	<6.5	<1	<1	<2	<1	1	**0.09**	--	--	--	--	--	--	--	--	--	--	--
	08/30/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	11/27/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	02/26/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	05/22/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<2	<0.19	<0.19	<0.21	<0.21	**0.34**	<1	<0.21	**0.28**	<.005	--	--	--	--	--	--	--	--	--	--	--
	09/13/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--
	12/17/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--
	03/12/03	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<1.00	<1.00	<2.2	<2.2	<2.2	<5.00	<1.00	<1.00	--	--	--
	05/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.0	<2.0	<5.00	<2.0	<0.200	<0.003	<1.00	<1.00	<2.0	<2.0	<2.0	<5.0	<1.00	<1.00	--	--	--
	06/08/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	NA	<0.003	<1.00	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	09/06/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	NA	<0.003	<0.10	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	12/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.2**	<5.00	<1.0	<1.0	<1.0	**3.30**	<2.50	<1.0	<1.0	<1.0	<0.10	<0.10	NA	<0.10	**0.214**	<0.003	<0.10	<1.00	<0.10	<0.10	<0.10	<5.0	<1.00	<1.00	--	--	--
	03/19/04	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.00	<2.50	<1.0	<1.0	<1.0	<0.11	<0.11	<5.00	<0.11	<0.200	<0.005	<0.11	<1.00	<0.11	<0.11	<0.11	<5.0	<1.00	<1.00	<25.0	<0.11	<0.11
	06/10/04	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.550	<1.00	<5.00	<1.00	<1.00	<1.00	<2.04	<2.04	<5.00	<2.04	<0.21	**0.0128**	<1.00	<1.00	<5.10	<0.204	<0.204	<1.00	<1.00	<0.600	<10.0	<2.04	<5.10
CEF-103-SMW11	03/20/00	**1.9**	**3.8**	**51**	**220**	<1.5	<2	**250**	<13	**52**	<6.5	<5.5	**26**	<1.5	**28**	**24**	**17**	<1	<1	**96**	**20.6**	**3.6**	**0.054**	--	--	--	--	--	--	--	--	--	--	--
	09/28/00	**1.9**	<5.5	**2.9**	**12**	<1.5	<2	**12**	<13	**4.1**	<6.5	<5.5	**1.2**	<1.5	**1.2**	<6	**1.2**	<1	<1	**3.7**	**2.2**	**7.8**	**0.051**	--	--	--	--	--	--	--	--	--	--	--
	12/20/00	<2	<5.5	**20**	**10**	**1.23**	**0.78**	**87**	<13	**22**	<6.5	<5.5	**8**	<1.5	**8.3**	**9.6**	**5.9**	**6**	**5**	**31**	**11**	**15**	**0.14**	--	--	--	--	--	--	--	--	--	--	--
	03/27/01	<1	<5.5	**10**	**14**	<1.5	<2	**46**	<13	**11**	<6.5	<5.5	**5.6**	<1.5	**5.4**	**4.1**	**5.4**	**3.16**	**2.17**	**17**	**2.74**	**20**	**0.032**	--	--	--	--	--	--	--	--	--	--	--
	05/23/01	**1**	<5.5	**23**	**29**	<1.5	<2	**61**	<13	**14**	<6.5	<5.5	**11**	**1**	**11**	**4.2**	**5.8**	**10.9**	**7.88**	**37**	**18.4**	**6.4**	**0.037**	--	--	--	--	--	--	--	--	--	--	--
	08/30/01	<0.5	<1.0	**10**	**17.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.2**	**0.74**	NA	**3.6**	**20**	<0.03	--	--	--	--	--	--	--	--	--	--	--
	10/10/01	**0.32**	<40	**36**	**50.5**	<70	<70	**100**	**0.56**	**21**	<2.7	<0.39	**15**	<5	**16**	**5**	**6**	NA	NA	**76**	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--
	11/27/01	**0.42**	**0.19**	**44**	**36**	<1	<1	**123**	<0.56	**13**	<1	<0.46	**18**	<2	**18**	**8.3**	**9.4**	**12**	**10**	**83**	**19**	**20**	<0.01	--	--	--	--	--	--	--	--	--	--	--
	02/26/02	**0.32**	**0.28**	**39**	**36.5**	<1	<1	**78.9**	<1	**8.4**	<1	<1	**18.4**	<1	**17.7**	**7.9**	**8.7**	**19.2**	**11.9**	**64.6**	**20.7**	**6.2**	<0.005	--	--	--	--	--	--	--	--	--	--	--
	05/22/02	<1	<1	**3.2**	**0.59**	<1	<1	**0.6**	0.56	**0.7**	<1	<0.46	**2.3**	<2	**1.6**	**0.46**	**1.6**	**1.1**	**1.1**	**5.4**	2.3	**1.5**	<0.005	--	--	--	--	--	--	--	--	--	--	--
	09/12/02	<1	<1	<1	<3	<1	<1	<1	<0.56	<1	<1	<0.46	<0.2	<1	<0.19	<0.19	<0.21	<0.21	<0.21	<1	<0.21	**1.7**	**0.0351**	--	--	--	--	--	--	--	--	--	--	--
	12/17/02	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.09	<1.09	<2.50	<1.09	**4.98**	**0.016**	<1.00	<1.00	<1.09	<0.22	<0.22	<5.00	<1.00	<1.00	--	--	--
	03/12/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.2	<2.2	<5.00	<2.2	**0.661**	<0.003	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--
	05/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.0	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	<2.0	<2.0	<5.00	<4.0	<0.200	0.009	<1.00	<1.00	<4.0	<4.0	<4.0	<5.00	<1.00	<1.00	--	--	--
	06/08/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.2**	<5.00	**3.00**	<1.0	<1.0	<1.0	<2.50	<1.0	<1.0	<1.0	**1.41**	**0.50**	NA	1.4	**5.89**	0.014	<1.00	<1.00	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	09/06/03	<1.0	<1.0	**1.3**	**6**	<1.0	<1.0	**9.00**	<5.00	**6.70**	<1.0	<1.0	**2.00**	<2.50	2.2	<1.0	2.00	**3.10**	**0.79**	NA	<0.10	**3.89**	<0.005	<1.00	**1.7**	<0.10	<0.10	<0.10	<5.00	<1.00	<1.00	--	--	--
	12/13/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.00	<1.0	<1.0	<1.00	<2.50	<1.00	<1.0	<1.00	**0.65**	<0.10	NA	0.22	**1.34**	<0.005	<1.00	<1.00	<0.10	<0.10	<0.10	<5.0	**1.0**	**2.7**	--	--	--
	03/19/04	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	<1.00	<1.0	<1.0	<1.00	<2.50	<1.00	<1.0	<1.00	**0.14**	<0.11	<5.00	0.22	**0.662**	<0.005	<1.00	<1.00	<0.11	<0.11	<0.11	<5.0	**1.0**	<1.00	<25.0	<0.11	<0.11
	06/10/04	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	**2.12**	<1.00	**1.26**	<1.00	<0.550	<1.00	<5.00	<1.00	<1.00	<1.00	<2.04	<2.04	<5.00	<2.04	**0.60**	**0.0264**	<1.00	<1.00	<5.10	<0.204	<0.204	<1.00	<1.00	<0.600	<10.0	<2.04	<5.10
GCTL		**1**	**40**	**30**	**20**	**70**	**70**	**10**	**0.2**	**10**	**2.7**	**0.5**	**0.8**	**5**	**---**	**---**	**---**	**20**	**20**	**20**	**20**	**5**	**0.015**	**70**	**--**	**20**	**0.2**	**0.2**	**280**	**5.7**	**0.6**	**700**	**4.8**	**210**
NADSC		**100**	**400**	**300**	**200**	**700**	**700**	**100**	**20**	**100**	**270**	**50**	**8**	**500**	**---**	**---**	**---**	**200**	**200**	**200**	**200**	**50**	**0.15**	**700**	**--**	**200**	**20**	**20**	**2800**	**570**	**60**	**7000**	**480**	**2100**

NOTES:
1. All results in ug/L, except FL PRO and lead, which are in mg/L
2. -- = Not available
3. NA = Not Analyzed
4. NS = Not Sampled
5. GCTL=Groundwater Cleanup Target Levels
6. NADSC = Natural Attenuation Default Source Concentrations
7. Bolded = Detects
8. Shading = Concentration is above groundwater cleanup target levels (GCTLs)
9. Napthalene was analyzed by method 8260B for 12/17/02 sample.
10. p-Isopropyltoluene is 4-Isopropyltoluene in the analytical report
11. Due to breakage during shipping, SMW-06 and SMW-09 cound not be anaylzed for TRPH for the June 2003 sampling event.

Table 3

QUARTERLY REPORT JUNE 2004

MONITORING WELL FIELD MEASUREMENTS

103rd STREET AND "A" AVENUE JET FUEL TRANSFER PIPELINE

NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Well Identification	Date	pH	Conductivity (mS/cm)	Dissolved O_2 (mg/l)	Temperature (^oC)
CEF-103-SMW-03	03/20/00	6.40	0.806	9.40	22.6
	03/12/03	-	-	-	-
	05/13/03	8.21	0.615	0.69	24.03
	06/07/03	6.81	0.650	0.00	25.04
	09/06/03	6.72	0.452	0.23	28.00
	12/13/03	6.44	0.990	3.98	22.59
	03/19/04	7.08	0.699	2.00	20.30
	06/10/04	6.36	0.570	0.12	26.29
CEF-103-SMW-04	03/20/00	6.27	0.758	9.19	23.2
	03/12/03	5.46	0.535	2.64	21.29
	05/13/03	6.79	0.469	5.26	25.12
	06/08/03	6.81	0.626	0.00	25.94
	9/6/2003	6.49	0.622	0.41	29.02
	12/13/2003	6.74	0.99	6.01	23.89
	3/19/2004	7.52	0.221	6.20	19.40
	6/10/2004	6.67	0.130	6.67	27.01
CEF-103-SMW-05	03/20/00	6.57	1.120	8.93	23.1
	03/12/03	6.090	0.529	1.22	20.590
	05/13/03	8.500	0.619	0.72	24.560
	06/08/03	7.060	0.639	0.16	25.59
	9/6/2003	6.63	0.614	0.27	28.46
	12/13/2003	7.12	0.99	1.64	23.00
	3/19/2004	7.35	0.74	0.70	20.50
	6/10/2004	6.95	0.85	0.54	26.44
CEF-103-SMW-06	03/20/00	5.95	0.750	9.25	20.5
	03/12/03	3.69	2.180	1.40	19.50
	05/13/03	5.67	2.720	0.11	22.65
	06/08/03	4.20	0.732	3.32	24.06
	9/6/2003	3.08	0.320	1.09	26.56
	12/13/2003	5.41	0.860	2.63	22.08
	3/19/2004	6.35	0.999	NR	21.13
	6/10/2004	5.94	0.473	1.13	25.00
CEF-103-SMW-07	03/20/00	5.78	0.940	9.63	20.9
	03/12/03	6.31	0.525	1.08	19.11
	05/13/03	9.92	0.568	0.06	23.30
	06/08/03	6.44	0.366	0.00	25.15
	9/6/2003	5.92	0.559	0.26	27.77
	12/13/2003	6.07	0.584	2.21	22.08
	3/19/2004	6.34	0.999	NR	17.47
	6/10/2004	6.05	0.706	0.83	25.97
CEF-103-SMW-08	03/20/00	6.23	0.662	9.84	21.8
	03/12/03	NR	NR	NR	NR
	05/13/03	11.34	0.454	0.34	23.50
	06/08/03	6.49	0.430	0.05	24.85
	09/06/03	6.21	0.296	0.43	28.29
	12/13/03	6.12	0.829	0.00	21.38
	03/19/04	6.65	0.999	NR	20.18
	06/10/04	6.00	0.363	0.00	26.53

Table 3

QUARTERLY REPORT JUNE 2004

MONITORING WELL FIELD MEASUREMENTS

103rd STREET AND "A" AVENUE JET FUEL TRANSFER PIPELINE

NAS CECIL FIELD, JACKSONVILLE, FLORIDA

Well Identification	Date	pH	Conductivity (mS/cm)	Dissolved O_2 (mg/l)	Temperature (^oC)
CEF-103-SMW-09	03/20/00	5.72	0.823	8.99	21.3
	03/12/03	NR	NR	NR	NR
	05/13/03	12.19	0.435	0.40	23.28
	06/08/03	6.50	0.464	0.15	25.40
	09/06/03	6.060	0.990	1.04	27.98
	12/13/03	5.65	0.327	2.73	24.50
	03/19/04	6.47	0.999	NR	22.66
	06/10/04	5.71	0.406	0.05	24.84
CEF-103-SMW-11	03/20/00	6.33	0.960	9.61	22.6
	03/12/03	5.17	0.49	3.57	20.84
	05/13/03	*	*	*	*
	06/08/03	6.75	0.51	0.00	26.20
	9/6/2003	6.55	0.614	0.17	28.39
	12/13/2003	6.60	0.99	3.38	24.27
	3/19/2004	6.71	0.635	0.90	21.30
	6/10/2004	6.57	0.750	0.09	27.10

NR = No Reading Taken

* Well was purged dry at 1.75 gallons; allowed to recharge prior to sampling.

- : Data for these wells was lost prior to backup due to handheld computer problems.

Appendix C

Groundwater Sampling Logs

GROUNDWATER SAMPLING LOG

TERRAINE
Environmental Consulting

Project Information

Project No: 04-41001/4	Project Name: 103rd Street - Cecil Field LTM/RAO	
Technician 1:	Technician 2: Larry Wolski	Weather: "Humid, Sunny"
Sampling ID: 04-41001/4:CEF-103-SMW-03:6/10/04		
Notes:		

Well Information

Well ID: **CEF-103-SMW-03**	Sampling Date: **6/10/2004**	
Well Diam (in): 2.0	Total Well Depth (ft): 12.60	Well Screen Interval (ft):
TOC Elevation (ft msl): 82.03	Northing: 0	Easting: 0
Static Depth to Water (ft): 5.90	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Peristaltic	Tubing Material: PPE		Pump Set at (ft): 8.00
pH Meter: YSI 556 MPS	Cond. Meter: YSI 556MPS	DO Meter: YSI 556 MPS	Turb. Meter: Hach 2100P
Purge Start: 09:09	Purge End: 09:23	Total Volume Purged (gal): 1.30	

Purging Data

Time	Water Level (ft)	Vol Purged (gal)	Pump Rate (gal/min)	DO (mg/L)	Temp (°C)	SEC (µS/cm)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
09:17	7.90	1.10	-0.00	0.12	26.32	0.5	6.37	-75.9	17.90	clear	none
09:20	7.90	1.20	-0.00	0.16	26.29	0.5	6.36	-77.8	13.10		
09:23	7.90	1.30	-0.00	0.13	26.29	0.5	6.35	-79.2	11.60		

Sampling Data

Sample Information

Sample Date:	6/10/2004
Sample Start Time:	09:25
Sample End Time:	10:05
Field Filtered:	☐
Duplicate:	☐

Final Purge Readings

DO (mg/L):	0.12
Temp (*C):	26.29
SEC (uS/cm):	0.57
pH:	6.36
ORP (mV):	-79.40
Turb (NTU):	11.70

Field Test Kit Readings (mg/L)

DO:	0.00	Sulfate:	0.00
CO2:	0.00	Sulfide:	0.00
Alkalinity:	0.00		
Ferrous Iron:	0.00		
H2S:	0.00		
Manganese:	0.00		

Lab Analyses/Methods:

"VOCs, TRPH, PAHs, Lead"

Technician Initials

GROUNDWATER SAMPLING LOG

TERRAINE
Environmental Consulting

Project Information

Project No: 04-41001/4	Project Name: 103rd Street - Cecil Field LTM/RAO	
Technician 1:	Technician 2: Larry Wolski	Weather: "Hot, Humid, Sunny"
Sampling ID: 04-41001/4:CEF-103-SMW-04:6/10/04		
Notes:		

Well Information

Well ID: **CEF-103-SMW-04**	Sampling Date: **6/10/2004**	
Well Diam (in): 2.0	Total Well Depth (ft): 12.66	Well Screen Interval (ft):
TOC Elevation (ft msl): 82.23	Northing: 0	Easting: 0
Static Depth to Water (ft): 6.88	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Nomad Submersible	Tubing Material: PPE		Pump Set at (ft): 9.50
pH Meter: YSI 556 MPS	Cond. Meter: YSI 556MPS	DO Meter: YSI 556 MPS	Turb. Meter: Hach 2100P
Purge Start: 11:25	Purge End: 11:42	Total Volume Purged (gal): 1.30	

Purging Data

Time	Water Level (ft)	Vol Purged (gal)	Pump Rate (gal/min)	DO (mg/L)	Temp (°C)	SEC (µS/cm)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
11:35	8.34	1.00	0.00	0.23	26.94	1.3	6.67	-117.1	4.08	clear	slight HC
11:38	8.39	1.10	0.00	0.12	26.99	1.3	6.67	-129.3	3.73		
11:42	8.76	1.30	-0.01	0.11	27.10	1.3	6.67	-132.0	3.46		

Sampling Data

Sample Information

Sample Date:	6/10/2004
Sample Start Time:	11:45
Sample End Time:	12:09
Field Filtered:	☐
Duplicate:	☐

Final Purge Readings

DO (mg/L):	0.11
Temp (*C):	27.01
SEC (uS/cm):	1.30
pH:	6.67
ORP (mV):	-134.40
Turb (NTU):	4.17

Field Test Kit Readings (mg/L)

DO:	0.00	Sulfate:	0.00
CO2:	0.00	Sulfide:	0.00
Alkalinity:	0.00		
Ferrous Iron:	0.00		
H2S:	0.00		
Manganese:	0.00		

Lab Analyses/Methods:

"VOCs, TRPH, PAHs, Lead"

Technician Initials

GROUNDWATER SAMPLING LOG

TERRAINE
Environmental Consulting

Project Information

Project No: 04-41001/4	Project Name: 103rd Street - Cecil Field LTM/RAO	
Technician 1:	Technician 2: Larry Wolski	Weather: "Humid, Sunny"
Sampling ID: 04-41001/4:CEF-103-SMW-05:6/10/04		
Notes:		

Well Information

Well ID: **CEF-103-SMW-05**	Sampling Date: **6/10/2004**	
Well Diam (in): 2.0	Total Well Depth (ft): 13.26	Well Screen Interval (ft):
TOC Elevation (ft msl): 82.37	Northing: 0	Easting: 0
Static Depth to Water (ft): 6.02	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Nomad Submersible	Tubing Material: PPE		Pump Set at (ft): 9.50
pH Meter: YSI 556 MPS	Cond. Meter: YSI 556MPS	DO Meter: YSI 556 MPS	Turb. Meter: Hach 2100P
Purge Start: 10:10	Purge End: 10:39	Total Volume Purged (gal): 1.50	

Purging Data

Time	Water Level (ft)	Vol Purged (gal)	Pump Rate (gal/min)	DO (mg/L)	Temp (°C)	SEC (µS/cm)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
10:33	7.43	1.20	0.00	1.55	26.36	0.8	6.96	-58.9	5.01	clear	none
10:36	7.36	1.20	-0.00	0.62	26.39	0.8	6.96	-65.3	4.79		
10:39	7.32	1.50	0.01	0.55	26.43	0.8	6.95	-69.5	3.20		

Sampling Data

Sample Information

Sample Date:	6/10/2004
Sample Start Time:	10:39
Sample End Time:	10:55
Field Filtered:	☐
Duplicate:	☐

Final Purge Readings

DO (mg/L):	0.54
Temp (*C):	26.44
SEC (uS/cm):	0.85
pH:	6.95
ORP (mV):	-69.80
Turb (NTU):	2.76

Field Test Kit Readings (mg/L)

DO:	0.00	Sulfate:	0.00
CO2:	0.00	Sulfide:	0.00
Alkalinity:	0.00		
Ferrous Iron:	0.00		
H2S:	0.00		
Manganese:	0.00		

Lab Analyses/Methods:

"VOCs, TRPH, PAHs, Lead"

Technician Initials

GROUNDWATER SAMPLING LOG

TERRAINE
Environmental Consulting

Project Information

Project No: 04-41001/4	Project Name: 103rd Street - Cecil Field LTM/RAO	
Technician 1: Karen Baer	Technician 2:	Weather: "Humid, Sunny"
Sampling ID: 04-41001/4:CEF-103-SMW-06:6/10/04		
Notes:		

Well Information

Well ID: **CEF-103-SMW-06**	Sampling Date: **6/10/2004**	
Well Diam (in): 2.0	Total Well Depth (ft): 13.18	Well Screen Interval (ft):
TOC Elevation (ft msl): 77.33	Northing: 0	Easting: 0
Static Depth to Water (ft): 2.10	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Peristaltic	Tubing Material: PPE		Pump Set at (ft): 5.00
pH Meter: Horiba U-22	Cond. Meter: Horiba U-22	DO Meter: Horiba U-22	Turb. Meter: Hach 2100P
Purge Start: 11:16	Purge End: 11:38	Total Volume Purged (gal): 1.00	

Purging Data

Time	Water Level (ft)	Vol Purged (gal)	Pump Rate (gal/min)	DO (mg/L)	Temp (°C)	SEC (µS/cm)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
11:32	3.00	0.40	0.00	2.73	24.99	411.0	5.92	102.0	46.70	clear	none
11:34	3.00	0.60	-0.00	2.03	25.00	430.0	6.00	96.0	28.90		
11:37	3.00	0.90	-0.00	1.42	25.00	454.0	5.98	94.0	18.50		
11:38	3.00	1.00	0.00	1.25	25.02	475.0	5.96	94.0	14.50		

Sampling Data

Sample Information

Sample Date:	6/10/2004
Sample Start Time:	11:40
Sample End Time:	11:55
Field Filtered:	☐
Duplicate:	☐

Final Purge Readings

DO (mg/L):	1.13
Temp (*C):	25.00
SEC (uS/cm):	473.00
pH:	5.94
ORP (mV):	95.00
Turb (NTU):	11.50

Field Test Kit Readings (mg/L)

DO:	0.00	Sulfate:	0.00
CO2:	0.00	Sulfide:	0.00
Alkalinity:	0.00		
Ferrous Iron:	0.00		
H2S:	0.00		
Manganese:	0.00		

Lab Analyses/Methods:

"VOCs, TRPH, PAHs, Lead"

Technician Initials

GROUNDWATER SAMPLING LOG

TERRAINE
Environmental Consulting

Project Information

Project No: 04-41001/4	Project Name: 103rd Street - Cecil Field LTM/RAO	
Technician 1: Karen Baer	Technician 2:	Weather: Sunny
Sampling ID: 04-41001/4:CEF-103-SMW-07:6/10/04		
Notes:		

Well Information

Well ID: **CEF-103-SMW-07**	Sampling Date: **6/10/2004**	
Well Diam (in): 2.0	Total Well Depth (ft): 13.29	Well Screen Interval (ft):
TOC Elevation (ft msl): 79.35	Northing: 0	Easting: 0
Static Depth to Water (ft): 4.45	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Peristaltic	Tubing Material: PPE		Pump Set at (ft): 8.00
pH Meter: Horiba U-22	Cond. Meter: Horiba U-22	DO Meter: Horiba U-22	Turb. Meter: Hach 2100P
Purge Start: 10:22	Purge End: 10:50	Total Volume Purged (gal): 1.70	

Purging Data

Time	Water Level (ft)	Vol Purged (gal)	Pump Rate (gal/min)	DO (mg/L)	Temp (°C)	SEC (µS/cm)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
10:40	5.20	1.40	-0.09	0.90	26.16	700.0	6.00	-59.0	64.50	orange	none
10:44	5.30	1.50	0.05	1.02	26.11	702.0	6.03	-61.0	38.80		
10:47	5.30	1.60	-0.00	1.19	26.01	705.0	6.04	-62.0	31.00		
10:49	5.40	1.70	0.00	0.99	25.99	704.0	6.03	-63.0	30.70		

Sampling Data

Sample Information

Sample Date:	6/10/2004
Sample Start Time:	10:51
Sample End Time:	11:06
Field Filtered:	☐
Duplicate:	☐

Final Purge Readings

DO (mg/L):	0.83
Temp (*C):	25.97
SEC (uS/cm):	706.00
pH:	6.05
ORP (mV):	-64.00
Turb (NTU):	27.10

Field Test Kit Readings (mg/L)

DO:	0.00	Sulfate:	0.00
CO2:	0.00	Sulfide:	0.00
Alkalinity:	0.00		
Ferrous Iron:	0.00		
H2S:	0.00		
Manganese:	0.00		

Lab Analyses/Methods:

"VOCs, TRPH, PAHs, Lead"

Technician Initials

GROUNDWATER SAMPLING LOG

TERRAINE
Environmental Consulting

Project Information

Project No: 04-41001/4	Project Name: 103rd Street - Cecil Field LTM/RAO	
Technician 1: Karen Baer	Technician 2:	Weather: "Humid, Sunny"
Sampling ID: 04-41001/4:CEF-103-SMW-08:6/10/04		
Notes:		

Well Information

Well ID: **CEF-103-SMW-08**	Sampling Date: **6/10/2004**	
Well Diam (in): 2.0	Total Well Depth (ft): 18.23	Well Screen Interval (ft):
TOC Elevation (ft msl): 79.55	Northing: 0	Easting: 0
Static Depth to Water (ft): 4.15	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Peristaltic	Tubing Material: PPE		Pump Set at (ft): 7.50
pH Meter: Horiba U-22	Cond. Meter: Horiba U-22	DO Meter: Horiba U-22	Turb. Meter: Hach 2100P
Purge Start: 08:41	Purge End: 09:22	Total Volume Purged (gal): 1.40	

Purging Data

Time	Water Level (ft)	Vol Purged (gal)	Pump Rate (gal/min)	DO (mg/L)	Temp (°C)	SEC (µS/cm)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
08:49	4.90	0.40	-0.03	0.16	25.93	357.0	6.00	-4.0	753.00	orange	none
08:53	5.00	0.60	-0.00	0.21	26.08	358.0	5.98	-13.0	607.00		
09:01	5.15	0.80	-0.01	0.13	26.34	359.0	6.01	-20.0	389.00		
09:05	5.20	1.00	-0.00	0.08	26.44	359.0	6.00	-23.0	294.00		
09:13	5.20	1.20	-0.00	0.02	26.58	360.0	6.00	-29.0	216.00		
09:18	5.23	1.30	-0.00	0.00	26.67	361.0	6.01	-32.0	179.00		
09:22	5.35	1.40	0.00	0.00	26.48	363.0	5.99	-35.0	167.00		

Sampling Data

Sample Information		Final Purge Readings		Field Test Kit Readings (mg/L)			
Sample Date:	6/10/2004	DO (mg/L):	0.00	DO:	0.00	Sulfate:	0.00
Sample Start Time:	09:25	Temp (*C):	26.53	CO2:	0.00	Sulfide:	0.00
Sample End Time:	09:43	SEC (uS/cm):	363.00	Alkalinity:	0.00		
Field Filtered:	☐	pH:	6.00	Ferrous Iron:	0.00		
Duplicate:	☐	ORP (mV):	-36.00	H2S:	0.00		
		Turb (NTU):	145.00	Manganese:	0.00		

Lab Analyses/Methods:	Technician Initials
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GROUNDWATER SAMPLING LOG

TERRAINE Environmental Consulting

Project Information

Project No: 04-41001/4	Project Name: 103rd Street - Cecil Field LTM/RAO	
Technician 1: Karen Baer	Technician 2:	Weather: Sunny
Sampling ID: 04-41001/4:CEF-103-SMW-09:6/10/04		
Notes:		

Well Information

Well ID: **CEF-103-SMW-09**	Sampling Date: **6/10/2004**	
Well Diam (in): 2.0	Total Well Depth (ft): 13.24	Well Screen Interval (ft):
TOC Elevation (ft msl): 79.67	Northing: 0	Easting: 0
Static Depth to Water (ft): 4.90	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Peristaltic	Tubing Material: PPE		Pump Set at (ft): 7.00
pH Meter: Horiba U-22	Cond. Meter: Horiba U-22	DO Meter: Horiba U-22	Turb. Meter: Hach 2100P
Purge Start: 12:18	Purge End: 12:55	Total Volume Purged (gal): 3.00	

Purging Data

Time	Water Level (ft)	Vol Purged (gal)	Pump Rate (gal/min)	DO (mg/L)	Temp (°C)	SEC (µS/cm)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
12:42	6.25	2.00	0.00	0.71	24.96	437.0	5.72	73.0	18.90	clear	none
12:46	6.35	2.25	0.00	0.29	24.73	429.0	5.70	74.0	12.20		
12:50	6.50	2.50	0.00	0.18	24.62	465.0	5.70	72.0	7.99		
12:51	6.50	2.75	0.01	0.14	24.66	421.0	5.71	71.0	7.99		
12:55	6.50	3.00	0.01	0.06	24.89	408.0	5.71	70.0	4.49		

Sampling Data

Sample Information

Sample Date:	6/10/2004
Sample Start Time:	12:56
Sample End Time:	13:10
Field Filtered:	☐
Duplicate:	☐

Final Purge Readings

DO (mg/L):	0.05
Temp (*C):	24.84
SEC (uS/cm):	406.00
pH:	5.71
ORP (mV):	70.00
Turb (NTU):	4.67

Field Test Kit Readings (mg/L)

DO:	0.00	Sulfate:	0.00
CO2:	0.00	Sulfide:	0.00
Alkalinity:	0.00		
Ferrous Iron:	0.00		
H2S:	0.00		
Manganese:	0.00		

Lab Analyses/Methods:

"VOCs, TRPH, PAHs, Lead"

Technician Initials

GROUNDWATER SAMPLING LOG

TERRAINE Environmental Consulting

Project Information

Project No: 04-41001/4	Project Name: 103rd Street - Cecil Field LTM/RAO	
Technician 1:	Technician 2: Larry Wolski	Weather: "Cloudy, Hot, Humid, Sunny"
Sampling ID: 04-41001/4:CEF-103-SMW-11:6/10/04		
Notes:		

Well Information

Well ID: **CEF-103-SMW-11**	Sampling Date: **6/10/2004**	
Well Diam (in): 2.0	Total Well Depth (ft): 16.10	Well Screen Interval (ft):
TOC Elevation (ft msl): 82.48	Northing: 0	Easting: 0
Static Depth to Water (ft): 6.71	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Peristaltic	Tubing Material: PPE		Pump Set at (ft): 10.00
pH Meter: YSI 556 MPS	Cond. Meter: YSI 556MPS	DO Meter: YSI 556 MPS	Turb. Meter: Hach 2100P
Purge Start: 12:43	Purge End: 13:02	Total Volume Purged (gal): 1.70	

Purging Data

Time	Water Level (ft)	Vol Purged (gal)	Pump Rate (gal/min)	DO (mg/L)	Temp (°C)	SEC (µS/cm)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
12:54	9.20	1.50	0.00	0.15	26.99	0.7	6.58	-143.1	130.00	turbid	slight HC
12:58	9.38	1.60	0.00	0.11	27.07	0.7	6.58	-140.3	125.00		
13:01	9.28	1.70	0.00	0.09	27.09	0.7	6.57	-135.8	123.00		

Sampling Data

Sample Information

Sample Date:	6/10/2004
Sample Start Time:	13:05
Sample End Time:	13:40
Field Filtered:	☐
Duplicate:	☐

Final Purge Readings

DO (mg/L):	0.09
Temp (*C):	27.10
SEC (uS/cm):	0.75
pH:	6.57
ORP (mV):	-136.60
Turb (NTU):	130.00

Field Test Kit Readings (mg/L)

DO:	0.00	Sulfate:	0.00
CO2:	0.00	Sulfide:	0.00
Alkalinity:	0.00		
Ferrous Iron:	0.00		
H2S:	0.00		
Manganese:	0.00		

Lab Analyses/Methods:

"VOCs, TRPH, PAHs, Lead"

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