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NAS CECIL FIELD, FL
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2003 ANNUAL OPERATIONS AND MAINTENANCE STATUS REPORT FOR NUTRIENT INJECTION SYSTEM AT BUILDING 9 FORMER TANKS 9L1 AND 9L2 NAS CECIL FIELD FL

2/1/2004

TERRAINE INC ENVIRONMENTAL SERVICES

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2003 ANNUAL
Operation and Maintenance Status Report
January 1, 2003 – December 31, 2003

NUTRIENT INJECTION SYSTEM

BUILDING 9

Former Tanks 9L1 and 9L2

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:

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7380 Phillips Highway . Suite 106 . Jacksonville, Florida . 32256

February 2004

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D Groundwater Sampling Logs

Signature Page

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

PG : FL2090, REM : 6089

James L. Young, PG, REM President Terraine, Inc.	Date	Registration Nos.

Acronym List

acfh	actual cubic feet per hour
acfm	actual cubic feet per minute
bls	below land surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CCI	CH2M HILL Constructors, Inc.
cfm	cubic feet per minute
CTO	Contract Task Order
EPA	Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FID	Flame Ionization Detector
FL PRO	Florida Petroleum Residual Organic
GCTL	Groundwater Cleanup Target Levels
HLA	Harding Lawson Associates
LNAPL	Light Non-Aqueous Phase Liquid
MTBE	Methyl-Tert Butyl Ether
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
O&M	Operation and Maintenance
OVA	Organic Vapor Analyzer
PAHs	Polycyclic Aromatic Hydrocarbons
ppb	parts per billion
psig	pounds per square inch gauge
SAR	Site Assessment Report
scfm	standard cubic feet per minute
SCTL	Soil Cleanup Target Levels
SOUTHDIV	Department of the Navy, Southern Division
TEP	Triethylphosphate
TRPH	Total Recoverable Petroleum Hydrocarbons
TtNUS	TetraTech, NUS
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

1.0 Introduction

Terraine, Inc. (TERRAINE) has been contracted by the Department of the Navy, Southern Division Naval Facilities Engineering Command (Southern Division, NAVFAC), to provide Operation and Maintenance (O&M) services at Building 9, NAS Cecil Field, Jacksonville, Florida, under the **Basic Ordering Agreement (BOA) Contract No. N62467-02-G-0352**, **Contract Task Order (CTO) No. 0001**. The purpose of this O&M Report is to provide a summary of activities performed at the site during the period of January 1, 2003 to December 31, 2003. The Florida Department of Environmental Protection (FDEP) Annual Status Report Summary form is included in **Appendix C.**

1.1 Objective

The objective of the remedial action at the Building 9 site is 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. Nutrient injection, using the PHOSter Nutrient Injection System, is the technology being used to achieve this objective.

1.2 Site History

Building 9 served as the NAS Cecil Field main fire base station from 1953 until base closure. Prior to 1953, the site served as a public works center and incorporated a transportation garage and automotive hobby shop. As such, the site contained two gasoline underground storage tanks (USTs), Tanks 9L1 and 9L2, which were removed from the site around 1985 (TetraTech, NUS (TtNUS) June 2000). A fuel-storage tank was located west of the former UST location; the removal date of this tank is unknown (TtNUS, February 1999).

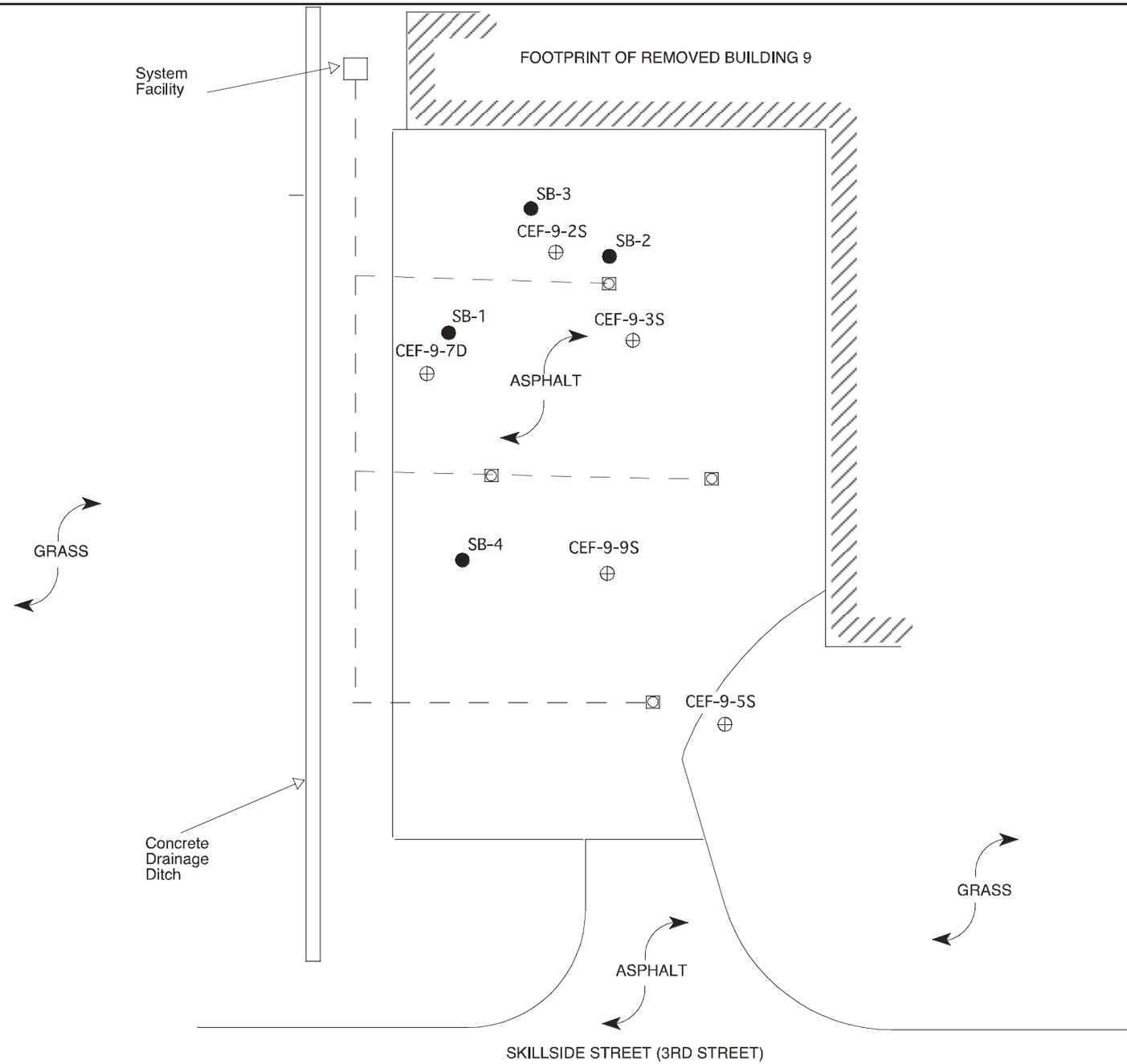
A Site Assessment Report (SAR) prepared for Building 9 (Harding Lawson Associates [HLA], 1998) concluded that operation of the two former USTs had resulted in contamination of soil and groundwater with fuel-related compounds, including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), Naphthalene, Acenaphthylene, and Total Recoverable Petroleum Hydrocarbons (TRPH). The SAR determined that an area of soil of approximately 3,000 square feet at the location of the former USTs was highly contaminated to a depth of 7 feet below land surface (bls) and acted as a source of groundwater contamination. The SAR also established that groundwater contamination extends only to the shallow surficial aquifer (7 to 25 feet bls) to a depth of 20 feet bls over an approximately 3,000-square-foot area, which coincides with the area of soil contamination.

A nutrient injection system was installed at the site during the period of November 2000 to January 2001 to treat the impacted soil and groundwater to achieve State-mandated cleanup target levels. The nutrient injection system commenced operation on January 9, 2001.

1.3 Remediation System/Technology Description

The PHOSter Nutrient Injection System provides subsurface delivery of Oxygen, Nitrogen, and Phosphorus to enhance the development of naturally occurring heterotrophic bacteria that have the capability of metabolizing petroleum wastes. A compressor is used to inject air as the Oxygen source, and the airflow is mixed with Nitrous Oxide and vapor-phase Triethylphosphate (TEP) to provide Nitrogen and Phosphorus, respectively. Towards the end of cleanup operations, when contaminant concentrations have been reduced to the point where insufficient food (contaminant) is available to sustain an effective microorganism population, Propane will also be injected as a Carbon source (TtNUS, June 2000).

The Building 9 nutrient injection system consists of four 30-foot-deep injection wells that are screened from 27 to 30 feet bls, and a temporary trailer containing a compressor, injection gas storage containers, and associated piping and instrumentation. The nutrient injection system is designed for each injection well to operate at a flow rate of 3 to 5 cubic feet per minute (cfm) at an injection pressure of 15 pounds per square inch gauge (psig). The locations of the injection wells are shown on **Figure 1-1**.



N

NOTES

DASHED LINES INDICATE SUBSURFACE FEATURES

LEGEND

- INJECTION LINE
- INJECTION WELL
- MONITORING WELL
- SOIL BORING

TERRAINE, Inc.
ENVIRONMENTAL SERVICES

FIGURE 1-1

SITE MAP

BUILDING 9
NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FL

30 FT.

DWN BY: DNH	REVISED BY: RAH
DATE: 02/18/02	DATE: 08/11/03
SCALE: 1" = 30'	APR BY: JLY

2.0 System Performance Monitoring

O&M checks of the system were performed daily for the first week of operation and periodically thereafter. System checks were performed daily during the first week of operation and periodically thereafter to coincide with the O&M check.

During an O&M check, a preventative maintenance checklist (based upon manufacturer's recommendations) is completed, and any required maintenance activity is performed. A system check consists of an O&M check and system performance monitoring, including reading of all meters and gauges.

2.1 Operational Efficiencies

2.1.1 Nutrient Injection System

ANNUAL - 2002	Period	To Date
*Hours of Possible Operation:	8,760	26,040
*Hours of Actual Operation:	8,546	25,356
*Percent Hours of Operation:	97.6	97.4

*Note: Hours of Operation assumes 100% up-time for second and third quarter 2002 data, since this information has not been made available to Terraine, Inc.

2.2 Summary of Maintenance and System Downtime

2.2.1 Nutrient Injection System

During the period of January 1, 2003, to December 31, 2003, the nutrient injection system ran a total of 356.08 days out of a possible 365 days, resulting in 214 hours of down time. The system downtime was due to a compressor with a tripped breaker.

2.3 Pressure/Flow Rate Monitoring

2.3.1 Nutrient Injection System

During the third year of operation, the injection pressure at the compressors averaged 31.75 psig, compared to the design injection pressure of 15 psig. The total gas injection flow rate averaged 5.2 actual cubic feet per minute (acfm), compared to the design total gas injection flow rate of 12 to 20 acfm. The Nitrous Oxide injection rate averaged 0.1 actual cubic feet per hour (acfh) which is 0.02 percent by volume of airflow, compared to the design Nitrous Oxide injection rate of 0.07 to 0.10 percent by volume of airflow. The Triethylphosphate (TEP) injection mass for the third year totaled 32.4 pounds, compared to the design injection mass of 152 pounds per year. The data for the injection wells and injection system are provided on **Table 2-1** and **Table 2-2**, respectively.

The injection flow rates were rebalanced during the second quarter of 2001 to maximize injection in the area of monitoring well CEF-9-9S by diverting all flow equally between injection wells CEF-9-I3 and CEF-9-I4 on a continuous basis (see **Table 2-1**). The injection flow rates remained in this configuration during the third quarter of 2001. The previous configuration was to alternate injection on 12-hour cycles between the four injection wells. During the fourth quarter of 2001, the injection rates were adjusted to divert 100 percent of the airflow to a single injection well for one month each during the quarter as follows: October: CEF-9-I4, November: CEF-9-I2, and December: CEF-9-I3. Diverting all flow to a single injection well increased the radius of influence for the active injection well in an attempt to affect monitoring well CEF-9-9S. This change caused a decrease in contaminant-concentrations in CEF-9-9S during the fourth quarter of 2001. Injection rates were split between injection wells CEF-9-I1 and CEF-9-I3 in January 2002. All flow was diverted to CEF-9-I4 in February 2002, and split between CEF-9-I1 and CEF-9-I4 in March 2002.

2.4 Water Level Measurements

Depth-to-water measurements were recorded at selected monitoring wells on a quarterly basis during the third year of operation. The top-of-casing elevation, depth-to-water measurements and calculated water-level elevations are provided on **Table 2-3**.

Light Non-Aqueous Phase Liquid (LNAPL) was not noted in any monitoring well during the monitoring period of January 1, 2003 through December 31, 2003.

TABLE 2-1

INJECTION WELL MEASUREMENTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Injection Well	Date	Valve % Open	Wellhead Flow (acfm)
CEF-9-I1	1/9/2001	100	3
	2/28/2001	100	4.75
	3/30/2001	100	4
	4/13/2001	0	0
	5/10/2001	0	0
	6/7/2001	0	0
	7/2/2001	0	0
	8/6/2001	0	0
	9/11/2001	0	0
	10/3/2001	0	0
	11/15/2001	0	0
	12/10/2001	0	0
	1/11/2002	100	4
	2/4/2002	0	0
	3/11/2002	25	1
	4/15/2002	25	0
	5/13/2002	25	1
	6/17/2002	0	0
	7/16/2002	0	0
	8/19/2002	0	0
	9/25/2002	0	0
	10/16/2002	0	0
	11/19/2002	0	0
	12/17/2002	0	0
	1/30/2003	100	3
	2/26/2003	100	3
	3/25/2003	100	3
	4/16/2003	100	3
	5/28/2003	100	2
	6/6/2003	100	2
	7/22/2003	100	2
	8/18/2003	0	0
	9/24/2003	100	4
	10/22/2003	100	3
	11/25/2003	100	2.5
	12/16/2003	100	2.5

TABLE 2-1

INJECTION WELL MEASUREMENTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Injection Well	Date	Valve % Open	Wellhead Flow (acfm)
CEF-9-I2	1/9/2001	100	4
	2/28/2001	50	4
	3/30/2001	100	4
	4/13/2001	100	5
	5/10/2001	0	0
	6/7/2001	0	0
	7/2/2001	0	0
	8/6/2001	0	0
	9/11/2001	0	0
	10/3/2001	0	0
	11/15/2001	100	4
	12/10/2001	0	0
	1/11/2002	0	0
	2/4/2002	0	0
	3/11/2002	0	0
	4/15/2002	0	0
	5/13/2002	0	0
	6/17/2002	25	1
	7/16/2002	25	1
	8/19/2002	25	1
	9/25/2002	25	2
	10/16/2002	25	1
	11/19/2002	25	1
	12/17/2002	15	2
	1/30/2003	5	2
	2/26/2003	15	2
	3/25/2003	15	2
	4/16/2003	15	2
	5/28/2003	15	1
	6/6/2003	15	1
	7/22/2003	15	1
	8/18/2003	0	0
	9/24/2003	15	4
	10/22/2003	100	2
	11/25/2003	100	2
	12/16/2003	100	2

TABLE 2-1

INJECTION WELL MEASUREMENTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Injection Well	Date	Valve % Open	Wellhead Flow (acfm)
CEF-9-I3	1/9/2001	100	4
	2/28/2001	0	0
	3/30/2001	100	3
	4/13/2001	100	5
	5/10/2001	100	3
	6/7/2001	100	3
	7/2/2001	100	3
	8/6/2001	100	3
	9/11/2001	100	3
	10/3/2001	0	0
	11/15/2001	0	0
	12/10/2001	100	4
	1/11/2002	100	4
	2/4/2002	0	0
	3/11/2002	0	0
	4/15/2002	100	0
	5/13/2002	0	0
	6/17/2002	100	8
	7/16/2002	100	8
	8/19/2002	0	0
	9/25/2002	100	0
	10/16/2002	0	0
	11/19/2002	100	8
	12/17/2002	0	0
	1/30/2003	0	0
	2/26/2003	0	0
	3/25/2003	0	0
	4/16/2003	0	0
	5/28/2003	0	0
	6/6/2003	0	0
	7/22/2003	0	0
	8/18/2003	100	4
	9/24/2003	0	0
	10/22/2003	0	0
	11/25/2003	0	0
	12/16/2003	0	0

TABLE 2-1

INJECTION WELL MEASUREMENTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Injection Well	Date	Valve % Open	Wellhead Flow (acfm)
CEF-9-I4	1/9/2001	100	2.75
	2/28/2001	50	5
	3/30/2001	100	3
	4/13/2001	100	4
	5/10/2001	100	3
	6/7/2001	100	3
	7/2/2001	100	3
	8/6/2001	100	3
	9/11/2001	100	3
	10/3/2001	100	6
	11/15/2001	0	0
	12/10/2001	0	0
	1/11/2002	0	0
	2/4/2002	100	4
	3/11/2002	100	4
	4/15/2002	100	0
	5/13/2002	100	4
	6/17/2002	0	0
	7/16/2002	0	0
	8/19/2002	100	8
	9/25/2002	0	6
	10/16/2002	100	8
	11/19/2002	0	0
	12/17/2002	100	5
	1/30/2003	0	0
	2/26/2003	0	0
	3/25/2003	0	0
	4/16/2003	0	0
	5/28/2003	0	0
	6/6/2003	0	0
	7/22/2003	0	0
	8/18/2003	50	4
	9/24/2003	0	0
	10/22/2003	0	0
	11/25/2003	25	1
	12/16/2003	25	1

NR = No Reading
acfm = actual cubic feet per minute

TABLE 2-2

INJECTION SYSTEM DATA

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Date	Air Supply Pressure (psig)	Total Gas Flow (acfm)	NOX Flow (acfh)	TEP Injection (pounds)
1/9/2001	NR	13.75	1	--
2/28/2001	17	13.75	0.8	1.78
3/30/2001	16	14	0.8	1.52
4/13/2001	19	14	0.8	2.68
5/10/2001	28	6	0.5	2.68
6/7/2001	28	6	0.5	3.57
7/2/2001	23	6	0.5	1.78
8/6/2001	24	6	0.5	1.78
9/11/2001	18	6	0.5	7.14
10/3/2001	35	6	0.5	1.78
11/15/2001	30	4	0.25	0.89
12/10/2001	30	4	0.25	1.78
1/11/2002	24	8	0.4	1.78
2/4/2002	21	4	0.4	0.89
3/11/2002	30	5	0.4	0.89
4/15/2002	28	0	0.01	0.71
5/13/2002	30	9	0.4	1.07
6/17/2002	36	0	0.5	1.16
7/16/2002	42	3.75	0.5	0.00
8/19/2002	48	6	0.5	0.00
9/25/2002	33	5	0.5	0.80
10/16/2002	34	9	0.05	1.07
11/19/2002	32	9	0.05	1.16
12/17/2002	39	7	0.05	0.36
1/30/2003	33	8.5	0.1	0.98
2/26/2003	32	5	0.1	1.07
3/25/2003	32	5	0.1	0.00
4/16/2003	33	5	0.1	4.46
5/28/2003	33	3	0.1	1.78
6/6/2003	33	3	0.1	8.03
7/22/2003	33	3	0.1	8.95
8/18/2003	33	8	0.1	2.68
9/24/2003	33	8	0.1	0.00
10/22/2003	26	5	0.1	2.67
11/25/2003	30	4.5	0.1	1.78
12/16/2003	30	4.5	0.1	0

NR = No Reading
psig = pounds per square inch gauge
acfm = actual cubic feet per minute
acfh = actual cubic feet per hour

TABLE 2-3

GROUNDWATER MONITORING WELL - WATER LEVEL & FREE PRODUCT DATA

BUILDING 9 NUTRIENT INJECTION SYSTEM
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-9-2S	14.45	12/18/2000	78.74	no product	7.93	70.81
		1/18/2001		no product	8.55	70.19
		1/24/2001		no product	8.60	70.14
		1/31/2001		no product	8.74	70.00
		2/7/2001		no product	8.58	70.16
		2/14/2001		no product	8.72	70.02
		2/21/2001		no product	8.75	69.99
		3/7/2001		no product	8.49	70.25
		3/20/2001		no product	7.46	71.28
		4/3/2001		no product	6.99	71.75
		4/17/2001		no product	7.61	71.13
		5/1/2001		no product	8.13	70.61
		6/14/2001		no product	7.62	71.12
		7/24/2001		no product	6.62	72.12
		8/13/2001		no product	5.38	73.36
		9/17/2001		no product	3.41	75.33
		10/22/2001		no product	5.72	73.02
		11/13/2001		no product	6.50	72.24
		12/17/2001		no product	6.73	72.01
		3/18/2002		no product	6.56	72.18
		6/5/2002		no LNAPL	7.95	70.79
		9/26/2002		no LNAPL	4.48	74.26
		12/11/2002		no product	6.40	72.34
		3/13/2003		no product	4.18	74.56
		6/9/2003		no product	5.35	73.39
		9/2/2003		no product	4.57	74.17
		12/10/2003		no product	7.88	70.86
CEF-9-3S	15.54	12/18/2000	78.81	no product	8.04	70.77
		1/18/2001		no product	8.67	70.14
		1/24/2001		no product	8.72	70.09
		1/31/2001		no product	8.89	69.92
		2/7/2001		no product	8.69	70.12
		2/14/2001		no product	8.83	69.98
		2/21/2001		no product	8.87	69.94
		3/7/2001		no product	8.60	70.21
		3/20/2001		no product	7.55	71.26
		4/3/2001		no product	7.12	71.69
		4/17/2001		no product	7.72	71.09
		5/1/2001		no product	8.50	70.31
		6/14/2001		no product	7.75	71.06
		7/24/2001		no product	6.47	72.34
		8/13/2001		no product	5.50	73.31
		9/17/2001		no product	3.51	75.30
		10/22/2001		no product	5.86	72.95
		11/13/2001		no product	6.62	72.19
		12/17/2001		no product	6.87	71.94
		3/18/2002		no product	6.75	72.06
		6/5/2002		no LNAPL	8.04	70.77
		9/16/2002		no LNAPL	4.59	74.22
		12/11/2002		no product	6.55	72.26
		3/13/2003		no product	4.28	74.53
		6/9/2003		no product	5.30	73.51
		9/2/2003		no product	4.74	74.07
		12/10/2003		no product	8.02	70.79

TABLE 2-3

GROUNDWATER MONITORING WELL - WATER LEVEL & FREE PRODUCT DATA

BUILDING 9 NUTRIENT INJECTION SYSTEM
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-9-5S	13.72	12/18/2000	78.93	no product	8.34	70.59
		1/18/2001		no product	8.96	69.97
		1/24/2001		no product	9.03	69.90
		1/31/2001		no product	9.13	69.80
		2/7/2001		no product	8.97	69.96
		2/14/2001		no product	9.11	69.82
		2/21/2001		no product	9.10	69.83
		3/7/2001		no product	8.81	70.12
		3/20/2001		no product	7.61	71.32
		4/3/2001		no product	7.40	71.53
		4/17/2001		no product	8.02	70.91
		5/1/2001		no product	8.25	70.68
		6/14/2001		no product	7.99	70.94
		7/24/2001		no product	6.91	72.02
		8/13/2001		no product	5.78	73.15
		9/17/2001		no product	3.70	75.23
		10/22/2001		no product	6.21	72.72
		11/13/2001		no product	6.97	71.96
		12/17/2001		no product	7.17	71.76
		3/18/2002		no product	7.02	71.91
		6/5/2002		no LNAPL	8.36	70.57
		9/16/2002		no LNAPL	4.75	74.18
		12/11/2002		no product	6.90	72.03
		3/13/2003		no product	4.57	74.36
		6/9/2003		no product	5.50	73.43
		9/2/2003		no product	5.10	73.83
		12/10/2003		no product	8.35	70.58
CEF-9-7D	29.23	12/18/2000	78.59	no product	7.83	70.76
		1/18/2001		no product	8.45	70.14
		1/24/2001		no product	8.50	70.09
		1/31/2001		no product	8.63	69.96
		2/7/2001		no product	8.46	70.13
		2/14/2001		no product	8.61	69.98
		2/21/2001		no product	8.62	69.97
		3/7/2001		no product	8.36	70.23
		3/20/2001		no product	7.29	71.30
		4/3/2001		no product	6.90	71.69
		4/17/2001		no product	7.52	71.07
		5/1/2001		no product	8.02	70.57
		6/14/2001		no product	7.51	71.08
		7/24/2001		no product	6.38	72.21
		8/13/2001		no product	5.28	73.31
		9/17/2001		no product	3.25	75.34
		10/22/2001		no product	5.66	72.93
		11/13/2001		no product	6.42	72.17
		12/17/2001		no product	6.65	71.94
		3/18/2002		no product	6.48	72.11
		6/5/2002		no LNAPL	7.83	70.76
		9/16/2002		no LNAPL	4.31	74.28
		12/11/2002		no product	6.34	72.25
		3/13/2003		no product	4.05	74.54
		6/9/2003		no product	4.90	73.69
		9/2/2003		no product	4.82	73.77
		12/10/2003		no product	7.80	70.79

TABLE 2-3

GROUNDWATER MONITORING WELL - WATER LEVEL & FREE PRODUCT DATA

BUILDING 9 NUTRIENT INJECTION SYSTEM
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-9-9S	14.23	12/18/2000	78.89	no product	8.39	70.50
		1/18/2001		no product	8.81	70.08
		1/24/2001		no product	8.88	70.01
		1/31/2001		no product	9.00	69.89
		2/7/2001		no product	8.85	70.04
		2/14/2001		no product	8.98	69.91
		2/21/2001		no product	8.97	69.92
		3/7/2001		no product	8.72	70.17
		3/20/2001		no product	7.66	71.23
		4/3/2001		no product	7.28	71.61
		4/17/2001		no product	7.89	71.00
		5/1/2001		no product	8.38	70.51
		6/14/2001		no product	7.87	71.02
		7/24/2001		no product	6.78	72.11
		8/13/2001		no product	5.67	73.22
		9/17/2001		no product	3.63	75.26
		10/22/2001		no product	6.09	72.80
		11/13/2001		no product	6.80	72.09
		12/17/2001		no product	7.01	71.88
		3/18/2002		no product	6.90	71.99
		6/5/2002		no LNAPL	8.21	70.68
		9/16/2002		no LNAPL	4.73	74.16
		12/11/2002		no product	6.73	72.16
		3/13/2003		no product	4.34	74.55
		6/9/2003		no product	5.40	73.49
		9/2/2003		no product	4.94	73.95
		12/10/2003		no product	8.12	70.77

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

3.0 Summary of Sampling and Laboratory Analytical Results

3.1 Soil Monitoring

Quarterly soil-screening and sampling was conducted during the monitoring period of January 1, 2003 through December 31, 2003. One soil boring, labeled as SB-4, was installed in the vicinity of groundwater-monitoring well (CEF-9-9S). The soil was screened using an Organic Vapor Analyzer (OVA) equipped with a Flame Ionization Detector (FID) and a sample was collected for laboratory analysis. The most recent (fourth quarter, 2003) OVA/FID results are presented below. The water table was encountered at 6 feet bls.

Date	Soil Boring No.	Depth (ft bls)	OVA/FID Unfiltered	OVA/FID Filtered	OVA/FID Net
12/11/03	SB-4	2	ND	ND	ND
12/11/03	SB-4	4	ND	ND	ND
12/11/03	SB-4	6	ND	ND	ND

Note: laboratory sample collected at 2 feet bls
ND = nondetect

The laboratory soil sample was analyzed for BTEX and Methyl Tert-Butyl Ether (MTBE) using United States Environmental Protection Agency (EPA) Method 8021B, Naphthalene and Polycyclic Aromatic Hydrocarbons (PAHs) using EPA Method 8310, and TRPH using Florida Petroleum Residual Organic (FL PRO) Method. Test results indicated that no constituents were above the Leachability or Direct Exposure Residential SCTL per Chapter 2-777 F.A.C. The location of SB-4 is shown on **Figure 1-1**. Copies of the analytical laboratory report from the soil-sampling event are provided in **Appendix A**, and analytical results are summarized on **Table 3-1**.

3.2 Groundwater Monitoring

Monitoring wells CEF-9-2S, CEF-9-3S, CEF-9-5S, CEF-9-7D, and CEF-9-9S were also sampled on a quarterly basis during the third year of operation. The samples were analyzed for BTEX and MTBE using EPA Method 8021B, Naphthalene and PAHs using EPA Method 8310, TRPH using FL PRO Method, and Nitrate, Nitrite, and Phosphate using EPA Method 300.0. Test results indicated that no constituents were above the Groundwater Target Cleanup Levels per Chapter 62-777 F.A.C. The locations of the monitoring wells are shown on **Figure 1-1**. Copies of the analytical laboratory reports from the groundwater-sampling events are provided in **Appendix B**, and the analytical results are summarized on **Table 3-2**.

Field analytical tests were performed on the five monitoring wells during each sampling event. The groundwater was tested for pH, conductivity, temperature, Dissolved Oxygen,

Carbon Dioxide, alkalinity, Ferrous Iron, and Hydrogen Sulfide. The results from the field analytical tests are summarized on Table 3-3. Groundwater sampling logs are included in **Appendix D**.

TABLE 3-1

SOIL ANALYTICAL RESULTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Soil Boring Number	Sample Date	Benzene	Ethyl Benzene	Toluene	Xylene	BTEX	Methyl tert-butyl ether	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1, 2, 3-cd) pyrene	Dibenzo (a,h) anthracene	Benzo (g,h,i) perylene	TRPH (mg/kg)
SB-1	1/4/2001	0.00067	<0.0011	0.00081	<.0032	0.00148	<0.0011	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	0.0565	0.055	0.019	0.0345	0.0765	0.039	0.073	0.0564	0.113	0.18	73
	6/27/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/12/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/20/2002	<0.0011	<0.0011	<0.0011	<0.0032	<0.0065	<0.0011	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	0.089 J	0.14 J	0.055	0.12	0.24	0.11	0.21	0.12	0.19	0.25	120
	9/26/2002	<0.00112	<0.00112	<0.00112	<0.00335	<0.00671	<0.00112	<0.177	<0.177	<0.177	<0.177	<0.177	<0.177	0.185	0.136	0.0636	0.108	0.211	0.0653	0.195	0.0337	0.136	0.235	477
SB-2	1/4/2001	<0.12	0.65	<0.12	0.53	1.18	<0.12	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	0.0285	0.056	0.0096	0.027	0.0645	0.0215	0.062	0.046	0.0545	0.0815	70
	6/27/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	<0.0013	<0.0013	<0.004	0.0049	0.0049	<0.0013	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.02	<0.02	<0.02	0.0062	0.025	0.0097	0.016	<0.02	0.015	0.013	21
	12/12/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/20/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/26/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-3	1/4/2001	<0.1	<0.1	0.5	4	4.5	<0.1	1.3	<0.18	<0.18	<0.18	<0.18	<0.18	<0.018	0.0425	<.018	0.0165	0.042	0.0195	0.042	0.0275	0.0405	0.0615	86
	6/27/2001	<0.0011	<0.0011	<0.0011	<0.0033	<0.0066	<0.0011	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	21
	9/20/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/12/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/20/2002	NS	NS	NS	NS	N	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/26/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-4	1/4/2001	<0.11	<0.11	0.15	3.2	3.35	<0.11	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.019	0.01185	<.019	0.05	0.024	0.0121	0.0235	0.014	0.0636	0.0275	220
	6/27/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/12/2001	<0.0012	<0.0012	<0.0012	<0.0035	<0.0071	<0.0012	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.021	<0.021	<0.021	0.045	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	1100
	3/7/2002	<0.0012	<0.0012	<0.0012	<0.0035	<0.0071	<0.0012	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.015	0.01	<0.020	0.027	0.017	0.01	0.029	0.024	0.038	0.03	340
	6/20/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/26/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/10/2002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.004	<0.0412	<0.0412	<0.0412	<0.00864	<0.0263	<0.0272	<0.00864	<0.0111	<0.00535	<0.00618	<0.0074	<0.007	<0.00412	<0.0177	<0.0123	<0.0313	17.6
	3/14/2003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	37.6
	6/9/2003	<0.0011	<0.0011	<0.0011	0.0018	0.0018	<0.005	<.071	<.071	<.071	<.071	<.071	<.071	<.071	<.071	<.071	<.071	<.071	<.071	<.071	<.071	<.071	<.071	35.9
	9/4/2003	<0.001	<0.001	<0.001	<0.0009	<0.001	<0.004	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	11
	12/11/2003	<0.0009	<0.0009	0.001	0.0023	0.0033	<0.005	0.00495	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	0.00891	<0.0033	<0.0033	0.0119	<0.0033	0.0119	26.6
Direct Exposure Residential [1]		1.1	1100	380	5900	n/a	3200	40	1100	1900	2200	2000	18000	2900	2200	1.4	140	1.4	15	0.1	1.5	0.1	2300	340
Leachability from GW Criteria [1]		0.0007	0.6	0.5	0.2	n/a	0.2	1.7	27	2.1	160	250	2500	1200	880	3.2	77	10	25	8	28	30	32000	340

All values reported in mg/kg

Method 8310 compounds are the average of duplicate runs

1 = Ch 62-777 F.A.C Soil cleanup Target Level (SCTLs) reported in mg/kg

Shaded values indicate the compounds that exceed the SCTLs

NS = Not Sampled

TABLE 3-2

GROUNDWATER ANALYTICAL RESULTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Well Identificaltion	Sample Date	Benzene	Ethyl Benzene	Toluene	Xylene	BETX	Methyl tert-butyl ether	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1, 2, 3-cd) pyrene	Dibenzo (a,h) anthracene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo (g,h,i) perylene	Nitrate	Nitrite	Phosphate	TRPH
CEF-9-2S	12/18/2000	<1.0	6.9	<1.0	1.7	8.6	NA	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	<530
	1/18/2001	<1.0	<1.0	<1.0	4.2	4.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	0.21	<500
	1/24/2001	<1.0	1.6	<1.0	0.56	2.16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	0.28	<530
	1/31/2001	0.41	3.0	0.30	4.0	7.71	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	0.31	<500
	2/7/2001	<1.0	0.98	<1.0	0.92	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.11	<0.40	0.29	<500
	2/14/2001	<1.0	0.42	<1.0	0.76	1.18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.14	<0.40	0.20	220
	2/21/2001	<1.0	0.41	0.32	0.69	1.42	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.11	<0.40	0.33	<500
	3/7/2001	<1.0	0.24	<1.0	0.51	0.75	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.12	<.40	0.19	<530
	3/20/2001	<1.0	1.1	<1.0	0.57	1.67	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.12	<0.40	0.28	<520
	4/3/2001	0.15	0.62	<1.0	0.51	1.28	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.24	<0.40	0.23	<500
	4/17/2001	0.13	0.5	<1.0	<1.0	0.63	<1.0	0.6	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.14	<0.40	0.17	<520
	5/1/2001	<1.0	1.2	<1.0	0.32	1.52	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	<520
	6/14/2001	<1.0	<1.0	<1.0	0.93	0.93	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.17	<0.40	0.36	280
	7/24/2001	<1.0	8.8	<1.0	6.7	15.5	<1.0	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.3	<0.40	<1.0	1400
	8/13/2001	<1.0	7.6	<1.0	3.5	11.1	<1.0	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.18	<0.40	<1.0	1200
	9/17/2001	<1.0	2.1	<1.0	<1.0	2.1	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	580
	10/22/2001	0.98	7.5	<1.0	0.98	9.46	<1.0	2.8	<1.0	<1.1	<1.1	<1.1	<1.1	<0.21	0.1	<0.21	<0.21	0.041	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.16	<0.40	0.33	780
	11/13/2001	2.4	14	<1.0	2.7	19.1	<1.0	5.3	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.21	<0.20	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.15	<0.40	<1.0	720
	12/17/2001	1.1	21	2.1	5.6	29.8	<1.0	3.3	<1.1	<1.1	<1.0	<1.1	<1.1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	2000
	3/18/2002	<1.0	7.28	2.02	4.57	13.87	<1.0	3.3	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.21	<0.21	<0.20	<0.21	<0.20	<0.20	<0.20	<0.20	--	--	<0.21	0.165	<0.40	<1.0	736
	6/5/2002	<1.0	<1.0	1.1	<1.0	1.1	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	0.120 J	0.091 J	<0.20	0.094 J	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	310 J
	9/16/2002	0.756	19	<1.0	11.7	31.456	<1.0	1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<0.22	0.075	<0.22	<0.22	0.13	<0.22	<0.22	<0.22	<0.22	--	--	0.15	0.11	<0.40	<1.0	851
	12/10/2002	4.6	50.8	2.0	30.5	87.9	<1.0	3.60	<1.04	<1.04	<0.52	<0.52	<0.52	<0.21	<0.21	<0.10	<0.10	<0.10	<0.15	<0.10	<0.21	<0.21	--	--	<0.21	0.23	<0.10	<0.1000	1510
	3/13/2003	2.80	40.5	2.5	37.4	83.2	<1.0	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	--	--	<2.4	<0.100	<0.100	<0.100	2620
	6/9/2003	<1.0	1.3	<1.0	2	3.3	<1.0	<.10	<.10	<.10	<.10	<.10	<.10	<.10	0.12	<0.10	<0.10	<0.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	2.94	<0.10	<0.100	994
	9/2/2003	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	0.22	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	4.07	<0.10	<0.10	<200
	12/10/2003	<1.00	<1.0	<1.0	<3.0	<1.0	<1.0	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.100	0.25	<0.100	<250

TABLE 3-2

GROUNDWATER ANALYTICAL RESULTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Well Identificaltion	Sample Date	Benzene	Ethyl Benzene	Toluene	Xylene	BETX	Methyl tert-butyl ether	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1, 2, 3-cd) pyrene	Dibenzo (a,h) anthracene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo (g,h,i) perylene	Nitrate	Nitrite	Phosphate	TRPH
CEF-9-3S	12/18/2000	18	130	8.9	170	326.9	NA	29	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	1500
	1/18/2001	21	140	40	430	631	<1.0	20	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	0.20	1700
	1/24/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	0.21	720
	1/31/2001	<1.0	38	2.8	180	220.8	<1.0	3.6	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	960
	2/7/2001	0.36	12	1.9	89	103.26	<1.0	0.75	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	0.039	<0.20	0.044	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.074	<0.40	<1.0	720
	2/14/2001	0.21	8.0	2.8	53	64.01	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	520
	2/21/2001	0.24	7.2	3.7	45	56.14	<1.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.15	<0.40	0.21	470
	3/7/2001	<1.0	<1.0	<1.0	4.6	4.6	<1.0	2.3	<1.1	<1.1	<1.1	<1.1	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.20	<0.40	<1.0	440
	3/20/2001	<1.0	<1.0	<1.0	4.7	4.7	<1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.22	<0.40	<1.0	<270
	4/3/2001	<1.0	2.7	<1.0	3	5.7	<1.0	0.8	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.25	0.063	0.18	<520
	4/17/2001	<1.0	5.9	0.95	5.6	12.45	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.16	<0.40	<1.0	300
	5/1/2001	0.65	6.2	1.9	12	20.75	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	600
	6/14/2001	0.52	3.3	<1.0	4.2	8.02	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.19	<0.40	<1.0	780
	7/24/2001	<1.0	11	<1.0	4.4	15.4	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.24	<0.40	<1.0	540
	8/13/2001	<1.0	11	<1.0	3.2	14.2	<1.0	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.2	<0.40	<1.0	760
	9/17/2001	<1.0	11	<1.0	20	31	<1.0	6	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	1200
	10/22/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	8.3	<1.0	<1.1	<1.1	<1.1	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	780
	11/13/2001	<1.0	15	<1.0	5.9	20.9	<1.0	7.6	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.21	<0.20	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	500
	12/17/2001	<1.0	11	1.1	3.1	15.2	<1.0	4.9	<1.0	<1.1	<1.0	<1.1	<1.1	<0.20	<0.22	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	440
	3/18/2002	<1.0	6.14	1.67	2.65	10.46	<1.0	2.72	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.21	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.21	<0.60	<0.40	<1.0	630
	6/5/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.21	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.21	<0.60	<0.40	<1.0	680
	9/16/2002	<1.0	3.31	1.74	3	8.05	<1.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<0.21	0.075	<0.21	<0.21	0.18	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.22	<0.40	<1.0	674
	12/10/2002	<1.0	1.6	<1.0	1.9	3.5	<1.0	<1.05	<1.05	<1.05	<0.53	<0.53	<0.53	<0.21	<0.21	<0.11	<0.11	<0.11	<0.15	<0.11	<0.21	<0.21	--	--	<0.21	0.49	<0.10	<0.1000	298
	3/13/2003	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	<2.5	<0.100	<0.100	<0.100	385
	6/9/2003	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<.10	<.10	<.10	<.10	<.10	<.10	<.10	0.11	<0.10	<0.10	<0.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	2.15	<0.10	<0.100	894
	9/2/2003	<1.00	<1.0	<1.0	<1.0	<1.0	0.22	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	8.18	<0.1	<0.1	552
	12/10/2003	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	29.8	0.12	<0.1	520 B

TABLE 3-2

GROUNDWATER ANALYTICAL RESULTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Well Identificaltion	Sample Date	Benzene	Ethyl Benzene	Toluene	Xylene	BETX	Methyl tert-butyl ether	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1, 2, 3-cd) pyrene	Dibenzo (a,h) anthracene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo (g,h,i) perylene	Nitrate	Nitrite	Phosphate	TRPH
CEF-9-5S	12/18/2000	<1.0	<1.0	<1.0	0.52	0.52	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.09	<0.40	<1.0	<530
	1/18/2001	0.12	<1.0	<1.0	<1.0	0.12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.31	<0.40	<1.0	<500
	1/24/2001	<1.0	0.77	0.30	2.2	3.27	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.30	<0.40	<1.0	<530
	1/31/2001	0.30	<1.0	<1.0	<1.0	0.3	<1.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	--	--	<0.22	0.26	<0.40	<1.0	<530
	2/7/2001	0.34	0.26	<1.0	<1.0	0.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.28	<0.40	<1.0	<500
	2/14/2001	0.84	0.66	<1.0	0.46	1.96	<1.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.20	<0.40	<1.0	200
	2/21/2001	0.84	0.77	0.31	0.56	2.48	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.18	<0.40	<1.0	<500
	3/7/2001	0.75	0.85	0.31	0.87	2.78	<1.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.20	<0.40	<1.0	<530
	3/20/2001	0.10	0.11	<1.0	<1.0	0.21	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.15	<0.40	<1.0	<520
	4/3/2001	0.16	<1.0	<1.0	<1.0	0.16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0..074	<0.40	<1.0	<520
	4/17/2001	0.26	<1.0	<1.0	<1.0	0.26	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.11	<0.40	<1.0	<520
	5/1/2001	<1.0	0.32	<1.0	<1.0	0.32	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.22	<0.40	<1.0	<530
	6/14/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.25	<0.40	<1.0	<500
	7/24/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.2	<0.40	<1.0	<520
	8/13/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.16	<0.40	<1.0	<520
	9/17/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.32	<0.40	<1.0	<520
	10/22/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.1	<1.0	<1.0	<1.1	<1.1	<1.1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.2	<0.40	<1.0	<530
	11/13/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.2	<0.40	<1.0	<530
	12/17/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.1	<1.0	<1.0	<1.0	<1.1	<1.1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.36	<0.40	<1.0	<540
	3/18/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.394	<0.40	<1.0	<530
	6/5/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	1.5	0.096 J	<1.0	<530
	9/16/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	--	--	<0.22	0.13	<0.40	<1.0	423
	12/10/2002	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.05	<1.05	<1.05	<0.53	<0.53	<0.53	<0.21	<0.21	<0.11	<0.11	<0.11	<0.15	<0.11	<0.21	<0.21	--	--	<0.21	0.71	<0.10	<0.1000	<100
	3/13/2003	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	<2.5	<0.100	<0.100	<0.100	<211
	6/9/2003	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<.10	<.10	<.10	<.10	<.10	<.10	<.10	0.11	<0.10	<0.10	<0.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	0.13	<0.10	<0.100	<222
	9/2/2003	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<200
	12/10/2003	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.31	<0.1	<0.1	<200

TABLE 3-2

GROUNDWATER ANALYTICAL RESULTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Well Identificaltion	Sample Date	Benzene	Ethyl Benzene	Toluene	Xylene	BETX	Methyl tert-butyl ether	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1, 2, 3-cd) pyrene	Dibenzo (a,h) anthracene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo (g,h,i) perylene	Nitrate	Nitrite	Phosphate	TRPH
CEF-9-7D	12/18/2000	<1.0	<1.0	<1.0	<1.0	<4.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.30	<0.40	<1.0	<500
	1/18/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	<500
	1/24/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	<520
	1/31/2001	0.13	<1.0	<1.0	0.37	0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	--	--	<0.22	<0.60	<0.40	<1.0	<520
	2/7/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	<530
	2/14/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	<500
	2/21/2001	<1.0	<1.0	<1.0	0.24	0.24	<1.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	<500
	3/7/2001	<1.0	<1.0	<1.0	0.36	0.36	<1.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	<530
	3/20/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	<520
	4/3/2001	0.47	<1.0	<1.0	1.1	1.57	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	0.072	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	<520
	4/17/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	<520
	5/1/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	<520
	6/14/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	<520
	7/24/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.21	<0.40	<1.0	<520
	8/13/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.61	<0.40	<1.0	<520
	9/17/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	<520
	10/22/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.1	<1.0	<1.1	<1.1	<1.1	<1.1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	290
	11/13/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.1	<1.1	<1.1	<1.1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.21	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	<530
	12/17/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.1	<1.0	<1.0	<1.0	<1.1	<1.1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	<530
	3/18/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	<530
	6/5/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	<520
	9/16/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	0.097	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	420
	12/10/2002	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.11	<1.11	<1.11	<0.56	<0.56	<0.56	<0.22	<0.22	<0.11	<0.11	<0.11	<0.16	<0.11	<0.22	<0.22	--	--	<0.22	<0.10	<0.10	<0.1000	<100
	3/13/2003	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	--	--	<2.4	<0.100	<0.100	<0.100	<211
	6/9/2003	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<.10	<.10	<.10	<.10	<.10	<.10	<.10	0.12	<0.10	<0.10	<0.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<0.10	<0.10	<0.100	<222
	9/2/2003	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<200
	12/10/2003	<1.00	<1.0	<1.0	<3.0	<1.0	<1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.100	<0.100	<0.100	<200

TABLE 3-2

GROUNDWATER ANALYTICAL RESULTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

Well Identificaition	Sample Date	Benzene	Ethyl Benzene	Toluene	Xylene	BETX	Methyl tert-butyl ether	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1, 2, 3-cd) pyrene	Dibenzo (a,h) anthracene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo (g,h,i) perylene	Nitrate	Nitrite	Phosphate	TRPH
CEF-9-9S	1/18/2001	24	210	99	640	973	<1.0	63	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	2300
	1/24/2001	22	190	60	440	712	<1.0	45	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	1400
	1/31/2001	16	160	49	430	655	<5.0	57	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	1800
	2/7/2001	8.7	160	40	360	568.7	<2.0	53	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	1900
	2/14/2001	16	260	74	590	940	<1.0	36	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	2300
	2/21/2001	9.5	150	36	290	485.5	<10	50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	1800
	3/7/2001	27	210	82	410	729	<20	37	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	2100
	3/20/2001	11	120	18	150	299	<5.0	45	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	1600
	4/3/2001	14	140	36	250	440	<10	35	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.081	<0.40	<1.0	870
	4/17/2001	23	200	44	370	637	<5.0	49	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	1300
	5/1/2001	12	210	38	310	570	<5.0	59	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	1400
	6/14/2001	9.5	130	17	130	286.5	<10	24	1.2	<1.0	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.18	<0.40	0.35	1200
	7/24/2001	16	150	10	120	296	<1.0	25	3.3	7	<1.0	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	0.19	<0.40	<1.0	1200
	8/13/2001	16	140	9.1	130	295.1	3.5	26	3.2	7.2	<1.0	<1.0	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	0.2	<0.40	0.48	1500
	9/17/2001	18	150	30	290	488	2.9	23	<1.1	<1.1	<1.1	<1.1	<1.1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	--	--	<0.21	<0.60	<0.40	<1.0	1500
	10/22/2001	1.9	6	0.67	13	21.6	<1.0	4.7	<1.1	<1.1	<1.1	<1.1	<1.1	<0.20	<0.22	<0.20	<0.20	<0.20	<0.22	<0.20	<0.20	<0.20	--	--	<0.20	0.13	<0.40	<1.0	3100
	11/13/2001	6.8	54	2.8	44	107.6	<1.0	24	<1.1	<1.1	<1.1	<1.1	<1.1	<0.20	<0.21	<0.20	<0.21	<0.20	<0.20	<0.21	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	1700
	12/17/2001	1.8	43	<1.0	36	80.8	<1.0	32	<1.0	<1.1	<1.0	<1.1	<1.1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.20	<0.60	<0.40	<1.0	1400
	3/18/2002	1	30.4	1.81	46.6	79.81	<1.0	42.6	<1.1	<1.1	<1.1	<1.1	<1.1	<0.20	<0.21	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.21	0.17	<0.40	<1.0	719
	6/5/2002	1.4	39	1.7	55	97.1	<1.0	44	<1.1	<1.1	<1.1	<1.1	<1.1	<0.20	<0.21	<0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	<0.21	0.089 J	<0.40	<1.0	860
	9/16/2002	<1.0	9.79	<1.0	9.29	19.08	<1.0	13	<1.0	<1.0	<1.0	<1.0	<1.0	<0.21	0.084	0.1	<0.21	0.13	<0.21	<0.21	<0.21	<0.21	--	--	0.068	<0.60	<0.40	<1.0	3400
	12/10/2002	1.4	7.6	<1.0	10	19	<1.0	21.6	<1.03	<1.03	<0.52	<0.52	<0.52	<0.21	<0.21	<0.10	<0.10	<0.10	<0.14	<0.10	<0.21	<0.21	--	--	<0.21	<0.10	<0.10	<0.1000	225
	3/13/2003	<1.0	2.3	<1.0	3.0	5.3	<1.0	11.5	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	--	--	<2.4	1.3	<0.100	<0.100	446
	6/9/2003	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11.9	<.10	<.10	<.10	<.10	<.10	<.10	0.11	<0.10	<0.10	<0.10	<.10	<.10	<.10	<.10	3.63	4.43	<.10	2.91	<0.10	<0.100	500
	9/2/2003	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	15.4	<0.1	<0.1	<200
	12/10/2003	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	2.73	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1.27	1.56	<0.10	8.51	<0.1	<0.1	592 B
Groundwater Criteria [1]		1	30	40	20	n/a	50	20	210	20	280	210	2100	280	210	0.2	4.8	0.2	0.5	0.2	0.2	0.2	20	20	210	10,000	1000	n/a	5000
Natural Attenuation Default		100	300	400	200	n/a	500	200	2100	200	2800	2100	21000	2800	2100	20	480	20	50	20	20	20	200	200	2100	100000	10000	n/a	50000

All values reported in ug/L; expcept Nitrate, Nitrite, and Phosphate, they are reported in mg/L
B = Analyte was detected in the method blank.
1 = Ch 62-777 F.A.C Groundwater Cleanup Target Levels (GCTLs) reported in ug/L
Shaded values indicate the compounds that exceed the GCTLs

TABLE 3-3

GROUNDWATER FIELD ANALYTICAL RESULTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

	Date	pH	Conductivity (mS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)	Carbon Dioxide (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Ferrous Iron (mg/L)	Hydrogen Sulfide (mg/L)
CEF-9-2S	12/18/2000	6.19	0.192	27.20	0.0	NR	80	1.2	0.3
	1/18/2001	6.19	0.106	23.40	2.5	1000+	400+	0.0	0.3
	1/24/2001	6.41	0.650	22.30	3.9	1000+	400+	0.0	0.1
	1/31/2001	6.49	0.062	25.10	4.7	1000+	400	0.0	0.2
	2/7/2001	6.42	0.060	22.40	5.2	1000+	400+	0.2	0.1
	2/14/2001	6.30	0.070	23.00	5.8	1000+	400+	0.0	0.7
	2/21/2001	6.30	0.070	23.00	6.3	NR	NR	0.0	0.1
	3/7/2001	6.60	0.080	22.00	6.0	NR	NR	0.2	0.1
	3/20/2001	6.37	0.092	22.60	6.6	1000+	400+	0.0	0.5
	4/3/2001	6.40	0.100	23.00	6.5	>	400+	0.2	0.5
	4/17/2001	8.55	0.110	23.00	4.0	1000+	400+	0.2	0.1
	5/1/2001	6.20	0.110	23.00	3.0	1000+	400+	0.2	0.1
	6/14/2001	5.74	0.128	25.00	2.0	1000+	400+	0.0	0.1
	7/24/2001	5.71	0.144	26.4	2.1	500	120	0.6	0.1
	8/13/2001	6.11	0.153	27.8	1.9	1000+	220	0.0	0.3
	9/17/2001	5.59	0.174	27.8	1.7	180	60	1.8	0.2
	10/22/2001	6.13	0.167	27.3	1.8	1000+	400+	1.0	0.1
	11/13/2001	6.38	0.163	26.1	1.6	160	60	1.0	0.5
	12/17/2001	6.00	0.146	25.6	1.5	240	60	1.0	1.0
	3/18/2002	6.13	0.140	23.6	1.2	200	60	0.6	0.3
	6/5/2002	6.18	0.120	26.6	1.0	240	60	0.2	0.1
	9/16/2002	5.91	0.154	28.8	0.2	NR	NR	1.0	0.5
	12/11/2002	5.50	NR	25.4	0.2	95	NR	NR	0.4
	3/13/2003	6.48	0.148	22.2	0.4	117	40	1.4	0.3
	6/9/2003	6.46	0.23	26.14	4.65	181	25	0	0
	9/2/2003	6.40	0.43	29.56	6.71	80	30	0	0.1
	12/10/2003	5.7	0.24	24.68	3.93	168.00	20	0	0.1
CEF-9-3S	12/18/2000	6.49	0.348	25.40	0.0	17	160	3.4	0.5
	1/18/2001	6.50	0.131	23.00	1.6	1000+	600	0.2	0.5
	1/24/2001	6.67	0.087	22.30	1.5	1000+	300	0.4	0.3
	1/31/2001	6.67	0.087	23.50	2.6	1000+	400	0.0	0.6
	2/7/2001	6.47	0.074	22.20	1.6	1000+	400+	1.2	0.1
	2/14/2001	6.50	0.067	22.00	2.4	1000+	400+	0.0	0.5
	2/21/2001	6.40	0.070	23.00	2.2	400	100	0.2	0.1
	3/7/2001	6.70	0.080	22.00	2.5	300	60	0.8	0.1
	3/20/2001	6.14	0.073	22.70	2.6	250	80	0.6	0.3
	4/3/2001	6.10	0.080	23.00	3.4	200	400+	0.1	0.1
	4/17/2001	5.90	0.080	23.00	1.8	160	80	0.8	0.5
	5/1/2001	6.20	0.090	24.00	1.7	120	60	1.2	0.3
	6/14/2001	5.41	0.098	26.10	1.9	228	80	1.1	2.0
	7/24/2001	6.82	0.111	27.20	3.1	120	40	2.0	2.0
	8/13/2001	6.61	0.108	27.90	2.5	84	60	2.2	0.5
	9/17/2001	6.24	0.139	28.20	2.1	60	60	1.0	0.3
	10/22/2001	6.82	0.119	27.40	1.8	120	80	1.4	0.7
	11/13/2001	6.58	0.121	26.30	0.5	100	40	1.4	0.8
	12/17/2001	5.00	0.118	25.60	1.7	100	60	1.2	1.0
	3/18/2002	6.19	0.138	23.4	3.9	60	40	1.0	0.4
	6/5/2002	6.18	0.158	27.5	1.6	80	40	0.8	0.5
	9/16/2002	6.20	0.160	29.1	0.6	380	40	0.1	0.5
	12/11/2002	5.80	NR	25.9	0.2	30	80	0.9	0.3
	3/13/2003	6.32	0.206	22.4	1.1	64	20	1.0	0.3
	6/9/2003	6.07	0.187	26.68	2.32	124	10	0	0
	9/2/2003	6.00	0.537	28.78	1.98	74	35	0	0
	12/10/2003	5.36	0.112	25.40	1.66	43	15	0	0.1

TABLE 3-3

GROUNDWATER FIELD ANALYTICAL RESULTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

	Date	pH	Conductivity (mS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)	Carbon Dioxide (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Ferrous Iron (mg/L)	Hydrogen Sulfide (mg/L)
CEF-9-5S	12/18/2000	6.20	0.186	22.70	0.0	10	100	0.0	0.1
	1/18/2001	6.43	0.158	22.40	3.8	1000+	400+	0.6	0.1
	1/24/2001	6.54	0.159	21.40	3.5	200	100	0.4	0.0
	1/31/2001	6.51	0.178	22.80	4.2	350	400	0.6	0.1
	2/7/2001	6.55	0.163	21.80	4.0	220	120	0.2	0.0
	2/14/2001	6.40	0.150	22.00	3.4	1000+	400+	0.0	0.2
	2/21/2001	6.40	0.150	21.00	4.5	140	100	0.2	0.1
	3/7/2001	6.57	0.141	20.90	3.3	300	80	0.2	0.0
	3/20/2001	6.20	0.130	21.00	3.5	300	160	0.1	0.1
	4/3/2001	5.90	0.070	21.00	5.7	500	120	0.4	0.1
	4/17/2001	6.10	0.080	22.00	4.3	260	100	0.9	0.1
	5/1/2001	6.10	0.110	22.00	3.4	280	100	0.4	0.1
	6/14/2001	6.11	0.119	25.20	NR	1000+	400+	0.0	3.0
	7/24/2001	5.36	0.062	25.50	3.8	260	120	1.0	0.1
	8/13/2001	6.85	0.058	26.60	3.8	1000+	180	0.0	0.1
	9/17/2001	6.57	0.164	26.50	5.5	200	80	0.6	0.1
	10/22/2001	6.27	0.074	25.90	2.5	220	80	0.8	0.1
	11/13/2001	6.71	0.075	24.90	2.1	80	60	0.4	0.1
	12/17/2001	6.00	0.072	24.20	2.9	140	40	0.6	0.0
	3/18/2002	6.44	0.070	22.0	2.3	80	40	0.4	0.0
	6/5/2002	6.43	0.117	25.3	1.6	80	40	0.2	0.0
	9/16/2002	6.79	0.085	27.9	3.4	110	60	0.1	0.0
	12/11/2002	6.09	NR	24.6	1.1	22	60	0.0	0.1
	3/13/2003	3.93	0.277	20.36	5.44	68	140	0	0
	6/9/2003	6.52	0.138	24.91	0.0	122	40	2.0	0.0
	9/2/2003	5.96	0.354	28.02	1.7	68	85	0.0	0.0
	12/10/2003	6.30	0.385	24.65	0.0	42	40	0.1	0.0
CEF-9-7D	12/18/2000	7.45	0.264	25.20	0.1	8	85	0.0	0.1
	1/18/2001	6.69	0.133	24.40	2.0	80	100	0.4	0.1
	1/24/2001	6.29	0.079	24.20	1.9	130	100	0.6	0.0
	1/31/2001	6.29	0.092	25.40	1.0	50	60	0.1	0.1
	2/7/2001	5.93	0.057	24.20	2.4	140	60	0.2	0.0
	2/14/2001	5.90	0.050	24.00	2.6	70	40	0.2	0.1
	2/21/2001	5.80	0.050	24.00	2.4	100	40	0.4	0.0
	3/7/2001	6.10	0.060	23.30	1.9	140	40	0.6	0.0
	3/20/2001	5.47	0.049	23.60	2.4	50	40	0.3	0.1
	4/3/2001	5.40	0.050	23.00	2.8	80	40	0.4	0.1
	4/17/2001	5.30	0.050	24.00	2.7	60	40	0.6	0.0
	5/1/2001	5.50	0.050	24.00	2.5	80	40	0.8	0.0
	6/14/2001	9.82	0.047	24.40	NR	102	40	0.6	0.0
	7/24/2001	5.42	0.043	24.30	2.5	80	20	0.6	0.0
	8/13/2001	5.44	0.041	24.80	2.5	66	40	0.8	0.0
	9/17/2001	5.47	0.065	25.00	8.1	50	40	0.6	0.1
	10/22/2001	4.87	0.029	26.00	2.9	60	20	0.4	0.0
	11/13/2001	6.21	0.043	24.50	2.6	80	40	0.6	0.0
	12/17/2001	5.00	0.033	25.00	1.7	90	20	0.6	0.0
	3/18/2002	5.47	0.036	25.1	1.6	50	20	0.0	0.0
	6/5/2002	5.36	0.390	25.9	2.0	90	20	0.6	0.0
	9/16/2002	5.30	0.037	26.1	0.4	100	20	0.4	0.0
	12/11/2002	4.16	NR	25.3	0.5	63	40	0.8	0.1
	3/13/2003	3.90	0.043	23.92	2.20	115	15	0.2	0
	6/9/2003	5.07	0.041	24.43	0	118	10	0.2	0
	9/2/2003	4.71	0.125	26.37	0.14	152	0	0.6	0
	12/10/2003	4.89	0.145	24.42	0	104	5	0.8	0

TABLE 3-3

GROUNDWATER FIELD ANALYTICAL RESULTS

BUILDING 9 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

	Date	pH	Conductivity (mS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)	Carbon Dioxide (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Ferrous Iron (mg/L)	Hydrogen Sulfide (mg/L)
CEF-9-9S	12/18/2001	5.31	0.121	26.30	0.0	NR	NR	NR	NR
	1/18/2001	5.44	0.058	23.00	2.1	500	400+	1.0	5.0
	1/24/2001	5.53	0.054	22.60	1.7	500	200	0.8	5.0
	1/31/2001	5.44	0.059	23.30	2.1	500	400	1.1	5.0
	2/7/2001	5.46	0.052	22.60	2.4	260	100	0.6	5.0
	2/14/2001	5.40	0.050	23.00	2.0	120	140	1.0	4.0
	2/21/2001	5.40	0.050	22.00	1.9	300	80	0.6	5.0
	3/7/2001	5.56	0.540	22.00	1.5	200	80	0.6	5.0
	3/20/2001	5.28	0.052	22.30	2.3	360	80	0.4	5.0
	4/3/2001	5.00	0.060	22.00	2.4	280	160	0.3	5.0
	4/17/2001	5.00	0.060	23.00	2.2	200	100	0.6	5.0
	5/1/2001	5.20	0.060	23.00	2.2	220	60	0.4	5.0
	6/14/2001	5.02	0.064	26.00	NR	88	60	1.8	0.5
	7/24/2001	4.35	0.057	26.80	2.1	170	40	1.0	2.0
	8/13/2001	8.54	0.049	27.40	2.5	220	40	1.0	5.0
	9/17/2001	5.08	0.088	28.20	3.1	130	20	0.8	0.6
	10/22/2001	4.94	0.095	27.20	2.7	160	40	1.0	5.0
	11/13/2001	5.21	0.080	25.90	1.2	110	40	1.4	1.0
	12/17/2001	5.00	0.068	25.40	1.7	80	20	1.0	1.0
	3/18/2002	5.15	0.104	23.6	1.2	100	20	0.6	1.0
	6/5/2002	5.35	0.119	26.7	1.4	10	20	0.6	0.7
	9/16/2002	5.13	0.136	28.4	0.1	380	20	0.7	2.0
	12/11/2002	4.62	NR	26.1	4.1	38	40	0.9	2.0
	3/13/2003	5.81	0.205	22.5	0.3	53	10	1.0	0.5
	6/9/2003	4.88	0.259	25.81	0.00	242	5	0	0
	9/2/2003	3.85	0.787	28.93	1.52	54	0	0	0
	12/10/2003	4.49	0.79	25.42	0.79	62	10	0.2	0.5

NR = No Reading

4.0 Conclusions and Recommendations

4.1 Conclusions

The soil-screening results in the vicinity of the historically most contaminated groundwater monitoring well (CEF-9-9S) indicated that OVA/FID readings are nondetect at depths above the water table, which was encountered at 6 feet bls. Laboratory analysis of the soil indicated that all contaminant-concentrations were below the Leachability and Direct Exposure Residential SCTL.

Sampling results indicated that groundwater sampled from all 5 monitoring wells had contaminant-concentrations below the GCTL for the 2nd, 3rd, and 4th quarters of 2003. LNAPL was not noted in any monitoring well during the monitoring period.

4.2 Recommendations

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

- Discontinue soil sampling
- Discontinue the operation of the PHOSter Nutrient Injection System.
- Sample groundwater from the existing monitoring wells (CEF-9-2S, -3S, -5S, -7D, and –9S) every six months to monitor rebound.

5.0 References

Tetra Tech NUS, Inc. (TtNUS), June 2000. Remedial Action Plan Addendum; Building 9, Former Tanks 9L1 and 9L2; Naval Air Station Cecil Field, Jacksonville, Florida.

Priester and Associates, September 2000. PHA-ER Remediation System Design Specifications, Building 9 Site, Remedial Action Plan Addendum.

CH2M HILL Constructors, Inc. (CCI), September 2000. Work Plan Addendum No. 08 nutrient injection system Installations at Building 9, former Tanks 9L1 and 9L2 and building 46, Former Tanks 46R, 46D, 46SUL, and 46UL; Naval Air Station Cecil Field, Jacksonville, Florida.

Appendix A

Laboratory Analytical Reports for Soil Samples

TestAmerica
ANALYTICAL TESTING CORPORATION

Nashville Division

COOLER RECEIPT FORM BC# 357525

Client: Terraing, Inc.

Cooler Received On: 12/12/03 And Opened On: 12/12/03 By: Mike McBride

(Signature)

1. Temperature of Cooler when opened 3.4 Degrees Celsius
2. Were custody seals on outside of cooler?.....YES...NO...NA
   a. If yes, how many, what kind and where:_____
3. Were custody seals on containers and intact?.....NO...YES...NA
4. Were the seals intact, signed, and dated correctly?.....YES...NO...NA
5. Were custody papers inside cooler?.....YES...NO...NA
6. Were custody papers properly filled out (ink,signed,etc)?.....YES...NO...NA
7. Did you sign the custody papers in the appropriate place?.....YES...NO...NA
8. What kind of packing material used? Bubblewrap Peanuts Vermiculite Other None
9. Cooling process: Ice Ice pack Ice(direct contact) Dry ice Other None
10. Did all containers arrive in good condition(unbroken)?.....YES...NO...NA
11. Were all container labels complete (#,date,signed,pres,etc)?.....YES...NO...NA
12. Did all container labels and tags agree with custody papers?.....YES...NO...NA
13. Were correct containers used for the analysis requested?.....YES...NO...NA
14. a. Were VOA vials received?.....YES...NO...NA
    b. Was there any observable head space present in any VOA vial?.....NO...YES...NA
15. Was sufficient amount of sample sent in each container?.....YES...NO...NA
16. Were correct preservatives used?.....YES...NO...NA
    If not, record standard ID of preservative used here_____
17. Was residual chlorine present?.....NO...YES...NA
18. See attached for resolution of non-conformance:

Fed-Ex UPS Velocity Airborne Route Off-street Misc.

01/30/2004 13:32 305-513-4902 MFC MIAMI - TERRAINE PAGE 02

TestAmerica
ANALYTICAL TESTING CORPORATION
2060 Foster Creighton Drive • Nashville, Tennessee 37204
800-765-0980 • 615-726-3404 Fax

12/20/03 CASE NARRATIVE

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: CECIL FIELD BUILDING 9
Project Number: 04-41001/2.
Laboratory Project Number: 357525.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

Sample Identification	Lab Number	Collection Date
SB-4 (6')	03-A193341	12/11/03

01/30/2004 13:32 305-513-4902 MFC MIAMI - TERRAINE PAGE 03

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Drive • Nashville, Tennessee 37204
800-765-0980 • 615-726-3404 Fax

Sample Identification	Lab Number	Collection Date

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: Roxanne L. Connor Report Date: 12/20/03

Ashley Morris, Lab Director
Michael H. Dunn, M.S., QA/QC Director
Johnny A. Mitchell, Operations Manager Organics
Eric S. Smith, Assistant Technical Director
Roxanne L. Connor, Technical Services
Gail A. Lage, Technical Serv.
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: E87398

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ANALYTICAL REPORT

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

Project: 04-41001/2
Project Name: CECIL FIELD BUILDING 9
Sampler: K.BAER/L.WOLSKI

Lab Number: 03-A193341
Sample ID: SB-4 (6')
Sample Type: Soil
Site ID:

Date Collected: 12/11/03
Time Collected: 15:17
Date Received: 12/12/03
Time Received: 8:05
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
GENERAL CHEMISTRY PARAMETERS									
% Dry Weight	84.2	%		1	12/15/03	16:00	M. Ricke	CLP	3472
ORGANIC PARAMETERS									
Benzene	ND	mg/kg	0.0009	1	12/14/03	20:22	H. Wagner	8021B	4969
Ethylbenzene	ND	mg/kg	0.0009	1	12/15/03	11:22	H. Wagner	8021B	4983
Toluene	0.001	mg/kg	0.0009	1	12/15/03	11:22	H. Wagner	8021B	4983
Xylenes, Total	0.0023	mg/kg	0.0009	1	12/15/03	11:22	H. Wagner	8021B	4983
MTBE	ND	mg/kg	0.005	1	12/14/03	20:22	H. Wagner	8021B	4969
TRPH	26.6	mg/kg	9.62	1	12/20/03	5:33	M.Jarrett	FPRO	8102
EXTRACTABLE ORGANICS									
Acenaphthene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Acenaphthylene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Anthracene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Benzo(a)anthracene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Benzo(a)pyrene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Benzo(b)fluoranthene	0.00891	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Benzo(g,h,i)perylene	0.0119	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Benzo(k)fluoranthene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Chrysene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Dibenz(a,h)anthracene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Fluoranthene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Fluorene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Indeno(1,2,3-cd)pyrene	0.0119	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
2-Methylnaphthalene	0.00495	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A193341
Sample ID: SB-4 (6')
Project: 04-41001/2
Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Naphthalene	0.00495	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Phenanthrene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
Pyrene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470
1-Methylnapthalene	ND	mg/kg	0.0033	1	12/16/03	12:37	D. Harris	8270C-SIM	5470

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
FL-PRO	26. g	2.0 ml	12/19/03		K. Turner	FDEP
PAH-SIM	29.6 gm	1.0 ml	12/13/03		M. Ricke	SW3550
BTX Prep	5.55 g	5.0 ml	12/11/03	15:17	H. Wagner	5035

Surrogate	% Recovery	Target Range
GST surr-Trifluorotoluene	168. #	65. - 119.
TPH surr, o-Terphenyl	97.	62. - 109.
TPH Surr, C-35	72.	60. - 118.
BNA Surr-Nitrobenzene-d5	95.	44. - 99.
BNA Surr-2-Fluorobiphenyl	50.	45. - 94.
BNA Surr-Terphenyl-d14	59.	53. - 104.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
All results reported on a wet weight basis.

End of Sample Report.

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PROJECT QUALITY CONTROL DATA
Project Number: 04-41001/2
Project Name: CECIL FIELD BUILDING 9
Page: 1
Laboratory Receipt Date: 12/12/03

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
UST ANALYSIS								
Benzene	mg/kg	0.0149	0.0299	0.0500	30#	42. - 150.	4969	03-A192898
MTBE	mg/kg	< 0.005	0.017	0.050	34#	36. - 151.	4969	03-A192898
TRPH	mg/kg	< 5.00	19.6	17.0	115	62. - 163.	8102	blank
BNA Surr-Nitrobenzene-d5	% Rec				67	44 - 99	5470	
BNA Surr-2-Fluorobiphenyl	% Rec				53	45 - 94	5470	
BNA Surr-Terphenyl-d14	% Rec				58	53 - 104	5470	

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
UST PARAMETERS						
Benzene	mg/kg	0.0299	0.0436	37.20#	30.	4969
MTBE	mg/kg	0.017	0.016	6.06	46.	4969
TRPH	mg/kg	19.6	19.7	0.51	25.	8102
BNA Surr-Nitrobenzene-d5	% Rec		74.			5470
BNA Surr-2-Fluorobiphenyl	% Rec		57.			5470
BNA Surr-Terphenyl-d14	% Rec		61.			5470

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: 04-41001/2
Project Name: CECIL FIELD BUILDING 9
Page: 2
Laboratory Receipt Date: 12/12/03

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
UST PARAMETERS						
Benzene	mg/kg	0.100	0.0994	99	71 - 132	4969
Toluene	mg/kg	0.100	0.0920	92	68 - 129	4983
Ethylbenzene	mg/kg	0.100	0.0828	83	71 - 131	4983
Xylenes, total	mg/kg	0.200	0.162	81	66 - 131	4983
MTBE	mg/kg	0.100	0.090	90	56 - 140	4969
TRPH	mg/kg	17.0	14.6	86	63 - 153	8102
EXTRACTABLE PARAMETERS						
Acenaphthene	mg/kg	0.0330	0.0198	60	26 - 106	5470
Acenaphthylene	mg/kg	0.0330	0.0221	67	23 - 113	5470
Anthracene	mg/kg	0.0330	0.0218	66	33 - 108	5470
Benzo(a)anthracene	mg/kg	0.0330	0.0231	70	47 - 119	5470
Benzo(a)pyrene	mg/kg	0.0330	0.0238	72	37 - 106	5470
Benzo(b)fluoranthene	mg/kg	0.0330	0.0271	82	43 - 121	5470
Benzo(g,h,i)perylene	mg/kg	0.0330	0.0224	68	23 - 124	5470
Benzo(k)fluoranthene	mg/kg	0.0330	0.0241	73	40 - 112	5470
Chrysene	mg/kg	0.0330	0.0165	50	48 - 117	5470
Dibenz(a,h)anthracene	mg/kg	0.0330	0.0221	67	30 - 123	5470
Fluoranthene	mg/kg	0.0330	0.0238	72	40 - 119	5470
Fluorene	mg/kg	0.0330	0.0221	67	29 - 112	5470
Indeno(1,2,3-cd)pyrene	mg/kg	0.0330	0.0238	72	30 - 125	5470
2-Methylnaphthalene	mg/kg	0.0330	0.0185	56	31 - 115	5470
Naphthalene	mg/kg	0.0330	0.0190	57	23 - 105	5470
Phenanthrene	mg/kg	0.0330	0.0211	64	36 - 107	5470
Pyrene	mg/kg	0.0330	0.0221	67	38 - 113	5470
1-Methylnapthalene	mg/kg	0.0330	0.0188	57	35 - 113	5470

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: 04-41001/2
Project Name: CECIL FIELD BUILDING 9
Page: 3
Laboratory Receipt Date: 12/12/03

BNA Surr-Nitrobenzene-d5	% Rec	68	44 - 99	5470
BNA Surr-2-Fluorobiphenyl	% Rec	55	45 - 94	5470
BNA Surr-Terphenyl-d14	% Rec	53	53 - 104	5470

Duplicates

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Sample Dup'd

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
UST PARAMETERS					
Benzene	< 0.0010	mg/kg	4969	12/14/03	11:47
Toluene	< 0.0010	mg/kg	4983	12/15/03	7:24
Ethylbenzene	< 0.0010	mg/kg	4983	12/15/03	7:24
Xylenes, total	< 0.0010	mg/kg	4983	12/15/03	7:24
MTBE	< 0.005	mg/kg	4969	12/14/03	11:47
TRPH	< 5.00	mg/kg	8102	12/20/03	0:10
UST surr-Trifluorotoluene	181:	% Recovery	4969	12/14/03	11:47
EXTRACTABLE PARAMETERS					
Acenaphthene	< 0.00330	mg/kg	5470	12/16/03	4:28
Acenaphthylene	< 0.00330	mg/kg	5470	12/16/03	4:28
Anthracene	< 0.00330	mg/kg	5470	12/16/03	4:28
Benzo(a)anthracene	< 0.00330	mg/kg	5470	12/16/03	4:28
Benzo(a)pyrene	< 0.00330	mg/kg	5470	12/16/03	4:28
Benzo(b)fluoranthene	< 0.00330	mg/kg	5470	12/16/03	4:28
Benzo(g,h,i)perylene	< 0.00330	mg/kg	5470	12/16/03	4:28
Benzo(k)fluoranthene	< 0.00330	mg/kg	5470	12/16/03	4:28

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: 04-41001/2
Project Name: CECIL FIELD BUILDING 9
Page: 4
Laboratory Receipt Date: 12/12/03

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
Chrysene	< 0.00330	mg/kg	5470	12/16/03	4:28
Dibenz(a,h)anthracene	< 0.00330	mg/kg	5470	12/16/03	4:28
Fluoranthene	< 0.00330	mg/kg	5470	12/16/03	4:28
Fluorene	< 0.00330	mg/kg	5470	12/16/03	4:28
Indeno(1,2,3-cd)pyrene	< 0.00330	mg/kg	5470	12/16/03	4:28
2-Methylnaphthalene	< 0.00330	mg/kg	5470	12/16/03	4:28
Naphthalene	< 0.00330	mg/kg	5470	12/16/03	4:28
Phenanthrene	< 0.00330	mg/kg	5470	12/16/03	4:28
Pyrene	< 0.00330	mg/kg	5470	12/16/03	4:28
1-Methylnapthalene	< 0.00330	mg/kg	5470	12/16/03	4:28
BNA Surr-Nitrobenzene-d5	77.	% Rec	5470	12/16/03	4:28
BNA Surr-2-Fluorobiphenyl	64.	% Rec	5470	12/16/03	4:28
BNA Surr-Terphenyl-d14	65.	% Rec	5470	12/16/03	4:28

= Value outside Laboratory historical or method prescribed QC limits.

End Of Report for Project 357525

Appendix B

Laboratory Analytical Reports for Groundwater Samples

TestAmerica
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Nashville Division
2960 Foster Creighton
Nashville, TN 37204
Phone: 615-726-0177
Fax: 615-726-3404

357289

assist us in using the proper analytical methods, this work being conducted for regulatory purposes?
Compliance Monitoring

Client Name: Terraine Inc Client #: 9463
Address: 2622 NW 97th Ave
City/State/Zip Code: Miami FL
Project Manager: James Young
Telephone Number: 305-513-4901 Fax: 305-513-4902
Sampler Name: (Print Name) Karen Baer / Larry Wolski
Sampler Signature:

Project Name: NAS Cecil Field
Project #: 04-41001/2
Site/Location ID: Building 9 State: FL
Report To: James Young
Invoice To: James Young
Quote #: 09230216902 PO#: 04-41001/2

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed:
Fax Results: Y N

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: Standard

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix (DW - Drinking Water, GW - Groundwater, WW - Wastewater, SL - Sludge, S - Soil/Solid, Specify Other)	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	BTEX/MTBE 8021B	PAH 8270	TRPH FL-PRO	Nitrate/Nitrite	Nitrate	ortho phosphate					REMARKS
CEF-9-5S	12/10/03	0822			GW		5				3		X	X	X	X	X	X					192338
CEF-9-7D	12/10/03	1038			GW		5				3		X	X	X	X	X	X					9
CEF-9-2S	12/10/03	0759			GW		5				3		X	X	X	X	X	X					40
CEF-9-3S	12/10/03	0953			GW		5				3		X	X	X	X	X	X					1
CEF-9-9S	12/10/03	1110			GW		5				3		X	X	X	X	X	X					2
FB-BLDG9	12/10/03	1050			DI		4				2		X	X	X	X	X	X					3
Trip Blank	12/10/03				DI								X										192344

Special Instructions:
48 hour hold Report Nitrate/Nitrite Separately

Relinquished By:	Date: 12/10/03	Time: 1150	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 12/11/03	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 0.4
Custody Seals: Y (N) N/A
Bottles Supplied by Test America: Y N
Method of Shipment:

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1/29/04 CASE NARRATIVE

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: NAS CECIL FIELD
Project Number: 04-41001/2.
Laboratory Project Number: 357289.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

Sample Identification	Lab Number	Collection Date
CEF-9-5S	03-A192338	12/10/03
CEF-9-7D	03-A192339	12/10/03
CEF-9-2S	03-A192340	12/10/03
CEF-9-3S	03-A192341	12/10/03
CEF-9-9S	03-A192342	12/10/03
EB-BLDG9	03-A192343	12/10/03
Trip Blank	03-A192344	12/10/03

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Sample Identification	Lab Number	Collection Date

These results relate only to the items tested.
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Report Approved By: Pamela A. Langford Report Date: 12/22/03

Ashley Morris, Lab Director
Michael H. Dunn, M.S., QA/QC Director
Johnny A. Mitchell, Operations Manager Organics
Eric S. Smith, Assistant Technical Director
Roxanne L. Connor, Technical Services
Gail A. Lage, Technical Serv.
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: E87358

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ANALYTICAL REPORT

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

Project: 04-41001/2
Project Name: NAS CECIL FIELD
Sampler: KEREN BAER/LARRY WOLSKI

Lab Number: 03-A192338
Sample ID: CEF-9-5S
Sample Type: Water
Site ID: BUILDING 9

Date Collected: 12/10/03
Time Collected: 8:22
Date Received: 12/11/03
Time Received: 8:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Benzene	ND	ug/L	1.00	1.0	12/12/03	19:42	A. Cobbs	8021B	2458
Ethylbenzene	ND	ug/L	1.0	1.0	12/12/03	19:42	A. Cobbs	8021B	2458
Toluene	ND	ug/L	1.0	1.0	12/12/03	19:42	A. Cobbs	8021B	2458
Xylenes (Total)	ND	ug/L	3.0	1.0	12/12/03	19:42	A. Cobbs	8021B	2458
Methyl-t-butylether	ND	ug/L	1.0	1.0	12/12/03	19:42	A. Cobbs	8021B	2458
TRPH	ND	ug/L	200.	1.0	12/13/03	22:13	L. Watson	FPRO	4475
EXTRACTABLE ORGANICS									
Acenaphthene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Acenaphthylene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Anthracene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Benzo(a)anthracene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Benzo(a)pyrene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Benzo(b)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Benzo(g,h,i)perylene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Benzo(k)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Chrysene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Dibenz(a,h)anthracene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Fluoranthene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Fluorene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
2-Methylnaphthalene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Naphthalene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Phenanthrene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
Pyrene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350
1-Methylnaphthalene	ND	ug/L	0.10	1.0	12/16/03	0:02	D. Harris	8270C-SIM	4350

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A192338
Sample ID: CEF-9-5S
Project: 04-41001/2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
MISCELLANEOUS CHEMISTRY									
Nitrate-N as N	0.310	mg/L	0.100	1.0	12/12/03	8:20	S. Duncan	353.2	4873
Nitrite-N as N	ND	mg/L	0.100	1.0	12/12/03	9:11	S. Duncan	353.2	4877
Ortho Phosphate as P	ND	mg/L	0.100	1.0	12/11/03	17:12	T. Beverly	365.2	1566

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
PAH-SIM	1000 ml	1.0 ml	12/12/03		K. Turner	3510C
Fla Pro	1000 ml	2.0 ml	12/12/03		K. Turner	FDEP

Surrogate	% Recovery	Target Range
TPH Surr., O-Terphenyl	170. #	82. - 142.
TPH Surr, C-35	125.	42. - 193.
BTEX/GRO Surr., a,a,a-TFT	102.	69. - 129.
BNA Surr-Nitrobenzene-d5	73.	34. - 107.
BNA Surr-2-Fluorobiphenyl	52.	40. - 96.
BNA Surr-Terphenyl-d14	61.	26. - 106.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

Project: 04-41001/2
Project Name: NAS CECIL FIELD
Sampler: KEREN BAER/LARRY WOLSKI

Lab Number: 03-A192339
Sample ID: CEF-9-7D
Sample Type: Water
Site ID: BUILDING 9

Date Collected: 12/10/03
Time Collected: 10:38
Date Received: 12/11/03
Time Received: 8:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Benzene	ND	ug/L	1.00	1.0	12/12/03	20:13	A. Cobbs	8021B	2458
Ethylbenzene	ND	ug/L	1.0	1.0	12/12/03	20:13	A. Cobbs	8021B	2458
Toluene	ND	ug/L	1.0	1.0	12/12/03	20:13	A. Cobbs	8021B	2458
Xylenes (Total)	ND	ug/L	3.0	1.0	12/12/03	20:13	A. Cobbs	8021B	2458
Methyl-t-butylether	ND	ug/L	1.0	1.0	12/12/03	20:13	A. Cobbs	8021B	2458
TRPH	ND	ug/L	200.	1.0	12/13/03	22:33	L. Watson	FPRO	4475
EXTRACTABLE ORGANICS									
Acenaphthene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Acenaphthylene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Anthracene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Benzo(a)anthracene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Benzo(a)pyrene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Benzo(b)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Benzo(g,h,i)perylene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Benzo(k)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Chrysene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Dibenz(a,h)anthracene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Fluoranthene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Fluorene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
2-Methylnaphthalene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Naphthalene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Phenanthrene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
Pyrene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350
1-Methylnaphthalene	ND	ug/L	0.10	1.0	12/16/03	0:36	D. Harris	8270C-SIM	4350

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A192339
Sample ID: CEF-9-7D
Project: 04-41001/2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
MISCELLANEOUS CHEMISTRY									
Nitrate-N as N	ND	mg/L	0.100	1.0	12/12/03	8:21	S. Duncan	353.2	4873
Nitrite-N as N	ND	mg/L	0.100	1.0	12/12/03	9:12	S. Duncan	353.2	4877
Ortho Phosphate as P	ND	mg/L	0.100	1.0	12/11/03	17:12	T. Beverly	365.2	1566

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
PAH-SIM	1000 ml	1.0 ml	12/12/03		K. Turner	3510C
Fla Pro	1000 ml	2.0 ml	12/12/03		K. Turner	FDEP

Surrogate	% Recovery	Target Range
TPH Surr., O-Terphenyl	187. #	82. - 142.
TPH Surr, C-35	153.	42. - 193.
BTEX/GRO Surr., a,a,a-TFT	99.	69. - 129.
BNA Surr-Nitrobenzene-d5	71.	34. - 107.
BNA Surr-2-Fluorobiphenyl	52.	40. - 96.
BNA Surr-Terphenyl-d14	65.	26. - 106.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

Project: 04-41001/2
Project Name: NAS CECIL FIELD
Sampler: KEREN BAER/LARRY WOLSKI

Lab Number: 03-A192340
Sample ID: CEF-9-2S
Sample Type: Water
Site ID: BUILDING 9

Date Collected: 12/10/03
Time Collected: 7:59
Date Received: 12/11/03
Time Received: 8:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Benzene	ND	ug/L	1.00	1.0	12/12/03	20:44	A. Cobbs	8021B	2458
Ethylbenzene	ND	ug/L	1.0	1.0	12/12/03	20:44	A. Cobbs	8021B	2458
Toluene	ND	ug/L	1.0	1.0	12/12/03	20:44	A. Cobbs	8021B	2458
Xylenes (Total)	ND	ug/L	3.0	1.0	12/12/03	20:44	A. Cobbs	8021B	2458
Methyl-t-butylether	ND	ug/L	1.0	1.0	12/12/03	20:44	A. Cobbs	8021B	2458
TRPH	ND	ug/L	250.	1.0	12/13/03	22:52	L. Watson	FPRO	4475
EXTRACTABLE ORGANICS									
Acenaphthene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Acenaphthylene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Anthracene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Benzo(a)anthracene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Benzo(a)pyrene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Benzo(b)fluoranthene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Benzo(g,h,i)perylene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Benzo(k)fluoranthene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Chrysene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Dibenz(a,h)anthracene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Fluoranthene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Fluorene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
2-Methylnaphthalene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Naphthalene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Phenanthrene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
Pyrene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350
1-Methylnaphthalene	ND	ug/L	0.20	1.0	12/16/03	2:13	D. Harris	8270C-SIM	4350

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ANALYTICAL REPORT

Laboratory Number: 03-A192340
Sample ID: CEF-9-2S
Project: 04-41001/2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
MISCELLANEOUS CHEMISTRY									
Nitrate-N as N	ND	mg/L	0.100	1.0	12/12/03	8:22	S. Duncan	353.2	4873
Nitrite-N as N	0.250	mg/L	0.100	1.0	12/12/03	9:12	S. Duncan	353.2	4877
Ortho Phosphate as P	ND	mg/L	0.100	1.0	12/11/03	17:12	T. Beverly	365.2	1566

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
PAH-SIM	500. ml	1.0 ml	12/12/03		K. Turner	3510C
Fla Pro	800. ml	2.0 ml	12/12/03		K. Turner	FDEP

Surrogate	% Recovery	Target Range
TPH Surr., O-Terphenyl	122.	82. - 142.
TPH Surr, C-35	104.	42. - 193.
BTEX/GRO Surr., a,a,a-TFT	100.	69. - 129.
BNA Surr-Nitrobenzene-d5	64.	34. - 107.
BNA Surr-2-Fluorobiphenyl	48.	40. - 96.
BNA Surr-Terphenyl-d14	57.	26. - 106.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

Project: 04-41001/2
Project Name: NAS CECIL FIELD
Sampler: KEREN BAER/LARRY WOLSKI

Lab Number: 03-A192341
Sample ID: CEF-9-3S
Sample Type: Water
Site ID: BUILDING 9

Date Collected: 12/10/03
Time Collected: 9:53
Date Received: 12/11/03
Time Received: 8:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Benzene	ND	ug/L	1.00	1.0	12/12/03	21:15	A. Cobbs	8021B	2458
Ethylbenzene	ND	ug/L	1.0	1.0	12/12/03	21:15	A. Cobbs	8021B	2458
Toluene	ND	ug/L	1.0	1.0	12/12/03	21:15	A. Cobbs	8021B	2458
Xylenes (Total)	ND	ug/L	3.0	1.0	12/12/03	21:15	A. Cobbs	8021B	2458
Methyl-t-butylether	ND	ug/L	1.0	1.0	12/12/03	21:15	A. Cobbs	8021B	2458
TRPH	520.B	ug/L	222.	1.0	12/18/03	0:21	Weatherly	FPRO	1233
EXTRACTABLE ORGANICS									
Acenaphthene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Acenaphthylene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Anthracene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Benzo(a)anthracene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Benzo(a)pyrene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Benzo(b)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Benzo(g,h,i)perylene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Benzo(k)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Chrysene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Dibenz(a,h)anthracene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Fluoranthene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Fluorene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
2-Methylnaphthalene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Naphthalene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Phenanthrene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
Pyrene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350
1-Methylnaphthalene	ND	ug/L	0.10	1.0	12/16/03	2:47	D. Harris	8270C-SIM	4350

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A192341
Sample ID: CEF-9-3S
Project: 04-41001/2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
MISCELLANEOUS CHEMISTRY									
Nitrate-N as N	29.8	mg/L	0.500	5.0	12/12/03	9:48	S. Duncan	353.2	4873
Nitrite-N as N	0.120	mg/L	0.100	1.0	12/12/03	9:13	S. Duncan	353.2	4877
Ortho Phosphate as P	ND	mg/L	0.100	1.0	12/11/03	17:12	T. Beverly	365.2	1566

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
PAH-SIM	1000 ml	1.0 ml	12/12/03		K. Turner	3510C
Fla Pro	900. ml	2.0 ml	12/16/03		K. Turner	FDEP

Surrogate	% Recovery	Target Range
TPH Surr., O-Terphenyl	161. #	82. - 142.
TPH Surr, C-35	144.	42. - 193.
BTEX/GRO Surr., a,a,a-TFT	102.	69. - 129.
BNA Surr-Nitrobenzene-d5	70.	34. - 107.
BNA Surr-2-Fluorobiphenyl	43.	40. - 96.
BNA Surr-Terphenyl-d14	63.	26. - 106.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A192341
Sample ID: CEF-9-3S
Project: 04-41001/2

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
The method blank for the FLA-PRO analysis was positive for this extraction batch. There was insufficient sample volume for re-extraction and re-analysis. The pattern detected in the method blank was not consistent with the pattern detected in the sample.

End of Sample Report.

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ANALYTICAL REPORT

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

Project: 04-41001/2
Project Name: NAS CECIL FIELD
Sampler: KEREN BAER/LARRY WOLSKI

Lab Number: 03-A192342
Sample ID: CEF-9-9S
Sample Type: Water
Site ID: BUILDING 9

Date Collected: 12/10/03
Time Collected: 11:10
Date Received: 12/11/03
Time Received: 8:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Benzene	ND	ug/L	1.00	1.0	12/12/03	21:45	A. Cobbs	8021B	2458
Ethylbenzene	ND	ug/L	1.0	1.0	12/12/03	21:45	A. Cobbs	8021B	2458
Toluene	ND	ug/L	1.0	1.0	12/12/03	21:45	A. Cobbs	8021B	2458
Xylenes (Total)	ND	ug/L	3.0	1.0	12/12/03	21:45	A. Cobbs	8021B	2458
Methyl-t-butylether	ND	ug/L	1.0	1.0	12/12/03	21:45	A. Cobbs	8021B	2458
TRPH	592.B	ug/L	200.	1.0	12/18/03	0:41	Weatherly	FPRO	1233
EXTRACTABLE ORGANICS									
Acenaphthene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Acenaphthylene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Anthracene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Benzo(a)anthracene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Benzo(a)pyrene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Benzo(b)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Benzo(g,h,i)perylene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Benzo(k)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Chrysene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Dibenz(a,h)anthracene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Fluoranthene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Fluorene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
2-Methylnaphthalene	1.56	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Naphthalene	2.73	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Phenanthrene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
Pyrene	ND	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350
1-Methylnaphthalene	1.27	ug/L	0.10	1.0	12/16/03	3:21	D. Harris	8270C-SIM	4350

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A192342
Sample ID: CEF-9-9S
Project: 04-41001/2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
MISCELLANEOUS CHEMISTRY									
Nitrate-N as N	8.51	mg/L	0.100	1.0	12/12/03	8:23	S. Duncan	353.2	4873
Nitrite-N as N	ND	mg/L	0.100	1.0	12/12/03	9:14	S. Duncan	353.2	4877
Ortho Phosphate as P	ND	mg/L	0.100	1.0	12/11/03	17:12	T. Beverly	365.2	1566

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
PAH-SIM	1000 ml	1.0 ml	12/12/03		K. Turner	3510C
Fla Pro	1000 ml	2.0 ml	12/16/03		K. Turner	FDEP

Surrogate	% Recovery	Target Range
TPH Surr., O-Terphenyl	167. #	82. - 142.
TPH Surr, C-35	140.	42. - 193.
BTEX/GRO Surr., a,a,a-TFT	103.	69. - 129.
BNA Surr-Nitrobenzene-d5	73.	34. - 107.
BNA Surr-2-Fluorobiphenyl	49.	40. - 96.
BNA Surr-Terphenyl-d14	69.	26. - 106.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A192342
Sample ID: CEF-9-9S
Project: 04-41001/2

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
The method blank for the FL-PRO analysis was positive for this extraction batch. There was insufficient sample volume for re-extraction and re-analysis. The pattern detected in the method blank was not consistent with the pattern detected in the sample.
Method blank positive for FL-PRO.

End of Sample Report.

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ANALYTICAL REPORT

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

Project: 04-41001/2
Project Name: NAS CECIL FIELD
Sampler: KEREN BAER/LARRY WOLSKI

Lab Number: 03-A192343
Sample ID: EB-BLDG9
Sample Type: Water
Site ID: BUILDING 9

Date Collected: 12/10/03
Time Collected: 10:50
Date Received: 12/11/03
Time Received: 8:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Benzene	ND	ug/L	1.00	1.0	12/12/03	22:16	A. Cobbs	8021B	2458
Ethylbenzene	ND	ug/L	1.0	1.0	12/12/03	22:16	A. Cobbs	8021B	2458
Toluene	ND	ug/L	1.0	1.0	12/12/03	22:16	A. Cobbs	8021B	2458
Xylenes (Total)	ND	ug/L	3.0	1.0	12/12/03	22:16	A. Cobbs	8021B	2458
Methyl-t-butylether	ND	ug/L	1.0	1.0	12/12/03	22:16	A. Cobbs	8021B	2458
TRPH	ND	ug/L	200.	1.0	12/14/03	0:32	L. Watson	FPRO	4475
EXTRACTABLE ORGANICS									
Acenaphthene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Acenaphthylene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Anthracene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Benzo(a)anthracene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Benzo(a)pyrene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Benzo(b)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Benzo(g,h,i)perylene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Benzo(k)fluoranthene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Chrysene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Dibenz(a,h)anthracene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Fluoranthene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Fluorene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
2-Methylnaphthalene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Naphthalene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Phenanthrene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
Pyrene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350
1-Methylnaphthalene	ND	ug/L	0.10	1.0	12/16/03	3:54	D. Harris	8270C-SIM	4350

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A192343
Sample ID: EB-BLDG9
Project: 04-41001/2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
MISCELLANEOUS CHEMISTRY									
Nitrate-N as N	ND	mg/L	0.100	1.0	12/12/03	8:23	S. Duncan	353.2	4873
Nitrite-N as N	ND	mg/L	0.100	1.0	12/12/03	9:14	S. Duncan	353.2	4877
Ortho Phosphate as P	ND	mg/L	0.100	1.0	12/11/03	17:12	T. Beverly	365.2	1566

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
PAH-SIM	1000 ml	1.0 ml	12/12/03		K. Turner	3510C
Fla Pro	1000 ml	2.0 ml	12/12/03		K. Turner	FDEP

Surrogate	% Recovery	Target Range
TPH Surr., O-Terphenyl	138.	82. - 142.
TPH Surr, C-35	77.	42. - 193.
BTEX/GRO Surr., a,a,a-TFT	101.	69. - 129.
BNA Surr-Nitrobenzene-d5	77.	34. - 107.
BNA Surr-2-Fluorobiphenyl	57.	40. - 96.
BNA Surr-Terphenyl-d14	61.	26. - 106.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

TERRAINE, INC. 9463
JIM YOUNG
2622 N.W. 97TH
MIAMI, FL 33172

Project: 04-41001/2
Project Name: NAS CECIL FIELD
Sampler: KEREN BAER/LARRY WOLSKI

Lab Number: 03-A192344
Sample ID: Trip Blank
Sample Type: Water
Site ID: BUILDING 9

Date Collected: 12/10/03
Time Collected:
Date Received: 12/11/03
Time Received: 8:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS									
Benzene	ND	ug/L	1.00	1.0	12/12/03	22:46	A. Cobbs	8021B	2458
Ethylbenzene	ND	ug/L	1.0	1.0	12/12/03	22:46	A. Cobbs	8021B	2458
Toluene	ND	ug/L	1.0	1.0	12/12/03	22:46	A. Cobbs	8021B	2458
Xylenes (Total)	ND	ug/L	3.0	1.0	12/12/03	22:46	A. Cobbs	8021B	2458
Methyl-t-butylether	ND	ug/L	1.0	1.0	12/12/03	22:46	A. Cobbs	8021B	2458

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	102.	69. - 129.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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PROJECT QUALITY CONTROL DATA
Project Number: 04-41001/2
Project Name: NAS CECIL FIELD
Page: 1
Laboratory Receipt Date: 12/11/03

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
UST ANALYSIS								
Benzene	mg/l	< 0.00100	0.0555	0.0500	111	60. - 143.	2458	03-A192291
Toluene	mg/l	< 0.0010	0.0539	0.0500	108	62. - 139.	2458	03-A192291
Ethylbenzene	mg/l	< 0.0010	0.0518	0.0500	104	61. - 138.	2458	03-A192291
Xylenes (Total)	mg/l	< 0.0030	0.0985	0.100	98	59. - 137.	2458	03-A192291
Methyl-t-butylether	mg/l	< 0.0010	0.0467	0.0500	93	60. - 138.	2458	03-A192291
TRPH	mg/l	< 0.100	0.922	0.430	214#	44. - 101.	4475	blank
TRPH	mg/l	< 0.100	0.413	0.430	96	44. - 101.	1233	blank
BTEX/GRO Surr., a,a,a-TFT	% Recovery				93	69 - 129	2458	
MISC PARAMETERS								
Nitrate-N as N	mg/l	< 0.100	2.65	6.00	44#	80 - 120	4873	03-A192286
Nitrate-N as N	mg/l	< 0.100	2.60	6.00	43#	80 - 120	4873	03-A192286
Nitrite-N as N	mg/l	0.330	1.63	3.00	43#	80 - 120	4877	03-A192286
Ortho Phosphate as P	mg/l	< 0.100	0.262	0.250	105	80 - 120	1566	03-A192346

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
UST PARAMETERS						
Benzene	mg/l	0.0555	0.0561	1.08	23.	2458
Toluene	mg/l	0.0539	0.0546	1.29	24.	2458
Ethylbenzene	mg/l	0.0518	0.0525	1.34	24.	2458
Xylenes (Total)	mg/l	0.0985	0.0996	1.11	25.	2458

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: 04-41001/2
Project Name: NAS CECIL FIELD
Page: 2
Laboratory Receipt Date: 12/11/03

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
Methyl-t-butylether	mg/l	0.0467	0.0477	2.12	24.	2458
TRPH	mg/l	0.922	0.589	44.08#	41.	4475
TRPH	mg/l	0.413	0.509	20.82	41.	1233
BTEX/GRO Surr., a,a,a-TFT	% Recovery		91.			2458
Nitrate-N as N	mg/l	2.65	2.60	1.90	20	4873
Nitrite-N as N	mg/l	1.63	1.60	1.86	20	4877
Ortho Phosphate as P	mg/l	0.262	0.262	0.00	20	1566

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
UST PARAMETERS						
Benzene	mg/l	0.100	0.0964	96	74 - 120	2458
Toluene	mg/l	0.100	0.0934	93	73 - 118	2458
Ethylbenzene	mg/l	0.100	0.0894	89	72 - 118	2458
Xylenes (Total)	mg/l	0.200	0.170	85	72 - 116	2458
Methyl-t-butylether	mg/l	0.100	0.0855	86	64 - 124	2458
TRPH	mg/l	0.430	0.595	138 #	55 - 118	4475
TRPH	mg/l	0.430	0.509	118 #	55 - 118	1233
BTEX/GRO Surr., a,a,a-TFT	% Recovery			88	69 - 129	2458
EXTRACTABLE PARAMETERS						
Acenaphthene	mg/l	0.00100	0.00066	66	28 - 106	4350
Acenaphthylene	mg/l	0.00100	0.00080	80	26 - 106	4350
Anthracene	mg/l	0.00100	0.00084	84	30 - 116	4350
Benzo(a)anthracene	mg/l	0.00100	0.00092	92	38 - 128	4350
Benzo(a)pyrene	mg/l	0.00100	0.00089	89	34 - 117	4350
Benzo(b)fluoranthene	mg/l	0.00100	0.00084	84	37 - 132	4350

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: 04-41001/2
Project Name: NAS CECIL FIELD
Page: 3
Laboratory Receipt Date: 12/11/03

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Benzo(g,h,i)perylene	mg/l	0.00100	0.00071	71	28 - 122	4350
Benzo(k)fluoranthene	mg/l	0.00100	0.00071	71	35 - 128	4350
Chrysene	mg/l	0.00100	0.00055	55	42 - 126	4350
Dibenz(a,h)anthracene	mg/l	0.00100	0.00065	65	35 - 124	4350
Fluoranthene	mg/l	0.00100	0.00081	81	35 - 125	4350
Fluorene	mg/l	0.00100	0.00072	72	30 - 112	4350
Indeno(1,2,3-cd)pyrene	mg/l	0.00100	0.00076	76	34 - 121	4350
2-Methylnaphthalene	mg/l	0.00100	0.00063	63	31 - 108	4350
Naphthalene	mg/l	0.00100	0.00064	64	9 - 120	4350
Phenanthrene	mg/l	0.00100	0.00065	65	34 - 116	4350
Pyrene	mg/l	0.00100	0.00077	77	35 - 118	4350
1-Methylnaphthalene	mg/l	0.00100	0.00065	65	31 - 112	4350
BNA Surr-Nitrobenzene-d5	% Rec			86	34 - 107	4350
BNA Surr-2-Fluorobiphenyl	% Rec			56	40 - 96	4350
BNA Surr-Terphenyl-d14	% Rec			58	26 - 106	4350
MISC PARAMETERS						
Nitrate-N as N	mg/l	6.00	6.00	100	88 - 113	4873
Nitrite-N as N	mg/l	3.00	3.00	100	83 - 111	4877
Ortho Phosphate as P	mg/l	0.250	0.260	104	88 - 107	1566

Duplicates

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Sample Dup'd
Nitrate-N as N	mg/l	15.0	14.5	3.39	15.	4873	03-A192375
Nitrite-N as N	mg/l	0.480	0.490	2.06	15.	4877	03-A192375

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: 04-41001/2
Project Name: NAS CECIL FIELD
Page: 4
Laboratory Receipt Date: 12/11/03

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
UST PARAMETERS					
Benzene	< 0.00071	mg/l	2458	12/12/03	13:41
Toluene	< 0.0007	mg/l	2458	12/12/03	13:41
Ethylbenzene	< 0.0008	mg/l	2458	12/12/03	13:41
Xylenes (Total)	< 0.0018	mg/l	2458	12/12/03	13:41
Methyl-t-butylether	< 0.0008	mg/l	2458	12/12/03	13:41
TRPH	< 0.100	mg/l	4475	12/13/03	18:17
TRPH	0.358	mg/l	1233	12/19/03	17:24
TPH Surr., O-Terphenyl	209.	% Recovery	4475	12/13/03	18:17
TPH Surr., O-Terphenyl	108.	% Recovery	1233	12/19/03	17:24
TPH Surr, C-35	152.	% Recovery	4475	12/13/03	18:17
TPH Surr, C-35	89.	% Recovery	1233	12/19/03	17:24
BTEX/GRO Surr., a,a,a-TFT	102.	% Recovery	2458	12/12/03	13:41
EXTRACTABLE PARAMETERS					
Acenaphthene	< 0.00010	mg/l	4350	12/15/03	14:25
Acenaphthylene	< 0.00010	mg/l	4350	12/15/03	14:25
Anthracene	< 0.00010	mg/l	4350	12/15/03	14:25
Benzo(a)anthracene	< 0.00010	mg/l	4350	12/15/03	14:25
Benzo(a)pyrene	< 0.00010	mg/l	4350	12/15/03	14:25
Benzo(b)fluoranthene	< 0.00010	mg/l	4350	12/15/03	14:25
Benzo(g,h,i)perylene	< 0.00010	mg/l	4350	12/15/03	14:25
Benzo(k)fluoranthene	< 0.00010	mg/l	4350	12/15/03	14:25
Chrysene	< 0.00010	mg/l	4350	12/15/03	14:25
Dibenz(a,h)anthracene	< 0.00010	mg/l	4350	12/15/03	14:25
Fluoranthene	< 0.00010	mg/l	4350	12/15/03	14:25
Fluorene	< 0.00010	mg/l	4350	12/15/03	14:25
Indeno(1,2,3-cd)pyrene	< 0.00010	mg/l	4350	12/15/03	14:25
2-Methylnaphthalene	< 0.00010	mg/l	4350	12/15/03	14:25

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: 04-41001/2
Project Name: NAS CECIL FIELD
Page: 5
Laboratory Receipt Date: 12/11/03

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
Naphthalene	< 0.00010	mg/l	4350	12/15/03	14:25
Phenanthrene	< 0.00010	mg/l	4350	12/15/03	14:25
Pyrene	< 0.00010	mg/l	4350	12/15/03	14:25
1-Methylnaphthalene	< 0.00010	mg/l	4350	12/15/03	14:25
BNA Surr-Nitrobenzene-d5	98.	% Rec	4350	12/15/03	14:25
BNA Surr-2-Fluorobiphenyl	56.	% Rec	4350	12/15/03	14:25
BNA Surr-Terphenyl-d14	66.	% Rec	4350	12/15/03	14:25
MISC PARAMETERS					
Nitrate-N as N	< 0.100	mg/l	4873	12/12/03	8:11
Nitrite-N as N	< 0.100	mg/l	4877	12/12/03	9:04
Ortho Phosphate as P	< 0.100	mg/l	1566	12/11/03	17:12

= Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 357289

TestAmerica INCORPORATED

External Nonconformance / Customer Inquiry

Initiated by:	Kbundy	**Phone:**	305-513-4901	NC Closed	☐
Client Name:	TERRAINE, INC.	**Sample Range:**	03-a192338-344	Date Closed	
Client Contact:	Karen	**SDG:**	357289		
Client Account:	9463	**Analyst:**			
Date Created:	1/28/2004	**Supervisor:**	Mark Hollingsworth		

Process: Verify analysis (outside historical bounds)

Corrected By: Pam Langford

Action: Corrected action not chosen

Closed: ☐

Comments: Please look at the laboratory comment for sample 03-a192341, it explains that we had a hit in the method blank, but they did not appear to be the same thing when reviewing the chromatogram verses the actual sample. Sample 03-a192342 has a B flag as well, but doesn't have the same explanation. Can you please review the method blank vs. sample 03-a192342, and confirm that it doesn't have carry over issues, or coincide with what is causing the hit in the method blank.

Appendix C

FDEP Annual Status Report Form

DEP Form # 62-785.900(5)
Form Title: Active Remediation Status Report Summary
Effective Date: July 6, 1998

Active Remediation Status Report Summary

(Use additional blank sheets if necessary to explain status of site.)

Site Name Building 9 **DEP Site ID No.** _____
Location _____ **Applicable Dates** 1/01/03 **to** 12/ 31/03
RAP Approval Date ___/___/___ **System Startup Date** 1 / 09/ 01
Media Contaminated: X **Groundwater** **Surface Water** **Sediment** **X Soil** **Air**
Estimated Total Mass Recovered or Remediated This Period _____ **(lbs)**

Method of Groundwater Remediation:

Amount of Mass Removed _____N/A_____ (gals)

Pump-and-Treat:
- Design Flow Rate _____ (gpm)
- Actual Flow Rate _____ (gpm)
- Total Vol. Recovered to Date _____ (1000 gal)

In Situ Air Sparging:
- Design Air Flow Rate 3 to 5 (cfm)
- Actual Air Flow Rate 5.2 (cfm)
- Estimated Radius of Influence _____ (ft)

Biosparging
- Design Flow Rate _____ (gpm)
- Actual Flow Rate _____ (gpm)

Bioremediation

Other _____

Free Product Present: Yes No
- Volume Recovered to Date _____(gal)

Concentration of Total VOAs in Designated Wells:

	This Period	Previous period
CEF-9-2S	<3.0 ppb	87.9 ppb
CEF-9-3S	<1.0 ppb	3.5 ppb
CEF-9-9S	<1.0 ppb	19.0 ppb
	ppb	ppb

Method of Soil Remediation:

Vapor Extraction System (VES):
- Design Air Flow Rate _____ (cfm)
- Actual Air Flow Rate _____ (cfm)
- Estimated Radius of Influence _____ (ft)
- Air Emissions Treatment

Discontinued / date ___/___/___ Ongoing

Soil Bioventing
- Design Air Flow Rate _____(cfm)
- Actual Air Flow Rate _____ (cfm)

In Situ Bioremediation

Other _____

Amount of Mass Removed N/A (yds$^{3)}$

Estimated Time of Cleanup:

- Estimated time of cleanup based on target level concentration C and on the exponential decay equation, $C_1 = C_0 e^{xt_1}$, where C_1 = present concentration at the most contaminated source well (ppb); C_0 = highest initial concentration of applicable chemical of concern at system startup (ppb); x = decay coefficient; and t_1 = length of time between initial and present concentration (days). A semi-log plot for cleanup times should be provided.
- Solve for decay coefficient, x:

[ln(_____(ppb) / _____(ppb))] / (_____(days)) = _____

present concentration, C_1 initial concentration, C_0 time, t_1 decay coefficient, x

- Using this decay coefficient (x), solve for estimated time of cleanup (t):

[ln(_____(ppb) / _____(ppb))] / (_____) = _____(days)

target concentration, C present concentration, C_1 decay coefficient, x estimated time of cleanup, t

Calculated Cleanup Time Compared to Cleanup Time Predicted in RAP: _____

O & M Problems: Yes No (if yes, provide explanation below)
- No. of scheduled O & M visits monthly
- Down-time 8.92 (days)
- No. of unscheduled O & M visits _____

Short Description of Effectiveness of Cleanup: Contaminants at all wells have reduced to below GCTLs.

Recommendations and Proposed Modifications: Discontinue PHOSter system; discontinue soil sampling but monitor wells every 6 months for rebound.

Appendix D

Groundwater Sampling Logs

GROUNDWATER SAMPLING LOG

TERRAINE

Project Information

Project No: 04-41001/2	Project Name: Building 9 - Cecil Field LTM/RAO	
Technician 1:	Technician 2: Larry Wolski	Weather: Cloudy
Sampling ID: 04-41001/2:CEF-9-2S:12/10/2003		
Notes:		

Well Information

Well ID: **CEF-9-2S**	Sampling Date: **12/10/2003**	
Well Diam (in): 0.0	Total Well Depth (ft): 0.00	Well Screen Interval (ft):
TOC Elevation (ft msl): 78.74	Northing: 0	Easting: 0
Static Depth to Water (ft): 7.88	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Peristaltic	Tubing Material: PPE		Pump Set at (ft): 10.00
pH Meter: Horiba U-22	Cond. Meter: Horiba U-22	DO Meter: Horiba U-22	Turb. Meter: Hach 2100P
Purge Start: 07:25	Purge End: 07:50	Total Volume Purged (gal): 1.20	

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
07:43	5.15	0.80	0.00	4.91	24.58	0.2	5.61	-197.0	422.00	brown	sulfuric
07:47	5.05	1.00	0.06	4.35	24.63	0.2	5.66	-208.0	457.00		
07:49	8.51	1.20	0.10	4.10	24.67	0.2	5.69	-209.0	479.00		

Sampling Data

Sample Information		Final Purge Readings		Field Test Kit Readings (mg/L)			
Sample Date:	12/10/2003	DO (mg/L):	3.93	DO:	0.00	Sulfate:	0.00
Sample Start Time:	07:50	Temp (*C):	24.68	CO2:	168.00	Sulfide:	0.00
Sample End Time:	08:15	SEC (uS/cm):	0.24	Alkalinity:	20.00		
Field Filtered:	☐	pH:	5.70	Ferrous Iron:	0.00		
Duplicate:	☐	ORP (mV):	-208.00	H2S:	0.10		
		Turb (NTU):	486.00	Manganese:	0.00		

Lab Analyses/Methods:	Technician Initials
"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"	

GROUNDWATER SAMPLING LOG

TERRAINE

Project Information

Project No: 04-41001/2	Project Name: Building 9 - Cecil Field LTM/RAO	
Technician 1:	Technician 2: Larry Wolski	Weather: Light rain
Sampling ID: 04-41001/2:CEF-9-3S:12/10/2003		
Notes:		

Well Information

Well ID: **CEF-9-3S**	Sampling Date: **12/10/2003**	
Well Diam (in): 0.0	Total Well Depth (ft): 0.00	Well Screen Interval (ft):
TOC Elevation (ft msl): 78.81	Northing: 0	Easting: 0
Static Depth to Water (ft): 8.02	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Peristaltic	Tubing Material: PPE		Pump Set at (ft): 11.00
pH Meter: Horiba U-22	Cond. Meter: Horiba U-22	DO Meter: Horiba U-22	Turb. Meter: Hach 2100P
Purge Start: 09:14	Purge End: 09:41	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
09:36	8.25	1.30	0.00	2.20	24.86	1.1	5.43	-248.0	86.00	brown	organic
09:38	8.21	1.50	0.00	1.86	24.98	1.1	5.45	-253.0	74.50		
09:41	8.25	1.70	0.10	1.72	25.05	1.1	5.40	-252.0	72.90		

Sampling Data

Sample Information		Final Purge Readings		Field Test Kit Readings (mg/L)			
Sample Date:	12/10/2003	DO (mg/L):	1.66	DO:	0.00	Sulfate:	0.00
Sample Start Time:	09:41	Temp (*C):	25.40	CO2:	43.00	Sulfide:	0.00
Sample End Time:	10:20	SEC (uS/cm):	1.12	Alkalinity:	15.00		
Field Filtered:	☐	pH:	5.36	Ferrous Iron:	0.00		
Duplicate:	☐	ORP (mV):	-250.00	H2S:	0.10		
		Turb (NTU):	71.20	Manganese:	0.00		

Lab Analyses/Methods:	Technician Initials
"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"	

GROUNDWATER SAMPLING LOG

TERRAINE

Project Information

Project No: 04-41001/2	Project Name: Building 9 - Cecil Field LTM/RAO	
Technician 1: Karen Baer	Technician 2:	Weather: Cloudy
Sampling ID: 04-41001/2:CEF-9-5S:12/10/2003		
Notes:		

Well Information

Well ID: **CEF-9-5S**	Sampling Date: **12/10/2003**	
Well Diam (in): 0.0	Total Well Depth (ft): 0.00	Well Screen Interval (ft):
TOC Elevation (ft msl): 78.93	Northing: 0	Easting: 0
Static Depth to Water (ft): 8.35	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Nomad Submersible	Tubing Material: PPE		Pump Set at (ft): 11.00
pH Meter: Horiba U-22	Cond. Meter: Horiba U-22	DO Meter: Horiba U-22	Turb. Meter: Hach 2100P
Purge Start: 07:39	Purge End: 08:06	Total Volume Purged (gal): 4.40	

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
07:39	8.50	0.50	0.00	1.73	23.81	370.0	6.26	212.0	782.00	brown	none
07:43	8.50	0.80	0.00	1.38	24.25	371.0	6.30	204.0	672.00		
07:45	8.47	0.90	0.00	1.36	24.22	373.0	6.30	202.0	554.00		
07:49	8.50	1.20	0.00	1.02	24.19	377.0	6.33	197.0	415.00		
07:52	8.50	1.40	0.00	0.63	24.60	379.0	6.33	189.0	238.00		
07:57	8.65	2.00	0.00	0.22	24.81	385.0	6.35	177.0	110.00		
08:06	8.65	2.60	0.00	0.05	24.89	387.0	6.32	174.0	81.10		
08:10	8.65	3.30	0.17	0.01	24.97	386.0	6.32	173.0	68.60		
08:15	8.65	3.60	0.07	0.04	24.73	385.0	6.29	171.0	59.10		
08:17	8.65	4.00	0.20	0.07	24.75	387.0	6.30	168.0	53.30		
08:20	8.55	4.40	0.13	0.00	24.70	386.0	6.30	167.0	49.70		

Sampling Data

Sample Information		Final Purge Readings		Field Test Kit Readings (mg/L)			
Sample Date:	12/10/2003	DO (mg/L):	0.01	DO:	0.00	Sulfate:	0.00
Sample Start Time:	08:20	Temp (*C):	24.65	CO2:	42.00	Sulfide:	0.00
Sample End Time:	08:51	SEC (uS/cm):	385.00	Alkalinity:	40.00		
Field Filtered:	☐	pH:	6.30	Ferrous Iron:	0.10		
Duplicate:	☐	ORP (mV):	166.00	H2S:	0.00		
		Turb (NTU):	47.90	Manganese:	0.00		

Lab Analyses/Methods:	Technician Initials
"VOCs, TRPH, PAHs, Nitrate/Nitrite, Orthophosphate"	

GROUNDWATER SAMPLING LOG

TERRAINE

Project Information

Project No: 04-41001/2	Project Name: Building 9 - Cecil Field LTM/RAO	
Technician 1: Karen Baer	Technician 2:	Weather: Cloudy
Sampling ID: 04-41001/2:CEF-9-7D:12/10/2003		
Notes:		

Well Information

Well ID: **CEF-9-7D**	Sampling Date: **12/10/2003**	
Well Diam (in): 0.0	Total Well Depth (ft): 0.00	Well Screen Interval (ft):
TOC Elevation (ft msl): 78.59	Northing: 0	Easting: 0
Static Depth to Water (ft): 7.80	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Nomad Submersible	Tubing Material: PPE		Pump Set at (ft): 24.00
pH Meter: Horiba U-22	Cond. Meter: Horiba U-22	DO Meter: Horiba U-22	Turb. Meter: Hach 2100P
Purge Start: 10:20	Purge End: 10:35	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
10:27	7.90	0.60	0.00	0.60	24.34	130.0	4.90	202.0	222.00	orange	none
10:30	7.90	0.70	0.00	0.12	24.24	133.0	4.85	214.0	460.00		
10:34	7.90	0.90	0.06	0.00	24.29	138.0	4.88	218.0	500.00		
10:35	7.90	1.00	0.10	0.00	24.39	143.0	4.89	219.0	541.00		

Sampling Data

Sample Information		Final Purge Readings		Field Test Kit Readings (mg/L)			
Sample Date:	12/10/2003	DO (mg/L):	0.00	DO:	0.00	Sulfate:	0.00
Sample Start Time:	10:38	Temp (*C):	24.42	CO2:	104.00	Sulfide:	0.00
Sample End Time:	10:55	SEC (uS/cm):	145.00	Alkalinity:	5.00		
Field Filtered:	☐	pH:	4.89	Ferrous Iron:	0.80		
Duplicate:	☐	ORP (mV):	220.00	H2S:	0.00		
		Turb (NTU):	552.00	Manganese:	0.00		

Lab Analyses/Methods:	Technician Initials
"BTEX/MTBE, TRPH, PAHs, Nitrate/Nitrite, Orthophosphate"	

GROUNDWATER SAMPLING LOG

TERRAINE

Project Information

Project No: 04-41001/2	Project Name: Building 9 - Cecil Field LTM/RAO	
Technician 1:	Technician 2: Larry Wolski	Weather: "Cloudy, Light rain"
Sampling ID: 04-41001/2:CEF-9-9S:12/10/2003		
Notes:		

Well Information

Well ID: **CEF-9-9S**	Sampling Date: **12/10/2003**	
Well Diam (in): 0.0	Total Well Depth (ft): 0.00	Well Screen Interval (ft):
TOC Elevation (ft msl): 78.89	Northing: 0	Easting: 0
Static Depth to Water (ft): 8.12	Well Capacity (gal): 0.00	

Purge Setup

Purge Method: Peristaltic	Tubing Material: PPE		Pump Set at (ft): 11.00
pH Meter: Horiba U-22	Cond. Meter: Horiba U-22	DO Meter: Horiba U-22	Turb. Meter: Hach 2100P
Purge Start: 10:50	Purge End: 11:02	Total Volume Purged (gal): 1.60	

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
10:57	8.31	1.20	0.00	1.50	25.51	0.7	4.58	-216.0	12.70	clear	none
10:59	8.31	1.40	0.20	1.09	25.50	0.7	4.53	-213.0	8.12		
11:02	8.31	1.60	0.06	0.81	25.48	0.7	4.50	-216.0	7.73		

Sampling Data

Sample Information		Final Purge Readings		Field Test Kit Readings (mg/L)			
Sample Date:	12/10/2003	DO (mg/L):	0.79	DO:	0.00	Sulfate:	0.00
Sample Start Time:	11:02	Temp (*C):	25.42	CO2:	62.00	Sulfide:	0.00
Sample End Time:	11:56	SEC (uS/cm):	0.79	Alkalinity:	10.00		
Field Filtered:	☐	pH:	4.49	Ferrous Iron:	0.20		
Duplicate:	☐	ORP (mV):	-218.00	H2S:	0.50		
		Turb (NTU):	5.99	Manganese:	0.00		

Lab Analyses/Methods:	Technician Initials
"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"	