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NAS CECIL FIELD, FL
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"FIRST QUARTER 2005 OPERATION AND MAINTENANCE STATUS REPORT FOR NUTRIENT INJECTION SYSTEM AT BUILDING 46 FORMER TANKS 46R, 46D, 46SUL AND 46UL NAS CECIL FIELD FL"

7/1/2005

TERRAINE INC ENVIRONMENTAL SERVICES

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# First Quarter 2005
# Operation and Maintenance
# Status Report
# January 1, 2005 to March 31, 2005

## NUTRIENT INJECTION SYSTEM

## BUILDING 46

## Former Tanks 46R, 46D, 46SUL and 46UL

## Naval Air Station Cecil Field
## Jacksonville, Florida

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

**Submitted to:**

**U.S. Naval Facilities**
**Engineering Command**
**Southern Division**

**Prepared by:**

TERRAINE
Environmental Consulting

**July 2005**

## SIGNATURE PAGE

We, the undersigned, do hereby affirm that the information contained in this report is accurate and correct to the best of our knowledge and belief.

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

| | |
|---|---|
| Karen L. Baer<br>Field Superintendent<br>TERRAINE, Inc. | Date |

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## ACRONYMS

| | |
|---|---|
| BGS | Below ground surface |
| BOA | Blanket Ordering Agreement |
| BTEX | Benzene, Toluene, Ethylbenzene, and Xylenes |
| ºC | degrees Celsius |
| CTO | Contract Task Order |
| DO | Dissolved Oxygen |
| EPA | U.S. Environmental Protection Agency |
| FAC | Florida Administrative Code |
| FDEP | Florida Department of Environmental Protection |
| FID | Flame Ionization Detector |
| FL PRO | Florida Petroleum Residual Organic |
| Ft. | Feet |
| Gal/min. | Gallons per minute |
| GCTL | Groundwater Cleanup Target Levels |
| IDW | Investigation Derived Waste |
| LNAPL | Light Non-Aqueous Phase Liquid |
| µS/cm | microsiemens per centimeter |
| µg/L | micrograms per liter |
| mg/kg | milligrams per kilogram |
| mg/L | milligrams per liter |
| mS/cm | millisiemens per centimeter |
| MTBE | Methyl-tert-butyl-ether |
| mV | millivolts |
| NAS | Naval Air Station |
| NAVFAC | Naval Facilities Engineering Command |
| N/A | Not Analyzed |
| ND | Non Detect |
| NGVD | National Geodetic Vertical Datum |
| NM | Not measured |
| NS | Not sampled |
| NTU | Nephelometric Turbidity Units |
| O&M | Operation and Maintenance |
| ORP | Oxidation Reduction Potential |
| OVA | Organic Vapor Analyzer |
| PAHs | Polynuclear Aromatic Hydrocarbons |
| SCTL | Soil Cleanup Target Level |
| SU | Standard Units |
| TERRAINE | Terraine, Inc. |
| TRPH | Total Recoverable Petroleum Hydrocarbons |

# EXECUTIVE SUMMARY

## SCOPE

The objective of the remedial action at the Building 46 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.

To treat the impacted soil and groundwater and thereby achieve state-mandated cleanup target levels, a Nutrient Injection System was installed at the site during the period of November 2000 to January 2001. The Nutrient Injection System commenced operation on January 18, 2001.

As a result of anaerobic conditions in the aquifer which were not conducive to biodegradation of the contaminants of concern, nutrient injection was discontinued in April, 2004. Nitrogen and phosphorus are no longer being injected into the subsurface; rather the compressors are currently used to inject air as an oxygen source into the subsurface to enhance the biodegradation of Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX), naphthalene, Methyl-Tert-Butyl-Ether (MTBE), and Total Recoverable Petroleum Hydrocarbons (TRPH).

The purpose of this quarterly Operations and Maintenance (O&M) Report is to provide a summary of activities performed at the site during the period of January 1, 2005 to March 31, 2005.

## CONCLUSIONS AND RECOMMENDATIONS

Soil samples collected from soil borings SB-1, SB-2, and SB-14 exhibited soil contaminant concentrations greater than the Soil Cleanup Target Levels (SCTL) during the first quarter 2005.

Five of the fourteen groundwater monitoring wells at the site exhibited groundwater contaminant concentrations greater than the Groundwater Cleanup Target Levels (GCTL) during the first quarter 2005. These five wells were: CEF-46-1S, -2S, -7I, -13I, and -26I.

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

- Continue injecting air into the subsurface to enhance biodegradation.
- Continue groundwater sampling from all fourteen of the monitoring wells on a quarterly basis.
- Continue soil sampling in the vicinity of boring locations SB-1, SB-2, and SB-14 on a quarterly basis.
- Optimize remediation system in order to more efficiently achieve clean up goals.

# OPERATIONS AND MAINTENANCE STATUS REPORT

## BUILDING 46

## NAVAL AIR STATION, CECIL FIELD

## JACKSONVILLE, FLORIDA

## MARCH 2005

| | |
|---|---|
| *PREPARED FOR:* | Mr. Gabe Magwood, SOUTHDIV |
| *PREPARED BY:* | *TERRAINE, Inc*. |
| *PERIOD OF PERFORMANCE:* | January 1, 2005 to March 31, 2005 |
| *FIELD TEAM:* | Karen Baer, Larry Wolski |
| *CONTRACT NUMBER:* | N62467-02-G-0352 |
| *TASK ORDER NUMBER:* | 0001 |
| *TASK ORDER MANAGER:* | James L. Young, P.G.; REM |
| *SUBMITTAL DATE:* | July 2005 |

## 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 O&M services at Building 46, Naval Air Station (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 First Quarter 2005 O&M Report is to provide a summary of activities performed at the site during the period of January 1, 2005 to March 31, 2005.

### 1.1 Purpose

The objective of the remedial action at the Building 46 site is to reduce concentrations of petroleum-related contaminants in the groundwater and unsaturated soils to target levels specified by Florida Administrative Code 62-777.

To treat the impacted soil and groundwater and thereby achieve state-mandated cleanup target levels, a Nutrient Injection System was installed at the site during the period of November 2000 to January 2001. The Nutrient Injection System commenced operation on January 18, 2001. A remediation system/technology description and a more detailed site background and history are provided in the First Quarter Operation and Maintenance Status Report submitted by TERRAINE in June 2004.

As a result of anaerobic conditions in the aquifer which were not conducive to biodegradation of the contaminants of concern, nutrient injection was discontinued in April, 2004. Nitrogen and phosphorus are no longer being injected into the subsurface; rather the compressors are currently used to inject air as an oxygen source into the subsurface to enhance the biodegradation of BTEX, naphthalene, MTBE, and TRPH.

## 1.2 Site Location and Description

A base map illustrating the site location at NAS Cecil Field is included in ***Figure 1*****,** ***Appendix A***. A site map is included in ***Figure 2, Appendix A*****.**

# 2.0 INVESTIGATION AND METHODOLOGY SUMMARY

## 2.1 System Performance Monitoring

The system was shut down for monthly system checks on January 18, February 21, and March 22, 2005. The system was also shut down for approximately one week for quarterly sampling activities. Otherwise, the system did not experience any downtime. Site Visit O&M Logs are provided in ***Appendix B***.

## 2.2 Summary of Maintenance

No maintenance was performed during the 1st Quarter 2005.

## 2.3 Water Level Measurements

Depth-to-water measurements were recorded on March 13, 2005 at the monitoring wells which were sampled (CEF-46-1S, -2S, -5I, -6D, -7I, -9I, -12I, -13I, -14D, -15I, -21I, -24D, -25I, and -26I). The top-of-casing elevation, depth-to-water measurements, and calculated water level elevations are provided in ***Table 1, Appendix C***. The locations of the wells are shown on ***Figure 2, Appendix A*****.**

On March 13, 2005, groundwater flow in the intermediate aquifer was southwest ***(Figure 3, Appendix A)*****.** Due to limited data points, groundwater flow in the shallow and deep aquifers could not be determined. In general, groundwater elevations have decreased over time based on data obtained to date.

Light Non-Aqueous Phase Liquids (LNAPL) were not noted in any monitoring well during the monitoring period.

## 2.4 Groundwater Sampling

### 2.4.1 Methodology

Groundwater sampling was conducted at Building 46 on March 13, 2005. Fourteen (14) wells (CEF-46-1S, -2S, -5I, -6D, -7I, -9I, -12I, -13I, -14D, -15I, -21I, -24D, -25I, and -26I) were purged and sampled using low-flow methodology. Purging of wells consisted of removing groundwater with a Nomad© submersible pump at a rate equal or less than the groundwater recharge rate until field parameters (temperature, pH, conductivity, turbidity, Dissolved Oxygen (DO) and Oxidation Reduction Potential (ORP) had stabilized. Water levels in the 2-inch wells were continuously monitored to maintain drawdown at less than 0.3 feet.

Field analytical tests using Hach© kits were performed during the 1st Quarter 2005 sampling event. Groundwater from each of the fourteen monitoring wells was tested for carbon dioxide, alkalinity, ferrous iron, hydrogen sulfide, and DO.

The results from the field parameters and field analytical tests are summarized on ***Table 2, Appendix C.*** Copies of the groundwater purging/sampling logs including all field parameter measurements are provided in ***Appendix D***.

### 2.4.2 Chemical Analysis Suite

Groundwater samples from the monitoring wells were laboratory analyzed for the following analyte suite:

- BTEX and MTBE by U.S. Environmental Protection Agency (EPA) Method 8260B.
- Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270C.
- TRPH by Florida Petroleum Residual Organic (FL-PRO).
- Nitrate, Nitrite, and Orthophosphate by EPA series 300.0.

## 2.5 Soil Sampling

### 2.5.1 Methodology

Quarterly soil sampling was conducted on March 13, 2005 during the monitoring period. Three soil borings, labeled SB-1, SB-2, and SB-14, were installed using a bucket auger. The locations of these soil borings is shown in ***Figure 2, Appendix A***. Due to equipment malfunction, the soil was not screened using an Organic Vapor Analyzer (OVA) equipped with a Flame Ionization Detector (FID); however, samples were collected for laboratory analysis on March 13, 2005. Soil boring SB-1 was collected at 10 feet below ground surface (bgs). Soil borings SB-2 and SB-14 were collected at 12 feet bgs. The water table was encountered from 10 to 12 feet below land surface.

### 2.5.2 Chemical Analysis Suite

Soil collected from the soil borings were laboratory analyzed for the following analyte suite:

- BTEX and MTBE by EPA Method 8260B
- PAHs by EPA Method 8270C
- TRPH by FL-PRO

## 2.6 Investigative Derived Waste

Purge water collected from the monitoring wells was collected and containerized. All investigative derived waste (IDW) is stored at the Day Tank 1 remediation compound site in 55-gallon drums and will be transported to Industrial Water Services in Jacksonville, Florida by Environmental Remediation Services within 90 days of the March 13, 2005 sampling event.

# 3.0 SUMMARY OF SAMPLING AND LABORATORY ANALYTICAL RESULTS

## 3.1 Data Validation

A review of quality control data was performed. This review evaluated data completeness, holding time compliance, laboratory blank contamination, and detection limits. The validation process results in qualifiers that are shown with the analyte concentrations in ***Tables 3 and 4, Appendix C***.

## 3.2 Groundwater Monitoring

The baseline-sampling event, conducted December 20, 2000, revealed that samples from seven (7) of the 14 wells had contaminant concentrations above the GCTL per Chapter 62-777 FAC. Groundwater was not analyzed for MTBE in December, 2000; groundwater was first analyzed for MTBE in January 2001. For the First Quarter of 2005, laboratory reports indicated groundwater sampled from five (5) wells (CEF-46-1S, -2S -7I, -13I, and -26I) had contaminant concentrations exceeding the GCTL. Groundwater analytical results are summarized in ***Table 3, Appendix C***.

### 3.2.1 BTEX/MTBE

- Groundwater sample results from all monitoring wells with historically high concentrations of total BTEX (CEF-46-1S, -2S, -5I, -7I, and -26I) indicated decreased concentrations of total BTEX in comparison to the baseline sampling event.
- Total BTEX concentrations have increased in groundwater sampled from monitoring well CEF-46-1S, decreased in groundwater sampled from monitoring wells -2S, -7I, and -26I, and remained nondetect or demonstrated negligible fluctuations in the remaining ten (10) monitoring wells in comparison to the December 2004 sampling event.
- Groundwater sample results indicated MTBE concentrations have increased in groundwater sampled from monitoring wells CEF-46-1S, -2S, and -9I, decreased in groundwater sampled from monitoring wells -7I, -12I, and -13I, and remained nondetect or demonstrated minor fluctuations in groundwater sampled from the remaining eight (8) monitoring wells in comparison to the January 25, 2001 sampling event.
- MTBE concentrations have increased in groundwater sampled from monitoring well CEF-46-1S, decreased in groundwater sampled from monitoring wells -2S, -7I, -9I, -12I, -13I, and 26I, and remained nondetect or demonstrated minor fluctuations in the remaining seven (7) monitoring wells in comparison to the December 2004 sampling event.

### 3.2.2 PAHs

- Groundwater sample results indicated that naphthalene concentrations have decreased in monitoring wells CEF-46-1S, -2S, -7I, and -13I, and remained nondetect or demonstrated minor fluctuations in the remaining ten (10) monitoring wells in comparison to the baseline sampling event.
- Naphthalene concentrations have increased in groundwater sampled from CEF-46-2S, decreased in groundwater sampled from monitoring well CEF-46-1S, and remained stable or nondetect in groundwater sampled from the remaining 12 wells in comparison to the December 2004 sampling event.

### 3.2.3 TRPH

- Groundwater sample results indicated that TRPH concentrations have decreased in groundwater sampled from monitoring wells CEF-46-2S and -7I, and remained stable at low concentrations or non detect in the remaining 12 wells in comparison to the baseline sampling event.

- TRPH concentrations have decreased in groundwater sampled from monitoring wells CEF-46-1S, -2S, -7I, and -26I, in comparison to the December 2004 sampling event. TRPH concentrations in groundwater sampled from the remaining ten (10) monitoring wells were nondetect in March, 2005.

3.2.4 Nitrate/Nitrite/Orthophosphate

- Nitrate was not detected in groundwater sampled during the March 13, 2005 sampling event.

- Nitrite was detected in groundwater sampled from five (5) monitoring wells (CEF-46-1S, -2S, -5I, -6D, and -13I. Nitrite was detected at a concentration between the laboratory method detection limit and the method reporting limit in groundwater sampled from monitoring well CEF-46-12I. Nitrite concentrations in groundwater sampled from the remaining nine (9) wells were nondetect.

- Orthophosphate was detected in groundwater from four (4) wells (CEF-46-5I, -6D, -14D, and -24D). Orthophosphate was detected in groundwater sampled from the remaining ten (10) wells; however, the analyte was detected in both the sample and the associated method blank.

### 3.3 Groundwater Field Test Kits / Field Parameter Readings

During the March 2005 sampling event the following was observed:

- pH values ranged from 2.44 to 7.68 Standard Units (S.U.) In 10 of the 14 wells, pH values were too low for optimal microbial activity. The preferred range is 6 to 8 S.U.

- Dissolved oxygen concentrations ranged from 0 mg/L to 2.07 mg/L. In general, DO concentrations indicated anaerobic conditions.

- ORP levels ranged from -347.60 mV to 494.30 mV in groundwater sampled. In the shallow aquifer ORP levels were in the negative range. ORP levels in the intermediate and deep zones were variable. No distinct pattern was observed in the comparison of contaminant concentrations and ORP levels.

- Carbon dioxide values ranged from 109 mg/L to 579 mg/L. Carbon dioxide levels could not be measured in four (4) of the wells due to interference.

- Alkalinity concentrations were highest in the shallow wells (CEF-46-1S, 275 mg/L; -2S, 60 mg/L) during the sampling event conducted on March 13, 2005.

- Ferrous iron concentrations ranged from nondetect to 12.0 mg/L in groundwater from monitoring wells sampled. No pattern was observed in ferrous iron levels in comparison to contaminant concentrations.

- Sulfide concentrations ranged from nondetect to 5.0 mg/L. No pattern was observed in sulfide levels in comparison to contaminant concentrations.

## 3.4 Soil Monitoring

### 3.4.1 BTEX/MTBE

Soil collected from soil borings SB-1, SB-2, and SB-14 indicated xylene concentrations greater than the SCTL. Ethyl-benzene concentrations exceeded the SCTL in soil sampled from soil boring SB-1. Toulene concentrations exceeded the SCTL in soil sampled from soil borings SB-2 and SB-14.

### 3.4.2 PAHs

No PAHs were detected at concentrations greater than the SCTL in soil samples collected on March 13, 2005.

### 3.4.3 TRPH

Soil collected from soil borings SB-1, SB-2, and SB-14 on March 13, 2005 did not indicate TRPH concentrations greater than the SCTL.

The locations of the soil borings are shown on ***Figure 2, Appendix A***. Soil analytical results are summarized on ***Table 5, Appendix C***.

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

Soil samples collected from soil borings SB-1, SB-2, and SB-14 exhibited soil contaminant concentrations greater than the SCTL during the first quarter 2005.

Five of the fourteen groundwater monitoring wells at the site exhibited groundwater contaminant concentrations greater than the GCTL during the first quarter 2005. These five wells were: CEF-46-1S, -2S, -7I, -13I, and -26I.

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

- Continue injecting air into the subsurface to enhance biodegradation.
- Continue groundwater sampling from all fourteen of the monitoring wells on a quarterly basis.
- Continue soil sampling in the vicinity of boring locations SB-1, SB-2, and SB-14 on a quarterly basis.
- Optimize remediation system in order to more efficiently achieve clean up goals.

## 5.0 REFERENCES

Florida Department of Environmental Protection, 1999.
Development of Soil Cleanup Target Levels (SCTLs) for Chapter 62-777, F.A.C. CEHT/TR-99-01, May.

Terraine, Inc. First Quarter, 2004 Operations and Maintenance Status Report, Nutrient Injection System, Building 46, Naval Air Station, Cecil Field, Jacksonville, Florida.

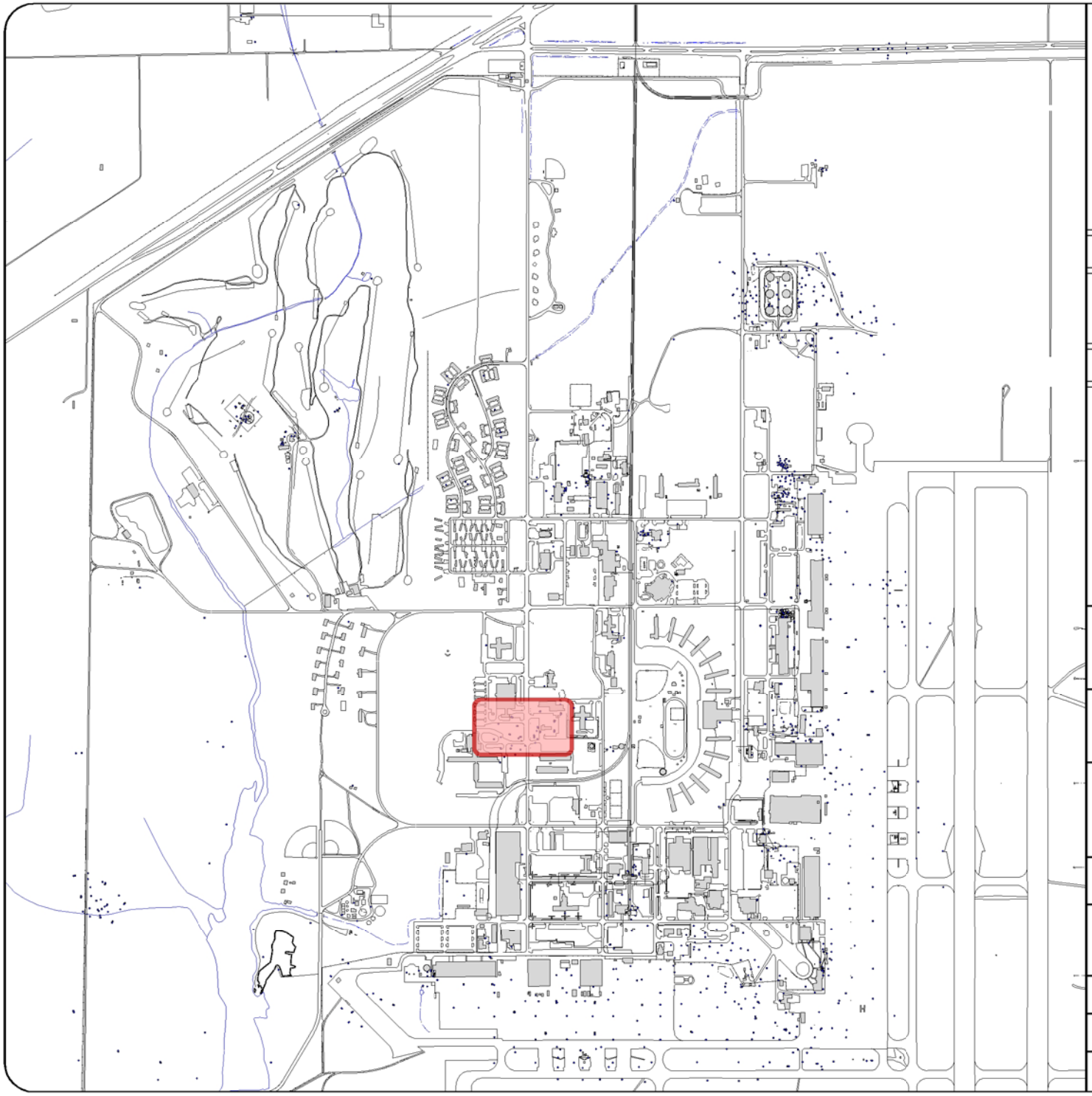
# APPENDIX A

# FIGURES


**Figure 1** *Site Location Map, Building 46*

**Figure 2** *Site Map, Building 46*

**Figure 3** *Groundwater Elevation Map, Intermediate Zone*



N
W E
S

## NOTES

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

## LEGEND

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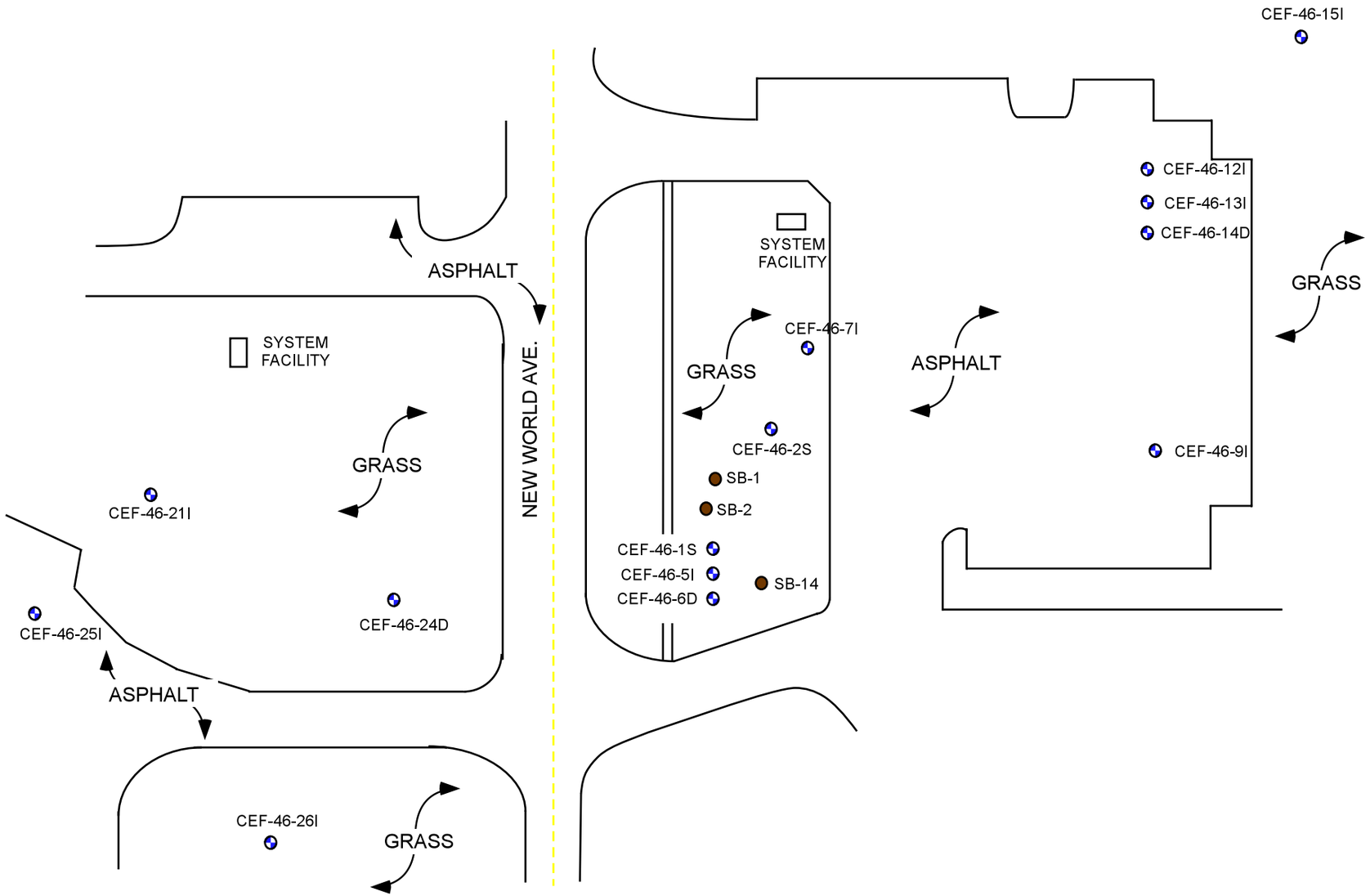
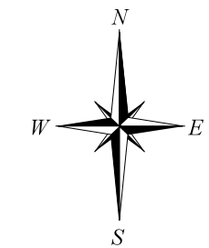
**NAS CECIL FIELD**
**FIGURE 1: SITE LOCATION MAP**
**BUILDING 46**

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

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




## NOTES

## LEGEND

- MONITORING WELL
- SOIL BORING

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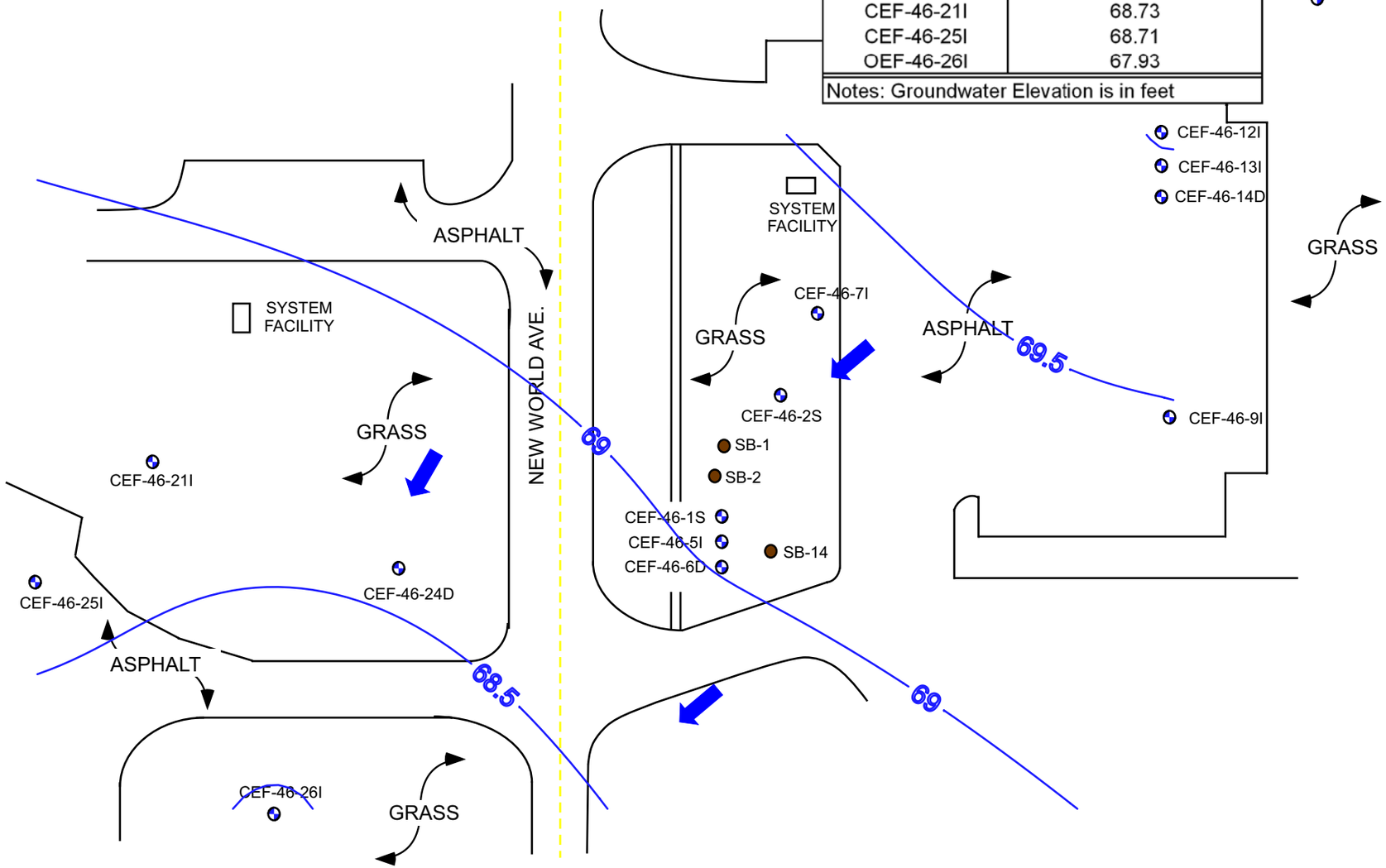
**NAS CECIL FIELD**
**FIGURE 2: SITE MAP**
**BUILDING 46**

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

| | |
|---|---|
| DWN BY: JLY | CHK BY: KBG |
| SCALE: APPROXIMATE 1" = 30' | APR BY: LFW |
| DATE: 3/22/05 | FILE: 04-41001 |

| Well ID | Groundwater Elevation |
|---|---|
| CEF-46-5I | 69.07 |
| CEF-46-7I | 69.31 |
| CEF-46-9I | 69.47 |
| CEF-46-12I | 70.03 |
| CEF-46-13I | 69.96 |
| CEF-46-15I | 70.44 |
| CEF-46-21I | 68.73 |
| CEF-46-25I | 68.71 |
| OEF-46-26I | 67.93 |

Notes: Groundwater Elevation is in feet




N
W E
S

## NOTES

## LEGEND

- MONITORING WELL
- SOIL BORING
- INDICATES GROUNDWATER FLOW DIRECTION

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**NAS CECIL FIELD**
**FIGURE 3: GROUNDWATER ELEVATION MAP, INTERMEDIATE ZONE**
**BUILDING 46**

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

| | |
|---|---|
| DWN BY: JLY | CHK BY: KBG |
| SCALE: APPROXIMATE 1" = 30' | APR BY: LFW |
| DATE: 3/22/05 | FILE: 04-41001 |

# APPENDIX B

*Site Visit O&M Logs*

| | | | |
|---|---|---|---|
| **pHA-ER OPERATION and MAINTENANCE LOG** | | **Date:** | 1/18/2005 |
| **Site Name: Cecil Field Site 46 East** | | **Arrival Time:** | 12:00 PM |
| **Personnel on Site:** | L E Priester | **Departure Time:** | 3:00 PM |

| **Exterior Parameters** | **Arrival** | | **Departure** | | **Comments** |
|---|---|---|---|---|---|
| Power Disconnect (On/Off) | On | | On | | |
| Power Hour Meter (Hours) | | | 30,092.8 | | |
| Pressure Hour Meter (Hours) | | | 30,009.5 | | |
| **Air Supply** | | | | | |
| Leg 1 (PSIG) | | 50 | 50 | | |
| Leg 2 (PSIG) | | 50 | 50 | | |
| **Nitrous Oxide** | | | | | |
| Cylinder 1 (psig, primary/secondary) | None | | None | | |
| Cylinder 2 (psig, primary/secondary) | None | | None | | Nitrous off per Navy |
| Cylinder 3 (psig, primary/secondary) | None | | None | | |
| Cylinder 4 (psig, primary/secondary) | None | | None | | |
| Cylinder 5 (psig, primary/secondary) | None | | None | | |
| Flow Meter (CFH) | | 0 | | 0 | |
| **Adjunct Gas** | | | | | |
| Cylinder 1 (psig, primary/secondary) | NA | | NA | | |
| Flow Meter | | | | | |
| **TEP** | | | | | |
| Gallons (US, Liq.) | 0.75 | | 0.75 | | Turned Off per Navy |
| Air Flow (CFM) | 0 | | 0 | | |
| **Air Flow** | | | | | |
| Inj. Well I4 (Valve % Open/CFM) | 0 | | 0 | | No change to air flow distribution to leg 1 . |
| Inj. Well I5 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D9 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D10 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D11 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I2 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I3 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well I6 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well I7 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well I8 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I1 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D1 (Valve % Open/CFM) | 100 | | 100 | | No change to air flow distribution to leg 2 . |
| Inj. Well D2 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D3 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D4 (Valve % Open/CFM) | 50 | | 50 | | |
| Inj. Well D5 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D6 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well D7 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well D8 (Valve % Open/CFM) | 0 | | 0 | | |

| **Maintenance Information** | **Maintenance Performed** |
|---|---|
| Nitrous System Cylinders/Regulators | OK-Off No N20 |
| Nitrous Oxide Solenoid Valve | OK-Off No N20 |
| TEP System | OK-Off |
| AC Gast M853 Mod 5K49ZN4223 | |
| #1 | OK |
| #2 | Turned off |
| #3 | Turned off |
| #4 | Turned off |
| | |
| | |
| Air Legs/ Solenoid Valves | OK |
| Ventilation Fans | OK. Roof fan OK. Verified thermostat function. |
| Primary Electrical System | OK |
| PLC-Telemetry | Phone line not functioning. |
| Relay Assembly | OK |
| Pressure Switch | OK |
| Flow Switch | OK |

**Additional Notes:**

Flow continues to be directed to plume hot spot.
Checked filters--OK
Removed all Nitrous Oxide Cylinders per Navy (Magwood) in March 2004

One three phase 6LDH is in trailer for spare.

| | | | |
|---|---|---|---|
| **pHA-ER OPERATION and MAINTENANCE LOG** | | **Date:** | 1/18/2005 |
| **Site Name: Cecil Field Site 46 West** | | **Arrival Time:** | 12:00 AM |
| **Personnel on Site:** | L E Priester | **Departure Time:** | 3:00 PM |

| **Exterior Parameters** | **Arrival** | | **Departure** | | **Comments** |
|---|---|---|---|---|---|
| Power Disconnect (On/Off) | On | | On | | |
| Power Hour Meter (Hours) | | | 9,278.4 | | Meter is not functioning correctly. |
| Pressure Hour Meter (Hours) | | | 30,154.2 | | |
| **Air Supply** | | | | | |
| Leg 1 (PSIG) | 50 | | 50 | | |
| Leg 2 (PSIG) | 50 | | 50 | | |
| **Nitrous Oxide** | | | | | |
| Cylinder 1 (psig, primary/secondary) | None | | None | | AG Jax No Nitrous Oxide per Navy |
| Cylinder 2 (psig, primary/secondary) | None | | None | | AG Jax |
| Cylinder 3 (psig, primary/secondary) | None | | None | | AG Jax |
| Flow Meter (CFH) | 0 | | 0 | | |
| **Adjunct Gas** | | | | | |
| Cylinder 1 (psig, primary/secondary) | NA | | NA | | |
| Flow Meter | | | | | |
| **TEP** | | | | | |
| Gallons (US, Liq.) | 0.55 | | 0.55 | | TEP turned off per Navy |
| Air Flow (CFM) | 0 | | 0 | | |
| **Air Flow** | | | | | |
| Inj. Well I1 (Valve % Open/CFM) | 0 | | 0 | | No change to flow rates. |
| Inj. Well I2 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well I3 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I4 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well I5 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well I8 (Valve % Open/CFM) | 25 | | 25 | | No change to flow rates. |
| Inj. Well I6 (Valve % Open/CFM) | 25 | | 25 | | Set up for maintenance flow. |
| Inj. Well I7 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D1 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D2 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D3 (Valve % Open/CFM) | 0 | | 0 | | |

| **Maintenance Information** | **Maintenance Performed** |
|---|---|
| Nitrous System Cylinders/Regulators | OK. No N2O |
| Nitrous Oxide Solenoid Valve | OK. No N2O |
| TEP System | OK -Off |
| AC Gast M853 Mod 5K49ZN4223 | |
| #1 SN 0103706074 | OK Checked inlet filters. |
| #2 SN 0103706070 | Turned off. |
| #3 SN 0103706076 | Removed |
| #4 SN0103706073 | Turned off. |
| Air Legs/ Solenoid Valves | OK. |
| Ventilation Fan | OK. |
| Primary Electrical System | OK |
| PLC-Telemetry | Phone line disconnected |
| Relay Assembly | OK |
| Pressure Switch | OK |
| Flow Switch | OK |
| **Additional Notes:** | Flows continue to be directed towards maintenance of treatment area.<br>Removed all Nitous Oxide cylinders per Navy (Magwood) in March 2004<br><br>Left 3 phase LDH in trailer for spare. 1/19/2005 |

| pHA-ER OPERATION and MAINTENANCE LOG | | Date: | 2/21/2005 |
|---|---|---|---|
| Site Name: Cecil Field Site 46 East | | Arrival Time: | 2:00 PM |
| Personnel on Site: | L E Priester | Departure Time: | 4:00 PM |

| Exterior Parameters | Arrival | | Departure | | Comments |
|---|---|---|---|---|---|
| Power Disconnect (On/Off) | On | | On | | |
| Power Hour Meter (Hours) | | | 30,911.4 | | |
| Pressure Hour Meter (Hours) | | | 30,827.9 | | |
| **Air Supply** | | | | | |
| Leg 1 (PSIG) | | 50 | 50 | | |
| Leg 2 (PSIG) | | 50 | 50 | | |
| **Nitrous Oxide** | | | | | |
| Cylinder 1 (psig, primary/secondary) | None | | None | | |
| Cylinder 2 (psig, primary/secondary) | None | | None | | Nitrous off per Navy |
| Cylinder 3 (psig, primary/secondary) | None | | None | | |
| Cylinder 4 (psig, primary/secondary) | None | | None | | |
| Cylinder 5 (psig, primary/secondary) | None | | None | | |
| Flow Meter (CFH) | | 0 | | 0 | |
| **Adjunct Gas** | | | | | |
| Cylinder 1 (psig, primary/secondary) | NA | | NA | | |
| Flow Meter | | | | | |
| **TEP** | | | | | |
| Gallons (US, Liq.) | 0.75 | | 0.75 | | Turned Off per Navy |
| Air Flow (CFM) | 0 | | 0 | | |
| **Air Flow** | | | | | |
| Inj. Well I4 (Valve % Open/CFM) | 0 | | 0 | | No change to air flow distribution to leg 1 . |
| Inj. Well I5 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D9 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D10 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D11 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I2 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I3 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well I6 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well I7 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well I8 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I1 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D1 (Valve % Open/CFM) | 100 | | 100 | | No change to air flow distribution to leg 2 . |
| Inj. Well D2 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D3 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D4 (Valve % Open/CFM) | 50 | | 50 | | |
| Inj. Well D5 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D6 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well D7 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well D8 (Valve % Open/CFM) | 0 | | 0 | | |

| Maintenance Information | Maintenance Performed |
|---|---|
| Nitrous System Cylinders/Regulators | OK-Off No N20 |
| Nitrous Oxide Solenoid Valve | OK-Off No N20 |
| TEP System | OK-Off |
| AC Gast M853 Mod 5K49ZN4223 | |
| #1 | OK |
| #2 | Turned off |
| #3 | Turned off |
| #4 | Turned off |
| | |
| | |
| Air Legs/ Solenoid Valves | OK |
| Ventilation Fans | OK. Roof fan OK. Verified thermostat function. |
| Primary Electrical System | OK |
| PLC-Telemetry | Phone line not functioning. |
| Relay Assembly | OK |
| Pressure Switch | OK |
| Flow Switch | OK |

**Additional Notes:**

Flow continues to be directed to plume hot spot.
Checked filters--OK
Removed all Nitrous Oxide Cylinders per Navy (Magwood) in March 2004

One three phase 6LDH is in trailer for spare.

| | | | |
|---|---|---|---|
| **pHA-ER OPERATION and MAINTENANCE LOG** | | **Date:** | 2/21/2005 |
| **Site Name: Cecil Field Site 46 West** | | **Arrival Time:** | 2:00 PM |
| **Personnel on Site:** | L E Priester | **Departure Time:** | 4:00 PM |

| **Exterior Parameters** | **Arrival** | | **Departure** | | **Comments** |
|---|---|---|---|---|---|
| Power Disconnect (On/Off) | On | | On | | |
| Power Hour Meter (Hours) | | | 9,278.4 | | Meter is not functioning correctly. |
| Pressure Hour Meter (Hours) | | | 30,972.6 | | |
| **Air Supply** | | | | | |
| Leg 1 (PSIG) | 50 | | 50 | | |
| Leg 2 (PSIG) | 50 | | 50 | | |
| **Nitrous Oxide** | | | | | |
| Cylinder 1 (psig, primary/secondary) | None | | None | | AG Jax No Nitrous Oxide per Navy |
| Cylinder 2 (psig, primary/secondary) | None | | None | | AG Jax |
| Cylinder 3 (psig, primary/secondary) | None | | None | | AG Jax |
| Flow Meter (CFH) | 0 | | 0 | | |
| **Adjunct Gas** | | | | | |
| Cylinder 1 (psig, primary/secondary) | NA | | NA | | |
| Flow Meter | | | | | |
| **TEP** | | | | | |
| Gallons (US, Liq.) | 0.55 | | 0.55 | | TEP turned off per Navy |
| Air Flow (CFM) | 0 | | 0 | | |
| **Air Flow** | | | | | |
| Inj. Well I1 (Valve % Open/CFM) | 0 | | 0 | | No change to flow rates. |
| Inj. Well I2 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well I3 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I4 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well I5 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well I8 (Valve % Open/CFM) | 25 | | 25 | | No change to flow rates. |
| Inj. Well I6 (Valve % Open/CFM) | 25 | | 25 | | Set up for maintenance flow. |
| Inj. Well I7 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D1 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D2 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D3 (Valve % Open/CFM) | 0 | | 0 | | |

| **Maintenance Information** | **Maintenance Performed** |
|---|---|
| Nitrous System Cylinders/Regulators | OK. No N2O |
| Nitrous Oxide Solenoid Valve | OK. No N2O |
| TEP System | OK -Off |
| AC Gast M853 Mod 5K49ZN4223 | |
| #1 SN 0103706074 | OK Checked inlet filters. |
| #2 SN 0103706070 | Turned off. |
| #3 SN 0103706076 | Removed |
| #4 SN0103706073 | Turned off. |
| Air Legs/ Solenoid Valves | OK. |
| Ventilation Fan | OK. |
| Primary Electrical System | OK |
| PLC-Telemetry | Phone line disconnected |
| Relay Assembly | OK |
| Pressure Switch | OK |
| Flow Switch | OK |
| **Additional Notes:** | Flows continue to be directed towards maintenance of treatment area.<br>Removed all Nitous Oxide cylinders per Navy (Magwood) in March 2004<br><br>Left 3 phase LDH in trailer for spare. 1/19/2005 |

| | | | |
|---|---|---|---|
| **pHA-ER OPERATION and MAINTENANCE LOG** | | **Date:** | 3/22/2005 |
| **Site Name: Cecil Field Site 46 East** | | **Arrival Time:** | 12:15 PM |
| **Personnel on Site:** | L E Priester | **Departure Time:** | 4:00 PM |

| **Exterior Parameters** | **Arrival** | | **Departure** | | **Comments** |
|---|---|---|---|---|---|
| Power Disconnect (On/Off) | On | | On | | |
| Power Hour Meter (Hours) | | | 31,170.6 | | |
| Pressure Hour Meter (Hours) | | | 31,087.2 | | |
| **Air Supply** | | | | | |
| Leg 1 (PSIG) | | 50 | 50 | | |
| Leg 2 (PSIG) | | 50 | 50 | | |
| **Nitrous Oxide** | | | | | |
| Cylinder 1 (psig, primary/secondary) | None | | None | | |
| Cylinder 2 (psig, primary/secondary) | None | | None | | Nitrous off per Navy |
| Cylinder 3 (psig, primary/secondary) | None | | None | | |
| Cylinder 4 (psig, primary/secondary) | None | | None | | |
| Cylinder 5 (psig, primary/secondary) | None | | None | | |
| Flow Meter (CFH) | | 0 | | 0 | |
| **Adjunct Gas** | | | | | |
| Cylinder 1 (psig, primary/secondary) | NA | | NA | | |
| Flow Meter | | | | | |
| **TEP** | | | | | |
| Gallons (US, Liq.) | 0.75 | | 0.75 | | Turned Off per Navy |
| Air Flow (CFM) | 0 | | 0 | | |
| **Air Flow** | | | | | |
| Inj. Well I4 (Valve % Open/CFM) | 0 | | 0 | | No change to air flow distribution to leg 1 . |
| Inj. Well I5 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D9 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D10 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D11 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I2 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I3 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well I6 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well I7 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well I8 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I1 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D1 (Valve % Open/CFM) | 100 | | 100 | | No change to air flow distribution to leg 2 . |
| Inj. Well D2 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D3 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D4 (Valve % Open/CFM) | 50 | | 50 | | |
| Inj. Well D5 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D6 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well D7 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well D8 (Valve % Open/CFM) | 0 | | 0 | | |

| **Maintenance Information** | **Maintenance Performed** |
|---|---|
| Nitrous System Cylinders/Regulators | OK-Off No N20 |
| Nitrous Oxide Solenoid Valve | OK-Off No N20 |
| TEP System | OK-Off |
| AC Gast M853 Mod 5K49ZN4223 | |
| #1 | OK |
| #2 | Turned off |
| #3 | Turned off |
| #4 | Turned off |
| | |
| | |
| Air Legs/ Solenoid Valves | OK |
| Ventilation Fans | OK. Roof fan OK. Verified thermostat function. |
| Primary Electrical System | OK |
| PLC-Telemetry | Phone line not functioning. |
| Relay Assembly | OK |
| Pressure Switch | OK |
| Flow Switch | OK |

**Additional Notes:**

Flow continues to be directed to plume hot spot.
Checked filters—OK
Removed all Nitrous Oxide Cylinders per Navy (Magwood) in March 2004

One three phase 6LDH is in trailer for spare.

| | | | |
|---|---|---|---|
| **pHA-ER OPERATION and MAINTENANCE LOG** | | **Date:** | 3/22/2005 |
| **Site Name: Cecil Field Site 46 West** | | **Arrival Time:** | 12:15 PM |
| **Personnel on Site:** | L E Priester | **Departure Time:** | 4:00 PM |

| **Exterior Parameters** | **Arrival** | | **Departure** | | **Comments** |
|---|---|---|---|---|---|
| Power Disconnect (On/Off) | On | | On | | |
| Power Hour Meter (Hours) | | | 9,313.6 | | Meter is not functioning correctly. |
| Pressure Hour Meter (Hours) | | | 31,231.8 | | |
| **Air Supply** | | | | | |
| Leg 1 (PSIG) | 50 | | 50 | | |
| Leg 2 (PSIG) | 50 | | 50 | | |
| **Nitrous Oxide** | | | | | |
| Cylinder 1 (psig, primary/secondary) | None | | None | | AG Jax No Nitrous Oxide per Navy |
| Cylinder 2 (psig, primary/secondary) | None | | None | | AG Jax |
| Cylinder 3 (psig, primary/secondary) | None | | None | | AG Jax |
| Flow Meter (CFH) | 0 | | 0 | | |
| **Adjunct Gas** | | | | | |
| Cylinder 1 (psig, primary/secondary) | NA | | NA | | |
| Flow Meter | | | | | |
| **TEP** | | | | | |
| Gallons (US, Liq.) | 0.55 | | 0.55 | | TEP turned off per Navy |
| Air Flow (CFM) | 0 | | 0 | | |
| **Air Flow** | | | | | |
| Inj. Well I1 (Valve % Open/CFM) | 0 | | 0 | | No change to flow rates. |
| Inj. Well I2 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well I3 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well I4 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well I5 (Valve % Open/CFM) | 25 | | 25 | | |
| Inj. Well I8 (Valve % Open/CFM) | 25 | | 25 | | No change to flow rates. |
| Inj. Well I6 (Valve % Open/CFM) | 25 | | 25 | | Set up for maintenance flow. |
| Inj. Well I7 (Valve % Open/CFM) | 0 | | 0 | | |
| Inj. Well D1 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D2 (Valve % Open/CFM) | 100 | | 100 | | |
| Inj. Well D3 (Valve % Open/CFM) | 0 | | 0 | | |

| **Maintenance Information** | **Maintenance Performed** |
|---|---|
| Nitrous System Cylinders/Regulators | OK. No N2O |
| Nitrous Oxide Solenoid Valve | OK. No N2O |
| TEP System | OK -Off |
| AC Gast M853 Mod 5K49ZN4223 | |
| #1 SN 0103706074 | OK Checked inlet filters. |
| #2 SN 0103706070 | Turned off. |
| #3 SN 0103706076 | Removed |
| #4 SN0103706073 | Turned off. |
| Air Legs/ Solenoid Valves | OK. |
| Ventilation Fan | OK. |
| Primary Electrical System | OK |
| PLC-Telemetry | Phone line disconnected |
| Relay Assembly | OK |
| Pressure Switch | OK |
| Flow Switch | OK |
| **Additional Notes:** | Flows continue to be directed towards maintenance of treatment area.<br>Removed all Nitous Oxide cylinders per Navy (Magwood) in March 2004 |

# APPENDIX C

# TABLES


**Table 1** *Groundwater Elevation and Free Product Data*

**Table 2** *Monitoring Well Field Measurements*

**Table 3** *Groundwater Analytical Results*

**Table 4** *Soil Analytical Results*

**TABLE 1**
**GROUNDWATER ELEVATION & FREE PRODUCT DATA**

BUILDING 46 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-46-1S** | 14.24 | 12/21/00 | 79.08 | No Product | 4.94 | 74.14 |
| | | 03/14/03 | | No Product | 2.55 | 76.53 |
| | | 06/09/03 | | No Product | 2.40 | 76.68 |
| | | 09/03/03 | | No Product | 3.42 | 75.66 |
| | | 12/11/03 | | No Product | 5.20 | 73.88 |
| | | 03/18/04 | | No Product | 5.92 | 73.16 |
| | | 06/08/04 | | No Product | 7.80 | 71.28 |
| | | 09/21/04 | | No Product | 3.42 | 75.66 |
| | | 12/01/04 | | No Product | 7.06 | 72.02 |
| | | 03/13/05 | | No Product | 9.00 | 70.08 |
| **CEF-46-2S** | 13.88 | 12/21/00 | 79.08 | No Product | 5.02 | 74.06 |
| | | 03/14/03 | | No Product | 2.55 | 76.53 |
| | | 06/05/03 | | No Product | 3.75 | 75.33 |
| | | 09/03/03 | | No Product | 2.70 | 76.38 |
| | | 12/11/03 | | No Product | 5.04 | 74.04 |
| | | 03/18/04 | | No Product | 6.02 | 73.06 |
| | | 06/08/04 | | No Product | 7.80 | 71.28 |
| | | 09/21/04 | | No Product | 3.75 | 75.33 |
| | | 12/01/04 | | No Product | 7.02 | 72.06 |
| | | 03/13/05 | | No Product | 8.86 | 70.22 |
| **CEF-46-5I** | 49.65 | 12/21/00 | 79.18 | No Product | 5.81 | 73.37 |
| | | 03/14/03 | | No Product | 3.40 | 75.78 |
| | | 06/05/03 | | No Product | 4.90 | 74.28 |
| | | 09/03/03 | | No Product | 6.25 | 72.93 |
| | | 12/11/03 | | No Product | 6.64 | 72.54 |
| | | 03/18/04 | | No Product | 7.89 | 71.29 |
| | | 06/08/04 | | No Product | 9.40 | 69.78 |
| | | 09/21/04 | | No Product | 5.71 | 73.47 |
| | | 12/01/04 | | No Product | 9.23 | 69.95 |
| | | 03/13/05 | | No Product | 10.11 | 69.07 |
| **CEF-46-6D** | 79.82 | 12/21/00 | 79.17 | No Product | 7.40 | 71.77 |
| | | 03/14/03 | | No Product | 6.50 | 72.67 |
| | | 06/09/03 | | No Product | 8.00 | 71.17 |
| | | 09/03/03 | | No Product | 5.82 | 73.35 |
| | | 12/10/03 | | No Product | 7.30 | 71.87 |
| | | 03/16/04 | | No Product | 10.60 | 68.57 |
| | | 06/08/04 | | No Product | 11.69 | 67.48 |
| | | 09/21/04 | | No Product | 7.46 | 71.71 |
| | | 12/01/04 | | No Product | 9.72 | 69.45 |
| | | 03/13/05 | | No Product | 10.58 | 68.59 |
| **CEF-46-7I** | 29.68 | 12/21/00 | 79.02 | No Product | 5.45 | 73.57 |
| | | 03/14/03 | | No Product | 3.30 | 75.72 |
| | | 06/09/03 | | No Product | 3.20 | 75.82 |
| | | 09/03/03 | | No Product | 2.80 | 76.22 |
| | | 12/11/03 | | No Product | 5.84 | 73.18 |
| | | 03/18/04 | | No Product | 7.40 | 71.62 |
| | | 06/08/04 | | No Product | 8.80 | 70.22 |
| | | 09/21/04 | | No Product | 4.95 | 74.07 |
| | | 12/01/04 | | No Product | 8.60 | 70.42 |
| | | 03/13/05 | | No Product | 9.71 | 69.31 |
| **CEF-46-9I** | 48.81 | 12/21/00 | 79.05 | No Product | 5.67 | 73.38 |
| | | 03/14/03 | | No Product | 2.55 | 76.50 |
| | | 06/04/03 | | No Product | 4.10 | 74.95 |
| | | 09/03/03 | | No Product | 3.32 | 75.73 |
| | | 12/11/03 | | No Product | 5.79 | 73.26 |
| | | 03/16/04 | | No Product | 7.20 | 71.85 |
| | | 06/08/04 | | No Product | 8.92 | 70.13 |
| | | 09/21/04 | | No Product | 5.29 | 73.76 |
| | | 12/01/04 | | No Product | 8.44 | 70.61 |
| | | 03/13/05 | | No Product | 9.58 | 69.47 |
| **CEF-46-12I** | 29.61 | 12/21/00 | 78.73 | No Product | 5.23 | 73.50 |
| | | 03/14/03 | | No Product | 2.10 | 76.63 |
| | | 06/05/03 | | No Product | 3.30 | 75.43 |
| | | 09/03/03 | | No Product | 2.90 | 75.83 |
| | | 12/11/03 | | No Product | 5.45 | 73.28 |
| | | 03/18/04 | | No Product | 6.45 | 72.28 |
| | | 06/08/04 | | No Product | 8.10 | 70.63 |
| | | 09/21/04 | | No Product | 4.30 | 74.43 |
| | | 12/01/04 | | No Product | 7.25 | 71.48 |
| | | 03/13/05 | | No Product | 8.70 | 70.03 |

**TABLE 1**
**GROUNDWATER ELEVATION & FREE PRODUCT DATA**

BUILDING 46 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-46-13I** | 39.56 | 12/21/00 | 78.87 | No Product | 5.43 | 73.44 |
| | | 03/14/03 | | No Product | 2.31 | 76.56 |
| | | 06/05/03 | | No Product | 3.50 | 75.37 |
| | | 09/03/03 | | No Product | 3.10 | 75.77 |
| | | 12/11/03 | | No Product | 5.90 | 72.97 |
| | | 03/18/04 | | No Product | 6.85 | 72.02 |
| | | 06/08/04 | | No Product | 8.61 | 70.26 |
| | | 09/21/04 | | No Product | 4.65 | 74.22 |
| | | 12/01/04 | | No Product | 7.60 | 71.27 |
| | | 03/13/05 | | No Product | 8.91 | 69.96 |
| **CEF-46-14D** | 78.79 | 12/21/00 | 78.88 | No Product | 6.86 | 72.02 |
| | | 03/14/03 | | No Product | 4.20 | 74.68 |
| | | 06/04/03 | | No Product | 6.15 | 72.73 |
| | | 09/03/03 | | No Product | 5.15 | 73.73 |
| | | 12/10/03 | | No Product | 7.20 | 71.68 |
| | | 03/16/04 | | No Product | 8.72 | 70.16 |
| | | 06/08/04 | | No Product | 9.75 | 69.13 |
| | | 09/21/04 | | No Product | 5.34 | 73.54 |
| | | 12/01/04 | | No Product | 7.66 | 71.22 |
| | | 03/13/05 | | No Product | 8.54 | 70.34 |
| **CEF-46-15I** | 29.77 | 12/21/00 | 79.75 | No Product | 6.33 | 73.42 |
| | | 03/13/03 | | No Product | 3.47 | 76.28 |
| | | 06/04/03 | | No Product | 4.54 | 75.21 |
| | | 09/03/03 | | No Product | 4.22 | 75.53 |
| | | 12/10/03 | | No Product | 6.53 | 73.22 |
| | | 03/16/04 | | No Product | 7.40 | 72.35 |
| | | 06/08/04 | | No Product | 9.22 | 70.53 |
| | | 09/21/04 | | No Product | 5.20 | 74.55 |
| | | 12/01/04 | | No Product | 8.07 | 71.68 |
| | | 03/13/05 | | No Product | 9.31 | 70.44 |
| **CEF-46-21I** | 29.70 | 12/21/00 | 79.33 | No Product | 6.02 | 73.31 |
| | | 03/13/03 | | No Product | 2.79 | 76.54 |
| | | 06/05/03 | | No Product | 4.18 | 75.15 |
| | | 09/03/03 | | No Product | 3.70 | 75.63 |
| | | 12/11/03 | | No Product | 7.50 | 71.83 |
| | | 03/18/04 | | No Product | 8.35 | 70.98 |
| | | 06/08/04 | | No Product | 10.10 | 69.23 |
| | | 09/21/04 | | No Product | 5.80 | 73.53 |
| | | 12/01/04 | | No Product | 9.15 | 70.18 |
| | | 03/13/05 | | No Product | 10.60 | 68.73 |
| **CEF-46-24D** | 90.45 | 12/21/00 | 78.74 | No Product | 7.30 | 71.44 |
| | | 03/14/03 | | No Product | 13.78 | 64.96 |
| | | 06/05/03 | | No Product | 6.40 | 72.34 |
| | | 09/03/03 | | No Product | 4.97 | 73.77 |
| | | 12/10/03 | | No Product | 7.40 | 71.34 |
| | | 03/16/04 | | No Product | 8.95 | 69.79 |
| | | 06/08/04 | | No Product | 10.68 | 68.06 |
| | | 09/21/04 | | No Product | 6.31 | 72.43 |
| | | 12/01/04 | | No Product | 9.11 | 69.63 |
| | | 03/13/05 | | No Product | 9.92 | 68.82 |
| **CEF-46-25I** | 50.45 | 12/21/00 | 79.17 | No Product | 6.25 | 72.92 |
| | | 03/13/03 | | No Product | 2.49 | 76.68 |
| | | 06/04/03 | | No Product | 3.98 | 75.19 |
| | | 09/03/03 | | No Product | 3.50 | 75.67 |
| | | 12/10/03 | | No Product | 5.98 | 73.19 |
| | | 03/16/04 | | No Product | 8.30 | 70.87 |
| | | 06/08/04 | | No Product | 10.03 | 69.14 |
| | | 09/21/04 | | No Product | 5.61 | 73.56 |
| | | 12/01/04 | | No Product | 9.11 | 70.06 |
| | | 03/13/05 | | No Product | 10.46 | 68.71 |
| **CEF-46-26I** | 47.76 | 12/21/00 | 79.43 | No Product | 7.09 | 72.34 |
| | | 03/14/03 | | No Product | 3.82 | 75.61 |
| | | 06/05/03 | | No Product | 4.30 | 75.13 |
| | | 09/03/03 | | No Product | 3.73 | 75.70 |
| | | 12/11/03 | | No Product | 6.65 | 72.78 |
| | | 03/18/04 | | No Product | 8.05 | 71.38 |
| | | 06/08/04 | | No Product | 10.40 | 69.03 |
| | | 09/21/04 | | No Product | 6.56 | 72.87 |
| | | 12/01/04 | | No Product | 10.20 | 69.23 |
| | | 03/13/05 | | No Product | 11.50 | 67.93 |

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

**TABLE 2**
**GROUNDWATER FIELD ANALYTICAL RESULTS**

BUILDING 46 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

| Well | Date | pH | Conductivity (mS/cm) | Dissolved Oxygen (mg/L)* | Oxidation Reduction Potential (mV) | Temperature (°C) | Carbon Dioxide (mg/L) | Alkalinity as $CaCO_3$ (mg/L) | Ferrous Iron (mg/L) | Hydrogen Sulfide (mg/L) | Dissolved Oxygen (mg/L) ** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CEF-46-1S** | 12/21/00 | 6.20 | 0.512 | 1.05 | NM | 22.70 | NM | 200 | 1.4 | 1.0 | NM |
| | 03/14/03 | 7.54 | 2.520 | 0.89 | -204.00 | 20.77 | ND | 100 | 2.2 | 5.0 | NM |
| | 06/09/03 | 6.39 | 1.730 | ND | -238.00 | 25.28 | Interference | 140 | 3.2 | 5.0 | NM |
| | 09/03/03 | 6.27 | 0.201 | 2.03 | -364.00 | 27.53 | Interference | 205 | 1.0 | 5.0 | NM |
| | 12/11/03 | 5.98 | 0.234 | ND | -332.00 | 23.15 | 400 | 250 | 1.4 | 5.0 | ND |
| | 03/18/04 | 6.48 | 0.220 | NM | -278.00 | 22.33 | Interference | 175 | 2.0 | 5.0 | ND |
| | 06/08/04 | 6.00 | 1.920 | 0.04 | -296.00 | 26.24 | Interference | 130 | 1.0 | 5.0 | ND |
| | 09/21/04 | 7.42 | 0.122 | 0.00 | -234.00 | 27.97 | Interference | 100 | 5.4 | 5.0 | ND |
| | 12/01/04 | 6.39 | 2.404 | 0.15 | -356.90 | 26.07 | 362 | 205 | ND | 5.0 | ND |
| | 03/13/05 | 6.23 | 1.467 | 0.18 | -347.60 | 24.63 | 170 | 275 | 2.8 | 5.0 | ND |
| **CEF-46-2S** | 12/21/00 | 6.20 | 0.962 | 1.06 | NM | 23.20 | 352 | 720 | 1.0 | ND | NM |
| | 03/14/03 | 7.08 | 1.620 | 1.60 | -112.00 | 20.88 | 310 | 165 | 2.2 | 0.1 | NM |
| | 06/05/03 | 6.44 | 1.860 | ND | NM | 24.66 | 228 | 195 | 2.2 | 0.3 | NM |
| | 09/03/03 | 6.25 | 1.480 | 0.03 | -132.00 | 27.94 | 245 | 160 | 2.0 | 0.3 | NM |
| | 12/11/03 | 6.47 | 1.070 | 0.40 | -258.00 | 23.85 | 218 | 190 | 1.0 | 1.0 | 0.6 |
| | 03/18/04 | 6.80 | 0.123 | NM | -111.00 | 20.09 | 231 | 190 | 1.4 | 0.7 | ND |
| | 06/08/04 | 5.73 | 0.855 | 0.16 | -145.00 | 25.17 | 154 | 95 | 4.8 | ND | 3.0 |
| | 09/21/04 | 7.06 | 0.142 | 0.03 | -153.00 | 26.76 | 157 | 130 | 3.8 | 2.0 | ND |
| | 12/01/04 | 6.45 | 2.454 | 0.06 | -215.20 | 25.63 | 88 | 100 | 0.63 | 5.00 | ND |
| | 03/13/05 | 5.92 | 2.547 | 0.07 | -181.60 | 22.86 | 207 | 60 | 2.20 | 1.00 | ND |
| **CEF-46-5I** | 12/21/00 | 5.60 | 0.140 | 1.10 | NM | 23.20 | 183 | 100 | 1.8 | 1.0 | NM |
| | 03/14/03 | 3.54 | 5.810 | 2.05 | 393.00 | 25.23 | ND | ND | 4.2 | ND | NM |
| | 06/05/03 | 2.00 | 4.840 | 0.23 | 407.00 | 26.92 | Interference | ND | 9.9 | ND | NM |
| | 09/03/03 | 2.74 | 4.450 | 0.04 | 320.00 | 27.29 | Interference | ND | 10.0 | ND | NM |
| | 12/11/03 | 2.84 | 4.480 | 4.01 | 331.00 | 22.90 | 568 | ND | 6.0 | ND | ND |
| | 03/18/04 | 2.48 | 4.074 | NM | NM | 25.00 | 172 | ND | 4.2 | ND | ND |
| | 06/08/04 | 2.28 | 5.216 | 0.10 | 503.60 | 27.25 | 93 | ND | 15.0 | ND | 15.0 |
| | 09/21/04 | 6.04 | 0.103 | 0.05 | -61.80 | 26.85 | 171 | 5 | 4.8 | 0.1 | ND |
| | 12/01/04 | 4.48 | 0.638 | 0.23 | 267.70 | 26.86 | Interference | ND | 7.2 | 0.1 | ND |
| | 03/13/05 | 4.21 | 2.300 | 0.00 | 283.00 | 27.41 | 579 | ND | 9.2 | ND | ND |
| **CEF-46-6D** | 12/21/00 | 9.71 | 0.180 | 6.51 | NM | 23.50 | 8 | 120 | 0.4 | 0.3 | NM |
| | 03/14/03 | 3.23 | 8.600 | 2.64 | 404.00 | 25.71 | ND | ND | 4.2 | ND | NM |
| | 06/09/03 | 2.69 | 9.740 | 0.09 | 77.00 | 27.97 | Interference | ND | 7.0 | ND | NM |
| | 09/03/03 | 2.70 | 8.759 | 0.37 | 335.00 | 27.71 | Interference | ND | 10.0 | ND | NM |
| | 12/10/03 | 2.62 | 0.790 | ND | 376.00 | 23.95 | Interference | ND | 5.4 | ND | 0.8 |
| | 03/16/04 | 2.53 | 0.746 | 6.00 | NM | 24.60 | 263 | ND | ND | 3.0 | ND |
| | 06/08/04 | 2.42 | 8.973 | 0.09 | 431.60 | 26.46 | Interference | ND | 9.8 | ND | 15.0 |
| | 09/21/04 | 2.37 | 10.411 | 0.23 | 434.30 | 26.45 | 109 | ND | 9.8 | 0.1 | ND |
| | 12/01/04 | 2.59 | 18.791 | 0.15 | 437.10 | 27.16 | 118 | ND | 7.6 | 0.1 | ND |
| | 03/13/05 | 2.44 | 9.000 | 0.14 | 414.00 | 26.45 | 176 | ND | 10.0 | ND | ND |
| **CEF-46-7I** | 12/21/00 | 4.90 | 0.510 | 1.11 | NM | 25.40 | 317 | 60 | 0.6 | 0.3 | NM |
| | 03/14/03 | 3.23 | 0.250 | 5.24 | 360.00 | 23.41 | 121 | ND | 1.8 | ND | NM |
| | 06/09/03 | 3.80 | 0.191 | 1.05 | 278.00 | 26.12 | 233 | ND | 2.2 | ND | NM |
| | 09/03/03 | 4.51 | 0.226 | 0.12 | 81.00 | 27.32 | 143 | ND | 4.0 | 2.0 | NM |
| | 12/11/03 | 5.19 | 0.180 | 0.67 | -170.00 | 23.07 | 70 | 25 | 3.7 | 2.0 | ND |
| | 03/18/04 | 4.89 | 0.230 | NM | 120.00 | 24.42 | 75 | 15 | 4.0 | ND | ND |
| | 06/08/04 | 3.67 | 0.089 | 0.24 | 256.00 | 25.91 | 99 | ND | 4.4 | ND | ND |
| | 09/21/04 | 3.55 | 0.085 | 0.00 | 163.00 | 26.80 | 68 | 5 | 10.0 | ND | ND |
| | 12/01/04 | 5.62 | 0.175 | 0.06 | -50.60 | 26.45 | 217 | 10 | 5.8 | 1.0 | ND |
| | 03/13/05 | 4.90 | 0.130 | 0.12 | -79.20 | 25.78 | 122 | 35 | 4.0 | 2.0 | ND |
| **CEF-46-9I** | 12/20/00 | 5.29 | 0.079 | 1.47 | NM | 24.60 | 84.6 | 20 | 0.8 | 0.3 | NM |
| | 03/14/03 | 5.47 | 0.914 | 1.35 | 64.00 | 25.40 | ND | ND | 2.2 | 1.0 | NM |
| | 06/04/03 | 4.75 | 1.090 | 0.60 | -8.00 | 25.73 | Interference | ND | 6.0 | 1.0 | NM |
| | 09/03/03 | 3.74 | 1.040 | 0.84 | 18.00 | 26.85 | Interference | ND | 3.8 | 1.0 | NM |
| | 12/10/03 | 3.64 | 1.010 | 6.21 | -100.00 | 26.29 | Interference | ND | 5.2 | 0.5 | ND |
| | 03/16/04 | 3.67 | 0.165 | NM | 199.00 | 25.08 | Interference | ND | 2.8 | 2.0 | ND |
| | 06/08/04 | 3.58 | 1.770 | 0.14 | 68.00 | 25.99 | Interference | ND | 8.0 | 5.0 | 3.0 |
| | 09/21/04 | 3.50 | 1.401 | 0.17 | -18.20 | 25.99 | Interference | ND | 8.4 | 3.0 | ND |
| | 12/01/04 | 3.68 | NM | 0.11 | -74.80 | 26.09 | 370 | ND | 4.5 | 3.0 | ND |
| | 03/13/05 | 5.92 | 0.540 | 0.00 | 72.00 | 25.01 | 296 | ND | 5.4 | 1.0 | ND |
| **CEF-46-12I** | 12/20/00 | 5.57 | 0.160 | 1.91 | NM | 26.50 | 193.6 | 80 | 0.8 | 2.0 | NM |
| | 03/14/03 | 3.38 | 0.178 | 3.92 | 333.00 | 26.07 | 96 | ND | 2.2 | ND | NM |
| | 06/05/03 | 4.22 | 0.155 | 1.65 | 117.00 | 26.33 | 168 | ND | 1.0 | ND | NM |
| | 09/03/03 | 4.71 | 0.308 | 0.00 | 164.00 | 27.88 | 136 | 5 | 0.0 | ND | NM |
| | 12/11/03 | 4.97 | 0.310 | 0.61 | 129.00 | 23.96 | 84 | 1 | 2.2 | 0.1 | 0.8 |
| | 03/18/04 | 5.33 | 0.129 | 0.60 | NM | 24.90 | 86 | 5 | 3.5 | 0.1 | 0.6 |
| | 06/08/04 | 4.69 | 0.142 | 0.47 | 162.00 | 26.48 | 122 | 5 | 3.0 | ND | 13.0 |
| | 09/21/04 | 4.65 | 0.245 | 0.01 | 124.00 | 24.84 | 115 | 5 | 3.0 | ND | ND |
| | 12/01/04 | 5.30 | 0.661 | 0.12 | 133.40 | 26.37 | 45 | 5 | 1.4 | ND | ND |
| | 03/13/05 | 5.12 | 0.384 | 0.12 | 120.10 | 24.02 | 220 | 25 | 1.0 | ND | ND |
| **CEF-46-13I** | 12/20/00 | 5.40 | 0.120 | 1.23 | NM | 25.00 | 188 | 20 | 1.4 | 5.0 | NM |
| | 03/14/03 | 6.29 | 0.110 | 0.99 | -31.00 | 25.90 | 280 | ND | 2.5 | 5.0 | NM |
| | 06/05/03 | 3.71 | 0.643 | 0.00 | 1.00 | 26.44 | Interference | ND | 3.6 | 5.0 | NM |
| | 09/03/03 | 3.81 | 0.999 | 0.36 | 57.00 | 28.50 | Interference | ND | 2.4 | 2.0 | NM |
| | 12/11/03 | 3.93 | 0.990 | 1.11 | 160.00 | 24.10 | Interference | ND | 3.2 | 5.0 | ND |
| | 03/18/04 | 3.76 | 1.282 | 0.50 | NM | 25.60 | Interference | ND | 3.0 | 0.3 | ND |
| | 06/08/04 | 3.08 | 1.170 | 0.34 | 286.00 | 26.73 | Interference | ND | 3.6 | ND | 1.0 |
| | 09/21/04 | 4.96 | 0.588 | 0.17 | -32.00 | 26.20 | Interference | ND | 7.8 | 5.0 | ND |
| | 12/01/04 | 3.93 | 0.931 | 0.06 | 37.70 | 26.53 | Interference | ND | 0.73 | 5.00 | ND |
| | 03/13/05 | 2.92 | 0.947 | 0.75 | 494.30 | 24.67 | Interference | ND | 2.80 | 1.00 | ND |

**TABLE 2**
**GROUNDWATER FIELD ANALYTICAL RESULTS**

BUILDING 46 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

| Well | Date | pH | Conductivity (mS/cm) | Dissolved Oxygen (mg/L)* | Oxidation Reduction Potential (mV) | Temperature (°C) | Carbon Dioxide (mg/L) | Alkalinity as $CaCO_3$ (mg/L) | Ferrous Iron (mg/L) | Hydrogen Sulfide (mg/L) | Dissolved Oxygen (mg/L) ** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CEF-46-14D** | 12/20/00 | 5.87 | 0.109 | 1.52 | NM | 24.90 | 84 | 540 | 2.4 | 0.3 | NM |
| | 03/14/03 | 6.26 | 0.098 | 0.85 | -33.00 | 25.32 | 180 | 15 | 2.5 | 5.0 | NM |
| | 06/04/03 | 5.77 | 0.106 | 0.17 | -39.00 | 26.14 | 186 | 20 | 2.3 | 2.0 | NM |
| | 09/03/03 | 4.82 | 0.215 | 0.86 | -54.00 | 27.66 | 155 | 20 | 2.2 | 5.0 | NM |
| | 12/10/03 | 5.36 | 0.282 | 0.07 | -62.00 | 25.92 | 136 | 10 | 2.4 | 1.0 | ND |
| | 03/16/04 | 5.43 | 0.105 | 0.80 | NM | 25.60 | 154 | 20 | 24.0 | 5.0 | ND |
| | 06/08/04 | 5.17 | 0.109 | 0.10 | -58.90 | 26.00 | NM | NM | NM | NM | NM |
| | 09/21/04 | 5.26 | 0.125 | 0.16 | -159.20 | 25.37 | 120 | 15 | 4.8 | 3.0 | ND |
| | 12/01/04 | 5.51 | 0.239 | 0.42 | -174.00 | 25.41 | 176 | 25 | 2.4 | 0.1 | ND |
| | 03/13/05 | 7.68 | 0.110 | 0.20 | -29.00 | 22.89 | 109 | 25 | 3.8 | 2.0 | ND |
| **CEF-46-15I** | 12/20/00 | 5.01 | 0.108 | 1.27 | NM | 22.20 | 86.6 | 40 | 3.2 | 1.0 | NM |
| | 03/13/03 | 4.64 | 0.191 | 0.90 | 328.00 | 22.79 | 343 | ND | 3.2 | ND | NM |
| | 06/04/03 | 1.76 | 0.172 | 0.59 | 92.00 | 22.89 | 368 | 10 | 3.3 | ND | NM |
| | 09/03/03 | 3.99 | 0.369 | 0.45 | 195.00 | 24.16 | 367 | ND | 2.8 | ND | NM |
| | 12/10/03 | 4.00 | 0.290 | 6.16 | 99.00 | 23.64 | 124 | 1 | 3.5 | 0.1 | 5.0 |
| | 03/16/04 | 4.30 | 0.501 | NM | 241.00 | 22.91 | 324 | ND | 3.0 | ND | ND |
| | 06/08/04 | 4.26 | 0.168 | 0.22 | 193.30 | 22.89 | 317 | 15 | 3.8 | ND | 3.0 |
| | 09/21/04 | 4.25 | 0.179 | 0.27 | -55.00 | 23.27 | 319 | ND | 3.5 | ND | ND |
| | 12/01/04 | 4.42 | 0.347 | 0.19 | -91.40 | 23.69 | 143 | 15 | 3.4 | 0.1 | ND |
| | 03/13/05 | 4.47 | 0.180 | 2.07 | 256.00 | 22.05 | 291 | ND | ND | ND | 1.0 |
| **CEF-46-21I** | 12/20/00 | 4.86 | 0.047 | 1.35 | NM | 23.20 | 9.4 | 60 | 0.8 | ND | NM |
| | 03/13/03 | 3.75 | 0.713 | 2.35 | 397.00 | 23.94 | 0.0 | ND | 3.0 | ND | NM |
| | 06/05/03 | 3.12 | 0.798 | 0.00 | 251.00 | 24.22 | Interference | ND | 3.9 | 0.7 | NM |
| | 09/03/03 | 3.34 | 0.406 | 2.82 | 449.00 | 26.30 | 115 | ND | 1.6 | ND | NM |
| | 12/11/03 | 3.58 | 0.476 | 3.43 | 407.00 | 23.07 | 89 | ND | 1.6 | ND | 2.0 |
| | 03/18/04 | 3.81 | 0.162 | 2.10 | NM | 23.00 | 91 | ND | 2.4 | ND | 1.0 |
| | 06/08/04 | 3.39 | 0.147 | 0.86 | 406.00 | 23.91 | 78 | ND | 1.4 | ND | 13.0 |
| | 09/21/04 | 2.61 | 0.147 | 0.44 | 317.00 | 24.62 | 69 | ND | 0.8 | ND | ND |
| | 12/01/04 | 3.89 | 0.334 | 2.30 | 439.10 | 24.76 | 54 | ND | 0.27 | ND | ND |
| | 03/13/05 | 3.66 | 0.175 | 0.10 | 311.20 | 23.58 | 112 | ND | 0.80 | ND | 0.10 |
| **CEF-46-24D** | 12/20/00 | 6.15 | 0.129 | 0.13 | NM | 21.90 | 16.4 | 60 | 2.3 | 0.1 | NM |
| | 03/14/03 | 3.70 | 2.530 | 2.23 | 402.00 | 27.46 | ND | ND | 4.0 | ND | NM |
| | 06/05/03 | 0.36 | 3.160 | 0.36 | 250.00 | 28.22 | Interference | ND | 5.9 | ND | NM |
| | 09/03/03 | 3.20 | 2.110 | 0.21 | 282.00 | 27.68 | Interference | ND | 5.4 | ND | NM |
| | 12/10/03 | 3.24 | 0.200 | 0.30 | 308.00 | 26.18 | Interference | ND | 3.8 | ND | ND |
| | 03/16/04 | 3.45 | 1.285 | 0.60 | NM | 27.60 | Interference | ND | 4.2 | 0.1 | ND |
| | 06/08/04 | 3.09 | 1.564 | 0.20 | 386.40 | 27.04 | Interference | ND | 7.2 | 0.1 | ND |
| | 09/21/04 | 3.74 | 1.218 | 0.44 | 17.20 | 26.06 | Interference | ND | 9.6 | 0.3 | ND |
| | 12/01/04 | 3.74 | 2.133 | 0.33 | 211.60 | 24.52 | Interference | ND | 8.5 | 0.3 | ND |
| | 03/13/05 | 6.16 | 1.200 | 0.12 | 58.00 | 25.70 | Interference | 5 | 7.4 | 1.0 | ND |
| **CEF-46-25I** | 12/20/00 | 5.81 | 0.167 | 2.88 | NM | 24.60 | 20.6 | 120 | 0.6 | 5.0 | NM |
| | 03/13/03 | 6.16 | 1.420 | 1.03 | -58.00 | 25.35 | ND | ND | 4.5 | 5.0 | NM |
| | 06/04/03 | 5.98 | 1.440 | 0.00 | -87.00 | 25.76 | ND | ND | 6.0 | 5.0 | NM |
| | 09/03/03 | 3.77 | 0.910 | 0.53 | -107.00 | 26.43 | Interference | ND | 3.8 | 5.0 | NM |
| | 12/10/03 | 3.95 | 0.860 | 5.82 | -198.00 | 24.15 | Interference | ND | 3.5 | 5.0 | ND |
| | 03/16/04 | 3.74 | 0.179 | NM | -2.00 | 23.99 | Interference | ND | 5.4 | 5.0 | ND |
| | 06/08/04 | 3.53 | 2.054 | 0.13 | -92.90 | 25.15 | Interference | ND | 6.2 | 5.0 | ND |
| | 09/21/04 | 3.66 | 1.736 | 0.41 | -97.40 | 24.31 | Interference | ND | NM | 2.0 | ND |
| | 12/01/04 | 3.72 | 3.586 | 0.08 | -153.10 | 24.20 | Interference | ND | 7.8 | 5.0 | ND |
| | 03/13/05 | 6.67 | 0.800 | 0.19 | 8.00 | 22.96 | Interference | ND | 12.0 | 5.0 | ND |
| **CEF-46-26I** | 12/20/00 | 8.53 | 0.099 | 0.03 | NM | 23.10 | 24.2 | NM | 1.4 | NM | NM |
| | 03/14/03 | 6.34 | 0.063 | 4.66 | 3.00 | 26.88 | ND | ND | 4.6 | 5.0 | NM |
| | 06/05/03 | 3.31 | 2.880 | 0.00 | -2.00 | 24.60 | Interference | ND | 9.0 | 5.0 | NM |
| | 09/03/03 | 3.40 | 1.990 | 0.12 | 111.00 | 25.14 | Interference | ND | 7.8 | 5.0 | NM |
| | 12/11/03 | 3.52 | 0.224 | 0.00 | 151.00 | 22.18 | Interference | ND | 3.0 | 5.0 | ND |
| | 03/18/04 | 3.51 | 0.268 | NM | 203.00 | 22.45 | Interference | ND | 5.0 | 5.0 | ND |
| | 06/08/04 | 2.43 | 3.460 | 0.32 | 284.00 | 24.34 | Interference | ND | 4.0 | 1.0 | 4.0 |
| | 09/21/04 | 3.69 | 0.280 | 0.00 | 91.00 | 23.88 | Interference | ND | 10.0 | 5.0 | ND |
| | 12/01/04 | 2.62 | 6.045 | 0.11 | 371.60 | 23.43 | Interference | ND | 3.33 | 5.00 | ND |
| | 03/13/05 | 2.90 | 5.353 | 0.12 | 250.30 | 24.33 | Interference | ND | 10.00 | 2.00 | ND |

* Horiba Multimeter
**Dissolved Oxygen Hach Test Kit
ND = Non Detect
NM = Not Measured

**TABLE 3**
**GROUNDWATER ANALYTICAL RESULTS**

BUILDING 46 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

| Well | Date | Benzene | Ethyl Benzene | Toluene | Xylene | BETX | Methyl tert-butyl ether | Naphthalene | 1-Methylnaphthalene | 2-Methylnaphthalene | 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 | Nitrate (mg/L) | Nitrite (mg/L) | Phosphate (mg/L) | TRPH (ug/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CEF-46-1S | 12/21/00 | 13000 | 2900 | 40000 | 19000 | 74900 | NA | 550 | N/A | N/A | 1.4 | <1.1 | 0.98 | <1.1 | <1.1 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | 0.085 J | 0.15 | <1 | 23000 |
| | 01/25/01 | 0.28 | 0.44 | 1.4 | 3.2 | 5.32 | <1.0 | <1.0 | N/A | N/A | <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 | 0.2 | 0.25 | 290 |
| | 03/14/03 | 592 | 1160 | 1190 | 4580 | 7522 | 619 | 496 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <4.0 | <0.100 | 0.15 | <0.100 | 77000 |
| | 06/09/03 | 262 | 626 | 318 | 1070 | 2276 | 511 | 947 | 136 | 162 | <0.10 | 0.29 | 0.22 | <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 | 33200 |
| | 09/03/03 | 350 | 735 | 575 | 2920 | 4580 | 365 | 661 | 133 | 126 | <0.10 | 0.45 | 0.26 | 0.48 | <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 | 38300 |
| | 12/11/03 | 430 | 982 | 1410 | 3540 | 6362 | 432 | 501 | 89 | 117 | <0.10 | 0.26 | <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 | <0.30 | <0.100 | 39600 |
| | 03/18/04 | 401 | 741 | 1160 | 2280 | 4582 | 486 | 508 | 61.5 | 98.5 | <0.10 | 0.24 | <0.10 | 0.18 | 0.27 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.100 | <0.30 | <0.100 | 16200 |
| | 06/08/04 | 163 | 484 | 194 | 526 | 1367 | 310 | 342 | 36.6 | 76.5 | <5.10 | <2.04 | <2.04 | <5.10 | <1.02 | <1.02 | <5.10 | <0.204 | <0.204 | <0.204 | <0.510 | <0.204 | <0.204 | <0.204 | <0.204 | <0.100 | <0.005 | 0.083 ? | 15400 |
| | 09/21/04 | 54.8Y | 321Y | 97.4Y | 2140Y | 2613.2Y | 276Y | 252 J3Y | 24.2 J3Y | 64.2 J3Y | <5.49 J3Y | <2.20 J3Y | <2.20 J3Y | <5.49Y | <1.10Y | <1.10Y | <5.49Y | <0.220Y | <2.20Y | <0.220Y | <0.549Y | <0.220Y | <0.220Y | <0.220Y | <2020 J3Y | <0.02Y | <0.005Y | 0.389Y | 33300Y |
| | 12/01/04 | 153 | 601.5 | 163.9 | 779 | 1697.4 | 216.1 | 621.4 | 65.6 | 143 | <0.235 | <0.165 | <0.347 | <0.110 | 0.204 I | <0.106 | <0.102 | <0.150 | <0.084 | <0.102 | <0.259 | <0.167 | <0.133 | <0.094 | <0.160 | <0.018 | <0.005 | 0.099 | 25200 |
| | 03/13/05 | 174 | 687 | 152 | 1100 | 2113 | 334 | 503 | 56.9 | 94.5 | <0.0840 | <0.012 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | 0.006 | 0.0317 V | 23000 |
| CEF-46-2S | 12/21/00 | 300 | 72 | 51 | 200 | 623 | NA | 230 | N/A | N/A | <1.1 | 5.5 | 3.1 | 0.35 | <1.1 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.60 | <0.4 | 0.22 | 3100 |
| | 01/25/01 | 7.3 | 0.96 | 1.5 | 3.3 | 13.06 | 7.1 | 11 | N/A | N/A | <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 | 0.083 | <0.40 | <1.0 | 540 |
| | 03/14/03 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 156 | <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 | <0.100 | 0.100 | <0.100 | 1370 |
| | 06/05/03 | <1.00 | <1.0 | <1.0 | <1.0 | <1.0 | 54.5 | <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 | <0.10 | <0.10 | <0.100 | 339 |
| | 09/03/03 | <1.00 | <1.0 | <1.0 | <1.0 | <1.0 | 21.3 | 0.24 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.11 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.100 | 339 |
| | 12/11/03 | <1.00 | <1.0 | <1.0 | <3.0 | <1.0 | 21.7 | <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 | <0.10 | <0.30 | <0.100 | 796 |
| | 03/18/04 | 12.4 | <1.0 | <1.0 | 3.7 | 16.1 | 24.3 | 1.4 | 0.16 | 0.21 | <0.10 | 0.11 | <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 | <0.30 | <0.100 | 436 |
| | 06/08/04 | 3.72 | <1.00 | <1.00 | <1.00 | 3.72 | 26.1 | 0.643 I | <2.04 | <2.04 | <5.10 | 0.398 I | <2.04 | <5.10 | <1.02 | <1.02 | <5.10 | <0.204 | <0.204 | <0.204 | <0.510 | <0.204 | <0.204 | <0.204 | <2.04 | <0.10 | <0.005 | 0.150 ? | 530 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | 8.32Y | <2.17 J3Y | <2.17 J3Y | <2.17 J3Y | <2.17 J3Y | <2.17 J3Y | <2.17 J3Y | <5.43Y | <1.09Y | <1.09Y | <5.43Y | <0.217Y | <2.17Y | <0.217Y | <0.543Y | <0.217Y | <0.217Y | <0.217Y | <2.17 J3Y | 0.1Y | 0.005Y | 0.027 ?Y | 0.26Y |
| | 12/01/04 | 118 | 134.6 | 0.5700 I | 136 | 389.17 | 135.8 | 81.30 | 4.56 I | <0.214 | <0.235 | 2.32 I | 2.00 I | <0.110 | <0.118 | <0.106 | <0.102 | <0.150 | <0.084 | <0.102 | <0.259 | <0.167 | <0.133 | <0.094 | <0.160 | <0.018 | 0.007 | 0.08 | 2450 |
| | 03/13/05 | 54.6 | 1.04 I | 0.210 I | 1.64 | 57.49 | 47.8 | 96.50 | 7.77 | 0.439 I | <0.0840 | 0.602 I | 0.684 I | 0.306 I | <0.0780 | <0.108 | <0.135 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | 0.008 | 0.0350 V | 1600 |
| CEF-46-5I | 12/21/00 | 850 | 38 | 13 | 150 | 1051 | NA | 1.6 | N/A | N/A | <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 | <0.6 | <0.4 | <1.0 | <550 |
| | 01/25/01 | 180 | 7.4 | 3.1 | 31 | 221.5 | <1.0 | <1.0 | N/A | N/A | <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 |
| | 03/14/03 | <1.0 | <1.0 | <1.0 | 9.0 | 9.0 | <1.0 | <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 | <0.100 | 0.35 | 3.92 | <200 |
| | 06/05/03 | <1.00 | <1.0 | <1.0 | 5.2 | 5.2 | 4.6 | <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 | <0.30 | <0.30 | <0.282 | <106 |
| | 09/03/03 | <1.00 | <1.0 | <1.0 | 6.6 | 6.6 | 66.2 | <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 | <0.30 | 0.965 | 333 |
| | 12/11/03 | <1.00 | <1.0 | <1.0 | 4.1 | 4.1 | 70 | <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 | <0.30 | 1.31 | 456 |
| | 03/18/04 | 1.4 | <1.0 | 1.1 | 3.9 | 6.4 | 28.4 | <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 | <0.600 | <0.60 | <0.100 | 242 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | 2.3 | <2.04 | <2.04 | <2.04 | <5.10 | <2.04 | <2.04 | <5.10 | <1.02 | <1.02 | <5.10 | <0.204 | <2.04 | <0.204 | <0.510 | <0.204 | <0.204 | <0.204 | <2.04 | <0.100 | 0.46 | 2.09 ? | <200 |
| | 09/21/04 | <1.00Y | 1.61Y | <1.00Y | 2.93Y | 4.54Y | <1.00Y | <2.20 J3Y | <2.20 J3Y | <2.20 J3Y | <5.49 J3Y | <2.20 J3Y | <2.20 J3Y | <5.49Y | <1.10Y | <1.10Y | <5.49Y | <0.220Y | <2.20Y | <0.220Y | <0.549Y | <0.220Y | <0.220Y | <0.220Y | <2.20 J3Y | <0.02Y | 0.118Y | 0.103Y | <200Y |
| | 12/01/04 | <0.143 | 0.4400 I | <0.1417 | <0.220 | 0.4400 I | <0.2359 | <0.23 | <0.206 | <0.216 | <0.237 | <0.167 | <0.127 | <0.111 | <0.120 | <0.107 | <0.103 | <0.152 | <0.085 | <0.103 | <0.262 | <0.168 | <0.134 | <0.095 | <0.162 | <0.018 | <0.005 | <0.003 | 120 I V |
| | 03/13/05 | 1.75 I | <0.201 | <0.142 | 1.23 I | 2.98 I | 3.56 | <0.112 | <0.148 | <0.233 | <0.0933 | <0.124 | <0.100 | <0.110 | <0.0867 | <0.120 | <0.150 | <0.118 | <0.0700 | <0.0667 | <0.100 | <0.171 | <0.134 | <0.162 | <0.113 | <0.0550 | 0.021 | 1.91 | <18 |
| CEF-46-6D | 12/21/00 | 2.8 | 9.9 | 6 | 18 | 36.7 | NA | 3.5 | N/A | N/A | <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 | <0.6 | <0.4 | 0.22 | <560 |
| | 02/08/01 | <1.0 | <1.0 | <1.0 | <1.0 | <4.0 | <1.0 | <1.1 | N/A | N/A | <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 |
| | 03/14/03 | <1.0 | <1.0 | <1.0 | 6.0 | 6.0 | <1.0 | <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 | <0.100 | 0.270 | 4.61 | 274 |
| | 06/09/03 | <1.00 | <1.0 | <1.0 | 8.7 | 8.7 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.674 | <200 |
| | 09/03/03 | <1.00 | <1.0 | <1.0 | 3.3 | 3.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.31 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.300 | <0.30 | 5.81 | <225 |
| | 12/10/03 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.10 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.100 | 0.33 | 1.34 | <200 |
| | 03/16/04 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | <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 | <0.500 | <1.00 | <0.100 | <100 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <2.04 | <2.04 | <2.04 | <5.10 | <2.04 | <2.04 | <5.10 | <1.02 | <1.02 | <5.10 | <0.204 | <2.04 | <0.204 | <0.510 | <0.204 | <0.204 | <0.204 | <2.04 | <0.100 | 0.102 | 0.127 ? | <200 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <2.15 J3Y | <2.15 J3Y | <2.15 J3Y | <5.38 J3Y | <2.15 J3Y | <2.15 J3Y | <5.38Y | <1.08Y | <1.08Y | <5.38Y | <0.215Y | <2.15Y | <0.215Y | <0.538Y | <0.215Y | <0.215Y | <0.215Y | <2.15 J3Y | <0.02Y | 0.008Y | 0.013 ?Y | <220Y |
| | 12/01/04 | <0.143 | 1.180 I | <0.1417 | 1.35 I | 2.53 I | <0.2359 | <0.23 | <0.208 | <0.219 | <0.240 | <0.169 | <0.128 | <0.112 | <0.121 | <0.108 | <0.104 | <0.153 | <0.085 | <0.104 | <0.265 | <0.170 | <0.135 | <0.096 | <0.164 | <0.018 | <0.084 | 22.5 | 140 I V |
| | 03/13/05 | <0.143 | <0.201 | <0.142 | 1.78 I | 1.78 I | <0.236 | <0.112 | <0.148 | <0.233 | <0.0933 | <0.124 | <0.100 | <0.110 | <0.0867 | <0.120 | <0.150 | <0.118 | <0.0700 | <0.0667 | <0.100 | <0.171 | <0.134 | <0.162 | <0.113 | <0.0550 | 0.059 | 17.8 | <18 |
| CEF-46-7I | 12/21/00 | 9100 | 2800 | 17000 | 15000 | 43900 | NA | 260 | N/A | N/A | 0.86 | <1.1 | 0.7 | <1.1 | <1.1 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.22 | <0.6 | <0.4 | <1.0 | 13000 |
| | 02/22/01 | 6500 | 1400 | 10000 | 7900 | 25800 | 6100 | 120 | N/A | N/A | <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 | <0.6 | <0.4 | <1.0 | 17000 |
| | 03/14/03 | 945 | 150 | 86.5 | 904 | 2086 | 4380 | <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 | <0.100 | <0.100 | <0.100 | 5480 |
| | 06/09/03 | 678 | 123 | 51.6 | 752 | 1604.6 | 4190 | 32.4 | 0.42 | 0.24 | <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 | <0.50 | <0.50 | <0.100 | 4080 |
| | 09/03/03 | 832 | 158 | <10.0 | 697 | 1687.0 | 5140 | 123 | 6.12 | 7.92 | <0.10 | <0.10 | 0.14 | 0.47 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.100 | <0.10 | <0.100 | 2530 |
| | 12/11/03 | 734 | 111 | 5 | 290 | 1140.0 | 5820 | 96.2 | 4.76 | 6.28 | <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 | <0.30 | <0.100 | 5410 |
| | 03/18/04 | 386 | 66 | 8.5 ? | 414 | 874.5 | 3460 | 2.15 | <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 | <0.60 | <0.100 | 1900 |
| | 06/08/04 | 208 | 42.7 | 11.3 | 330 | 592.0 | 3080 | 3.34 | <2.04 | <2.04 | <5.10 | <2.04 | <2.04 | <5.10 | <1.02 | <1.02 | <5.10 | <0.204 | <2.04 | <0.204 | <0.510 | <0.204 | <0.204 | <0.204 | <2.04 | <0.100 | 0.022 | 0.073 ? | 650 |
| | 09/21/04 | 494Y | 38.1Y | 9.99Y | 387Y | 929.09Y | 2190Y | 0.242 J3, IY | <2.20 J3Y | <2.20 J3Y | <5.49 J3Y | <2.20 J3Y | <2.20 J3Y | <5.49Y | <1.10Y | <1.10Y | <5.49Y | <0.220Y | <2.20Y | <0.220Y | <0.549Y | <0.220Y | <0.220Y | <0.220Y | <2.20 J3Y | <0.02Y | 0.016Y | 0.028 ?Y | 980Y |
| | 12/01/04 | 833 | 144.9 | 10.30 | 631 | 1619.2 | 1943 | 131.2 | 5.18 | 8.13 | <0.230 | <0.162 | <0.123 | <0.107 | <0.116 | <0.104 | <0.100 | <0.147 | <0.082 | <0.100 | <0.254 | <0.163 | <0.130 | <0.092 | <0.157 | 0.018 | 0.034 | 0.012 | 1770 |
| | 03/13/05 | 775 | 176 | 3.26 | 269 | 1223.3 | 1480 | 128 | 5.39 | 7.40 | <0.0840 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | <0.005 | 0.00510 V I | 1570 |
| CEF-46-9I | 12/20/00 | <1.0 | <1.0 | <1.0 | <1.0 | <4.0 | NA | <1.1 | N/A | N/A | <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 | <0.6 | <0.4 | <1.0 | <570 |
| | 01/25/01 | <1.0 | <1.0 | <1.0 | <1.0 | <4.0 | 1.3 | <1.0 | N/A | N/A | <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 |
| | 03/14/03 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <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 | <0.100 | 0.170 | <0.100 | <200 |
| | 06/04/03 | <1.00 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.30 | 0.411 | <211 |
| | 09/03/03 | <1.00 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.22 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.100 | <0.30 | <0.100 | <225 |
| | 12/10/03 | <1.00 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.22 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.100 | 0.180 | 0.308 | <200 |
| | 03/16/04 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | <1.0 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.300 | <0.30 | <0.100 | <111 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <2.20 | <2.20 | <2.20 | <5.49 | <2.20 | <2.20 | <5.49 | <2.20 | <1.10 | <5.49 | <0.220 | <2.20 | <0.220 | <0.549 | <0.220 | <0.220 | <0.220 | <2.20 | <0.100 | <0.005 | 0.055 ? | <210 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | 3.92Y | <2.20 J3Y | <2.20 J3Y | <2.20 J3Y | <5.49 J3Y | <2.20 J3Y | <2.20 J3Y | <5.49Y | <1.10Y | <1.10Y | <5.49Y | <0.220Y | <2.20Y | <0.220Y | <0.549Y | <0.220Y | <0.220Y | <0.220Y | <2.20 J3Y | <0.02Y | <0.005Y | 0.018 ?Y | 220Y |
| | 12/01/04 | <0.143 | 0.5500 I | <0.1417 | 0.440 I | 0.990 I | 28.85 | 0.32 I | <0.202 | <0.212 | <0.232 | <0.164 | <0.124 | <0.108 | <0.117 | <0.105 | <0.101 | <0.149 | <0.083 | <0.101 | <0.257 | <0.165 | <0.131 | <0.093 | <0.159 | <0.018 | <0.005 | 0.013 | 80 I V |
| | 03/13/05 | <0.143 | <0.201 | <0.142 | <0.220 | <0.220 | 16.0 | <0.101 | <0.133 | <0.210 | <0.0840 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | <0.005 | 0.00830 V | <18 |
| CEF-46-12I | 12/20/00 | <1.0 | <1.0 | <1.0 | <1.0 | <4.0 | NA | <1.1 | N/A | N/A | <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 | <0.6 | <0.4 | <1.0 | <530 |
| | 01/24/01 | <1.0 | <1.0 | <1.0 | <1.0 | <4.0 | 14 | <1.0 | N/A | N/A | <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 |
| | 03/14/03 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <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 | <0.100 | <0.100 | <0.100 | <200 |
| | 06/05/03 | <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 | <0.10 | <0.10 | <0.100 | <100 |
| | 09/03/03 | <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 | <0.100 | <0.30 | <0.100 | <225 |
| | 12/11/03 | <1.00 | <1.0 | <1.0 | <3.0 | <1.0 | 2.2 | <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 | <0.30 | <0.100 | <200 |
| | 03/18/04 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | 79.9 | <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 | <0.600 | <0.60 | <0.100 | <222 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | 502 | <2.20 | <2.20 | <2.20 | <5.49 | <2.20 | <2.20 | <5.49 | <1.10 | <1.10 | <5.49 | <0.220 | <2.20 | <0.220 | <0.549 | <0.220 | <0.220 | <0.220 | <2.20 | 0.028 ? | 0.014 | 0.017 ? | <200 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | 18.9Y | <2.00 J3Y | <2.00 J3Y | <2.00 J3Y | <5.00 J3Y | <2.00 J3Y | <2.00 J3Y | <5.00Y | <1.00Y | <1.00Y | <5.00Y | <0.200Y | <2.00Y | <0.200Y | <0.500Y | <0.200Y | <0.200Y | <0.200Y | <2.00 J3Y | <0.02Y | <0.005Y | 0.052 ?Y | <200Y |
| | 12/01/04 | <0.143 | <0.2010 | <0.1417 | <0.220 | <0.220 | 8.480 | <0.22 | <0.200 | <0.210 | <0.230 | <0.162 | <0.123 | <0.107 | <0.116 | <0.104 | <0.100 | <0.147 | <0.082 | <0.100 | <0.254 | <0.163 | <0.130 | <0.092 | <0.157 | 0.046 | 0.006 | 0.017 | 240 I V |
| | 03/13/05 | <0.143 | <0.201 | <0.142 | <0.220 | <0.220 | 0.450 I | <0.101 | <0.133 | <0.210 | <0.0840 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | 0.009 I | 0.00500 V I | <18 |
| Groundwater Criteria [1] | | 1 | 30 | 40 | 20 | n/a | 50 | 20 | 20 | 20 | 210 | 20 | 280 | 210 | 2100 | 280 | 210 | 0.2 | 4.8 | 0.2 | 0.5 | 0.2 | 0.2 | 0.2 | 210 | 10,000 | 1000 | n/a | 5000 |
| Natural Attenuation Default Source [1] | | 100 | 300 | 400 | 200 | n/a | 500 | 200 | 200 | 200 | 2100 | 200 | 2800 | 2100 | 21000 | 2800 | 2100 | 20 | 480 | 20 | 50 | 20 | 20 | 20 | 2100 | 100000 | 10000 | n/a | 50000 |

**TABLE 3**
**GROUNDWATER ANALYTICAL RESULTS**

BUILDING 46 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

| Well | Date | Benzene | Ethyl Benzene | Toluene | Xylene | BETX | Methyl tert-butyl ether | Naphthalene | 1-Methylnaphthalene | 2-Methylnaphthalene | 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 | Nitrate (mg/L) | Nitrite (mg/L) | Phosphate (mg/L) | TRPH (ug/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CEF-46-13I | 12/20/00 | <1.0 | <1.0 | <1.0 | 0.45 | 0.45 | NA | 0.89 | N/A | N/A | <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 | <0.6 | <0.4 | <1.0 | <540 |
| | 01/24/01 | <1.0 | <1.0 | 1.5 | 0.62 | 2.12 | 280 | 0.6 | N/A | N/A | <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 | 320 |
| | 03/14/03 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 318 | <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 | <0.100 | <0.100 | <0.100 | 276 |
| | 06/05/03 | 1.10 | <1.0 | <1.0 | <1.0 | 1.1 | 254 | 0.19 | <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 | <0.10 | <0.100 | <100 |
| | 09/03/03 | <1.00 | <1.0 | <1.0 | <1.0 | <1.0 | 240 | 0.12 | <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 | <0.30 | <0.100 | <225 |
| | 12/11/03 | <1.00 | <1.0 | <1.0 | <0.30 | <1.0 | 114 | 0.5 | <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 | <0.60 | <0.100 | 208 |
| | 03/18/04 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | 60.7 | <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 | <0.600 | <0.30 | <0.100 | <250 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | 83.8 | <2.02 | <2.02 | <2.02 | <5.05 | <2.02 | <2.02 | <5.05 | <1.01 | <1.01 | <5.05 | <0.202 | <2.02 | <0.202 | <0.505 | <0.202 | <0.202 | <0.202 | <2.02 | <0.02 | <0.005 | 0.078 ? | <220 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | 149Y | <2.22 J3Y | <2.22 J3Y | <2.22 J3Y | <5.56 J3Y | <2.22 J3Y | <2.22 J3Y | <5.56Y | <1.11Y | <1.11Y | <5.56Y | <0.222Y | <2.22Y | <0.222Y | <0.556Y | <0.222Y | <0.222Y | <0.222Y | <2.22 J3Y | <0.02Y | <0.005Y | 0.013?Y | <200Y |
| | 12/01/04 | <0.143 | 0.9000 I | <0.1417 | 1.29 I | 2.19 I | 337.5 | <0.22 | <0.202 | <0.212 | <0.232 | <0.164 | <0.124 | <0.108 | <0.117 | <0.105 | <0.101 | <0.149 | <0.083 | <0.101 | <0.257 | <0.165 | <0.131 | <0.093 | <0.159 | <0.018 | <0.005 | 0.017 | 150 I V |
| | 03/13/05 | <0.143 | <0.201 | <0.142 | <0.220 | <0.220 | 133 | <0.101 | <0.133 | <0.210 | <0.0840 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | 0.013 | 0.00500 I V | <18 |
| CEF-46-14D | 12/20/00 | <1.0 | <1.0 | 0.42 | 0.37 | 0.79 | NA | <1.1 | N/A | N/A | <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 | 0.088 | <0.4 | 0.26 | <550 |
| | 01/24/01 | <1.0 | <1.0 | <1.0 | 0.23 | 0.23 | <1.0 | <1.0 | N/A | N/A | <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 | 0.17 | <530 |
| | 03/14/03 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <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 | <0.100 | <0.100 | 0.102 | 248 |
| | 06/04/03 | <1.00 | <1.0 | <1.0 | <1.0 | <1.0 | 1 | <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 | <0.10 | <0.10 | 0.102 | <211 |
| | 09/03/03 | <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 | <0.100 | <0.30 | 0.188 | <225 |
| | 12/10/03 | <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 | <0.100 | <0.100 | 0.176 | <200 |
| | 03/16/04 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | 4.2 | <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 | <0.10 | <0.100 | <100 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | 2.4 | <2.20 | <2.20 | <2.20 | <5.49 | <2.20 | <2.20 | <5.49 | <1.10 | <1.10 | <5.49 | <0.220 | <2.20 | <0.220 | <0.549 | <0.220 | <0.220 | <0.220 | <2.20 | 0.018 ? | <0.005 | 0.134 ? | <220 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | 2.97Y | <2.20 J3Y | <2.20 J3Y | <2.20 J3Y | <5.49 J3Y | <2.20 J3Y | <2.20 J3Y | <5.49Y | <1.10Y | <1.10Y | <5.49Y | <0.220Y | <2.20Y | <0.220Y | <0.549Y | <0.220Y | <0.220Y | <0.220Y | <2.20 J3Y | <0.02 QY | <0.005Y | 0.144Y | <200Y |
| | 12/01/04 | <0.143 | <0.2010 | <0.1417 | <0.220 | <0.220 | 2.500 | <0.22 | <0.204 | <0.214 | <0.235 | <0.165 | <0.126 | <0.110 | <0.118 | <0.106 | <0.102 | <0.150 | <0.084 | <0.102 | <0.259 | <0.167 | <0.133 | <0.094 | <0.160 | <0.018 | <0.005 | 0.161 | 80 I V |
| | 03/13/05 | <0.143 | <0.201 | <0.142 | <0.220 | <0.220 | 3.190 | <0.101 | <0.133 | <0.210 | <0.084 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 J3 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | <0.005 | 0.169 | <20 |
| CEF-46-15I | 12/20/00 | <1.0 | <1.0 | <1.0 | <1.0 | <4.0 | NA | <1.1 | N/A | N/A | <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 | <0.6 | <0.4 | <1.0 | <550 |
| | 01/24/01 | 0.17 | <1.0 | <1.0 | <1.0 | 0.17 | <1.0 | <1.0 | N/A | N/A | <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 |
| | 03/13/03 | <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 | <2.4 | <2.4 | <0.100 | <0.100 | <0.100 | <200 |
| | 06/04/03 | <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 | <0.10 | <0.10 | <0.100 | <222 |
| | 09/03/03 | <1.00 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.42 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.100 | <0.10 | <0.100 | <225 |
| | 12/10/03 | <1.00 | <1.0 | <1.0 | <3.0 | <1.0 | <1.0 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.42 | <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 |
| | 03/16/04 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | <1.0 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.11 | <0.100 | <0.10 | <0.100 | <100 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <2.20 | <2.20 | <2.20 | <5.49 | <2.20 | <2.20 | <5.49 | <1.10 | <1.10 | <5.49 | <0.220 | <2.20 | <0.220 | <0.549 | <0.220 | <0.220 | <0.220 | <2.20 | 0.021 ? | <0.005 | 0.005 ? | <220 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <2.11Y | <2.11 J3Y | <2.11 J3Y | <5.26Y | <2.11Y | <2.11Y | <5.26Y | <1.05Y | <1.05Y | <5.26Y | <0.211Y | <2.11Y | <0.211Y | <0.526Y | <0.211Y | <0.211Y | <0.211Y | <2.11Y | <0.02 QY | <0.005Y | 0.006 ?Y | <220Y |
| | 12/01/04 | <0.143 | <0.2010 | <0.1417 | <0.220 | <0.220 | <0.2359 | <0.23 | <0.206 | <0.216 | <0.237 | <0.167 | <0.127 | <0.111 | <0.120 | <0.107 | <0.103 | <0.152 | <0.085 | <0.103 | <0.262 | <0.168 | <0.134 | <0.095 | <0.162 | <0.018 | <0.005 | 0.005 I | 110 I V |
| | 03/13/05 | <0.143 | <0.201 | <0.142 | <0.220 | <0.220 | <0.236 | <0.101 | <0.133 | <0.210 | <0.0840 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | <0.005 | 0.00500 I V | <18.0 |
| CEF-46-21I | 12/20/00 | <1.0 | <1.0 | <1.0 | <1.0 | <4.0 | NA | <1.1 | N/A | N/A | <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 | <0.6 | <0.4 | <1.0 | <550 |
| | 01/25/01 | 0.25 | <1.0 | 0.7 | <1.0 | 0.95 | <1.0 | <1.0 | N/A | N/A | <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 | 300 |
| | 03/13/03 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <2.2 | <0.100 | <0.100 | <0.100 | <200 |
| | 06/05/03 | <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 | <0.10 | <0.10 | <0.100 | <100 |
| | 09/03/03 | <1.00 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.18 | 0.27 | 0.2 | <0.10 | 0.5 | 0.67 | 2.82 | 0.16 | 0.35 | 0.16 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.16 | <0.10 | <0.100 | 308 |
| | 12/11/03 | <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 | <0.100 | <0.10 | <0.100 | <200 |
| | 03/18/04 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | <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 | <0.300 | <0.30 | <0.100 | <222 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <2.04 | <2.04 | <2.04 | <5.10 | <2.04 | <2.04 | <5.10 | <1.02 | <1.02 | <5.10 | <0.204 | <2.04 | <0.204 | <0.510 | <0.204 | <0.204 | <0.204 | <2.04 | <0.020 | <0.005 | 0.010 ? | <200 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <2.20Y | <2.20 J3Y | <2.20 J3Y | <5.49Y | <2.20Y | <2.20Y | <5.49Y | <1.10Y | <1.10Y | <5.49Y | <0.220Y | <2.20Y | <0.220Y | <0.549Y | <0.220Y | <0.220Y | <0.220Y | <2.20Y | <0.04 QY | <0.005Y | 0.006Y | <220Y |
| | 12/01/04 | <0.143 | <0.2010 | <0.1417 | <0.220 | <0.220 | <0.2359 | <0.23 | <0.206 | <0.216 | <0.237 | <0.167 | <0.127 | <0.111 | <0.120 | <0.107 | <0.103 | <0.152 | <0.085 | <0.103 | <0.262 | <0.168 | <0.134 | <0.095 | <0.162 | <0.018 | <0.005 | 0.007 | 100 I V |
| | 03/13/05 | <0.143 | <0.201 | <0.142 | <0.220 | <0.220 | <0.236 | <0.101 | <0.133 | <0.210 | <0.0840 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 J3 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | <0.005 | 0.00500 I V | <18 |
| CEF-46-24D | 12/20/00 | <1.0 | <1.0 | 0.47 | 0.41 | 0.88 | NA | <1.1 | N/A | N/A | <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 | <0.6 | <0.4 | 0.18 | <500 |
| | 01/25/01 | 8.3 | 0.81 | 1 | 2 | 12.11 | <1.0 | <1.0 | N/A | N/A | <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 | 0.19 | <510 |
| | 03/14/03 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <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 | <0.100 | 0.21 | 0.841 | <200 |
| | 06/05/03 | <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 | <0.10 | <0.10 | 0.438 | <100 |
| | 09/03/03 | <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 | <0.100 | <0.30 | 0.212 | <225 |
| | 12/10/03 | <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 | <0.100 | 0.16 | 0.119 | <200 |
| | 03/16/04 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | <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 | <0.300 | <0.10 | <0.100 | <100 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <2.20 | <2.20 | <2.20 | <5.49 | <2.20 | <2.20 | <5.49 | <1.10 | <1.10 | <5.49 | <0.220 | <2.20 | <0.220 | <0.549 | <0.220 | <0.220 | <0.220 | <2.20 | 0.018 ? | <0.005 | 0.679 ? | <200 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <2.04Y | <2.04 J3Y | <2.04 J3Y | <5.10Y | <2.04Y | <2.04Y | <5.10Y | <1.02Y | <1.02Y | <5.10Y | <0.204Y | <2.04Y | <0.204Y | <0.510Y | <0.204Y | <0.204Y | <0.204Y | <0.204Y | <0.02 QY | <0.005Y | 0.02?Y | <200Y |
| | 12/01/04 | <0.143 | <0.2010 | <0.1417 | <0.220 | <0.220 | <0.2359 | 0.40 I | <0.200 | <0.210 | <0.230 | <0.162 | <0.123 | <0.107 | <0.116 | <0.104 | <0.100 | <0.147 | <0.082 | <0.100 | <0.254 | <0.163 | <0.130 | <0.092 | <0.157 | <0.018 | <0.005 | <0.003 | 130 I V |
| | 03/13/05 | <0.143 | <0.201 | <0.142 | <0.220 | <0.220 | <0.236 | <0.101 | <0.133 | <0.210 | <0.0840 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 J3 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | <0.005 | 0.138 | <18 |
| CEF-46-25I | 12/20/00 | <1.0 | <1.0 | <1.0 | <1.0 | <4.0 | NA | <1.1 | N/A | N/A | <1.1 | <1.1 | <1.1 | <1.1 | <1.1 | <0.23 | <0.23 | <0.23 | <0.23 | <0.23 | <0.23 | <0.23 | <0.23 | <0.23 | <0.23 | <0.6 | <0.4 | <1.0 | <560 |
| | 01/25/01 | 0.25 | <1.0 | <1.0 | 0.42 | 0.67 | <1.0 | <1.0 | N/A | N/A | <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 | 320 |
| | 03/13/03 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <0.100 | 0.15 | <0.100 | <200 |
| | 06/04/03 | <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 | <0.10 | <0.10 | <0.100 | <200 |
| | 09/03/03 | <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 | <0.300 | <0.30 | <0.100 | <225 |
| | 12/10/03 | <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 |
| | 03/16/04 | <1.00 | <1.0 | <1.0 | <3.0 | <3.0 | <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 | <0.300 | <0.10 | <0.100 | <111 |
| | 06/08/04 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <1.00 | <2.02 | <2.02 | <2.02 | <5.05 | <2.02 | <2.02 | <5.05 | <1.01 | <1.01 | <5.05 | <0.202 | <2.02 | <0.202 | <0.505 | <0.202 | <0.202 | <0.202 | <2.02 | <0.020 | <0.005 | 0.040 ? | <200 |
| | 09/21/04 | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <1.00Y | <2.11Y | <2.11 J3Y | <2.11 J3Y | <5.26Y | <2.11Y | <2.11Y | <5.26Y | <1.05Y | <1.05Y | <5.26Y | <0.211Y | <2.11Y | <0.211Y | <0.526Y | <0.211Y | <0.211Y | <0.211Y | <2.11Y | <0.02 QY | <0.005Y | 0.035 ?Y | <220Y |
| | 12/01/04 | <0.143 | 0.4800 I | <0.1417 | <0.220 | 0.4800 I | <0.2359 | <0.22 | <0.204 | <0.214 | <0.235 | <0.165 | <0.126 | <0.110 | <0.118 | <0.106 | <0.102 | <0.150 | <0.084 | <0.102 | <0.259 | <0.167 | <0.133 | <0.094 | <0.160 | <0.018 | <0.005 | <0.027 | 100 I V |
| | 03/13/05 | <0.143 | <0.201 | <0.142 | <0.220 | <0.220 | <0.236 | <0.101 | <0.133 | <0.210 | <0.0840 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 J3 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | <0.005 | 0.0176 V | <18 |
| CEF-46-26I | 12/20/00 | 1300 | 78 | 41 | 310 | 1729 | NA | <1.1 | N/A | N/A | <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 | <0.6 | <0.4 | <1.0 | <530 |
| | 01/25/01 | 2400 | 270 | 100 | 820 | 3590 | <5.0 | <1.0 | N/A | N/A | <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 | 890 |
| | 03/14/03 | 866 | 23.3 | 5.4 | 199 | 1094 | 15.9 | <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 | <0.100 | 0.35 | <0.100 | 628 |
| | 06/05/03 | 845 | 30 | <10.0 | 314 | 1189 | 21 | <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 | <0.10 | <0.10 | <0.100 | 598 |
| | 09/03/03 | 902 | 24 | <10.0 | 347 | 1273 | 17.0 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.12 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.300 | <0.10 | <0.100 | 488 |
| | 12/11/03 | 693 | 16.5 | 7.9 | 198 | 915 | 19.4 | <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 | <0.300 | <0.30 | <0.100 | 954 |
| | 03/18/04 | 870 | 8.3 | 6.3 ? | 162 | 1046.6 | 20.3 | <2.20 | <2.20 | <2.20 | <5.49 | <2.20 | <2.20 | <5.49 | <1.10 | <1.10 | <5.49 | <0.220 | <2.20 | <0.220 | <0.549 | <0.220 | <0.220 | <0.220 | <2.20 | 0.02 | <0.005 | 0.071 ? | 380 |
| | 06/08/04 | 832 | 87.9 | 47.7 | 371 | 1338.6 | 25.4 | 0.13 | <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 | <0.60 | <0.100 | 524 |
| | 09/21/04 | 184Y | 27.7Y | 7.84Y | 233Y | 452.54Y | 141Y | <2.04Y | <2.04 J3Y | <2.04 J3Y | <5.10Y | <2.04Y | <2.04Y | <5.10Y | <1.02Y | <1.02Y | <5.10Y | <0.204Y | <2.04Y | <0.204Y | <0.510Y | <0.204Y | <0.204Y | <0.204Y | <2.04Y | <0.02 QY | <0.005Y | 0.047 ?Y | 280Y |
| | 12/01/04 | 168 | 16.67 | 6.42 | 128 | 319.09 | 12.05 | 0.56 I | <0.206 | <0.216 | <0.237 | <0.167 | <0.127 | <0.111 | <0.120 | <0.107 | <0.103 | <0.152 | <0.085 | <0.103 | <0.262 | <0.168 | <0.134 | <0.095 | <0.162 | <0.018 | <0.005 | 0.03 | 1500 |
| | 03/13/05 | 5.17 | 2.03 | 0.420 I | 17.6 | 25.22 | 1.83 I | 0.216 I | <0.133 | <0.210 | <0.0840 | <0.112 | <0.0900 | <0.0990 | <0.0780 | <0.108 | <0.135 J3 | <0.106 | <0.0630 | <0.0600 | <0.0900 | <0.154 | <0.121 | <0.146 | <0.102 | <0.0550 | <0.005 | 0.00500 I V | 59 I |
| **Groundwater Criteria [1]** | | 1 | 30 | 40 | 20 | n/a | 50 | 20 | 20 | 20 | 210 | 20 | 280 | 210 | 2100 | 280 | 210 | 0.2 | 4.8 | 0.2 | 0.5 | 0.2 | 0.2 | 0.2 | 210 | 10,000 | 1000 | n/a | 5000 |
| **Natural Attenuation Default Source [1]** | | 100 | 300 | 400 | 200 | n/a | 500 | 200 | 200 | 200 | 2100 | 200 | 2800 | 2100 | 21000 | 2800 | 2100 | 20 | 480 | 20 | 50 | 20 | 20 | 20 | 2100 | 100000 | 10000 | n/a | 50000 |

All values reported in ug/L
1 = Ch 62-777 F.A.C Groundwater Cleanup Target Levels (GCTL) reported in ug/L
Concentrations exceed their respective GCTL value

NS = Not Sampled
N/A = Not Analyzed
? = Rejected during data validation
"V" = the analyte was detected in both the sample and the associated method blank

I= The reported value is between the laborotory method and detection limit
J3 = The reported value failed to meet the established quality control criteria for either precision and/or accuracy
Q= Sample was represerved out of hold time due to preservative with nitric acid instead of sulfuric acid. The lab error did not impact validity of reported values
Y = Sample was received into laboratory out of acceptable temperature range.

**TABLE 4**
**SOIL ANALYTICAL RESULTS**

BUILDING 46 NUTRIENT INJECTION SYSTEM
NAS CECIL FIELD
JACKSONVILLE, FLORIDA

| Soil Boring Number | Sample Date | Benzene | Ethyl Benzene | Toluene | Xylene | BETX | Methyl tert-butyl ether | Naphthalene | Acenaphthylene | Acenaphthene | Fluorene | Phenanthrene | Anthracene | Fluoranthene | 1-Methylnapthalene | 2-Methylnaphthalene | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SB-1** | 01/04/01 | <0.9 | 65 | 14 | 390 | 469 | 3.1 | 73 | <0.18 | <1.8 | 1.235 | 0.67 | <0.18 | 0.179 | -- | -- | 0.039 | <.018 | 0.48 | 0.02 | 0.0243 | 0.0102 | 0.0063 | <0.018 | <0.018 | 9900 |
| | 06/27/01 | 0.61 | 34 | 9.1 | 110 | 153.71 | <0.0012 | 1.4 | <0.18 | 0.16 | 0.15 | 0.15 | <0.18 | 0.051 | -- | -- | 0.012 | 0.022 | 0.19 | 0.012 | 0.013 | 0.0056 | 0.0073 | <0.018 | 0.0049 | 150 |
| | 09/20/01 | 0.65 | 6.1 | 0.69 | 40 | 47.44 | <0.15 | 8.8 | <0.2 | <0.2 | <0.2 | 0.28 | <0.2 | 0.11 | -- | -- | 0.019 | <0.02 | 0.15 | 0.034 | 0.026 | 0.018 | 0.011 | 0.026 | 0.024 | 1500 |
| | 12/12/01 | 0.069 | 0.13 | 0.013 | 0.55 | 0.762 | 0.0084 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.02 | -- | -- | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 19 |
| | 03/07/02 | 3 | 67 | 7.1 | 200 | 277.1 | <1.2 | 23 | <0.19 | <0.19 | <0.19 | 0.27 | <0.19 | 0.057 | -- | -- | 0.0057 | 0.023 | 0.26 | <0.019 | <0.19 | 0.0053 | <0.019 | <0.019 | <0.019 | 1600 |
| | 06/20/02 | 0.15 | 7.9 | 0.82 | 27 | 35.87 | <.11 | 5.2 | <0.18 | <0.18 | 0.92 J | 0.086 J | <0.18 | 0.024 J | -- | -- | <0.018 | <0.018 | 0.04 | <0.018 | <0.018 | .0035 J | .0038 J | <0.018 | <0.018 | 180 |
| | 09/26/02 | 2.17 | 97.7 | 10.7 | 532 | 642.57 | <1.19 | 21.1 | <0.20 | <0.20 | <0.20 | 0.27 J | <0.20 | 0.054 J | -- | -- | 0.017 J | 0.032 J | <0.020 | 0.015 J | 0.022 J | <0.020 | <0.020 | 0.017 J | 0.012 J | 800 |
| | 12/13/02 | 0.153 | 4.17 | 0.406 | 27.8 | 32.5 | <0.166 | 2.84 | <0.68 | <0.68 | <0.143 | <0.0436 | <0.0449 | 0.0517 | <1.02 | 3.02 | 0.0251 | <0.00885 | <0.0102 | <0.0122 | <0.0116 | <0.0068 | <0.0292 | <0.0204 | <0.0517 | 151 |
| | 03/15/03 | <0.034 | 0.155 | <0.034 | 0.794 | 0.949 | <0.169 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | 0.089 | 0.132 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | 65.3 |
| | 06/09/03 | 0.1869 | 1.526 | 0.2224 | 3.082 | 5.017 | <0.252 | 0.0805 | 0.00432 | 0.00864 | 0.0755 | 0.0502 | 0.0176 | 0.00943 | 0.62 | 0.976 | 0.0118 | <0.00393 | <0.00393 | <0.00393 | <0.00393 | <0.00393 | <0.00393 | <0.00393 | <0.00393 | 27.7 |
| | 09/04/03 | 0.0226 | 1.8 | 0.043 | 1.48 | 3.346 | 0.011 | 0.231 | <0.0033 | 0.00561 | 0.0531 | 0.0182 | 0.00528 | 0.00561 | 0.615 | 0.985 | 0.0066 | <0.0033 | <0.0033 | 0.00462 | 0.00363 | 0.0066 | 0.00825 | 0.0033 | 0.00924 | 34.6 |
| | 12/11/03 | 0.486 | 1.11 | 0.572 | 12 | 14.168 | 0.228 | 2.11 | <0.0033 | 0.0099 | 0.0356 | 0.0238 | 0.0191 | 0.0158 | 1.72 | 2.9 | 0.0122 | <0.0033 | <0.0033 | 0.0102 | 0.00726 | 0.0142 | 0.0116 | <0.0033 | <0.00957 | 154 |
| | 03/18/04 | 0.0021 | 0.0597 | 0.0218 | 0.333 | 0.417 | <0.006 | 0.277 | <0.00398 | <0.00398 | 0.0131 | 0.0123 | <0.00398 | 0.00796 | 0.322 | 0.704 | <0.00398 | <0.00398 | <0.00398 | <0.00398 | <0.00398 | <0.00398 | <0.00398 | <0.00398 | <0.00398 | 12.3 |
| | 06/07/04 | <0.514 | <0.514 | <0.514 | 3.2 | 3.200 | <0.514 | <0.0998 | <0.0998 | <0.0998 | <0.0998 | <0.0998 | <0.0998 | <0.0998 | 0.175 | 0.4 | <0.150 | <0.0998 | <0.0998 | <0.0998 | <0.0998 | <0.0998 | <0.0998 | <0.0998 | <0.0998 | 13.2 |
| | 09/20/04 | <0.256Y | <0.256Y | <0.256Y | 0.273Y | 0.273Y | 0.418Y | <0.100Y | <0.100 Y | <0.100 J3Y | <0.100 J3Y | <0.100 Y | <0.100Y | <0.100Y | <0.100 J3Y | <0.150 J3Y | <0.150Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | 9.9Y |
| | 12/01/04 | <0.000596 | <0.0005623 | <0.0005623 | <0.000874 | <0.000874 | <0.0005827 | <0.07708 | <0.06734 | <0.07411 | <0.09095 | <0.05945 | <0.02727 | <0.02912 | <0.06959 | <0.07128 | <0.03468 j3 | <0.01810 | <0.02000 | <0.01776 | <0.01776 | <0.02057 | <0.02164 | <0.02196 | <0.01735 | 85.3 |
| | 03/13/05 | <0.000709 | 0.680 | 0.118 I | 4.050 | 4.848 | 0.152 I | 1.110 | <0.0977 | <0.074 | <0.0654 | <0.0394 | <0.0532 | <0.024 | 0.654 | 1.460 | <0.0039 | <0.0181 | <0.020 | <0.0176 | <0.0176 | <0.0206 | <0.0216 | <0.0219 | <0.0173 | 35.0 |
| **SB-2** | 01/04/01 | 7.1 | 120 | 10 | 610 | 747.1 | 3.8 | 38.5 | <0.18 | <0.18 | 0.515 | 0.66 | <0.18 | 0.173 | -- | -- | 0.044 | 0.0425 | <0.018 | 0.01685 | 0.02945 | 0.0215 | <0.018 | <0.018 | 0.0255 | 3900 |
| | 06/27/01 | 1.4 | 57 | 47 | 420 | 525.4 | <0.0011 | 0.84 | 0.17 | 1 | 0.46 | 0.59 | 0.086 | 0.21 | -- | -- | 0.046 | 0.077 | 0.071 | 0.026 | 0.037 | 0.019 | 0.0072 | <0.019 | 0.0091 | 1300 |
| | 09/20/01 | 0.51 | 32 | 6 | 290 | 328.51 | <0.12 | 7.4 | <0.2 | 2.1 | <0.20 | 0.58 | <0.2 | 0.2 | -- | -- | 0.049 | 0.076 | 0.16 | 0.026 | <0.020 | 0.02 | <0.020 | <0.020 | <0.020 | 430 |
| | 12/12/01 | <11 | 99 | 110 | 620 | 829 | <11 | 34 | <0.2 | 0.12 | 0.38 | 0.23 | <0.2 | 0.043 | -- | -- | 0.018 | 0.017 | 0.15 | 0.01 | 0.0066 | 0.007 | <0.020 | 0.0081 | 0.015 | 1800 |
| | 03/07/02 | 1.7 | 38 | 24 | 430 | 493.7 | <1 | 24 | <0.19 | <0.19 | <0.19 | 0.47 | <0.19 | 0.085 | -- | -- | 0.012 | 0.049 | <0.019 | 0.027 | 0.051 | 0.026 | 0.051 | <0.019 | 0.015 | 2000 |
| | 06/20/02 | 0.14 | 2.8 | 6 | 72 | 80.94 | <.12 | 11 | <0.17 | <0.17 | <0.17 | 0.2 | 0.1 J | 0.065 J | -- | -- | 0.015 J | 0.028 J | 0.075 | 0.013 J | 0.018 J | 0.010 J | <0.017 | <0.017 | <0.017 | 550 |
| | 09/26/02 | 0.746 J | 9.15 | 22 | 274 | 305.15 | <1.2 | 20.5 | <0.19 | <0.19 | <0.19 | 0.99 | <0.19 | 0.17 J | -- | -- | 0.060 J | 0.12 J | <0.019 | 0.030 J | 0.042 J | 0.029 | 0.0079 J | 0.032 J | 0.016 J | 970 |
| | 12/13/02 | <0.611 | 8.01 | 12.8 | 80.7 | 101.51 | <3.06 | 9.98 | <0.661 | <0.661 | <0.139 | 0.0582 | <0.0436 | <0.0139 | 2.13 | 9.78 | 0.0906 | <0.00859 | <0.00991 | <0.0119 | <0.0112 | <0.00661 | <0.0284 | <0.0198 | <0.0502 | 428 |
| | 03/15/03 | 1.32 | 43.1 | 31.1 | 322 | 398 | <0.532 | 10.7 | <0.066 | 0.079 | <0.066 | 0.317 | 0.066 | <0.066 | 7.59 | 12.9 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | 997 |
| | 06/09/03 | 0.4545 | 11.07 | 0.4463 | 75.58 | 88 | <0.413 | 11.2 | 0.033 | 0.0632 | 0.136 | 0.206 | 0.058 | 0.0333 | 7.06 | 12 | 0.0425 | 0.00953 | 0.0123 | 0.0107 | 0.00556 | 0.0111 | 0.0107 | <0.00397 | 0.0115 | 288 |
| | 09/04/03 | 0.717 | 18.6 | 3.05 | 115 | 137 | <0.466 | 10.7 | 0.0304 | 0.0544 | 0.108 | 0.141 | 0.0403 | 0.0188 | 5.99 | 9.95 | 0.0224 | 0.00825 | 0.00528 | <0.0033 | <0.0033 | 0.00627 | <0.0033 | <0.0033 | 0.00528 | 453 |
| | 12/11/03 | 0.0442 | 14.9 | 10.4 | 192 | 217 | 0.008 | 39.2 | 0.109 | 0.17 | 0.311 | 0.414 | 0.117 | 0.0696 | 21.1 | 39.5 | 0.101 | 0.0459 | 0.0221 | 0.0191 | 0.0122 | 0.0284 | 0.0158 | <0.0033 | 0.0188 | 1010 |
| | 03/18/04 | 0.0028 | 1.46 | 0.0389 | 6.52 | 8.0217 | 0.015 | 1.1 | 0.0253 | <0.00422 | 0.0611 | 0.0769 | <0.00422 | 0.011 | 1.65 | 2.93 | 0.0143 | <0.00422 | <0.00422 | <0.00422 | <0.00422 | <0.00422 | <0.00422 | <0.00422 | <0.00422 | 48.2 |
| | 06/07/04 | <0.467 | <0.467 | <0.467 | 8.26 | 8.2600 | <0.467 | 3.32 | <0.100 | 0.115 | 0.183 | 0.27 | <0.100 | <0.100 | 7.13 | 13.4 | <0.150 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | 657 |
| | 09/20/04 | <0.280Y | 4.31Y | <0.280Y | 21Y | 25.431Y | 0.366Y | 1.35Y | <0.100Y | <0.100 J3Y | <0.100 J3Y | <0.100Y | <0.100Y | <0.100Y | 0.794 J3Y | 1.740 J3Y | <0.150Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | 155Y |
| | 12/01/04 | 0.249 | 28.94 | 41.13 | 178.000 | 248.319 | <0.05174 | 9.700 | <0.06734 | <0.07411 | <0.09095 | 0.09700 I | <0.02727 | <0.02912 | 4.163 | 9.567 | <0.03468 J3 | <0.01810 | <0.020000 | <0.01776 | <0.01776 | <0.02057 | <0.02164 | <0.02196 | <0.01735 | 645 |
| | 03/13/05 | <0.0594 | 0.306 | 0.888 | 1.800 | 2.994 | 0.191 | 1.080 | <0.0977 | <0.0740 | <0.654 | <0.0394 | <0.0532 | <0.0240 | 0.734 | 1.500 | <0.0339 | <0.0181 | <0.020 | <0.0176 | <0.0176 | <0.0206 | <0.0216 | <0.0219 | <0.0173 | 28.0 |
| **SB-14** | 01/04/01 | <0.001 | <0.001 | 0.011 | 0.0077 | 0.0187 | 0.0081 | 0.23 | <0.18 | <0.18 | <0.18 | <0.18 | <0.18 | <0.018 | -- | -- | <0.018 | <0.018 | 0.785 | 0.0145 | 0.008 | 0.0115 | 0.0075 | 0.0101 | 0.016 | 43 |
| | 06/27/01 | 0.1 | 0.16 | <0.0011 | 0.15 | 0.41 | 0.015 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 | 0.014 | -- | -- | <0.019 | <0.019 | 0.44 | 0.0059 | 0.0072 | 0.019 | <0.019 | 0.023 | <0.019 | 270 |
| | 09/20/01 | 0.0025 | 0.0025 | 0.002 | 0.0024 | 0.0094 | <0.0012 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.020 | -- | -- | <0.020 | <0.020 | 0.32 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 55 |
| | 12/12/01 | 0.11 | 0.18 | 0.014 | 0.71 | 1.014 | 0.012 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 | <0.019 | -- | -- | <0.019 | <0.019 | 0.058 | <0.019 | <0.019 | <0.019 | <0.019 | <0.019 | <0.019 | 65 |
| | 03/07/02 | 0.054 | 0.045 | <0.0011 | 0.032 | 0.131 | 0.0021 | 0.56 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 | 0.011 | -- | -- | <0.019 | <0.019 | 1.2 | <0.019 | <0.019 | <0.019 | <0.019 | <0.019 | <0.019 | 120 |
| | 06/20/02 | <0.11 | 110 J | <0.11 | 110 J | 220 | <0.11 | <0.18 | <0.18 | <0.18 | <0.18 | <0.18 | <0.18 | <0.018 | -- | -- | <0.018 | <0.018 | 1.4 J | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | 23 |
| | 09/26/02 | <0.001 | 0.0288 | <0.001 | 0.0321 | 0.0609 | 0.00268 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 | 0.011 J | -- | -- | 0.0099 J | <0.019 | 0.38 J | 0.03 | 0.018 J | 0.062 J | <0.019 | 0.059 J | <0.019 | 117 |
| | 12/13/02 | <0.125 | 0.402 | 0.602 | 0.602 | 1.606 | <0.314 | <2.08 | <2.08 | <2.08 | <0.439 | <1.34 | <1.38 | <0.439 | <3.14 | <3.14 | <0.565 | <0.271 | <0.314 | <0.376 | <0.355 | <0.208 | <0.898 | <0.627 | <1.59 | 192 |
| | 03/15/03 | 0.138 | 0.823 | 0.087 | 0.966 | 2.01 | <0.140 | 0.185 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | 0.228 | 0.429 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | <0.066 | 51.2 |
| | 06/09/03 | 0.0099 | 0.1241 | 0.02 | 0.1563 | 0.31 | 0.006 | 6.2 | 0.0334 | 0.0645 | 0.137 | 0.154 | 0.0523 | 0.0556 | 6.15 | 10.8 | 0.0499 | 0.0277 | 0.0265 | 0.0319 | 0.0242 | 0.0292 | 0.0292 | 0.013 | 0.0299 | 413 |
| | 09/04/03 | 0.0046 | 0.0045 | 0.0061 | 0.0083 | 0.0235 | <0.005 | 0.553 | <0.0033 | <0.0033 | 0.00627 | 0.00594 | <0.0033 | <0.0033 | 0.353 | 0.543 | <0.0033 | <0.0033 | <0.0033 | <0.0033 | <0.0033 | <0.0033 | <0.0033 | <0.0033 | 0.00627 | 54.5 |
| | 12/11/03 | 0.0147 | 0.0016 | 0.0011 | 0.0055 | 0.0229 | <0.005 | 1.01 | 0.0155 | <0.0033 | 0.00891 | 0.00759 | 0.0132 | 0.0287 | 0.49 | 0.795 | 0.0337 | 0.0234 | 0.0191 | 0.0241 | 0.0241 | 0.0419 | 0.0333 | 0.0162 | 0.0376 | 126 |
| | 03/18/04 | 0.0012 | 0.0063 | 0.0019 | 0.0027 | 0.0121 | <0.006 | 0.0085 | <0.0037 | <0.0037 | <0.0037 | <0.0037 | <0.0037 | <0.0037 | 0.00628 | 0.0144 | <0.0037 | <0.0037 | <0.0037 | <0.0037 | <0.0037 | <0.0037 | <0.0037 | <0.0037 | 0.0103 | 20.7 |
| | 06/07/04 | <0.455 | <0.455 | <0.455 | <0.455 | <0.455 | <0.455 | 1.67 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | 0.368 | 0.69 | <0.150 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | 116 |
| | 09/20/04 | <0.450Y | <0.450Y | <0.450Y | <0.450Y | <0.450Y | 0.612Y | 15.1Y | <0.100Y | 0.328 J3Y | 0.433 J3Y | 0.905Y | 0.940 IY | 0.103Y | 8.560 J3Y | 16.900 J3Y | 0.215Y | <0.100Y | 0.0463 IY | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | <0.100Y | 633Y |
| | 12/01/04 | <0.000707 | 0.07285 | 0.002564 | 0.218 | 0.2934 | < 0.0006913 | 0.9073 | <0.06734 | <0.07411 | <0.09095 | <0.05945 | <0.02727 | <0.02912 | 0.3703 | 0.829 | <0.03468 | <0.01810 | <0.02000 | <0.01776 | <0.01776 | <0.02057 | <0.02164 | <0.02196 | <0.01735 | 19.2 |
| | 03/13/05 | <0.0547 | 0.336 | 0.601 | 1.280 | 2.2170 | <0.0534 | 0.245 | <0.0977 | <0.0740 | <0.0654 | <0.0394 | <0.0532 | <0.024 | 0.115 I | 0.246 | <0.0339 | <0.0181 | <0.020 | <0.0176 | <0.0176 | <0.0206 | <0.0216 | <0.0219 | <0.0173 | 26.9 |
| **Direct Exposure Residential [1]** | | 1.1 | 1100 | 380 | 5900 | n/a | 3200 | 40 | 1100 | 1900 | 2200 | 2000 | 18000 | 2900 | 68 | 80 | 2200 | 1.4 | 140 | 1.4 | 15 | 0.1 | 1.5 | 0.1 | 2300 | 340 |
| **Leachability from GW Criteria [1]** | | 0.007 | 0.6 | 0.5 | 0.2 | n/a | 0.2 | 1.7 | 27 | 2.1 | 160 | 250 | 2500 | 1200 | 2.2 | 6.1 | 880 | 3.2 | 77 | 10 | 25 | 8 | 28 | 30 | 32000 | 340 |

Y = The sample was received into laboratory out of acceptable temperature range.
I = The reported value is between the laboratory method detection limit and the laboratory practicial quantitation limit.
J = Estimated value
J3 = The reported value failed to meet the established quality control criteria for either precision and/or accuracy.
All values reported in mg/kg
1 = Ch 62-777 F.A.C Soil Cleanup Target Levels (SCTL) reported in mg/kg
Highlighted values indicate compounds that exceed the SCTL or the Leachability Criteria

# APPENDIX D

*March 2005 Groundwater Sampling Logs*

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Karen Baer | Technician 2: | Weather: Sunny |
| Sampling ID: 04-41001/3:CEF-46-12I:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-12I** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 29.61 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 78.73 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 8.70 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 26.00 |
| pH Meter: YSI 556 MPS | Cond. Meter: YSI 556MPS | DO Meter: YSI 556 MPS | Turb. Meter: Hach 2100P |
| Purge Start: 09:26 | Purge End: 09:36 | Total Volume Purged (gal): 0.70 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09:30 | 8.72 | 0.30 | 0.07 | 0.30 | 23.72 | 382.0 | 5.12 | 132.2 | 26.90 | | yellow | none |
| 09:33 | 8.72 | 0.50 | 0.06 | 0.15 | 24.08 | 385.0 | 5.12 | 125.4 | 26.30 | | | |
| 09:36 | 8.72 | 0.70 | 0.06 | 0.13 | 24.00 | 384.0 | 5.12 | 121.5 | 21.50 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 09:37
Sample End Time: 09:55
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.12
Temp (*C): 24.02
SEC (uS/cm): 384.00
pH: 5.12
ORP (mV): 120.10
Turb (NTU): 20.50
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: 220
Alkalinity: 25
Ferrous Iron: 1
H2S: 0
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Karen Baer | Technician 2: | Weather: Sunny |
| Sampling ID: 04-41001/3:CEF-46-13I:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-13I** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 39.56 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 78.87 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 8.91 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 35.00 |
| pH Meter: YSI 556 MPS | Cond. Meter: YSI 556MPS | DO Meter: YSI 556 MPS | Turb. Meter: Hach 2100P |
| Purge Start: 10:04 | Purge End: 10:16 | Total Volume Purged (gal): 0.60 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:09 | 8.95 | 0.20 | 0.04 | 0.94 | 23.91 | 931.0 | 2.90 | 483.3 | 8.13 | | clear | none |
| 10:13 | 8.95 | 0.40 | 0.05 | 0.81 | 24.33 | 941.0 | 2.91 | 488.9 | 5.62 | | | |
| 10:16 | 8.95 | 0.60 | 0.06 | 0.77 | 24.44 | 945.0 | 2.91 | 491.9 | 5.04 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 10:17
Sample End Time: 10:35
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.75
Temp (*C): 24.67
SEC (uS/cm): 947.00
pH: 2.92
ORP (mV): 494.30
Turb (NTU): 4.47
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: Interferen
Alkalinity: 0
Ferrous Iron: 2.8
H2S: 1
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:

CO2 High Range:
CO2 Low Range:

Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Larry Wolski | Technician 2: | Weather: "Cool, Windy, Sunny" |
| Sampling ID: 04-41001/3:CEF-46-14D:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-14D** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 78.79 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 78.88 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 8.54 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 76.00 |
| pH Meter: Horiba U-22 | Cond. Meter: Horiba U-22 | DO Meter: Horiba U-22 | Turb. Meter: Hach 2100P |
| Purge Start: 09:21 | Purge End: 09:40 | Total Volume Purged (gal): 0.60 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09:34 | 9.14 | 0.30 | 0.02 | 1.18 | 21.92 | 120.0 | 7.60 | -11.0 | 12.40 | | clear | none |
| 09:37 | 9.22 | 0.50 | 0.06 | 0.88 | 22.67 | 110.0 | 7.67 | -21.0 | 7.71 | | | |
| 09:40 | 9.22 | 0.60 | 0.03 | 0.40 | 22.80 | 110.0 | 7.70 | -30.0 | 7.50 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 09:43
Sample End Time: 09:56
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.20
Temp (*C): 22.89
SEC (uS/cm): 110.00
pH: 7.68
ORP (mV): -29.00
Turb (NTU): 7.28
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: 109
Alkalinity: 25
Ferrous Iron: 3.8
H2S: 2
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH, NOX"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Larry Wolski | Technician 2: | Weather: "Cool, Windy, Sunny" |
| Sampling ID: 04-41001/3:CEF-46-15I:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-15I** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 29.77 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.75 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 9.31 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 27.00 |
| pH Meter: Horiba U-22 | Cond. Meter: Horiba U-22 | DO Meter: Horiba U-22 | Turb. Meter: Hach 2100P |
| Purge Start: 08:38 | Purge End: 08:59 | Total Volume Purged (gal): 1.10 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 08:49 | 10.63 | 0.40 | 0.03 | 0.12 | 20.70 | 170.0 | 4.44 | 254.0 | 56.40 | | clear | none |
| 08:52 | 9.62 | 0.60 | 0.06 | 1.00 | 21.44 | 170.0 | 4.44 | 256.0 | 48.20 | | | |
| 08:56 | 9.65 | 0.80 | 0.05 | 1.17 | 21.85 | 180.0 | 4.44 | 257.0 | 38.90 | | | |
| 08:59 | 9.67 | 1.10 | 0.10 | 1.88 | 22.02 | 180.0 | 4.46 | 256.0 | 35.30 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 09:03
Sample End Time: 09:12
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 2.07
Temp (*C): 22.05
SEC (uS/cm): 180.00
pH: 4.47
ORP (mV): 256.00
Turb (NTU): 32.10
Salinity:

**Hach Field Data (mg/L)**

DO: 1
CO2: 291
Alkalinity: 0
Ferrous Iron: 4.5
H2S: 0
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH, NOX"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Karen Baer | Technician 2: | Weather: Sunny |
| Sampling ID: 04-41001/3:CEF-46-1S:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-1S** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 14.24 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.08 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 9.00 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 11.00 |
| pH Meter: YSI 556 MPS | Cond. Meter: YSI 556MPS | DO Meter: YSI 556 MPS | Turb. Meter: Hach 2100P |
| Purge Start: 13:25 | Purge End: 14:18 | Total Volume Purged (gal): 1.30 | |

## Purging Data

| Time | Water Level (ft) | Vol Purged (gal) | Pump Rate (gal/min) | DO (mg/L) | Temp (°C) | SEC (µS/cm) | pH | ORP (mV) | Turbidity (NTU) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14:10 | 10.10 | 1.00 | 0.02 | 1.79 | 24.69 | 1,487.0 | 6.23 | -317.1 | 23.70 | | black | strong HC |
| 14:14 | 10.30 | 1.10 | 0.02 | 0.39 | 24.59 | 1,468.0 | 6.22 | -326.9 | 14.20 | | | |
| 14:18 | 10.60 | 1.30 | 0.05 | 0.19 | 24.63 | 1,468.0 | 6.20 | -345.0 | 11.50 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 14:19
Sample End Time: 14:50
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.18
Temp (*C): 24.63
SEC (uS/cm): 1467.00
pH: 6.23
ORP (mV): -347.60
Turb (NTU): 9.95
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: 170
Alkalinity: 275
Ferrous Iron: 2.8
H2S: 5
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Karen Baer | Technician 2: | Weather: Sunny |
| Sampling ID: 04-41001/3:CEF-46-21I:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-21I** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 28.50 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.31 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 10.60 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 25.00 |
| pH Meter: YSI 556 MPS | Cond. Meter: YSI 556MPS | DO Meter: YSI 556 MPS | Turb. Meter: Hach 2100P |
| Purge Start: 08:46 | Purge End: 08:59 | Total Volume Purged (gal): 1.10 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 08:48 | 10.70 | 0.20 | 0.10 | 0.32 | 21.84 | 168.0 | 3.78 | 234.9 | 58.70 | | clear | none |
| 08:52 | 10.70 | 0.40 | 0.05 | 0.18 | 22.72 | 171.0 | 3.69 | 265.9 | 51.60 | | | |
| 08:55 | 10.70 | 0.80 | 0.06 | 0.11 | 23.27 | 173.0 | 3.67 | 292.8 | 35.40 | | | |
| 08:59 | 10.70 | 1.10 | 0.07 | 0.11 | 23.35 | 174.0 | 3.66 | 306.5 | 19.80 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 09:00
Sample End Time: 09:15
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.10
Temp (*C): 23.58
SEC (uS/cm): 175.00
pH: 3.66
ORP (mV): 311.20
Turb (NTU): 16.10
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: 112
Alkalinity: 0
Ferrous Iron: 0.8
H2S: 0
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Larry Wolski | Technician 2: | Weather: "Windy, Sunny" |
| Sampling ID: 04-41001/3:CEF-46-24D:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-24D** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 90.45 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 78.74 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 9.92 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 88.00 |
| pH Meter: Horiba U-22 | Cond. Meter: Horiba U-22 | DO Meter: Horiba U-22 | Turb. Meter: Hach 2100P |
| Purge Start: 11:54 | Purge End: 11:54 | Total Volume Purged (gal): 0.80 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:46 | 9.99 | 0.40 | 0.05 | 0.82 | 25.19 | 1,200.0 | 6.09 | 65.0 | 8.85 | | clear | sulfuric |
| 11:49 | 9.99 | 0.60 | 0.06 | 0.34 | 25.50 | 1,200.0 | 6.21 | 58.0 | 7.16 | | | |
| 11:54 | 10.01 | 0.80 | 0.04 | 0.13 | 25.65 | 1,200.0 | 6.20 | 56.0 | 6.00 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 11:58
Sample End Time: 12:13
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.12
Temp (*C): 25.70
SEC (uS/cm): 1200.00
pH: 6.16
ORP (mV): 58.00
Turb (NTU): 5.92
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: Interferen
Alkalinity: 5
Ferrous Iron: 7.4
H2S: 1
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:

CO2 High Range:
CO2 Low Range:

Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH, NOX"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Larry Wolski | Technician 2: | Weather: "Windy, Sunny" |
| Sampling ID: 04-41001/3:CEF-46-25I:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-25I** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 50.45 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.17 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 10.46 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 48.00 |
| pH Meter: Horiba U-22 | Cond. Meter: Horiba U-22 | DO Meter: Horiba U-22 | Turb. Meter: Hach 2100P |
| Purge Start: 10:47 | Purge End: 11:03 | Total Volume Purged (gal): 0.60 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:56 | 10.64 | 0.40 | 0.04 | 0.59 | 22.58 | 810.0 | 6.69 | 16.0 | 9.30 | | clear | sulfuric |
| 11:00 | 10.62 | 0.50 | 0.02 | 0.40 | 22.74 | 810.0 | 6.68 | 12.0 | 7.97 | | | |
| 11:03 | 10.62 | 0.60 | 0.03 | 0.23 | 22.92 | 810.0 | 6.68 | 8.0 | 7.72 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 11:07
Sample End Time: 11:15
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.19
Temp (*C): 22.96
SEC (uS/cm): 800.00
pH: 6.67
ORP (mV): 8.00
Turb (NTU): 7.82
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: Interferen
Alkalinity: 0
Ferrous Iron: 12
H2S: 5
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:

CO2 High Range:
CO2 Low Range:

Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH, NOX"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Karen Baer | Technician 2: | Weather: Sunny |
| Sampling ID: 04-41001/3:CEF-46-26I:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-26I** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 47.76 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.43 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 11.50 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 44.00 |
| pH Meter: YSI 556 MPS | Cond. Meter: YSI 556MPS | DO Meter: YSI 556 MPS | Turb. Meter: Hach 2100P |
| Purge Start: 11:38 | Purge End: 11:54 | Total Volume Purged (gal): 1.30 | |

## Purging Data

| Time | Water Level (ft) | Vol Purged (gal) | Pump Rate (gal/min) | DO (mg/L) | Temp (°C) | SEC (µS/cm) | pH | ORP (mV) | Turbidity (NTU) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:41 | 11.55 | 0.20 | 0.06 | 1.99 | 23.59 | 5,406.0 | 2.09 | 512.7 | 20.10 | | clear | slight HC |
| 11:44 | 11.55 | 0.40 | 0.06 | 1.06 | 23.78 | 5,429.0 | 2.21 | 435.1 | 13.90 | | | |
| 11:47 | 11.55 | 0.60 | 0.06 | 0.57 | 23.79 | 5,330.0 | 2.47 | 386.3 | 8.51 | | | |
| 11:50 | 11.55 | 1.00 | 0.13 | 0.20 | 24.28 | 5,353.0 | 2.82 | 309.7 | 8.04 | | | |
| 11:54 | 11.55 | 1.30 | 0.07 | 0.14 | 24.31 | 5,348.0 | 2.92 | 258.9 | 4.44 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 11:55
Sample End Time: 12:15
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.12
Temp (*C): 24.33
SEC (uS/cm): 5353.00
pH: 2.90
ORP (mV): 250.30
Turb (NTU): 4.24
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: Interferen
Alkalinity: 0
Ferrous Iron: 10
H2S: 2
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:

CO2 High Range:
CO2 Low Range:

Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Karen Baer | Technician 2: | Weather: Sunny |
| Sampling ID: 04-41001/3:CEF-46-2S:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-2S** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 13.88 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.08 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 8.86 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 11.00 |
| pH Meter: YSI 556 MPS | Cond. Meter: YSI 556MPS | DO Meter: YSI 556 MPS | Turb. Meter: Hach 2100P |
| Purge Start: 10:47 | Purge End: 11:05 | Total Volume Purged (gal): 2.00 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:55 | 9.30 | 1.00 | 0.12 | 0.20 | 22.45 | 2,469.0 | 5.87 | -109.5 | 39.60 | | yellow | slight HC |
| 10:58 | 9.28 | 1.50 | 0.16 | 0.12 | 22.17 | 2,642.0 | 5.86 | -148.0 | 21.00 | | | |
| 11:02 | 9.28 | 1.80 | 0.07 | 0.09 | 22.82 | 2,597.0 | 5.89 | -165.2 | 17.10 | | | |
| 11:05 | 9.25 | 2.00 | 0.03 | 0.12 | 22.84 | 2,560.0 | 5.91 | -178.8 | 16.00 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 11:06
Sample End Time: 11:20
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.07
Temp (*C): 22.86
SEC (uS/cm): 2547.00
pH: 5.92
ORP (mV): -181.60
Turb (NTU): 16.10
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: 207
Alkalinity: 60
Ferrous Iron: 2.2
H2S: 1
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Larry Wolski | Technician 2: | Weather: "Windy, Sunny" |
| Sampling ID: 04-41001/3:CEF-46-5I:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-5I** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 49.65 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.18 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 10.11 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 47.00 |
| pH Meter: Horiba U-22 | Cond. Meter: Horiba U-22 | DO Meter: Horiba U-22 | Turb. Meter: Hach 2100P |
| Purge Start: 13:10 | Purge End: 13:37 | Total Volume Purged (gal): 1.90 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:19 | 10.95 | 0.70 | 0.07 | 2.66 | 25.59 | 1,300.0 | 2.49 | 433.0 | 16.10 | | clear | none |
| 13:23 | 10.72 | 1.00 | 0.07 | 0.56 | 26.21 | 1,500.0 | 2.94 | 404.0 | 11.10 | | | |
| 13:26 | 10.79 | 1.30 | 0.10 | 0.08 | 26.68 | 1,700.0 | 3.47 | 355.0 | 17.50 | | | |
| 13:29 | 10.79 | 1.50 | 0.06 | 0.00 | 27.00 | 1,900.0 | 3.87 | 324.0 | 18.90 | | | |
| 13:33 | 10.79 | 1.80 | 0.07 | 0.00 | 27.33 | 2,100.0 | 4.14 | 297.0 | 16.40 | | | |
| 13:37 | 10.54 | 1.90 | 0.02 | 0.00 | 27.49 | 2,100.0 | 4.18 | 289.0 | 17.90 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 13:43
Sample End Time: 14:00
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.00
Temp (*C): 27.41
SEC (uS/cm): 2300.00
pH: 4.21
ORP (mV): 283.00
Turb (NTU): 9.24
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: 579
Alkalinity: 0
Ferrous Iron: 9.2
H2S: 0
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH, NOX"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Larry Wolski | Technician 2: | Weather: "Windy, Sunny" |
| Sampling ID: 04-41001/3:CEF-46-6D:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-6D** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 79.82 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.17 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 10.58 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 0.00 |
| pH Meter: Horiba U-22 | Cond. Meter: Horiba U-22 | DO Meter: Horiba U-22 | Turb. Meter: Hach 2100P |
| Purge Start: 12:24 | Purge End: 12:50 | 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:40 | 11.31 | 0.40 | 0.02 | 2.26 | 25.80 | 4,800.0 | 1.71 | 448.0 | 121.00 | | orange | none |
| 12:44 | 11.32 | 0.60 | 0.05 | 0.72 | 26.00 | 8,100.0 | 2.23 | 419.0 | 70.40 | | | |
| 12:47 | 11.38 | 0.80 | 0.06 | 0.23 | 26.22 | 8,900.0 | 2.36 | 415.0 | 40.90 | | | |
| 12:50 | 11.54 | 1.00 | 0.06 | 0.15 | 26.41 | 9,000.0 | 2.43 | 414.0 | 36.80 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 12:55
Sample End Time: 13:07
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.14
Temp (*C): 26.45
SEC (uS/cm): 9000.00
pH: 2.44
ORP (mV): 414.00
Turb (NTU): 31.30
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: 176
Alkalinity: 0
Ferrous Iron: 10
H2S: 0
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH, NOX"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Karen Baer | Technician 2: | Weather: Sunny |
| Sampling ID: 04-41001/3:CEF-46-7I:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-7I** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 29.68 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.02 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 9.71 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 26.00 |
| pH Meter: YSI 556 MPS | Cond. Meter: YSI 556MPS | DO Meter: YSI 556 MPS | Turb. Meter: Hach 2100P |
| Purge Start: 12:24 | Purge End: 12:46 | Total Volume Purged (gal): 0.80 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:34 | 10.40 | 0.20 | 0.02 | 0.33 | 25.08 | 132.0 | 4.94 | -37.6 | 154.00 | | yellow | slight HC |
| 12:38 | 10.50 | 0.30 | 0.02 | 0.20 | 25.49 | 130.0 | 4.93 | -54.8 | 141.00 | | | |
| 12:42 | 11.04 | 0.60 | 0.07 | 0.11 | 25.74 | 130.0 | 4.89 | -67.0 | 151.00 | | | |
| 12:46 | 11.10 | 0.80 | 0.05 | 0.11 | 25.73 | 130.0 | 4.89 | -76.5 | 148.00 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 12:47
Sample End Time: 13:05
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.12
Temp (*C): 25.78
SEC (uS/cm): 130.00
pH: 4.90
ORP (mV): -79.20
Turb (NTU): 144.00
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: 122
Alkalinity: 35
Ferrous Iron: 4
H2S: 2
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH"

**Technician Initials**

# GROUNDWATER PURGING & SAMPLING LOG

TERRAINE
Environmental Consulting

## Project Information

| | | |
|---|---|---|
| Project No: 04-41001/3 | Project Name: Building 46 - Cecil Field LTM/RAO | |
| Technician 1: Larry Wolski | Technician 2: | Weather: "Windy, Sunny" |
| Sampling ID: 04-41001/3:CEF-46-9I:3/13/05 | | |
| Notes: Northing, easting, and some well construction data not available. | | |

## Well Information

| | | |
|---|---|---|
| Well ID: **CEF-46-9I** | Sampling Date: **3/13/2005** | |
| Well Diam (in): 2.0 | Total Well Depth (ft): 48.81 | Well Screen Interval (ft): |
| TOC Elevation (ft msl): 79.05 | Northing: 0 | Easting: 0 |
| Static Depth to Water (ft): 9.58 | Well Capacity (gal): 0.00 | |

## Purge Setup

| | | | |
|---|---|---|---|
| Purge Method: Nomad Submersible | Tubing Material: PPE | | Pump Set at (ft): 46.00 |
| pH Meter: Horiba U-22 | Cond. Meter: Horiba U-22 | DO Meter: Horiba U-22 | Turb. Meter: Horiba U-22 |
| Purge Start: 10:05 | Purge End: 10:16 | Total Volume Purged (gal): 0.80 | |

## 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) | Salinity | Color | Odor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:10 | 9.73 | 0.40 | 0.08 | 0.43 | 24.92 | 530.0 | 5.69 | 96.0 | 17.60 | | clear | sulfuric |
| 10:13 | 9.73 | 0.60 | 0.06 | 0.09 | 24.74 | 530.0 | 5.83 | 82.0 | 13.60 | | | |
| 10:16 | 9.73 | 0.80 | 0.06 | 0.00 | 24.89 | 530.0 | 5.92 | 73.0 | 10.40 | | | |

## Sampling Data

**Sample Information**

Sample Date: 3/13/2005
Sample Start Time: 10:20
Sample End Time: 10:36
Field Filtered: ☐
Duplicate: ☐

**Final Purge Readings**

DO (mg/L): 0.00
Temp (*C): 25.01
SEC (uS/cm): 540.00
pH: 5.92
ORP (mV): 72.00
Turb (NTU): 9.70
Salinity:

**Hach Field Data (mg/L)**

DO: 0
CO2: 296
Alkalinity: 0
Ferrous Iron: 5.4
H2S: 1
Manganese:
Sulfate:
Sulfide:
Nitrate:

**CHEMetrics Field Data (mg/L)**

DO High Range:
DO High Range:
CO2 High Range:
CO2 Low Range:
Alkalinity High Range:
Alkalinity Low Range:

**Lab Analyses/Methods:**

"BTEX/MTBE, Nitrate/Nitrite, Orthophosphate, PAHs, TRPH, NOX"

**Technician Initials**