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SITE ASSESSMENT REPORT ADDENDUM FOR NORTH FUEL FARM WITH TRANSMITTAL
NAS CECIL FIELD FL
9/1/2003
TETRA TECH

Site Assessment Report Addendum
for
North Fuel Farm

Naval Air Station Cecil Field
Jacksonville, Florida



Southern Division
Naval Facilities Engineering Command
Contract Number N62467-94-D-0888
Contract Task Order 0168

September 2003





TETRA TECH NUS, INC.

8640 Philips Highway, Suite 16 • Jacksonville, FL 32256
Tel 904.636.6125 • Fax 904.636.6165 • www.tetrattech.com

Document Tracking Number 03JAX0214

September 30, 2003

Project Number N3996

Commander, Southern Division
Naval Facilities Engineering Command
ATTN: Gabriel Magwood (ES24)
Remedial Project Manager
2155 Eagle Drive
North Charleston, South Carolina 29406

Reference: CLEAN III Contract Number N62467-94-D-0888
Contract Task Order Number 0168

Subject: Draft-Final Site Assessment Report Addendum, North Fuel Farm
Naval Air Station Cecil Field, Jacksonville, Florida

Dear Mr. Magwood:

Tetra Tech NUS, Inc. (TtNUS) is pleased to provide a draft-final copy of the Site Assessment Report Addendum for the above referenced site. Please review it at your earliest convenience and provide any comments or direct any questions to me at 813-806-0202 or via e-mail at calliganp@ttnus.com.

Sincerely,

A handwritten signature in black ink that reads "Paul E. Calligan".

Paul E. Calligan, P.G.
Task Order Manager

PC/mwd

Enclosures (1)

pc: Mr. Mark Perry, TtNUS (unbound)
Ms. Debbie Wroblewski, TtNUS (cover letter only)
Project File

**SITE ASSESSMENT REPORT ADDENDUM
FOR
NORTH FUEL FARM**

**NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

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

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

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

**CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0168**

SEPTEMBER 2003

PREPARED UNDER THE SUPERVISION OF:

APPROVED FOR SUBMITTAL BY:

**PAUL E. CALLIGAN, P.G.
TASK ORDER MANAGER
TETRA TECH NUS, INC.
TAMPA, FLORIDA**

**DEBBIE WROBLEWSKI
PROGRAM MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA**



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

September 26, 2003
Mervin Dale
Florida Professional Geologist
P.G. Number 0001917

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ACRONYMS

4DIM	Four-Dimensional Interactive Model
ABB-ES	ABB Environmental Services, Inc.
BEX	Benzene, Ethylbenzene, and Total Xylenes
bls	Below Land Surface
BPs	Boiling Points
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes
btoc	Below Top of Casing
BWGWP	Base-Wide Generic Work Plan
°C	Degrees Celsius
CAR	Contamination Assessment Report
CARA	Contamination Assessment Report Addendum
CCI	CH2M Hill Constructors, Inc.
CD	Compact Disc
COCs	Compounds of Concern
COJ	City of Jacksonville
DPT	Direct Push Technology
DRO	Diesel Range Organics
EBS	Environmental Baseline Survey
EDC	Environmental Detachment Charleston
EMT	Earth-Mounded Tank
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FID	Flame Ionization Detector
ft	Feet or Foot
ft/day	Feet per Day
ft/ft	Feet per Foot
GAG	Gasoline Analytical Group
GCTLs	Groundwater Cleanup Target Levels
GIR	General Information Report
HLA	Harding Lawson Associates
KAG	Kerosene Analytical Group
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
µV	Microvolts
mg/kg	Milligrams per Kilogram

ACRONYMS (CONTINUED)

MIP/SC	Membrane Interface Probe with Soil Conductivity
msl	Mean Sea Level
mS/M	MilliSiemens per Meter
NADSCs	Natural Attenuation Default Source Concentrations
NAS	Naval Air Station
Navy	United States Navy
NFA	No further action
NFF	North Fuel Farm
NI	Not Installed
NM	Not Measured
NTU	Nephelometric Turbidity Unit
PAHs	Polynuclear Aromatic Hydrocarbons
PID	Photoionization Detector
RAC	Remedial Action Contractor
RAP	Remedial Action Plan
RAPA	Remedial Action Plan Addendum
RIR	Remedial Investigation Report
SA	Site Assessment
SAP	Sampling and Analysis Plan
SARA	Site Assessment Report Addendum
SCTLs	Soil Cleanup Target Levels
sec	Seconds
SOPs	Standard Operating Procedures
SOUTHNAVFACENGCOM	Southern Division, Naval Facilities Engineering Command
SRR	Source Removal Report
TRPH	Total Recoverable Petroleum Hydrocarbon
TtNUS	Tetra Tech NUS, Inc.
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has completed additional Site Assessment (SA) activities at North Fuel Farm (NFF), Naval Air Station (NAS) Cecil Field, Jacksonville, Florida for the Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) under the United States Navy (Navy) Comprehensive Long-Term Environmental Action Navy Program Contract Number N62467-94-D-0888. The investigation was conducted in accordance with requirements of Chapter 62-770, Florida Administrative Code (FAC). This Site Assessment Report Addendum (SARA) describes the previous investigations, field investigation and subsequent findings for the site.

The NFF consisted of six earth-mounded tanks (EMTs) that contained jet propellant fuel (JP-5). Several major spills (totaling approximately 938,000 gallons of JP-5) were recorded in the late 1980's and early 1990's. Beginning in 1991, a contamination assessment was conducted by ABB-Environmental Services, Inc. (ABB-ES). A Contamination Assessment Report (CAR) was submitted in 1992, with subsequent addenda between 1996 and 1997. Subsequently, the CAR Addendum (CARA) was approved by the Florida Department of Environmental Protection (FDEP) with the recommendation for a remedial action plan (RAP). A RAP was submitted by ABB-ES in 1997 (ABB-ES, 1997a). Additional RAP addenda were submitted by ABB-ES and TtNUS between 1997 and 1999. Three separate source removals were documented beginning with two performed by the Navy's Environmental Detachment in 1998 and 1999. The last source removal was conducted by CH2M Hill Constructors, Inc. (CCI), the Remedial Action Contractor (RAC), between 2000 and 2001 and included the removal of the six EMTs. The FDEP approved the Source Removal Report (SRR) for this source removal in 2002.

This supplemental assessment was conducted in three phases. The first two steps were designed to provide complementary and supporting data to characterize the source area. The first step utilized a combination of direct push technology (DPT) and membrane interface probe with soil conductivity (MIP/SC). Approximately 66 borings were installed with the DPT-MIP/SC system to an average depth of approximately 90 feet (ft). Several mobilizations during the period from July 2001 to May 2002 were required to overcome difficult site conditions. The second step utilized a traditional combination of DPT and on-site mobile laboratory analyses to correlate the findings of the DPT-MIP/SC technology. The third step involved the installation and sampling of permanent monitoring wells based on the results of the DPT-MIP/SC investigation. From December through June 2003, 6 water table monitoring wells, 13 upper intermediate monitoring wells, 5 lower intermediate monitoring wells, and 12 deep monitoring wells were installed at the site. Groundwater samples were collected from all of the new wells and 26 of the existing wells.

This executive summary provides a brief summary of the geology of the site, describes the nature and extent of contamination at the site, and provides recommendations for additional actions.

ES.1 GEOLOGY AND HYDROGEOLOGY

Previous investigations indicate that the lithology of the upper 50 to 60 ft of the site is silty, fine-grained sands. These deposits are underlain by generally clayey sands with clay stringers from approximately 50 to 90 ft below land surface (bls). Between approximately 80 and 100 ft bls, the typical lithology is a coarse-grained sand with quartz pebbles and black phosphate grains. The last siliciclastic unit reported above the top of the dolomite, identified as the upper zone of the Hawthorn Group in this area, is a sandy clay reported to be generally 10 to 20 ft thick (at about 100 to 120 ft bls), but as little as 2 ft thick in some areas. This investigation encountered similar lithologies with one exception. On the southeastern side of the site from about 118 to 126 ft bls, TtNUS encountered a plastic clay unit. This SARA was limited to the surficial aquifer system.

For the purposes of this report, the surficial aquifer system is separated into four different zones. These zones (from top to bottom of the surficial aquifer system) are as follows: water table (0 to 20 ft bls), upper intermediate zone (approximately 25 to 50 ft bls), lower intermediate zone (approximately 50 to 80 ft bls), and the deep zone (greater than 80 ft bls). The groundwater flow in the water table zone appears to be mostly to the east with a small component on the southwestern side of the site that is diverting to the southwest. The upper intermediate zone appears to flow to the southeast. The lower intermediate zone appears to flow mostly to the south-southeast. The deep zone appears to flow consistently to the southeast.

ES.2 NATURE AND EXTENT OF CONTAMINATION

This SARA investigation at the NFF focused on the groundwater. The previous investigations had delineated the extent of soil contamination and a subsequent source removal at the site removed the soil that exceeded the FDEP's Soil Cleanup Target Levels (SCTLs). An unnamed surface water body and the associated sediments present at the site were also investigated and only one total recoverable petroleum hydrocarbon (TRPH) impact exceeding a regulatory guideline was encountered in one sediment location. No surface water impacts above respective regulatory guidelines were encountered.

The extent of contamination for the water table is as follows:

- Several volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), TRPH, and lead were reported to exceed respective groundwater cleanup target levels (GCTLs) in the water

table zone. Only the VOCs exceeded respective Natural Attenuation Default Source Concentrations (NADSCs).

- The VOC and PAH impact to the water table zone covers the majority of the source area (the former tank farm) and some area to the west of the source area between Aviation Avenue and the former tank farm. The approximate area of contamination is 6 acres.
- TRPH contamination covered a much smaller area (approximately one-half acre) within the same area of the VOC/PAH contamination.
- Lead contamination was reported in monitoring wells CEF-076-12 (a well adjacent to Aviation Avenue) and CEF-076-88S (a well near the northeastern corner of the site). These results appear to be the result of high turbidity during sampling. A filtered sample collected from CEF-076-12 indicated a lead concentration below the GCTL.

The extent of contamination for the upper intermediate zone is as follows:

- Several VOCs, PAHs, TRPH, and lead exceeded respective GCTLs in the upper intermediate zone. Only the VOCs exceeded respective NADSCs.
- The TRPH and PAH impact to the upper intermediate zone covers approximately the same area of the former tank farm and some of the area to the west between Aviation Avenue and the former tank farm. The area of VOC contamination, which includes both the TRPH and PAH areas, covers the entire former tank farm area and most of the area adjacent to Aviation Avenue and is approximately 9 acres. A second separate plume was identified immediately east of the former EMT farm, which is centered over the ditch on the east side of the site. This area measures approximately 3 acres, and it is primarily defined by VOCs with a smaller TRPH component.
- The lead contamination was detected in four wells at the periphery of the site. The concentrations were relatively similar [ranging from 17 to 30 micrograms per liter ($\mu\text{g/L}$)]. Since two of the wells were upgradient wells, these lead levels are considered natural background levels and not the result of releases from the NFF.

The extent of contamination for the lower intermediate zone is as follows:

- Several VOCs, PAHs, and TRPH exceeded respective GCTLs in the lower intermediate zone. Only the VOCs exceeded their respective NADSCs.

- The footprint of contamination for the PAHs and TRPH is within the bounds of the area of VOC contamination, which generally covers the entire site from Aviation Avenue across the former tank farm and eastward across the creek.
- The area of VOC contamination is approximately 19 acres.
- No lead contamination was encountered in this zone above GCTLs.

The extent of contamination for the deep zone is as follows:

- Several VOCs exceeded respective GCTLs in the deep zone.
- PAHs, TRPH, and lead were detected in this zone at concentrations below the respective GCTLs.
- A smaller area (approximately 3 acres) of VOC contamination is present in the former tank farm area.
- A larger area of higher VOC concentrations is present in the southeastern portion of the site east of the former Truck Stand and mostly south of the creek. This area of higher VOC contamination covers approximately 10 acres.

ES.3 CONCLUSIONS

The following conclusions are made in this SARA:

- The soil contamination was adequately addressed by the previous investigations and source removals.
- One sediment location appears to exceed a regulatory guideline. Concentrations of COCs were below SCTLs in samples collected upstream and downstream from this location.
- The groundwater contamination has been delineated to the surficial aquifer system on site.
- There is no free product and the contamination does not appear to extend deeper than approximately 120 ft bls.

ES.4 RECOMMENDATIONS

The following additional activities are recommended in this SARA:

- Resample the sediment location (SW/SED 2) for TRPH subclassification analyses and evaluate the resulting data in a follow-up addendum to this report.
- Resample for lead in the one water table well (CEF-076-88S) and evaluate the resulting data in a follow-up addendum to this report.
- Prepare a Remedial Action Plan Addendum (RAPA) to address the contaminated groundwater delineated by the 100 µg/L isocontour lines as diagrammed for the VOCs in each of the four zones of the surficial aquifer system in accordance with Chapter 62-770, FAC.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

TtNUS was authorized by SOUTHNAVFACENGCOM to conduct a SA at the NFF at NAS Cecil Field in Jacksonville, Florida to evaluate the nature and extent of petroleum hydrocarbons in site surface water, ditch sediments, and groundwater in accordance with the requirements of Chapter 62-770, FAC. The SA applied to the source area that included the former refueling area around Building 69, known as the Truck Rack; the former tank farm mound with the six EMTs; the JP-5 Spill area; and those areas immediately downgradient that were affected by the source areas previously mentioned. This SARA provides a characterization of site conditions from which to base future courses of action. The following paragraphs provide available background information for the site.

1.2 SITE LOCATION, LAND USE, AND HISTORY

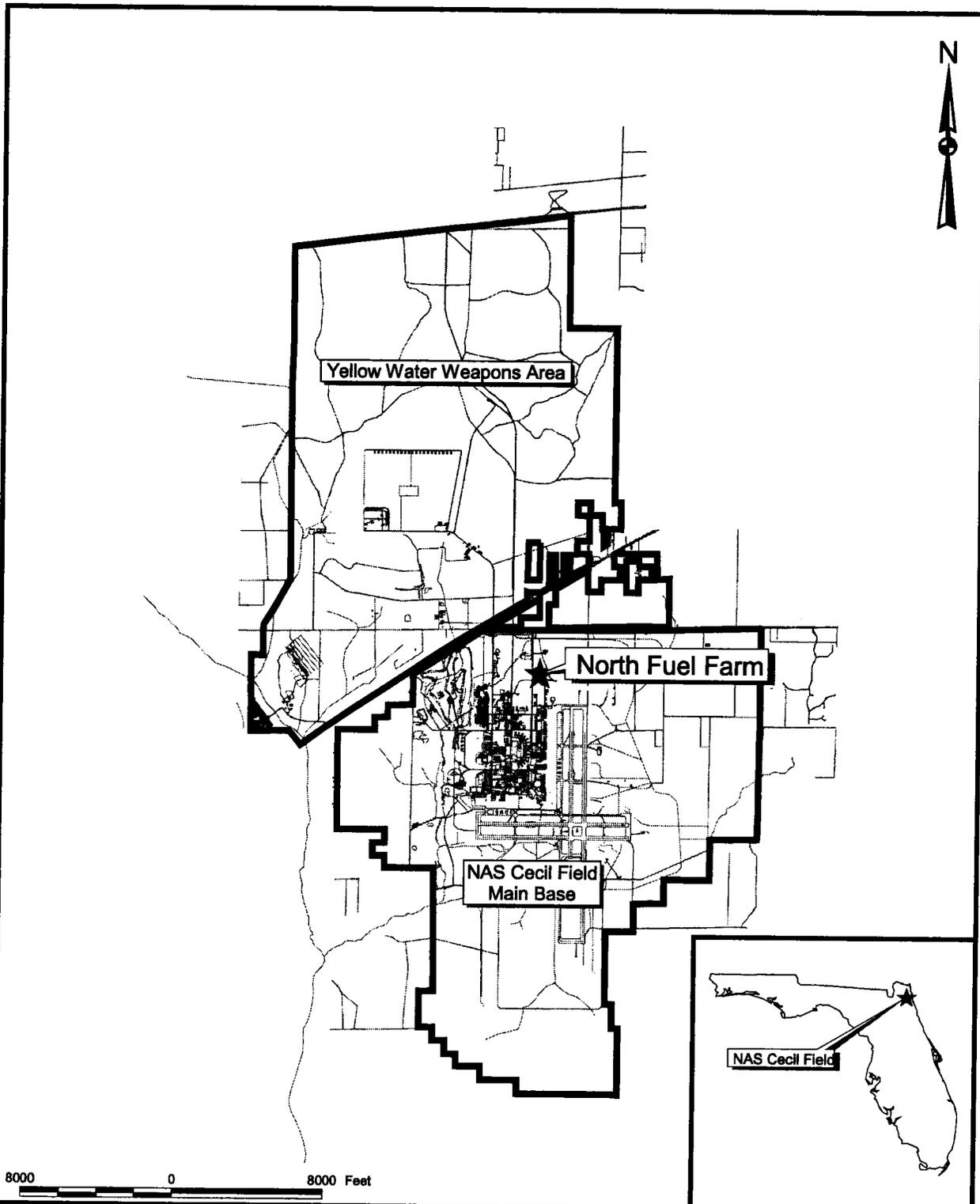
1.2.1 Site Location

A general location map for the site is provided as Figure 1-1, which shows the site is on the north end of the main base area of NAS Cecil Field. Figure 1-2 is provided to show the known utilities that remained after the SRR by CCI and prior to the current infrastructure changes now in progress by the City of Jacksonville (COJ).

1.2.2 Land Use

Review of historical records including the Environmental Baseline Survey (EBS) for NAS Cecil Field (ABB-ES, 1994) and the CARA (ABB-ES, 1996) indicates there are three areas at the NFF where petroleum releases could have or did impact the site's soil and groundwater. The available land use details for those three areas (the NFF, the Truck Rack, and the JP-5 Spill Area) are provided below.

The NFF site consisted of six EMTs numbered 76, 76A, 76B, 76C, 76D and 76E (see Figure 1-3). The capacity of each tank was listed as 595,000 gallons, and they typically contained JP-5 when in operation. Two of the EMTs were installed in 1952 and the remaining four EMTs were installed in 1954. The CAR (ABB-ES, 1994) gave the following additional site background information: "The associated piping is corrosion-resistant, coated steel and is cathodically protected. In 1987, each tank was relined and overfill protection (high level alarms) was installed. Each tank had impressed-current type corrosion protection. In addition, Tank 76 was equipped with an automatic shut-off system. The volume of fuel in each tank was measured daily."



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GENERAL LOCATION MAP
NORTH FUEL FARM
SITE ASSESSMENT REPORT ADDENDUM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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The Truck Rack consisted of the following three buildings: Building 69, Building 70, and Building 71. Building 69, located along Aviation Avenue (formerly A Avenue) was an aviation fuel pumping facility that was built in 1952. It housed two fuel pumps that were designed to pump fuel from tanker trucks to the NFF. Building 71, immediately adjacent to Building 69, was actually a fuel truck unloading facility. It was built concurrently with Building 69, and it consisted of a concrete driveway approximately 170 ft long and 10 ft wide. This driveway was built with a concrete berm on all sides, and a 1-ft wide spill channel that exited to the northeastern corner of the driveway to a former clay-lined retention pond that once existed between the driveway and the site's ditch. Figure 1-4 shows the former location of that retention pond. Building 70 was the aviation fuel metering station for the NFF. That building was a sheet metal building that housed the filters and metering equipment for fuel that was transferred from Building 69 to the NFF. The general location of the former Truck Rack is shown on Figure 1-3. This area was operated periodically when fuel was brought in by truck, but was not in use (except for the meters in Building 70) during times when the JP-5 Pipeline from NAS Jacksonville was in use.

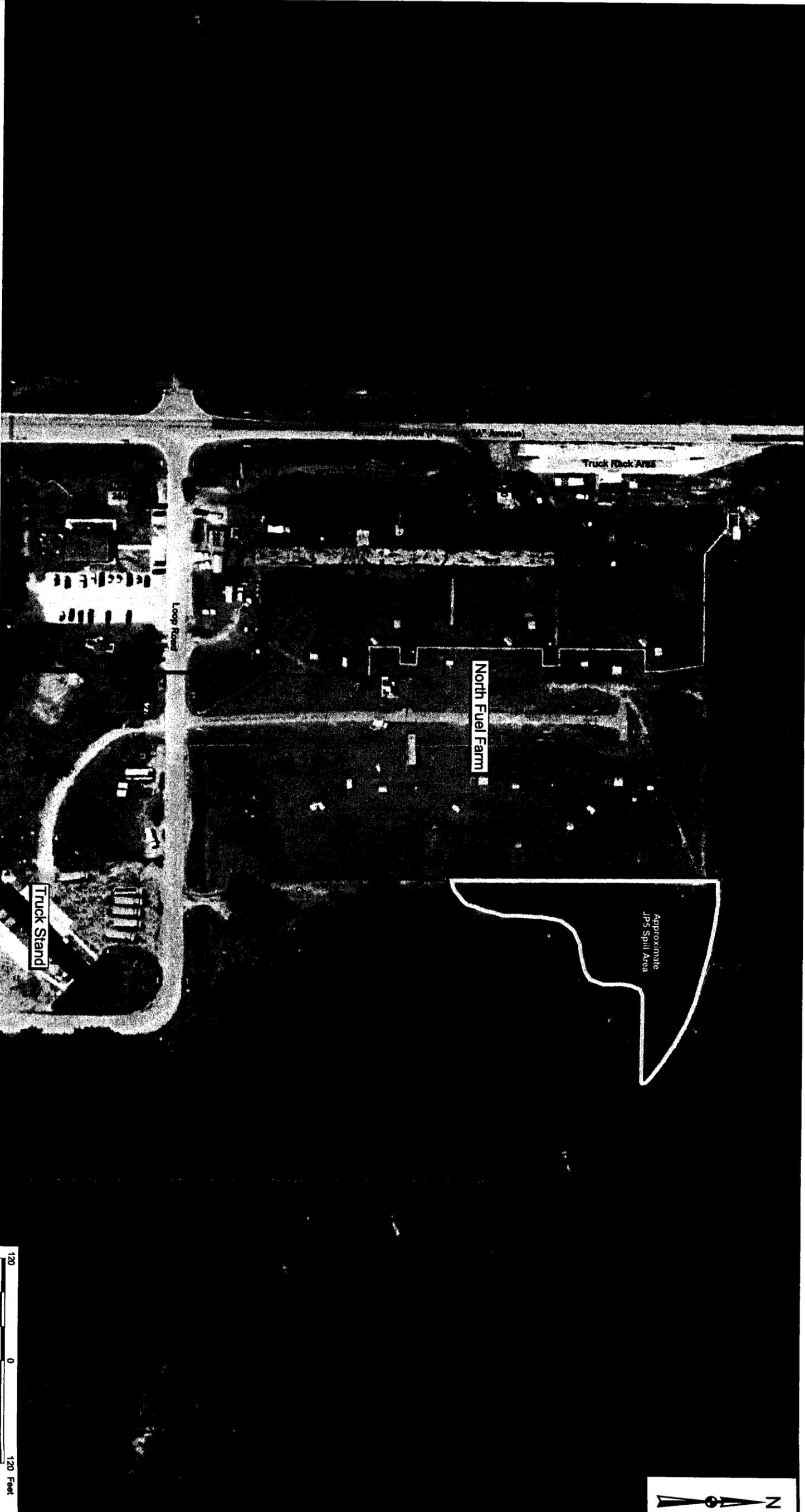
The JP-5 spill area is an area where approximately 913,000 gallons of JP-5 were released from Tank 76-E. This area is shown on Figure 1-4.

The EMTs and associated piping on site were removed by the RAC between June 2000 and February 2001 (CCI, 2001). CCI also removed most of the Truck Rack except for a portion of the driveway. Figure 1-3 indicates the buildings and tanks that were removed and the remaining buildings on site. The remaining buildings on site were used primarily for administrative purposes and fuels testing when the NFF was in operation.

1.2.3 History

The EBS (ABB-ES, 1994) indicates that the site's primary structures (the EMTs and Truck Rack) were constructed beginning in 1952 and, that by 1954, the building and structure arrangement shown by Figure 1-3 was in place. The following list outlines some key spill events and the related series of investigations and reports in chronological order for the NFF site:

- JP-5 fuel spill; August 3, 1987; 22,772 gallons.
- JP-5 fuel spill; February 10, 1991; 913,000 gallons.
- CAR, NFF; ABB-ES; June 1992.



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LAND USE MAP
NORTH FUEL FARM
SITE ASSESSMENT REPORT ADDENDUM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA



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FIGURE 1-4	0

- JP-5 fuel spill; November 28, 1993; 1,800 gallons.
- Technical Memorandum, Initial Remedial Action Alternatives for NFF, JP-5 Spill Area' ABB-ES; December 1993.
- CAR, NFF Area Sites; ABB-ES; July 1994.
- Deep Plume Final Technical Memorandum, NFF Area; ABB-ES; January 1995.
- Alternate Procedures and Requirements, Letter of Approval, File No. AP-STTF012, NFF; FDEP; January 1995.
- Contamination Assessment Plan, NFF Area Sites; ABB-ES; January 1995.
- CARA, NFF Site; ABB-ES; April 1996.
- CARA, NFF, Letter of Non-Approval; FDEP; July 1996.
- RAP, NFF Site; ABB-ES; January 1997.
- CARA, Rev. 1, NFF Site; ABB-ES; January 1997.
- CARA, Rev. 1, NFF Site, Letter of Approval; FDEP; February 1997.
- RAP, NFF Site, Memorandum of Non-Approval; FDEP; May 1997.
- Revisions I and II to the RAP, NFF Site; ABB-ES; November 1997.
- Natural Attenuation Monitoring Report, Multiple Sites including the NFF Site; Harding Lawson Associates (HLA); July 1998.
- Source Removal Report (SRR), NFF; Environmental Detachment Charleston (EDC); October 1998.
- Pilot-Test Work Plan for the Recirculating Well Technology at the NFF; HLA; December 1998.
- RAP Addendum (RAPA), NFF Site; TtNUS; August 1999.

- SRR, NFF; EDC; October 1999.
- Response to Comments on the RAPA, NFF; TtNUS; September 1999.
- February-July 1999 Groundwater Monitoring Report, Day Tank 1 and NFF; TtNUS; September 1999.
- July 1999-January 2000 Groundwater Monitoring Report, Day Tank 1 and NFF; TtNUS; April 2000.
- January 2000-July 2000 Groundwater Monitoring Report, NFF; TtNUS; October 2000.
- SRR, Soil and Aboveground Tank Removal, North Tank Fuel Farm; CCI; November 2001.
- Draft Preliminary Groundwater Analytical Information, NFF; TtNUS; January 2002.
- Letter of Approval of CCI's SRR; FDEP; February 2002.

1.3 PREVIOUS INVESTIGATIONS

The following sections highlight details of some of the previous site assessment activities and briefly discuss the results of the three source removals that have been performed at the NFF site.

1.3.1 CARA 1997

The site assessment activities were conducted from 1991 to 1995. The field activities conducted during these investigations were summarized in a table in the CARA (ABB-ES, 1997b) (see Appendix A). The CARA also provides a brief synopsis of the findings, conclusions, and recommendations in an executive summary (see Appendix A).

1.3.2 SRR 1998

A limited-scope source removal was conducted in 1998. The source removal involved the excavation of JP-5 contaminated soil in the JP-5 Spill Area. A SRR was submitted in 1998 (EDC, 1998). The area map showing the soil excavation site is included in Appendix A.

1.3.3 SRR 1999

A second limited-scope source removal was conducted in 1999. This source removal involved two areas that were located between the NFF site and Aviation Avenue. A SRR was submitted in 1999 (EDC, 1999). The site excavation map is included in Appendix A.

1.3.4 SRR 2001

A third source removal was conducted in from June 2000 to February 2001. This source removal included the removal of the six EMTs. A SRR was submitted in 2001 (CCI, 2001). A site map from the SRR is provided in Appendix A. The FDEP's Approval Letter of this last SRR is also provided in Appendix A as evidence of the completion of necessary soil remedial activities at the NFF sites.

1.4 SITE PHYSICAL CHARACTERISTICS

The General Information Report (GIR) prepared by ABB-ES (ABB-ES, 1998) provides information common to all waste sites at NAS Cecil Field in these areas. Principally, the GIR covers the physiography, geology, and hydrogeology data of NAS Cecil Field. Figure 1-2 provides existing information on subsurface manmade structures prior to August 2003.

1.4.1 Site Geology and Hydrogeology

The CARA (ABB-ES, 1997b) provides site-specific details on site geology and hydrogeology including aquifer characteristics data. The highlights of those details are as follows:

- The average hydraulic gradient across the site ranges from 0.001 to 0.0007 ft per foot (ft/ft) in the upper (shallow and intermediate) zones and 0.00076 ft/ft in the deep zone.
- The average hydraulic conductivity for the shallow, intermediate, and deep zones is 5.67 ft per day (ft/day), 6.24 ft/day, and 0.29 ft/day, respectively.
- The average pore water velocity is 0.0227 ft/day in the shallow zone, 0.0177 ft/day in the intermediate zone, and 0.0002 ft/day in the deep zone.
- According to the GIR (ABB-ES, 1998), the groundwater in the surficial aquifer system that is under investigation at this site is classified as Class G-II.

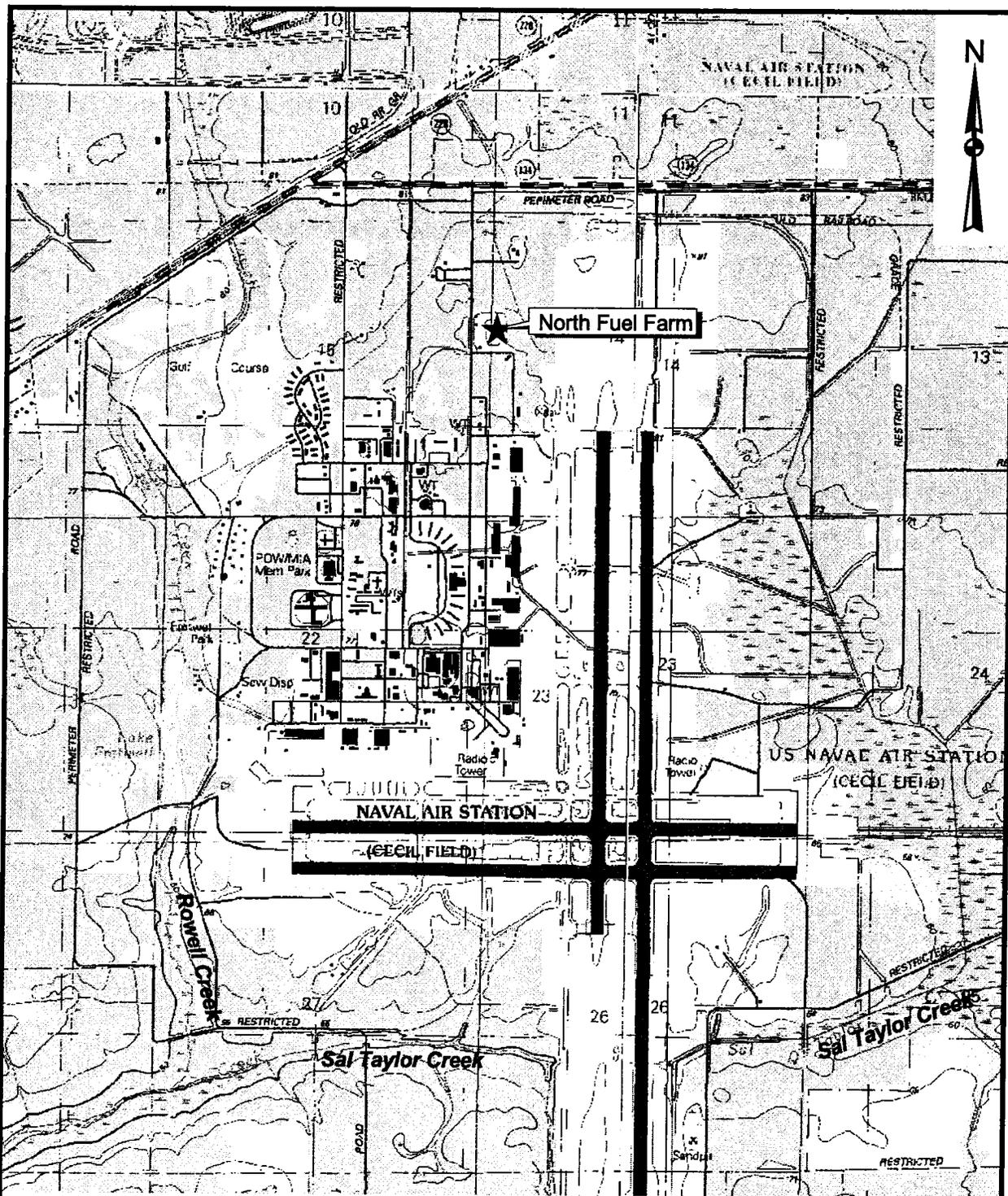
- The Executive Summary in Appendix A gives a brief, concise description of the site stratigraphy. However, as a result of additional vertical delineation requirements, this report will present additional lithologic information in Section 3 of this report.
- The Executive Summary in Appendix A also indicates a downward vertical gradient was mapped from site data collected at that time.

1.4.2 SITE PHYSIOGRAPHY

Prior to the soil and tank farm removal conducted in 2000/2001, the tank farm and associated soil cover made an artificial mound with a height of approximately 20 ft above natural grade, which made the top of the mound approximately 100 ft above mean sea level (msl). The tank farm and soil mound have been removed, and the site topography is relatively flat at approximately 80 ft above msl. Though the site topography has changed dramatically as a result of soil source removal activities, the site is still mostly covered in grass with a few small trees left to the east of the former tank farm. The site has been re-graded to slope away from the adjoining roads and slightly to the northeast. The adjoining paved street on the south side of the site, Loop Road (name unchanged), remains; however, the other adjoining street on the west side of the site, Aviation Avenue (formerly A Avenue), has been under construction since August 2003. The COJ has leased the area immediately adjacent to Avenue A for the purpose of widening it and adding new infrastructure. Figure 1-3 is a site map showing the man-made structures pre-August 2003. The NFF area is still bound to the north and east by a ditch that drains the area. The areas to the north and east of the ditch are wooded with low-lying swamp areas. Figure 1-4 illustrates the areas north and east of the ditch as they currently exist. The United States Geological Survey topographic map from the Fiftone, Florida quadrangle (see Figure 1-5) indicates the topography of the site in 1993.

1.4.3 SURFACE HYDROLOGY

Currently, the area of the NFF is relatively flat. As indicated earlier, the average site elevation is approximately 80 ft above msl. According to the SRR (CCI, 2001), the site was regraded following the tank farm mound removal. The SRR stated "that the final grade would include a gradient across the site to allow stormwater to flow toward the drainage ditch to Sal Taylor Creek...With these elevations secured, the resulting surface gradient (and drainage) would be towards the northeast." Surface water runoff from the site, including the former tank farm, is directed to the ditch. Figure 1-3 shows the ditch that crosses the site from the northwest corner of NFF to the southeast side of the NFF where it enters a culvert that run due east under the landing approach area to the runways. On the other side of the landing approach area, the ditch resumes and eventually merges with Sal Taylor Creek. The spatial relationship of the NFF



2500 0 2500 Feet

Source: USGS Fiftone Florida 7.5-Minute Topographic Quadrangle, 1993.

DRAWN BY MJJ CHECKED BY COST/SCHEDULE-AREA SCALE AS NOTED	DATE 03Sep03 DATE DATE		TOPOGRAPHIC MAP NORTH FUEL FARM SITE ASSESSMENT REPORT ADDENDUM NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 3996 APPROVED BY DATE APPROVED BY DATE DRAWING NO. FIGURE 1-5 REV 0
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P:\GIS\NAS_CecilField\NorthFuelFarm_200306.apr 03Sep03 MJJ Layout10

to Sal Taylor Creek is indicated on Figure 1-5. Sal Taylor Creek is classified by the FDEP as a Class III fresh water body (ABB-ES, 1998).

1.5 WATER WELL INFORMATION

The GIR (ABB-ES, 1998) indicates that there are five potable water supply wells within a 0.5-mile radius of the site. The GIR indicates that the wells are Floridan Aquifer wells ranging in depth from 400 to 800 ft bls. A site map showing the location of the supply wells is provided in the GIR.

2.0 FIELD INVESTIGATION

2.1 QUALITY ASSURANCE

The field procedures and sampling activities described in this SARA were performed in general accordance with the Sampling and Analysis Plan (SAP) (TtNUS, 2001). The guidance documents indicated in the SAP were as follows: the TtNUS Comprehensive Quality Assurance Plan Number 980038, which includes the FDEP's Standard Operating Procedures (SOPs) for laboratory operations and sample collection activities (DEP-QA-001/92), and the Base-wide Generic Work Plan (BWGWP) Volumes I and II (TtNUS, 1998) for NAS Cecil Field. Surface water, sediment, and groundwater samples collected during the investigation for analyses by a fixed-base laboratory were shipped on ice and under chain of custody to Accutest Laboratory, Orlando, Florida. The certification number for the Accutest Laboratory is 940304. The samples were typically analyzed for constituents of the gasoline analytical group (GAG)/Kerosene Analytical Group (KAG) group as specified in Chapter 62-770, Table B, FAC. Quality assurance and quality control samples were collected in general accordance with the SAP (TtNUS, 2001).

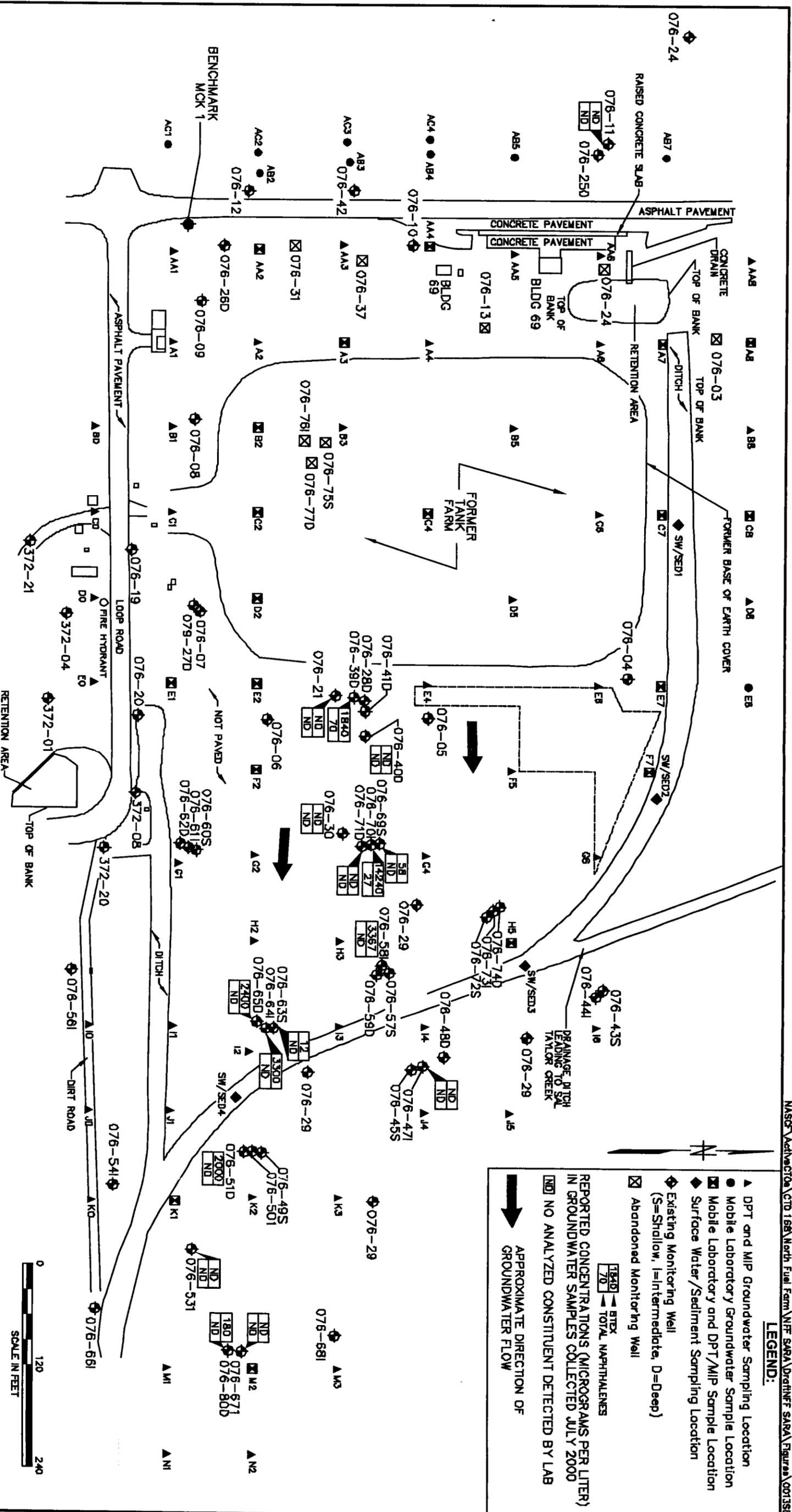
2.2 SOIL ASSESSMENT

A soil assessment was not conducted at the NFF because the previous investigations identified the contaminated soil area(s). A map from the RAP, Revision II, indicating the extent of soil contamination at the NFF (ABB-ES, 1997c) is provided as Appendix A. The subsequent removal actions performed at the site appear to have remediated the soil contamination associated with the site. The maps from the three SRRs (EDC, 1998; EDC, 1999; and CCI, 2001) provided in Appendix A indicate the extent of the three source removals conducted at the site. The FDEP Approval Letter (Appendix A) indicates that no further soil assessment or action is necessary at the NFF site.

2.3 SURFACE WATER AND SEDIMENT ASSESSMENT

In accordance with the SAP, on September 6, 2001, four co-located surface water and sediment samples were collected from the ditch that traverses the NFF site. Figure 2-1 indicates those locations as SW/SED 1, SW/SED 2, SW/SED 3, and SW/SED 4. FDEP SOP Section 4.2.3 was generally followed to collect each set of samples with the surface water collection preceding the sediment sampling at each location. Surface water samples were collected with a Teflon[®] cup, and the sediment samples were collected using a stainless steel hand auger. Decontamination of these sampling tools was performed in general accordance with FDEP SOP Section 4.1.4.

NASOT\Activities\CTD 1987 North Fuel Farm\WFE SARVA\Drifturf SARVA\Figurea\001131.dwg



LEGEND:

- ▲ DPT and MIP Groundwater Sampling Location
- Mobile Laboratory Groundwater Sample Location
- Mobile Laboratory and DPT/MIP Sample Location
- ◆ Surface Water/Sediment Sampling Location
- ◊ Existing Monitoring Well
(S=Shallow, I=Intermediate, D=Deep)
- ⊠ Abandoned Monitoring Well
- ☒ REPORTED CONCENTRATIONS (MICROGRAMS PER LITER) IN GROUNDWATER SAMPLES COLLECTED JULY 2000
- ND NO ANALYZED CONSTITUENT DETECTED BY LAB
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

BTX
70 TOTAL NAPHTHALENES

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES	DRAWN BY	DATE
							LLK	9/8/03
							CHEKED BY	DATE
							COAST/SCHED-AREA	
							SCALE	
							AS NOTED	

MIP, MOBILE LAB, AND SURFACE WATER / SEDIMENT SAMPLING LOCATIONS NORTH FUEL FARM SITE ASSESSMENT REPORT APPENDUM NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	
CONTRACT NO.	3996
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO.	REV.
FIGURE 2-1	0

FORM CADD NO. 509/BJL/DWG - REV 0 - 1/20/98

A record of each sample collection was maintained on a Surface Water Sample Log Sheet or a Soil and Sediment Sample Log Sheet as specified in the BWGWP. Appendix B contains the log sheets for each surface water and sediment sample that was collected.

2.4 GROUNDWATER ASSESSMENT

2.4.1 Groundwater Flow

Water level measurements were collected to determine the depth to water in each zone of the surficial aquifer, to determine the relative groundwater flow direction in each zone, and to confirm the existence of a vertical gradient between the shallow and deep zones as previously reported in the CARA (ABB-ES, 1997b).

Synoptic groundwater level measurements were collected on three separate dates. An oil-water interface probe was used during each of the three groundwater measurement events. The referenced measuring point for each well was marked on the north side of the top of the polyvinyl chloride well casing. Water level measurements were recorded to the nearest 0.01 ft with the time of measurement. This data was used to generate the water table flow maps in this report. The depth to water measurements were collected on July 2, 2001; February 6, 2002; and June 11, 2002, to satisfy the requirements of the SAR as stated in Chapter 62-770, FAC. The groundwater elevation log sheets are provided in Appendix C.

Topographic surveys were conducted on the DPT and monitoring well locations at the NFF site by ARC Surveying and Mapping. Positions and elevations were measured with respect to the National Geodetic Vertical Datum (1988) and to the State Plane Coordinates for Florida East Zone, North American Datum (1983/1990). The survey dates were as follows: July 3, 2001; July 19, 2001; December 17, 2001; June 9, 2003; and July 14, 2003. The survey data for the new and existing wells are provided in Appendix D. The groundwater elevation was calculated by subtracting the depth to water from the top of casing elevation. Well construction and water table elevation data are provided on Table 2-1.

2.4.2 DPT and MIP/SC Field Screening

The first phase of the SARA investigation involved characterizing the groundwater contamination in the source area. Due to the large horizontal extent and unusually deep vertical extent of petroleum-impacted groundwater, TtNUS utilized a DPT rig equipped with a MIS/SC direct sensing tool to perform the characterization.

**TABLE 2-1
GROUNDWATER ELEVATION DATA**
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
Page 1 of 4

Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bis)	Well Depth (ft, btoc)	Zone	Top-of-Casing Elevation (ft, msl)	July 2, 2001		February 6, 2003		June 11, 2003	
					Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)
4	5 - 15	12.93	WT	80.15	5.93	74.22	6.39	73.76	6.65	73.50
7	5 - 15	15.00	WT	79.46	NM	NM	NM	NM	3.79	75.67
8	5 - 15	14.44	WT	79.33	4.41	74.92	4.85	74.48	3.81	75.52
11	14 - 24	23.20	WT	79.98	3.33	76.65	NM	NM	NM	NM
12	5 - 15	15.23	WT	76.98	2.43	74.55	2.89	74.09	2.00	74.98
21	2 - 12	11.76	WT	78.28	NM	NM	NM	NM	2.98	75.30
30	2 - 12	12.50	WT	75.42	0.90	74.52	1.56	73.86	0.70	74.72
42	2 - 12	12.40	WT	77.09	2.48	74.61	2.71	74.38	1.87	75.22
107S	5 - 15	18.15	WT	82.26	NI	NI	NI	NI	6.83	75.43
108S	5 - 15	18.50	WT	81.47	NI	NI	NI	NI	5.82	75.65
109S	5 - 15	18.10	WT	80.92	NI	NI	NI	NI	5.62	75.30
29	3 - 13	13.00	WT	75.04	0.46	74.58	1.25	73.79	0.50	74.54
81S	3 - 13	13.02	WT	79.35	NI	NI	5.44	73.91	4.48	74.87
82S	2.5 - 12.5	12.62	WT	78.92	NI	NI	4.76	74.16	Damaged	NM
88S	5 - 15	17.99	WT	78.50	NI	NI	5.86	72.64	4.32	74.18
90S	5 - 15	15.00	WT	77.58	NI	NI	3.21	74.37	2.14	75.44
94S	5 - 15	18.22	WT	81.59	NI	NI	7.76	73.83	6.76	74.83
95S	5 - 15	18.01	WT	80.88	NI	NI	6.37	74.51	5.64	75.24

See notes at end of table.

TABLE 2-1
GROUNDWATER ELEVATION DATA
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Page 2 of 4

Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bis)	Well Depth (ft, btoc)	Zone	Top-of-Casing Elevation (ft, msl)	July 2, 2001		February 6, 2003		June 11, 2003	
					Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)
101S	30 - 35	38.24	UI	77.64	NI	NI	4.37	73.27	3.64	74.00
105I	45 - 50	53.35	UI	78.15	NI	NI	NI	NI	4.22	73.93
106S	25 - 30	33.35	UI	81.85	NI	NI	NI	NI	7.16	74.69
113S	35 - 40	43.22	UI	81.22	NI	NI	NI	NI	6.41	74.81
114S	35 - 40	43.11	UI	80.91	NI	NI	NI	NI	NI	NI
25D	32 - 42	42.00	UI	78.21	3.63	74.58	NM	NM	NM	NM
43S	35 - 40	42.00	UI	77.68	3.27	74.41	3.75	73.93	3.08	74.60
46S	37 - 42	44.81	UI	77.31	3.36	73.95	3.76	73.55	3.10	74.21
57S	30 - 35	37.44	UI	77.74	3.67	74.07	4.21	73.53	3.47	74.27
60S	35 - 40	42.73	UI	80.93	NM	NM	7.35	73.58	6.50	74.43
63S	40 - 45	47.00	UI	78.58	4.25	74.33	4.78	73.80	4.01	74.57
69S	30 - 35	38.00	UI	78.21	4.03	74.18	4.60	73.61	3.75	74.46
72S	30 - 35	37.50	UI	77.20	3.03	74.17	3.60	73.60	2.82	74.38
83S	25 - 30	30.00	UI	79.13	NI	NI	5.25	73.88	4.28	74.85
86S	45 - 50	53.32	UI	78.35	NI	NI	5.60	72.75	3.80	74.55
87S	45 - 50	53.33	UI	81.53	NI	NI	7.74	73.79	6.72	74.81
91S	25 - 30	33.81	UI	83.21	NI	NI	9.49	73.72	8.36	74.85
92S	25 - 30	33.18	UI	81.88	NI	NI	8.19	73.69	7.22	74.66
93S	25 - 30	33.29	UI	81.59	NI	NI	7.09	74.50	5.97	75.62
X2S	45 - 50	51.81	UI	80.00	5.61	74.39	6.25	73.75	5.31	74.69

See notes at end of table.

**TABLE 2-1
GROUNDWATER ELEVATION DATA
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
Page 3 of 4**

Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bis)	Well Depth (ft, btoc)	Zone	Top-of-Casing Elevation (ft, msl)	July 2, 2001		February 6, 2003		June 11, 2003	
					Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)
111I	65 - 70	73.70	LI	82.23	NI	NI	NI	NI	7.93	74.30
112I	50 - 55	58.00	LI	81.56	NI	NI	NI	NI	6.89	74.67
26D	50 - 60	60.00	LI	79.10	4.60	74.50	5.35	73.75	4.28	74.82
27D	66 - 76	79.50	LI	79.43	NM	NM	6.04	73.39	5.05	74.38
29D	70 - 75	77.00	LI	77.15	3.12	74.03	4.64	72.51	3.57	73.58
39D	55 - 65	60.00	LI	77.82	3.46	74.36	5.09	72.73	3.14	74.68
44I	65 - 70	72.90	LI	77.70	3.34	74.36	3.84	73.86	3.13	74.57
47I	65 - 70	72.70	LI	77.31	3.35	73.96	3.81	73.50	3.10	74.21
49S	45 - 50	52.80	LI	78.14	4.33	73.81	4.77	73.37	4.10	74.04
50I	75 - 80	82.80	LI	78.17	4.36	73.81	4.81	73.36	4.11	74.06
53I	75 - 80	82.80	LI	77.90	3.96	73.94	4.40	73.50	3.69	74.21
56I	70 - 75	38.00	LI	80.91	7.21	73.70	7.60	73.31	6.72	74.19
58I	65 - 70	72.70	LI	77.66	3.65	74.01	4.21	73.45	3.40	74.26
61I	65 - 70	72.70	LI	81.12	7.03	74.09	7.60	73.52	6.73	74.39
64I	70 - 75	77.00	LI	78.39	4.10	74.29	4.64	73.75	3.83	74.56
70I	65 - 70	72.80	LI	78.21	4.11	74.10	4.69	73.52	3.84	74.37
73I	60 - 65	67.40	LI	77.02	2.90	74.12	3.45	73.57	2.66	74.36
84I	55 - 60	63.30	LI	81.62	NI	NI	7.85	73.77	6.83	74.79
85I	55 - 60	63.30	LI	81.50	NI	NI	6.65	74.65	6.79	74.71
89I	50 - 55	55.00	LI	77.60	NI	NI	4.00	73.60	2.86	74.74
X2D	75 - 80	80.60	LI	79.99	5.84	74.15	6.47	73.52	5.57	74.42

See notes at end of table.

**TABLE 2-1
GROUNDWATER ELEVATION DATA
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
Page 4 of 4**

Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bls)	Well Depth (ft, bloc)	Zone	Top-of-Casing Elevation (ft, msl)	July 2, 2001		February 6, 2003		June 11, 2003	
					Depth to Water (ft, bloc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, bloc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, bloc)	Water-Level Elevation (ft, msl)
100D	110 - 115	118.25	DP	80.15	NI	NI	8.27	71.88	7.41	72.74
102D	115 - 120	123.35	DP	78.55	NI	NI	6.91	71.64	6.23	72.32
103D	144 - 149	152.39	DP	78.39	NI	NI	6.71	71.68	6.00	72.39
104D	110 - 115	118.78	DP	79.08	NI	NI	NI	NI	7.03	72.05
110D	105 - 110	113.81	DP	82.51	NI	NI	NI	NI	9.25	73.26
115D	105 - 110	112.76	DP	82.46	NI	NI	NI	NI	NI	NI
116D	105 - 110	113.63	DP	82.83	NI	NI	NI	NI	NI	NI
117D	105 - 110	112.58	DP	81.78	NI	NI	NI	NI	NI	NI
28D	80 - 90	89.50	DP	78.05	NM	NM	4.50	73.55	3.65	74.40
29B-55I	80 - 85	87.79	DP	77.09	3.31	73.78	4.76	72.33	3.06	74.03
29C-52I	75 - 80	82.41	DP	79.01	5.10	73.91	5.59	73.42	4.84	74.17
41D	108.5 - 118.5	115.00	DP	78.12	4.11	74.01	4.67	73.45	3.79	74.33
48D	100 - 110	100.00	DP	77.85	5.89	71.96	4.60	73.25	3.85	74.00
51D	100 - 110	112.79	DP	78.09	4.31	73.78	4.78	73.31	4.03	74.06
54I	80 - 85	87.69	DP	80.09	6.38	73.71	6.78	73.31	6.00	74.09
59D	100 - 110	112.73	DP	77.63	3.87	73.76	4.35	73.28	3.58	74.05
62D	105 - 110	112.58	DP	80.98	7.19	73.79	7.75	73.23	6.86	74.12
65D	115 - 120	112.00	DP	78.50	4.33	74.17	4.85	73.65	4.02	74.48
66I	80 - 85	88.00	DP	80.36	6.25	74.11	6.72	73.64	5.97	74.39
68I	82.6 - 87.6	90.00	DP	77.46	NM	NM	4.10	73.36	3.37	74.09
71D	80 - 85	87.64	DP	78.04	4.04	74.00	4.65	73.39	3.78	74.26
74D	100 - 110	113.00	DP	77.06	3.05	74.01	3.56	73.50	2.78	74.28
80D	115 - 120	112.00	DP	77.81	5.36	72.45	5.78	72.03	4.96	72.85
96D	110 - 115	115.00	DP	77.51	NI	NI	4.30	73.21	3.08	74.43
97D	100 - 105	108.00	DP	80.90	NI	NI	7.25	73.65	6.25	74.65
98D	105 - 110	113.30	DP	81.39	NI	NI	8.45	72.94	7.57	73.82
99D	95 - 100	103.60	DP	81.69	NI	NI	8.33	73.36	7.26	74.43

Notes:
 bloc = below top of casing
 NI = not installed
 NM = not measured

Zone Descriptions:
 WT = water table
 UI = Upper intermediate
 LI = Lower intermediate
 DP = Deep

General Depth (ft bls):
 0 to 20
 25 to 50
 50 to 80
 greater than 80

The MIP/SC data was used to aid in determining the optimum number and location of permanent monitoring wells and aided in selecting the optimum screen intervals for the walls.

The following paragraphs that explain the MIP/SC system were paraphrased and/or excerpted from an article by the subcontractor (Tillman and Sohl, 2001).

The MIP is sensitive to a full range of VOCs, especially those petroleum-related compounds of concern (COCs) that have already been shown to exist at this site. This chemical profiling system is combined with an electrical logging tool for characterizing soil type, thus the additional abbreviation 'SC.' The main parts of the system are the MIP mounted on a DPT tool, an electrical conductivity array (also known as a Wenner Array), and a continuous monitoring detector.

- The MIP is a Teflon[®]-coated membrane, set within a heating block on the side of a DPT tool. The probe is 1.5 inches in diameter and is approximately 12 inches long. The MIP is driven into the ground at the rate of 1 ft per minute using a DPT rig. The soils and water that come in contact with the heating block are heated to 120 degrees Celsius (°C). Chemicals with lower boiling points (BP) [for example, benzene (BP = 80°C) and toluene (BP = 111°C)] are volatilized and diffuse rapidly across the membrane into a sampling loop that is composed of inert tubing inside a protective casing strung continuously from the MIP itself through the necessary length of hollow DPT rods and back to the detector. A carrier gas, usually nitrogen, sweeps the backside of the membrane to carry the volatiles back to the detector. As an example, it takes approximately 35 seconds for the carrier gas stream to travel 100 ft of inert tubing and reach the detectors. The temperature varies as a function of penetration rate and the thermal properties of the materials through which it passes. A temperature log was used to locate the groundwater table and other water rich units, since they tend to cool the probe down more quickly than soil types.
- The Wenner Array on the MIP system provides an estimate of the electrical conductivity of the soil/water layers that it passes through. The WennerArray utilizes a dipole measuring arrangement. An alternating electrical current is passed from the center, isolated pin of the SC probe to the probe body. The voltage response of the soil to the imposed current is measured across the same two points. The probe is reasonably accurate for measurement of soil conductivities in the range of 5 to 400 milliSiemens per meter (mS/M). In general, at a given location, lower conductivities will indicate sands while higher conductivities are indicative of silts and clays. The COCs in the groundwater can also affect conductivity.
- Two continuous monitoring detectors were in use for this phase of work: a flame ionization detector (FID) and a photoionization detector (PID) mounted on a laboratory grade gas chromatograph. Since

the FID is sensitive to natural gases, such as methane, the output from the PID was used to compare to the FID data and rule out possible input from natural sources. The output signal from the detectors was then captured by a specially designed MIP data logging system which fed data to a laptop computer. The MIP data logging system displayed results continuously in real time during each push of the probe. The data was printed out after each soil boring was completed, and it was saved to a common word processor software.

Between July 10, 2001, and August 31, 2001, TtNUS performed continuous profiling at 47 soil boring locations to an average depth of approximately 90 ft bls. Generally, the borings were terminated when high soil conductivities that indicated a clay-like unit at least 2 to 3 ft thick were encountered. A second round of MIP/SC soil profiling was performed at 19 soil boring locations between February 18, 2002, and April 8, 2002, to fill in gaps in the data set. Figure 2-1 shows the location of the MIP/SC borings. Table 2-2 provides a listing of each MIP boring with the total depths. Note that some of the listings show two depths [see "Total MIP Depth (ft, bls)" in the table]. The two-depth listings occurred at nine of the borings where the DPT/MIP rig was unable to achieve the desired depth on the first attempt. The second boring was able to achieve the desired depth through the use of a secondary, outer casing set to an average depth of 40 ft bls.

2.4.3 DPT with Mobile Laboratory

The second phase of the supplemental site assessment involved the use of a DPT rig to collect discrete groundwater samples for mobile laboratory analysis to correlate the MIP data. This event took place during the period of August 27, 2001, through September 13, 2001. Samples were collected from locations and intervals that represented a variety of low, medium, and high MIP/SC responses. Samples were collected from 19 of the 66 MIP/SC locations. Those locations where both MIP/SC and mobile laboratory samples were collected for comparison are shown on Figure 2-1. A total of 43 co-located samples were collected. Table 2-2 also provides a listing of the traditional DPT sample locations with the discrete sample intervals also indicated.

An additional 10 locations not associated with MIP/SC boring were sampled at various depth intervals for mobile laboratory analyses and are shown on Figure 2-1. The nine locations (listed first on Table 2-2) on the west side of Aviation Avenue were completed to assist the Navy in providing information to the COJ for immediate planning needs. The data was used to determine if groundwater contamination was present west of Aviation Avenue above 55 ft bls that might impact future dewatering activities. The tenth location (E8) north of the NFF site was sampled to compliment the MIP/SC data collected to the south of that location.

TABLE 2-2
MIP AND MOBILE LABORATORY SAMPLING LOCATION DATA
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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DPT Location Number	Subcontractors	MIP, ML, or Both	Date Conducted (1)	Total MIP Depth (ft, bis) (2)	Discrete Sample Interval (ft, bis) (3)
AC1	GPI/KB	ML	9/7/2001	n/a	14, 24
AC2	GPI/KB	ML	9/6/2001	n/a	14, 24, 34
AC3	GPI/KB	ML	9/6/2001	n/a	14, 24
AC4	GPI/KB	ML	9/10/2001	n/a	52
AB2	GPI/KB	ML	9/4/2001	n/a	12, 22, 32
AB3	GPI/KB	ML	9/10/2001	n/a	52
AB4	GPI/KB	ML	9/4/2001	n/a	22, 52
AB5	GPI/KB	ML	9/10/2001	n/a	52
AB7	GPI/KB	ML	9/5/2001	n/a	12, 52
AA1	CT	MIP	7/25/2001	87.5	n/a
AA2	CT, GPI/KB	Both	7/24/01, 8/27/2001	94.5	12
AA3	CT	MIP	7/20/2001	75.4	n/a
AA4	CT, GPI/KB	Both	7/25/01, 8/27/2001, 8/28/01	76.3	19, 50, 60
AA5	CT	MIP	7/26/2001	81.2	n/a
AA6	CT	MIP	7/26/01, 7/27/01	80.3	n/a
AA8	CT	MIP	3/8/02, 4/2/02	63, 112	n/a
A1	CT	MIP	7/31/2001, 8/1/01	91.5	n/a
A2	CT	MIP	7/23/2001	90.5	n/a
A3	CT, GPI/KB	Both	7/19/01, 8/27/2001	80.6	12, 27, 56
A4	CT	MIP	7/24/2001	75.2	n/a
A6	CT	MIP	8/9/2001	80.3	n/a
A7	CT, GPI/KB	Both	8/21/01, 8/28/2001	82.9	12, 49
A8	CT, GPI/KB	Both	9/12/01, 3/7/02, 4/7/02	50, 112	12, 49
B0	CT	MIP	3/6/2002	69.5	n/a
B1	CT	MIP	8/1/01, 8/2/01	73.4	n/a
B2	CT, GPI/KB	Both	7/18/01, 8/29/2001	79.5	12
B3	CT	MIP	7/19/2001	84	n/a
B5	CT	MIP	2/19/2002	106.5	n/a
B8	CT	MIP	2/20/02, 4/8/02	67, 110	n/a
C0	CT	MIP	3/5/2002	86.5	n/a

See notes at end of table.

TABLE 2-2
MIP AND MOBILE LABORATORY SAMPLING LOCATION DATA
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
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DPT Location Number	Subcontractors	MIP, ML, or Both	Date Conducted (1)	Total MIP Depth (ft, bis) (2)	Discrete Sample Interval (ft, bis) (3)
C1	CT	MIP	8/2/2001	79.4	n/a
C2	CT, GPI/KB	Both	7/18/01, 8/27/01, 8/29/01	90.4	12, 17, 24, 42
C4	CT, GPI/KB	Both	8/7/01, 8/8/01, 8/28/2001	77.2	28, 40, 50, 67
C6	CT	MIP	8/9/2001	82.3	n/a
C7	CT, GPI/KB	Both	8/21/01, 8/29/2001	104.3	22, 53, 62
C8	CT, GPI/KB	Both	9/13/01, 2/20/2002	95.4	22, 53, 62
D0	CT	MIP	3/5/02, 3/10/02	69, 117	n/a
D2	CT, GPI/KB	Both	7/17/01, 8/28/2001	90	27
D5	CT	MIP	8/29/2001	77.2	n/a
D8	CT	MIP	3/7/02, 3/17/02	66, 117	n/a
E0	CT	MIP	2/18/2002	123	n/a
E1	CT, GPI/KB	Both	8/3/01, 8/29/01, 8/30/01	87.4	22, 42, 62
E2	CT, GPI/KB	Both	7/17/01, 8/28/01, 8/29/01	85.5	18, 27
E4	CT	MIP	8/7/2001, 8/8/01	82.7	n/a
E6	CT	MIP	8/10/2001	78.2	n/a
E7	CT, GPI/KB	Both	8/20/01, 8/29/2001	62.4	14, 19, 53
E8	GPI/KB	ML	9/13/2001	n/a	14, 53
F2	CT, GPI/KB	Both	7/16/01, 8/30/2001	92.1	12, 56, 66
F5	CT	MIP	8/30/2001	87	n/a
F7	CT, GPI/KB	Both	8/20/01, 8/30/2001	75.4	10
G1	CT	MIP	8/6/2001	101.4	n/a
G2	CT	MIP	7/13/2001	100.5	n/a
G4	CT	MIP	8/6/2001	88.4	n/a
G6	CT	MIP	2/26/02, 4/3/02	97, 114.4	n/a
H2	CT	MIP	7/13/2001	97.5	n/a
H3	CT	MIP	8/30/2001	66.8	n/a
H5	CT, GPI/KB	Both	7/12/01, 8/30/2001	90.4	32

See notes at end of table.

TABLE 2-2
MIP AND MOBILE LABORATORY SAMPLING LOCATION DATA
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
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DPT Location Number	Subcontractors	MIP, ML, or Both	Date Conducted (1)	Total MIP Depth (ft, bis) (2)	Discrete Sample Interval (ft, bis) (3)
I0	CT	MIP	2/26/02, 3/16/02	59, 116	n/a
I1	CT	MIP	7/12/2001	105.1	n/a
I2	CT	MIP	7/10/2001	113.3	n/a
I3	CT	MIP	7/11/2001	100.4	n/a
I4	CT	MIP	7/11/2001	92.4	n/a
I6	CT	MIP	3/20/2002	106.6	n/a
J0	CT	MIP	3/6/02, 3/15/02	118	n/a
J1	CT	MIP	7/30/2001	53.9	n/a
J4	CT	MIP	7/31/2001	57.4	n/a
J5	CT	MIP	7/30/01, 2/21/2002	100.7	n/a
K0	CT	MIP	3/7/02, 3/14/02	57, 118	n/a
K1	CT, GPI/KB	Both	8/28/01, 8/29/01, 9/10/2001	109	17
K2	CT	MIP	8/27/2001	105	n/a
K3	CT	MIP	3/19/2002	113	n/a
M1	CT	MIP	3/8/02, 3/12/02	119	n/a
M2	CT, GPI/KB	Both	8/23/01, 8/27/01, 9/10/2001	105	37, 53
M3	CT	MIP	3/9/02, 3/11/02	51, 90	n/a
N1	CT	MIP	8/22/2001	114.1	n/a
N2	CT	MIP	8/23/2001	72.5	n/a

Notes:
 (1) Dates in italics apply to DPT/mobile laboratory work.
 (2) If two depths shown, first depth is first attempt without outer casing, and second depth was reached with outer casing set to approximately 40 ft bis.
 (3) Discrete samples collected by traditional DPT methods for mobile laboratory analyses.
 CT = Columbia Technologies (DPT MIP/SC company)
 GPI = Groundwater Protection, Inc. (DPT company)
 KB = KB Labs, Inc. (Mobile laboratory company)
 n/a = not applicable
 ML = mobile laboratory

The samples were collected using a detachable drive tip attached to a 24-inch long, retractable, stainless steel well screen encased in the lead probe tube. After the water sampler was advanced into the desired water-bearing zone, the probe was withdrawn approximately 48 inches to allow the retractable screen to open to the formation. For groundwater recovery, a length of polyethylene tubing was inserted into the probe and connected to a peristaltic pump. Several screen volumes were then pumped from the probe in order to reduce the turbidity level and ensure a representative sample. After purging, the groundwater samples were collected by pumping directly into three 40-milliliter vials with Teflon[®]-coated septa, and one 1-liter amber glass bottle with Teflon[®] lid. The groundwater samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX); naphthalene; and diesel range organics (DRO) by a mobile laboratory.

The evaluation of the DPT MIP/SC and mobile laboratory work indicated an approximate 70 to 75 percent confidence level in the DPT MIP/SC work. The MIP data was then processed into 3-dimensional animated graphic images, which were used to select locations and screen intervals for additional monitoring wells. These 3-dimensional images are provided on a compact disc (CD) in Appendix E.

2.4.4 Soil Borings

Generally, soil boring logs were prepared for wells installed by the hollow stem auger method. With the exception of monitoring well CEF-076-103D, the wells installed by the mud rotary method were not logged since sufficient lithologic data from the CARA (ABB-ES, 1997b) existed for most of those wells. For monitoring well CDF-076-103D, continuous split spoon samples were collected and logged for the interval from 110 to 118 ft bls and thereafter on 5-ft centers from 120 to 147 ft bls. Soil boring data for the rotasonic drilling was only maintained at the following two soil boring locations: CEF-076-111D and CEF-076-118D. The locations were adjacent to monitoring wells CEF-076-98D and CEF-076-110D, respectively, and the depth interval sampled was approximately 105 to 130 ft bls. Neither location was converted to a monitoring well. The soil boring logs for each applicable newly installed monitoring well are presented in Appendix F. The soil cuttings and other solid wastes from this drilling activity were containerized and were disposed of properly.

2.4.5 Permanent Monitoring Well Installation

TtNUS selected the location for the permanent monitoring wells to confirm and delineate the groundwater impacts indicated by the MIP field screening. Underground utilities were cleared by the appropriate utility departments and also investigated at each boring location by advancing the boring with a post hole digger from 0 to 4 ft bls. A synopsis of the new wells installed for this investigation with construction, development, and sampling dates is presented on Table 2-3, and the locations are mapped on Figure 1-3.

TABLE 2-3
NEW MONITORING WELL CONSTRUCTION AND INTENDED USE DATA
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
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Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bis)	Well Depth (ft, btoc)	Zone	Top-of-Casing Elevation (ft, msal)	Installation Method	Installation Date	Development Date	Sample Date	Intended Purpose
81S	3 - 13	13.02	WT	79.36	HSA	12/3/2001	12/5/2001	12/10/2001	Perimeter
82S	2.5 - 12.5	12.62	WT	78.94	HSA	12/4/2001	12/5/2001	12/10/2001	Perimeter
88S	5 - 15	17.99	WT	78.50	HSA	12/12/2002	12/19/2002	1/28/2003	Perimeter
90S	5 - 15	15.00	WT	77.58	HSA	12/13/2002	12/15/2002	1/28/2003	Perimeter
94S	5 - 15	18.22	WT	81.59	HSA	12/16/2002	1/16/2003	1/28/2003	Source
95S	5 - 15	18.01	WT	80.88	HSA	12/16/2002	1/16/2003	1/28/2003	Perimeter
107S	5 - 15	18.15	WT	82.26	HSA	5/15/2003	5/20/2003	6/2/2003	Source
108S	5 - 15	18.50	WT	81.47	HSA	5/15/2003	5/20/2003	5/21/2003	Source
109S	5 - 15	18.10	WT	80.92	HSA	5/15/2003	5/20/2003	5/21/2003	Perimeter

Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bis)	Well Depth (ft, btoc)	Zone	Top-of-Casing Elevation (ft, msal)	Installation Method	Installation Date	Development Date	Sample Date	Intended Purpose
83S	25 - 30	30.00	UI	79.13	HSA	12/10/2002	12/19/2002	1/28/2003	Perimeter
86S	45 - 50	53.32	UI	78.35	HSA	12/12/2002	1/15/2003	1/28/2003	Perimeter
87S	45 - 50	53.33	UI	81.53	HSA	12/12/2002	1/10/2003	1/28/2003	Source
91S	25 - 30	33.81	UI	83.21	HSA	12/13/2002	1/16/2003	1/28/2003	Source
92S	25 - 30	33.18	UI	81.86	HSA	12/16/2002	1/15/2003	1/28/2003	Perimeter
93S	25 - 30	33.29	UI	81.59	HSA	12/16/2002	1/16/2003	1/28/2003	Source
101S	30 - 35	38.24	UI	77.64	HSA	1/8/2003	1/24/2003	1/29/2003	Source
105I	45 - 50	53.35	UI	78.15	Rotasonic	5/15/2003	5/20/2003	5/21/2003	Perimeter
106S	25 - 30	33.35	UI	81.85	HSA	5/15/2003	5/21/2003	5/21/2003	Perimeter
113S	35 - 40	43.22	UI	81.22	Rotasonic	5/19/2003	5/20/2003	5/23/2003	Source
114S	35 - 40	43.11	UI	80.91	Rotasonic	7/1/2003	7/7/2003	7/10/2003	Perimeter

See notes at end of table.

TABLE 2-3
NEW MONITORING WELL CONSTRUCTION AND INTENDED USE DATA
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
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Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bls)	Well Depth (ft, btoc)	Zone	Top-of-Casing Elevation (ft, msl)	Installation Method	Installation Date	Development Date	Sample Date	Intended Purpose
84I	55 - 60	63.30	LI	81.62	H.S.A.	12/11/2002	1/16/2003	1/28/2003	Perimeter
85I	55 - 60	63.30	LI	81.50	H.S.A.	12/11/2002	1/16/2003	1/28/2003	Perimeter
89I	50 - 55	55.00	LI	77.60	H.S.A.	12/13/2002	12/24/2002	1/28/2003	Perimeter
111I	65 - 70	73.70	LI	82.23	Rotosonic	5/18/2003	5/21/2003	5/21/2003	Perimeter
112I	50 - 55	58.00	LI	81.56	Rotosonic	5/18/2003	5/21/2003	5/21/2003	Perimeter

Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bls)	Well Depth (ft, btoc)	Zone	Top-of-Casing Elevation (ft, msl)	Installation Method	Installation Date	Development Date	Sample Date	Intended Purpose
96D	110 - 115	115.00	DP	77.51	Mud Rotary	12/18/2002	12/24/2002	2/11/2003	Perimeter
97D	100 - 105	108.00	DP	80.90	Mud Rotary	12/19/2002	1/30/2003	2/10/2003	Perimeter
98D	105 - 110	113.30	DP	81.39	Mud Rotary	12/19/2002	1/30/2003	2/11/2003	Source
99D	95 - 100	103.60	DP	81.69	Mud Rotary	1/6/2003	1/10/2003	2/10/2003	Source
100D	110 - 115	118.25	DP	80.15	Mud Rotary	1/8/2003	1/28/2003	1/29/2003	Source
102D	115 - 120	123.35	DP	78.55	Mud Rotary	1/9/2003	1/30/2003	2/11/2003	Perimeter
103D	144 - 149	152.39	DP	78.39	Mud Rotary	1/21/2003	1/30/2003	2/10/2003	Vertical Extent
104D	110 - 115	118.78	DP	79.08	Rotosonic	5/14/2003	5/19/2003	5/21/2003	Perimeter
110D	105 - 110	113.81	DP	82.51	Rotosonic	5/15/2003	5/21/2003	5/21/2003	Source
115D	105 - 110	112.76	DP	82.46	Rotosonic	6/30/2003	7/1/2003	7/10/2003	Perimeter
116D	105 - 110	113.63	DP	82.83	Rotosonic	6/27/2003	7/1/2003	7/10/2003	Source
117D	105 - 110	112.58	DP	81.78	Rotosonic	6/29/2003	7/1/2003	7/10/2003	Perimeter

Notes:
HSA = hollow stem auger

Zone Descriptions:
WT = water table
UI = Upper intermediate
LI = Lower intermediate
DP = Deep

General Depth (ft bls):
0 to 20
25 to 50
50 to 80
greater than 80

The wells were drilled using several methods including hollow stem auger, mud rotary, and rotasonic. The monitoring well completion logs and certificates of conformance for each newly installed monitoring well are presented in Appendices G and H, respectively. The soil cuttings and other solid wastes from this drilling activity were containerized and disposed of properly.

Each well was developed using either a submersible pump or a bladder pump. During well development, field measurements of pH, temperature, and specific conductance were monitored from the water generated. The wells were developed for approximately one hour or until the field measurements became stable and the development water became clear. Water quality stabilization was determined by comparison of the last three measurements using the following criteria: temperature $\pm 1^{\circ}\text{C}$, pH ± 0.1 standard unit, and specific conductance ± 10 percent. The development water was containerized and disposed of properly. Decontamination of the drilling tools, drilling rigs, and development equipment were performed in general accordance with FDEP SOP Section 4.1.4.

2.4.6 Groundwater Sampling of Monitoring Wells

Prior to sampling, approximately three to five well volumes of groundwater were removed from each well using low flow quiescent purging methods. Temperature, pH, specific conductance measurements, and well purge volumes were recorded at the time of sample collection. The samples were typically analyzed for constituents of the GAG/KAG group (with exceptions noted below). The groundwater samples for each monitoring well were placed on ice and shipped to the Accutest Laboratory in Orlando, Florida.

The following sampling events were conducted at the site (well prefix for the following bullets is CEF-076-):

- On December 10 and 11, 2001, samples were collected from the following wells west of the site that bracketed Aviation Avenue: 12, 42, 81S, and 82S.
- On January 8, 2002, well 12 was resampled for total lead and filtered lead only.
- Between December 11 and 18, 2002, samples were collected from the following existing wells: 7, 8, 39D, 43S, 44I, 49S, 50I, 51D, 56I, 57S, 61I, 62D, 63S, 64I, 65D, 69S, 70I, 71D, 73I, 80D, 81S, and 82S.
- Between January 28 and February 11, 2003, samples were collected from the following wells: 48D, 60S, 83S, 84I, 85I, 86S, 87S, 88S, 89I, 90S, 91S, 92S, 93S, 94S, 95S, 96D, 97D, 98D, 99D, 100D, 101S, 102D, and 103D.

- Between May 21 and 23, 2003, samples were collected from the following wells: 7, 53I, 104D, 105I, 106S, 108S, 109S, 110D, 111I, 112I, and 113S.
- On June 2, 2003, samples were collected from monitoring well CEF-076-107S for total lead and filtered lead only.
- On June 3, 2003, samples were collected from monitoring well CEF-076-21.
- On July 9 and 10, 2003, samples were collected from the following monitoring wells: 114S, 115D, 116D and 117D.

Groundwater field sampling data sheets and low flow purge data sheets are provided in Appendix I.

3.0 SITE ASSESSMENT RESULTS

3.1 SURFACE WATER AND SEDIMENT RESULTS

The surface water sample results indicate that concentrations of VOCs and PAHs were below detectable limits in all four samples. TRPH was detected in all four samples; however, the concentrations were below applicable surface water quality standards for a Class III Fresh Water body and applicable standards provided in Chapter 62-777, FAC. The locations, co-located with sediment sample locations, are shown in the ditch leading to Sal Taylor Creek as SW/SED 1, SW/SED 2, SW/SED 3, and SW/SED 4 on Figure 2-1. Lead was also detected in the sample from one location (shown as SW/SED 3 on Figure 2-1), but the concentration was below the applicable standard. The surface water data is summarized on Table 3-1. The laboratory report with the chain of custody is provided in Appendix J.

The sediment sample results indicate that concentrations of PAHs were below detection limits in all four samples. The TRPH concentrations for three of the four locations were below SCTLs; however, the sample from one location (shown as SW/SED 2 on Figure 2-1) was above the TRPH guideline for SCTL. Toluene was also detected in one sediment sample location (shown as SW/SED 3 on Figure 2-1), but the concentration reported for that sample was below the respective SCTL. The sediment laboratory data is summarized on Table 3-2. The same laboratory report provided in Appendix J for the surface water data also contains the sediment laboratory data.

3.2 DPT GROUNDWATER SCREENING RESULTS

3.2.1 DPT MIP/SC RESULTS

The MIP/SC system provided the following information and results:

- Continuous profiling of VOCs at each of 66 boring locations.
- Continuous soil conductivity data at each of those boring locations.
- A regular, but non-continuous readout of high soil conductivity (above 20 mS/M) was observed at approximately 60 to 65 ft bls, which was equated to a zone with increased clay content as previously indicated by the CARA (ABB-ES, 1997b). Generally, this interval was less than 1 ft thick.

TABLE 3-1
SUMMARY OF SURFACE WATER LABORATORY DATA

SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Site	Regulatory Criteria		SITE-76	SITE-76	SITE-76	SITE-76
Sample Location CEF-076-	62-777	62-302	SWW001	SWW002	SWW003	SWW004
Sample Location (as shown on Figure 2-1)			SW/SED 1	SW/SED 2	SW/SED 3	SW/SED 4
Sample ID CEF076			SWW00101	SWW00201	SWW00301	SWW00401
Sample Date			09/06/01	09/06/01	09/06/01	09/06/01
Inorganics (µg/L)	Regulatory Criteria					
LEAD	15		1.2 U	1.2 U	2.2 B	3.5 B
Semivolatile Organics (µg/L)						
1-METHYLNAPHTHALENE	95		2.2 U	2.0 U	2.0 U	2.0 U
2-METHYLNAPHTHALENE	30		2.2 U	2.0 U	2.0 U	2.0 U
ACENAPHTHENE	3	< 2.7	4.4 U	4.0 U	4.0 U	4.0 U
ACENAPHTHYLENE		< 0.031	4.4 U	4.0 U	4.0 U	4.0 U
ANTHRACENE	0.3	110	2.2 U	2.0 U	2.0 U	2.0 U
BENZO(A)ANTHRACENE		< 0.031	0.22 U	0.20 U	0.20 U	0.20 U
BENZO(A)PYRENE		< 0.031	0.22 U	0.20 U	0.20 U	0.20 U
BENZO(B)FLUORANTHENE		< 0.031	0.22 U	0.20 U	0.20 U	0.20 U
BENZO(G,H,I)PERYLENE		< 0.031	0.22 U	0.20 U	0.20 U	0.20 U
BENZO(K)FLUORANTHENE		< 0.031	0.22 U	0.20 U	0.20 U	0.20 U
CHRYSENE		< 0.031	2.2 U	2.0 U	2.0 U	2.0 U
DIBENZO(A,H)ANTHRACENE		< 0.031	0.22 U	0.20 U	0.20 U	0.20 U
FLUORANTHENE	0.3	< 0.370	2.2 U	2.0 U	2.0 U	2.0 U
FLUORENE	30	14	2.2 U	2.0 U	2.0 U	2.0 U
INDENO(1,2,3-CD)PYRENE		< 0.031	0.22 U	0.20 U	0.20 U	0.20 U
NAPHTHALENE	26		2.2 U	2.0 U	2.0 U	2.0 U
PHENANTHRENE		< 0.031	2.2 U	2.0 U	2.0 U	2.0 U
PYRENE	0.3	< 11	2.2 U	2.0 U	2.0 U	2.0 U
Volatile Organics (µg/L)						
1,1,1-TRICHLOROETHANE	270		2.0 U	2.0 U	2.0 U	2.0 U
1,1,2,2-TETRACHLOROETHANE		< 10.8	2.0 U	2.0 U	2.0 U	2.0 U
1,1,2-TRICHLOROETHANE	28.5		2.0 U	2.0 U	2.0 U	2.0 U
1,1-DICHLOROETHANE	NA		2.0 U	2.0 U	2.0 U	2.0 U
1,1-DICHLOROETHENE		< 3.2	2.0 U	2.0 U	2.0 U	2.0 U
1,2-DIBROMOETHANE	13		0.020 U	0.020 U	0.020 U	0.020 U
1,2-DICHLOROETHANE	5		2.0 U	2.0 U	2.0 U	2.0 U
1,2-DICHLOROPROPANE	2600		2.0 U	2.0 U	2.0 U	2.0 U
2-HEXANONE	NA		10 U	10 U	10 U	10 U
4-METHYL-2-PENTANONE			10 U	10 U	10 U	10 U
ACETONE	1692		50 U	50 U	50 U	50 U
BENZENE		< 71.28	1.0 U	1.0 U	1.0 U	1.0 U
BROMODICHLOROMETHANE		< 22	2.0 U	2.0 U	2.0 U	2.0 U
BROMOFORM		< 360	2.0 U	2.0 U	2.0 U	2.0 U
BROMOMETHANE	35		5.0 U	5.0 U	5.0 U	5.0 U
CARBON DISULFIDE	105		10 U	10 U	10 U	10 U
CARBON TETRACHLORIDE		< 4.42	2.0 U	2.0 U	2.0 U	2.0 U
CHLOROBENZENE	17		2.0 U	2.0 U	2.0 U	2.0 U
CHLORODIBROMOMETHANE		< 34	2.0 U	2.0 U	2.0 U	2.0 U
CHLOROETHANE	NA		5.0 U	5.0 U	5.0 U	5.0 U
CHLOROFORM		< 470.8	2.0 U	2.0 U	2.0 U	2.0 U
CHLOROMETHANE		< 470.8	5.0 U	5.0 U	5.0 U	5.0 U
CIS-1,2-DICHLOROETHENE	7000		2.0 U	2.0 U	2.0 U	2.0 U
CIS-1,3-DICHLOROPROPENE	12		2.0 U	2.0 U	2.0 U	2.0 U
ETHYLBENZENE	605		2.0 U	2.0 U	2.0 U	2.0 U
METHYLENE CHLORIDE		< 1580	5.0 U	5.0 U	5.0 U	5.0 U
METHYL ETHYL KETONE	120000		10 U	10 U	10 U	10 U
STYRENE	455		2.0 U	2.0 U	2.0 U	2.0 U
TETRACHLOROETHENE		< 8.85	2.0 U	2.0 U	2.0 U	2.0 U
TOLUENE	475		2.0 U	2.0 U	2.0 U	2.0 U
TOTAL XYLENES	370		6.0 U	6.0 U	6.0 U	6.0 U
TRANS-1,2-DICHLOROETHENE	11000		2.0 U	2.0 U	2.0 U	2.0 U
TRANS-1,3-DICHLOROPROPENE	12		2.0 U	2.0 U	2.0 U	2.0 U
TRICHLOROETHENE		< 80.7	2.0 U	2.0 U	2.0 U	2.0 U
VINYL CHLORIDE	NA		1.0 U	1.0 U	1.0 U	1.0 U
Petroleum Hydrocarbons (µg/L)						
TOTAL PETROLEUM HYDROCARBONS	5000		688	715	312	308
Notes:	62-777 - Surface Water Cleanup Target Levels established in Chapter 62-777, FAC.		NA - Not Available			
	62-302 - Criteria for Surface Water Quality Classifications Class III Fresh Waters established in Chapter 62-302, FAC.		Values exceeding regulatory criteria are in bold.			
	B (inorganics) - Indicates a result >= IDL, but < RL.		Positive detections are shaded.			
	B (organics) - Blank contamination detected during analysis.		RL = Reporting Limit			
	U - Concentration less than the detection limit.		IDL = Instrumentation Detection Limit			

**TABLE 3-2
SUMMARY OF SEDIMENT LABORATORY DATA
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Site			SITE-76	SITE-76	SITE-76	SITE-76
Sample Location CEF-076-			SDC001	SDC002	SDC003	SDC004
Sample Location (as shown on Figure 2-1)			SW/SED 1	SW/SED 2	SW/SED 3	SW/SED 4
Sample ID CEF076SDC			101	201	301	401
Sample Date			09/06/01	09/06/01	09/06/01	09/06/01
Semivolatile Organics (µg/Kg)	Residential	Leaching				
1-METHYLNAPHTHALENE	68000	2200	500 U	420 U	480 U	460 U
2-METHYLNAPHTHALENE	80000	6100	500 U	420 U	480 U	460 U
ACENAPHTHENE	1900000	2100	1000 U	840 U	950 U	920 U
ACENAPHTHYLENE	1100000	27000	1000 U	840 U	950 U	920 U
ANTHRACENE	18000000	2500000	500 U	420 U	480 U	460 U
BENZO(A)ANTHRACENE	1400	3200	500 U	420 U	480 U	460 U
BENZO(A)PYRENE	100	800	100 U	84 U	95 U	92 U
BENZO(B)FLUORANTHENE	1400	10000	100 U	84 U	95 U	92 U
BENZO(G,H,I)PERYLENE	2300000	3200000	100 U	84 U	95 U	92 U
BENZO(K)FLUORANTHENE	15000	25000	100 U	84 U	95 U	92 U
CHRYSENE	140000	77000	500 U	420 U	480 U	460 U
DIBENZO(A,H)ANTHRACENE	100	30000	100 U	84 U	95 U	92 U
FLUORANTHENE	2900000	1200000	500 U	420 U	480 U	460 U
FLUORENE	2200000	160000	500 U	420 U	480 U	460 U
INDENO(1,2,3-CD)PYRENE	1500	28000	100 U	84 U	95 U	92 U
NAPHTHALENE	40000	1700	500 U	420 U	480 U	460 U
PHENANTHRENE	2000000	250000	500 U	420 U	480 U	460 U
PYRENE	2200000	880000	500 U	420 U	480 U	460 U
Volatile Organics (µg/Kg)						
BENZENE	1100	7.0	7.4 U	290 U	7.1 U	7.1 U
ETHYLBENZENE	1100000	600	7.4 U	290 U	7.1 U	7.1 U
METHYL TERT-BUTYL ETHER	3200000	200	7.4 U	290 U	7.1 U	7.1 U
TOLUENE	380000	500	7.4 U	290 U	5.0 J	7.1 U
TOTAL XYLENES	5900000	200	22 U	880 U	21 U	21 U
Petroleum Hydrocarbons (mg/Kg)						
TOTAL PETROLEUM HYDROCARBONS	340	340	76.0	427	93.0	142
Notes:						
Positive detections are shaded.						
Values exceeding SCTLs are in bold.						
SCTLs exceeded in one or more samples are in bold and underlined.						
U indicates a concentration less than the detection limit.						
J indicates an estimated concentration.						
µg/Kg - micrograms per kilogram						
mg/Kg - milligrams per kilogram						

- A high conductivity layer (above 20 mS/M) at least 2-ft thick was observed at approximately 80 to 85 ft bls on the west side of the site and appears to slope down to the southeast side of the site where it was encountered at depths of approximately 90 to 105 ft bls. This higher conductivity layer was equated to lower units of the surficial aquifer that immediately precede the upper Hawthorn Group sediments. These may include sandy clay and/or clay units.
- Characterization of the source area (also known as the tank farm mound) and adjacent areas that aided in the selection of permanent monitoring well locations and screen intervals.

Appendix E contains a CD with a copy of a computer program called the Four-Dimensional Interactive Model (4DIM) player and animated graphic presentation of the actual data collected with the MIP/SC system. Included with that CD is a brief notepad document labeled "4DIM Notes" on installation and use of the player and the graphic presentation.

3.2.2 MOBILE LABORATORY RESULTS

The groundwater sampling results from the mobile laboratory represented field screening data that was used to correlate the MIP data and to address concerns by the COJ regarding the possibility that groundwater contamination at the NFF might extend west of Aviation Avenue. Generally, a 70 to 75 percent qualitative correlation was determined between the mobile lab and the MIP data. This correlation was accomplished by interpolating the MIP response at those depths and locations where the mobile laboratory reported detectable BTEX. Table 3-3 provides a partial list of the sampling point results for benzene as compared to the MIP response. That table generally indicates how a range of benzene concentrations (from 1 to 10,000 µg/L) from the mobile laboratory correlated to the corresponding MIP response. Various factors affected the correlation between MIP response and detected BTEX concentrations. VOCs boil at different temperatures (BTEX compounds vaporize at temperatures that range from 80°C to 138°C), and the presence of other compounds (both organic and inorganic) can affect how the COCs (like BTEX) are extracted by the probe; and, VOCs other than BTEX can be extracted that might produce a higher MIP response than expected.

BTEX was detected by the mobile laboratory at 18 of 19 MIP locations and at various depths. Naphthalene was detected at 7 of the 19 MIP locations. DRO was not detected at any of the MIP locations. The complete mobile laboratory results are presented in Appendix K.

Of the nine locations west of Aviation Avenue that were sampled by only the mobile laboratory, BTEX compounds were detected in seven of the nine locations. Naphthalene and DRO were not detected in the samples from any of the nine locations east of Aviation Avenue.

TABLE 3-3
MIP TO MOBILE LABORATORY DATA COMPARISON
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Location and Depth	Benzene (µg/L)	MIP Response (µV)
E2-18	1	2.00E+05
A7-49	5.2	5.00E+05
E1-22	5.3	5.00E+04
E2-27	5.6	5.00E+04
B2-12	7.8	1.00E+05
E1-42	10	5.00E+04
AA4-19	10.4	5.00E+05
C7-22	11.8	5.00E+04
A7-12	12.2	7.50E+05
C2-42	52.4	5.00E+04
E7-53	54.4	5.00E+04
A3-27	140	2.00E+05
C7-53	240	2.50E+05
AA4-50	270	2.00E+05
A3-56	340	1.10E+06
A3-12	380	5.00E+05
AA2-12	490	4.75E+06
C4-28	2000	1.50E+06
C2-17	2600	3.50E+06
C2-24	4100	1.50E+06
C4-40	4800	1.00E+06
C4-67	6100	1.00E+06
C4-50	10000	2.75E+06

Notes:
E2-18 (E2 = DPT Location; 18 = 18 ft bls)
µV = microvolts
E = exponent base 10

The mobile laboratory results for the location north of the ditch (E8) indicated no potential water table petroleum contamination; however, the deeper sample at 53 ft bls did detect a low level (less than 10 µg/L) of total BTEX.

3.3 PERMANENT MONITORING WELL ANALYTICAL RESULTS

Groundwater samples from site monitoring wells were submitted to an off-site laboratory for analysis for constituents of the GAG/KAG. The laboratory analytical results for each aquifer zone are summarized as follows:

- Table 3-4 Water Table Zone
- Table 3-5 Upper Intermediate Zone
- Table 3-6 Lower Intermediate Zone
- Table 3-7 Deep Zone

The laboratory analytical reports are included as Appendix L. The results of the groundwater analyses were compared to the GCTLs and the NADSCs.

3.3.1 Water Table Zone

Groundwater samples were collected from nine monitoring wells screened in the water table zone. Six of the monitoring wells sampled from this zone had GCTL exceedances for one or more analytes. VOCs, PAHs, TRPH, and lead were detected in groundwater samples from water table wells at concentrations above GCTLs. Two of the nine wells exceeded NADSC standards, specifically for BTEX. No other COCs exceeded NADSC standards in the water table zone. The GCTL and NADSC exceedances detected in samples from the water table zone are summarized on Table 3-8.

3.3.1.1 Volatile Organics – Water Table Zone

Volatile organic compounds at concentrations exceeding GCTLs were detected in three of the nine water table zone monitoring wells sampled. VOC exceedances in the water table zone were limited to BTEX. The VOC analytical results for the water table zone are shown on Figure 3-1.

Benzene was detected at concentrations exceeding the GCTL of 1 µg/L in three monitoring wells:

- CEF-076-94S 2,560 µg/L (NADSC exceeded)
- CEF-076-108S 16.3 µg/L
- CEF-076-90S 1.5 µg/L

**TABLE 3-4
SUMMARY OF GROUNDWATER LABORATORY DATA, WATER TABLE ZONE**

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**SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

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Site	SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-07		CEF-076-07		CEF-076-08		CEF-076-12	
Sample ID CEF-076-GW-	E-7S-01		E-7S-02		E-8S-01		12	
Sample Date	12/17/02		5/23/2003		12/17/02		12/10/01	
Screen Interval (ft bls)	5 - 15		5 - 15		5 - 15		5-15	
Inorganics (µg/L)	GCTL	NADSC						
LEAD	15	150	1.4 B	1.2 U	1.8 B			41.9
Semivolatile Organics (µg/L)								
1-METHYLNAPHTHALENE	20	200	0.27 U	0.26 U	0.28 U			2 U
2-METHYLNAPHTHALENE	20	200	0.27 U	0.26 U	0.28 U			2 U
ACENAPHTHENE	20	200	0.53 U	0.52 U	0.56 U			4 U
ACENAPHTHYLENE	210	2100	0.53 U	0.52 U	0.56 U			4 U
ANTHRACENE	2100	21000	0.27 U	0.26 U	0.28 U			2 U
BENZO(A)ANTHRACENE	0.2	20	0.11 U	0.10 U	0.11 U			0.2 U
BENZO(A)PYRENE	0.2	20	0.11 U	0.10 U	0.11 U			0.2 U
BENZO(B)FLUORANTHENE	0.2	20	0.11 U	0.10 U	0.11 U			0.2 U
BENZO(G,H,I)PERYLENE	210	2100	0.11 U	0.10 U	0.11 U			0.2 U
BENZO(K)FLUORANTHENE	0.5	50	0.11 U	0.10 U	0.11 U			0.2 U
CHRYSENE	4.8	480	0.11 U	0.10 U	0.11 U			2 U
DIBENZO(A,H)ANTHRACENE	0.2	20	0.11 U	0.10 U	0.11 U			0.2 U
FLUORANTHENE	280	2800	0.27 U	0.26 U	0.28 U			2 U
FLUORENE	280	2800	0.27 U	0.26 U	0.28 U			2 U
INDENO(1,2,3-CD)PYRENE	0.2	20	0.11 U	0.10 U	0.11 U			0.2 U
NAPHTHALENE	20	200	0.27 U	0.26 U	0.28 U			2 U
PHENANTHRENE	210	2100	0.27 U	0.26 U	0.28 U			2 U
PYRENE	210	2100	0.27 U	0.26 U	0.28 U			2 U
Volatile Organics (µg/L)								
1,1,1-TRICHLOROETHANE	200		0.5 U	0.5 U	0.5 U			2 U
1,1,2,2-TETRACHLOROETHANE	0.2		0.5 U	0.30 U	0.5 U			2 U
1,2-TRICHLOROETHANE	5		0.5 U	0.5 U	0.5 U			2 U
1,1-DICHLOROETHANE	70		0.5 U	0.5 U	0.5 U			2 U
1,1-DICHLOROETHENE	7		0.5 U	0.5 U	0.5 U			2 U
1,2-DIBROMOETHANE	0.02	2	0.0092 U	0.0090 U	0.0092 U			0.02 U
1,2-DICHLOROETHANE	600		0.5 U	0.5 U	0.5 U			2 U
1,2-DICHLOROETHANE	3	300	0.5 U	0.5 U	0.5 U			2 U
1,2-DICHLOROPROPANE	5		0.5 U	0.5 U	0.5 U			2 U
1,3-DICHLOROETHANE	10		0.5 U	0.5 U	0.5 U			2 U
1,4-DICHLOROETHANE	75		0.5 U	0.5 U	0.5 U			2 U
2-CHLOROETHYL VINYL ETHER	175		2.5 U	2.5 U	2.5 U			NA
BENZENE	1	100	0.5 U	0.5 U	0.5 U			1 U
BROMODICHLOROMETHANE	0.6		0.5 U	0.5 U	0.5 U			2 U
BROMOFORM	4.4		0.5 U	0.5 U	0.5 U			2 U
BROMOMETHANE	9.8		1 U	1.0 U	1 U			5 U
CARBON TETRACHLORIDE	3		0.5 U	0.5 U	0.5 U			2 U
CHLOROBENZENE	100		0.5 U	0.5 U	0.5 U			2 U
CHLORODIBROMOMETHANE	0.4		0.4 U	0.40 U	0.4 U			2 U
CHLOROETHANE	12		1 U	1.0 U	1 U			5 U
CHLOROFORM	5.7		0.5 U	0.5 U	0.5 U			2 U
CHLOROMETHANE	2.7		1 U	1.0 U	1 U			5 U
CIS-1,2-DICHLOROETHENE	70		0.5 U	0.5 U	0.5 U			2 U
CIS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.30 U	0.5 U			2 U
ETHYLBENZENE	30	300	0.7 U	0.5 U	0.7 U			2 U
METHYL TERT-BUTYL ETHER	50	500	0.5 U	0.5 U	0.5 U			2 U
METHYLENE CHLORIDE	5		1 U	1 U	1 U			5 U
TETRACHLOROETHENE	3		0.5 U	0.5 U	0.5 U			2 U
TOLUENE	40	400	0.5 U	1.0	0.5 U			2 U
TOTAL XYLENES	20	200	1 U	1 U	1 U			6 U
TRANS-1,2-DICHLOROETHENE	100		0.5 U	0.5 U	0.5 U			2 U
TRANS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.30 U	0.5 U			2 U
TRICHLOROETHENE	3		0.5 U	0.5 U	0.5 U			2 U
VINYL CHLORIDE	1		0.5 U	0.5 U	0.5 U			1 U
Alkyl Petroleum Hydrocarbons (µg/L)								
TOTAL PETROLEUM HYDROCARBONS	5000	50000	210 U	180 U	190 U			250 U

See notes at end of table.

**TABLE 3-4
SUMMARY OF GROUNDWATER LABORATORY DATA, WATER TABLE ZONE**

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**SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

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Site			SITE-76	SITE-76	SITE-76	SITE-76
Sample Location			CEF-076-12	CEF-076-12	CEF-076-21	CEF-076-42
Sample ID			E012-01A	E012-01A	E21-01	42
Sample Date			01/08/02	01/08/02	06/03/03	12/11/01
Screen Interval (ft bls)			5-15	5-15	2 - 12	2-12
Inorganics (µg/L)	GCTL	NADSC				
LEAD	15	150	23.4	4.1 B	1.2 U	3.5 B
Semivolatle Organics (µg/L)						
1-METHYLNAPHTHALENE	20	200	This sample was analyzed for lead only.		0.26 U	2 U
2-METHYLNAPHTHALENE	20	200			0.26 U	2 U
ACENAPHTHENE	20	200			0.52 U	4 U
ACENAPHTHYLENE	210	2100			0.52 U	4 U
ANTHRACENE	2100	21000			0.26 U	2 U
BENZO(A)ANTHRACENE	0.2	20			0.10 U	0.2 U
BENZO(A)PYRENE	0.2	20			0.10 U	0.2 U
BENZO(B)FLUORANTHENE	0.2	20			0.10 U	0.2 U
BENZO(G,H,I)PERYLENE	210	2100			0.10 U	0.2 U
BENZO(K)FLUORANTHENE	0.5	50			0.10 U	0.2 U
CHRYSENE	4.8	480			0.10 U	2 U
DIBENZO(A,H)ANTHRACENE	0.2	20			0.10 U	0.2 U
FLUORANTHENE	280	2800			0.26 U	2 U
FLUORENE	280	2800			0.26 U	2 U
INDENO(1,2,3-CD)PYRENE	0.2	20			0.10 U	0.2 U
NAPHTHALENE	20	200			0.26 U	2 U
PHENANTHRENE	210	2100			0.26 U	2 U
PYRENE	210	2100			0.26 U	2 U
Volatile Organics (µg/L)						
1,1,1-TRICHLOROETHANE	200		This sample was analyzed for lead only.		0.5 U	2 U
1,1,2,2-TETRACHLOROETHANE	0.2				0.30 U	2 U
1,1,2-TRICHLOROETHANE	5				0.5 U	2 U
1,1-DICHLOROETHANE	70				0.5 U	2 U
1,1-DICHLOROETHENE	7				0.5 U	2 U
1,2-DIBROMOETHANE	0.02	2			0.0092 U	0.020 U
1,2-DICHLOROETHANE	600				0.5 U	2 U
1,2-DICHLOROETHANE	3	300			0.5 U	2 U
1,2-DICHLOROPROPANE	5				0.5 U	2 U
1,3-DICHLOROETHANE	10				0.5 U	2 U
1,4-DICHLOROETHANE	75				0.5 U	2 U
2-CHLOROETHYL VINYL ETHER	175				2.5 U	NA
BENZENE	1	100			0.5 U	1 U
BROMODICHLOROMETHANE	0.6				0.5 U	2 U
BROMOFORM	4.4				0.5 U	2 U
BROMOMETHANE	9.8				1.0 U	5 U
CARBON TETRACHLORIDE	3				0.5 U	2 U
CHLOROBENZENE	100				0.5 U	2 U
CHLORODIBROMOMETHANE	0.4				0.40 U	2 U
CHLOROETHANE	12				1.0 U	5 U
CHLOROFORM	5.7				0.5 U	2 U
CHLOROMETHANE	2.7				1.0 U	5 U
CIS-1,2-DICHLOROETHENE	70				0.5 U	2 U
CIS-1,3-DICHLOROPROPENE	0.2				0.30 U	2 U
ETHYLBENZENE	30	300			0.5 U	2 U
METHYL TERT-BUTYL ETHER	50	500			0.5 U	2 U
METHYLENE CHLORIDE	5				1.0 U	5 U
TETRACHLOROETHENE	3				0.5 U	2 U
TOLUENE	40	400			0.5 U	2 U
TOTAL XYLENES	20	200			1.0 U	6 U
TRANS-1,2-DICHLOROETHENE	100			0.5 U	2 U	
TRANS-1,3-DICHLOROPROPENE	0.2			0.30 U	2 U	
TRICHLOROETHENE	3			0.5 U	2 U	
VINYL CHLORIDE	1			0.5 U	1 U	
Petroleum Hydrocarbons (µg/L)						
TOTAL PETROLEUM HYDROCARBONS	5000	50000	This sample was analyzed for lead only.		180 U	250 U

See notes at end of table.

TABLE 3-4
SUMMARY OF GROUNDWATER LABORATORY DATA, WATER TABLE ZONE

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SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Site	SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-81S		CEF-076-81S		CEF-076-82S		CEF-076-82S	
Sample ID CEF-076-GW-	81S		E81S-01		82S		E-82S-01	
Sample Date	12/10/01		12/18/02		12/10/01		12/17/02	
Screen Interval (ft bls)	3-13		3-13		2.5-12.5		2.5-12.5	
Inorganics (µg/L)	GCTL	NADSC						
LEAD	15	150	2.9 B	2.8 B	4.3 B	2.8 B		
Semivolatile Organics (µg/L)								
1-METHYLNAPHTHALENE	20	200	2 U	0.27 U	21.3	20		
2-METHYLNAPHTHALENE	20	200	2 U	0.27 U	12.8	22.3		
ACENAPHTHENE	20	200	4 U	0.54 U	4 U	0.56 U		
ACENAPHTHYLENE	210	2100	4 U	0.54 U	4 U	0.56 U		
ANTHRACENE	2100	21000	2 U	0.27 U	2 U	0.28 U		
BENZO(A)ANTHRACENE	0.2	20	0.2 U	0.11 U	0.2 U	0.11 U		
BENZO(A)PYRENE	0.2	20	0.2 U	0.11 U	0.2 U	0.11 U		
BENZO(B)FLUORANTHENE	0.2	20	0.2 U	0.11 U	0.2 U	0.11 U		
BENZO(G,H,I)PERYLENE	210	2100	0.2 U	0.11 U	0.2 U	0.11 U		
BENZO(K)FLUORANTHENE	0.5	50	0.2 U	0.11 U	0.2 U	0.11 U		
CHRYSENE	4.8	480	2 U	0.11 U	0.2 U	0.11 U		
DIBENZO(A,H)ANTHRACENE	0.2	20	0.2 U	0.11 U	2 U	0.11 U		
FLUORANTHENE	280	2800	2 U	0.27 U	0.2 U	0.11 U		
FLUORENE	280	2800	2 U	0.27 U	2 U	0.28 U		
INDENO(1,2,3-CD)PYRENE	0.2	20	0.2 U	0.11 U	2 U	0.28 U		
NAPHTHALENE	20	200	2 U	0.27 U	0.2 U	0.11 U		
PHENANTHRENE	210	2100	2 U	0.27 U	4.9	10.4		
PYRENE	210	2100	2 U	0.27 U	2 U	0.28 U		
Volatile Organics (µg/L)								
1,1,1-TRICHLOROETHANE	200		2 U	0.5 U	2 U	0.5 U		
1,1,2,2-TETRACHLOROETHANE	0.2		2 U	0.5 U	2 U	0.5 U		
1,2-TRICHLOROETHANE	5		2 U	0.5 U	2 U	0.5 U		
1,1-DICHLOROETHANE	70		2 U	0.5 U	2 U	0.5 U		
1,1-DICHLOROETHENE	7		2 U	0.5 U	2 U	0.5 U		
1,2-DIBROMOETHANE	0.02	2	0.02 U	0.0094 U	0.02 U	0.0092 U		
1,2-DICHLOROETHANE	600		2 U	0.5 U	2 U	0.5 U		
1,2-DICHLOROETHANE	3	300	2 U	0.5 U	2 U	0.5 U		
1,2-DICHLOROPROPANE	5		2 U	0.5 U	2 U	0.5 U		
1,3-DICHLOROETHANE	10		2 U	0.5 U	2 U	0.5 U		
1,4-DICHLOROETHANE	75		2 U	0.5 U	2 U	0.5 U		
2-CHLOROETHYL VINYL ETHER	175		NA	2.5 U	2 U	0.5 U		
BENZENE	1	100	1 U	0.5 U	NA	2.5 U		
BROMODICHLOROMETHANE	0.6		2 U	0.5 U	1 U	0.5 U		
BROMOFORM	4.4		2 U	0.5 U	2 U	0.5 U		
BROMOMETHANE	9.8		5 U	1 U	5 U	1 U		
CARBON TETRACHLORIDE	3		2 U	0.5 U	2 U	0.5 U		
CHLOROETHANE	100		2 U	0.5 U	2 U	0.5 U		
CHLORODIBROMOMETHANE	0.4		2 U	0.5 U	2 U	0.5 U		
CHLOROETHANE	12		5 U	1 U	2 U	0.4 U		
CHLOROFORM	5.7		2 U	0.5 U	5 U	1 U		
CHLOROMETHANE	2.7		5 U	1 U	2 U	0.5 U		
CIS-1,2-DICHLOROETHENE	70		2 U	0.5 U	5 U	1 U		
CIS-1,3-DICHLOROPROPENE	0.2		2 U	0.5 U	2 U	0.5 U		
ETHYLBENZENE	30	300	2 U	0.5 U	2 U	0.5 U		
METHYL TERT-BUTYL ETHER	50	500	2 U	0.7 U	8.1	2		
METHYLENE CHLORIDE	5		5 U	1 U	2 U	0.5 U		
TETRACHLOROETHENE	3		2 U	0.5 U	5 U	1 U		
TOLUENE	40	400	2 U	0.5 U	2 U	0.5 U		
TOTAL XYLENES	20	200	6 U	1 U	2 U	0.5 U		
TRANS-1,2-DICHLOROETHENE	100		2 U	0.5 U	16.7	3.5		
TRANS-1,3-DICHLOROPROPENE	0.2		2 U	0.5 U	2 U	0.5 U		
TRICHLOROETHENE	3		2 U	0.5 U	2 U	0.5 U		
VINYL CHLORIDE	1		1 U	0.5 U	2 U	0.5 U		
Total Petroleum Hydrocarbons (µg/L)								
TOTAL PETROLEUM HYDROCARBONS	5000	50000	250 U	180 U	1350	713		

See notes at end of table.

TABLE 3-4
SUMMARY OF GROUNDWATER LABORATORY DATA, WATER TABLE ZONE

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SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Site	SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-88S		CEF-076-90S		CEF-076-94S		CEF-076-95S	
Sample ID CEF-076-GW-	N88S-01		N90S-01		N94S-01		N95S-01	
Sample Date	01/28/03		01/27/03		01/27/03		01/28/03	
Screen Interval (ft bls)	5 - 15		5 - 15		5 - 15		5 - 15	
Inorganics (µg/L)	GCTL	NADSC						
LEAD	15	150	128	1.2 U	5.2	6.3		
Semivolatile Organics (µg/L)								
1-METHYLNAPHTHALENE	20	200	0.53 U	6.4	61.4	0.53 U		
2-METHYLNAPHTHALENE	20	200	0.53 U	7.4	82.5	0.53 U		
ACENAPHTHENE	20	200	1.1 U	1.1 U	8.2 U	1.1 U		
ACENAPHTHYLENE	210	2100	1.1 U	1.1 U	8.2 U	1.1 U		
ANTHRACENE	2100	21000	1.1 U	1.1 U	1 U	1.1 U		
BENZO(A)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U		
BENZO(A)PYRENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U		
BENZO(B)FLUORANTHENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U		
BENZO(G,H,I)PERYLENE	210	2100	0.11 U	0.11 U	0.1 U	0.11 U		
BENZO(K)FLUORANTHENE	0.5	50	0.11 U	0.11 U	0.1 U	0.11 U		
CHRYSENE	4.8	480	1.1 U	1.1 U	8.2 U	1.1 U		
DIBENZO(A,H)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U		
FLUORANTHENE	280	2800	0.53 U	0.54 U	0.52 U	0.53 U		
FLUORENE	280	2800	1.1 U	1.1 U	8.2 U	1.1 U		
INDENO(1,2,3-CD)PYRENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U		
NAPHTHALENE	20	200	2 J	18.9	165	0.53 U		
PHENANTHRENE	210	2100	1.1 U	1.1 U	1 U	1.1 U		
PYRENE	210	2100	0.53 U	0.54 U	0.52 U	0.53 U		
Volatile Organics (µg/L)								
1,1,1-TRICHLOROETHANE	200		0.5 U	0.5 U	50 U	0.5 U		
1,1,2,2-TETRACHLOROETHANE	0.2		0.5 U	0.5 U	50 U	0.5 U		
1,1,2-TRICHLOROETHANE	5		0.5 U	0.5 U	50 U	0.5 U		
1,1-DICHLOROETHANE	70		0.5 U	0.5 U	50 U	0.5 U		
1,1-DICHLOROETHENE	7		0.5 U	0.5 U	50 U	0.5 U		
1,2-DIBROMOETHANE	0.02	2	0.0093 U	0.0095 U	0.0092 U	0.0095 U		
1,2-DICHLOROBENZENE	600		0.5 U	0.5 U	50 U	0.5 U		
1,2-DICHLOROETHANE	3	300	0.5 U	0.5 U	50 U	0.5 U		
1,2-DICHLOROPROPANE	5		0.5 U	0.5 U	50 U	0.5 U		
1,3-DICHLOROBENZENE	10		0.5 U	0.5 U	50 U	0.5 U		
1,4-DICHLOROBENZENE	75		0.5 U	0.5 U	50 U	0.5 U		
2-CHLOROETHYL VINYL ETHER	175		2.5 U	2.5 U	250 U	2.5 U		
BENZENE	1	100	0.5 U	1.5	2560	0.5 U		
BROMODICHLOROMETHANE	0.6		0.5 U	0.5 U	50 U	0.5 U		
BROMOFORM	4.4		0.5 U	0.5 U	50 U	0.5 U		
BROMOMETHANE	9.8		1 U	1 U	100 U	1 U		
CARBON TETRACHLORIDE	3		0.5 U	0.5 U	50 U	0.5 U		
CHLOROBENZENE	100		0.5 U	0.5 U	50 U	0.5 U		
CHLORODIBROMOMETHANE	0.4		0.4 U	0.4 U	40 U	0.4 U		
CHLOROETHANE	12		1 U	1 U	100 U	1 U		
CHLOROFORM	5.7		0.5 U	0.5 U	50 U	0.5 U		
CHLOROMETHANE	2.7		1 U	1 U	100 U	1 U		
CIS-1,2-DICHLOROETHENE	70		0.5 U	0.5 U	50 U	0.5 U		
CIS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.5 U	50 U	0.5 U		
ETHYLBENZENE	30	300	2.4	4.8	1030	0.7 U		
METHYL TERT-BUTYL ETHER	50	500	0.5 U	0.5 U	50 U	0.5 U		
METHYLENE CHLORIDE	5		1 U	1 U	100 U	1 U		
TETRACHLOROETHENE	3		0.5 U	0.5 U	50 U	0.5 U		
TOLUENE	40	400	1.1	0.5 U	6470	0.5 U		
TOTAL XYLENES	20	200	17.9	12.3	4400	1 U		
TRANS-1,2-DICHLOROETHENE	100		0.5 U	0.5 U	50 U	0.5 U		
TRANS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.5 U	50 U	0.5 U		
TRICHLOROETHENE	3		0.5 U	0.5 U	50 U	0.5 U		
VINYL CHLORIDE	1		0.5 U	0.5 U	50 U	0.5 U		
Petroleum Hydrocarbons (µg/L)								
TOTAL PETROLEUM HYDROCARBONS	5000	50000	387	2010	8680	180 U		

See notes at end of table.

TABLE 3-4
SUMMARY OF GROUNDWATER LABORATORY DATA, WATER TABLE ZONE

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SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Site	SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-107S		CEF-076-107S		CEF-076-108S		CEF-076-109S	
Sample ID	CEF-076-GW-		107S-01F		N108S01		N109S01	
Sample Date	06/02/03		06/02/03		5/22/2003		5/22/2003	
Screen Interval (ft bls)	5-15		5-15		5-15		5-15	
Inorganics (µg/L)	GCTL	NADSC						
LEAD	15	150	2.8 B	1.2 U	1.2 U	1.2 U	1.2 U	
Semivolatile Organics (µg/L)								
1-METHYLNAPHTHALENE	20	200	This sample was analyzed for lead only.		14.4		0.26 U	
2-METHYLNAPHTHALENE	20	200			22.4		0.26 U	
ACENAPHTHENE	20	200			0.53 U		0.52 U	
ACENAPHTHYLENE	210	2100			0.53 U		0.52 U	
ANTHRACENE	2100	21000			0.26 U		0.26 U	
BENZO(A)ANTHRACENE	0.2	20			0.11 U		0.10 U	
BENZO(A)PYRENE	0.2	20			0.11 U		0.10 U	
BENZO(B)FLUORANTHENE	0.2	20			0.11 U		0.10 U	
BENZO(G,H,I)PERYLENE	210	2100			0.11 U		0.10 U	
BENZO(K)FLUORANTHENE	0.5	50			0.11 U		0.10 U	
CHRYSENE	4.8	480			0.11 U		0.10 U	
DIBENZO(A,H)ANTHRACENE	0.2	20			0.11 U		0.10 U	
FLUORANTHENE	280	2800			0.11 U		0.10 U	
FLUORENE	280	2800			0.26 U		0.26 U	
INDENO(1,2,3-CD)PYRENE	0.2	20			0.26 U		0.26 U	
NAPHTHALENE	20	200			0.11 U		0.10 U	
PHENANTHRENE	210	2100			11.4		0.26 U	
PYRENE	210	2100			0.26 U		0.26 U	
					0.26 U		0.26 U	
Volatile Organics (µg/L)								
1,1,1-TRICHLOROETHANE	200		This sample was analyzed for lead only.		0.50 U		0.50 U	
1,1,2,2-TETRACHLOROETHANE	0.2				0.30 U		0.30 U	
1,2-TRICHLOROETHANE	5				0.50 U		0.50 U	
1,1-DICHLOROETHANE	70				0.50 U		0.50 U	
1,1-DICHLOROETHENE	7				0.50 U		0.50 U	
1,2-DIBROMOETHANE	0.02	2			0.0092 U		0.0091 U	
1,2-DICHLOROETHANE	600				0.50 U		0.50 U	
1,2-DICHLOROETHANE	3	300			0.50 U		0.50 U	
1,2-DICHLOROPROPANE	5				0.50 U		0.50 U	
1,3-DICHLOROETHANE	10				0.50 U		0.50 U	
1,4-DICHLOROETHANE	75				0.50 U		0.50 U	
2-CHLOROETHYL VINYL ETHER	175				2.5 U		2.5 U	
BENZENE	1	100			16.3		0.50 U	
BROMODICHLOROMETHANE	0.6				0.50 U		0.50 U	
BROMOFORM	4.4				0.50 U		0.50 U	
BROMOMETHANE	9.8				1.0 U		1.0 U	
CARBON TETRACHLORIDE	3				0.50 U		0.50 U	
CHLOROETHANE	100				0.50 U		0.50 U	
CHLORODIBROMOMETHANE	0.4				0.40 U		0.40 U	
CHLOROETHANE	12				1.0 U		1.0 U	
CHLOROFORM	5.7				0.50 U		0.50 U	
CHLOROMETHANE	2.7				1.0 U		1.0 U	
CIS-1,2-DICHLOROETHENE	70				0.50 U		0.50 U	
CIS-1,3-DICHLOROPROPENE	0.2				0.30 U		0.30 U	
ETHYLBENZENE	30	300			62.5		0.50 U	
METHYL TERT-BUTYL ETHER	50	500			0.50 U		0.50 U	
METHYLENE CHLORIDE	5				1.0 U		1.0 U	
TETRACHLOROETHENE	3				0.50 U		0.50 U	
TOLUENE	40	400			3.8		0.50 U	
TOTAL XYLENES	20	200			693		1.0 U	
TRANS-1,2-DICHLOROETHENE	100			0.50 U		0.50 U		
TRANS-1,3-DICHLOROPROPENE	0.2			0.30 U		0.30 U		
TRICHLOROETHENE	3			0.50 U		0.50 U		
VINYL CHLORIDE	1			0.50 U		0.50 U		
Petroleum Hydrocarbons (µg/L)								
TOTAL PETROLEUM HYDROCARBONS	5000	50000	This sample was analyzed for lead only.	2230		180 U		

Notes: Positive detections are shaded.
Values exceeding GCTLs are in bold.
J = indicates an estimated concentration.

GCTLs exceeded in one or more samples are bold and underlined.
U = indicates a concentration less than the detection limit.
B (organics) = indicates blank contamination detected during analysis.

B (Inorganics) = indicates a result >= IDL, but < RL.
RL = reporting limit
IDL = instrument detection limit

TABLE 3-5
SUMMARY OF GROUNDWATER LABORATORY DATA, UPPER INTERMEDIATE ZONE

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SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Site	SITE-76		SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-43S		CEF-076-49S		CEF-076-57S		CEF-076-60S		CEF-076-63S	
Sample ID CEF-076-GW-	E43S-01		E49S-01		E57S-01		E60-01		E63S-01	
Sample Date	12/16/02		12/12/02		12/11/02		01/28/03		12/12/02	
Screen Interval (ft bls)	35 - 40		45 - 50		30 - 35		35 - 40		40 - 45	
Inorganics (µg/L)	GCTL	NADSC								
LEAD	15	150	1.8 B	1.2 U	1.2 U	1.8 B	1.3 B	1.2 U		
Semivolatile Organics (µg/L)										
1-METHYLNAPHTHALENE	20	200	0.27 U	0.27 U	0.25 U	0.54 U	0.28 U	0.26 U		
2-METHYLNAPHTHALENE	20	200	0.27 U	0.27 U	0.25 U	0.54 U	0.28 U	0.26 U		
ACENAPHTHENE	20	200	0.54 U	0.53 U	0.51 U	1.1 U	0.56 U	0.52 U		
ACENAPHTHYLENE	210	2100	0.54 U	0.53 U	0.51 U	1.1 U	0.56 U	0.52 U		
ANTHRACENE	2100	21000	0.27 U	0.27 U	0.25 U	1.1 U	0.28 U	0.26 U		
BENZO(A)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U		
BENZO(A)PYRENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U		
BENZO(B)FLUORANTHENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U		
BENZO(G,H,I)PERYLENE	210	2100	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U		
BENZO(K)FLUORANTHENE	0.5	50	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U		
CHRYSENE	4.8	480	0.11 U	0.11 U	0.1 U	1.1 U	0.11 U	0.1 U		
DIBENZO(A,H)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U		
FLUORANTHENE	280	2800	0.27 U	0.27 U	0.25 U	0.54 U	0.28 U	0.26 U		
FLUORENE	280	2800	0.27 U	0.27 U	0.25 U	1.1 U	0.28 U	0.26 U		
INDENO(1,2,3-CD)PYRENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U		
NAPHTHALENE	20	200	0.27 U	0.27 U	0.25 U	0.54 U	0.28 U	0.26 U		
PHENANTHRENE	210	2100	0.27 U	0.27 U	0.25 U	1.1 U	0.28 U	0.26 U		
PYRENE	210	2100	0.27 U	0.27 U	0.25 U	0.54 U	0.28 U	0.26 U		
Volatile Organics (µg/L)										
1,1,1-TRICHLOROETHANE	200		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,1,2,2-TETRACHLOROETHANE	0.2		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,1,2-TRICHLOROETHANE	5		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,1-DICHLOROETHANE	70		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,1-DICHLOROETHENE	7		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,2-DIBROMOETHANE	0.02	2	0.0094 U	0.0094 U	0.0093 U	0.0092 U	0.0092 U	0.0092 U	0.0092 U	
1,2-DICHLOROETHANE	3	300	0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,2-DICHLOROPROPANE	5		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,3-DICHLOROETHANE	10		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,4-DICHLOROETHANE	75		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
2-CHLOROETHYL VINYL ETHER	175		2.5 U	13 U	25 U	2.5 U	2.5 U	2.5 U	2.5 U	
BENZENE	1	100	0.5 U	14.4	85.5	0.5 U	0.5 U	0.5 U	0.5 U	
BROMODICHLOROMETHANE	0.6		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
BROMOFORM	4.4		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
BROMOMETHANE	9.8		1 U	5 U	10 U	1 U	1 U	1 U	1 U	
CARBON TETRACHLORIDE	3		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
CHLOROBENZENE	100		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
CHLORODIBROMOMETHANE	0.4		0.4 U	2 U	4 U	0.4 U	0.4 U	0.4 U	0.4 U	
CHLOROETHANE	12		1 U	5 U	10 U	1 U	1 U	1 U	1 U	
CHLOROFORM	5.7		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
CHLOROMETHANE	2.7		1 U	5 U	10 U	1 U	1 U	1 U	1 U	
CIS-1,2-DICHLOROETHENE	70		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
CIS-1,3-DICHLOROPROPENE	0.2		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
ETHYLBENZENE	30	300	0.7 U	3.5 U	56.8	0.7 U	0.7 U	0.7 U	0.7 U	
METHYL TERT-BUTYL ETHER	50	500	0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
METHYLENE CHLORIDE	5		1 U	5 U	10 U	1 U	1 U	1 U	1 U	
TETRACHLOROETHENE	3		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
TOLUENE	40	400	0.5 U	4.5 U	10.2	0.5 U	0.5 U	0.5 U	0.5 U	
TOTAL XYLENES	20	200	1 U	545	1290	1 U	14.4	2.8 U	2.8 U	
TRANS-1,2-DICHLOROETHENE	100		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
TRANS-1,3-DICHLOROPROPENE	0.2		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
TRICHLOROETHENE	3		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
VINYL CHLORIDE	1		0.5 U	2.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
Petroleum Hydrocarbons (µg/L)										
TOTAL PETROLEUM HYDROCARBONS	5000	50000	180 U	703	3760	180 U	190 U	190 U		

See notes at end of table.

TABLE 3-5
SUMMARY OF GROUNDWATER LABORATORY DATA, UPPER INTERMEDIATE ZONE

Rev. 0
09/26/03

SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Site	SITE-76		SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-83S		CEF-076-86S		CEF-076-87S		CEF-076-91S		CEF-076-92S	
Sample ID	N83S-01		N86S-01		N87S-01		N91S-01		N92S-01	
Sample Date	01/27/03		01/28/03		01/27/03		01/28/03		01/27/03	
Screen Interval (ft bls)	25 - 30		45 - 50		45 - 50		25 - 30		25 - 30	
Inorganics (µg/L)	GCTL	NADSC								
LEAD	15	150	3.9 B	10.3	6.1	1.3 B	17.3	4.2 B		
Semivolatile Organics (µg/L)										
1-METHYLNAPHTHALENE	20	200	0.54 U	0.54 U	41.6	32.3	0.56 U	55.6		
2-METHYLNAPHTHALENE	20	200	0.54 U	0.54 U	45.1	25.5	0.56 U	67.1		
ACENAPHTHENE	20	200	1.1 U	1.1 U	5 U	5.6 U	1.1 U	5.6 U		
ACENAPHTHYLENE	210	2100	1.1 U	1.1 U	5 U	5.6 U	1.1 U	5.6 U		
ANTHRACENE	2100	21000	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U		
BENZO(A)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U		
BENZO(A)PYRENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U		
BENZO(B)FLUORANTHENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U		
BENZO(G,H,I)PERYLENE	210	2100	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U		
BENZO(K)FLUORANTHENE	0.5	50	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U		
CHRYSENE	4.8	480	1.1 U	1.1 U	1 U	1.1 U	1.1 U	5.8 U		
DIBENZO(A,H)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U		
FLUORANTHENE	280	2800	0.54 U	0.54 U	0.5 U	0.56 U	0.56 U	0.56 U		
FLUORENE	280	2800	1.1 U	1.1 U	5 U	5.6 U	1.1 U	5.6 U		
INDENO(1,2,3-CD)PYRENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U		
NAPHTHALENE	20	200	0.54 U	0.54 U	198	113	0.56 U	124		
PHENANTHRENE	210	2100	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U		
PYRENE	210	2100	0.54 U	0.54 U	0.5 U	0.56 U	0.56 U	0.56 U		
Volatile Organics (µg/L)										
1,1,1-TRICHLOROETHANE	200		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
1,1,2,2-TETRACHLOROETHANE	0.2		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
1,1,2-TRICHLOROETHANE	5		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
1,1-DICHLOROETHANE	70		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
1,1-DICHLOROETHENE	7		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
1,2-DIBROMOETHANE	0.02	2	0.0094 U	0.0095 U	0.0093 U	0.0092 U	0.0093 U	0.0095 U		
1,2-DICHLOROBENZENE	600		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
1,2-DICHLOROETHANE	3	300	0.5 U	0.5 U	5 U	59.3	0.5 U	5 U		
1,2-DICHLOROPROPANE	5		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
1,2-DICHLOROBENZENE	10		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
1,4-DICHLOROBENZENE	75		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
2-CHLOROETHYL VINYL ETHER	175		2.5 U	2.5 U	25 U	25 U	2.5 U	25 U		
BENZENE	1	100	0.5 U	0.5 U	3590	1930	0.5 U	2310		
BROMODICHLOROMETHANE	0.6		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
BROMOFORM	4.4		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
BROMOMETHANE	9.8		1 U	1 U	10 U	10 U	1 U	10 U		
CARBON TETRACHLORIDE	3		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
CHLOROBENZENE	100		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
CHLORODIBROMOMETHANE	0.4		0.4 U	0.4 U	4 U	4 U	0.4 U	4 U		
CHLOROETHANE	12		1 U	1 U	10 U	10 U	1 U	10 U		
CHLOROFORM	5.7		0.5 U	0.8 U	5 U	5 U	0.5 U	5 U		
CHLOROMETHANE	2.7		1 U	1 U	10 U	10 U	1 U	10 U		
CIS-1,2-DICHLOROETHENE	70		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
CIS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
ETHYLBENZENE	30	300	0.7 U	0.7 U	856	1180	0.7 U	1110		
METHYL TERT-BUTYL ETHER	50	500	0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
METHYLENE CHLORIDE	5		1 U	1 U	10 U	10 U	1 U	10 U		
TETRACHLOROETHENE	3		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
TOLUENE	40	400	0.5 U	0.5 U	147	192	0.5 U	273		
TOTAL XYLENES	20	200	1 U	1.4 U	4310	5880	1 U	4980		
TRANS-1,2-DICHLOROETHENE	100		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
TRANS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
TRICHLOROETHENE	3		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
VINYL CHLORIDE	1		0.5 U	0.5 U	5 U	5 U	0.5 U	5 U		
Petroleum Hydrocarbons (µg/L)										
TOTAL PETROLEUM HYDROCARBONS	5000	50000	190 U	180 U	7330	7950	190 U	8700		

See notes at end of table.

TABLE 3-5
SUMMARY OF GROUNDWATER LABORATORY DATA, UPPER INTERMEDIATE ZONE

Rev. 0
09/26/03

SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Site	SITE-76		SITE-76		SITE-76		SITE-76		Site 76	
Sample Location	CEF-076-101S		CEF-076-105I		CEF-076-106S		CEF-076-113S		CEF-076-114S	
Sample ID	CEF-076-GW-		N101S-01		N106S-01		N113S-01		N114S-01	
Sample Date	01/29/03		5/21/2003		5/22/2003		5/23/2003		07/09/03	
Screen Interval (ft bls)	30 - 35		45 - 50		25 - 30		35 - 40		35 - 40	
Inorganics (µg/L)	GCTL	NADSC								
LEAD	15	150	29.4	8.2	27.8	1.2 U	23			
Semivolatile Organics (µg/L)										
1-METHYLNAPHTHALENE	20	200	0.53 U	0.27 U	0.27 U		8.9		0.52 U	
2-METHYLNAPHTHALENE	20	200	0.53 U	0.27 U	0.27 U		11.2		0.52 U	
ACENAPHTHENE	20	200	1.1 U	0.54 U	0.53 U		0.54 U		1.0 U	
ACENAPHTHYLENE	210	2100	1.1 U	0.54 U	0.53 U		0.54 U		1.0 U	
ANTHRACENE	2100	21000	1.1 U	0.27 U	0.27 U		0.27 U		1.0 U	
BENZO(A)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.11 U		0.11 U		0.10 U	
BENZO(A)PYRENE	0.2	20	0.11 U	0.11 U	0.11 U		0.11 U		0.10 U	
BENZO(B)FLUORANTHENE	0.2	20	0.11 U	0.11 U	0.11 U		0.11 U		0.21 U	
BENZO(G,H,I)PERYLENE	210	2100	0.11 U	0.11 U	0.11 U		0.11 U		0.10 U	
BENZO(K)FLUORANTHENE	0.5	50	0.11 U	0.11 U	0.11 U		0.11 U		0.10 U	
CHRYSENE	4.8	480	1.1 U	0.11 U	0.11 U		0.11 U		1.0 U	
DIBENZO(A,H)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.11 U		0.11 U		0.10 U	
FLUORANTHENE	280	2800	0.53 U	0.27 U	0.27 U		0.27 U		0.52 U	
FLUORENE	280	2800	1.1 U	0.27 U	0.27 U		0.27 U		1.0 U	
INDENO(1,2,3-CD)PYRENE	0.2	20	0.11 U	0.11 U	0.11 U		0.11 U		0.10 U	
NAPHTHALENE	20	200	0.53 U	0.27 U	0.27 U		71.5		0.52 U	
PHENANTHRENE	210	2100	1.1 U	0.27 U	0.27 U		0.27 U		1.0 U	
PYRENE	210	2100	0.53 U	0.27 U	0.27 U		0.27 U		0.52 U	
Volatile Organics (µg/L)										
1,1,1-TRICHLOROETHANE	200		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
1,1,2,2-TETRACHLOROETHANE	0.2		0.5 U	0.3 U	0.3 U		15 U		0.3 U	
1,1,2-TRICHLOROETHANE	5		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
1,1-DICHLOROETHANE	70		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
1,1-DICHLOROETHENE	7		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
1,2-DIBROMOETHANE	0.02	2	0.0094 U	0.0090 U	0.0093 U		0.0090 U		0.0091 U	
1,2-DICHLOROBENZENE	600		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
1,2-DICHLOROETHANE	3	300	0.5 U	0.5 U	0.5 U		25 U		0.5 U	
1,2-DICHLOROPROPANE	5		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
1,3-DICHLOROBENZENE	10		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
1,4-DICHLOROBENZENE	75		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
2-CHLOROETHYL VINYL ETHER	175		2.5 U	2.5 U	2.5 U		130 U		2.5 U	
BENZENE	1	100	1.8	0.5 U	0.5 U		10600		0.5 U	
BROMODICHLOROMETHANE	0.6		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
BROMOFORM	4.4		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
BROMOMETHANE	9.8		1 U	1 U	1 U		50 U		1 U	
CARBON TETRACHLORIDE	3		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
CHLOROBENZENE	100		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
CHLORODIBROMOMETHANE	0.4		0.4 U	0.4 U	0.4 U		20 U		0.4 U	
CHLOROETHANE	12		1 U	1 U	1 U		50 U		1 U	
CHLOROFORM	5.7		0.5 U	2.5	0.5 U		27.4 J		10.8	
CHLOROMETHANE	2.7		1 U	1 U	1 U		50 U		1 U	
CIS-1,2-DICHLOROETHENE	70		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
CIS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.3 U	0.3 U		15 U		0.3 U	
ETHYLBENZENE	30	300	0.71 J	0.5 U	0.5 U		889		0.5 U	
METHYL TERT-BUTYL ETHER	50	500	0.5 U	0.5 U	0.5 U		25 U		0.5 U	
METHYLENE CHLORIDE	5		1 U	1 U	1 U		50 U		1 U	
TETRACHLOROETHENE	3		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
TOLUENE	40	400	2.5	0.775 J	0.72 J		47.6 J		0.5 U	
TOTAL XYLENES	20	200	3.8	1 U	1 U		3430		1 U	
TRANS-1,2-DICHLOROETHENE	100		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
TRANS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.3 U	0.3 U		15 U		0.3 U	
TRICHLOROETHENE	3		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
VINYL CHLORIDE	1		0.5 U	0.5 U	0.5 U		25 U		0.5 U	
Petroleum Hydrocarbons (µg/L)										
TOTAL PETROLEUM HYDROCARBONS	5000	50000	180 U	170 U	180 U		7220		180 U	

Notes:
 Positive detections are shaded.
 Values exceeding GCTLs are in bold.
 GCTLs exceeded in one or more samples are in bold and underline.
 U = indicates a concentration less than the detection limit.
 J = indicates an estimated concentration.
 B (organics) = indicates blank contamination detected during analysis.
 B (inorganics) = indicates a result >= IDL, but < RL.
 IDL = instrument detection limit
 RL = reporting limit

TABLE 3-6
SUMMARY OF GROUNDWATER LABORATORY DATA, LOWER INTERMEDIATE ZONE

Rev. 0
09/26/03

SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Site			SITE-76	SITE-76	SITE-76	SITE-76	SITE-76		
Sample Location			CEF-076-39D	CEF-076-44I	CEF-076-50I	CEF-076-53I	CEF-076-56I		
Sample ID CEF-076-GW-E-			39D-01	44I-01	50I-01	53I-01	56I-01		
Sample Date			12/17/02	12/17/02	12/12/02	5/23/2003	12/18/02		
Screen Interval (ft bls)			55 - 65	65 - 70	75 - 80	75 - 80	70 - 75		
Inorganics (µg/L)			GCTL	NADSC					
LEAD			15	150	2.0 B	2.3 B	1.2 U	1.2 U	1.2 U
Semivolatile Organics (µg/L)									
1-METHYLNAPHTHALENE	20	200	38.2		0.28 U		0.28 U	0.27 U	0.28 U
2-METHYLNAPHTHALENE	20	200	52.0		0.28 U		0.28 U	0.27 U	0.28 U
ACENAPHTHENE	20	200	0.55 U		0.56 U		0.56 U	0.54 U	0.56 U
ACENAPHTHYLENE	210	2100	0.55 U		0.56 U		0.56 U	0.54 U	0.56 U
ANTHRACENE	2100	21000	0.27 U		0.28 U		0.28 U	0.27 U	0.28 U
BENZO(A)ANTHRACENE	0.2	20	0.11 U		0.11 U		0.11 U	0.11 U	0.11 U
BENZO(A)PYRENE	0.2	20	0.11 U		0.11 U		0.11 U	0.11 U	0.11 U
BENZO(B)FLUORANTHENE	0.2	20	0.11 U		0.11 U		0.11 U	0.11 U	0.11 U
BENZO(G,H,I)PERYLENE	210	2100	0.11 U		0.11 U		0.11 U	0.11 U	0.11 U
BENZO(K)FLUORANTHENE	0.5	50	0.11 U		0.11 U		0.11 U	0.11 U	0.11 U
CHRYSENE	4.8	480	0.11 U		0.11 U		0.11 U	0.11 U	0.11 U
DIBENZO(A,H)ANTHRACENE	0.2	20	0.11 U		0.11 U		0.11 U	0.11 U	0.11 U
FLUORANTHENE	280	2800	0.27 U		0.28 U		0.28 U	0.27 U	0.28 U
FLUORENE	280	2800	0.27 U		0.28 U		0.28 U	0.27 U	0.28 U
INDENO(1,2,3-CD)PYRENE	0.2	20	0.11 U		0.11 U		0.11 U	0.11 U	0.11 U
NAPHTHALENE	20	200	115		0.28 U		0.30 U	0.27 U	0.28 U
PHENANTHRENE	210	2100	0.27 U		0.28 U		0.28 U	0.27 U	0.28 U
PYRENE	210	2100	0.27 U		0.28 U		0.28 U	0.27 U	0.28 U
Volatile Organics (µg/L)									
1,1,1-TRICHLOROETHANE	200		50 U		0.5 U		25 U	0.5 U	0.5 U
1,1,2,2-TETRACHLOROETHANE	0.2		50 U		0.5 U		25 U	0.3 U	0.5 U
1,1,2-TRICHLOROETHANE	5		50 U		0.5 U		25 U	0.5 U	0.5 U
1,1-DICHLOROETHANE	70		50 U		0.5 U		25 U	0.5 U	0.5 U
1,1-DICHLOROETHENE	7		50 U		0.5 U		25 U	0.5 U	0.5 U
1,2-DIBROMOETHANE	0.02	2	0.0094 U		0.0092 U		0.0094 U	0.0092 U	0.0091 U
1,2-DICHLOROBENZENE	600		50 U		0.5 U		25 U	0.5 U	0.5 U
1,2-DICHLOROETHANE	3	300	50 U		0.5 U		25 U	0.5 U	0.5 U
1,2-DICHLOROPROPANE	5		50 U		0.5 U		25 U	0.5 U	0.5 U
1,3-DICHLOROBENZENE	10		50 U		0.5 U		25 U	0.5 U	0.5 U
1,4-DICHLOROBENZENE	75		50 U		0.5 U		25 U	0.5 U	0.5 U
2-CHLOROETHYL VINYL ETHER	175		250 U		2.5 U		130 U	2.5 U	2.5 U
BENZENE	1	100	7280		0.5 U		4410	0.5 U	0.5 U
BROMODICHLOROMETHANE	0.6		50 U		0.5 U		25 U	0.5 U	0.5 U
BROMOFORM	4.4		50 U		0.5 U		25 U	0.5 U	0.5 U
BROMOMETHANE	9.8		100 U		1 U		50 U	1 U	1 U
CARBON TETRACHLORIDE	3		50 U		0.5 U		25 U	0.5 U	0.5 U
CHLOROBENZENE	100		50 U		0.5 U		25 U	0.5 U	0.5 U
CHLORODIBROMOMETHANE	0.4		40 U		0.4 U		20 U	0.4 U	0.4 U
CHLOROETHANE	12		100 U		1 U		50 U	1 U	1 U
CHLOROFORM	5.7		50 U		0.5 U		25 U	0.5 U	0.5 U
CHLOROMETHANE	2.7		100 U		1 U		50 U	1 U	1 U
CIS-1,2-DICHLOROETHENE	70		50 U		0.5 U		25 U	0.5 U	0.5 U
CIS-1,3-DICHLOROPROPENE	0.2		50 U		0.5 U		25 U	0.3 U	0.5 U
ETHYLBENZENE	30	300	615		0.7 U		35 U	0.5 U	0.7 U
METHYL TERT-BUTYL ETHER	50	500	50 U		0.5 U		25 U	0.5 U	0.63 U
METHYLENE CHLORIDE	5		100 U		1 U		50 U	1 U	1 U
TETRACHLOROETHENE	3		50 U		0.5 U		25 U	0.5 U	0.5 U
TOLUENE	40	400	109		0.5 U		25 U	0.5 U	0.5 U
TOTAL XYLENES	20	200	8850		1 U		1710	1 U	1 U
TRANS-1,2-DICHLOROETHENE	100		50 U		0.5 U		25 U	0.5 U	0.5 U
TRANS-1,3-DICHLOROPROPENE	0.2		50 U		0.5 U		25 U	0.3 U	0.5 U
TRICHLOROETHENE	3		50 U		0.5 U		25 U	0.5 U	0.5 U
VINYL CHLORIDE	1		50 U		0.5 U		25 U	0.5 U	0.5 U
Petroleum Hydrocarbons (µg/L)									
TOTAL PETROLEUM HYDROCARBONS	5000	50000	9740		190 U		1780	190 U	180 U

See notes at end of table.

TABLE 3-6
SUMMARY OF GROUNDWATER LABORATORY DATA, LOWER INTERMEDIATE ZONE

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SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
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Site	SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-611		CEF-076-641		CEF-076-701		CEF-076-731	
Sample ID CEF-076-GW-	E611-01		E641-01		E701-01		E731-01	
Sample Date	12/11/02		12/12/02		12/11/02		12/18/02	
Screen Interval (ft bls)	65 - 70		70 - 75		65 - 70		60 - 65	
Inorganics (µg/L)	GCTL	NADSC						
LEAD	15	150	1.2 U	1.2 U	1.4 B	1.2 U	2.1 B	
Semivolatile Organics (µg/L)								
1-METHYLNAPHTHALENE	20	200	11.8	0.27 U	0.26 U	0.26 U	0.53 U	
2-METHYLNAPHTHALENE	20	200	13.1	0.27 U	0.26 U	0.26 U	0.53 U	
ACENAPHTHENE	20	200	0.52 U	0.55 U	0.51 U	0.52 U	1.1 U	
ACENAPHTHYLENE	210	2100	0.52 U	0.55 U	0.51 U	0.52 U	1.1 U	
ANTHRACENE	2100	21000	0.26 U	0.27 U	0.26 U	0.26 U	1.1 U	
BENZO(A)ANTHRACENE	0.2	20	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	
BENZO(A)PYRENE	0.2	20	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	
BENZO(B)FLUORANTHENE	0.2	20	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	
BENZO(G,H,I)PERYLENE	210	2100	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	
BENZO(K)FLUORANTHENE	0.5	50	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	
CHRYSENE	4.8	480	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	
DIBENZO(A,H)ANTHRACENE	0.2	20	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	
FLUORANTHENE	280	2800	0.26 U	0.27 U	0.26 U	0.26 U	0.53 U	
FLUORENE	280	2800	0.26 U	0.27 U	0.26 U	0.26 U	1.1 U	
INDENO(1,2,3-CD)PYRENE	0.2	20	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	
NAPHTHALENE	20	200	122	11.7	28.9	0.26 U	0.53 U	
PHENANTHRENE	210	2100	0.26 U	0.27 U	0.26 U	0.26 U	1.1 U	
PYRENE	210	2100	0.26 U	0.27 U	0.26 U	0.26 U	0.53 U	
Volatile Organics (µg/L)								
1,1,1-TRICHLOROETHANE	200		5 U	10 U	50 U	2.5 U	0.5 U	
1,1,2,2-TETRACHLOROETHANE	0.2		5 U	10 U	50 U	2.5 U	0.5 U	
1,1,2-TRICHLOROETHANE	5		5 U	10 U	50 U	2.5 U	0.5 U	
1,1-DICHLOROETHANE	70		5 U	10 U	50 U	2.5 U	0.5 U	
1,1-DICHLOROETHENE	7		5 U	10 U	50 U	2.5 U	0.5 U	
1,2-DIBROMOETHANE	0.02	2	0.0092 U	0.0092 U	0.0091 U	0.0094 U	0.0091 U	
1,2-DICHLOROETHANE	600		5 U	10 U	50 U	2.5 U	0.5 U	
1,2-DICHLOROETHANE	3	300	5 U	10 U	50 U	2.5 U	0.5 U	
1,2-DICHLOROPROPANE	5		5 U	10 U	50 U	2.5 U	0.5 U	
1,3-DICHLOROETHANE	10		5 U	10 U	50 U	2.5 U	0.5 U	
1,4-DICHLOROETHANE	75		5 U	10 U	50 U	2.5 U	0.5 U	
2-CHLOROETHYL VINYL ETHER	175		25 U	50 U	250 U	13 U	2.5 U	
BENZENE	1	100	5 U	334	8490	6.7	0.5 U	
BROMODICHLOROMETHANE	0.6		5 U	10 U	50 U	2.5 U	0.5 U	
BROMOFORM	4.4		5 U	10 U	50 U	2.5 U	0.5 U	
BROMOMETHANE	9.8		10 U	20 U	100 U	5 U	1 U	
CARBON TETRACHLORIDE	3		5 U	10 U	50 U	2.5 U	0.5 U	
CHLOROBENZENE	100		5 U	10 U	50 U	2.5 U	0.5 U	
CHLORODIBROMOMETHANE	0.4		4 U	8 U	40 U	2 U	0.4 U	
CHLOROETHANE	12		10 U	20 U	100 U	5 U	1 U	
CHLOROFORM	5.7		5 U	10 U	50 U	2.5 U	0.5 U	
CHLOROMETHANE	2.7		10 U	20 U	100 U	5 U	1 U	
CIS-1,2-DICHLOROETHENE	70		5 U	10 U	50 U	2.5 U	0.5 U	
CIS-1,3-DICHLOROPROPENE	0.2		5 U	10 U	50 U	2.5 U	0.5 U	
ETHYLBENZENE	30	300	97.3	125	269	3.5 U	0.7 U	
METHYL TERT-BUTYL ETHER	50	500	5 U	10 U	50 U	2.5 U	0.5 U	
METHYLENE CHLORIDE	5		10 U	20 U	100 U	5 U	1 U	
TETRACHLOROETHENE	3		5 U	10 U	50 U	2.5 U	0.5 U	
TOLUENE	40	400	5.8 U	15.7 U	50 U	4.3 U	0.5 U	
TOTAL XYLENES	20	200	886	3480	7130	876	1 U	
TRANS-1,2-DICHLOROETHENE	100		5 U	10 U	50 U	2.5 U	0.5 U	
TRANS-1,3-DICHLOROPROPENE	0.2		5 U	10 U	50 U	2.5 U	0.5 U	
TRICHLOROETHENE	3		5 U	10 U	50 U	2.5 U	0.5 U	
VINYL CHLORIDE	1		5 U	10 U	50 U	2.5 U	0.5 U	
Petroleum Hydrocarbons (µg/L)								
TOTAL PETROLEUM HYDROCARBONS	5000	50000	3700	2970	4980	1320	180 U	

See notes at end of table.

TABLE 3-6
SUMMARY OF GROUNDWATER LABORATORY DATA, LOWER INTERMEDIATE ZONE

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SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
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Site			SITE-76	SITE-76	SITE-76	SITE-76
Sample Location			CEF-076-85I	CEF-076-89I	CEF-076-111I	CEF-076-112I
Sample ID CEF-076-GW-			N85I-01	N89I-01	N111I-01	N112I-01
Sample Date			01/28/03	01/27/03	5/22/2003	5/22/2003
Screen Interval (ft bls)			55 - 60	50 - 55	65 - 70	50 - 55
Inorganics (µg/L)			GCTL	NADSC		
LEAD			15	150	1.2 U	1.2 U
Semi-volatile Organics (µg/L)					4.4 B	1.2 U
1-METHYLNAPHTHALENE	20	200	2.2 U		0.56 U	0.26 U
2-METHYLNAPHTHALENE	20	200	0.54 U		0.56 U	0.26 U
ACENAPHTHENE	20	200	1.1 U		1.1 U	0.53 U
ACENAPHTHYLENE	210	2100	1.1 U		1.1 U	0.52 U
ANTHRACENE	2100	21000	1.1 U		1.1 U	0.26 U
BENZO(A)ANTHRACENE	0.2	20	0.11 U		0.11 U	0.11 U
BENZO(A)PYRENE	0.2	20	0.11 U		0.11 U	0.11 U
BENZO(B)FLUORANTHENE	0.2	20	0.11 U		0.11 U	0.11 U
BENZO(G,H,I)PERYLENE	210	2100	0.11 U		0.11 U	0.11 U
BENZO(K)FLUORANTHENE	0.5	50	0.11 U		0.11 U	0.11 U
CHRYSENE	4.8	480	1.1 U		1.1 U	0.11 U
DIBENZO(A,H)ANTHRACENE	0.2	20	0.11 U		0.11 U	0.11 U
FLUORANTHENE	280	2800	0.54 U		0.56 U	0.26 U
FLUORENE	280	2800	1.1 U		1.1 U	0.26 U
INDENO(1,2,3-CD)PYRENE	0.2	20	0.11 U		0.11 U	0.11 U
NAPHTHALENE	20	200	4.4 U		4.4 U	0.26 U
PHENANTHRENE	210	2100	1.1 U		1.1 U	0.26 U
PYRENE	210	2100	0.54 U		0.56 U	0.26 U
Volatile Organics (µg/L)						
1,1,1-TRICHLOROETHANE	200		5 U		5 U	0.5 U
1,1,2,2-TETRACHLOROETHANE	0.2		5 U		5 U	0.3 U
1,1,2-TRICHLOROETHANE	5		5 U		5 U	0.5 U
1,1-DICHLOROETHANE	70		5 U		5 U	0.5 U
1,1-DICHLOROETHENE	7		5 U		5 U	0.5 U
1,2-DIBROMOETHANE	0.02	2	0.0093 U		0.0094 U	0.0093 U
1,2-DICHLOROBENZENE	600		5 U		5 U	0.5 U
1,2-DICHLOROETHANE	3	300	5 U		5 U	0.5 U
1,2-DICHLOROPROPANE	5		5 U		5 U	0.5 U
1,3-DICHLOROBENZENE	10		5 U		5 U	0.5 U
1,4-DICHLOROBENZENE	75		5 U		5 U	0.5 U
2-CHLOROETHYL VINYL ETHER	175		25 U		25 U	2.5 U
BENZENE	1	100	20.7		60.7	3.0
BROMODICHLOROMETHANE	0.6		5 U		5 U	0.5 U
BROMOFORM	4.4		5 U		5 U	0.5 U
BROMOMETHANE	9.8		10 U		10 U	1 U
CARBON TETRACHLORIDE	3		5 U		5 U	0.5 U
CHLOROBENZENE	100		5 U		5 U	0.5 U
CHLORODIBROMOMETHANE	0.4		4 U		4 U	0.4 U
CHLOROETHANE	12		10 U		10 U	1 U
CHLOROFORM	5.7		5 U		5 U	1.1
CHLOROMETHANE	2.7		10 U		10 U	2.7
CIS-1,2-DICHLOROETHENE	70		5 U		5 U	0.5 U
CIS-1,3-DICHLOROPROPENE	0.2		5 U		5 U	0.3 U
ETHYLBENZENE	30	300	10		220	0.5 U
METHYL TERT-BUTYL ETHER	50	500	5 U		5 U	1.4
METHYLENE CHLORIDE	5		10 U		10 U	1 U
TETRACHLOROETHENE	3		5 U		5 U	0.5 U
TOLUENE	40	400	14.8		11.8	0.62 J
TOTAL XYLENES	20	200	3020		1560	1 U
TRANS-1,2-DICHLOROETHENE	100		5 U		5 U	0.5 U
TRANS-1,3-DICHLOROPROPENE	0.2		5 U		5 U	0.3 U
TRICHLOROETHENE	3		5 U		5 U	0.5 U
VINYL CHLORIDE	1		5 U		5 U	0.5 U
Petroleum Hydrocarbons (µg/L)						
TOTAL PETROLEUM HYDROCARBONS	5000	50000	2780		1290	180 U

Notes:

Positive detections are shaded.
 Values exceeding GCTLs are in **bold**.
 GCTLs exceeded in one or more samples are in **bold and underlined**.
 U = indicates a concentration less than the detection limit.
 J = indicates an estimated concentration.
 B (organics) = indicates blank contamination detected during analysis.

B (inorganics) = indicates a result >= IDL, but < RL.
 IDL = instrument detection limit
 RL = reporting limit

TABLE 3-7
SUMMARY OF GROUNDWATER LABORATORY DATA, DEEP ZONE

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SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Site	SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-48D		CEF-076-51D		CEF-076-62D		CEF-076-65D	
Sample ID CEF-076-GW-	N48D-01		E51D-01		E62D-01		E65D-01	
Sample Date	02/10/03		12/12/02		12/11/02		12/12/02	
Screen Interval (ft bis)	100 - 110		100 - 110		100 - 110		100 - 110	
Inorganics (µg/L)	GCTL	NADSC						
LEAD	15	150	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Semivolatile Organics (µg/L)								
1-METHYLNAPHTHALENE	20	200	0.53 U	0.27 U	0.26 U	0.27 U	0.28 U	0.28 U
2-METHYLNAPHTHALENE	20	200	0.53 U	0.27 U	0.26 U	0.27 U	0.28 U	0.28 U
ACENAPHTHENE	20	200	1.1 U	0.55 U	0.52 U	0.55 U	0.57 U	0.57 U
ACENAPHTHYLENE	210	2100	1.1 U	0.55 U	0.52 U	0.55 U	0.57 U	0.57 U
ANTHRACENE	2100	21000	1.1 U	0.27 U	0.26 U	0.27 U	0.28 U	0.28 U
BENZO(A)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U
BENZO(A)PYRENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U
BENZO(B)FLUORANTHENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U
BENZO(G,H,I)PERYLENE	210	2100	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U
BENZO(K)FLUORANTHENE	0.5	50	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U
CHRYSENE	4.8	480	1.1 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U
DIBENZO(A,H)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U
FLUORANTHENE	280	2800	0.53 U	0.27 U	0.26 U	0.27 U	0.28 U	0.28 U
FLUORENE	280	2800	1.1 U	0.27 U	0.26 U	0.27 U	0.28 U	0.28 U
INDENO(1,2,3-CD)PYRENE	0.2	20	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U
NAPHTHALENE	20	200	0.53 U	0.27 U	0.26 U	0.27 U	0.28 U	0.28 U
PHENANTHRENE	210	2100	1.1 U	0.27 U	0.26 U	0.27 U	0.28 U	0.28 U
PYRENE	210	2100	0.53 U	0.27 U	0.26 U	0.27 U	0.28 U	0.28 U
Volatile Organics (µg/L)								
1,1,1-TRICHLOROETHANE	200		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-TETRACHLOROETHANE	0.2		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-TRICHLOROETHANE	5		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DICHLOROETHANE	70		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DICHLOROETHENE	7		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DIBROMOETHANE	0.02	2	0.0095 U	0.0091 U	0.0093 U	0.0093 U	0.0092 U	0.0092 U
1,2-DICHLOROBENZENE	600		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DICHLOROETHANE	3	300	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DICHLOROPROPANE	5		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-DICHLOROBENZENE	10		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-DICHLOROBENZENE	75		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
2-CHLOROETHYL VINYL ETHER	175		2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U
BENZENE	1	100	0.5 U	1340	0.5 U	6.6	0.5 U	0.5 U
BROMODICHLOROMETHANE	0.6		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMOFORM	4.4		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMOMETHANE	9.8		1 U	20 U	1 U	1 U	1 U	1 U
CARBON TETRACHLORIDE	3		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLOROETHANE	100		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLORODIBROMOMETHANE	0.4		0.4 U	8 U	0.4 U	0.4 U	0.4 U	0.4 U
CHLOROETHANE	12		1 U	20 U	1 U	1 U	1 U	1 U
CHLOROFORM	5.7		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLOROMETHANE	2.7		1 U	20 U	1 U	1 U	1 U	1 U
CIS-1,2-DICHLOROETHENE	70		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
CIS-1,3-DICHLOROPROPENE	0.2		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
ETHYLBENZENE	30	300	0.7 U	14 U	0.7 U	0.7 U	0.7 U	0.7 U
METHYL TERT-BUTYL ETHER	50	500	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
METHYLENE CHLORIDE	5		1 U	20 U	1 U	1 U	1 U	1 U
TETRACHLOROETHENE	3		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
TOLUENE	40	400	0.5 U	10 U	0.5 U	0.96 J	0.5 U	0.5 U
TOTAL XYLENES	20	200	1 U	33.2 J	1 U	97.4	1 U	1 U
TRANS-1,2-DICHLOROETHENE	100		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
TRANS-1,3-DICHLOROPROPENE	0.2		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
TRICHLOROETHENE	3		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
VINYL CHLORIDE	1		0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
Petroleum Hydrocarbons (µg/L)								
TOTAL PETROLEUM HYDROCARBONS	5000	50000	180 U	170 U	190 U	180 U	180 U	180 U

See notes at end of table.

TABLE 3-7
SUMMARY OF GROUNDWATER LABORATORY DATA, DEEP ZONE

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SITE ASSESSMENT REPORT ADDENDUM
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Site	SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-80D		CEF-076-96D		CEF-076-97D		CEF-076-98D	
Sample ID	CEF-076-GW-		E-80D-01		N96D-01		N97D-01	
Sample Date	12/16/02		02/11/03		02/10/03		02/11/03	
Screen Interval (ft bis)	110 - 120		110 - 115		100 - 105		105 - 110	
Inorganics (µg/L)	GCTL	NADSC						
LEAD	15	150	1.2 U	2.1 B	2.2 B	2.8 B	2.6 B	
Semivolatile Organics (µg/L)								
1-METHYLNAPHTHALENE	20	200	0.27 U	0.55 U	0.54 U	0.52 U	0.5 U	
2-METHYLNAPHTHALENE	20	200	0.27 U	0.55 U	0.54 U	0.52 U	0.5 U	
ACENAPHTHENE	20	200	0.55 U	1.1 U	1.1 U	1 U	1 U	
ACENAPHTHYLENE	210	2100	0.55 U	1.1 U	1.1 U	1 U	1 U	
ANTHRACENE	2100	21000	0.27 U	1.1 U	1.1 U	1 U	1 U	
BENZO(A)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U	
BENZO(A)PYRENE	0.2	20	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U	
BENZO(B)FLUORANTHENE	0.2	20	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U	
BENZO(G,H,I)PERYLENE	210	2100	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U	
BENZO(K)FLUORANTHENE	0.5	50	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U	
CHRYSENE	4.8	480	0.11 U	1.1 U	1.1 U	1 U	1 U	
DIBENZO(A,H)ANTHRACENE	0.2	20	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U	
FLUORANTHENE	280	2800	0.27 U	0.55 U	0.54 U	0.52 U	0.5 U	
FLUORENE	280	2800	0.27 U	1.1 U	1.1 U	1 U	1 U	
INDENO(1,2,3-CD)PYRENE	0.2	20	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U	
NAPHTHALENE	20	200	0.27 U	0.55 U	0.54 U	5	0.5 U	
PHENANTHRENE	210	2100	0.27 U	1.1 U	1.1 U	1 U	1 U	
PYRENE	210	2100	0.27 U	0.55 U	0.54 U	0.52 U	0.5 U	
Volatile Organics (µg/L)								
1,1,1-TRICHLOROETHANE	200		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,1,2,2-TETRACHLOROETHANE	0.2		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,1,2-TRICHLOROETHANE	5		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,1-DICHLOROETHANE	70		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,1-DICHLOROETHENE	7		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,2-DIBROMOETHANE	0.02	2	0.0091 U	0.0092 U	0.0092 U	0.0094 U	0.0091 U	
1,2-DICHLOROETHENE	600		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
2-DICHLOROETHANE	3	300	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
2-DICHLOROPROPANE	5		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,3-DICHLOROETHENE	10		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
1,4-DICHLOROETHENE	75		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
2-CHLOROETHYL VINYL ETHER	175		25 U	2.5 U	2.5 U	2.5 U	2.5 U	
BENZENE	1	100	390	0.5 U	0.5 U	1040	5.6	
BROMODICHLOROMETHANE	0.6		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
BROMOFORM	4.4		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
BROMOMETHANE	9.8		10 U	1 U	1 U	1 U	1 U	
CARBON TETRACHLORIDE	3		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
CHLOROETHANE	100		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
CHLORODIBROMOMETHANE	0.4		4 U	0.4 U	0.4 U	0.4 U	0.4 U	
CHLOROETHANE	12		10 U	1 U	1 U	1 U	1 U	
CHLOROFORM	5.7		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
CHLOROMETHANE	2.7		10 U	1 U	1 U	1 U	1 U	
CIS-1,2-DICHLOROETHENE	70		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
CIS-1,3-DICHLOROPROPENE	0.2		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
ETHYLBENZENE	30	300	7 U	0.7 U	0.7 U	19.4	1	
METHYL TERT-BUTYL ETHER	50	500	5 U	0.5 U	0.5 U	0.5 U	0.5 U	
METHYLENE CHLORIDE	5		10 U	1 U	1 U	1 U	1 U	
TETRACHLOROETHENE	3		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
TOLUENE	40	400	5 U	0.5 U	0.5 U	0.6 U	0.5 U	
TOTAL XYLENES	20	200	10 U	1 U	1 U	95.6	2.4 U	
TRANS-1,2-DICHLOROETHENE	100		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
TRANS-1,3-DICHLOROPROPENE	0.2		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
TRICHLOROETHENE	3		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
VINYL CHLORIDE	1		5 U	0.5 U	0.5 U	0.5 U	0.5 U	
Petroleum Hydrocarbons (µg/L)								
TOTAL PETROLEUM HYDROCARBONS	5000	50000	180 U	202 U	170 U	398	170 U	

See notes at end of table.

**TABLE 3-7
SUMMARY OF GROUNDWATER LABORATORY DATA, DEEP ZONE**

Rev. 0
09/26/03

**SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

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Site	SITE-76		SITE-76		SITE-76		SITE-76		SITE-76	
Sample Location	CEF-076-100D		CEF-076-102D		CEF-076-103D		CEF-076-104D		CEF-076-110D	
Sample ID CEF-076-GW-	N100D-01		N102D-01		N103D-01		N104D-01		N110D-01	
Sample Date	01/29/03		02/11/03		02/10/03		5/22/2003		5/22/2003	
Screen Interval (ft bls)	110 - 115		115 - 120		144 - 149		110 - 115		105 - 110	
Inorganics (µg/L)	GCTL	NADSC								
LEAD	15	150	1.2 U	1.3 B	1.5 B	1.2 U	5.4			
Semivolatile Organics (µg/L)										
1-METHYLNAPHTHALENE	20	200	0.52 U	0.53 U	0.54 U	0.25 U	0.27 U			
2-METHYLNAPHTHALENE	20	200	0.52 U	0.53 U	0.54 U	0.25 U	0.27 U			
ACENAPHTHENE	20	200	1 U	1.1 U	1.1 U	0.51 U	0.53 U			
ACENAPHTHYLENE	210	2100	1 U	1.1 U	1.1 U	0.51 U	0.53 U			
ANTHRACENE	2100	21000	1 U	1.1 U	1.1 U	0.25 U	0.27 U			
BENZO(A)ANTHRACENE	0.2	20	0.1 U	0.11 U	0.11 U	0.10 U	0.11 U			
BENZO(A)PYRENE	0.2	20	0.1 U	0.11 U	0.11 U	0.10 U	0.11 U			
BENZO(B)FLUORANTHENE	0.2	20	0.1 U	0.11 U	0.11 U	0.10 U	0.11 U			
BENZO(G,H,I)PERYLENE	210	2100	0.1 U	0.11 U	0.11 U	0.10 U	0.11 U			
BENZO(K)FLUORANTHENE	0.5	50	0.1 U	0.11 U	0.11 U	0.10 U	0.11 U			
CHRYSENE	4.8	480	1 U	1.1 U	1.1 U	0.10 U	0.11 U			
DIBENZO(A,H)ANTHRACENE	0.2	20	0.1 U	0.11 U	0.11 U	0.10 U	0.11 U			
FLUORANTHENE	280	2800	0.52 U	0.53 U	0.54 U	0.25 U	0.27 U			
FLUORENE	280	2800	1 U	1.1 U	1.1 U	0.25 U	0.27 U			
INDENO(1,2,3-CD)PYRENE	0.2	20	0.1 U	0.11 U	0.11 U	0.10 U	0.11 U			
NAPHTHALENE	20	200	0.52 U	0.53 U	0.54 U	0.25 U	0.27 U			
PHENANTHRENE	210	2100	1 U	1.1 U	1.1 U	0.25 U	0.27 U			
PYRENE	210	2100	0.52 U	0.53 U	0.54 U	0.25 U	0.27 U			
Volatile Organics (µg/L)										
1,1,1-TRICHLOROETHANE	200		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
1,1,2,2-TETRACHLOROETHANE	0.2		0.5 U	0.5 U	0.5 U	0.3 U	0.3 U			
1,1,2-TRICHLOROETHANE	5		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
1,1-DICHLOROETHANE	70		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
1,1-DICHLOROETHENE	7		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
1,2-DIBROMOETHANE	0.02	2	0.0093 U	0.0093 U	0.0092 U	0.0092 U	0.0093 U			
1,2-DICHLOROBENZENE	600		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
1,2-DICHLOROETHANE	3	300	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
1,2-DICHLOROPROPANE	5		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
1,3-DICHLOROBENZENE	10		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
1,4-DICHLOROBENZENE	75		0.5 U	0.5 U	0.5 U	5.0 U	0.5 U			
2-CHLOROETHYL VINYL ETHER	175		2.5 U	2.5 U	2.5 U	0.5 U	0.5 U			
BENZENE	1	100	5.2	0.5 U	2.5 U	2.5 U	2.5 U			
BROMODICHLOROMETHANE	0.6		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
BROMOFORM	4.4		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
BROMOMETHANE	9.8		1 U	1 U	1 U	0.5 U	0.5 U			
CARBON TETRACHLORIDE	3		0.5 U	0.5 U	0.5 U	1 U	1 U			
CHLOROBENZENE	100		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
CHLORODIBROMOMETHANE	0.4		0.4 U	0.4 U	0.4 U	0.4 U	0.4 U			
CHLOROETHANE	12		1 U	1 U	1 U	1 U	1 U			
CHLOROFORM	5.7		0.5 U	0.5 U	0.5 U	1 U	1 U			
CHLOROMETHANE	2.7		1 U	1 U	1 U	0.5 U	0.5 U			
CIS-1,2-DICHLOROETHENE	70		0.5 U	0.5 U	0.5 U	1 U	1 U			
CIS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
ETHYLBENZENE	30	300	0.7 U	0.7 U	0.7 U	0.3 U	0.3 U			
METHYL TERT-BUTYL ETHER	50	500	0.5 U	0.5 U	0.5 U	0.5 U	1.7			
METHYLENE CHLORIDE	5		1 U	1 U	1 U	0.5 U	0.5 U			
TETRACHLOROETHENE	3		0.5 U	0.5 U	0.5 U	1 U	1 U			
TOLUENE	40	400	0.58 U	0.5 U	0.5 U	0.5 U	0.5 U			
TOTAL XYLENES	20	200	1 U	1 U	1 U	1 U	21.0			
TRANS-1,2-DICHLOROETHENE	100		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
TRANS-1,3-DICHLOROPROPENE	0.2		0.5 U	0.5 U	0.5 U	0.3 U	0.30 U			
TRICHLOROETHENE	3		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
VINYL CHLORIDE	1		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			
Petroleum Hydrocarbons (µg/L)										
TOTAL PETROLEUM HYDROCARBONS	5000	50000	180 U	180 U	219 J	180 U	264 J			

See notes at end of table.

TABLE 3-7
SUMMARY OF GROUNDWATER LABORATORY DATA, DEEP ZONE

Rev. 0
09/26/03

SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Site	Site 76		Site 76	Site 76
Sample Location	CEF-076-115D		CEF-076-116D	CEF-076-117D
Sample ID CEF-076-GW-	N115D-01		N116D-01	N117D-01
Sample Date	07/10/03		07/10/03	07/10/03
Screen Interval (ft bls)	105 - 110		105 - 110	105 - 110
Inorganics (µg/L)	GCTL	NADSC		
LEAD	15	150	1.2 U	3.8 B
Semivolatile Organics (µg/L)				4.0 B
1-METHYLNAPHTHALENE	20	200	0.5 U	0.5 U
2-METHYLNAPHTHALENE	20	200	0.5 U	0.5 U
ACENAPHTHENE	20	200	1 U	1 U
ACENAPHTHYLENE	210	2100	1 U	1 U
ANTHRACENE	2100	21000	1 U	1 U
BENZO(A)ANTHRACENE	0.2	20	0.1 U	0.1 U
BENZO(A)PYRENE	0.2	20	0.1 U	0.1 U
BENZO(B)FLUORANTHENE	0.2	20	0.1 U	0.1 U
BENZO(G,H,I)PERYLENE	210	2100	0.1 U	0.1 U
BENZO(K)FLUORANTHENE	0.5	50	0.1 U	0.1 U
CHRYSENE	4.8	480	1 U	1 U
DIBENZO(A,H)ANTHRACENE	0.2	20	0.1 U	0.1 U
FLUORANTHENE	280	2800	0.5 U	0.5 U
FLUORENE	280	2800	1 U	1 U
INDENO(1,2,3-CD)PYRENE	0.2	20	0.1 U	0.1 U
NAPHTHALENE	20	200	0.5 U	0.5 U
PHENANTHRENE	210	2100	1 U	1 U
PYRENE	210	2100	0.5 U	0.5 U
Volatile Organics (µg/L)				
1,1,1-TRICHLOROETHANE	200		0.5 U	0.5 U
1,1,2,2-TETRACHLOROETHANE	0.2		0.3 U	0.3 U
1,1,2-TRICHLOROETHANE	5		0.5 U	0.5 U
1,1-DICHLOROETHANE	70		0.5 U	0.5 U
1,1-DICHLOROETHENE	7		0.5 U	0.5 U
1,2-DIBROMOETHANE	0.02	2	0.0090 U	0.0091 U
1,2-DICHLOROBENZENE	600		0.5 U	0.5 U
1,2-DICHLOROETHANE	3	300	0.5 U	0.5 U
1,2-DICHLOROPROPANE	5		0.5 U	0.5 U
1,3-DICHLOROBENZENE	10		0.5 U	0.5 U
1,4-DICHLOROBENZENE	75		0.5 U	0.5 U
2-CHLOROETHYL VINYL ETHER	175		2.5 U	2.5 U
BENZENE	1	100	2.1	75.7
BROMODICHLOROMETHANE	0.6		0.5 U	0.67 U
BROMOFORM	4.4		0.5 U	0.5 U
BROMOMETHANE	9.8		1 U	1 U
CARBON TETRACHLORIDE	3		0.5 U	0.5 U
CHLOROBENZENE	100		0.5 U	0.5 U
CHLORODIBROMOMETHANE	0.4		0.4 U	0.4 U
CHLOROETHANE	12		1 U	1 U
CHLOROFORM	5.7		0.5 U	3.7
CHLOROMETHANE	2.7		1 U	1.9
CIS-1,2-DICHLOROETHENE	70		0.5 U	0.5 U
CIS-1,3-DICHLOROPROPENE	0.2		0.3 U	0.3 U
ETHYLBENZENE	30	300	0.5 U	0.5 U
METHYL TERT-BUTYL ETHER	50	500	0.5 U	0.5 U
METHYLENE CHLORIDE	5		1 U	1 U
TETRACHLOROETHENE	3		0.5 U	0.5 U
TOLUENE	40	400	0.5 U	0.5 U
TOTAL XYLENES	20	200	1 U	1 U
TRANS-1,2-DICHLOROETHENE	100		0.5 U	0.5 U
TRANS-1,3-DICHLOROPROPENE	0.2		0.3 U	0.3 U
TRICHLOROETHENE	3		0.5 U	0.5 U
VINYL CHLORIDE	1		0.5 U	0.5 U
Petroleum Hydrocarbons (µg/L)				
TOTAL PETROLEUM HYDROCARBONS	5000	50000	170 U	170 U
				180 U

Notes:

Positive detections are shaded.
Values exceeding GCTLs are in **bold**.
GCTLs exceeded in one or more samples are in **bold and underlined**.
U = indicates a concentration less than the detection limit.
J = indicates an estimated concentration.
B (organics) = indicates blank contamination detected during analysis.

B (inorganics) = indicates a result >= IDL, but < RL.
IDL = instrument detection limit
RL = reporting limit

**TABLE 3-8
GROUNDWATER EXCEEDANCES, WATER TABLE ZONE
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Site	SITE-76	SITE-76	SITE-76	SITE-76
Sample Location	CEF-076-12	CEF-076-12	CEF-076-82S	CEF-076-82S
Sample ID CEF-076-GW-	12	E012-01A	82S	E-82S-01
Sample Date	12/10/01	01/09/02	12/10/01	12/17/02
Screen Interval (ft bls)	5-15	5-15	3-13	2.5-12.5

Inorganics (µg/L)	GCTL	NADSC				
LEAD	15	150	41.9	23.4	4.3 B	2.8 B

Semivolatile Organics (µg/L)						
1-METHYLNAPHTHALENE	20	200	2 U	This sample analyzed for lead only.	21.3	20
2-METHYLNAPHTHALENE	20	200	2 U		12.8	22.3
NAPHTHALENE	20	200	2 U		4.9	10.4

Volatile Organics (µg/L)						
1,2-DICHLOROETHANE	3	300	2 U	This sample analyzed for lead only.	2 U	0.5 U
BENZENE	1	100	1 U		1 U	0.5 U
BROMODICHLOROMETHANE	0.6		2 U		2 U	0.5 U
CHLOROFORM	5.7		2 U		2 U	0.5 U
ETHYLBENZENE	30	300	2 U		8.1	2
TOLUENE	40	400	2 U		2 U	0.5 U
TOTAL XYLENES	20	200	6 U		16.7	3.5

Petroleum Hydrocarbons (µg/L)						
TOTAL PETROLEUM HYDROCARBONS	5000	50000	250 U	Lead only.	1350	713

Site	SITE-76	SITE-76	SITE-76	SITE-76
Sample Location	CEF-076-88S	CEF-076-90S	CEF-076-94S	CEF-076-108S
Sample ID CEF-076-GW-	N88S-01	N90S-01	N94S-01	N108S-01
Sample Date	01/28/03	01/27/03	01/27/03	5/22/2003
Screen Interval (ft bls)	5 - 15	5 - 15	5 - 15	5 - 15

Inorganics (µg/L)	GCTL	NADSC				
LEAD	15	150	128	1.2 U	5.2	1.2 U

Semivolatile Organics (µg/L)						
1-METHYLNAPHTHALENE	20	200	0.53 U	6.4	61.4	14.4
2-METHYLNAPHTHALENE	20	200	0.53 U	7.4	82.5	22.4
NAPHTHALENE	20	200	2 J	18.9	165	11.4

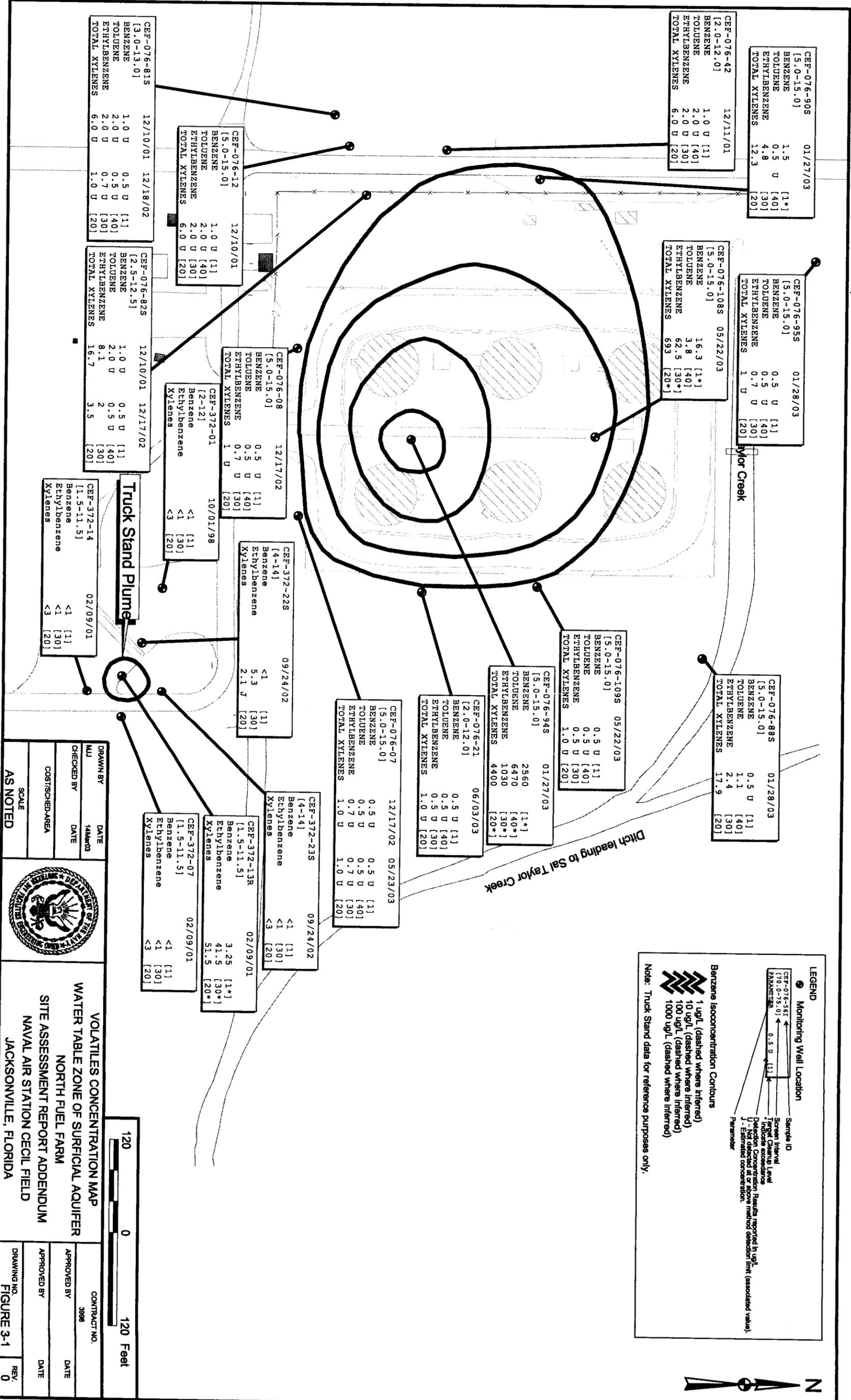
Volatile Organics (µg/L)						
1,2-DICHLOROETHANE	3	300	0.5 U	0.5 U	50 U	0.50 U
BENZENE	1	100	0.5 U	1.5	2560	16.3
BROMODICHLOROMETHANE	0.6		0.5 U	0.5 U	50 U	0.50 U
CHLOROFORM	5.7		0.5 U	0.5 U	50 U	0.50 U
ETHYLBENZENE	30	300	2.4	4.8	1030	62.5
TOLUENE	40	400	1.1	0.5 U	6470	3.8
TOTAL XYLENES	20	200	17.9	12.3	4400	693

Petroleum Hydrocarbons (µg/L)						
TOTAL PETROLEUM HYDROCARBONS	5000	50000	387	2010	8680	2230

Notes:

Positive detections are shaded.
 Values exceeding GCTLs are in **bold**.
 U = indicates a concentration less than the detection limit.
 J = indicates an estimated concentration.
 B (organic) = indicates blank contamination detected during analysis.

B (inorganic) = indicates a result >= IDL, but < RL.
 IDL = instrument detection limit
 RL = reporting limit



DRAWN BY	DATE
MUJ	14March03
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE	



VOLATILES CONCENTRATION MAP
WATER TABLE ZONE OF SURFICIAL AQUIFER
NORTH FUEL FARM
SITE ASSESSMENT REPORT ADDENDUM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO.	DATE
3998	
APPROVED BY	DATE
DRAWING NO.	REV.
FIGURE 3-1	0

Toluene was detected at a concentration exceeding the GCTL of 40 µg/L in CEF-076-94S. The reported toluene concentration for this well was 6,470 µg/L (NADSC exceeded).

Ethylbenzene was detected at concentrations exceeding the GCTL of 30 µg/L in two monitoring wells:

- CEF-076-94S 1,030 µg/L (NADSC exceeded)
- CEF-076-108S 62.5 µg/L

Total xylenes were detected at concentrations exceeding the GCTL of 20 µg/L in two monitoring wells:

- CEF-076-94S 4,400 µg/L (NADSC exceeded)
- CEF-076-108S 693µg/L (NADSC exceeded)

3.3.1.2 PAHs – Water Table Zone

PAH compounds at concentrations exceeding GCTLs were detected in three of the nine water table zone monitoring wells sampled. PAH exceedances were limited to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. The PAH analytical results for the water table zone are shown on Figure 3-2.

Naphthalene was detected at a concentration exceeding the GCTL of 20 µg/L in CEF-076-94S. The reported naphthalene concentration for this well was 165 µg/L.

1-Methylnaphthalene was detected exceeding the GCTL of 20 µg/L in two monitoring wells:

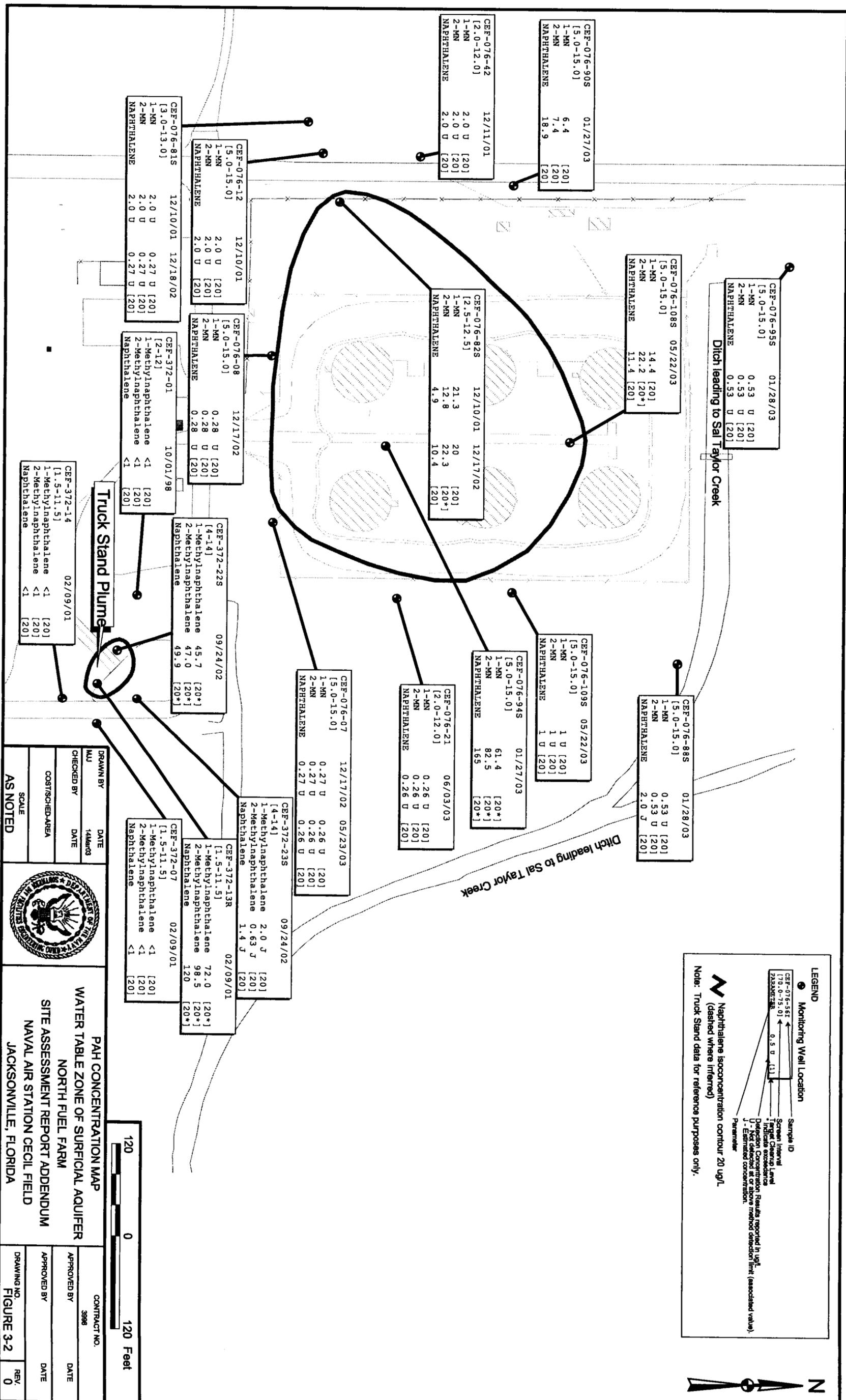
- CEF-076-94S 61.4 µg/L
- CEF-076-82S 21.3 µg/L

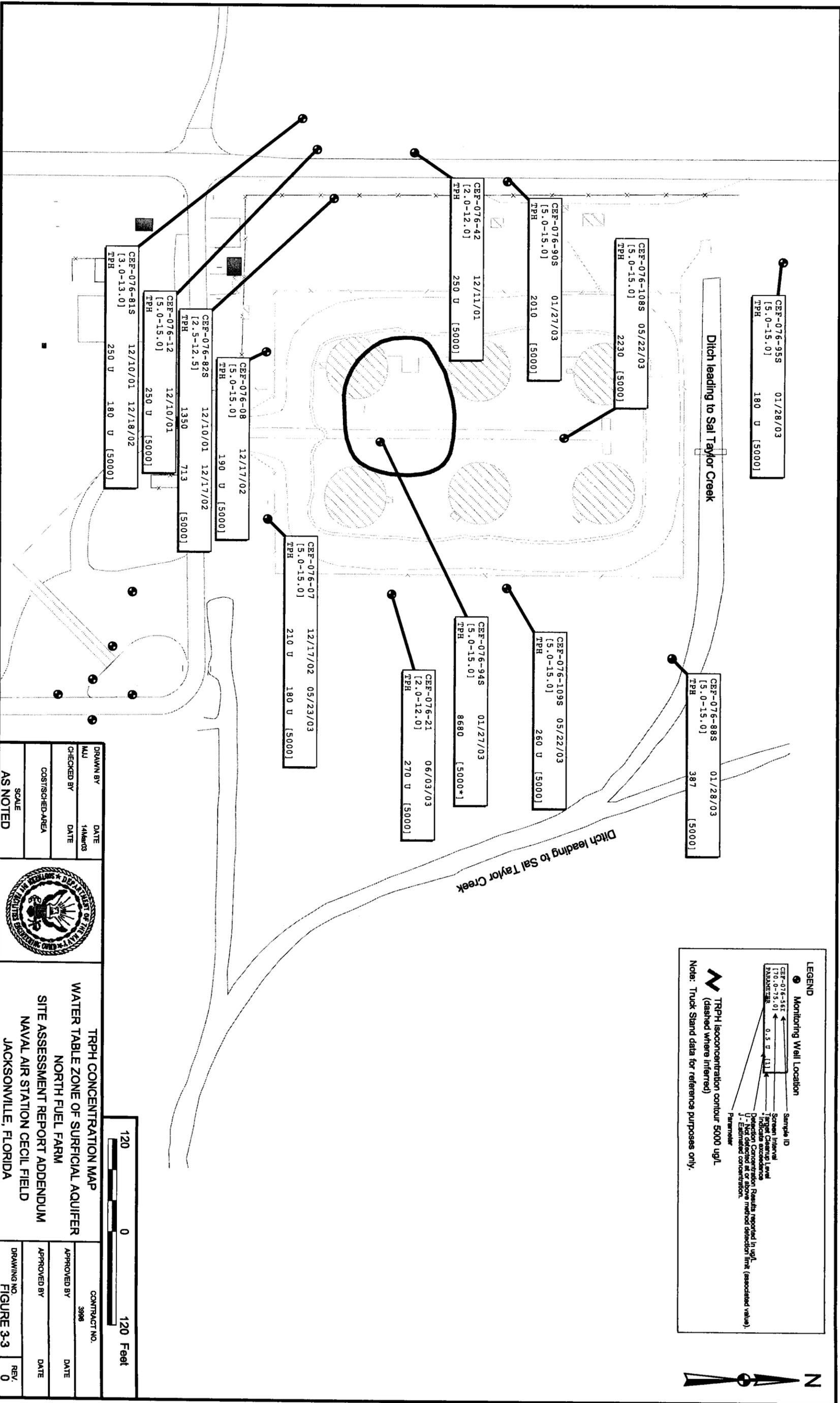
2-Methylnaphthalene was detected exceeding the GCTL of 20 µg/L in three monitoring wells:

- CEF-076-94S 82.5 µg/L
- CEF-076-108S 22.4 µg/L
- CEF-076-82S 22.3 µg/L

3.3.1.3 TRPH – Water Table Zone

TRPH was detected at a concentration exceeding the GCTL of 5,000 µg/L in CEF-076-94S. The reported TRPH concentration for this well was 8,680 µg/L. The TRPH analytical results for the water table zone are shown on Figure 3-3.





3.3.1.4 Lead – Water Table Zone

Lead was detected at concentrations exceeding the GCTL of 15 µg/L in two monitoring wells:

- CEF-076-88S 128 µg/L
- CEF-076-12 41.9 µg/L and 23.4 µg/L

Both wells exhibited turbidity levels during purging that may have contributed to the results. The turbidity for CEF-076-12 was consistently between 33 and 70 Nephelometric Turbidity Units (NTUs), and the turbidity for CEF-076-88S was 999 NTUs. The lead analytical result for a filtered sample collected from CEF-076-12 was below the GCTL. Lead analytical results for the water table zone are on Figure 3-4.

3.3.2 Upper Intermediate Zone

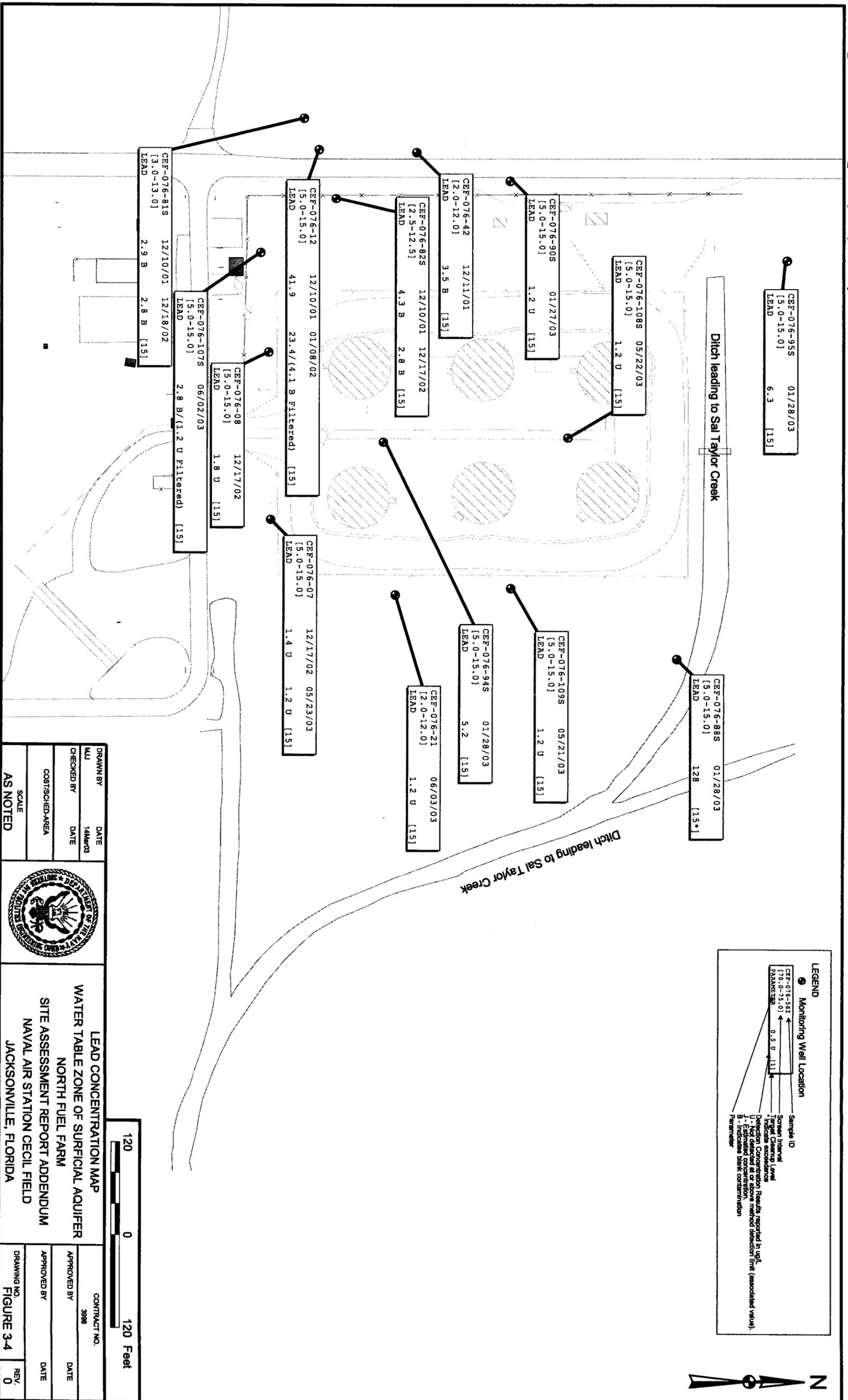
Groundwater samples were collected from 17 monitoring wells screened in the upper intermediate zone. Ten of the monitoring wells sampled from this zone had GCTL exceedances for one or more analytes. VOCs, PAHs, TRPH, and lead were detected in groundwater samples from the upper intermediate zone at concentrations above GCTLs. Benzene, ethylbenzene, and total xylene (BEX) concentrations exceeded NADSC in 6 of 17 monitoring wells. No other COCs exceeded NADSC standards in the upper intermediate zone. The GCTL and NADSC exceedances detected in samples from the upper intermediate zone are summarized on Table 3-9.

3.3.2.1 Volatile Organics – Upper Intermediate Zone

Volatile organic compounds at concentrations exceeding GCTLs were detected in seven of the 17 upper intermediate zone monitoring wells sampled. VOC exceedances in the upper intermediate zone included BTEX; 1,2-dichloroethane; and chloroform. The VOC analytical results for the upper intermediate zone are shown on Figure 3-5.

Benzene was detected at concentrations exceeding the GCTL of 1 µg/L in seven monitoring wells:

- CEF-076-113S 10,600 µg/L (NADSC exceeded)
- CEF-076-87S 3,590 µg/L (NADSC exceeded)
- CEF-076-93S 2,910 µg/L (NADSC exceeded)
- CEF-076-91S 1,930 µg/L (NADSC exceeded)
- CEF-076-57S 85.5 µg/L
- CEF-076-49S 14.4 µg/L
- CEF-076-101S 1.6 µg/L



**TABLE 3-9
GROUNDWATER EXCEEDANCES, UPPER INTERMEDIATE ZONE**

**SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Site	SITE-76	SITE-76	SITE-76	SITE-76	SITE-76
Sample Location CEF-076-	49S	57S	87S	91S	92S
Sample ID CEF-76-GW-	E49S-01	E57S-01	N87S-01	N91S-01	N92S-01
Sample Date	12/12/02	12/11/02	01/27/03	01/28/03	01/28/03
Screen Interval (ft bls)	45 - 50	30 - 35	45 - 50	25 - 30	25 - 30

Inorganics (µg/L)	GCTL	NADSC					
LEAD	15	150	1.2 U	1.2 U	6.1	1.3 B	17.8

Semivolatile Organics (µg/L)							
1-METHYLNAPHTHALENE	20	200	0.27 U	0.25 U	41.6	32.3	0.56 U
2-METHYLNAPHTHALENE	20	200	0.27 U	0.25 U	45.1	25.5	0.56 U
NAPHTHALENE	20	200	0.27 U	1	136	113	0.56 U

Volatile Organics (µg/L)							
1,2-DICHLOROETHANE	3	300	2.5 U	5 U	5 U	59.3	0.5 U
BENZENE	1	100	14.4	85.5	3590	1930	0.5 U
BROMODICHLOROMETHANE	0.6		2.5 U	5 U	5 U	5 U	0.5 U
CHLOROFORM	5.7		2.5 U	5 U	5 U	5 U	0.5 U
ETHYLBENZENE	30	300	3.5 U	56.8	856	1180	0.7 U
TOLUENE	40	400	4.5 J	10.2	147	192	0.5 U
TOTAL XYLENES	20	200	545	1290	4310	5880	1 U

Petroleum Hydrocarbons (µg/L)							
TOTAL PETROLEUM HYDROCARBONS	5000	50000	703	3760	7330	7950	190 U

Site	SITE-76	SITE-76	SITE-76	SITE-76	Site 76
Sample Location cef-076-	93S	101S	106S	113S	114S
Sample ID CEF-76-GW-	N93S-01	N101S-01	N106S-01	N113S-01	114S-01
Sample Date	01/27/03	01/29/03	5/22/2003	5/23/2003	07/09/03
Screen Interval (ft bls)	25 - 30	30 - 35	25 - 30	35 - 40	35 - 40

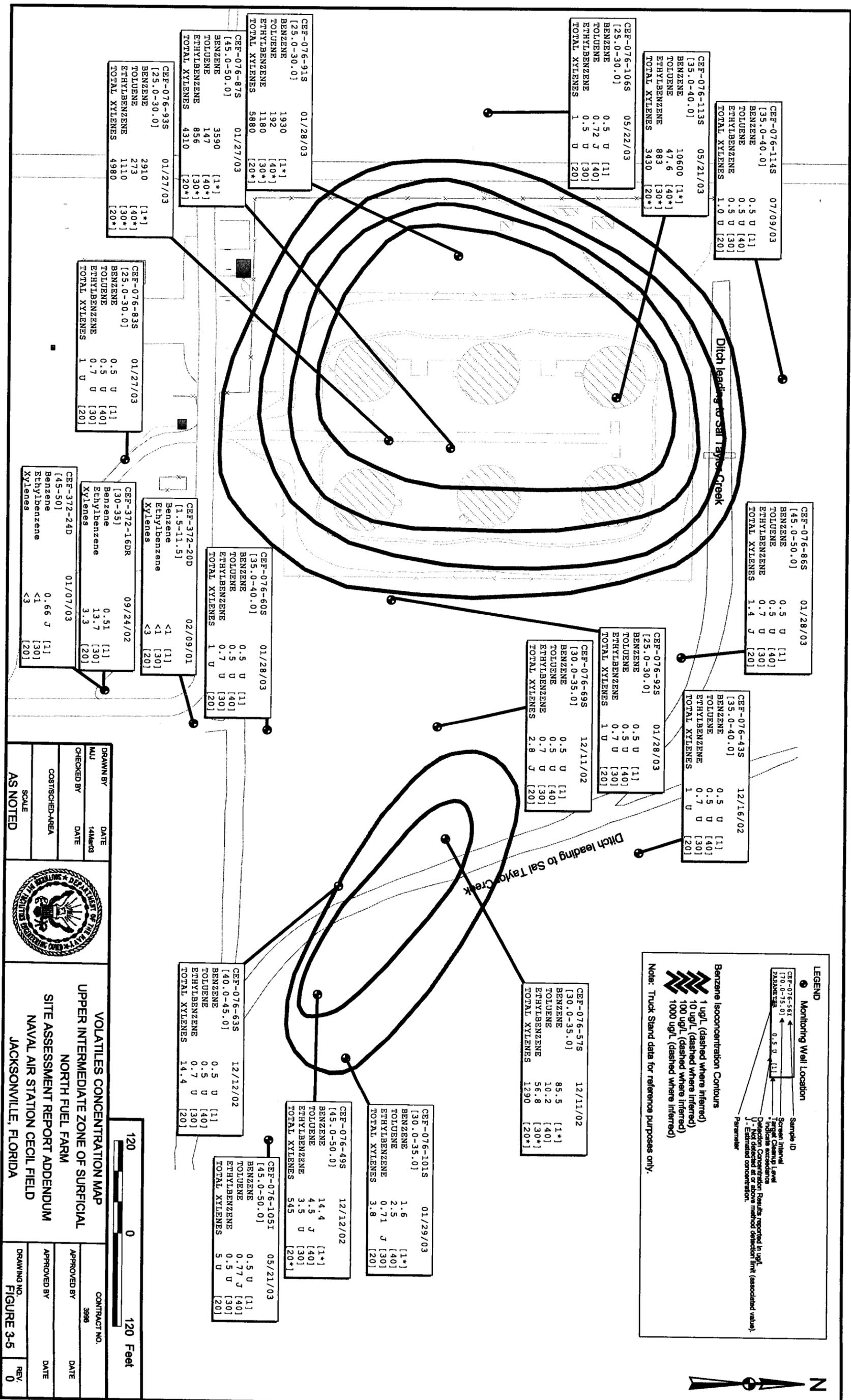
Inorganics (µg/L)	GCTL	NADSC					
LEAD	15	150	4.2 B	29.4	27.6	1.2 U	23

Semivolatile Organics (µg/L)							
1-METHYLNAPHTHALENE	20	200	55.6	0.53 U	0.27 U	8.9	0.52 U
2-METHYLNAPHTHALENE	20	200	67.1	0.53 U	0.27 U	11.2	0.52 U
NAPHTHALENE	20	200	124	0.53 U	0.27 U	71.5	0.52 U

Volatile Organics (µg/L)							
1,2-DICHLOROETHANE	3	300	5 U	0.5 U	0.5 U	25 U	0.5 U
BENZENE	1	100	2910	1.6	0.5 U	10600	0.5 U
BROMODICHLOROMETHANE	0.6		5 U	0.5 U	0.5 U	25 U	0.5 U
CHLOROFORM	5.7		5 U	0.5 U	0.5 U	27.4 J	0.5 U
ETHYLBENZENE	30	300	1110	0.71 J	0.5 U	883	0.5 U
TOLUENE	40	400	273	2.5	0.72 J	47.6	0.5 U
TOTAL XYLENES	20	200	4980	3.8	1 U	3430	1 U

Petroleum Hydrocarbons (µg/L)							
TOTAL PETROLEUM HYDROCARBONS	5000	50000	8700	180 U	180 U	7220	180 U

Notes:
 Positive detections are shaded.
 Values exceeding GCTLs are **bold**.
 U = indicates a concentration less than the detection limit.
 J = indicates an estimated concentration.
 B (organic) = indicates blank contamination detected during analysis.
 B (inorganic) = indicates a result > = IDL, but < RL.
 IDL = instrument detection limit
 RL = reporting limit



DRAWN BY	DATE
MAU	14MAR03
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE	
AS NOTED	



VOLATILES CONCENTRATION MAP
UPPER INTERMEDIATE ZONE OF SURFICIAL
NORTH FUEL FARM
SITE ASSESSMENT REPORT ADDENDUM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO.	DATE
3998	
APPROVED BY	DATE
DRAWING NO.	REV.
FIGURE 3-5	0



Toluene was detected at a concentration exceeding the GCTL of 40 µg/L in four monitoring wells:

- CEF-076-93S 273 µg/L
- CEF-076-91S 192 µg/L
- CEF-076-87S 147 µg/L
- CEF-076-113S 47.6 µg/L

Ethylbenzene was detected at concentrations exceeding the GCTL of 30 µg/L in five monitoring wells:

- CEF-076-91S 1,180 µg/L (NADSC exceeded)
- CEF-076-93S 1,110 µg/L (NADSC exceeded)
- CEF-076-113S 883 µg/L (NADSC exceeded)
- CEF-076-87S 856 µg/L (NADSC exceeded)
- CEF-076-57S 56.8 µg/L

Total xylenes were detected at concentrations exceeding the GCTL of 20 µg/L in six monitoring wells:

- CEF-076-91S 5,880 µg/L (NADSC exceeded)
- CEF-076-93S 4,980 µg/L (NADSC exceeded)
- CEF-076-87S 4,310 µg/L (NADSC exceeded)
- CEF-076-113S 3,430 µg/L (NADSC exceeded)
- CEF-076-57S 1,290 µg/L (NADSC exceeded)
- CEF-076-49S 545 µg/L (NADSC exceeded)

The volatile organic compound 1,2-dichloroethane was detected at a concentration exceeding the GCTL of 3 µg/L in CEF-076-91S. The reported 1,2-dichloroethane concentration for this well was 59.3 µg/L.

Chloroform was detected at a concentration exceeding the GCTL of 5.7 µg/L in CEF-076-113S and CEF-076-114S. The reported chloroform concentrations for the wells were 27.4 µg/L and 10.8 µg/L, respectively. This compound was also present at 16.7 µg/L in a source blank (CEF-076-WB-001) that was collected on June 2, 2003. The lab report for this sample is provided in Appendix L. This compound is a typical byproduct of the chlorination process used to make water potable for the public. Because this well was installed using the same potable water source as the source blank, this sample result is attributed to the local water treatment process rather than the site conditions.

3.3.2.2 PAHs – Upper Intermediate Zone

PAH compounds at concentrations exceeding GCTLs were detected in four of the 17 upper intermediate zone monitoring wells sampled. PAH exceedances were limited to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. The PAH analytical results for the upper intermediate zone are shown on Figure 3-6.

Naphthalene was detected at a concentration exceeding the GCTL of 20 µg/L in four monitoring wells:

- CEF-076-87S 136 µg/L
- CEF-076-93S 124 µg/L
- CEF-076-91S 113 µg/L
- CEF-076-113S 71.5µg/L

1-Methylnaphthalene was detected exceeding the GCTL of 20 µg/L in three monitoring wells:

- CEF-076-93S 55.6 µg/L
- CEF-076-87S 41.6 µg/L
- CEF-076-91S 32.3 µg/L

2-Methylnaphthalene was detected exceeding the GCTL of 20 µg/L in three monitoring wells:

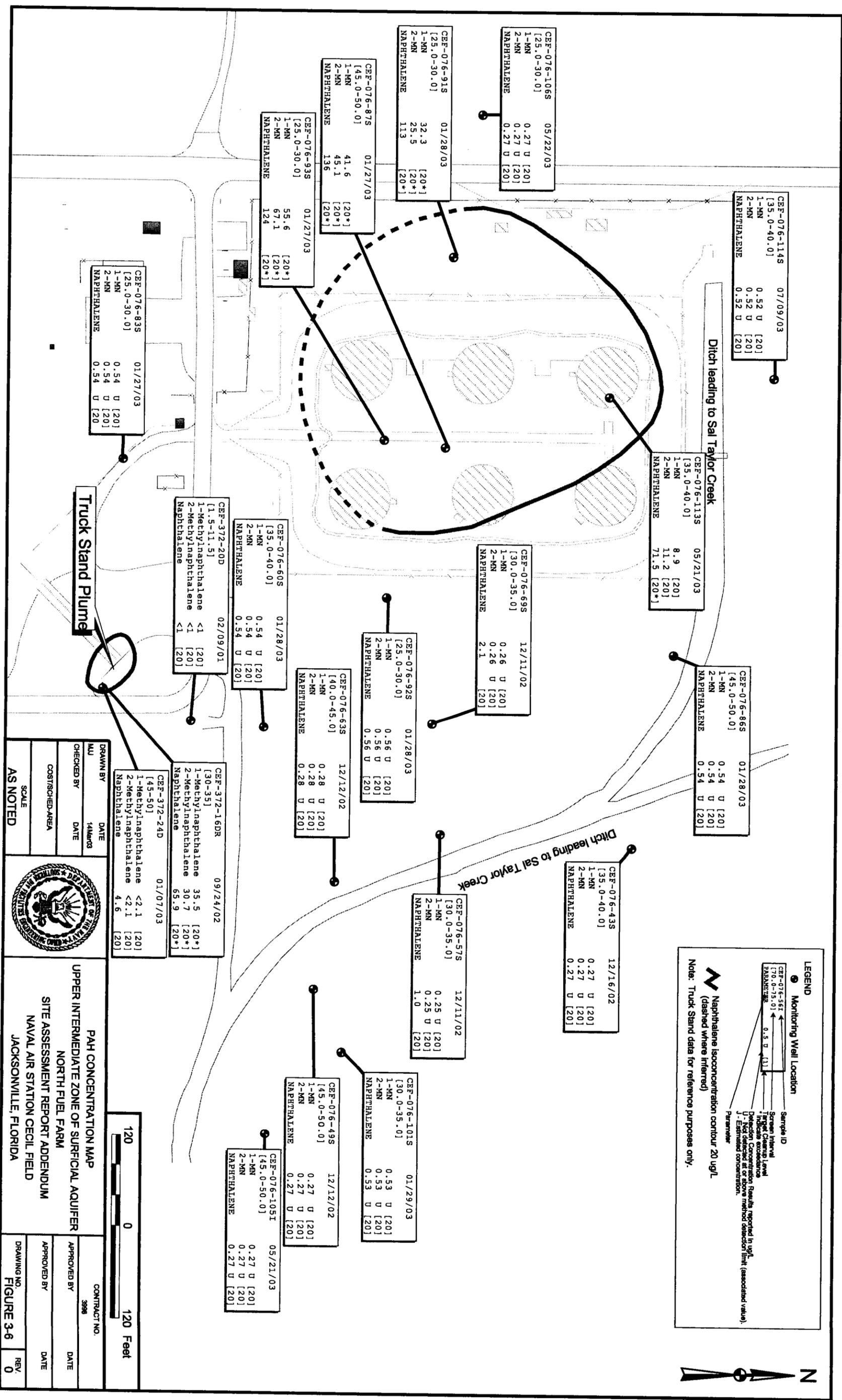
- CEF-076-93S 67.1 µg/L
- CEF-076-87S 45.1 µg/L
- CEF-076-91S 25.5 µg/L

3.3.2.3 TRPH – Upper Intermediate Zone

TRPH was detected at a concentration exceeding the GCTL of 5,000 µg/L in four upper intermediate zone monitoring wells:

- CEF-076-93S 8,700 µg/L
- CEF-076-91S 7,950 µg/L
- CEF-076-87S 7,330 µg/L
- CEF-076-113S 7,220 µg/L

The TRPH analytical results for the upper intermediate zone are shown on Figure 3-7.



LEGEND

- Monitoring Well Location
- Sample ID
- Screen Interval
- Target Cleanup Level
- Indicates exceedance
- Detection Concentration Results reported in ug/L
- Method detection limit (associated value)
- Estimated concentration
- Parameter

N Naphthalene Isoconcentration contour 20 ug/L (dashed where inferred)

Note: Truck Stand data for reference purposes only.

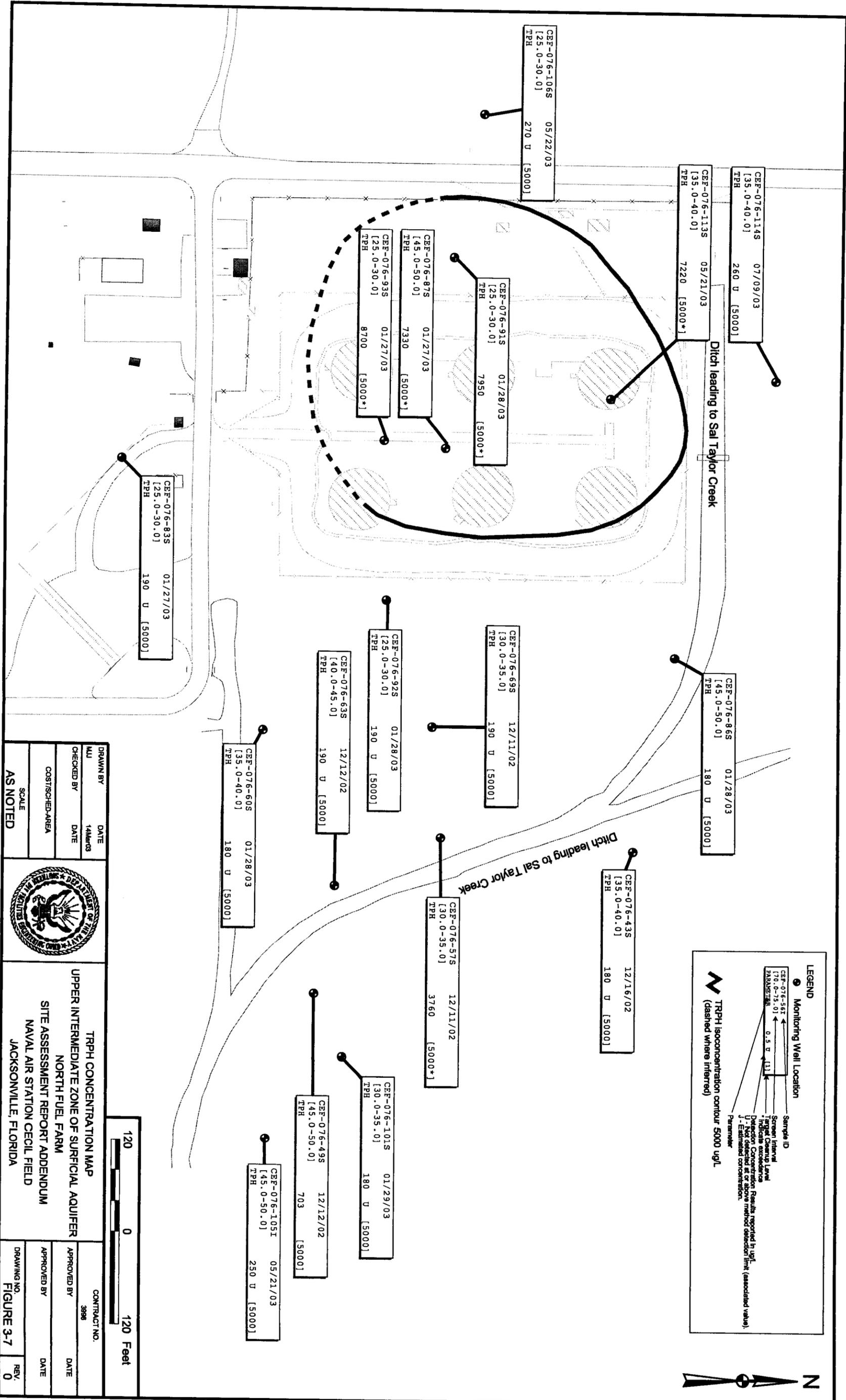
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MJJ	14Mar03
CHECKED BY	DATE
COSTISCH-AREA	
SCALE	
AS NOTED	



PAH CONCENTRATION MAP
UPPER INTERMEDIATE ZONE OF SURFICIAL AQUIFER
NORTH FUEL FARM
SITE ASSESSMENT REPORT ADDENDUM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO.	DATE
3998	
APPROVED BY	DATE
DRAWING NO.	REV.
FIGURE 3-6	0





DRAWN BY	DATE	CONTRACT NO.
MLU	14MAR03	3998
CHECKED BY	DATE	APPROVED BY
COST/SCHED-AREA		
SCALE		DATE
AS NOTED		

TRPH CONCENTRATION MAP
UPPER INTERMEDIATE ZONE OF SURFICIAL AQUIFER
NORTH FUEL FARM
SITE ASSESSMENT REPORT ADDENDUM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA



3.3.2.4 Lead – Upper Intermediate Zone

Lead was detected at a concentration exceeding the GCTL of 15 µg/L in four upper intermediate zone monitoring wells:

- CEF-076-92S 17.8 µg/L
- CEF-076-101S 29.4 µg/L
- CEF-076-106S 27.6 µg/L
- CEF-076-114S 23 µg/L

Each of these wells exhibited turbidity levels during the purging process that may have contributed to these results. The turbidity for those wells ranged from 630 to 1,000 NTUs. Later in Section 3.4, it will be shown that two (106S and 114S) of the four wells are in upgradient locations. Therefore, the exceedances in this zone may be due to natural causes. The lead analytical results for the upper intermediate zone are shown on Figure 3-8.

3.3.3 Lower Intermediate Zone

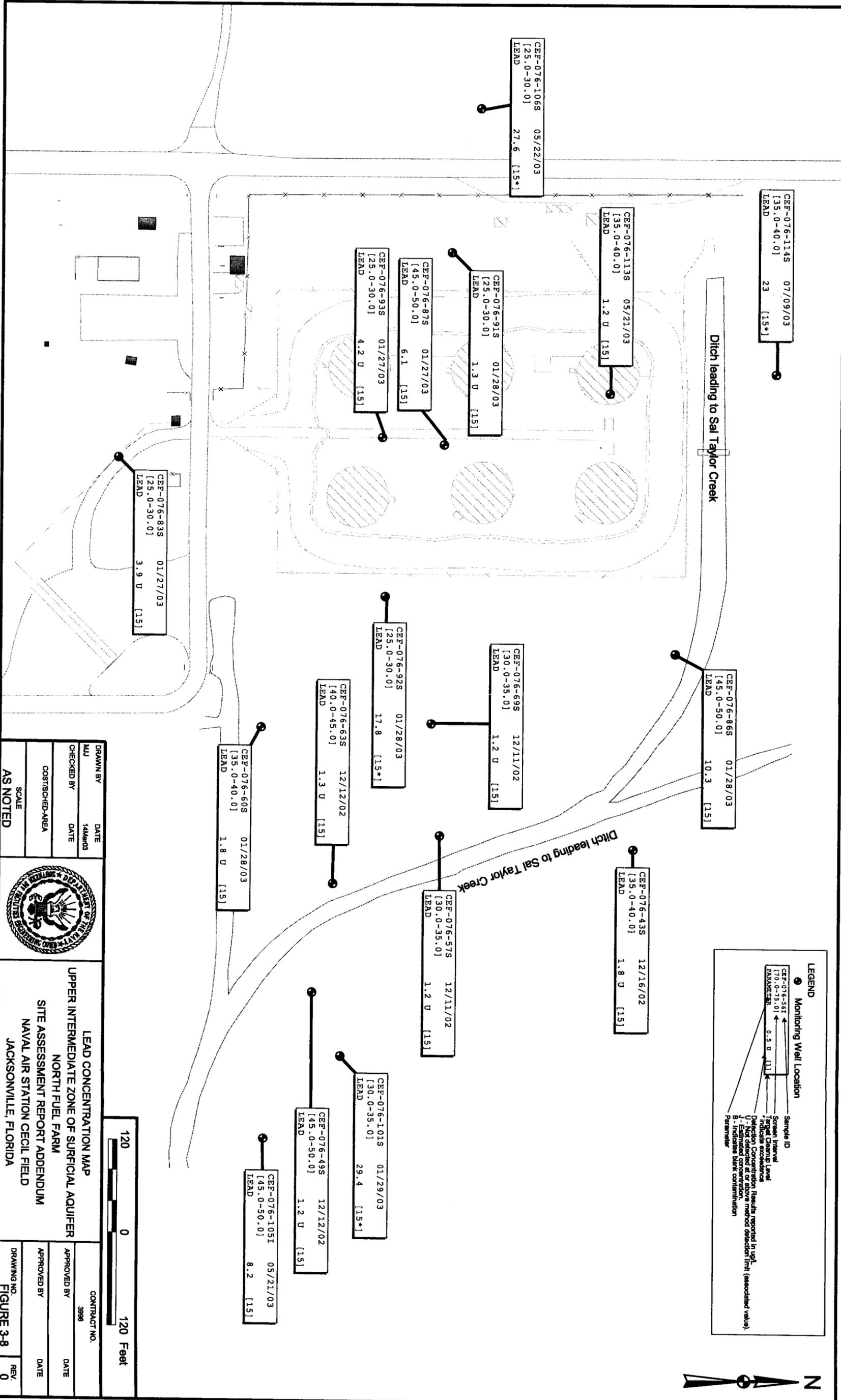
Groundwater samples were collected from 14 monitoring wells screened in the lower intermediate zone. Nine of the monitoring wells sampled from this zone had exceedances of one or more analytes. VOCs, PAHs, and TRPH were detected above GCTLs. Eight of the 14 wells exceeded NADSC standards, specifically for BEX. No other COCs exceeded NADSC standards in the lower intermediate zone. The GCTL and NADSC exceedances detected in samples from the lower intermediate zone are summarized on Table 3-10.

3.3.3.1 Volatile Organics – Lower Intermediate Zone

Volatile organic compounds at concentrations exceeding GCTLs were detected in nine of the 14 lower intermediate zone monitoring wells sampled. VOC exceedances in the lower intermediate zone were limited to BTEX. The VOC analytical results for the lower intermediate zone are shown on Figure 3-9.

Benzene was detected at concentrations exceeding the GCTL of 1 µg/L in eight monitoring wells:

- CEF-076-70I 8,490 µg/L (NADSC exceeded)
- CEF-076-39D 7,280 µg/L (NADSC exceeded)
- CEF-076-50I 4,410 µg/L (NADSC exceeded)
- CEF-076-64I 334 µg/L (NADSC exceeded)
- CEF-076-89I 60.7 µg/L



DRAWN BY	MLU	DATE	14MAR03
CHECKED BY	COSTISCHED-AREA	DATE	
SCALE AS NOTED			



LEAD CONCENTRATION MAP
UPPER INTERMEDIATE ZONE OF SURFICIAL AQUIFER
NORTH FUEL FARM
SITE ASSESSMENT REPORT ADDENDUM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO.	3996
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO.	FIGURE 3-8
REV.	0



**TABLE 3-10
GROUNDWATER EXCEEDANCES, LOWER INTERMEDIATE ZONE**

**SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Site			SITE-76	SITE-76	SITE-76	SITE-76	SITE-76
Sample Location CEF-076-			39D	50I	61I	64I	70I
Sample ID CEF-076-GW-			E39D-01	E50I-01	E61I-01	E64I-01	E70I-01
Sample Date			12/17/02	12/12/02	12/11/02	12/12/02	12/11/02
Screen Interval (ft bls)			55 - 65	75 - 80	65 - 70	70 - 75	65 - 70
Inorganics (µg/L)							
	GCTL	NADSC					
LEAD	15	150	2.0 B	1.2 U	1.2 U	1.2 U	1.4 B
Semivolatile Organics (µg/L)							
1-METHYLNAPHTHALENE	20	200	39.2	0.28 U	11.8	0.27 U	0.26 U
2-METHYLNAPHTHALENE	20	200	52	0.28 U	13.1	0.27 U	0.26 U
NAPHTHALENE	20	200	115	0.39 J	122	11.7	28.9
Volatile Organics (µg/L)							
1,2-DICHLOROETHANE	3	300	50 U	25 U	5 U	10 U	50 U
BENZENE	1	100	7280	4410	5 U	334	8490
BROMODICHLOROMETHANE	0.6		50 U	25 U	5 U	10 U	50 U
CHLOROFORM	5.7		50 U	25 U	5 U	10 U	50 U
ETHYLBENZENE	30	300	615	35 U	97.3	125	269
TOLUENE	40	400	103	25 U	5.6 J	15.7 J	50 U
TOTAL XYLENES	20	200	6850	1710	886	3480	7130
Petroleum Hydrocarbons (µg/L)							
TOTAL PETROLEUM HYDROCARBONS	5000	50000	9740	1780	3700	2970	4980

Site			SITE-76	SITE-76	SITE-76	SITE-76
Sample Location CEF-076-			73I	85I	89I	111I
Sample ID CEF-076-GW-			E73I-01	N85I-01	N89I-01	N111I-01
Sample Date			12/18/02	01/28/03	01/27/03	5/22/2003
Screen Interval (ft bls)			60 - 65	55 - 60	50 - 55	65 - 70
Inorganics (µg/L)						
	GCTL	NADSC				
LEAD	15	150	1.2 U	1.2 U	4.4 B	1.2 U
Semivolatile Organics (µg/L)						
1-METHYLNAPHTHALENE	20	200	0.26 U	2.2 U	0.56 U	0.26 U
2-METHYLNAPHTHALENE	20	200	0.26 U	0.54 U	0.56 U	0.26 U
NAPHTHALENE	20	200	0.26 U	4.4 U	4.4 U	0.26 U
Volatile Organics (µg/L)						
1,2-DICHLOROETHANE	3	300	2.5 U	5 U	5 U	0.5 U
BENZENE	1	100	6.7	20.7	60.7	3.0
BROMODICHLOROMETHANE	0.6		2.5 U	5 U	5 U	0.5 U
CHLOROFORM	5.7		2.5 U	5 U	5 U	1.1
ETHYLBENZENE	30	300	3.5 U	10	220	0.5 U
TOLUENE	40	400	4.3 J	14.8	11.8	0.62
TOTAL XYLENES	20	200	878	3020	1560	1 U
Petroleum Hydrocarbons (µg/L)						
TOTAL PETROLEUM HYDROCARBONS	5000	50000	1320	2780	1290	180 U

Notes:

Positive detections are shaded.

Values exceeding GCTLs are in **bold**.

J = indicates an estimated concentration.

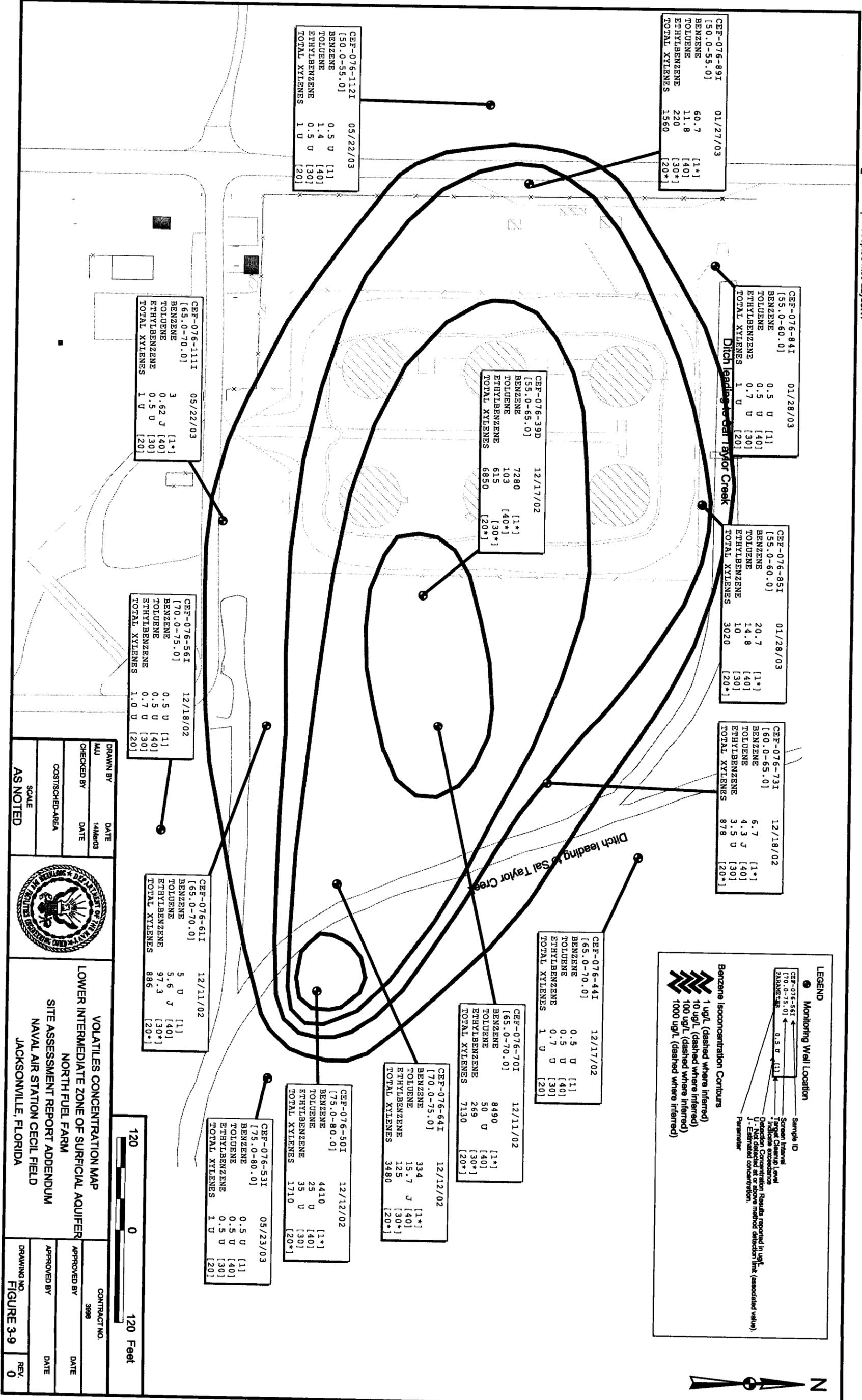
J = indicates a concentration less than the detection limit.

B (organic) = indicates blank contamination detected during analysis.

B (inorganic) = indicates a result >= IDL, but < RL.

IDL = instrument detection limit

RL = reporting limit



- CEF-076-85I 20.7 µg/L
- CEF-076-73I 6.7 µg/L
- CEF-076-111I 3.0 µg/L

Toluene was detected at a concentration exceeding the GCTL of 40 µg/L in CEF-076-39D. The reported toluene concentration for this well was 103 µg/L.

Ethylbenzene was detected at concentrations exceeding the GCTL of 30 µg/L in five monitoring wells:

- CEF-076-39D 615 µg/L (NADSC exceeded)
- CEF-076-70I 269 µg/L
- CEF-076-89I 220 µg/L
- CEF-076-64I 125 µg/L
- CEF-076-61I 97.3 µg/L

Total xylenes were detected at concentrations exceeding the GCTL of 20 µg/L in eight monitoring wells:

- CEF-076-70I 7,130 µg/L (NADSC exceeded)
- CEF-076-39D 6,850 µg/L (NADSC exceeded)
- CEF-076-64I 3,480 µg/L (NADSC exceeded)
- CEF-076-85I 3,020 µg/L (NADSC exceeded)
- CEF-076-50I 1,710 µg/L (NADSC exceeded)
- CEF-076-89I 1,560 µg/L (NADSC exceeded)
- CEF-076-61I 886 µg/L (NADSC exceeded)
- CEF-076-73I 878 µg/L (NADSC exceeded)

3.3.3.2 PAHs – Lower Intermediate Zone

PAH concentrations exceeding GCTLs were detected in three of the 14 lower intermediate zone monitoring wells sampled. PAH exceedances were limited to naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene and are shown on Figure 3-10.

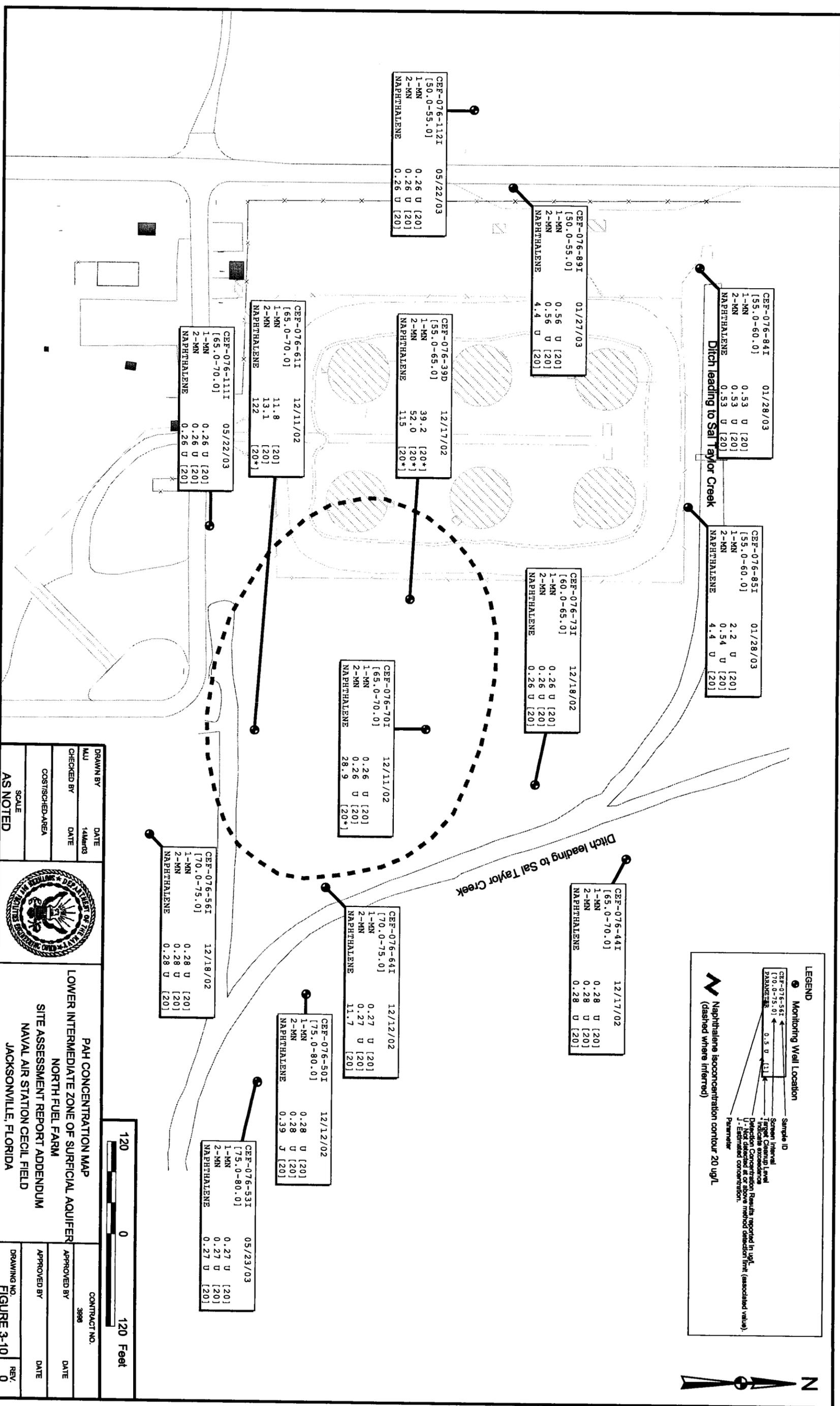
Naphthalene was detected at concentrations exceeding the GCTL of 20 µg/L in three monitoring wells:

- CEF-076-61I 122 µg/L
- CEF-076-39D 115 µg/L
- CEF-076-70I 28.9 µg/L

LEGEND

- Monitoring Well Location
- Sample ID
- Screen Interval
- Target Cleanup Level
- Indicate exceedance
- Detection Concentration Results reported in ug/L
- J - Estimated concentration
- Parameter

Naphthalene (dashed where inferred)
Naphthalene (dashed where inferred)



DRAWN BY	DATE		<p>PAH CONCENTRATION MAP LOWER INTERMEDIATE ZONE OF SURFICIAL AQUIFER NORTH FUEL FARM SITE ASSESSMENT REPORT ADDENDUM NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA</p>	CONTRACT NO.	DATE
CHECKED BY	DATE			3998	
SCALE				APPROVED BY	DATE
AS NOTED				DRAWING NO.	REV.
				FIGURE 3-10	0



1-Methylnaphthalene was detected at a concentration exceeding the GCTL of 20 µg/L in CEF-076-39D. The reported naphthalene concentration for this well was 39.2 µg/L.

2-Methylnaphthalene was detected at a concentration exceeding the GCTL of 20 µg/L in CEF-076-39D. The reported naphthalene concentration for this well was 52 µg/L.

3.3.3.3 TRPH – Lower Intermediate Zone

TRPH was detected in lower intermediate zone monitoring well CEF-076-39D at a concentration exceeding the GCTL of 5,000 µg/L. The reported TRPH concentration for this well was 9,740 µg/L. The TRPH analytical results for the lower intermediate zone are shown on Figure 3-11.

3.3.4 Deep Zone

Groundwater samples were collected from 18 monitoring wells screened in the deep zone. Nine of the monitoring wells sampled from this zone had exceedances of one or more analytes. VOCs were the only petroleum constituents that were detected at concentrations above GCTLs. Four of the nine wells exceeded NADSC standards, specifically for benzene only. No other COC exceeded the NADSC standards in the deep zone. The GCTL and NADSC exceedances detected in samples from the deep zone are summarized on Table 3-11.

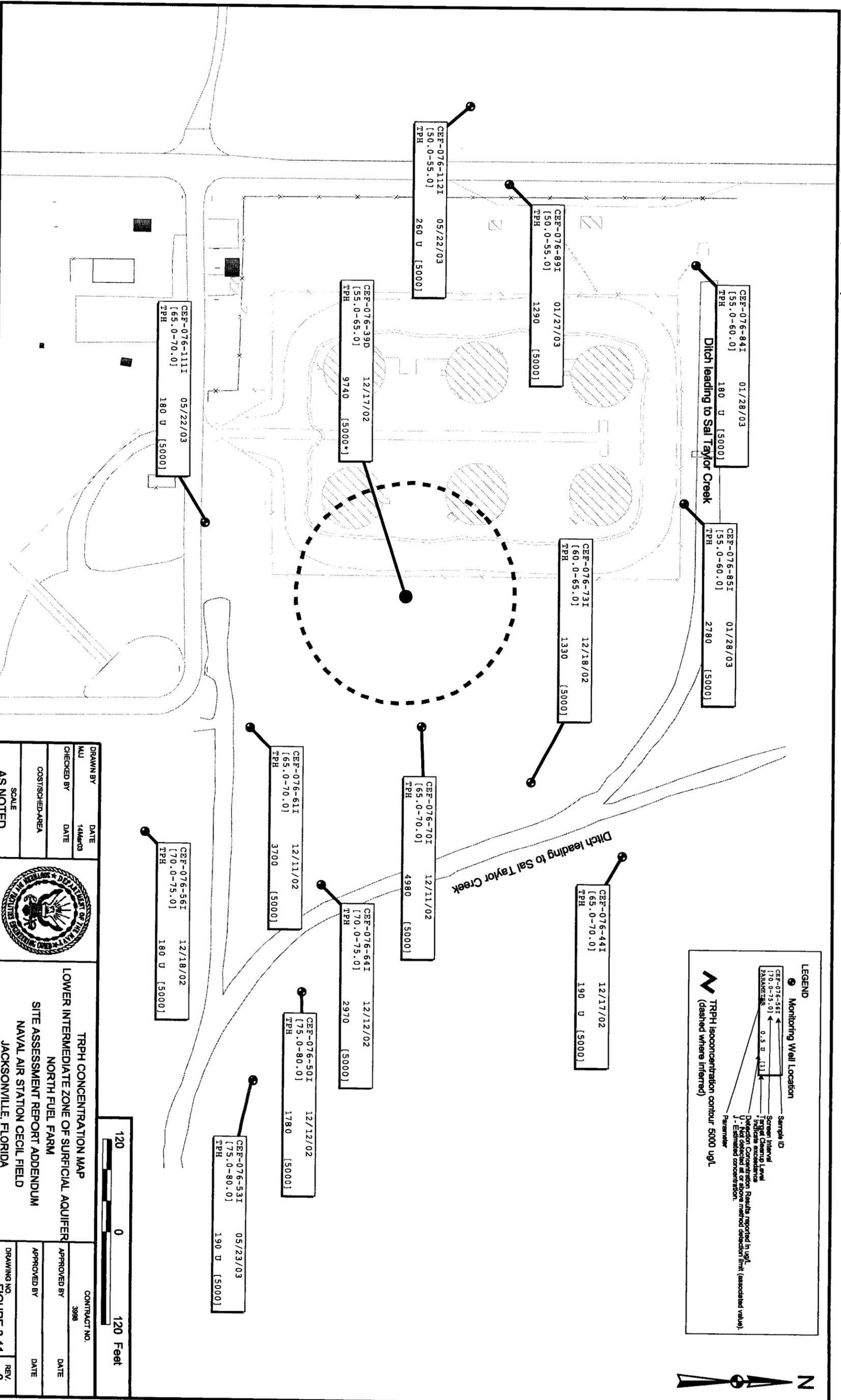
VOCs at concentrations exceeding GCTLs were detected in nine of the 18 deep zone monitoring wells sampled. VOC exceedances in the upper deep zone included benzene, total xylenes, and bromodichloromethane. The VOC analytical results for the upper intermediate zone are shown on Figure 3-12.

Benzene was detected at concentrations exceeding the GCTL of 1 µg/L in nine monitoring wells:

- CEF-076-51D 1,340 µg/L (NADSC exceeded)
- CEF-076-98D 1,040 µg/L (NADSC exceeded)
- CEF-076-110D 842 µg/L (NADSC exceeded)
- CEF-076-80D 390 µg/L (NADSC exceeded)
- CEF-076-116D 75.7 µg/L
- CEF-076-65D 6.6 µg/L
- CEF-076-99D 5.8 µg/L
- CEF-076-100D 5.2 µg/L
- CEF-076-115D 2.1 µg/L

LEGEND

- Monitoring Well Location
- Sample ID
- Screen Interval
- Target Cleanup Level
- Indicates exceedance
- Detection Concentration Results reported in ug/L
- Detection method detector limit (associated value)
- J - Estimated concentration
- Parameter
- TRPH Isoconcentration contour 5000 ug/L (dashed where inferred)



DRAWN BY MWJ	DATE 14March03		<p>TRPH CONCENTRATION MAP LOWER INTERMEDIATE ZONE OF SURFICIAL AQUIFER NORTH FUEL FARM SITE ASSESSMENT REPORT ADDENDUM NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA</p>	CONTRACT NO. 3998	
CHECKED BY COSTI/SCHENARCA	DATE			APPROVED BY	DATE
SCALE AS NOTED				DRAWING NO. FIGURE 3-11	REV. 0

**TABLE 3-11
GROUNDWATER EXCEEDANCES, DEEP ZONE
SITE ASSESSMENT REPORT ADDENDUM
NORTH FUEL FARM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Site			SITE-76	SITE-76	SITE-76	SITE-76	SITE-76
Sample Location CEF-076-			51D	65D	80D	98D	99D
Sample ID CEF-076-GW-			E51D-01	E65D-01	E80D-01	N98D-01	N99D-01
Sample Date			12/12/02	12/12/02	12/16/02	02/11/03	02/10/03
Screen Interval (ft bls)			100 - 110	100 - 110	110 - 120	105 - 110	95 - 100
Inorganics (µg/L)	GCTL	NADSC					
LEAD	15	150	1.2 U	1.2 U	1.2 U	2.8 B	2.6 B
Semivolatile Organics (µg/L)							
1-METHYLNAPHTHALENE	20	200	0.27 U	0.27 U	0.27 U	0.52 U	0.5 U
2-METHYLNAPHTHALENE	20	200	0.27 U	0.27 U	0.27 U	0.52 U	0.5 U
NAPHTHALENE	20	200	0.27 U	0.27 U	0.27 U	5	0.5 U
Volatile Organics (µg/L)							
1,2-DICHLOROETHANE	3	300	10 U	0.5 U	5 U	0.5 U	0.5 U
BENZENE	1	100	1340	6.6	390	1040	5.8
BROMODICHLOROMETHANE	0.6		10 U	0.5 U	5 U	0.5 U	0.5 U
CHLOROFORM	5.7		10 U	0.5 U	5 U	0.5 U	0.5 U
ETHYLBENZENE	30	300	14 U	0.7 U	7 U	19.4	1
TOLUENE	40	400	10 U	0.96 J	5 U	0.6 J	0.5 U
TOTAL XYLENES	20	200	33.2 J	97.4	10 U	95.6	2.4 J
Petroleum Hydrocarbons (µg/L)							
TOTAL PETROLEUM HYDROCARBONS	5000	50000	170 U	180 U	180 U	398	170 U

Site			SITE-76	SITE-76	Site 76	Site 76
Sample Location CEF-076-			100D	110D	115D	116D
Sample ID CEF-076-GW-			N100D-01	N110D-01	N115D-01	N116D-01
Sample Date			01/29/03	5/22/2003	07/10/03	07/10/03
Screen Interval (ft bls)			110 - 115	105 - 110	105 - 110	105 - 110
Inorganics (µg/L)	GCTL	NADSC				
LEAD	15	150	1.2 U	5.4	1.2 U	3.8 B
Semivolatile Organics (µg/L)						
1-METHYLNAPHTHALENE	20	200	0.52 U	0.27 U	0.5 U	0.5 U
2-METHYLNAPHTHALENE	20	200	0.52 U	0.27 U	0.5 U	0.5 U
NAPHTHALENE	20	200	0.52 U	1.4	0.5 U	0.5 U
Volatile Organics (µg/L)						
1,2-DICHLOROETHANE	3	300	0.5 U	0.5 U	0.5 U	0.5 U
BENZENE	1	100	5.2	842	2.1	75.7
BROMODICHLOROMETHANE	0.6		0.5 U	0.5 U	0.5 U	0.67 J
CHLOROFORM	5.7		0.5 U	0.5 U	0.5 U	3.7
ETHYLBENZENE	30	300	0.7 U	1.7	0.5 U	0.5 U
TOLUENE	40	400	0.58 J	0.78 J	0.5 U	0.5 U
TOTAL XYLENES	20	200	1 U	21.0	1 U	1 U
Petroleum Hydrocarbons (µg/L)						
TOTAL PETROLEUM HYDROCARBONS	5000	50000	180 U	264 J	170 U	170 U

Notes:
 Positive detections are shaded.
 Values exceeding GCTLs are in bold.
 U = indicates a concentration less than the detection limit.
 J - indicates an estimated concentration.
 B (organic) = indicates blank contamination detected during analysis.
 B (inorganic) = indicates a result >= IDL, but < RL.
 IDL = instrument detection limit
 RL = reporting limit

Total xylenes were detected at concentrations exceeding the GCTL of 20 µg/L in four monitoring wells:

- CEF-076-65D 97.4 µg/L
- CEF-076-98D 95.6 µg/L
- CEF-076-51D 33.2 J µg/L
- CEF-076-110D 21.0 µg/L

Bromodichloromethane was detected at a concentration exceeding the GCTL of 0.6 µg/L in CEF-076-116D. The reported bromodichloromethane concentration for this well was 0.67 J µg/L. This compound was also present at 6.2 µg/L in a source blank (CEF-076-WB-001) that was collected on June 2, 2003. The lab report for this sample is in Appendix L. This compound is a typical byproduct of the chlorination process used to make water potable for the public. Since this well was installed using the same potable water source as the source blank, this sample result is attributed to the local water treatment process rather than the site conditions.

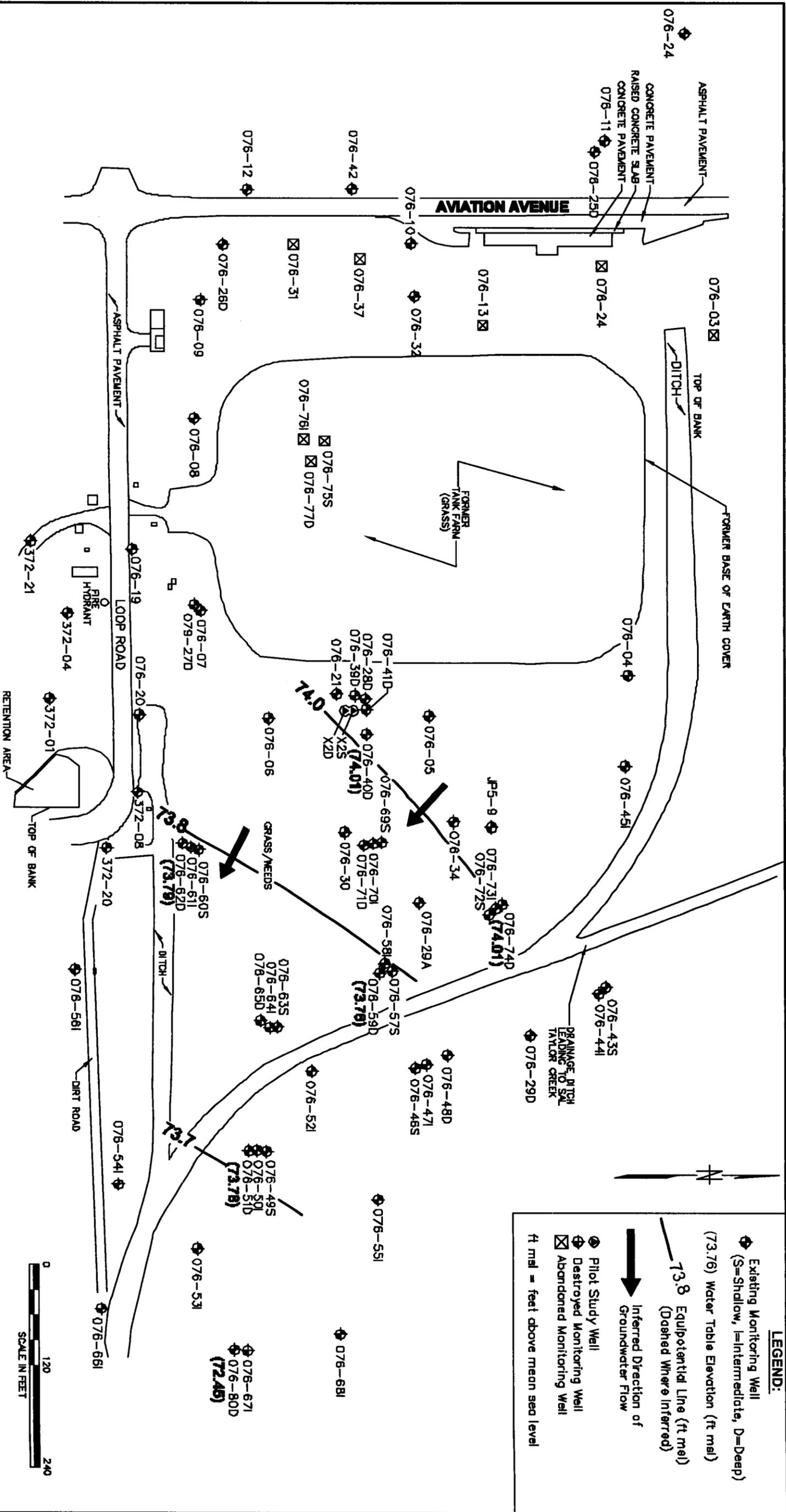
3.4 GROUNDWATER FLOW AND VERTICAL GRADIENT

Groundwater levels were measured on July 2, 2001; February 6, 2003; and June 11, 2003. Data from the first two events were used to construct groundwater flow maps as required by Chapter 62-770, FAC. The measurements were used to calculate elevations relative to msl (Table 2-1) for the four, previously described surficial aquifer zones.

During the first water level gauging event in July 2001, the oil water interface probe detected a trace of product at less than the reportable limit of 0.1 ft in wells CEF-076-65D and CEF-076-66I. No free product was detected during the last two events.

Figures 3-13, 3-14, 3-15 and 3-16 show the groundwater elevations and flow as diagrammed for the July 2001 event. The flow shown for the water table zone indicates a groundwater divide may exist at the site with flow on the west side moving toward the southwest and flow on the east side of the divide moving to the north and south. A combination of recent drought conditions and the recent removal of the tank farm mound may have created this groundwater flow pattern in the water table zone. The deeper zone maps are more consistent in the flow pattern and generally show flow to the southeast. According to the CARA (ABB-ES, 1997b), the groundwater flow patterns for these three deeper zones were basically east-southeast, so the flow pattern appears unchanged below the water table.

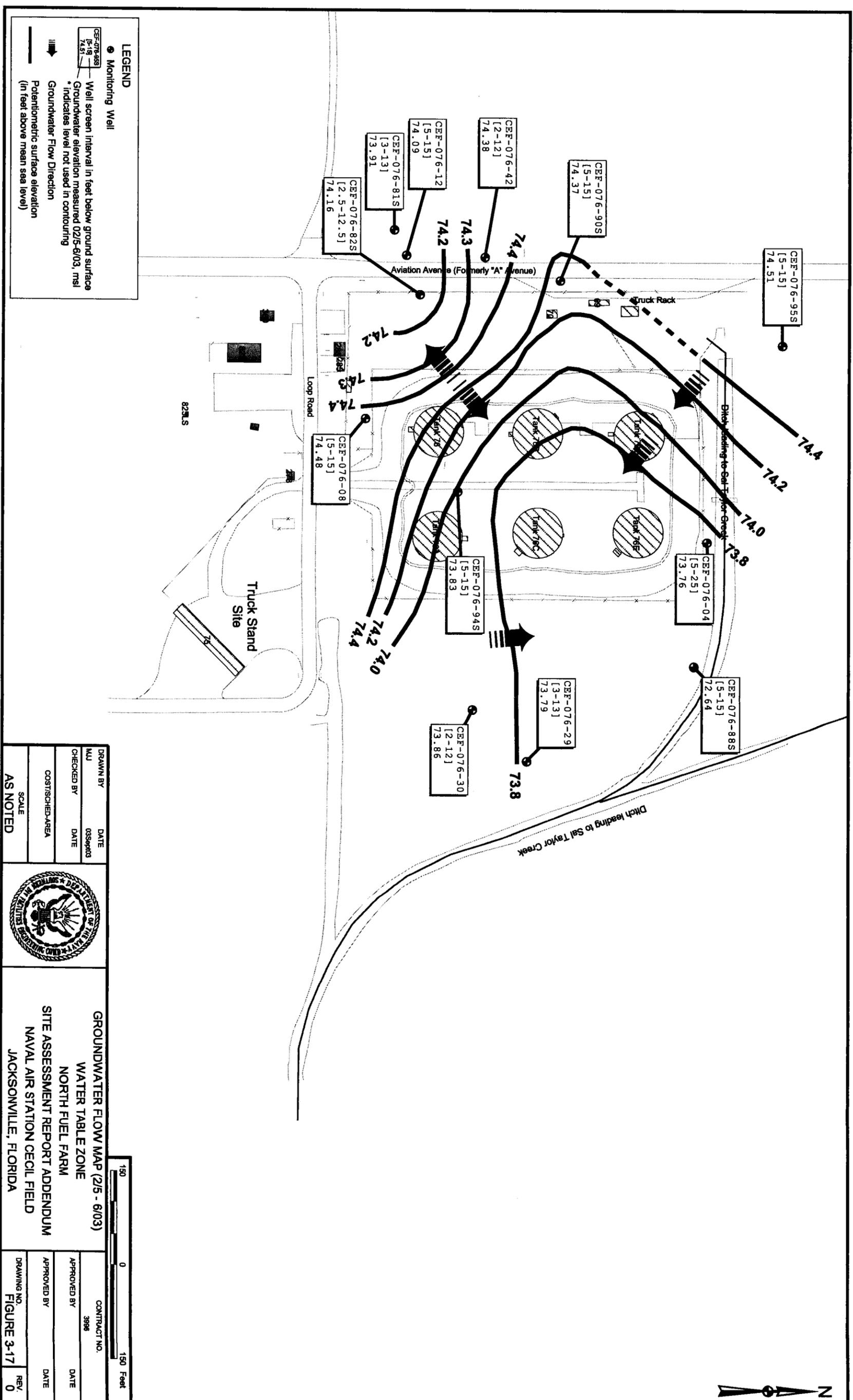
Figures 3-17, 3-18, 3-19, and 3-20 were created to diagram the groundwater elevation and flow for the February 2003 event. The flow shown for the water table zone still indicates the existence of a small



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES	DRAWN BY	DATE	CONTRACT NO.
							LLK	7/31/01	3996
							CHECKED BY	DATE	DATE
							COST/SCHED-AREA		DATE
							SCALE		REV.
							AS NOTED		0

GROUNDWATER FLOW MAP, JULY 2, 2001
DEPTH INTERVAL 100-120 FT BLS
NORTH FUEL FARM
SITE ASSESSMENT REPORT ADDENDUM
NAVAL AIR STATION CECL FIELD
JACKSONVILLE, FLORIDA

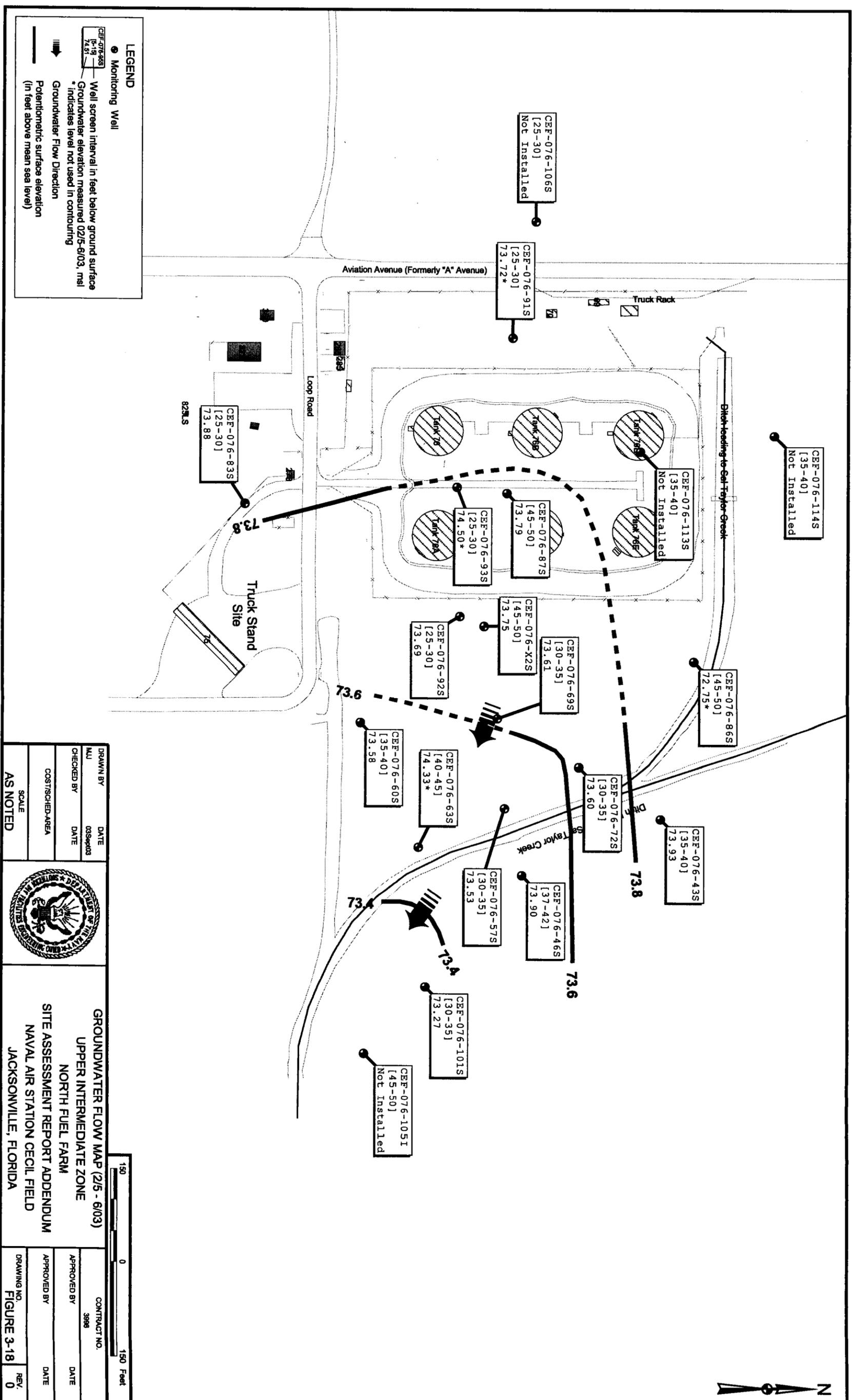


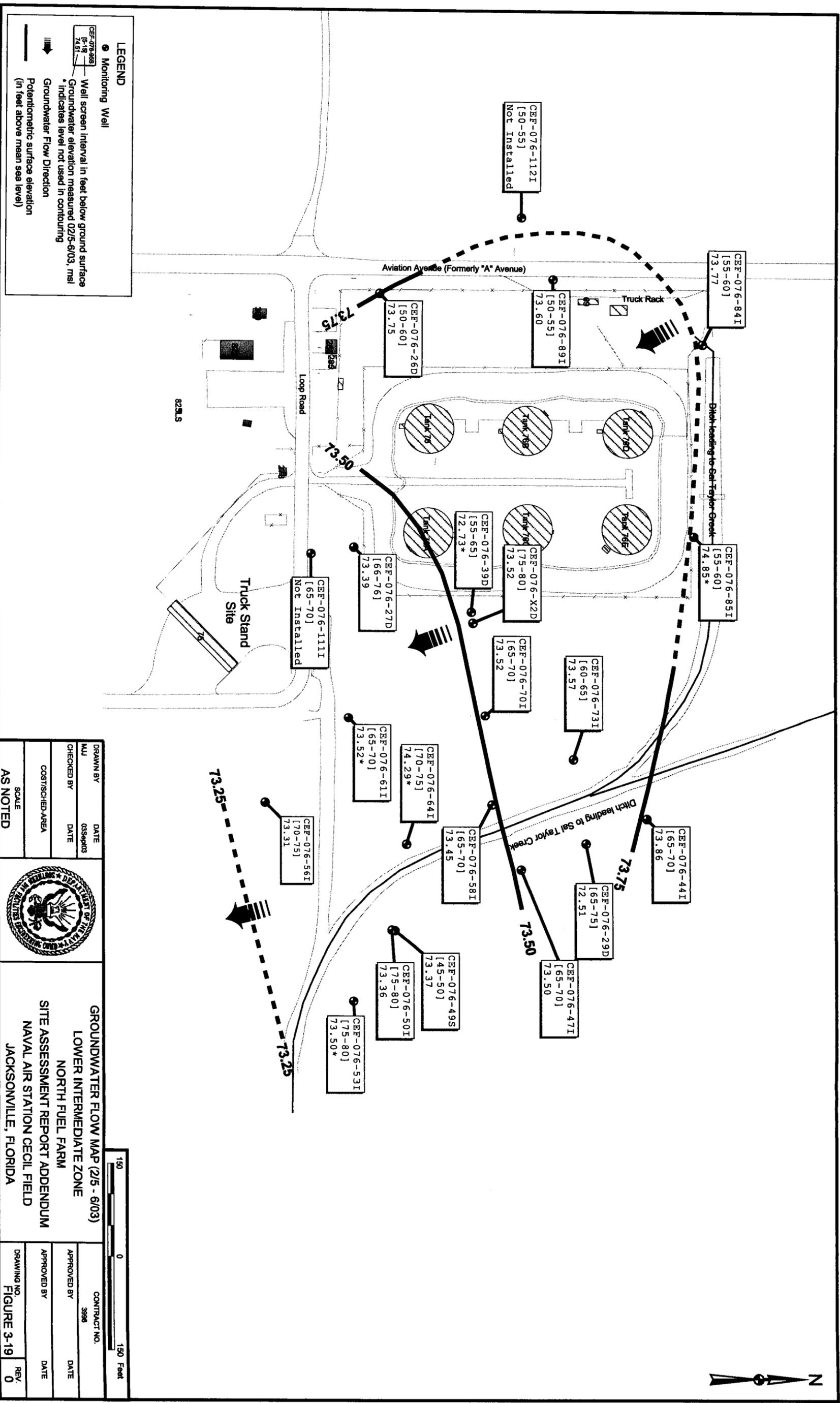


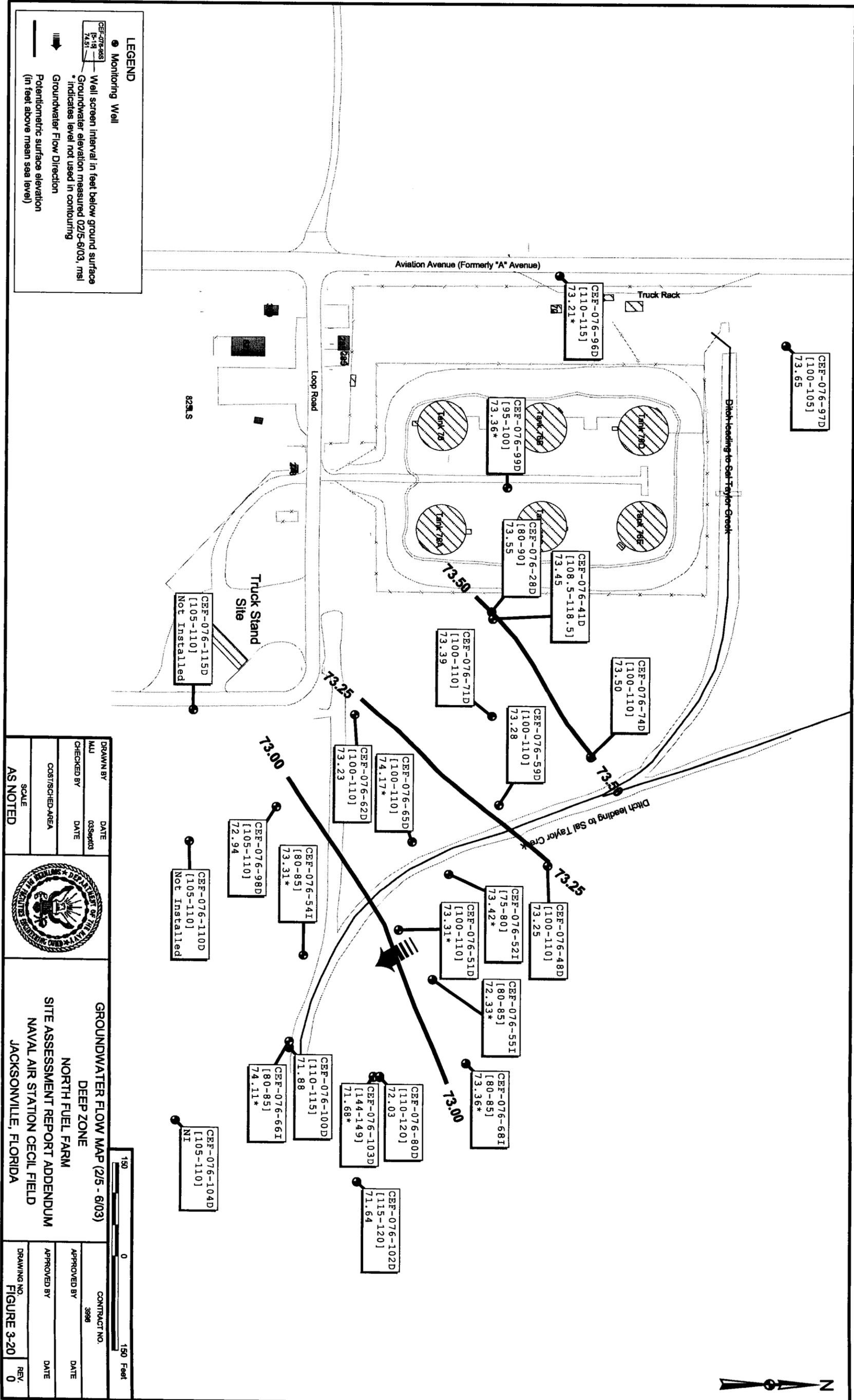
LEGEND

- Monitoring Well
- Well screen interval in feet below ground surface
- Groundwater elevation measured 02/5-6/03, msl
- * Indicates level not used in contouring
- Groundwater Flow Direction
- Potentiometric surface elevation (in feet above mean sea level)

DRAWN BY MLU	DATE 03sep03		GROUNDWATER FLOW MAP (2/5 - 6/03) WATER TABLE ZONE NORTH FUEL FARM SITE ASSESSMENT REPORT ADDENDUM NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA
CHECKED BY COSTISCHED-AREA	DATE		
SCALE AS NOTED			
150 0 150 Feet			
CONTRACT NO. 3986		APPROVED BY DATE	DRAWING NO. FIGURE 3-17
APPROVED BY DATE		REV. 0	







divide on the western side of the site where groundwater flow continues to the southwest. However, the area over the former tank farm mound appears to be flowing toward the east-northeast. The upper intermediate zone and the deep zone appear to share a similar flow direction to the southeast, while the lower intermediate zone appears to be flowing more to the south-southeast.

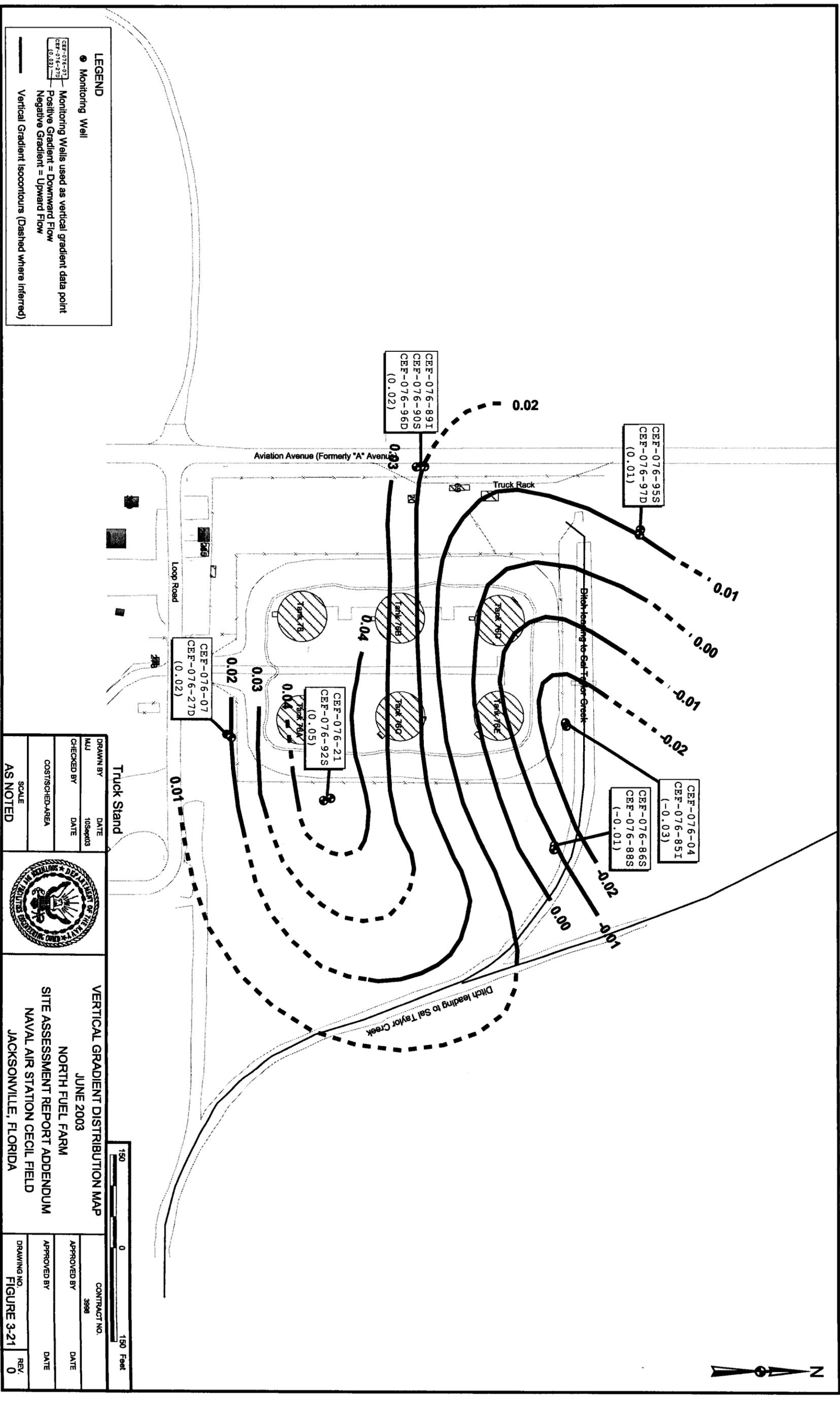
Vertical gradient was also evaluated at the site using a series of 6 well clusters with staggered screen intervals. Appendix M contains information on the well clusters used, their screen intervals, water elevations, and the calculations used to determine the vertical gradient at each paired location. The resulting gradient data points were plotted and mapped on Figure 3-21. This diagram indicates a slight upward gradient (overall difference = 0.03 ft) on the north quarter of the area under investigation; however, it appears that the southern portion of the site is experiencing a slight downward vertical gradient (overall difference = 0.05 ft). According to the CARA (ABB-ES, 1997b), a downward vertical gradient also existed at the time of that investigation although their reported overall gradient was closer to 0.5 ft.

3.5 LITHOLOGY

Additional lithological data was collected as soil cuttings logged during hollow stem auger drilling to a maximum depth of 65 ft bls. The lithology observed was consistent with the general site geology described in the CARA (ABB-ES, 1997b). During the mud rotary and rotasonic drilling, additional lithologic data was collected from intervals below the maximum logging depth reported in the CARA (ABB-ES, 1997b) (approximately 120 ft bls). Appendix F contains the boring logs for the following work:

- The boring for monitoring well CEF-076-103D was split-spooned continuously from 110 to 118 ft bls and thereafter on 5-ft centers from 120 to 147 ft bls.
- The boring, labeled CEF-076-111D, was drilled by rotasonic and continuous soil samples were extracted from 106 to 126 ft bls.
- The boring, labeled CEF-076-118D, was drilled by rotasonic and continuous soil samples were extracted from 105 to 130 ft bls.

The CARA (ABB-ES, 1997b) reported a 2-ft thick hard, dry clay from approximately 112 to 114 ft bls in the boring for CEF-076-51D. Similarly, TtNUS encountered this same hard, dry clay from approximately 113 to 115.5 ft bls in boring CEF-076-103D. This unit was noted to have fissures filled with fine sand, which indicates it may still transmit groundwater to underlying units. Except for one 6-inch thick clay unit at 116.5 to 117 ft bls, the remaining borehole to 147 ft bls appeared to be composed of sands and weathered limestone units. Because monitoring well CEF-076-103D screened approximately 144 to



LEGEND

- Monitoring Well
- Monitoring Wells used as vertical gradient data point
- Positive Gradient = Downward Flow
- - - Negative Gradient = Upward Flow
- - - Vertical Gradient Isocontours (Dashed where inferred)

DRAWN BY	DATE
MLU	10Sept03
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE	AS NOTED



VERTICAL GRADIENT DISTRIBUTION MAP
 JUNE 2003
 NORTH FUEL FARM
 SITE ASSESSMENT REPORT ADDENDUM
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA

CONTRACT NO.	DATE
3998	
APPROVED BY	DATE
DRAWING NO.	REV.
FIGURE 3-21	0

149 ft bls does not show any sign of petroleum impacts, the two thin clay units (at 113 to 115.5 and 116.5 to 117 ft bls) above that screen interval may be acting as an aquiclude to prevent further downward migration of the petroleum COCs reported in well CEF-076-80D screened from 115 to 120 ft bls. Considering that only TRPH was detected in this deep well, CEF-076-103D, and at a concentration below the GCTL, TtNUS recommends using this well as a vertical extent point of compliance for the site.

The occurrence of clayey to weathered limestone units in the boring, CEF-076-103D, at about 117 ft bls correlates with the upper units of the Hawthorn Group as reported in the Remedial Investigation Report (RIR) (TtNUS, 1999c) at approximately 95 to 120 ft bls. As noted in the RIR, lower permeability units of the Hawthorn Group occur below this upper unit and act to impede downward migration of groundwater to the Floridan Aquifer.

Boring logs were also prepared for soil borings 111D and 118D which were installed adjacent to monitoring wells CEF-076-98D and CEF-076-110D, respectively. These boring logs indicate a plastic clay unit that is a minimum of 8 ft thick at similar depth intervals (118 to 126 ft bls in 111D and 120 to 128 ft bls in 118D) to the thinner dry, clay unit reported in the area of wells CEF-076-51D and 80D (113 to 115 ft bls). The existence of this thick continuous clay unit underlying the area of highest VOC contamination in the deep zone on site is considered a reasonable vertical extent barrier to further downward migration.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 SEDIMENT

A single sediment location (SW/SED 2) requires either further investigation or delineation because the SCTL for TRPH was exceeded at that locale. TtNUS recommends resampling the sediment sample at that location for analyses by the TRPH subclassification method recommended in Chapter 62-770.680(1)(c)3, FAC.

4.2 SURFACE WATER AND GROUNDWATER CONCLUSIONS AND RECOMMENDATIONS

The surface water analytical results indicated that the TRPH and lead were below applicable regulatory guidelines; therefore, TtNUS recommends NFA for this medium.

The groundwater data indicated the following conclusions:

- Groundwater flow in the water table zone with respect to the area of petroleum contamination appears to be to the east-northeast, flow in the upper intermediate and deep zones appear to be consistently to the southeast, and flow in the lower intermediate appears to be to the south-southeast.
- No free product was detected on site during the last two events. Trace amounts of free product was detected during the first of three water level measurement events.
- Groundwater contamination in the water table zone has been delineated to the area of the former tank farm mound. VOCs, PAHs, and TRPH concentrations exceed GCTLs.
- The lead contamination in the well, CEF-076-12, appears to result from sample turbidity. The re-sampling results for the filtered sample were below the GCTL.
- The lead contamination in the well, CEF-076-88S, appears to result from sample turbidity. The turbidity during sampling stayed at 999 NTUs.
- Groundwater contamination in the upper intermediate zone has been delineated to two areas – the former tank farm mound and a smaller area immediately to the east of and centered over the ditch leading to Sal Taylor Creek. The lead contamination reported for this zone appears to be the result of natural causes because two (wells 106S and 114S) of the four (92S, 101S, 106S, and 114S) locations with reported GCTL exceedances are in upgradient locations.

- Groundwater contamination in the lower intermediate zone covers the majority of the site and is bracketed by Aviation Avenue, Loop Road, and the ditch on site and extends across that ditch to the east. This area of contamination is predominantly composed of VOCs with the PAHs and TRPH covering much smaller areas on site.
- Groundwater contamination in the deep zone is limited to VOC compounds and is delineated as an irregular shape that includes the lower southeast quarter of the former tank mound and extends from there to the southeast (in the direction of flow) to a much larger area immediately to the southeast of the site and east of the former Truck Rack.
- The vertical gradient calculated from data collected during this investigation is significantly lower than the vertical gradient previously reported. However, the distribution of contaminants suggests that the vertical gradient is sufficient to cause downward movement of dissolved petroleum constituents. Petroleum contamination in the deep zone is limited to the more soluble VOCs. Very little evidence of less soluble PAH and TRPH compounds were observed in the deep zone samples.
- The vertical migration of petroleum contamination is controlled by a clay unit that is a minimum of 8-ft thick in the area of greatest petroleum contamination in the deep zone. Data from CEF-076-103D indicate that this clay horizon acts as an aquaclude. Thus, the vertical extent of petroleum contamination at this site is considered to be approximately 120 ft bls.

Based on the findings and conclusions of this SARA, TtNUS recommends the following steps for the groundwater medium:

- Monitoring well CEF-076-88S should be re-sampled for total and filtered lead.
- The preparation of a RAPA to address the NADSC exceedances at this site, which are generally defined by the 100 µg/L contour lines for VOCs shown on Figures 3-1, 3-5, 3-9, and 3-12.

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APPENDIX A

TABLE 1-1 AND EXECUTIVE SUMMARY FROM CARA (ABB-ES, 1997)
SRR 1998 SOIL EXCAVATION MAP
SRR 1999 SOIL EXCAVATION MAP
SRR 2001 SOIL EXCAVATION MAP AND FDEP APPROVAL LETTER
CARA 1997 REVISION 2 FIGURE 1

**Table 1-1
Summary Investigation**

Contamination Assessment Report Addendum
North Fuel Farm Site
Naval Air Station Cecil Field
Jacksonville, Florida

Date	Assessment Activities	Remarks
1991	37 soil borings 26 water-table monitoring wells 4 vertical extent monitoring wells	Submitted CAR (June 1992).
October 1993 to January 1994	92 soil borings 3 water-table monitoring wells 1 vertical extent monitoring well	Response to FDEP comments to June 1992 CAR.
April and May 1994	43 soil borings	Assess 1,800-gallon JP-5 release on west side of NFF (November 1993).
June 1994	4 water-table monitoring wells	Free-product delineation on west side of NFF.
October - November 1994	2 intermediate and 1 vertical extent monitoring wells 12 soil borings Collected 45 groundwater samples from 9 Hydropunch™ borings on east side of NFF	Assess deep AVGAS plume on east side of NFF. 1,800-gallon JP-5 release (additional assessment). Estimate number of monitoring wells needed to assess deep AVGAS plume from Tanks 76, 76A, and 76B. Submitted Technical Memo in January 1995.
April - September 1995	6 shallow monitoring wells 14 intermediate monitoring wells 7 deep monitoring wells	Assess horizontal and vertical extent of deep AVGAS plume.

Notes: CAR = contamination assessment report.
FDEP = Florida Department of Environmental Protection.
JP-5 = jet petroleum 5
NFF = North Fuel Farm.
AVGAS = aviation gasoline.
TM = trade mark.

EXECUTIVE SUMMARY

The North Fuel Farm (NFF) at Naval Air Station Cecil Field is located at the northeast corner of A Avenue and Loop Road. The fuel farm consists of six 595,000-gallon, interior-lined, asphalt-coated, steel, earth-mounded tanks that contain jet petroleum (JP-5) jet fuel. Recent major fuel spills at the NFF site occurred on August 3, 1987 (22,772 gallons), February 10, 1991 (913,000 gallons), and November 28, 1993 (1,800 gallons).

In 1991, ABB Environmental Services, Inc. (ABB-ES), was contracted by Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) to conduct a contamination assessment to characterize and assess the vertical and horizontal extent of contamination at the NFF. ABB-ES, on behalf of SOUTHNAVFACENGCOM, submitted a contamination assessment report (CAR) to the Florida Department of Environmental Protection (FDEP) in June 1992. FDEP reviewed the NFF CAR and recommended that additional soil borings and monitoring wells be installed and sampled to better delineate the extent of soil contamination and free product at the site. FDEP also recommended that the 913,000-gallon JP-5 fuel spill be assessed and that the comments to the NFF CAR be incorporated into the CAR for the 913,000-gallon JP-5 release.

The NFF site is one of three sites in the area affected by releases associated with fuel storage and distribution operations at the facility. The other two sites are the Truck Stand site and the JP-5 Spill site. Separate CARs and CAR Addenda have previously been submitted for both the Truck Stand site (ABB-ES, 1995b) and the JP-5 Spill site (ABB-ES, 1996). This CAR Addendum was prepared for the NFF site and incorporates pertinent soil and groundwater data from the contamination assessments conducted at the Truck Stand and JP-5 Spill sites.

ABB-ES was subsequently authorized by SOUTHNAVFACENGCOM to conduct supplemental assessments and prepare a CAR Addendum for the NFF site. The supplemental assessments, conducted from October 1993 through September 1995 at the NFF site, included soil boring sampling and installation and sampling of monitoring wells in the shallow, intermediate, and deep zones of the surficial aquifer on the east side of the NFF. Results and conclusions based on the supplemental assessment and recommendations for the NFF site are presented in this CAR Addendum.

Based on the site history, findings of the contamination assessment (CA) field investigations, and laboratory analytical results, the following is a summary of existing conditions at the NFF Site:

- Site soil consists predominantly of silty sand from the surface to approximately 50 feet below land surface (bls). Below 50 feet bls, sediments increase in clay content to a depth of about 80 feet bls. From 80 feet to 100 feet bls, phosphate pebbles, shark teeth, quartz pebbles, shell fragments, barnacles, and other carbonate sediments are abundant. Below 100 feet bls, sandy clay separates the base of the surficial aquifer from the top of the upper zone of the Hawthorn Group.

- Depth to water ranges from approximately 3 feet to 5 feet bls at the site. There is a net downward vertical hydraulic gradient in the general vicinity of the fuel farm, and a net upward vertical gradient in the eastern part of the site. The upward gradient is associated with the drainage ditch east of the site that feeds into Sal Taylor Creek.
- The groundwater flow direction at the water table is radially outward from the fuel farm. Groundwater flow is east-southeast in the shallow, intermediate, and deep zones of the surficial aquifer. Near the drainage ditch to Sal Taylor Creek, however, the deep zone groundwater flow direction changes to south-southeast.
- The average hydraulic gradient across the site ranges from 0.001 to 0.0007 feet per foot (ft/ft) in the upper (shallow and intermediate) zones and 0.00076 ft/ft in the deep zone. The average hydraulic conductivity for the shallow, intermediate, and deep zones are 5.67 feet per day (ft/day), 6.24 ft/day, and 0.29 ft/day, respectively. The average pore water velocity is 0.0227 ft/day in the shallow zone, 0.0177 ft/day in the intermediate zone, and 0.0002 ft/day in the deep zone.

Soil and Groundwater Contamination Assessment.

- Approximately 11,000 cubic yards (yd³) of excessively contaminated soil exceeding 1,000 parts per million (ppm) were excavated from the JP-5 Spill site and the area on the west side of the NFF between A Avenue and Tanks 76 and 76B during the initial remedial action. Clean backfill material was returned to the excavated areas.
- Excessively contaminated soil (organic vapor analyzer headspace reading exceeding 50 ppm) was detected in four areas designated A through D at the site.
- Benzene, total volatile organic aromatics (VOAs), and total naphthalenes concentrations in groundwater samples from site monitoring wells exceeded Chapter 62-770, Florida Administrative Code (FAC), No Further Action (NFA) and Monitoring Only (MO) target levels for Class G-II groundwater.
- The vertical extent of petroleum-contaminated groundwater exceeding the Chapter 62-770, FAC, NFA and MO target levels for Class G-II groundwater is less than 109 feet bls.
- The source of much of the petroleum contamination at the site has been abated.
- Free-phase petroleum product was detected in several of the site monitoring wells. Free product is being collected at the site via recovery wells and trenches installed, operated, and maintained by the response action contractor, Bechtel Environmental, Incorporated.

CONCLUSIONS.

- The horizontal and vertical extent of excessively contaminated soil and petroleum-contaminated groundwater have been assessed at the NFF site in accordance with Chapter 62-770, FAC.
- Spills and leaks from the fuel storage and overfill containment tanks at the site are the sources of soil and groundwater contamination.
- Petroleum-contaminated groundwater exceeding the Chapter 62-770, FAC, NFA and MO target levels for Class G-II groundwater has migrated vertically downward into the surficial aquifer and downgradient from the source areas.

RECOMMENDATIONS. Based on the findings, conclusions and interpretations of the CA at the NFF Site, ABB-ES recommends the development of a remedial action plan (RAP) to address the requirements of Chapter 62-770, FAC. The horizontal extent of groundwater contamination has not been adequately assessed in the deep zone of the surficial aquifer; therefore, one additional deep monitoring well should be installed approximately 120 feet downgradient (southeast) of monitoring well 076-51D adjacent to monitoring well 076-53I. Installation of the additional monitoring well will be addressed in the RAP.



DRAINAGE DITCH

TANK 76E

TANK 76C

LEGEND

-  ACTUAL EXCAVATION
-  PROPOSED EXCAVATION
-  PREVIOUS EXCAVATION BOUNDARY
-  FENCE
-  TREE LINE
-  RECOVERY TRENCH
-  DVA ISDCONCENTRATION CONTOUR LINE IN ppm



SPORTENVDETCHASN
 1800 North Hobson Ave.
 North Charleston, SC
 29405-2106
 Ph. (843) 743-6777

Actual/Proposed Excavation Overlay
 North Fuel Farm Site
 Naval Air Station Cecil Field
 Jacksonville, FL

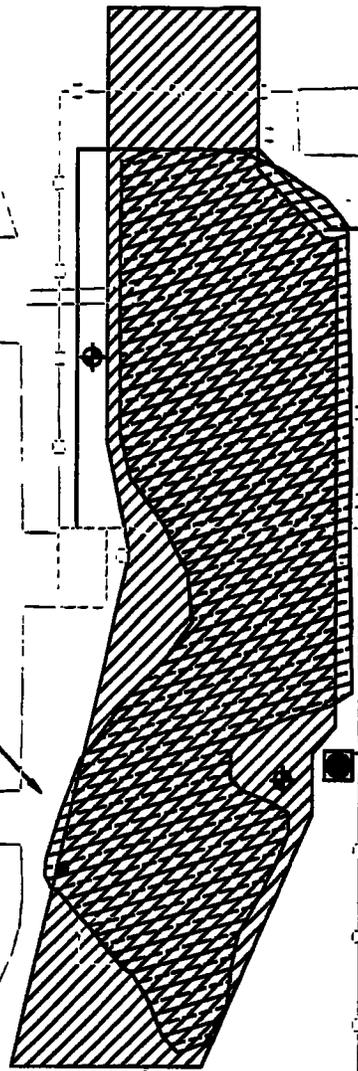
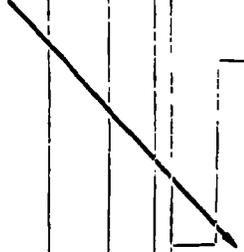
DWG DATE: 28 SEPT 98 | DWG NAME: CF-FF_3

50' 0 50'

GRAPHIC SCALE



PROPOSED EXCAVATION BOUNDARY



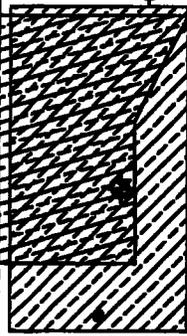
RECOVERY TRENCH



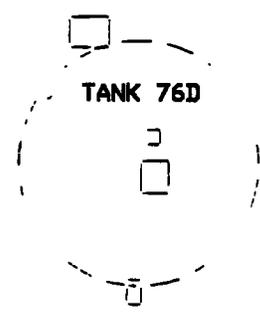
ACTUAL EXCAVATION BOUNDARY



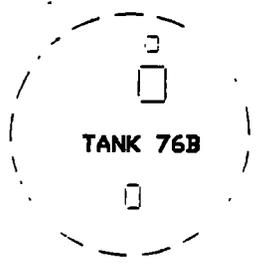
"A" AVENUE



PROPOSED EXCAVATION BOUNDARY



TANK 76D



TANK 76B



TANK 76

LEGEND

- ORIGINAL SOIL SAMPLES



SPORTENVDETHASN
 1899 North Hobson Ave.
 North Charleston, SC 29405-2106
 Ph. (843) 743-6777

Site Map 5
 Excavation Comparison
 North Fuel Farm Site
 Naval Air Station Cecil Field
 Jacksonville, FL

DWG DATE: 2 SEP 99 | DWG NAME: 8.30.99.CF3



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32389-2400

David B. Struhs
Secretary

February 22, 2002

Commanding Officer
Mr. Wayne Hansel, Code ES245
SOUTHNAVFACENGCOM
Post Office Box 190010
North Charleston, SC 29419-0068

RE: Source Removal Report, Soil and Aboveground Tank Removal at
North Tank Fuel Farm, Tank Numbers 76, 76A, 76B, 76C, 76D
and 76E, Naval Air Station Cecil Field

Dear Mr. Hansel:

The Department has completed its review of the Source Removal Report, Soil and Aboveground Tank Removal at North Tank Fuel Farm, Tank Numbers 76, 76A, 76B, 76C, 76D and 76E, Naval Air Station Cecil Field, dated November 2001 (received November 28, 2001), prepared and submitted by CH2M Hill Constructors, Inc. The report adequately documents the removal of the six tanks and all associated piping and appurtenances; the abandonment of existing monitoring wells atop the tank mound; the excavation, transport and disposal of 140,957.03 tons of petroleum contaminated soil; the collection and recycling of 19,550 gallons of free product and petroleum contact water; the collection, treatment and disposal of approximately 79,000 gallons of stormwater; and the restoration of the site after source removal. Please submit an engineering certification page for this document that certifies the work contained in the report for our records.

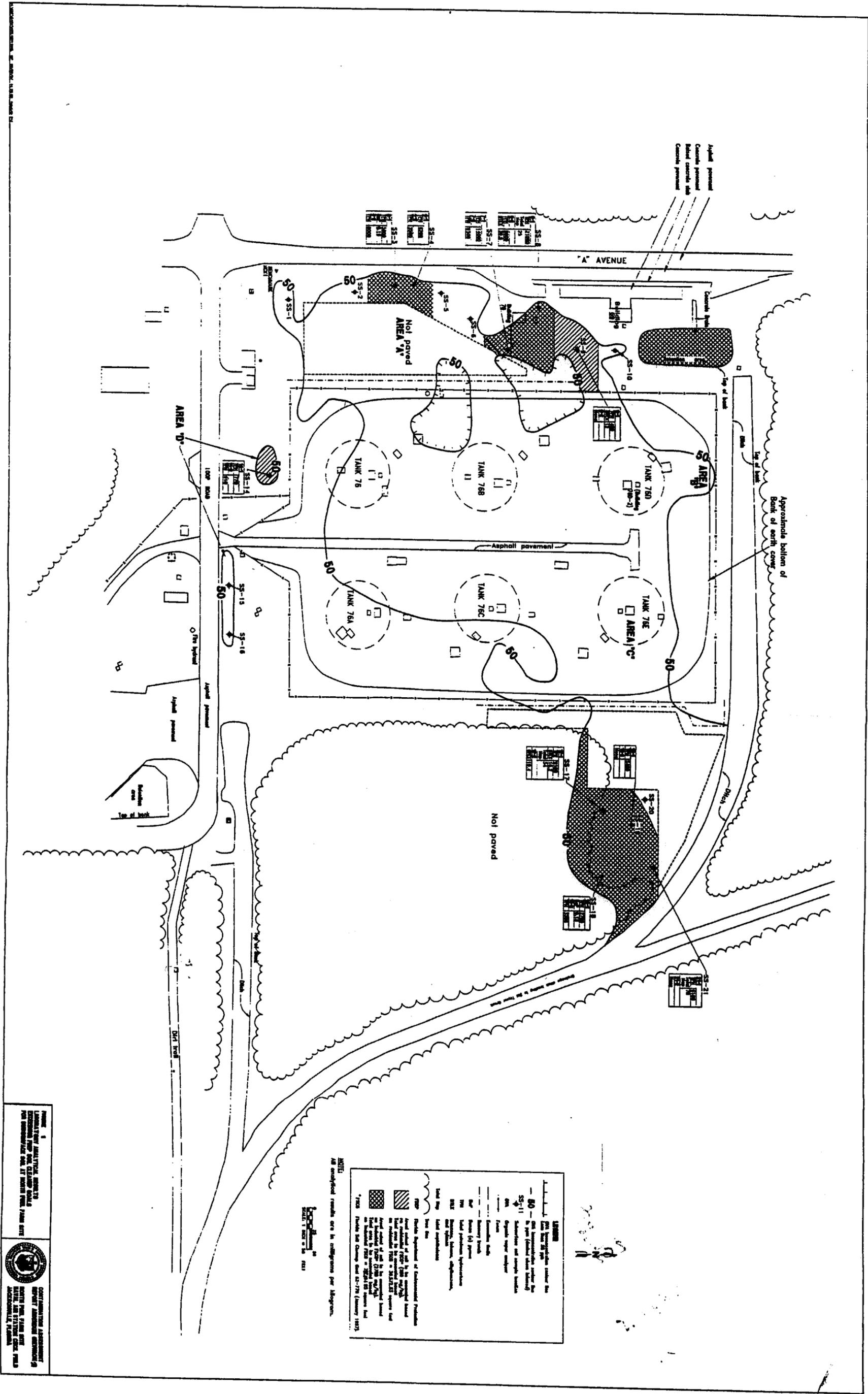
If you have any concerns regarding this letter, please contact me at (850) 921-9991.

Sincerely,

David P. Grabka, P.G.
Remedial Project Manager

cc: Brian Cheary, FDEP Northeast District
Dawn Taylor, USEPA - Atlanta
John Flowe, City of Jacksonville
Scott Glass, SOUTHNAVFACENGCOM

"Protect, Conserve and Manage Florida's Environment and Natural Resources"



APPENDIX B

SURFACE WATER AND SEDIMENT SAMPLE LOG SHEETS



Project Site Name: NAS CECIL FIELD
Project No.: 0039

Sample ID No.: CEF076SWW001
Sample Location: SITE 076 #1
Sampled By: JR
C.O.C. No.:

- Stream
- Spring
- Pond
- Lake
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA:

Date: <u>9/6/01</u>	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: <u>0940</u>	Visual	Standard	ms/cm	Degrees C	NTU	mg/l	%	NA
Depth: <u>surface</u>								
Method: <u>submerge</u>								

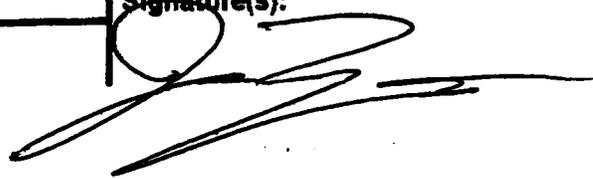
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>PPVO</u>	<u>HCl</u>	<u>3 x 40 mL</u>	<input checked="" type="checkbox"/>
<u>PAH</u>	<u> </u>	<u>2 x 1 L Amber</u>	
<u>TRPH</u>	<u>H₂SO₄</u>	<u>2 x 1 L Amber</u>	
<u>EDB</u>	<u>HCl</u>	<u>3 x 40 mL</u>	<input checked="" type="checkbox"/>
<u>Total Ph</u>	<u>HNO₃</u>	<u>0.5 L Poly</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: MS/MSD Duplicate ID No.: CEF076MDW01

Signature(s): 



Project Site Name: NAS CECIL FIELD
Project No.: 0039

Sample ID No.: CEF076SW0039
Sample Location: Site 076 #2
Sampled By: JB
C.O.C. No.:

- Stream
- Spring
- Pond
- Lake
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA:

Date: <u>9/6/01</u>	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: <u>1015</u>	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	%	NA
Depth: <u>Surface</u>								
Method: <u>submerge</u>								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>DPVO</u>	<u>HCl</u>	<u>3 x 1.0 L</u>	<input checked="" type="checkbox"/>
<u>PAH</u>	<u>—</u>	<u>2 x 1.0 L Amber</u>	<input checked="" type="checkbox"/>
<u>TRPH</u>	<u>H₂SO₄</u>	<u>2 x 1.0 L Amber</u>	<input checked="" type="checkbox"/>
<u>EDB</u>	<u>HCl</u>	<u>HCl</u>	<input checked="" type="checkbox"/>
<u>Total Ph</u>	<u>HNO₃</u>	<u>.5 L Poly</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES:

MAP:

Observations / Notes area is blank.

MAP area is blank.

Circle if Applicable:

MS/MSD Duplicate ID No.:

Signature(s):



Project Site Name: NAS CECIL FIELD
Project No.: 0039

Sample ID No.: CEF076SWW0039/
Sample Location: Site 076 #B
Sampled By: JB
C.O.C. No.:

- Stream
- Spring
- Pond
- Lake
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA:

Date: <u>9/6/01</u>	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: <u>1055</u>	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	%	NA
Depth: <u>surface</u>								
Method: <u>submerge</u>								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>PPVO</u>	<u>HCl</u>	<u>3 x 40mL</u>	<input checked="" type="checkbox"/>
<u>PAH</u>	<u>—</u>	<u>2 x 1L Amber</u>	<input checked="" type="checkbox"/>
<u>TRPH</u>	<u>H₂SO₄</u>	<u>2 x 1L Amber</u>	<input checked="" type="checkbox"/>
<u>EDB</u>	<u>HCl</u>	<u>3 x 40mL</u>	<input checked="" type="checkbox"/>
<u>Total Pb</u>	<u>HNO₃</u>	<u>.5L Poly</u>	<input checked="" type="checkbox"/>

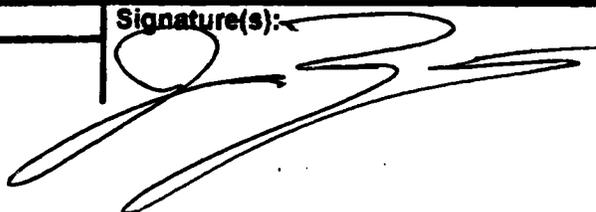
OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD Duplicate ID No.:

Signature(s):





Project Site Name: NAS CECIL FIELD
Project No.: 0039

Sample ID No.: CEF0766W0040
Sample Location: Site 076 #4
Sampled By: JB
C.O.C. No.:

- Stream
- Spring
- Pond
- Lake
- Other:
- QA Sample Type:

- Type of Sample:
- Low Concentration
 - High Concentration

SAMPLING DATA:

Date: <u>9/6/01</u>	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: <u>1135</u>	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	%	NA
Depth: <u>Surface</u>								
Method: <u>Submerge</u>								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>PPV0</u>	<u>HCl</u>	<u>3 x 40ml</u>	<input checked="" type="checkbox"/>
<u>PAH</u>	<u> </u>	<u>2 x 1L Amber</u>	<input checked="" type="checkbox"/>
<u>TKPH</u>	<u>H2SO4</u>	<u>2 x 1L Amber</u>	<input checked="" type="checkbox"/>
<u>ED13</u>	<u>HCl</u>	<u>3 x 40ml</u>	<input checked="" type="checkbox"/>
<u>Total Pb</u>	<u>HNO3</u>	<u>5L Poly</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD Duplicate ID No.:

Signature(s):



Project Site Name: NAS CECIL FIELD
Project No.: N3996

Sample ID No.: CEF-076SDC00101
Sample Location: CEF-076-C001
Sampled By: JR
C.O.C. No.: _____

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date: <u>9/6/01</u>	Depth: <u>0-1'</u>	Color: <u>Black</u>	Description (Sand, Silt, Clay, Moisture, etc.): <u>Sand w/ some organic material & moisture</u>
Time: <u>0940</u>			
Method: <u>case</u>			
Monitor Reading (ppm): <u>0</u>			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	LAB
<u>BTEX, MTBE, TRPH, PAH</u>	<u>2 4oz Amber</u>	<u>✓</u>	

OBSERVATIONS / NOTES:

MAP:

Blank area for observations and notes.

Blank area for map.

Circle if Applicable:

MS/MSD

Duplicate ID No.: _____

Signature(s):

[Handwritten Signature]



Project Site Name: NAS CECIL FIELD
Project No.: N3996

Sample ID No.: CEF076SDC00201
Sample Location: CEF076-C002
Sampled By: J13
C.O.C. No.: _____

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Time:	Method:	Monitor Reading (ppm):	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
<u>9/6/01</u>	<u>1015</u>	<u>graze</u>	<u>0</u>	<u>0-1'</u>	<u>Black</u>	<u>Sand w/ some organic material, moist</u>

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	LAB
<u>BTEX, MTBE, TRPH, PAH</u>	<u>2 4oz Amber</u>	<input checked="" type="checkbox"/>	

OBSERVATIONS / NOTES:

MAP:

Large empty box for observations and notes.

Large empty box for map.

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

CEF076DU001



Project Site Name: NAS CECIL FIELD
Project No.: N3996

Sample ID No.: CEF076SDC00301
Sample Location: CEF076-C003
Sampled By: _____
C.O.C. No.: _____

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
<u>9/6/01</u>	<u>0-1'</u>	<u>Black</u>	<u>Sand w/ some organic material, moisture</u>
<u>1055</u>			
Method: <u>gager</u>			
Monitor Reading (ppm): <u>0</u>			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	LAB
<u>BTEX, MTBE, TRPH, PAH</u>	<u>2 4oz Amber</u>	<input checked="" type="checkbox"/>	

OBSERVATIONS / NOTES:

MAP:

Observations/Notes area (empty)

Map area (empty)

Circle if Applicable:

Signature(s):

MSMSD

Duplicate ID No.:

APPENDIX C
GROUNDWATER LEVEL MEASUREMENT SHEETS



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NAS Cecil Field Project No.: 3996JG0050310
 Location: North Fuel Farm Personnel: Mervin Dale/Bill Olson
 Weather Conditions: muggy, high 80s, no wind Measuring Device: Oil/Water Indicator_Heron
 Tidally Influenced: Yes No Remarks: _____

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
CEF-76-				btoc				
4	7/2/2001	1705	80.15	12.93	5.93	None	74.22	
8	7/2/2001	1719	79.33	14.44	4.41	None	74.92	
11	7/2/2001	1733	79.98	23.20	3.33	None	76.65	
12	7/2/2001	1721	76.98	15.23	2.43	None	74.55	
21			78.28	11.76	NM	None	NM	
25D	7/2/2001	1731	78.21		3.63	None	74.58	
26D	7/2/2001	1709	79.10	60.00	4.60	None	74.50	
28D			78.05	89.50	NM	None	NM	4 inch ID PVC casing
29A	7/2/2001	1530	75.04	13.00	0.46	None	74.58	
29D	7/2/2001	1631	77.15	77.00	3.12	None	74.03	
30	7/2/2001	1659	75.42	12.50	0.90	None	74.52	
39D	7/2/2001		77.82	60.00	3.46	None	74.36	
40D	7/2/2001	1512		56.15	4.75	None	-4.75	
41D	7/2/2001		78.12	115.00	4.11	None	74.01	
42	7/2/2001	1725	77.09	12.50	2.48	Trace	74.61	
43S	7/2/2001	1636	77.68	43.30	3.27	None	74.41	
44I	7/2/2001	1638	77.70	73.30	3.34	None	74.36	
45S	7/2/2001	1626	77.31	44.70	3.36	None	73.95	
47I	7/2/2001	1628	77.31	73.00	3.35	None	73.96	
48D	7/2/2001	1629	77.85	+100	5.89	None	71.96	
49S	7/2/2001	1621	78.14	53.20	4.33	None	73.81	
50I	7/2/2001	1620	78.17	80.00	4.36	None	73.81	
51D	7/2/2001	1617	78.09	110.00	4.31	None	73.78	
29G 52I	7/2/2001	1623	79.01	82.20	5.10	None	73.91	
53I	7/2/2001	1613	77.90	80.00	3.96	None	73.94	



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NAS Cecil Field **Project No.:** 3996JG0050310
Location: North Fuel Farm **Personnel:** Mervin Dale/Bill Olson
Weather Conditions: muggy, high 80s, no wind **Measuring Device:** Oil/Water Indicator_Heron
Tidally Influenced: Yes ___ No **Remarks:** _____

Well or Piezometer Number CEF-76-	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)* btoc	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
54I	7/2/2001	1602	80.09	87.20	6.38	None	73.71	
29B- 55I	7/2/2001	1615	77.09	87.90	3.31	None	73.78	
56I	7/2/2001	1558	80.91	41.00	7.21	None	73.70	
57S	7/2/2001	1532	77.74		3.67	None	74.07	
58I	7/2/2001	1534	77.66	75.00	3.65	Trace	74.01	
59D	7/2/2001	1535	77.63		3.87	None	73.76	
60S	7/2/2001		80.93		NM			Well Lock Frozen Shut-Need bolt cutters
61I	7/2/2001	1546	81.12		7.03	None	74.09	
62D	7/2/2001	1545	80.98		7.19	None	73.79	
63S	7/2/2001	1537		47.30	4.25	None	-4.25	
64I	7/2/2001	1539		77.65	4.10	None	-4.10	
65D	7/2/2001	1540		120.00	4.33	Trace	-4.33	
66I	7/2/2001	1605		85.00	6.25	Trace	-6.25	
67I	7/2/2001			90.00	NM	None	NM	Buried under trees.
68I	7/2/2001		77.46					Located later.
69S	7/2/2001	1520	78.21	38.20	4.03	None	74.18	
70I	7/2/2001	1521	78.21	73.00	4.11	None	74.10	
71D	7/2/2001	1522	78.04	85.00	4.04	None	74.00	
72S	7/2/2001	1525	77.20		3.03	None	74.17	
73I	7/2/2001	1526	77.02	65.00	2.90	None	74.12	
74D	7/2/2001	1528	77.06		3.05	None	74.01	



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: North Fuel Farm SAR Investigation Project No.: 3996.JG0050325
 Location: Cecil Field Personnel: Chris Gleaton and Scott McGuire P. LEDEKOR
 Weather Conditions: Cloudy 50°F Measuring Device: Solinst Model 122 Oil/Water Ind.
 Tidally Influenced: Yes No Remarks: Air monitor background=

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)* btoe	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments PID (ppm) BH/BZ	2-5- 12 01 PT.
4	2/6/03	1342	80.15	12.93	6.39		73.76	0.3/0.0	1003
8	2-5-03	1358	79.33	14.44	4.85		74.48	0.5/0.0	104
11			79.98	23.20					
12	2-5-03	1324	78.98	15.23	2.89		74.09	0.2/0.0	1152
21			78.28	11.76					
25D			78.21						
26D	2/6/03	1402	79.10	60.00	5.35		73.75	0.0/0.0	1190
28D	2/6/03	1330	78.05	89.50	4.50		73.55	4 inch ID PVC casing 0.2/0.0	125
29A	2/6/03	1043	75.04	13.00	1.25		73.79	0.8/0.0	1058
29D	2/5/03	1556	77.15	77.00	4.64		72.51	0.3/0.0	1124
30	2.6.03	1114	75.42	12.50	1.56		73.86	0.0/0.0	1018
39D	2/6/03	1325	77.82	80.00	5.09		72.73	14.7/0.0	1029
40D				58.15					
41D	2/6/03	1330	78.12	115.00	4.67			0.2/0.0	1026
42	2-5-03	1302	77.09	12.50	2.71		74.38	0.4/0.0	1152
43S	2/5/03	1605	77.68	43.30	3.75		73.93	0.4/0.0	1126
44I	2/5/03	1600	77.70	73.30	3.84		73.86	0.3/0.0	1125
46B	2/5/03	1537	77.31	44.70	3.76		73.55	0.3/0.0	1121
47I	2/5/03	1539	77.31	73.00	3.81		73.50	0.2/0.0	1122
48D	2/5/03	1542	77.85	+100	4.60		73.25	0.8/0.0	1123
49S	2-5-03	1517	78.14	53.20	4.77		73.37	0.3/0.0	1117
50I	2-5-03	1516	78.17	80.00	4.85		73.36	43.6/0.0	1118
51D	2-5-03	1515	78.09	110.00	4.78			0.4/0.0	1119
29C 52I	2-5-03	1530	79.01	82.20	6.59		73.42	12.2/0.0	1120
53I	2-5-03	1455	77.90	80.00	4.40		73.50	0.3/0.0	1114

?
NEEDS WELL
LID →
?
?

NEEDS CAP →

46B
46B

* All measurements to the nearest 0.01 foot
 NM = not measured.

BH=borehole of well

BZ=breathing zone of worker



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: North Fuel Farm SAR Investigation Project No.: 3996.JG0050325
 Location: Cecil Field Personnel: Chris Gleaton and Scott McGuire
 Weather Conditions: _____ Measuring Device: Sblinst Model 122 Oil/Water Ind.
 Tidally Influenced: Yes ___ No X Remarks: _____

Well or Piezometer Number CEF-76-	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)* btoc	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments PID (ppm) BH/BZ	
54I	2.6.03	0930	80.09	87.20	6.78		73.31	0.5/0.0	110
29B-55I	2/5/03	1620	77.09	87.90	4.76		72.33	0.6/0.0	113
56I	2.6.03	0945	80.91	41.00	7.00		73.31	0.2/0.0	1105
57S	2.6.03	1026	77.74		4.21		73.53	13.2/0.0	1053
58I	2.6.03	1027	77.66	75.00	4.21		73.45	0.4/0.0	1054
59D	2.6.03	1028	77.63		4.35			0.2/0.0	1055
60S	2/6/03	1314	80.93		7.35		73.58	Well Lock Frozen Shut-Need bolt cutters 0.0/0.0	1035
61I	2/6/03	1314	81.12		7.60			0.4/0.0	1104
62D	2/6/03	1314	80.98		7.75			0.3/0.0	1104
63S	2.6.03	1008		47.30	4.78			0.5/0.0	1100
64I	2.6.03	1009		77.65	4.64			48.6/0.0	1101
65D	2.6.03	1010		120.00	4.85			0.6/0.0	1102
66I	2.6.03	0925		85.00	6.72			0.2/0.0	1108
67I				90.00				Buried under trees	
68I	2-5-03	1410	77.46		4.1			0.03/0.06	1133
69S	2.6.03	1111	78.21	38.20	4.60		73.61	0.4/0.0	1014
70I	2.6.03	1112	78.21	73.00	4.69		73.52	66.2/0.0	1015
71D	2.6.03	1113	78.04	85.00	3.5 4.65		73.39	0.6/0.0	1015
72S	2.6.03	1050	77.20		3.6			0.3/0.0	1045
73I	2.6.03	1051	77.02	65.00	3.45		73.57	3.3/0.0	1046
74D	2.6.03	1052	77.08		3.56			0.4/0.0	1047

No Lock



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: North Fuel Farm SARA Investigation Project No.: 3996.JG0050325
 Location: Cecil Field Personnel: Scott McGuire and Pete Leverette
 Weather Conditions: _____ Measuring Device: Heron H.01L Interface Meter # R5138
 Tidally Influenced: Yes ___ No X Remarks: Air monitor background=

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)* btoc	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments PID (ppm) BH/BZ
4	6/11/03	1658	80.15	12.93	6.65			0/0
8		1504	79.33	14.44	3.81			0/0
11			79.98	29.20				
12		1506	76.98	15.23	2.00			0/0
21		1542	78.28	11.76	2.98			0/0
25D			78.21					
26D		1607	79.10	60.00	4.28			0/0
28D		1542	78.05	89.50	3.65			0.8/0 4 inch ID PVC casing
29A		1529	75.04	13.00	0.5			0/0
29D		1423	77.15	77.00	3.57			0/0
30		1538	75.42	12.50	0.7			0/0
39D		1542	77.82	60.00	3.14			0/0
40D				58.15				
41D		1543	78.12	115.00	3.79			0/0
42		1509 1452 1452	77.09	12.50	1.87			0.8/0
43S		1419	77.68	43.30	3.08			0/0
44I		1420	77.70	73.30	3.13			0/0
45S 46S		1427	77.31	44.70	3.10			0/0
47I		1426	77.31	73.00	3.10			0/0
48D		1425	77.85	+100	3.85			0/0
49S		1430	78.14	53.20	4.10			0/0
50I		1431	78.17	80.00	4.11			0/0
51D		1432	78.09	110.00	4.03			31.8/0
29C 52I		1429	79.01	82.20	4.84			No Lock 0/0
53I		1435	77.90	80.00	3.69			No Lock 13.2/0

* All measurements to the nearest 0.01 foot
 NM = not measured.

BH=borehole of well

BZ=breathing zone of worker



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: North Fuel Farm SARA Investigation Project No.: 3996.JG0050325
 Location: Cecil Field Personnel: Scott McGuire and Pete Leverette
 Weather Conditions: _____ Measuring Device: Heron H.01L Interface Meter # R5138
 Tidally Influenced: Yes ___ No X Remarks: Air monitor background=

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)* btoc	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments PID (ppm) BH/BZ
54I	6/11/03	1450	80.09	87.20	6.00			0/0
29B-55I	4/24	1434	77.09	87.90	3.06			0/0
58I		1454	80.91	41.00	6.72			0/0
57S		1526	77.74	35.00	3.47			6.2/0
58I		1526	77.66	75.00	3.40			21.0/0
59D		1525	77.63	114.00	3.58			0/0
60S		1520	80.93	40.00	6.50			NO LOCK 0/0
61I		1519	81.12	70.00	6.73			0/0
62D		1518	80.98	110.00	6.84			17.9/0
63S		1523		47.30	4.01			0/0
64I		1522		77.65	3.83			NO LOCK 16.4/0
65D		1522		120.00	4.02			NO LOCK 0/0
66I		1448		85.00	5.97			0/0
67I				96.00				Buried under trees.
68I		1439	77.46	87.60	3.37			Cut Lock 0/0
69S		1534	78.21	38.20	3.75			NO LOCK 0/0
70I		1535	78.21	73.00	3.84			NO LOCK 18.7/0
71D		1536	78.04	85.00	3.78			NO LOCK 0/0
72S		1530	77.20	36.55	2.82			0/0
73I		1531	77.02	65.00	2.66			0/0
74D		1532	77.06	114.65	2.78			0/0



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: North Fuel Farm SARA Investigation Project No.: 3996.JG0050325
 Location: Cecil Field Personnel: Scott McGuire and Pete Leverette
 Weather Conditions: _____ Measuring Device: Heron H.01L Interface Meter # R5138
 Tidally Influenced: Yes ___ No X Remarks: Air monitor background=

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments PID (ppm) BHBZ
CEF-076-83S	6/11/03	1459		30	4.28			0.8/0
84I		1551		60	6.83			0/0
85I		1549		60	6.79			53.7/0 Need cap
86S		1540		50	3.80			0/0 Need cap
87S		1619		50	6.72			0/0
88S		1547		15	4.32			0/0
89I		1516		55	2.86			0/0
90S		1515		15	2.14			0/0
91S		1605		30	8.36			No Lock 502/0
92S		1541		30	7.22			2.3/0
93S		1615		30	5.97			1706/0
94S		1614		15	6.76			594/0
95S		1553		15	5.64			0/0
96D		1513	1513 ^{SEM}	115	3.08			0/0
97D		1555		105	6.25			0/0
99D 98S		1617		100 110	7.26			No Lock 0/0
98D 98D		1459 1458		110 100	7.57			No Lock 0/0
100D		1447		115	7.41			No Lock 0/0
101S		1434	1	35	3.64			No Lock 1.5/0
102D		1442		120	6.23			No Lock 0/0
103D		1439		149	6.00			No Lock 0/0
104D		1444		115	7.03			0/0
105I		1436		50	4.22			0/0
106S		1511		30	7.16			0/0
107S		1609		15	6.83			No Lock 5.1/0

* All measurements to the nearest 0.01 foot

APPENDIX D
SURVEY DATA

TETRA TECH NUS
 CECIL FIELD ADDITIONAL
 SOIL SAMPLE LOCATIONS
 SITE: NORTH FUEL FARM
 SURVEY DATE: 07/03/01
 JOB NUMBER: 01-06-15

NORTHING (Y)	EASTING (X)	ELEVATION (NAVD 88)	DESCRIPTION	LOCATION
2148443.52	377723.73	80.15 78.03 78.00	CEF-076-04	NORTH SIDE PVC CONCRETE GROUND
2147897.27	377527.25	79.33 79.49 79.50	CEF-076-08	NORTH SIDE PVC CONCRETE GROUND
2148385.47	377208.94	79.98 78.17 78.00	CEF-076-11	NORTH SIDE PVC CONCRETE GROUND
2147962.19	377265.36	76.98 77.33 77.20	CEF-076-12	NORTH SIDE PVC CONCRETE GROUND
2148061.14	377840.03	78.28 78.47 78.60	CEF-076-21	NORTH SIDE PVC CONCRETE GROUND
2148372.85	377223.60	78.21 78.41 78.40	CEF-076-25D	NORTH SIDE PVC CONCRETE GROUND
2147933.26	377329.95	79.10 79.34 79.40	CEF-076-26D	NORTH SIDE PVC CONCRETE GROUND
2148095.12	377845.26	78.05 78.25 78.30	CEF-076-28D	NORTH SIDE PVC CONCRETE GROUND
2148157.31	378073.86	75.04 75.21 75.20	CEF-076-29A	NORTH SIDE PVC CONCRETE GROUND
2148003.72	378432.18	77.09 74.36 74.30	CEF-076-55I	NORTH SIDE PVC CONCRETE GROUND
2148029.25	378263.72	79.01 76.65 76.60	CEF-076-52I	NORTH SIDE PVC CONCRETE GROUND
2148267.71	378212.51	77.15 74.65 74.50	CEF-076-29D	NORTH SIDE PVC CONCRETE GROUND

TETRA TECH NUS
 CECIL FIELD ADDITIONAL
 SOIL SAMPLE LOCATIONS
 SITE: NORTH FUEL FARM
 SURVEY DATE: 07/03/01
 JOB NUMBER: 01-06-15

NORTHING (Y)	EASTING (X)	ELEVATION (NAVD 88)	DESCRIPTION	LOCATION
2148070.40	377991.68	75.42 75.58 75.50	CEF-076-30	NORTH SIDE PVC CONCRETE GROUND
2148083.42	377840.81	77.82 78.31 78.50	CEF-076-39D	NORTH SIDE PVC CONCRETE GROUND
2148097.32	377856.14	78.12 78.28 78.20	CEF-076-41D	NORTH SIDE PVC CONCRETE GROUND
2148088.20	377268.72	77.09 77.36 77.30	CEF-076-42	NORTH SIDE PVC CONCRETE GROUND
2148371.87	378166.92	77.68 74.77 74.60	CEF-076-43S	NORTH SIDE PVC CONCRETE GROUND
2148365.86	378173.66	77.70 74.91 74.80	CEF-076-44I	NORTH SIDE PVC CONCRETE GROUND
2148151.15	378257.56	77.31 74.66 74.50	465 CEF-076- 458	NORTH SIDE PVC CONCRETE GROUND
2148163.19	378254.31	77.31 74.76 74.60	CEF-076-47I	NORTH SIDE PVC CONCRETE GROUND
2148187.43	378248.42	77.85 74.87 74.60	CEF-076-48D	NORTH SIDE PVC CONCRETE GROUND
2147958.83	378353.15	78.14 75.46 75.30	CEF-076-49S	NORTH SIDE PVC CONCRETE GROUND
2147953.56	378351.90	78.17 75.55 75.30	CEF-076-50I	NORTH SIDE PVC CONCRETE GROUND
2147949.31	378353.26	78.09 75.47	CEF-076-51D	NORTH SIDE PVC CONCRETE

TETRA TECH NUS
 CECIL FIELD ADDITIONAL
 SOIL SAMPLE LOCATIONS
 SITE: NORTH FUEL FARM
 SURVEY DATE: 07/03/01
 JOB NUMBER: 01-06-15

NORTHING (Y)	EASTING (X)	ELEVATION (NAVD 88)	DESCRIPTION	LOCATION
		75.30		GROUND
2147891.34	378464.84	77.90 75.10 75.10	CEF-076-53I	NORTH SIDE PVC CONCRETE GROUND
2147796.90	378395.23	80.09 77.58 77.40	CEF-076-54I	NORTH SIDE PVC CONCRETE GROUND
2147748.95	378147.90	80.91 78.46 78.40	CEF-076-56I	NORTH SIDE PVC CONCRETE GROUND
2148122.71	378150.75	77.74 75.36 75.30	CEF-076-57S	NORTH SIDE PVC CONCRETE GROUND
2148116.46	378151.00	77.66 75.14 74.90	CEF-076-58I	NORTH SIDE PVC CONCRETE GROUND
2148108.54	378152.48	77.63 75.09 74.90	CEF-076-59D	NORTH SIDE PVC CONCRETE GROUND
2147890.53	378014.05	80.93 78.39 78.20	CEF-076-60S	NORTH SIDE PVC CONCRETE GROUND
2147883.58	378012.02	81.12 78.56 78.40	CEF-076-61I	NORTH SIDE PVC CONCRETE GROUND
2147876.68	378009.84	80.98 78.45 78.40	CEF-076-62D	NORTH SIDE PVC CONCRETE GROUND
2148110.58	378007.57	78.21 75.65 75.60	CEF-076-69S	NORTH SIDE PVC CONCRETE GROUND
2148105.46	378008.79	78.21 75.63 75.40	CEF-076-70I	NORTH SIDE PVC CONCRETE GROUND
2148096.49	378011.25	78.04	CEF-076-71D	NORTH SIDE PVC

TETRA TECH NUS
 CECIL FIELD ADDITIONAL
 SOIL SAMPLE LOCATIONS
 SITE: NORTH FUEL FARM
 SURVEY DATE: 07/03/01
 JOB NUMBER: 01-06-15

NORTHING (Y)	EASTING (X)	ELEVATION (NAVD 88)	DESCRIPTION	LOCATION
		75.55 75.40		CONCRETE GROUND
2148241.01	378084.91	77.20 74.72 74.70	CEF-076-72S	NORTH SIDE PVC CONCRETE GROUND
2148247.59	378079.45	77.02 74.63 74.60	CEF-076-73I	NORTH SIDE PVC CONCRETE GROUND
2148254.89	378075.74	77.06 74.46 74.40	CEF-076-74D	NORTH SIDE PVC CONCRETE GROUND
2147850.15	378574.58	77.81 75.26 75.00	CEF-076-80D	NORTH SIDE PVC CONCRETE GROUND
2148085.85	377858.49	79.99 78.22 78.20	CEF-076-X2D	NORTH SIDE PVC CONCRETE GROUND
2148089.17	377859.21	80.00 78.22 78.19	CEF-076-X2S	NORTH SIDE PVC CONCRETE GROUND
2147795.20	378006.50		CEF-372-20	COULD NOT OPEN MONITORING WELL

TETRA TECH NUS
 CECIL FIELD ADDITIONAL
 EXISTING MONITORING WELL LOCATIONS
 SITE: NORTH FUEL FARM
 SURVEY DATE: 07/19/01
 JOB NUMBER: 01-06-15

NORTHING (Y)	EASTING (X)	ELEVATION (NAVD 88)	DESCRIPTION	LOCATION
2147892.74	377738.00	79.43 79.55 79.50	CEF-076-27D 4-Inch ID well	FLUSH W/ GROUND CONCRETE GROUND
2147900.36	377743.63	79.46 79.75 79.70	CEF-076-7 2-inch ID well	FLUSH W/ GROUND CONCRETE GROUND
2148057.94	378564.65	77.46 74.72 74.54	CEF-076-68I	ABOVE GROUND CONCRETE GROUND

TETRA TECH NUS
 CECIL FIELD NORTH FUEL FARM
 EXISTING WELL LOCATIONS
 SURVEY DATE 12/17/2001
 ARC JOB No. 01-16-15

DESCRIPTION	NORTHING(Y)	EASTING(X)	ELEVATION
MW CEF-076-81S	2147942.97	377224.68	TOP OF CASING 79.35 CONCRETE 79.71 GROUND 79.6
MW CEF-076-82S	2147984.80	377328.15	TOP OF CASING 78.92 CONCRETE 79.21 GROUND 79.1
DPT A8	2148551.54	377423.51	
DPT C8	2148549.17	377627.65	
DPT E8	2148528.50	377826.75	
DPT-AA-1	2147883.11	377334.34	
DPT-AA-2	2147984.39	377325.49	
DPT AA-3	2148084.22	377326.92	
DPT-AA-4	2148181.42	377322.54	
DPT-AA-5	2148282.70	377322.56	
DPT-AA-6	2148371.51	377322.14	
DPT-AB-2	2147982.63	377273.67	
DPT-AB-4	2148182.63	377269.62	
DPT-AB-7	2148459.32	377269.16	
DPT-AC-1	2147884.55	377226.00	
DPT-AC-2	2147983.17	377225.02	
DPT-AC-3	2148080.13	377227.33	

TETRA TECH NUS
 CECIL FIELD NORTH FUEL FARM
 EXISTING WELL LOCATIONS
 SURVEY DATE 06/09/03
 ARC JOB No. 01-06-15
 Revised 06/24/03

NORTHING(Y)	EASTING(X)	DESCRIPTION	ELEVATION
2147942.92	377224.75	MW-CEF-076-81S	GROUND 79.7 CONCRETE 79.72 TOP OF CASING 79.36
2147984.34	377328.37	MW-CEF-076-82S	GROUND 79.3 CONCRETE 79.47 TOP OF CASING 78.94
2147704.47	377665.67	MW-CEF-076-83S	GROUND 79.1 CONCRETE 79.44 TOP OF CASING 79.13
2148454.63	377409.32	MW-CEF-076-84I	GROUND 78.3 CONCRETE 78.52 TOP OF CASING 81.62
2148441.84	377718.94	MW-CEF-076-85I	GROUND 78.2 CONCRETE 78.48 TOP OF CASING 81.50
2148424.21	377914.91	MW-CEF-076-86S	GROUND 73.3 CONCRETE 75.7 TOP OF CASING 78.35
2148125.00	377647.33	MW-CEF-076-87S	GROUND 78.2 CONCRETE 78.14 TOP OF CASING 81.53
2148423.10	377920.96	MW-CEF-076-88S	GROUND 75.3 CONCRETE 75.51 TOP OF CASING 78.5
2148213.57	377306.01	MW-CEF-076-89I	GROUND 77.7 CONCRETE 77.82 TOP OF CASING 77.60
2148208.49	377305.59	MW-CEF-076-90S	GROUND 77.7 CONCRETE 77.79 TOP OF CASING 77.58
2148133.53	377398.78	MW-CEF-076-91S	GROUND 79.4 CONCRETE 79.63 TOP OF CASING 83.21
2148049.98	377843.59	MW-CEF-076-92S	GROUND 78.7 CONCRETE 78.69 TOP OF CASING 81.88
2148045.08	377638.23	MW-CEF-076-93S	GROUND 78.3 CONCRETE 78.41 TOP OF CASING 81.59

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2148045.48	377643.14	MW-CEF-076-94S	GROUND	78.2
			CONCRETE	78.37
			TOP OF CASING	81.59
2148562.80	377408.40	MW-CEF-076-95S	GROUND	77.4
			CONCRETE	77.87
			TOP OF CASING	80.88
2148200.86	377306.55	MW-CEF-076-96D	GROUND	77.7
			CONCRETE	77.75
			TOP OF CASING	77.51
2148561.42	377417.07	MW-CEF-076-97D	GROUND	77.7
			CONCRETE	77.91
			TOP OF CASING	80.90
2147752.41	378157.92	MW-CEF-076-98D	GROUND	78.1
			CONCRETE	78.38
			TOP OF CASING	81.39
2148119.19	377647.20	MW-CEF-076-99D	GROUND	78.1
			CONCRETE	78.11
			TOP OF CASING	81.69
2147774.71	378542.30	MW-CEF-076-100D	GROUND	76.9
			CONCRETE	77.2
			TOP OF CASING	80.15
2147996.14	378434.54	MW-CEF-076-101S	GROUND	74.4
			CONCRETE	74.58
			TOP OF CASING	77.64
2147883.92	378754.50	MW-CEF-076-102D	GROUND	75.2
			CONCRETE	75.50
			TOP OF CASING	78.55
2147909.78	378585.81	MW-CEF-076-103D	GROUND	75.0
			CONCRETE	75.46
			TOP OF CASING	78.39
2147592.49	378659.58	MW-CEF-076-104D	GROUND	75.3
			CONCRETE	75.52
			TOP OF CASING	79.08
2147897.58	378540.47	MW-CEF-076-105I	GROUND	74.8
			CONCRETE	74.87
			TOP OF CASING	78.15
2148170.09	377211.93	MW-CEF-076-106S	GROUND	78.5
			CONCRETE	78.55
			TOP OF CASING	81.85
2147886.95	377398.33	MW-CEF-076-107S	GROUND	79.0
			CONCRETE	79.11
			TOP OF CASING	82.26
2148282.92	377637.11	MW-CEF-076-108S	GROUND	77.9
			CONCRETE	77.97
			TOP OF CASING	81.47
2148209.91	377831.66	MW-CEF-076-109S	GROUND	78.9
			CONCRETE	77.82

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			TOP OF CASING	80.92
2147613.16	378214.04	MW-CEF-076-110D	GROUND	78.7
			CONCRETE	78.82
			TOP OF CASING	82.51
2147823.06	377748.59	MW-CEF-076-111I	GROUND	78.5
			CONCRETE	78.62
			TOP OF CASING	82.23
2148162.21	377205.66	MW-CEF-076-112I	GROUND	78.5
			CONCRETE	78.58
			TOP OF CASING	81.56
2148338.24	377580.49	MW-CEF-076-113S	GROUND	78.0
			CONCRETE	78.99
			TOP OF CASING	81.22

NORTHFUELFARM_072103
 CECIL FIELD SOIL SAMPLE LOCATIONS
 ADDITIONAL WELLS, NORTH FUEL FARM
 ARC SURVEYING & MAPPING INC.
 JULY 14, 2003

DESCRIPTION	NORTHING (Y)	EASTING (X)	ELEVATION
CEF-076-114D	2148551.12	377554.33	TOP OF CASING 80.91
			CONCRETE 78.00
			GROUND 77.8
CEF-076-115D	2147618.08	3758004.01	TOP OF CASING 82.46
			CONCRETE 79.81
			GROUND 79.7
CEF-076-116D	2147409.71	378306.91	TOP OF CASING 82.83
			CONCRETE 79.63
			GROUND 79.2
CEF-076-117D	2147216.66	378370.65	TOP OF CASING 81.78
			CONCRETE 79.70
			GROUND 79.2

APPENDIX E

4DIM CD

Please see attached CD for Appendix E.

APPENDIX F

BORING LOGS

BORING LOG



Tetra Tech NUS, Inc.

Page 1 of 2

PROJECT NAME: NAS CECIL FIELD, NFF BORING NO.: CEF-076-103D
 PROJECT NUMBER: N3996 DATE: 1/14/03 - 1/20/03
 DRILLING COMPANY: TRANSAMERICAN GEOLOGIST: MERVIN DALE
 DRILLING RIG: DIETRICH D-120 DRILLER: LOUIS JOHNSON

Sample No. and Type or RGD	Depth (FL) or Run No.	Blows / 6" or RGD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/FL) or Screened Interval	MATERIAL DESCRIPTION		U S C S	Remarks	PID/FID Reading (ppm)				
					Rock Penetration Resistance Index	Material Classification							
1	110-110.5	13/6"	1/1		OLIVE GREEN	Slightly clayey, v.f. sd.	SP						
	110.5-111	22/6"	1/1			SAME AS ABOVE							
	111-111.5	13/6"	1/1			SAME AS ABOVE							
	111.5-112	15/6"	1/1			SAME AS ABOVE							
2	112-112.5	12/6"	1/1		GREENISH GRAY	SILTY V. FINE SAND	SP						
	112.5-113	27/6"	1/1			SAME AS ABOVE							
	113-113.9	50/6"	1/1		LT. GRAY	HARD DRY CLAY	CL	WITH GREEN-GRAY STREAKS					
		29/6"	.5/1			CLAY, FRACTURED		OF V. FINE SAND					
3	114-115.5	16/6"	1/1		LT. GRAY	FRACTURED, DRY	CL	LOW TO NO					
		20/6"	1/1		TO OLIVE GRAY	CLAY		PLASTICITY					
		40/6"	1/1			SAME AS ABOVE							
	115.5-116	25/6"	0/1			NO RECOVERY		POSSIBLE SAND?					
4	116-116.5	18/6"	0/1			NO RECOVERY		POSSIBLE SAND?					
	116.5-117	44/6"	1/1		dk. green gray	CALCAREOUS CLAY							
	117-117.75	X			LT. greenish gray	CLAYEY LIMESTONE							
	117.5-118	50/6"	1/1			SAME AS ABOVE							
	118-120	40/6"	1/1		LT. greenish gray	weathered limestone		TRACE CLAY					
5	120-120.5	34/6"	1/1		greenish gray	LIMESTONE		SOME CLAY and SAND					
	120.5-121	7.5/6"	1/1			SAME AS ABOVE							
	121-122	92/6"	1/1			SAME AS ABOVE		NO RECOVERY - bottom 6"					

116.75 →

* When rock or rock brokenness.

** Include monitor readings in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: v.f. sd. = very fine sand, start 5' centers at sample no. 5 Drilling Area Background (ppm):

Converted to Well: Yes X No Well I.D. #: CEF-076-103D

BORING LOG



Tetra Tech NUS, Inc.

Page 2 of 2

PROJECT NAME: NAS CECIL FIELD, NFF BORING NO.: CEF-076-103D
 PROJECT NUMBER: N3996 DATE: 1/14/03 - 1/20/03
 DRILLING COMPANY: TRANSAMERICAN GEOLOGIST: MERVIN DALE
 DRILLING RIG: DIETRICH D-120 DRILLER: LOUIS JOHNSON

Sample No. and Type or ROD	Depth (PL) or Run No.	Blows / 6" or ROD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/PL) or Screened Interval	MATERIAL DESCRIPTION		U S C S .	Remarks	PIOPID Reading (ppm)				
					Color	Material Classification			1	2	3	4	
6	125-125.5	18	6"	1/1	GREENISH GRAY	LIMESTONE							
	125.5-126	4	6"	1/1		SAME AS ABOVE							
	126-126.5	5	6"	1/1		SAME AS ABOVE							
	126.5-127	15	6"	1/1	OLIVE GRAY	SILTY SAND, VERY FINE SP	DENSE, SOME CLAY						
7	130-130.5	7	6"	1/1		slough	possible sand?						
	130.5-131	18	6"	1/1		slough	" ?						
	131-131.5	30	6"	1/1	greenish brown	fine to med. SAND	SP	trace clay					
	131.5-132	2	6"	1/1	yellow brown	v. fine sand	SP	limestone fragments					
8	135-137	90	3" / 24"			Limestone, cemented							
		125	6"			Angular, very hard							
9	140-140.5	24	6"	1/1		slough w/ fractured lime rock.							
	140.5-141	29	6"	1/1	LT GRAY	limestone w/ broken shells		NON-cemented shells 1-2 mm across					
	141-142	43	6"	1/1		SAME AS ABOVE							
10	145-145.25	61	6"	1/1		slough (mud, sand, bits of shell).							
	145.25-146	26	6"	1/1	LT GRAY	limestone, uncemented		25-30% sand, shell					
		52	6"	1/1				black phosphate grains					
	146.25-147	55	6"	0/1		No recovery							

* When rock or rock brokenness.

** include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: Continued mud rotary to about 149' b/s to rot well.

Drilling Area
Background (ppm):

Converted to Well: Yes No Well I.D. #: CEF-076-103D

BORING LOG



Tetra Tech NUS, Inc.

PROJECT NAME: NAS CECIL FIELD / NFF BORING NO.: CEF-076-MW106S
 PROJECT NUMBER: N3556 DATE: 5.15.03
 DRILLING COMPANY: Prosonic GEOLOGIST: Mervin Dale L. KNIGHT
 DRILLING RIG: Rotasonic GEOPROBE 6610DT DRILLER: Dan Mitchell A. PETERSON

Sample No. and Type of ROD	Depth (Ft.) or Run No.	Blows / 6" or ROD (%)	Sample Recovery / Sample Length	Lithology Change (Depth Ft.) or Screened Interval	MATERIAL DESCRIPTION		U S C S	Remarks	PIEPIED Reading (ppm)
				4.0	SAND: fine; med grey w/ organit matter				
				12.0	SAND: w/ some silt; fine/v. fine; pale yellow- gray & v. dk brown				
				22.0	SAND: very fine; v. dark brown				
				24.0	AA - med yellow-brown SAND w/ some silt; fine & v. fine; gray.				
				30.0	brown EOB = 30' ft blr				

* When rock coring, enter rock brokenness.
 ** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____
 Drilling Area Background (ppm): 3.4

Converted to Well: Yes No Well I.D. #: CEF. 076. MW106S

BORING LOG



Tetra Tech NUS, Inc.

Page ___ of ___

PROJECT NAME: NAS CECIL FIELD / BLDG 2R5 BORING NO.: CEF-076-MW107S
 PROJECT NUMBER: N3998 DATE: 5.15.03
 DRILLING COMPANY: Prosonic GEOLOGIST: Marvin Dale L. KNIGHT
 DRILLING RIG: Rotasonic GEOPROBE 6610DT DRILLER: Dan Mitchell A. PETERSON

Sample No. and Type of ROD	Depth (ft.) or Run No.	Moist / 6" or ROD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/ft.) or Screened Interval	MATERIAL DESCRIPTION		USCS*	Remarks	PID/FID Reading (ppm)
				25	SAND: fine, pale gray; NATIVE MATERIAL				
				4.0	SAND: fine, dk brown and yellow brown				
					SAND: w/ trace silt and clay; fine & v. fine; yellow-brown & dk brown. gray. SATURATED ~6-615				
				14	EOB = 14' 615				

* When rock coring, enter rock brokenness.
 ** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____
 Drilling Area Background (ppm): 3.1

Converted to Well: Yes No Well I.D. #: CEF. 076. MW107S

BORING LOG



Tetra Tech NUS, Inc.

Page 1 of 1

PROJECT NAME: NAS CECIL FIELD / NFF BORING NO.: CEF-076-MW108S
 PROJECT NUMBER: N3996 DATE: 5.15.03
 DRILLING COMPANY: Prosonic GEOLOGIST: Mervin Dale L. KNIGHT
 DRILLING RIG: Rotasonic GEDPROBE 6610DT DRILLER: Dan Mitchell A. PETERSON

Sample No. and Type or RQD	Depth (FL) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/FL) or Screened Interval	MATERIAL DESCRIPTION			USCS	Remarks	PID/FID Reading (ppm)							
					Soil Density Compaction or Rock Hardness	Color	Material Classification			Ammonia	Hydrocarbon	Mercury	Other I.C.				
				4			SAND: fill; Fine: yellow-brown										
				14			SAND: of trace silt and clay; fine/v. fine; grey-brown becoming yellow brown at 7.5' b/s										
							EOB = 14' b/s										

* When rock coring, enter rock brokenness.
 ** Include monitor reading in 8 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____
 Drilling Area Background (ppm): 3.7

Converted to Well: Yes No Well I.D. #: CEF. 076. MW108S

BORING LOG



Tetra Tech NUS, Inc.

Page 1 of 1

PROJECT NAME: NAS CECIL FIELD BORING NO.: CEF-076-MW109S
 PROJECT NUMBER: N3996 DATE: 5.15.03
 DRILLING COMPANY: Prosonic GEOLOGIST: Mervin Dale L. KNIGHT
 DRILLING RIG: Rotasonic GEOPROBE 6610DT DRILLER: Dan Mitchell A. PETERSON

Sample No. and Type of ROD	Depth (FL) or Run No.	Blows / 6" or ROD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/FL) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)						
					Soil Density Compaction or Soil Hardness	Color	Material Classification			Hydrocarbon	Hydrocarbon	Hydrocarbon	Hydrocarbon			
				4			SAND: fill; v. fine yellow-brown and dark gray									
								SAND...al trace silt and clay; v. fine; dark brown, yellow brown, gray brown								
				14			EOB = 14' 6 1/2									

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

Drilling Area
Background (ppm): 3.1

Converted to Well: Yes No Well I.D. #: CEF.076.MW109S

BORING LOG



Tetra Tech NUS, Inc.

Page 1 of 1

PROJECT NAME: NAS CECIL FIELD BORING NO.: CEF-076-110D
 PROJECT NUMBER: N3996 DATE: 5/15/03
 DRILLING COMPANY: Prosonic GEOLOGIST: Mervin Dale
 DRILLING RIG: Rotasonic DRILLER: Dan Mitchell

Sample No. and Type or RGD	Depth (Ft.) or Run No.	Blows / 6" or RGD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S	Remarks	PID/FID Reading (ppm)			
					Soil Density/Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole BZ	Driller BZ
100 108			8'8"		gray	slightly silty med. sand	SM	wet					
108 110			2'2"		gray clayey sand	SC	MS-20% clay						
						FINE							
						EOB @ 110' b/s.							

* When rock coring, enter rock brokenness.
 ** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____
 Drilling Area Background (ppm):

Converted to Well: Yes No Well I.D. #: CEF-076-110D

BORING LOG



Tetra Tech NUS, Inc.

Page 1 of 1

PROJECT NAME: NAS CECIL FIELD BORING NO.: CEF-076-111D
 PROJECT NUMBER: N3996 DATE: 5/16/03
 DRILLING COMPANY: Prosonic GEOLOGIST: Mervin Dale
 DRILLING RIG: Rotasonic DRILLER: Dan Mitchell

(PT.) Sample No. and Type or RCD	Depth (Ft.) or Run No.	Blows / 6" or RCD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION		U S C S	Remarks	PID/FID Reading (ppm)								
					Color	Material Classification			Sample	Sampler BZ	Borehole	Driller BZ					
Top Depth	Run No.																
	106/115				olive gray clayey fine sand	SC	some shell (~5%)										
	115/116				olive gray clayey fine sand	SC	~5% silica pebbles w/ fossil embedded (pebbles are dark gray).										
	116/117				greenish gray sandy clay *	ML	< 15% fine sand										
	117/117.5				greenish gray clayey sand *	SC	~5% re-cemented med to coarse pebbles (siliceous).										
	117.5/119				dark gray clay *	CH	dense, rollable										
	119/126				lt. gray clay *	CH	dense, rollable										
					BOB @ 126' BLS												

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: * fines high in HCL. ** grains are subangular Drilling Area Background (ppm): 1.5

Converted to Well: Yes X MD (No) MWD Well I.D. #: CEF-076-111D-MD

CECIL OPS (Nextel)
 158* 15092* --
 176 or 162



BORING LOG

PROJECT NAME: NFF SARA, NASCF
 PROJECT NUMBER: N3996
 DRILLING COMPANY: ProSonic
 DRILLING RIG: Rotasonic

BORING NUMBER: CEF-076-118D
 DATE: 7/2/03
 GEOLOGIST: Scott McGuire
 DRILLER: Dan Mitchell

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S	Remarks	PID/FID Reading (ppm)			
					Soil Density/Consistency or Rock Hardness	Color	Material Classification			Sample	Sample BZ	Borehole	Drifter BZ
				105/108.5			Grayish clayey, silty Sand					0	0
				108.5/110			Greenish Gray clayey sand						
				110/120			Greenish Gray clay with limestone frag						
				120/120			White Chalky clay						
				120/130			Greenish, Gray clay with limestone frag						
							E0B0 130 ⁺ ND						

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

Drilling Area
 Background (ppm):

Converted to Well: Yes _____ No X Well I.D. #: N/A

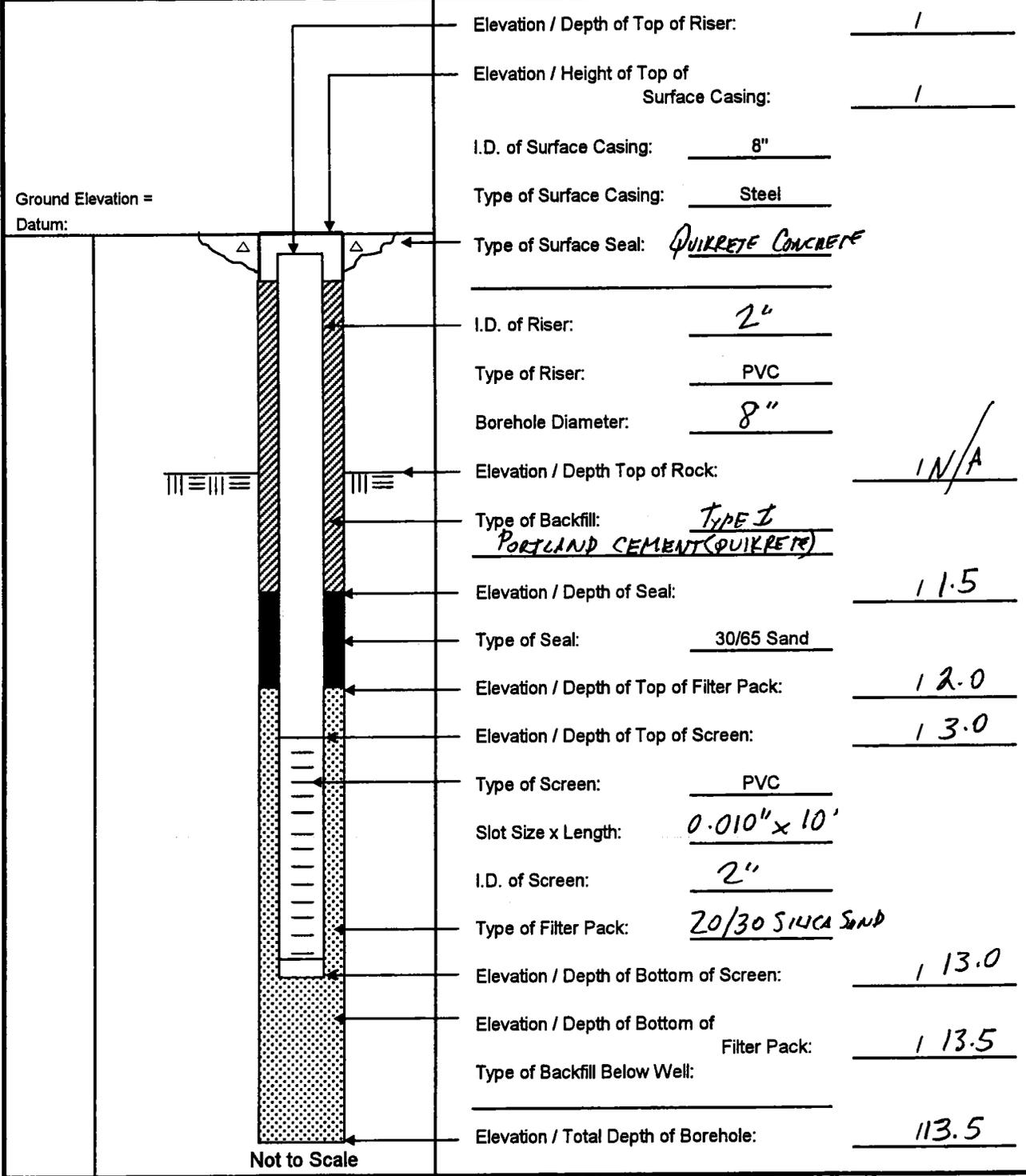
APPENDIX G

MONITORING WELL CONSTRUCTION SHEETS



MONITORING WELL SHEET

PROJECT: NORTH FUEL FARM DRILLING Co.: TRANSAMERICA BORING No.: CEF-076-81S
 PROJECT No.: N3996 DRILLER: DAVID HEARNE DATE COMPLETED: 12.4.01
 SITE: NFF DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: L. KNIGHT DEV. METHOD: PELISTATIC EASTING: _____



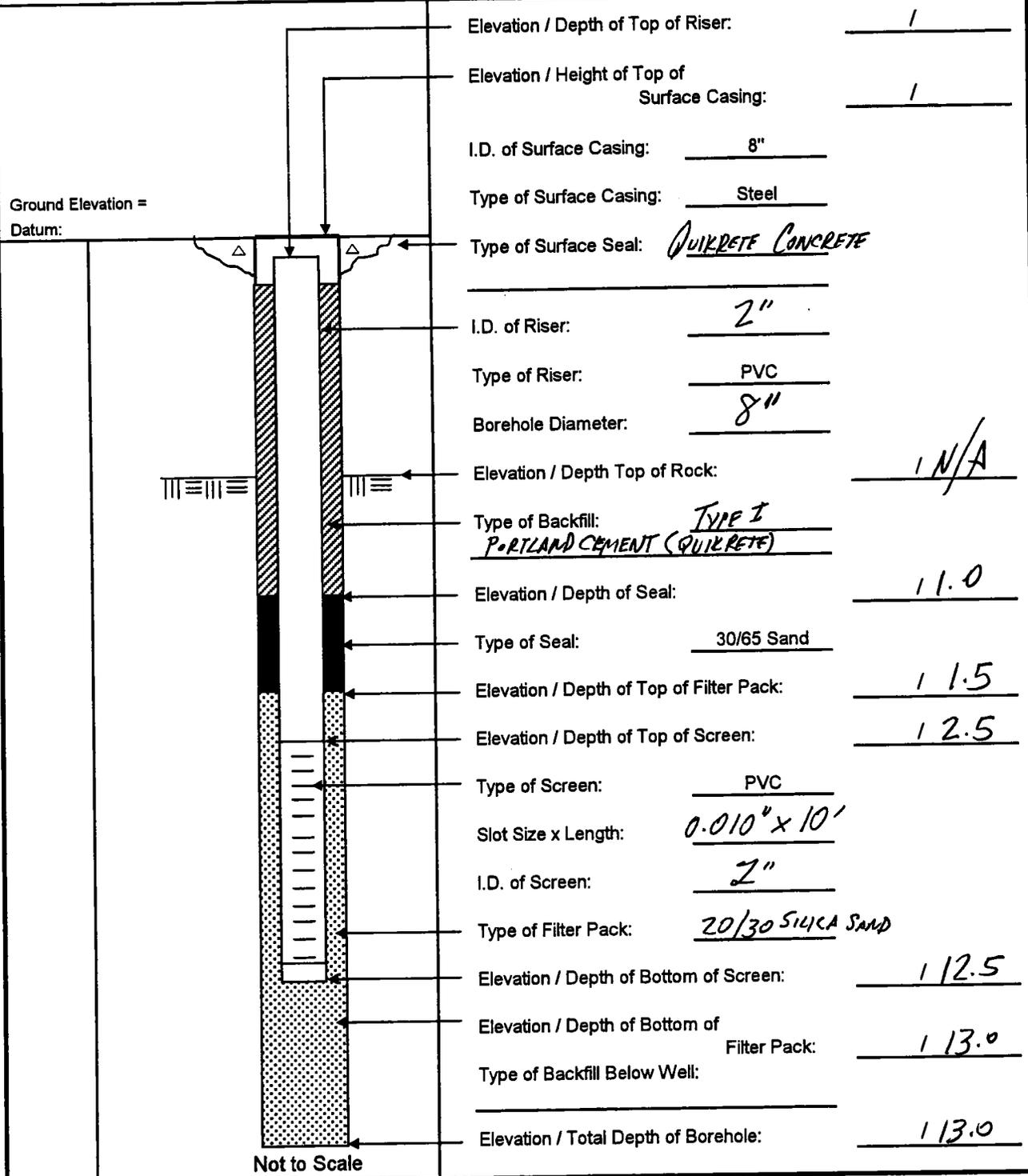


Tetra Tech NUS, Inc.

WELL No.: CEF-076-82S

MONITORING WELL SHEET

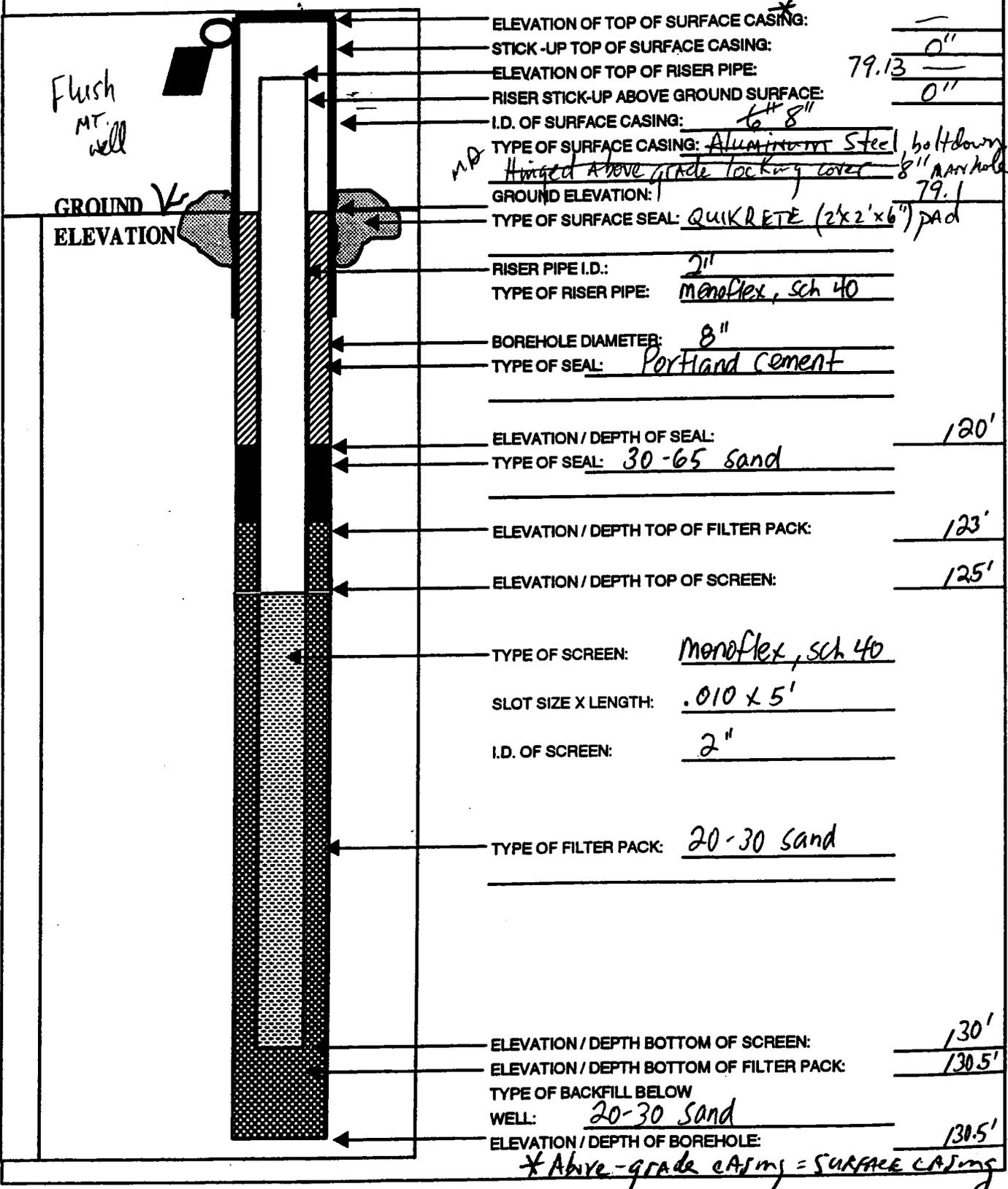
PROJECT: NORTH FUEL FARM DRILLING Co.: TRANS AMERICA BORING No.: CEF-076-82S
 PROJECT No.: N 3996 DRILLER: DAVID HEARNE DATE COMPLETED: 12.4.01
 SITE: NFF DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: L. KNIGHT DEV. METHOD: PERISTALTIC EASTING: _____





Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

PROJECT:	<u>NAS Coal Field</u>	DRILLING Co.:	<u>Trans America</u>	BORING No.:	<u>076-835</u>
PROJECT No.:	<u>N3996</u>	DRILLER:	<u>Louis Johnson</u>	DATE COMPLETED:	<u>12/10/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD:	<u>Hollow stem</u>	NORTHING:	<u>---</u>
GEOLOGIST:	<u>S. McGuire</u>	DEV. METHOD:	<u>submersible</u>	EASTING:	<u>---</u>



ELEVATION OF TOP OF SURFACE CASING:	<u>---</u>
STICK -UP TOP OF SURFACE CASING:	<u>0"</u>
ELEVATION OF TOP OF RISER PIPE:	<u>79.13</u>
RISER STICK-UP ABOVE GROUND SURFACE:	<u>0"</u>
I.D. OF SURFACE CASING:	<u>6" 8"</u>
TYPE OF SURFACE CASING:	<u>Aluminum Steel bolt down</u>
	<u>Hinged above grade locking cover 8" man hole</u>
GROUND ELEVATION:	<u>79.1</u>
TYPE OF SURFACE SEAL:	<u>QUIKRETE (2'x2'x6") pad</u>
RISER PIPE I.D.:	<u>2"</u>
TYPE OF RISER PIPE:	<u>monoflex, sch 40</u>
BOREHOLE DIAMETER:	<u>8"</u>
TYPE OF SEAL:	<u>Portland Cement</u>
ELEVATION / DEPTH OF SEAL:	<u>120'</u>
TYPE OF SEAL:	<u>30-65 sand</u>
ELEVATION / DEPTH TOP OF FILTER PACK:	<u>123'</u>
ELEVATION / DEPTH TOP OF SCREEN:	<u>125'</u>
TYPE OF SCREEN:	<u>monoflex, sch 40</u>
SLOT SIZE X LENGTH:	<u>.010 x 5'</u>
I.D. OF SCREEN:	<u>2"</u>
TYPE OF FILTER PACK:	<u>20-30 sand</u>
ELEVATION / DEPTH BOTTOM OF SCREEN:	<u>130'</u>
ELEVATION / DEPTH BOTTOM OF FILTER PACK:	<u>130.5'</u>
TYPE OF BACKFILL BELOW WELL:	<u>20-30 sand</u>
ELEVATION / DEPTH OF BOREHOLE:	<u>130.5'</u>

* Above-grade casing = SURFACE CASING

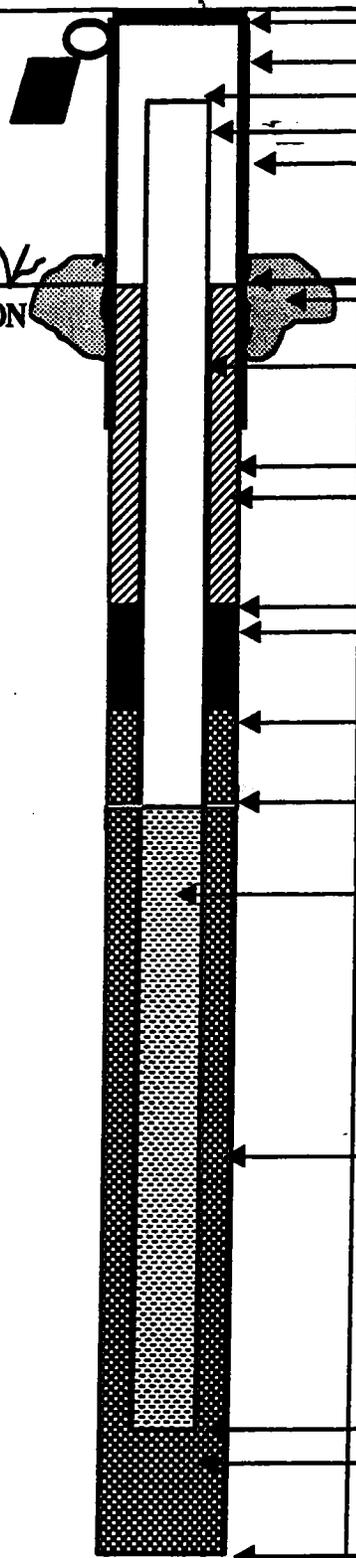


Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO. CEF-076-04I

PROJECT:	<u>NAs Coal Field</u>	DRILLING Co.:	<u>Trans America</u>	BORING No.:	<u>076-04I</u>
PROJECT No.:	<u>N3996</u>	DRILLER:	<u>Louis Johnson</u>	DATE COMPLETED:	<u>12/11/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD:	<u>Hollow stem</u>	NORTHING:	<u>—</u>
GEOLOGIST:	<u>S. McGuire</u>	DEV. METHOD:	<u>Submersible</u>	EASTING:	<u>—</u>

GROUND ELEVATION



ELEVATION OF TOP OF SURFACE CASING:	<u>—</u>
STICK-UP TOP OF SURFACE CASING:	<u>3'</u>
ELEVATION OF TOP OF RISER PIPE:	<u>81.62</u>
RISER STICK-UP ABOVE GROUND SURFACE:	<u>3'</u>
I.D. OF SURFACE CASING:	<u>6"</u>
TYPE OF SURFACE CASING:	<u>Aluminum, square hinged locking cover sticking</u>
GROUND ELEVATION:	<u>78.3</u>
TYPE OF SURFACE SEAL:	<u>Quikrete (2x2'x6") pad</u>
RISER PIPE I.D.:	<u>2"</u>
TYPE OF RISER PIPE:	<u>Monoflex, sch 40</u>
BOREHOLE DIAMETER:	<u>8"</u>
TYPE OF SEAL:	<u>Portland Cement</u>
ELEVATION / DEPTH OF SEAL:	<u>150'</u>
TYPE OF SEAL:	<u>20-65 Sand</u>
ELEVATION / DEPTH TOP OF FILTER PACK:	<u>153'</u>
ELEVATION / DEPTH TOP OF SCREEN:	<u>155'</u>
TYPE OF SCREEN:	<u>monoflex, sch 40</u>
SLOT SIZE X LENGTH:	<u>.010 x 5'</u>
I.D. OF SCREEN:	<u>2"</u>
TYPE OF FILTER PACK:	<u>20-30 Sand</u>
ELEVATION / DEPTH BOTTOM OF SCREEN:	<u>160'</u>
ELEVATION / DEPTH BOTTOM OF FILTER PACK:	<u>160.5'</u>
TYPE OF BACKFILL BELOW WELL:	<u>20-30 Sand</u>
ELEVATION / DEPTH OF BOREHOLE:	<u>160.5'</u>

* Above-grade casing = surface casing

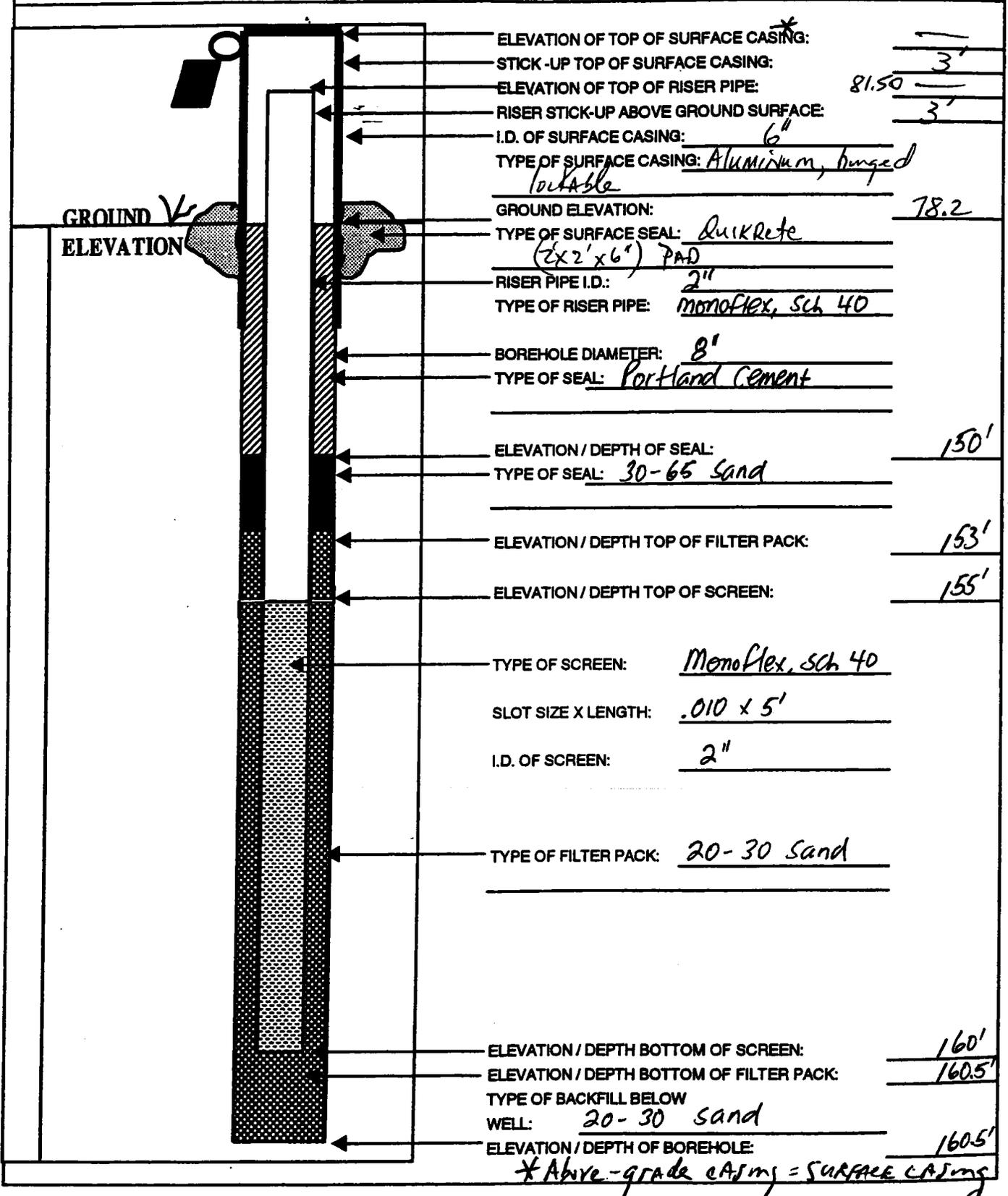


Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET

BORING NO.: CFE-076-85I

PROJECT:	<u>NAS Cecil Field</u>	DRILLING Co.:	<u>TransAmerica</u>	BORING No.:	<u>076-85I</u>
PROJECT No.:	<u>N3996</u>	DRILLER:	<u>Louis Johnson</u>	DATE COMPLETED:	<u>12/1/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD:	<u>Hollow Stem</u>	NORTHING:	<u>---</u>
GEOLOGIST:	<u>S. McGuire</u>	DEV. METHOD:	<u>Submersible</u>	EASTING:	<u>---</u>



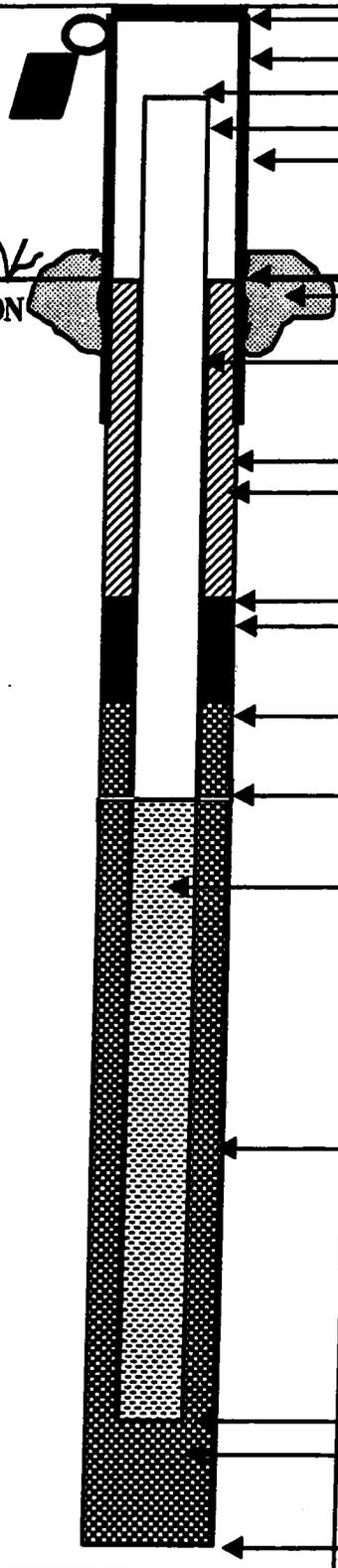


Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-B65

PROJECT:	<u>NAS Cecil field</u>	DRILLING Co.:	<u>TransAmerica</u>	BORING No.:	<u>076-86</u>
PROJECT No.:	<u>N3996</u>	DRILLER:	<u>LJ</u>	DATE COMPLETED:	<u>12/12/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD:	<u>follows-in</u>	NORTHING:	<u>---</u>
GEOLOGIST:	<u>S. McGuire</u>	DEV. METHOD:	<u>submersible</u>	EASTING:	<u>---</u>

GROUND ELEVATION



ELEVATION OF TOP OF SURFACE CASING*	<u>---</u>
STICK-UP TOP OF SURFACE CASING:	<u>3'</u>
ELEVATION OF TOP OF RISER PIPE:	<u>78.35</u>
RISER STICK-UP ABOVE GROUND SURFACE:	<u>3'</u>
I.D. OF SURFACE CASING:	<u>6"</u>
TYPE OF SURFACE CASING:	<u>Aluminum, hinged, lockable</u>
GROUND ELEVATION:	<u>73.3</u>
TYPE OF SURFACE SEAL:	<u>Concrete 2' x 2' x 6" PAD</u>
RISER PIPE I.D.:	<u>2"</u>
TYPE OF RISER PIPE:	<u>Monoflex, Sch 40</u>
BOREHOLE DIAMETER:	<u>8"</u>
TYPE OF SEAL:	<u>Portland Cement</u>
ELEVATION / DEPTH OF SEAL:	<u>140'</u>
TYPE OF SEAL:	<u>30-65 Sand</u>
ELEVATION / DEPTH TOP OF FILTER PACK:	<u>143'</u>
ELEVATION / DEPTH TOP OF SCREEN:	<u>145'</u>
TYPE OF SCREEN:	<u>Monoflex, Sch 40</u>
SLOT SIZE X LENGTH:	<u>.010 x 5'</u>
I.D. OF SCREEN:	<u>2"</u>
TYPE OF FILTER PACK:	<u>20-30 Sand</u>
ELEVATION / DEPTH BOTTOM OF SCREEN:	<u>150'</u>
ELEVATION / DEPTH BOTTOM OF FILTER PACK:	<u>150.5'</u>
TYPE OF BACKFILL BELOW WELL:	<u>20-30 Sand</u>
ELEVATION / DEPTH OF BOREHOLE:	<u>150.5'</u>

* Above-grade casing = SURFACE CASING

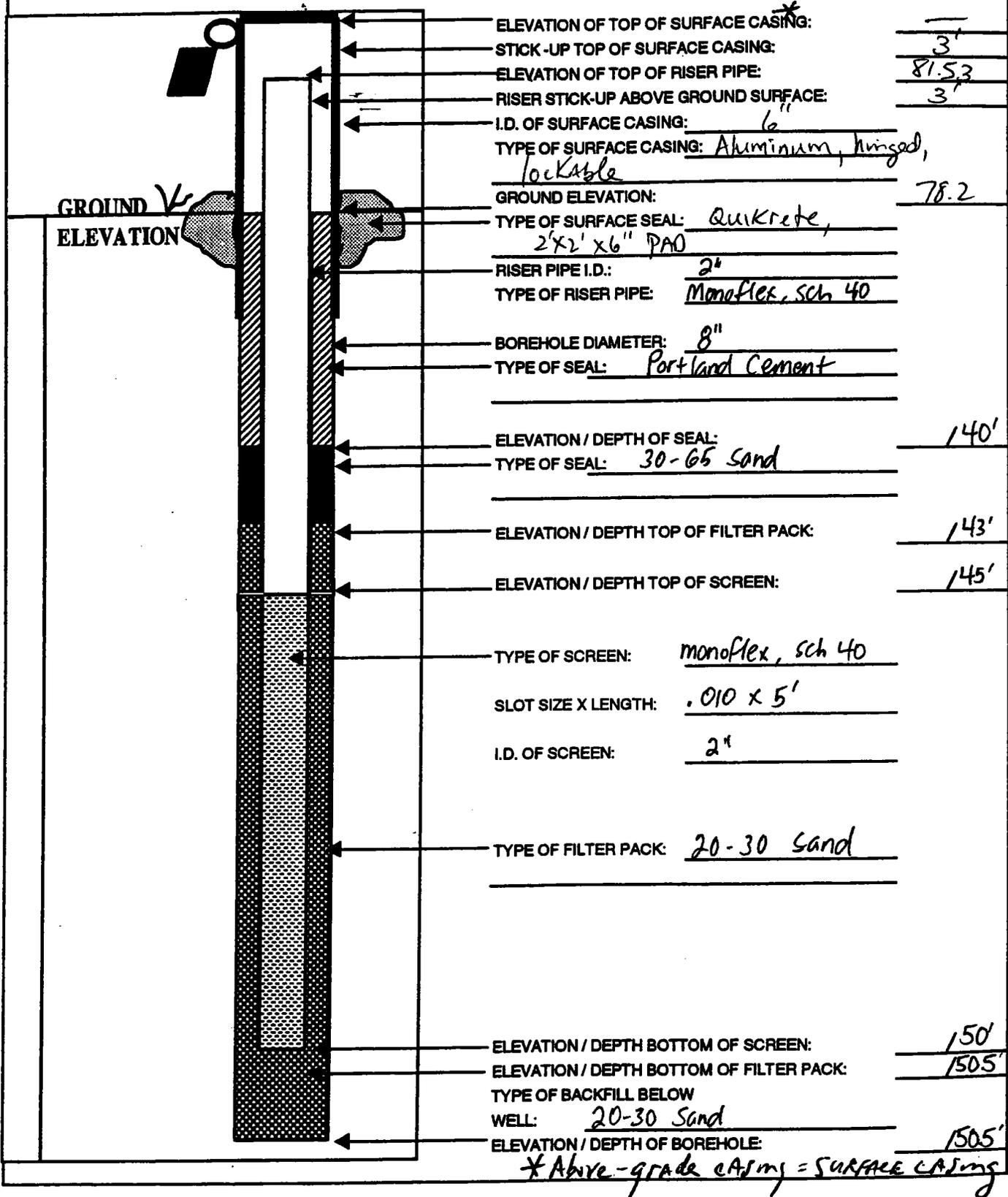


Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET

BORING NO.: CEP-076-875

PROJECT:	<u>NAS Cecil Field</u>	DRILLING Co.:	<u>Trans America</u>	BORING No.:	<u>076-875</u>
PROJECT No.:	<u>N30916</u>	DRILLER:	<u>Louis Johnson</u>	DATE COMPLETED:	<u>12/12/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD:	<u>Hollow stem</u>	NORTHING:	<u>---</u>
GEOLOGIST:	<u>S. McGuire</u>	DEV. METHOD:	<u>submersible</u>	EASTING:	<u>---</u>

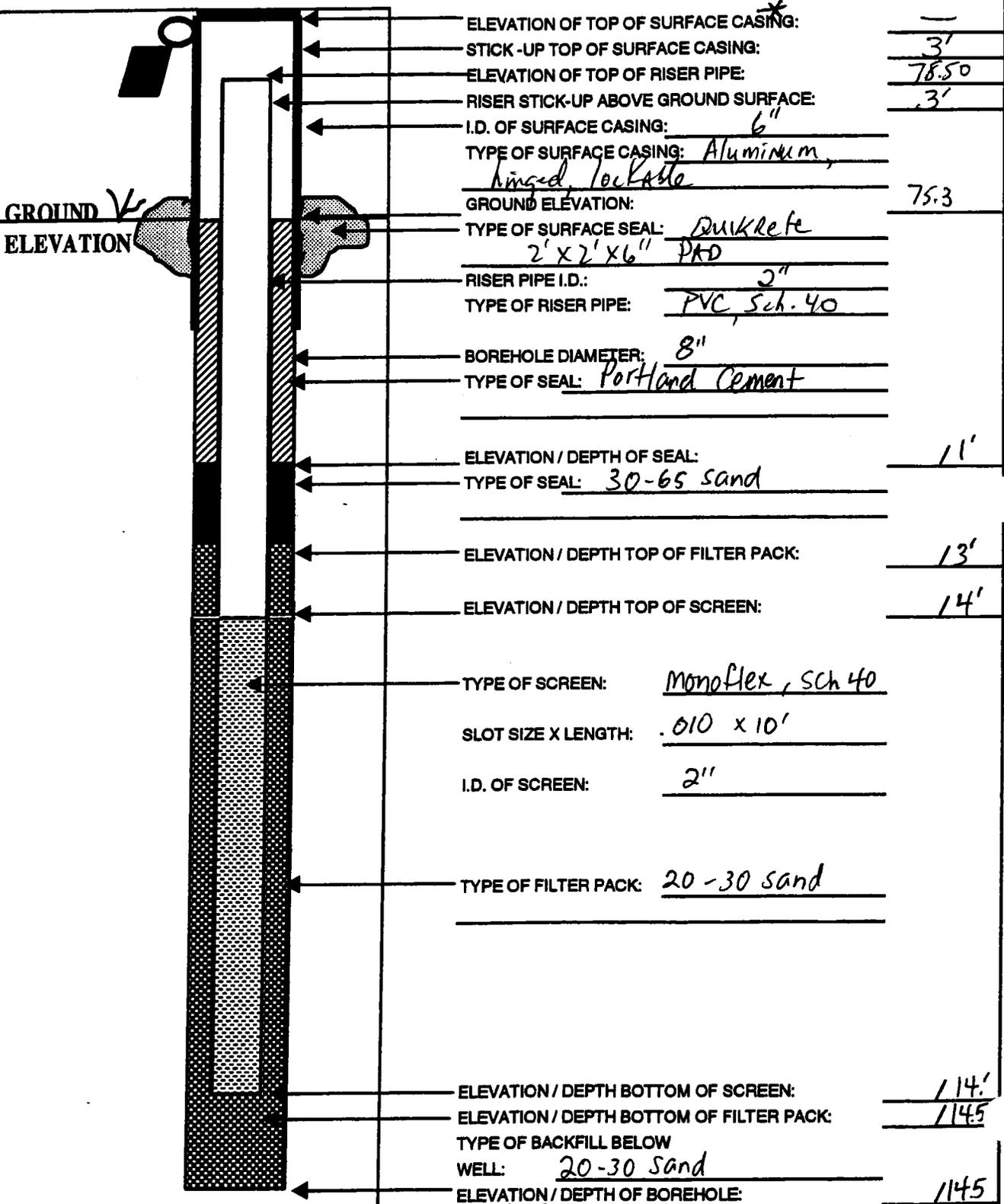




Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEFF-076-885

PROJECT:	<u>NAS Cecil Field</u>	DRILLING Co.:	<u>TransAmerica</u>	BORING No.:	<u>076-885</u>
PROJECT No.:	<u>N3996</u>	DRILLER:	<u>Louis Johnson</u>	DATE COMPLETED:	<u>12/12/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD:	<u>Halfway Stem</u>	NORTHING:	<u>---</u>
GEOLOGIST:	<u>S. McGuire</u>	DEV. METHOD:	<u>submersible</u>	EASTING:	<u>---</u>

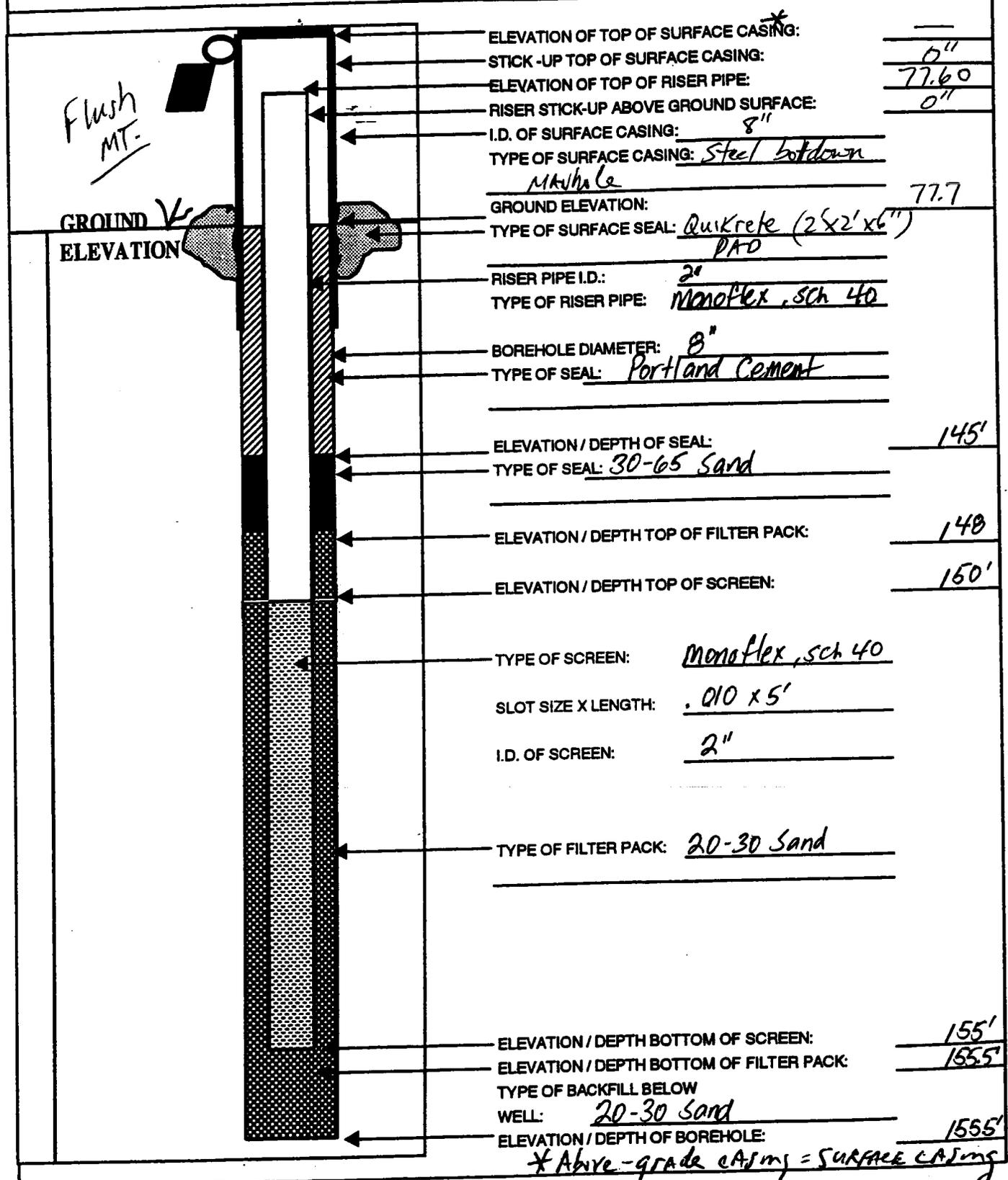


* Above-grade casing = SURFACE CASING



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

PROJECT: <u>NAS Cecil Field</u>	DRILLING Co.: <u>Trans America</u>	BORING No.: <u>076-092</u>
PROJECT No.: <u>N3996</u>	DRILLER: <u>Louis Johnson</u>	DATE COMPLETED: <u>12/13/02</u>
SITE: <u>North Fuel Farm</u>	DRILLING METHOD: <u>Hollow stem</u>	NORTHING: <u>---</u>
GEOLOGIST: <u>S. McGuire</u>	DEV. METHOD: <u>Submersible</u>	EASTING: <u>---</u>



ELEVATION OF TOP OF SURFACE CASING: *	---
STICK -UP TOP OF SURFACE CASING:	<u>0"</u>
ELEVATION OF TOP OF RISER PIPE:	<u>77.60</u>
RISER STICK-UP ABOVE GROUND SURFACE:	<u>0"</u>
I.D. OF SURFACE CASING:	<u>8"</u>
TYPE OF SURFACE CASING:	<u>Steel hotdown</u>
	<u>Monohale</u>
GROUND ELEVATION:	<u>77.7</u>
TYPE OF SURFACE SEAL:	<u>Quikrete (2'x2'x6")</u>
	<u>PAD</u>
RISER PIPE I.D.:	<u>2"</u>
TYPE OF RISER PIPE:	<u>Monoflex, sch 40</u>
BOREHOLE DIAMETER:	<u>8"</u>
TYPE OF SEAL:	<u>Portland Cement</u>
ELEVATION / DEPTH OF SEAL:	<u>145'</u>
TYPE OF SEAL:	<u>30-65 Sand</u>
ELEVATION / DEPTH TOP OF FILTER PACK:	<u>148</u>
ELEVATION / DEPTH TOP OF SCREEN:	<u>150'</u>
TYPE OF SCREEN:	<u>Monoflex, sch 40</u>
SLOT SIZE X LENGTH:	<u>.010 x 5'</u>
I.D. OF SCREEN:	<u>2"</u>
TYPE OF FILTER PACK:	<u>20-30 Sand</u>
ELEVATION / DEPTH BOTTOM OF SCREEN:	<u>155'</u>
ELEVATION / DEPTH BOTTOM OF FILTER PACK:	<u>155.5'</u>
TYPE OF BACKFILL BELOW WELL:	<u>20-30 Sand</u>
ELEVATION / DEPTH OF BOREHOLE:	<u>155.5'</u>

* Above-grade casing = SURFACE CASING



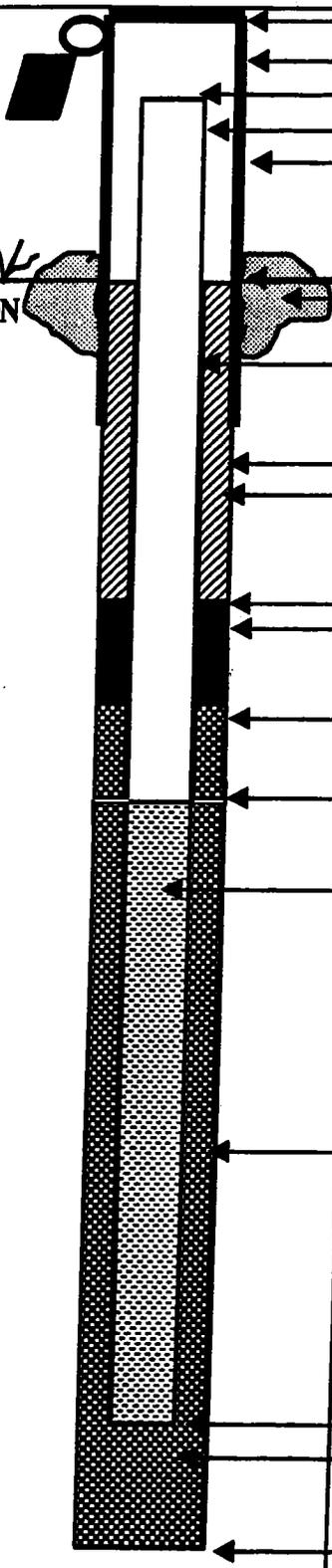
Tetra Tech NUS, Inc. **OVERBURDEN^{*} MONITORING WELL SHEET**

BORING NO.: _____

PROJECT: N3996 DRILLING Co.: TRANSAMERICA BORING No.: CEF-076-90
 PROJECT No.: NORTH FUEL FARM DRILLER: L. Johnson DATE COMPLETED: 12-13-02
 SITE: CECIL FIELD DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: HEER DATE DEV. METHOD: submersible EASTING: _____

Flush
MT.

GROUND
ELEVATION



ELEVATION OF TOP OF SURFACE CASING^{*}: _____
 STICK-UP TOP OF SURFACE CASING: 0"
 ELEVATION OF TOP OF RISER PIPE: 77.58
 RISER STICK-UP ABOVE GROUND SURFACE: 0"
 I.D. OF SURFACE CASING: 8"
 TYPE OF SURFACE CASING: Steel bolt-down
Manhole
 GROUND ELEVATION: 77.7
 TYPE OF SURFACE SEAL: Quikrete,
2'x2'x6" PAD
 RISER PIPE I.D.: 2"
 TYPE OF RISER PIPE: Sch. 40 PVC
 BOREHOLE DIAMETER: 8"
 TYPE OF SEAL: Type I Portland Cement
 ELEVATION / DEPTH OF SEAL: _____
 TYPE OF SEAL: 30/65 Fine Sand 1.2'
 ELEVATION / DEPTH TOP OF FILTER PACK: 1.3'
 ELEVATION / DEPTH TOP OF SCREEN: 1.4'
 TYPE OF SCREEN: Sch. 40 PVC
 SLOT SIZE X LENGTH: 0.010" x 10'
 I.D. OF SCREEN: 2 inch
 TYPE OF FILTER PACK: 20/30 Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 1.14'
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 1.15'
 TYPE OF BACKFILL BELOW WELL: 20/30 Sand
 ELEVATION / DEPTH OF BOREHOLE: 1.15'

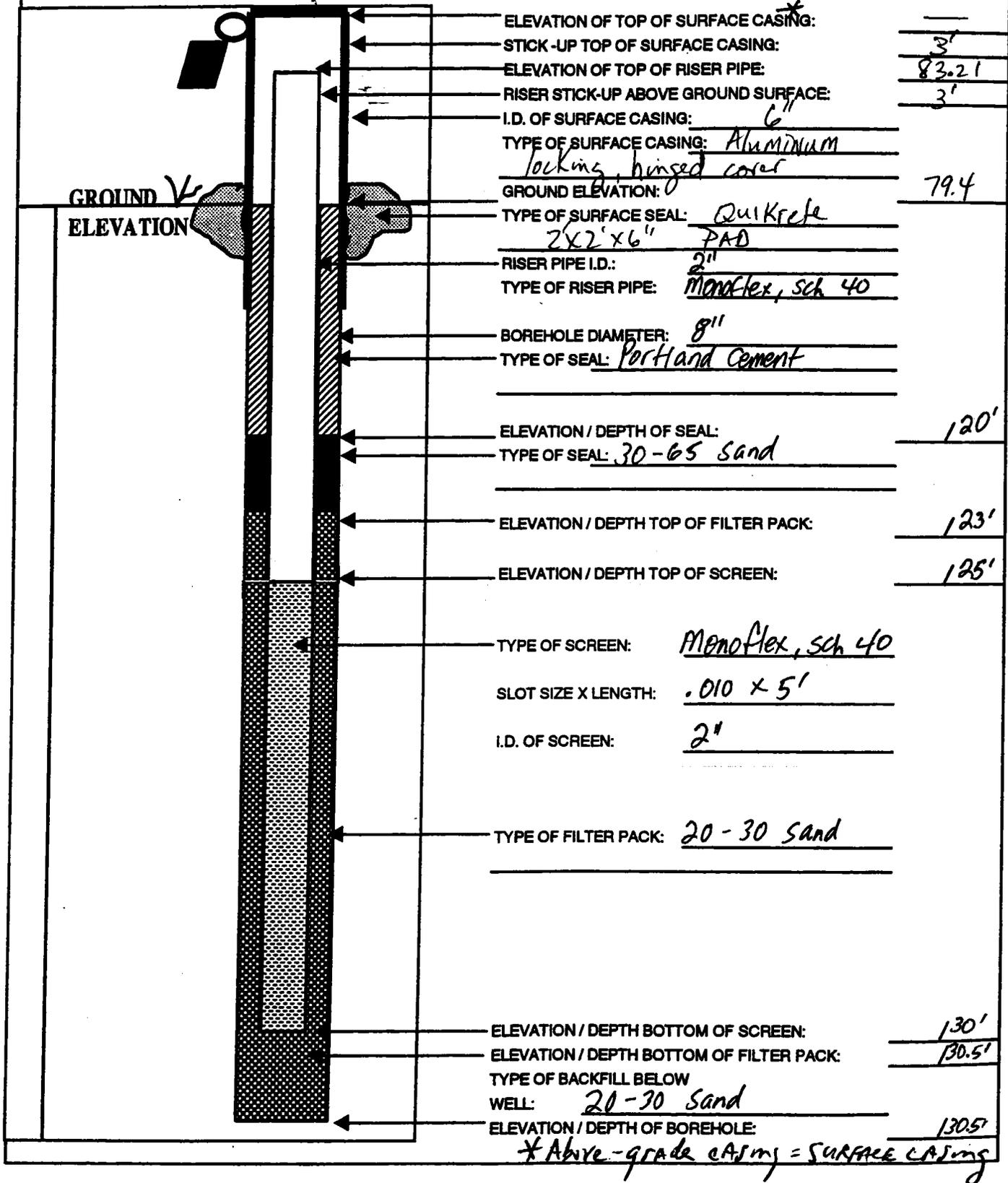
^{*} Above-grade casing = surface casing



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-915

PROJECT:	<u>NAS Ceul Field</u>	DRILLING Co.:	<u>TransAmerica</u>	BORING No.:	<u>076-915</u>
PROJECT No.:	<u>N3996</u>	DRILLER:	<u>Louis Johnson</u>	DATE COMPLETED:	<u>12/13/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD:	<u>Hollow Stem</u>	NORTHING:	<u>---</u>
GEOLOGIST:	<u>S. McGuire</u>	DEV. METHOD:	<u>submersible</u>	EASTING:	<u>---</u>

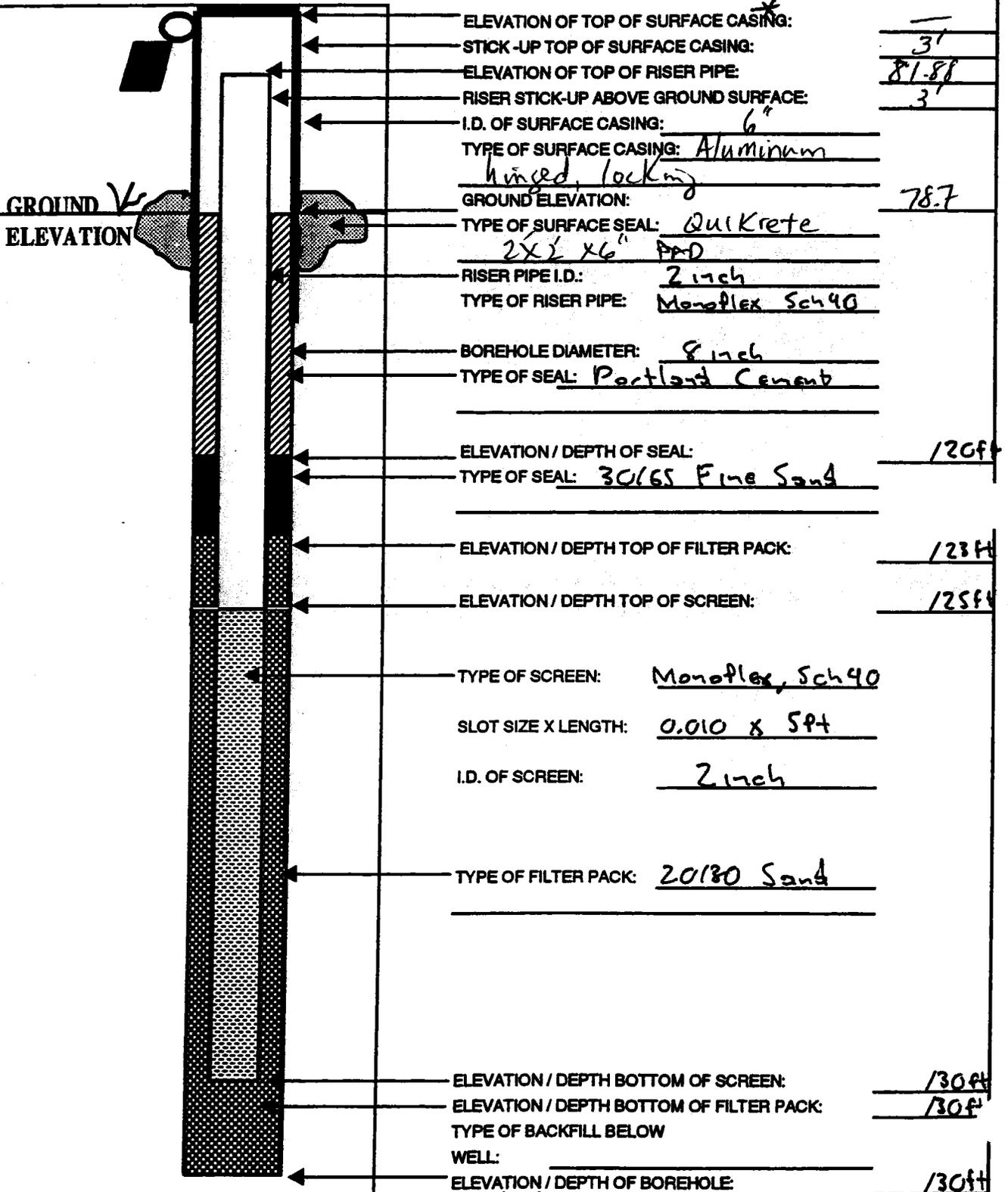




Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-925

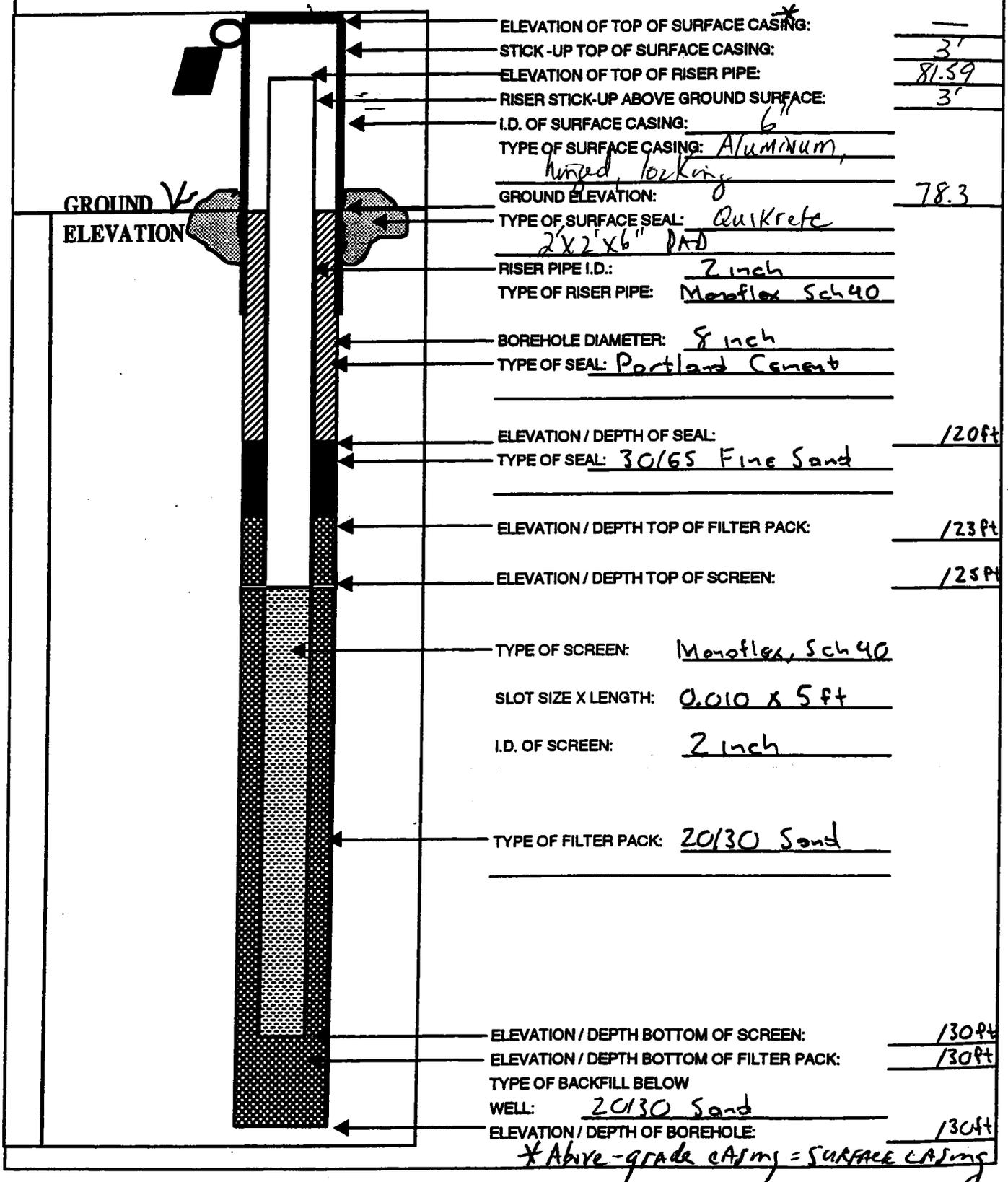
PROJECT:	<u>NAS Cecil Field</u>	DRILLING Co.: <u>TransAmerican</u>	BORING No.: <u>CEF-076-925</u>
PROJECT No.:	<u>N3996</u>	DRILLER: <u>Louis Johnson</u>	DATE COMPLETED: <u>12/16/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD: <u>HSA</u>	NORTHING: <u>---</u>
GEOLOGIST:	<u>C Gleason</u>	DEV. METHOD: <u>submersible</u>	EASTING: <u>---</u>



* Above-grade casing = surface casing



PROJECT:	<u>NAS Cecil Field</u>	DRILLING Co.: <u>Trans American</u>	BORING No.: <u>CEF-076-935</u>
PROJECT No.:	<u>N3996</u>	DRILLER: <u>Louis Johnson</u>	DATE COMPLETED: <u>12/16/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD: <u>HSA</u>	NORTHING: <u>---</u>
GEOLOGIST:	<u>C Gleason</u>	DEV. METHOD: <u>submersible</u>	EASTING: <u>---</u>

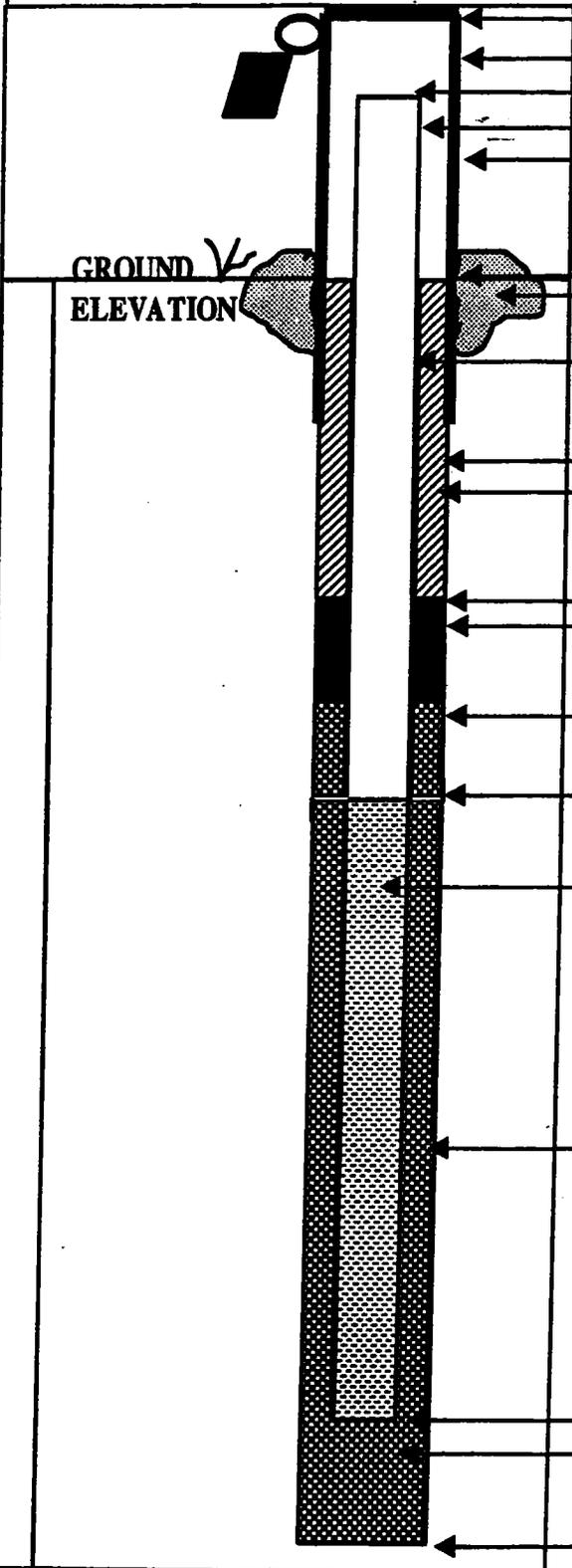




Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-945

PROJECT:	<u>NAS Cecil Field</u>	DRILLING Co.: <u>TransAmerican</u>	BORING No.: <u>CEF-076-945</u>
PROJECT No.:	<u>N3996</u>	DRILLER: <u>Louis Johnson</u>	DATE COMPLETED: <u>12/16/0</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD: <u>HSA</u>	NORTHING: <u>—</u>
GEOLOGIST:	<u>C Gleason</u>	DEV. METHOD: <u>submersible</u>	EASTING: <u>—</u>



ELEVATION OF TOP OF SURFACE CASING* —

STICK-UP TOP OF SURFACE CASING: 3'

ELEVATION OF TOP OF RISER PIPE: 81.59

RISER STICK-UP ABOVE GROUND SURFACE: 3'

I.D. OF SURFACE CASING: 6"

TYPE OF SURFACE CASING: Aluminum
hinged, locking

GROUND ELEVATION: 78.2

TYPE OF SURFACE SEAL: Quikrete
2x2' x 6" PAD

RISER PIPE I.D.: 2 inch

TYPE OF RISER PIPE: Monoflex Sch 40

BOREHOLE DIAMETER: 8 inch

TYPE OF SEAL: Portland Cement

ELEVATION / DEPTH OF SEAL: 12ft

TYPE OF SEAL: 30/65 Fine Sand

ELEVATION / DEPTH TOP OF FILTER PACK: 13ft

ELEVATION / DEPTH TOP OF SCREEN: 15ft

TYPE OF SCREEN: Monoflex, Sch 40

SLOT SIZE X LENGTH: 0.010 x 10ft

I.D. OF SCREEN: 2 inch

TYPE OF FILTER PACK: 20/30 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 15ft

ELEVATION / DEPTH BOTTOM OF FILTER PACK: 15ft

TYPE OF BACKFILL BELOW WELL: 20/30 Sand

ELEVATION / DEPTH OF BOREHOLE: 15ft

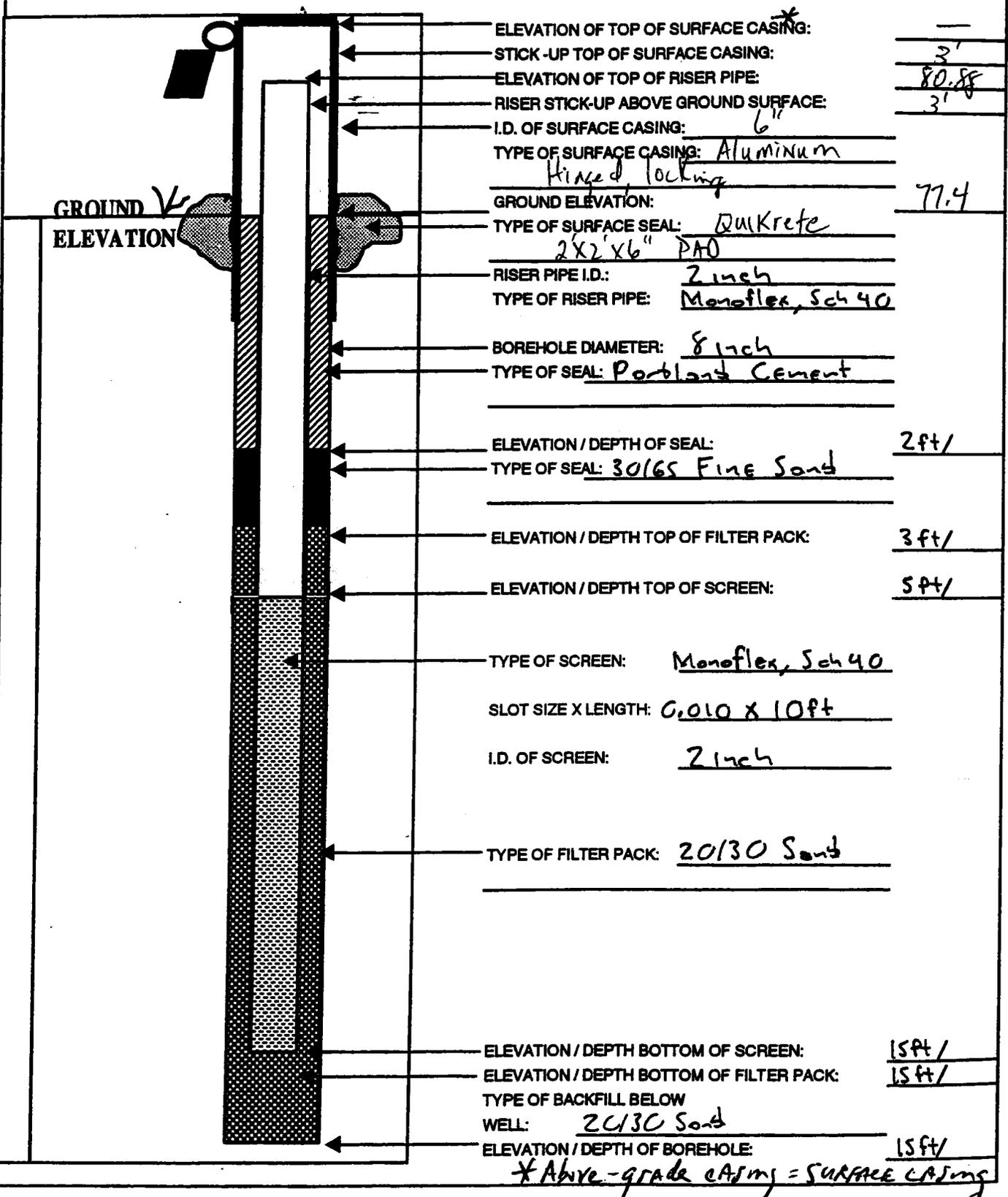
* Above-grade casing = SURFACE CASING



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-955

PROJECT:	<u>NAS Cecil Field</u>	DRILLING Co.: <u>Trans American</u>	BORING No.: <u>CEF-076-955</u>
PROJECT No.:	<u>N3996</u>	DRILLER: <u>Louis Johnson</u>	DATE COMPLETED: <u>12/16/02</u>
SITE:	<u>North Fuel Farm</u>	DRILLING METHOD: <u>HSA</u>	NORTHING: _____
GEOLOGIST:	<u>C. Gleason</u>	DEV. METHOD: <u>Submersible</u>	EASTING: _____

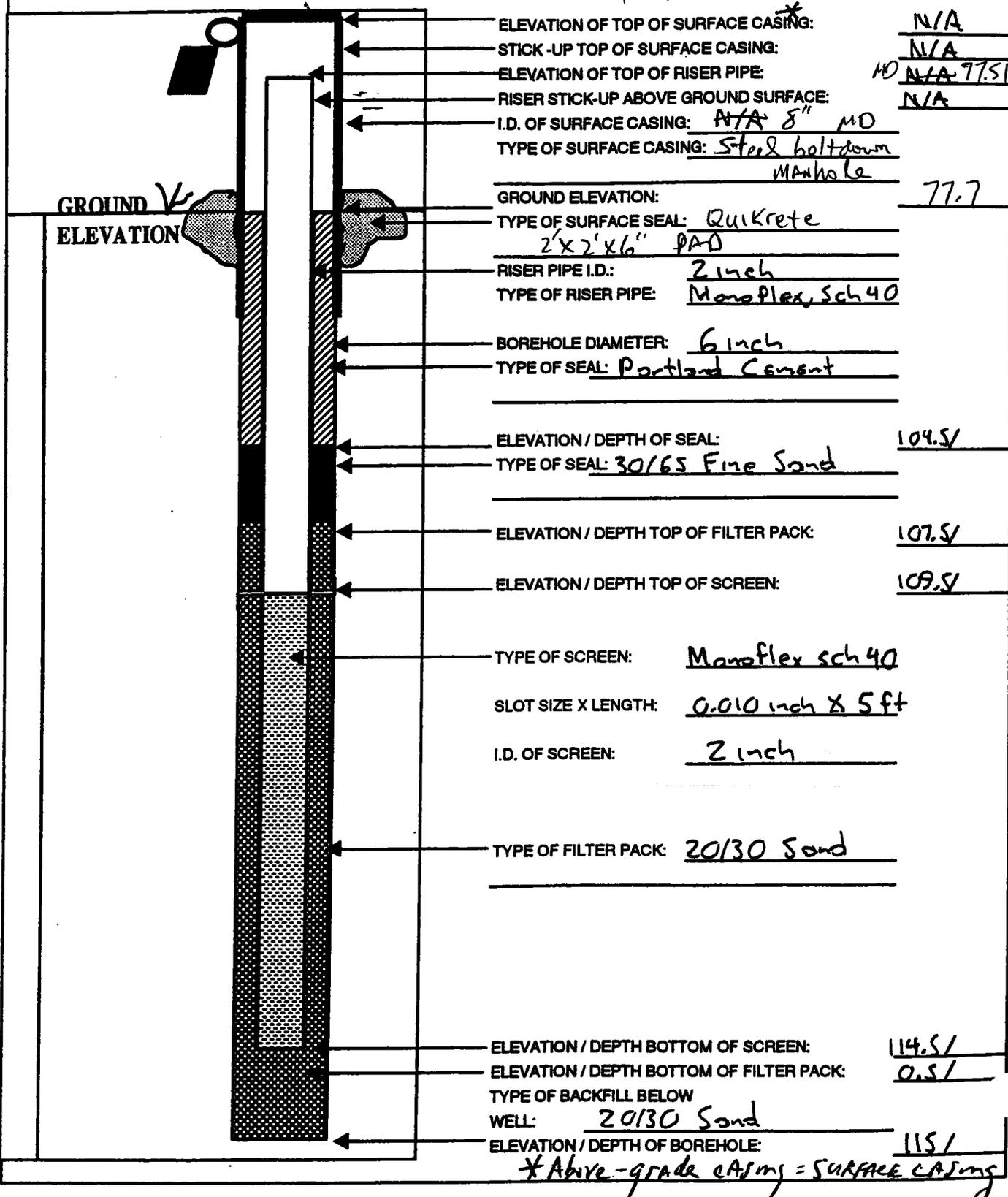


ELEVATION OF TOP OF SURFACE CASING*	_____
STICK-UP TOP OF SURFACE CASING:	<u>3'</u>
ELEVATION OF TOP OF RISER PIPE:	<u>80.88</u>
RISER STICK-UP ABOVE GROUND SURFACE:	<u>3'</u>
I.D. OF SURFACE CASING:	<u>6"</u>
TYPE OF SURFACE CASING:	<u>Aluminum</u>
	<u>Hinged, Locking</u>
GROUND ELEVATION:	<u>77.4</u>
TYPE OF SURFACE SEAL:	<u>DuKrete</u>
	<u>2x2x6" PAD</u>
RISER PIPE I.D.:	<u>2 inch</u>
TYPE OF RISER PIPE:	<u>Monoflex, Sch 40</u>
BOREHOLE DIAMETER:	<u>6 inch</u>
TYPE OF SEAL:	<u>Portland Cement</u>
ELEVATION / DEPTH OF SEAL:	<u>2ft/</u>
TYPE OF SEAL:	<u>30/65 Fine Sand</u>
ELEVATION / DEPTH TOP OF FILTER PACK:	<u>3ft/</u>
ELEVATION / DEPTH TOP OF SCREEN:	<u>5ft/</u>
TYPE OF SCREEN:	<u>Monoflex, Sch 40</u>
SLOT SIZE X LENGTH:	<u>0.010 x 10ft</u>
I.D. OF SCREEN:	<u>2 inch</u>
TYPE OF FILTER PACK:	<u>20/30 Sand</u>
ELEVATION / DEPTH BOTTOM OF SCREEN:	<u>15ft/</u>
ELEVATION / DEPTH BOTTOM OF FILTER PACK:	<u>15ft/</u>
TYPE OF BACKFILL BELOW WELL:	<u>20/30 Sand</u>
ELEVATION / DEPTH OF BOREHOLE:	<u>15ft/</u>

* Above-grade casing = SURFACE CASING



PROJECT: Cecil Fresh NAS DRILLING Co.: Trans American BORING No.: CEF-076-96D
 PROJECT No.: N3996 DRILLER: Louis Johnson DATE COMPLETED: 12/18/07
 SITE: North East Farm DRILLING METHOD: Mud Rotary NORTHING: ---
 GEOLOGIST: C Gleason DEV. METHOD: Air bladder pump EASTING: ---



ELEVATION OF TOP OF SURFACE CASING: N/A
 STICK-UP TOP OF SURFACE CASING: N/A
 ELEVATION OF TOP OF RISER PIPE: MD N/A 97.51
 RISER STICK-UP ABOVE GROUND SURFACE: N/A
 I.D. OF SURFACE CASING: N/A 8" MD
 TYPE OF SURFACE CASING: Steel bolt-down manhole
 GROUND ELEVATION: 77.7
 TYPE OF SURFACE SEAL: Quikrete 2'x2'x6" PAD
 RISER PIPE I.D.: 2 inch
 TYPE OF RISER PIPE: Monoflex, Sch 40
 BOREHOLE DIAMETER: 6 inch
 TYPE OF SEAL: Portland Cement
 ELEVATION / DEPTH OF SEAL: 104.51
 TYPE OF SEAL: 30/65 Fine Sand
 ELEVATION / DEPTH TOP OF FILTER PACK: 107.51
 ELEVATION / DEPTH TOP OF SCREEN: 109.51
 TYPE OF SCREEN: Monoflex sch 40
 SLOT SIZE X LENGTH: 0.010 inch x 5 ft
 I.D. OF SCREEN: 2 inch
 TYPE OF FILTER PACK: 20/30 Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 114.51
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 115.1
 TYPE OF BACKFILL BELOW WELL: 20/30 Sand
 ELEVATION / DEPTH OF BOREHOLE: 115.1

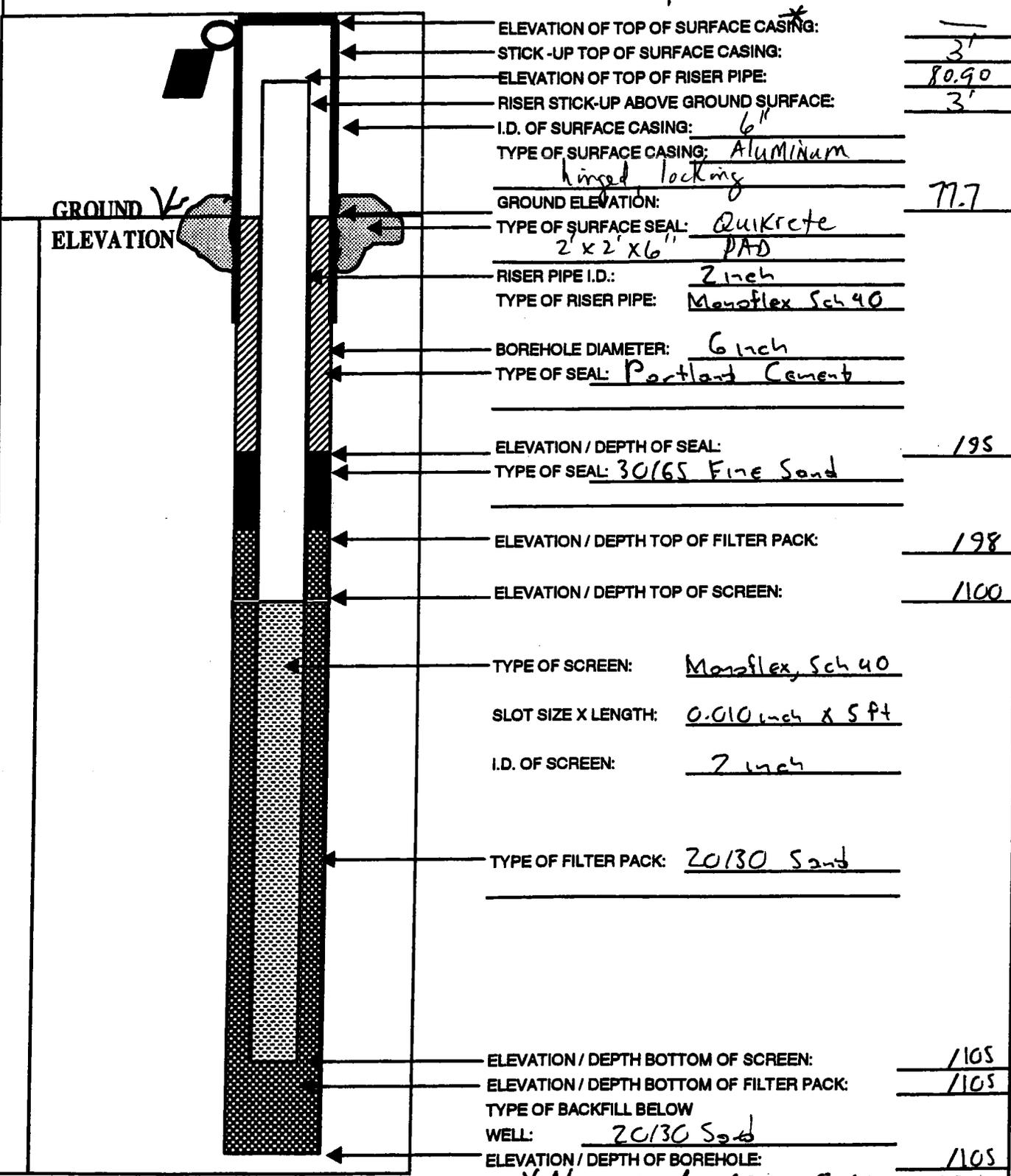
** Above-grade casing = SURFACE CASING*



Tetra Tech NUS, Inc. **OVERBURDEN* MONITORING WELL SHEET**

BORING NO.: CEF-076-97D

PROJECT: NAS Cecil Field DRILLING Co.: TransAmerican BORING No.: CEF-076-97D
 PROJECT No.: U3996 DRILLER: Louis Johnson DATE COMPLETED: 12/19/02
 SITE: North Fuel Farm DRILLING METHOD: Mud Rotary NORTHING: ---
 GEOLOGIST: C Gleason DEV. METHOD: Air bladder pump EASTING: ---



ELEVATION OF TOP OF SURFACE CASING: ---
 STICK-UP TOP OF SURFACE CASING: 3'
 ELEVATION OF TOP OF RISER PIPE: 80.90
 RISER STICK-UP ABOVE GROUND SURFACE: 3'
 I.D. OF SURFACE CASING: 6"
 TYPE OF SURFACE CASING: ALUMINUM
hinged locking
 GROUND ELEVATION: 77.7
 TYPE OF SURFACE SEAL: Quikrete
2' x 2' x 6" PAD
 RISER PIPE I.D.: 2 inch
 TYPE OF RISER PIPE: Monoflex Sch 40
 BOREHOLE DIAMETER: 6 inch
 TYPE OF SEAL: Portland Cement
 ELEVATION / DEPTH OF SEAL: 195
 TYPE OF SEAL: 30/65 Fine Sand
 ELEVATION / DEPTH TOP OF FILTER PACK: 198
 ELEVATION / DEPTH TOP OF SCREEN: 1100
 TYPE OF SCREEN: Monoflex, Sch 40
 SLOT SIZE X LENGTH: 0.010 inch x 5 ft
 I.D. OF SCREEN: 2 inch
 TYPE OF FILTER PACK: 20/30 Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 1105
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 1105
 TYPE OF BACKFILL BELOW WELL: 20/30 Sand
 ELEVATION / DEPTH OF BOREHOLE: 1105

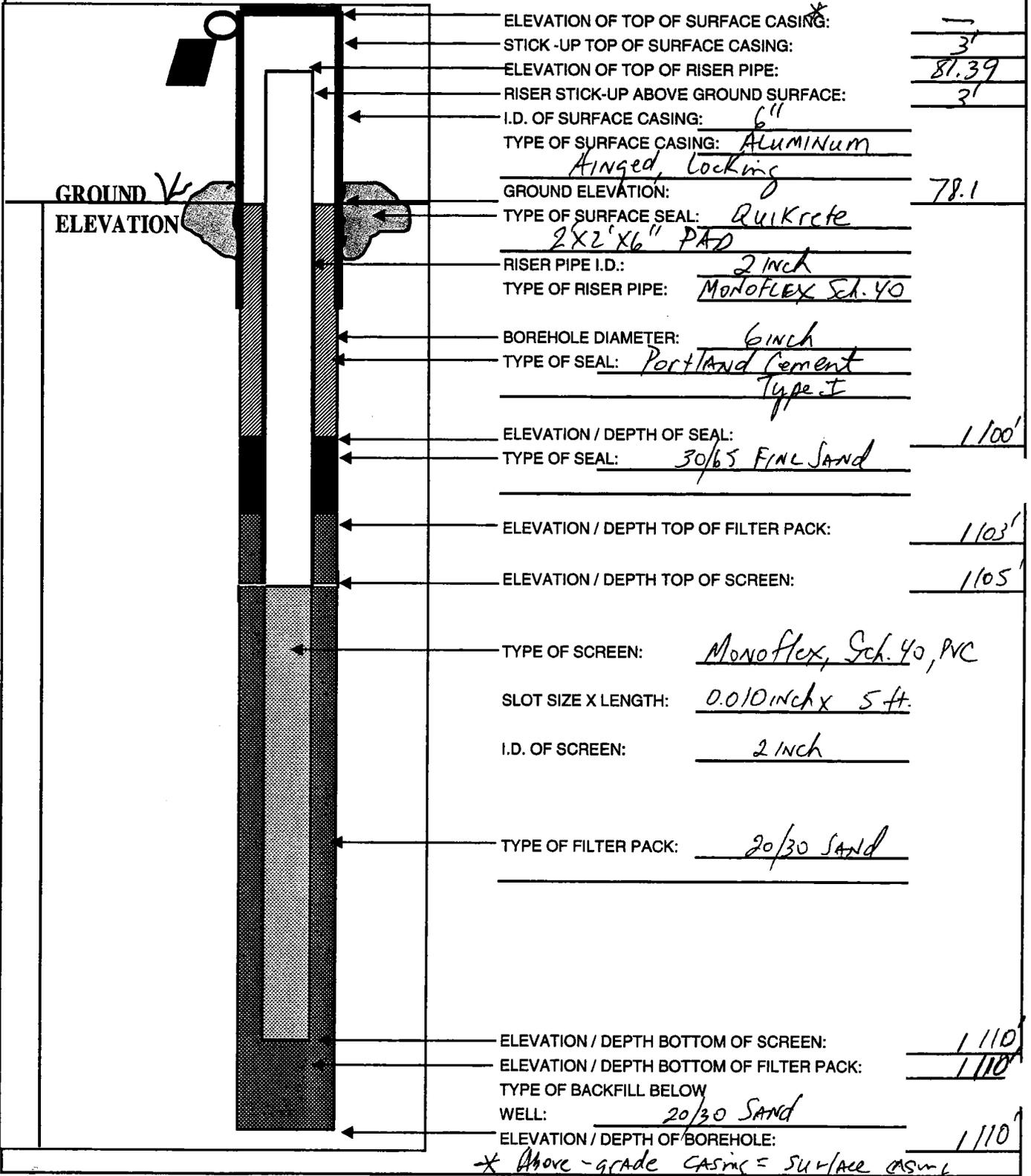
* Above-grade casing = SURFACE CASING



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: _____

PROJECT: SARA NFF, NASCF DRILLING Co.: TRANSAMERICAN BORING No.: CEF-076-98
 PROJECT No.: N3996 DRILLER: Louis JOHNSON DATE COMPLETED: 12/19/02
 SITE: NORTH FUEL FARM DRILLING METHOD: Mud Rotary NORTHING: —
 GEOLOGIST: M. DACE DEV. METHOD: AIR BLADDER PUMP EASTING: —



* Above-grade casing = surface casing

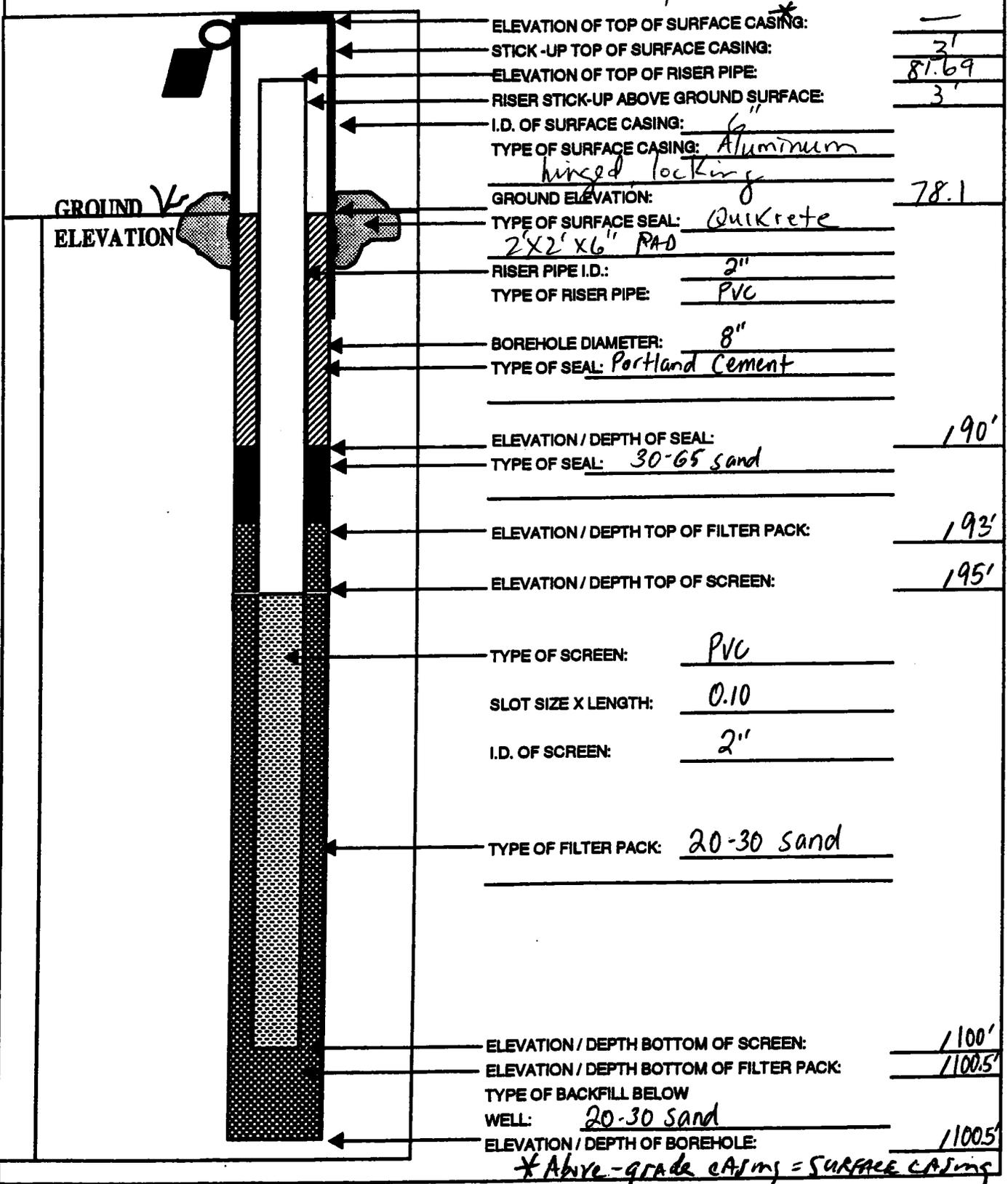


Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET

BORING NO.: CEF-076-99D

PROJECT:	<u>North Fuel Farm</u>	DRILLING Co.:	<u>Trans American</u>	BORING No.:	<u>076-99D</u>
PROJECT No.:	<u>N3996</u>	DRILLER:	<u>L. Johnson</u>	DATE COMPLETED:	<u>1/6/03</u>
SITE:	<u>NFF</u>	DRILLING METHOD:	<u>M. Rotary</u>	NORTHING:	<u>---</u>
GEOLOGIST:	<u>Scott McGuire</u>	DEV. METHOD:	<u>Air bladder pump</u>	EASTING:	<u>---</u>

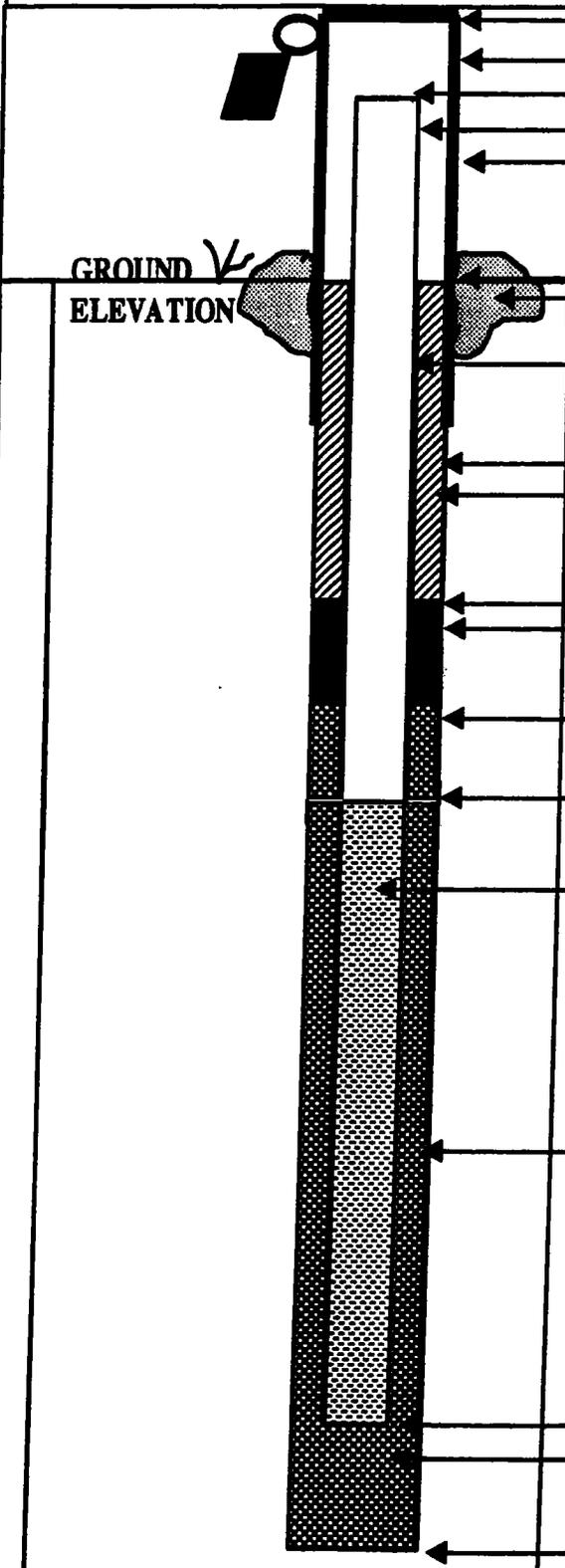




Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-100D

PROJECT: SARA, NFF, NASCF DRILLING Co.: TransAmerica BORING No.: 076-100D
 PROJECT No.: N3996 DRILLER: L. Johnson DATE COMPLETED: 1/8/03
 SITE: North Fuel Farm DRILLING METHOD: M. Rotary NORTHING: ---
 GEOLOGIST: Scott McGuire DEV. METHOD: air bladder pump EASTING: ---



ELEVATION OF TOP OF SURFACE CASING: ---
 STICK-UP TOP OF SURFACE CASING: 3'
 ELEVATION OF TOP OF RISER PIPE: 80.15
 RISER STICK-UP ABOVE GROUND SURFACE: 3'
 I.D. OF SURFACE CASING: 6"
 TYPE OF SURFACE CASING: Aluminum
hinged locking
 GROUND ELEVATION: 76.9
 TYPE OF SURFACE SEAL: Quikrete
2x6" PAD
 RISER PIPE I.D.: 2"
 TYPE OF RISER PIPE: PVC
 BOREHOLE DIAMETER: 8"
 TYPE OF SEAL: Portland cement
 ELEVATION / DEPTH OF SEAL: 1105'
 TYPE OF SEAL: 30-65 sand
 ELEVATION / DEPTH TOP OF FILTER PACK: 1108'
 ELEVATION / DEPTH TOP OF SCREEN: 1110'
 TYPE OF SCREEN: PVC
 SLOT SIZE X LENGTH: 0.10
 I.D. OF SCREEN: 2"
 TYPE OF FILTER PACK: 20-30 sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 1115'
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 1115'
 TYPE OF BACKFILL BELOW WELL: 20-30 sand
 ELEVATION / DEPTH OF BOREHOLE: 1155'

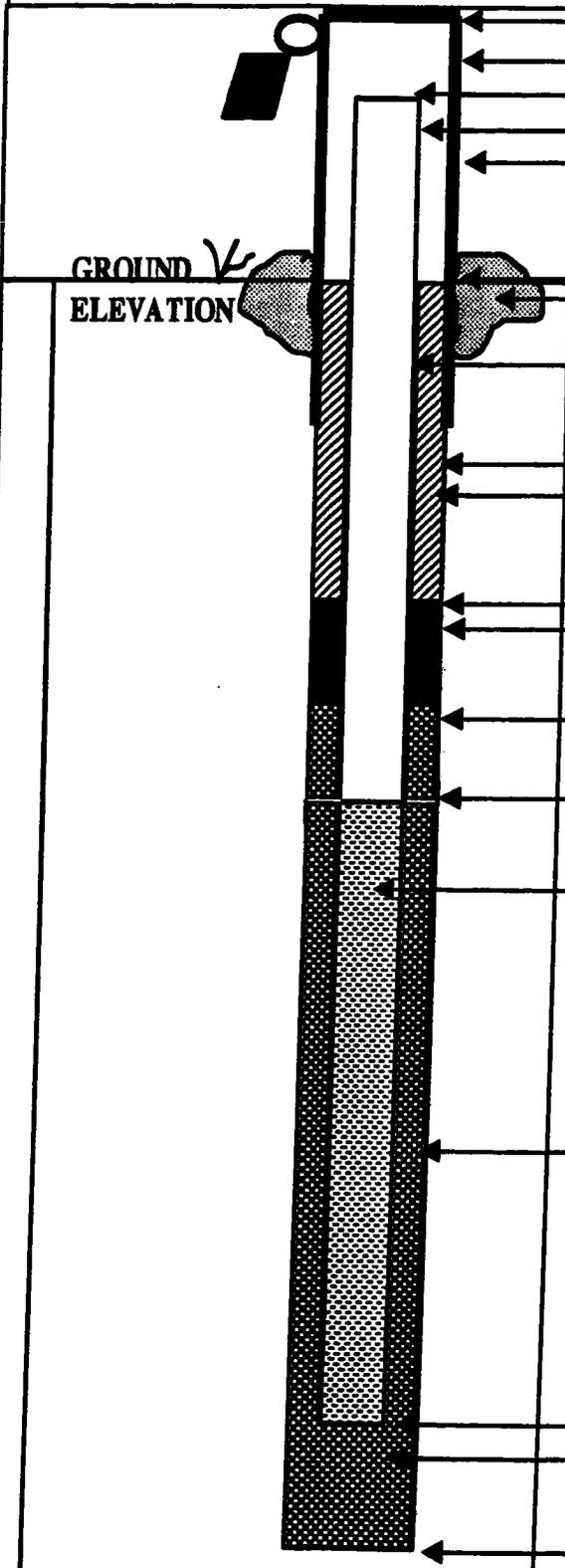
* Above-grade casing = SURFACE CASING



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING No.: CEF-076-1015

PROJECT: SARA, NFF, NASCF DRILLING Co.: TransAmerican BORING No.: 076-1015
 PROJECT No.: N3996 DRILLER: HSA L. Johnson DATE COMPLETED: 1/8/03
 SITE: North Fuel Farm DRILLING METHOD: A. Rotary NORTHING: ---
 GEOLOGIST: Scott McGuire DEV. METHOD: submersible EASTING: ---



ELEVATION OF TOP OF SURFACE CASING* ---
 STICK-UP TOP OF SURFACE CASING: 3'
 ELEVATION OF TOP OF RISER PIPE: 77.64
 RISER STICK-UP ABOVE GROUND SURFACE: 3'
 I.D. OF SURFACE CASING: 6"
 TYPE OF SURFACE CASING: ALuminum
hinged locking
 GROUND ELEVATION: 74.4
 TYPE OF SURFACE SEAL: Quikrete
2'x2'x6" PAD
 RISER PIPE I.D.: 2"
 TYPE OF RISER PIPE: PVC
 BOREHOLE DIAMETER: 8"
 TYPE OF SEAL: Portland cement
 ELEVATION / DEPTH OF SEAL: 125'
 TYPE OF SEAL: 30-65 sand
 ELEVATION / DEPTH TOP OF FILTER PACK: 120'
 ELEVATION / DEPTH TOP OF SCREEN: 130'
 TYPE OF SCREEN: PVC
 SLOT SIZE X LENGTH: 0.10
 I.D. OF SCREEN: 2"
 TYPE OF FILTER PACK: 20-30 sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 135'
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 135.5
 TYPE OF BACKFILL BELOW WELL: 20-30 Sand
 ELEVATION / DEPTH OF BOREHOLE: 135.5

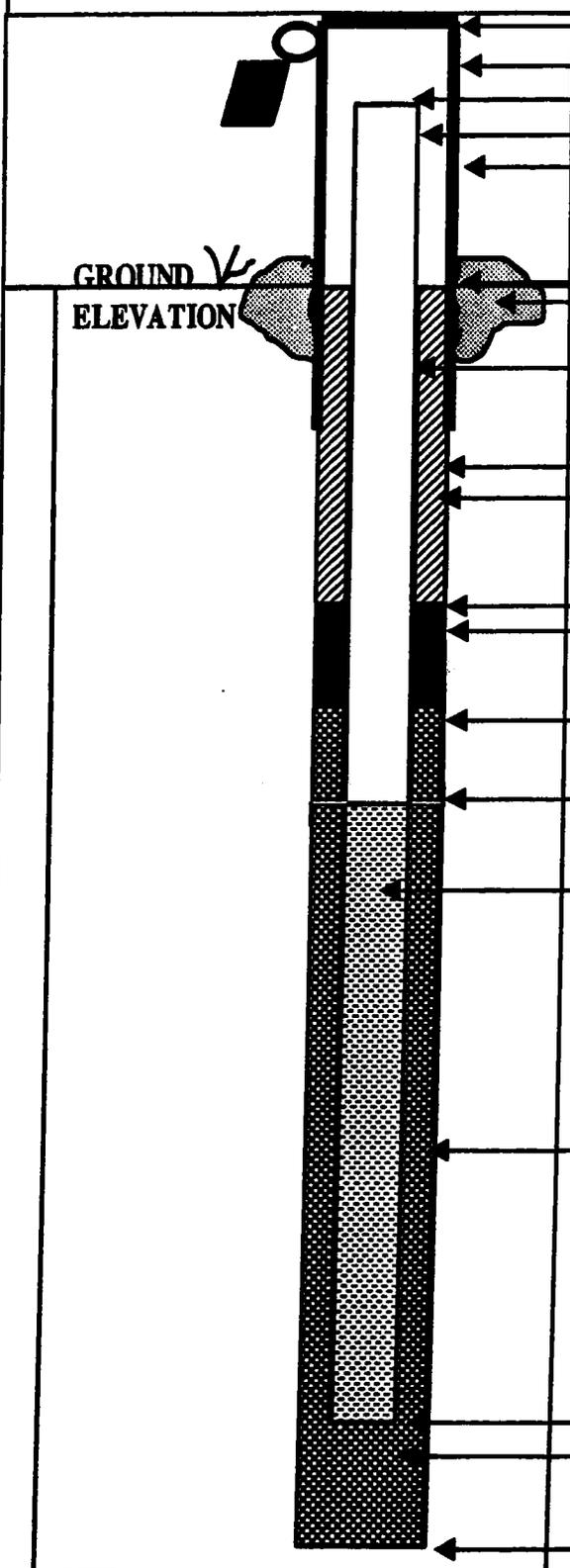
* Above-grade casing = SURFACE CASING



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING No.: CEF-076-102D

PROJECT: SABA, NPF, NASCF DRILLING Co.: Trans American BORING No.: 076-102D
 PROJECT No.: N3996 DRILLER: L Johnson DATE COMPLETED: 1/9/03
 SITE: North Fuel Farm DRILLING METHOD: M: Rotary NORTHING: ---
 GEOLOGIST: Scott McGuire DEV. METHOD: air bladder pump EASTING: ---



ELEVATION OF TOP OF SURFACE CASING* ---
 STICK-UP TOP OF SURFACE CASING: 3'
 ELEVATION OF TOP OF RISER PIPE: 78.55
 RISER STICK-UP ABOVE GROUND SURFACE: 3'
 I.D. OF SURFACE CASING: 6"
 TYPE OF SURFACE CASING: Aluminum
hinged, locking
 GROUND ELEVATION: 75.2
 TYPE OF SURFACE SEAL: Quikrete
2'x2'x6" PAD
 RISER PIPE I.D.: 2"
 TYPE OF RISER PIPE: PVC
 BOREHOLE DIAMETER: 9"
 TYPE OF SEAL: Portland Cement
 ELEVATION / DEPTH OF SEAL: 1111'
 TYPE OF SEAL: 30-65 sand
 ELEVATION / DEPTH TOP OF FILTER PACK: 1114'
 ELEVATION / DEPTH TOP OF SCREEN: 1116'
 TYPE OF SCREEN: PVC
 SLOT SIZE X LENGTH: 0.10
 I.D. OF SCREEN: 2"
 TYPE OF FILTER PACK: 20-30 sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 1121'
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 1121.5'
 TYPE OF BACKFILL BELOW WELL: 20-30 sand
 ELEVATION / DEPTH OF BOREHOLE: 1121.5'

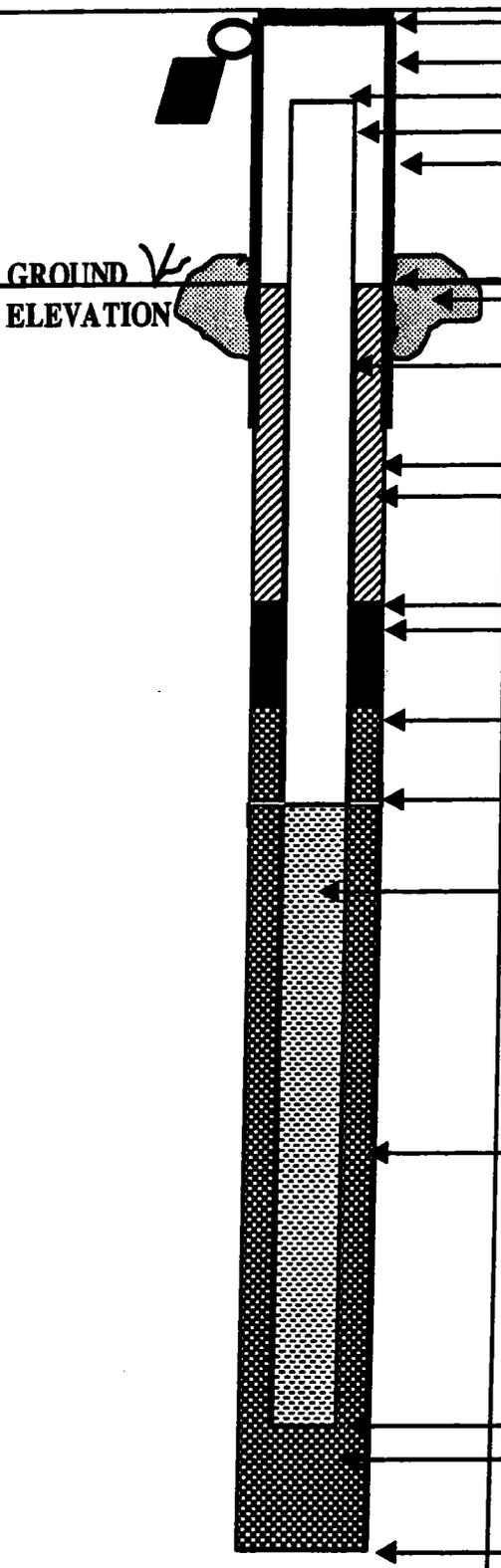
* Above-grade casing = surface casing



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-103D

PROJECT:	<u>SARA, NFF, NASCF</u>	DRILLING Co.:	<u>TransAmerican</u>	BORING No.:	<u>076-103D</u>
PROJECT No.:	<u>N3996</u>	DRILLER:	<u>L Johnson</u>	DATE COMPLETED:	<u>1/21/03</u>
SITE:	<u>North Pine Farm</u>	DRILLING METHOD:	<u>M. Rotary</u>	NORTHING:	<u>---</u>
GEOLOGIST:	<u>Scott McGuire</u>	DEV. METHOD:	<u>AIR R. Adell</u>	EASTING:	<u>---</u>



ELEVATION OF TOP OF SURFACE CASING:	<u>---</u>
STICK-UP TOP OF SURFACE CASING:	<u>3'</u>
ELEVATION OF TOP OF RISER PIPE:	<u>78.39</u>
RISER STICK-UP ABOVE GROUND SURFACE:	<u>3'</u>
I.D. OF SURFACE CASING:	<u>6"</u>
TYPE OF SURFACE CASING:	<u>Aluminum</u>
	<u>hinged, locking</u>
GROUND ELEVATION:	<u>75.0</u>
TYPE OF SURFACE SEAL:	<u>ducrete</u>
	<u>2'x2'x6" PAD</u>
RISER PIPE I.D.:	<u>2"</u>
TYPE OF RISER PIPE:	<u>PVC</u>
BOREHOLE DIAMETER:	<u>8"</u>
TYPE OF SEAL:	<u>Portland Cement</u>
ELEVATION / DEPTH OF SEAL:	<u>1139'</u>
TYPE OF SEAL:	<u>30-65 sand</u>
ELEVATION / DEPTH TOP OF FILTER PACK:	<u>1142'</u>
ELEVATION / DEPTH TOP OF SCREEN:	<u>1144'</u>
TYPE OF SCREEN:	<u>PVC</u>
SLOT SIZE X LENGTH:	<u>0.10</u>
I.D. OF SCREEN:	<u>2"</u>
TYPE OF FILTER PACK:	<u>20-30 sand</u>
ELEVATION / DEPTH BOTTOM OF SCREEN:	<u>1149'</u>
ELEVATION / DEPTH BOTTOM OF FILTER PACK:	<u>1149.5</u>
TYPE OF BACKFILL BELOW	
WELL:	<u>20-30 sand</u>
ELEVATION / DEPTH OF BOREHOLE:	<u>1149.5</u>

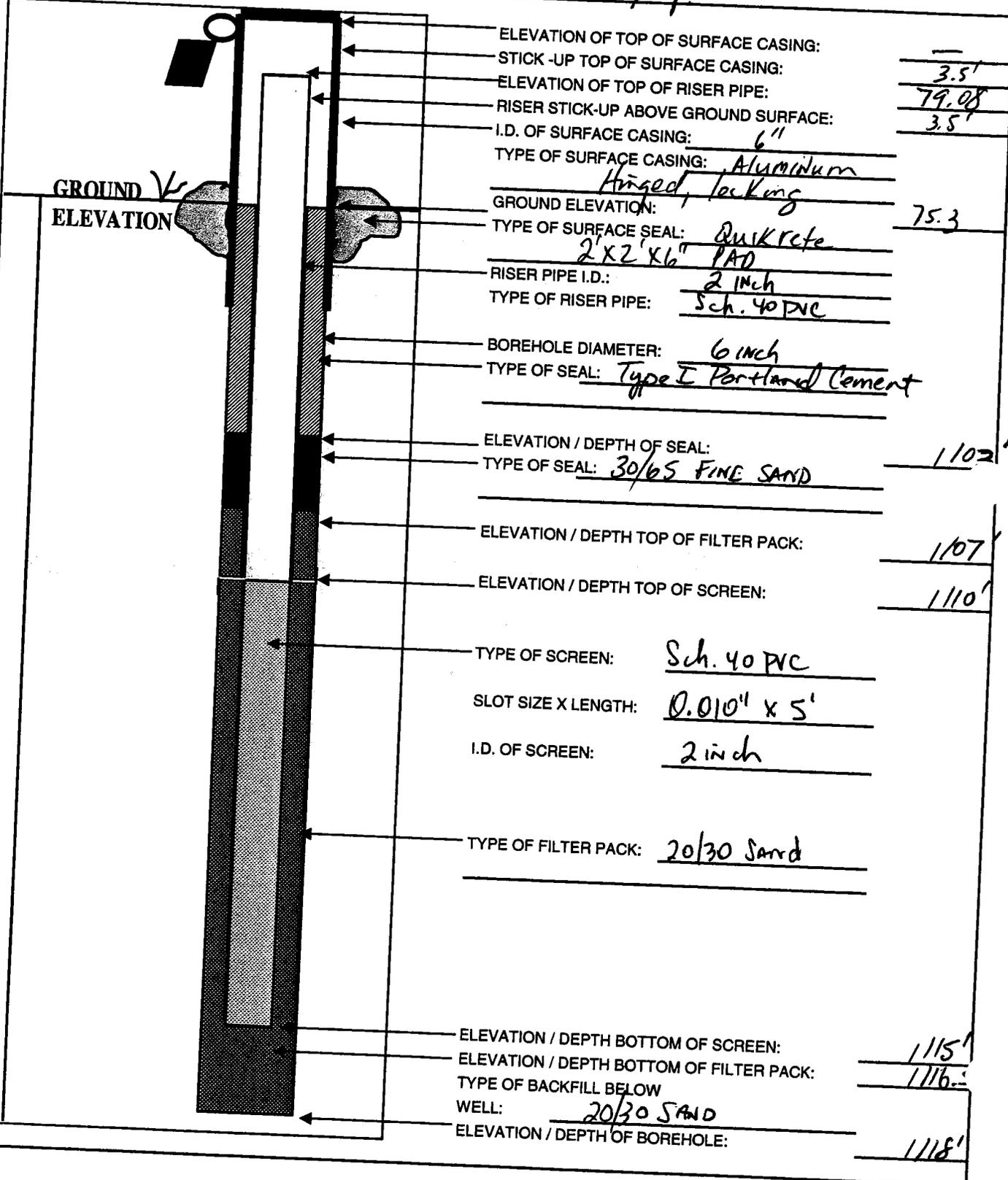
* Above-grade casing = surface casing



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: 104D

PROJECT: NFF SARA INVESTIGATION DRILLING Co.: Prosonic BORING No.: 104D
 PROJECT No.: N3996, CTD 168 DRILLER: D. Mitchell DATE COMPLETED: 5/14/03
 SITE: NORTH FUEL FARM DRILLING METHOD: Rotasonic NORTHING: ---
 GEOLOGIST: Merv Dale DEV. METHOD: air bladder pump EASTING: ---



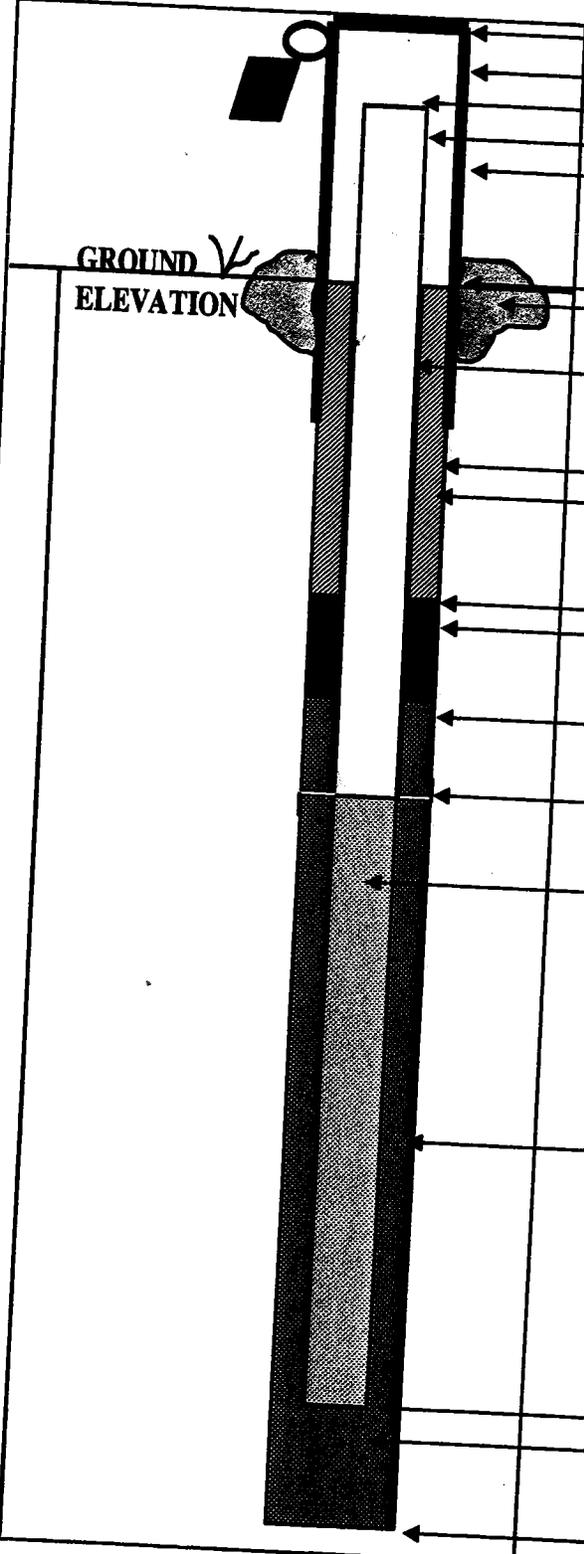
ELEVATION OF TOP OF SURFACE CASING: ---
 STICK-UP TOP OF SURFACE CASING: 3.5'
 ELEVATION OF TOP OF RISER PIPE: 79.08
 RISER STICK-UP ABOVE GROUND SURFACE: 3.5'
 I.D. OF SURFACE CASING: 6"
 TYPE OF SURFACE CASING: Aluminum Hinged, locking
 GROUND ELEVATION: 75.3
 TYPE OF SURFACE SEAL: Quikrete 2' x 2' x 6" PAD
 RISER PIPE I.D.: 2 inch
 TYPE OF RISER PIPE: Sch. 40 PVC
 BOREHOLE DIAMETER: 6 inch
 TYPE OF SEAL: Type I Portland Cement
 ELEVATION / DEPTH OF SEAL: 1102'
 TYPE OF SEAL: 30/65 FINE SAND
 ELEVATION / DEPTH TOP OF FILTER PACK: 1107'
 ELEVATION / DEPTH TOP OF SCREEN: 1110'
 TYPE OF SCREEN: Sch. 40 PVC
 SLOT SIZE X LENGTH: 0.010" x 5'
 I.D. OF SCREEN: 2 inch
 TYPE OF FILTER PACK: 20/30 Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 1115'
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 1116'
 TYPE OF BACKFILL BELOW WELL: 20/30 SAND
 ELEVATION / DEPTH OF BOREHOLE: 1118'



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO. CEF-076-105

PROJECT: NFF SARA INVESTIGATION DRILLING Co.: PROSONIC BORING No.: CEF-076-105-I
 PROJECT No.: N3996 DRILLER: D. Mitchell DATE COMPLETED: 5/15/03
 SITE: North Fuel Farm DRILLING METHOD: Kotosonic NORTHING: ---
 GEOLOGIST: MERV DALE DEV. METHOD: AIR READER EASTING: ---
Submersible Pump MD



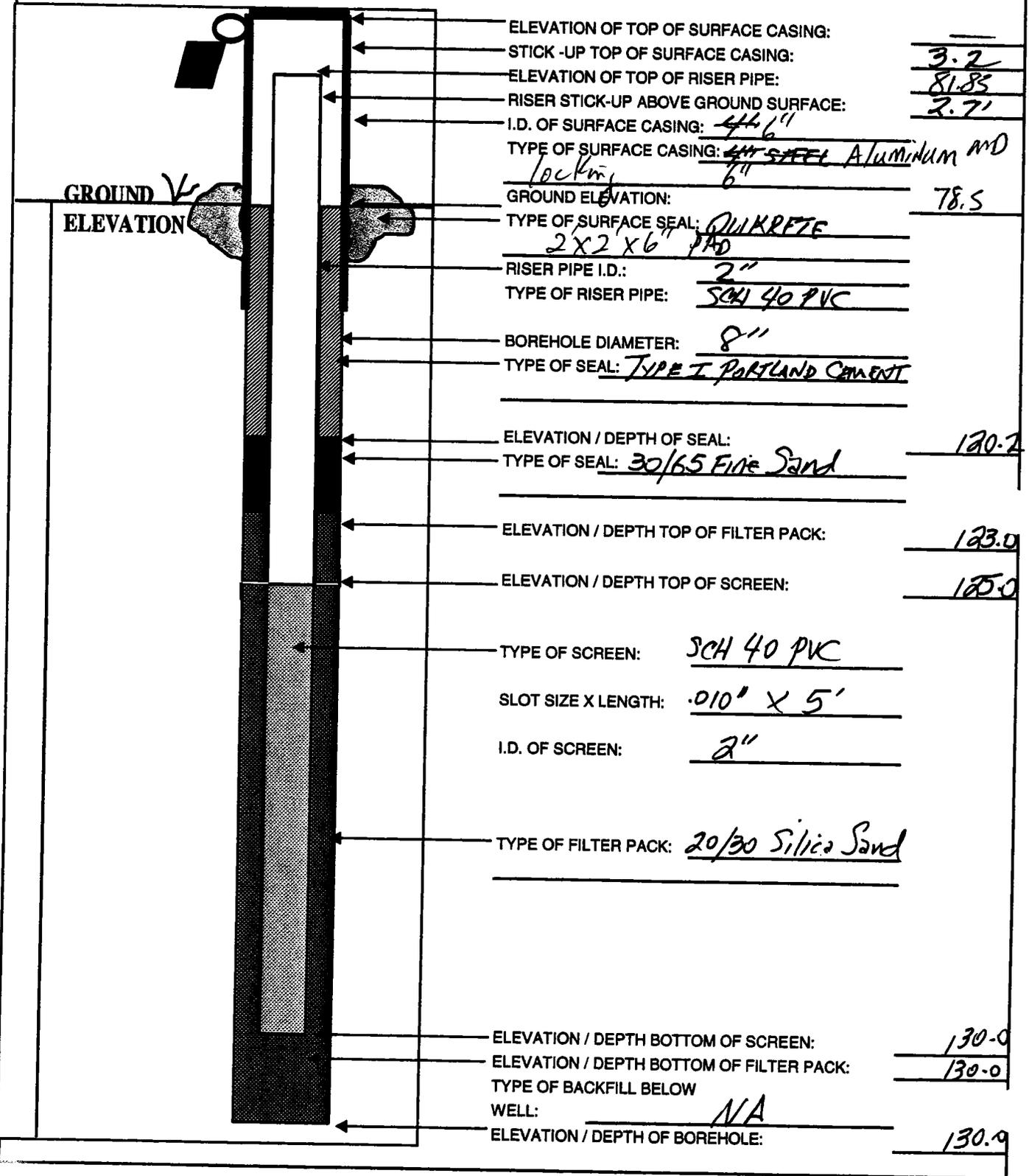
ELEVATION OF TOP OF SURFACE CASING:	---
STICK-UP TOP OF SURFACE CASING:	<u>3'</u>
ELEVATION OF TOP OF RISER PIPE:	<u>78.15</u>
RISER STICK-UP ABOVE GROUND SURFACE:	<u>3'</u>
I.D. OF SURFACE CASING:	<u>26"</u>
TYPE OF SURFACE CASING:	<u>Aluminum</u>
GROUND ELEVATION:	<u>74.8</u>
TYPE OF SURFACE SEAL:	<u>Quikrete</u>
RISER PIPE I.D.:	<u>2 INCH</u>
TYPE OF RISER PIPE:	<u>Sch. 40 PVC, Flush thread</u>
BOREHOLE DIAMETER:	<u>7 inch</u>
TYPE OF SEAL:	<u>3 Type I Portland Cement</u>
ELEVATION / DEPTH OF SEAL:	<u>138.5'</u>
TYPE OF SEAL:	<u>30/65 FINE SAND</u>
ELEVATION / DEPTH TOP OF FILTER PACK:	<u>142.5'</u>
ELEVATION / DEPTH TOP OF SCREEN:	<u>145'</u>
TYPE OF SCREEN:	<u>Sch. 40 PVC, flush thread</u>
SLOT SIZE X LENGTH:	<u>0.010 in x 5ft.</u>
I.D. OF SCREEN:	<u>2 inch</u>
TYPE OF FILTER PACK:	<u>20/30 SAND</u>
ELEVATION / DEPTH BOTTOM OF SCREEN:	<u>150'</u>
ELEVATION / DEPTH BOTTOM OF FILTER PACK:	<u>151' MD</u>
TYPE OF BACKFILL BELOW WELL:	<u>Native material - silty fine sand.</u>
ELEVATION / DEPTH OF BOREHOLE:	<u>151'</u>



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

CEP. 076.
BORING NO.: MW-1065

PROJECT No:	<u>3996</u>	DRILLING Co.:	<u>PROSONIC</u>	BORING No.:	<u>CEP. 076. MW-1065</u>
PROJECT No.:	<u>PHASE II DRILLING - NFF</u>	DRILLER:	<u>A. PETERSON</u>	DATE COMPLETED:	<u>5-15-0</u>
SITE:	<u>NORTH FUEL FARM (CEP)</u>	DRILLING METHOD:	<u>HSA</u>	NORTHING:	<u> </u>
GEOLOGIST:	<u>L. KNIGHT</u>	DEV. METHOD:	<u>Submersible</u>	EASTING:	<u> </u>



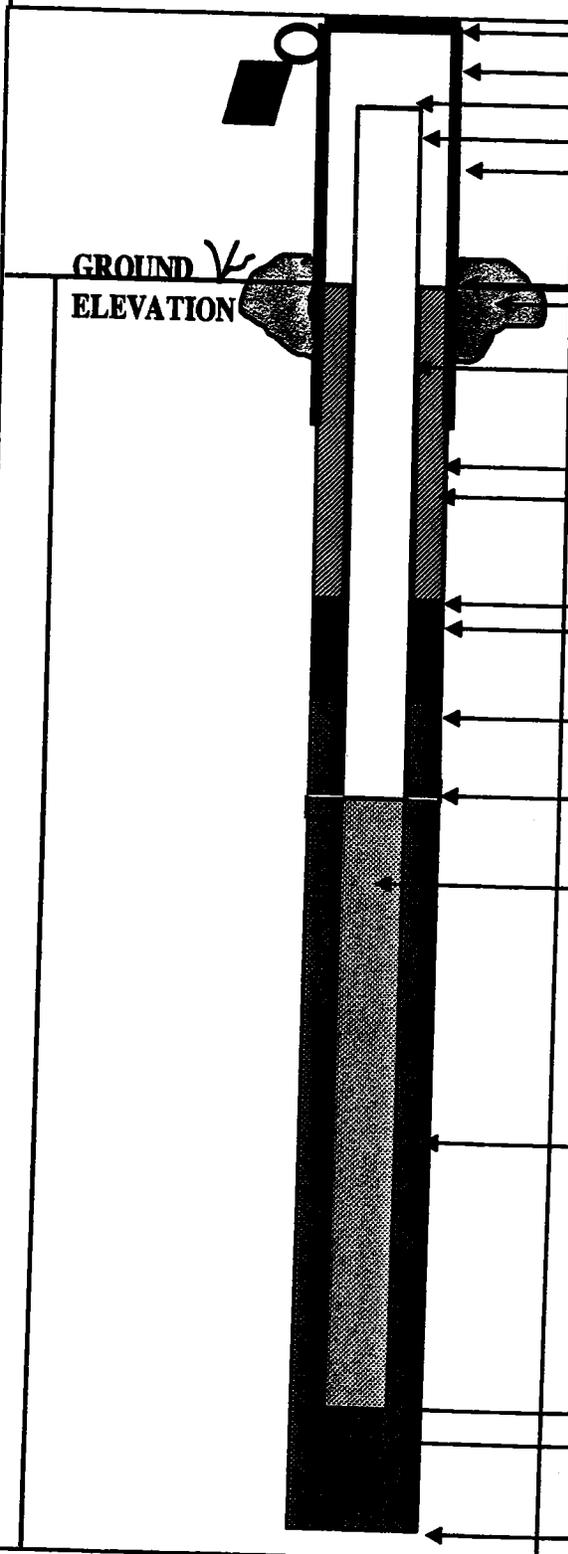
ELEVATION OF TOP OF SURFACE CASING:	<u> </u>
STICK-UP TOP OF SURFACE CASING:	<u>3.2</u>
ELEVATION OF TOP OF RISER PIPE:	<u>81.85</u>
RISER STICK-UP ABOVE GROUND SURFACE:	<u>2.7'</u>
I.D. OF SURFACE CASING:	<u>4 1/2"</u>
TYPE OF SURFACE CASING:	<u>4" STEEL Aluminum and locking 6"</u>
GROUND ELEVATION:	<u>78.5</u>
TYPE OF SURFACE SEAL:	<u>QUICKRETE 2x2x6" PAD</u>
RISER PIPE I.D.:	<u>2"</u>
TYPE OF RISER PIPE:	<u>SCH 40 PVC</u>
BOREHOLE DIAMETER:	<u>8"</u>
TYPE OF SEAL:	<u>TYPE I PORTLAND CEMENT</u>
ELEVATION / DEPTH OF SEAL:	<u>120.2</u>
TYPE OF SEAL:	<u>30/65 FINE SAND</u>
ELEVATION / DEPTH TOP OF FILTER PACK:	<u>123.0</u>
ELEVATION / DEPTH TOP OF SCREEN:	<u>125.0</u>
TYPE OF SCREEN:	<u>SCH 40 PVC</u>
SLOT SIZE X LENGTH:	<u>.010" X 5'</u>
I.D. OF SCREEN:	<u>2"</u>
TYPE OF FILTER PACK:	<u>20/30 Silica Sand</u>
ELEVATION / DEPTH BOTTOM OF SCREEN:	<u>130.0</u>
ELEVATION / DEPTH BOTTOM OF FILTER PACK:	<u>130.0</u>
TYPE OF BACKFILL BELOW WELL:	<u>NA</u>
ELEVATION / DEPTH OF BOREHOLE:	<u>130.0</u>



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING No.: CEF-076-MW107S

PROJECT: Bldg 285 / CEF DRILLING Co.: PRISONIC BORING No.: CEF-076-MW107S
 PROJECT No.: 0039 DRILLER: A. PETERSON DATE COMPLETED: 5-15-03
 SITE: NORTH FUEL FARM (Bldg 285) DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: L. KNIGHT DEV. METHOD: submersible EASTING: _____



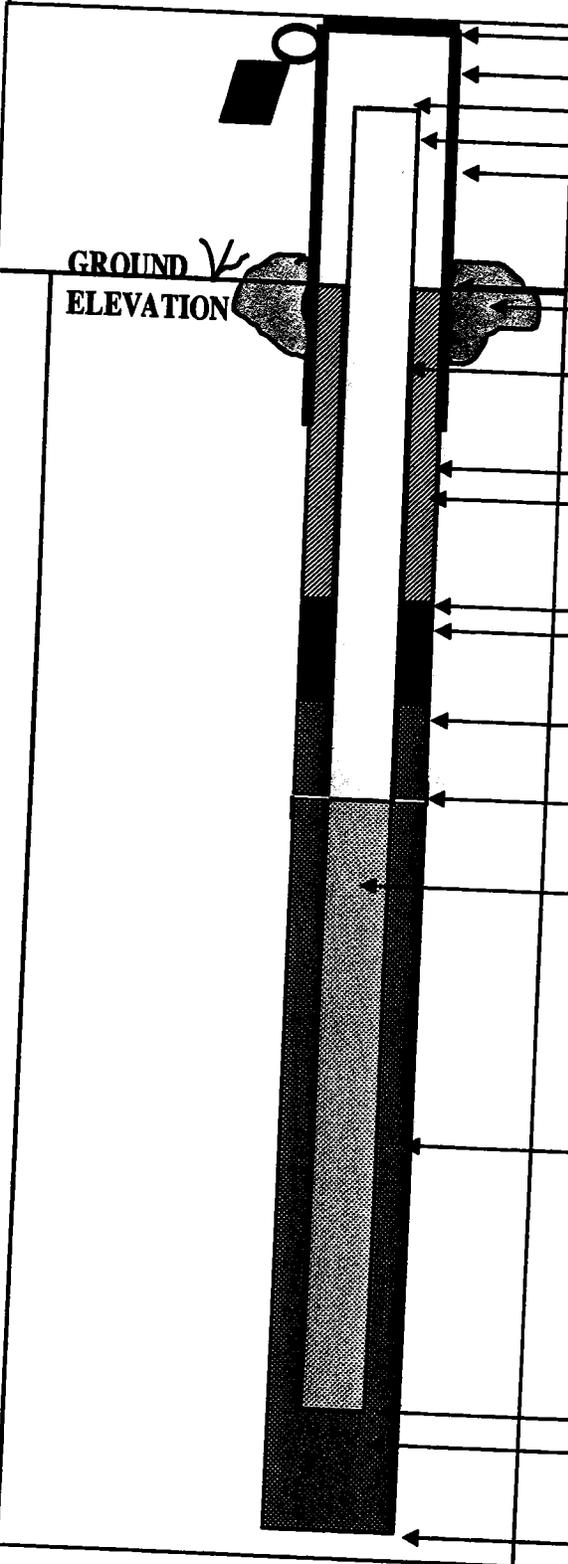
ELEVATION OF TOP OF SURFACE CASING: _____
 STICK-UP TOP OF SURFACE CASING: 3.0'
 ELEVATION OF TOP OF RISER PIPE: 82.26
 RISER STICK-UP ABOVE GROUND SURFACE: 2.5'
 I.D. OF SURFACE CASING: 4 1/2" MO
 TYPE OF SURFACE CASING: STEEL Aluminium
Hinged, locking
 GROUND ELEVATION: 79.0
 TYPE OF SURFACE SEAL: QUIKRETE
2' X 2' X 6" DAD
 RISER PIPE I.D.: 2"
 TYPE OF RISER PIPE: 3CH 40 PVC
 BOREHOLE DIAMETER: 8"
 TYPE OF SEAL: TYPE 7 PORTLAND CEMENT
 ELEVATION / DEPTH OF SEAL: _____
 TYPE OF SEAL: 30/65 FINE SAND 11.0
 ELEVATION / DEPTH TOP OF FILTER PACK: 12.5
 ELEVATION / DEPTH TOP OF SCREEN: 14.0
 TYPE OF SCREEN: 3CH 40 PVC
 SLOT SIZE X LENGTH: .010 X 10'
 I.D. OF SCREEN: 2"
 TYPE OF FILTER PACK: 20/30 Silica Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 114.0
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 114.0
 TYPE OF BACKFILL BELOW WELL: _____
 ELEVATION / DEPTH OF BOREHOLE: 114.0



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

CEP-076-
BORING NO.: MW-1085

PROJECT: Phase II drilling NFF (CEP) DRILLING Co.: PROSONIC BORING No.: CEP-076-MW-1085
 PROJECT No.: 3996 DRILLER: A. PETERSON DATE COMPLETED: 5-15-03
 SITE: NORTH FUEL FARM DRILLING METHOD: USA NORTHING: _____
 GEOLOGIST: L. KNIGHT DEV. METHOD: Submersible EASTING: _____



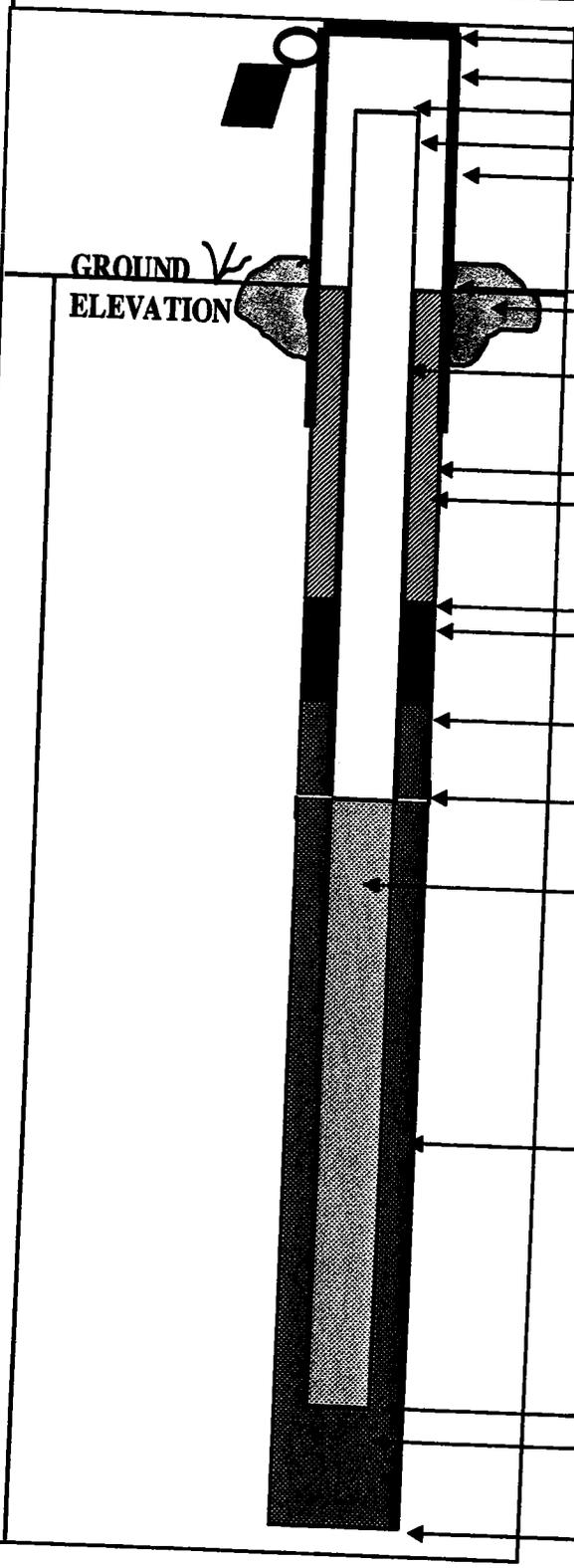
ELEVATION OF TOP OF SURFACE CASING: _____
 STICK-UP TOP OF SURFACE CASING: _____
 ELEVATION OF TOP OF RISER PIPE: 3.0
 RISER STICK-UP ABOVE GROUND SURFACE: 81.47
 I.D. OF SURFACE CASING: 4" 6" NO
 TYPE OF SURFACE CASING: STEEL
ALUMINUM, Locking
 GROUND ELEVATION: 77.9
 TYPE OF SURFACE SEAL: QUIKRETE
2'X2'X6" PAD
 RISER PIPE I.D.: 2"
 TYPE OF RISER PIPE: SCH 40 PVC
 BOREHOLE DIAMETER: 8"
 TYPE OF SEAL: TYPE I PORTLAND CEMENT
 ELEVATION / DEPTH OF SEAL: _____
 TYPE OF SEAL: 30/65 Fine Sand 11.0
 ELEVATION / DEPTH TOP OF FILTER PACK: 12.5
 ELEVATION / DEPTH TOP OF SCREEN: 14.0
 TYPE OF SCREEN: SCH 40 PVC
 SLOT SIZE X LENGTH: .010" X 10'
 I.D. OF SCREEN: 2"
 TYPE OF FILTER PACK: 20/30 Silica Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 14.0
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 14.0
 TYPE OF BACKFILL BELOW _____
 WELL: _____
 ELEVATION / DEPTH OF BOREHOLE: 114.0



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

CEP. 076.
BORING NO.: MW109S

PROJECT: PHASE II DRILLING - NFP (CEP) DRILLING Co.: PROSONIC BORING No.: CEP. 076. MW109S
 PROJECT No.: 3996 DRILLER: A. PETERSON DATE COMPLETED: 5.15.03
 SITE: NORTH FUEL FARM DRILLING METHOD: HSA NORTHING:
 GEOLOGIST: L. KNIGHT DEV. METHOD: Submersible EASTING:



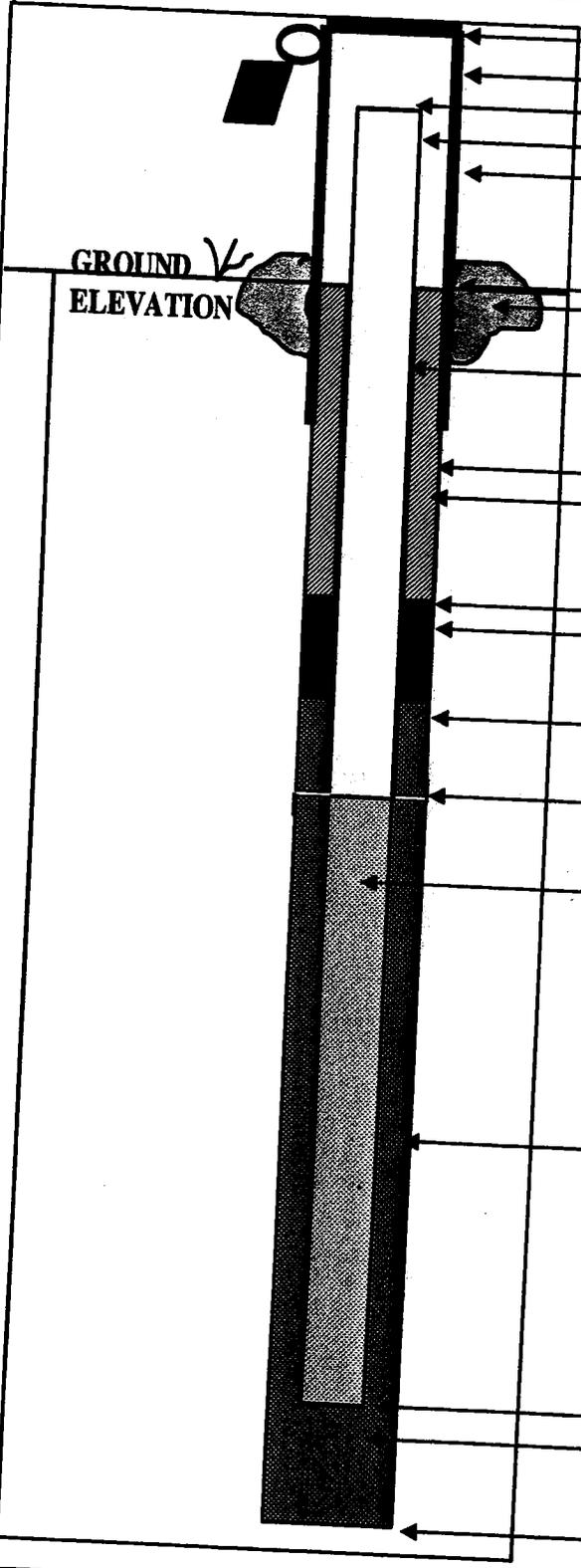
ELEVATION OF TOP OF SURFACE CASING:
 STICK-UP TOP OF SURFACE CASING: 3.0
 ELEVATION OF TOP OF RISER PIPE: 80.92
 RISER STICK-UP ABOVE GROUND SURFACE: 2.5
 I.D. OF SURFACE CASING: 4 1/2" MA
 TYPE OF SURFACE CASING: STEEL
Aluminum, hinged, locking
 GROUND ELEVATION: 78.9
 TYPE OF SURFACE SEAL: QUICKRETE
2' x 2' x 6" PRO
 RISER PIPE I.D.: 2"
 TYPE OF RISER PIPE: SCH 40 PVC
 BOREHOLE DIAMETER: 8"
 TYPE OF SEAL: ~~30/65 FINE SAND~~ TYPE I PORTLAND CEMENT
 ELEVATION / DEPTH OF SEAL: 11.0
 TYPE OF SEAL: 30/65 FINE SAND
 ELEVATION / DEPTH TOP OF FILTER PACK: 12.5
 ELEVATION / DEPTH TOP OF SCREEN: 14.0
 TYPE OF SCREEN: SCH 40 PVC
 SLOT SIZE X LENGTH: .010 x 10'
 I.D. OF SCREEN: 2"
 TYPE OF FILTER PACK: 20/30 Silica Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 14.0
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 14.0
 TYPE OF BACKFILL BELOW WELL:
 ELEVATION / DEPTH OF BOREHOLE: 114.0



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-1

PROJECT: NFF SARA INV. DRILLING Co.: PROSONIC BORING No.: CEF-076 0D
 PROJECT No.: N3996 DRILLER: Dan Mitchell DATE COMPLETED: 5-16-03
 SITE: NORTH FUEL FARM DRILLING METHOD: Potasonic NORTHING: _____
 GEOLOGIST: MERVIN DALE DEV. METHOD: AIR BLASTER EASTING: _____
PUMP



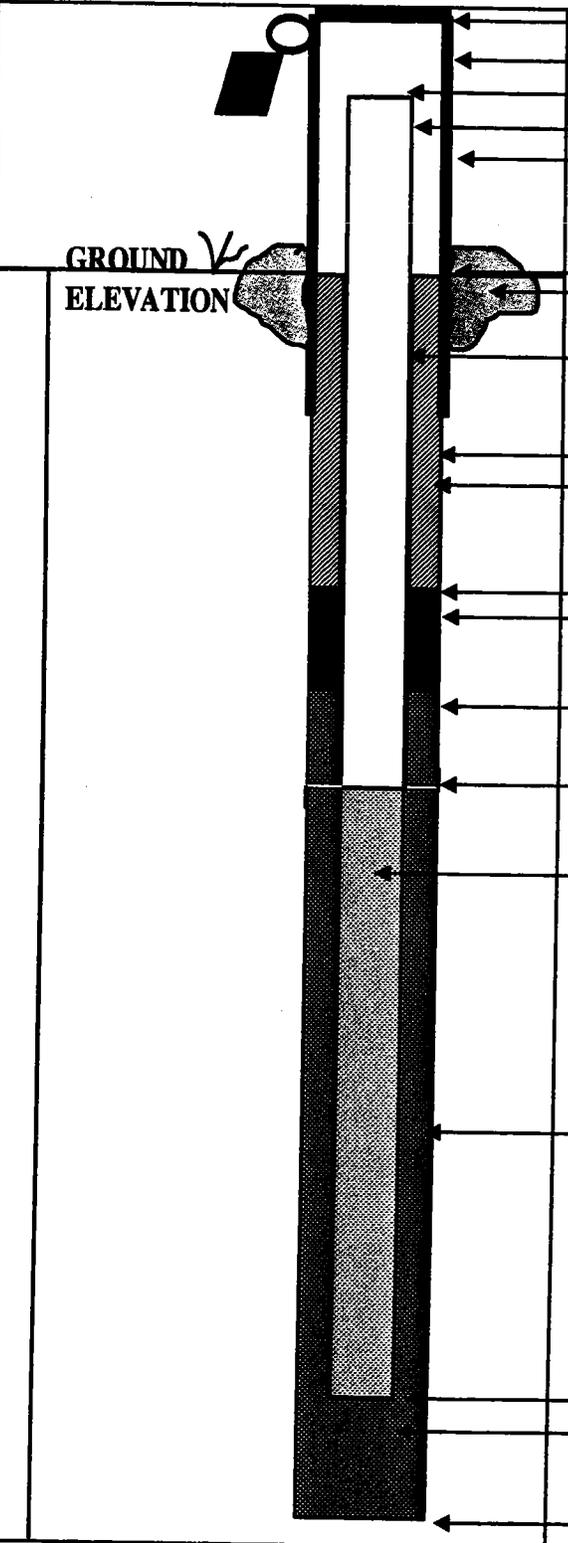
ELEVATION OF TOP OF SURFACE CASING: _____
 STICK-UP TOP OF SURFACE CASING: 3'
 ELEVATION OF TOP OF RISER PIPE: 82.51
 RISER STICK-UP ABOVE GROUND SURFACE: 3'
 I.D. OF SURFACE CASING: 6
 TYPE OF SURFACE CASING: Aluminum
Hinged, Locking
 GROUND ELEVATION: 78.7
 TYPE OF SURFACE SEAL: Quikrete
2' x 2' x 6" PAD
 RISER PIPE I.D.: 2 inch
 TYPE OF RISER PIPE: Sch. 40 PVC, flush thread
 BOREHOLE DIAMETER: 6 inch
 TYPE OF SEAL: Type I portland cement
 ELEVATION / DEPTH OF SEAL: _____
 TYPE OF SEAL: 30/65 SAND FINE 197'
 ELEVATION / DEPTH TOP OF FILTER PACK: 1101'
 ELEVATION / DEPTH TOP OF SCREEN: 1103'
 TYPE OF SCREEN: Sch. 40 PVC, flush thread
 SLOT SIZE X LENGTH: 0.010 inch x 5 ft.
 I.D. OF SCREEN: 2 inch
 TYPE OF FILTER PACK: 20/30 Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 1108'
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 1112
 TYPE OF BACKFILL BELOW WELL: 20/30 Sand
 ELEVATION / DEPTH OF BOREHOLE: 1112'



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-111Z

PROJECT: NFF SARA INV. DRILLING Co.: PROSONIC BORING No.: CEF-076-111Z
 PROJECT No.: N3996 DRILLER: D. Mitchell DATE COMPLETED: 5/18/03
 SITE: North Fuel Farm DRILLING METHOD: Rotasonic NORTHING:
 GEOLOGIST: MERVIN DUE DEV. METHOD: Submersible EASTING:



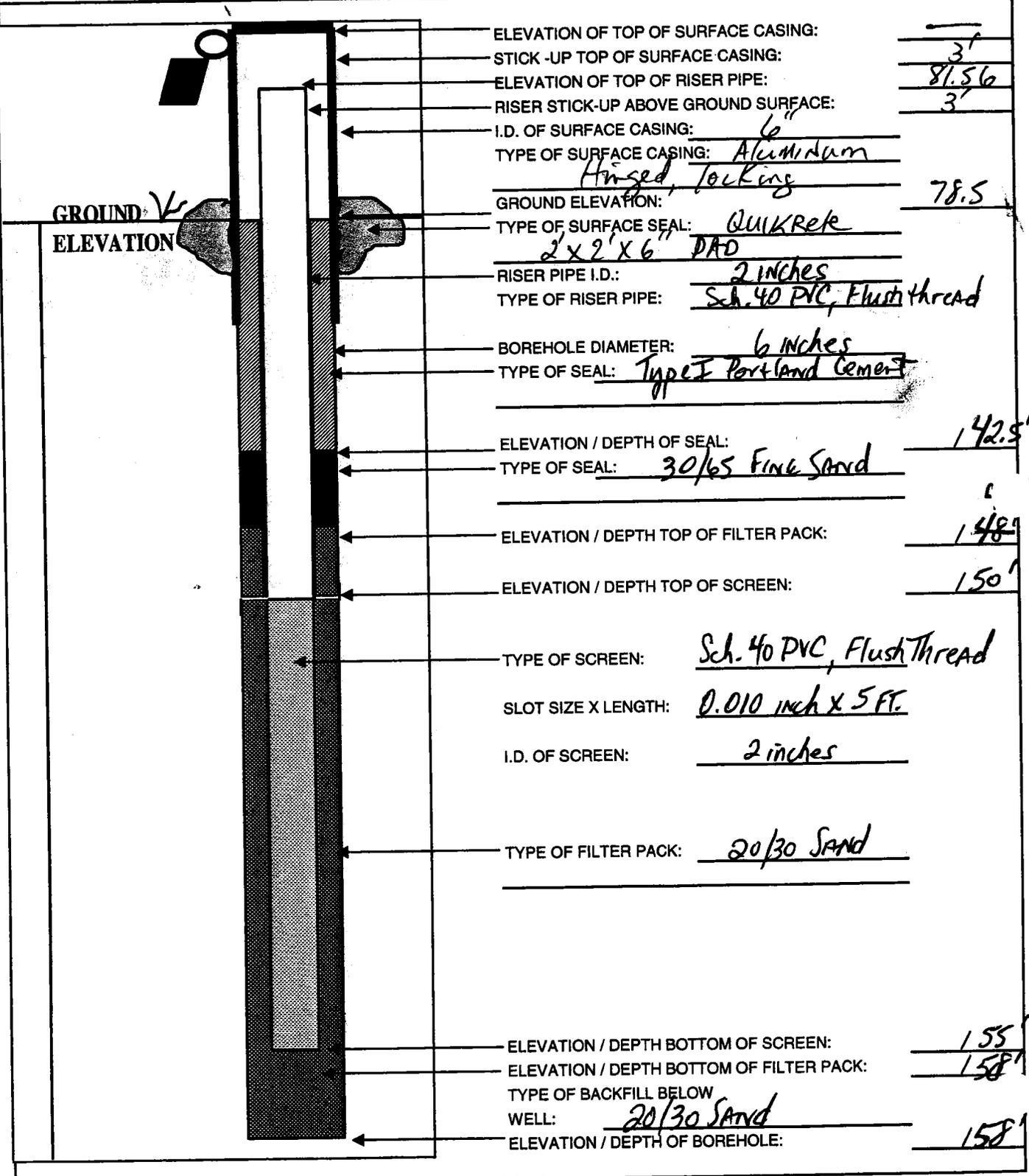
ELEVATION OF TOP OF SURFACE CASING:
 STICK-UP TOP OF SURFACE CASING: 3.5'
 ELEVATION OF TOP OF RISER PIPE: 82.23
 RISER STICK-UP ABOVE GROUND SURFACE: 3.5'
 I.D. OF SURFACE CASING: 6"
 TYPE OF SURFACE CASING: ALUMINUM
Hinged, locking
 GROUND ELEVATION: 78.5
 TYPE OF SURFACE SEAL: Qui Krete
2x2'x6" PAD
 RISER PIPE I.D.: 2 inches
 TYPE OF RISER PIPE: Sch. 40 PVC, Flush Thread
 BOREHOLE DIAMETER: 6 inches
 TYPE OF SEAL: Type I Portland
Cement
 ELEVATION / DEPTH OF SEAL: 158.5'
 TYPE OF SEAL: 30/65 FINE SAND
 ELEVATION / DEPTH TOP OF FILTER PACK: 162'
 ELEVATION / DEPTH TOP OF SCREEN: 165'
 TYPE OF SCREEN: Sch. 40 PVC, Flush Thread
 SLOT SIZE X LENGTH: 0.010 inch x 5 FT.
 I.D. OF SCREEN: 2 inches
 TYPE OF FILTER PACK: 20/30 Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 170'
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 170.5'
 TYPE OF BACKFILL BELOW WELL: 20/30 Sand
 ELEVATION / DEPTH OF BOREHOLE: 171'



Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: CEF-076-112I

PROJECT: NFF SARA INV. DRILLING Co.: PROSONIC BORING No.: CEF-076-112
 PROJECT No.: N3996 DRILLER: D. MITCHELL DATE COMPLETED: 5/18/03
 SITE: North Fault from Medina Ave MD DRILLING METHOD: ROTARONIC NORTHING: _____
 GEOLOGIST: MELVIN DALE DEV. METHOD: Submersible EASTING: _____



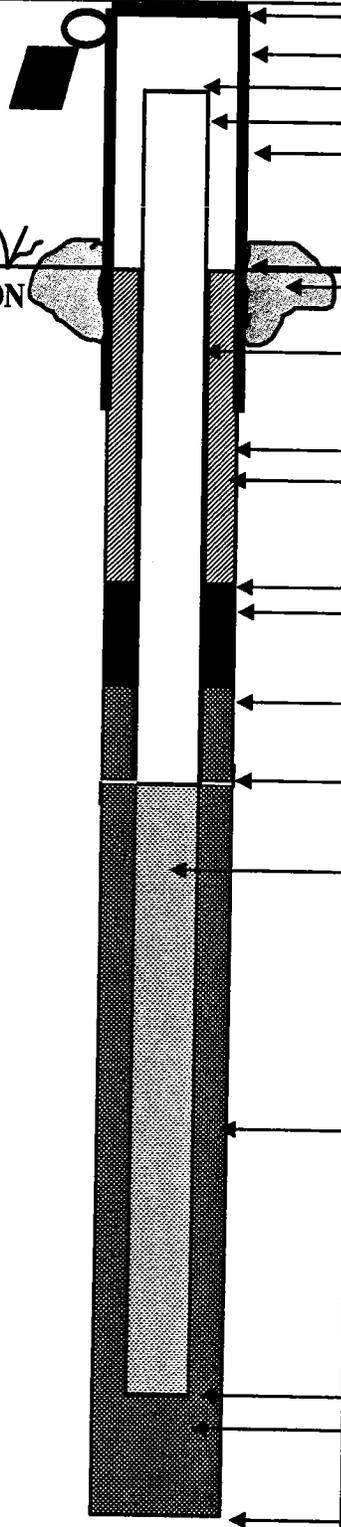


Tetra Tech NUS, Inc. **OVERBURDEN MONITORING WELL SHEET**

BORING NO.: _____

PROJECT: NFF SARA INV. DRILLING Co.: PROSONIC BORING No.: CEF-076-1135
 PROJECT No.: N3996 DRILLER: D. Mitchell DATE COMPLETED: 5/19/03
 SITE: NORTH FUEL FARM DRILLING METHOD: ROD SONIC NORTHING: _____
 GEOLOGIST: MEVIN DACE DEV. METHOD: Submersible EASTING: _____

GROUND
ELEVATION

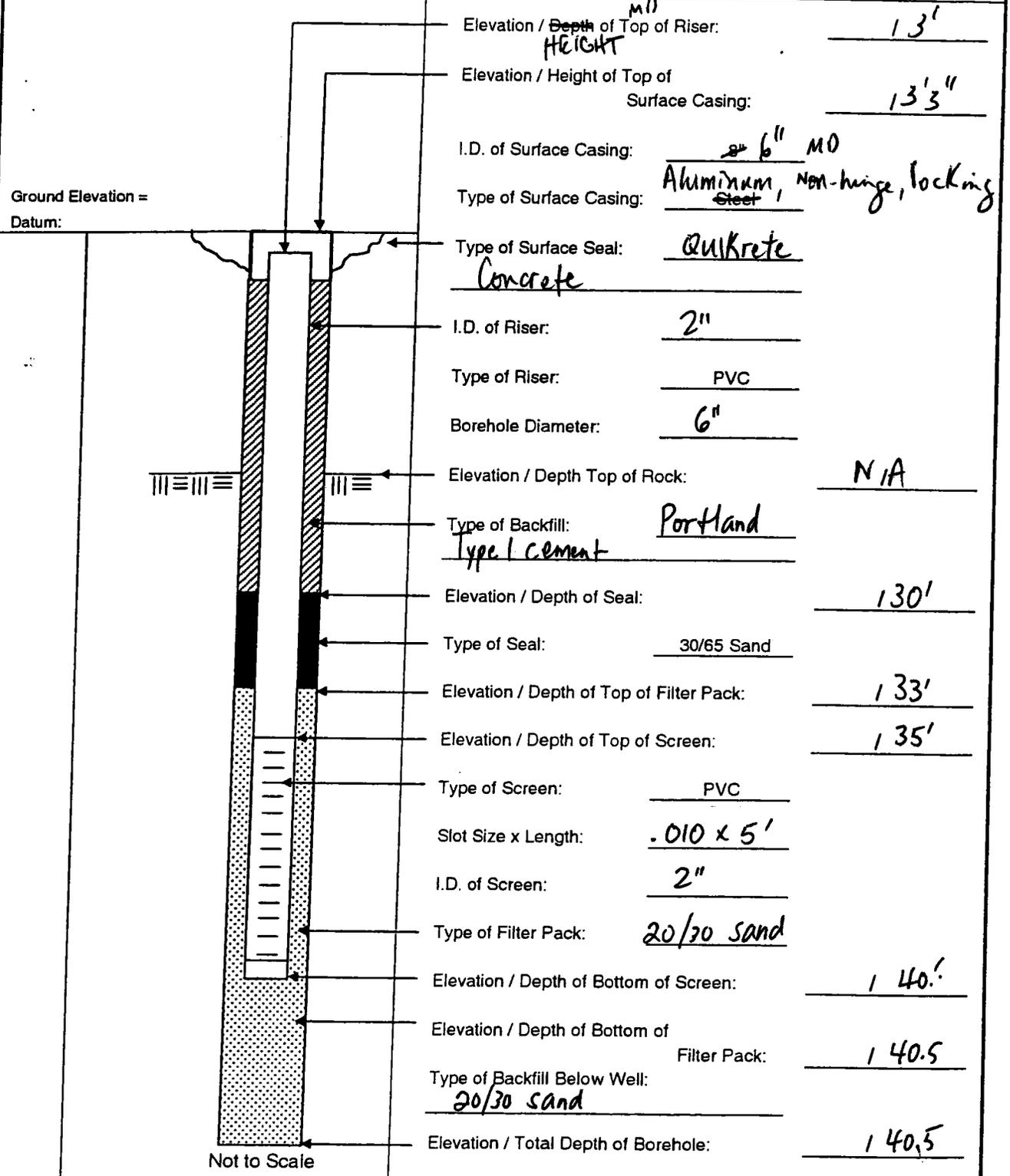


ELEVATION OF TOP OF SURFACE CASING: _____
 STICK -UP TOP OF SURFACE CASING: 3'
 ELEVATION OF TOP OF RISER PIPE: 81.22
 RISER STICK-UP ABOVE GROUND SURFACE: 3'
 I.D. OF SURFACE CASING: 6"
 TYPE OF SURFACE CASING: Aluminum Hinged locking
 GROUND ELEVATION: 78.0
 TYPE OF SURFACE SEAL: Quickrete
4in 2'x2'x6" PAD
 RISER PIPE I.D.: 2 inches
 TYPE OF RISER PIPE: Sch. 40 PVC, Flush Thread
 BOREHOLE DIAMETER: 6 inches
 TYPE OF SEAL: Type I Portland Cement
 ELEVATION / DEPTH OF SEAL: 129'
 TYPE OF SEAL: 30/65 Sand
 ELEVATION / DEPTH TOP OF FILTER PACK: 132'
 ELEVATION / DEPTH TOP OF SCREEN: 135'
 TYPE OF SCREEN: Sch. 40 PVC, Flush Thread
 SLOT SIZE X LENGTH: 0.010 inch x 5 FT.
 I.D. OF SCREEN: 2 inches
 TYPE OF FILTER PACK: 20/30 Sand
 ELEVATION / DEPTH BOTTOM OF SCREEN: 140'
 ELEVATION / DEPTH BOTTOM OF FILTER PACK: 142'
 TYPE OF BACKFILL BELOW WELL: 20/30 Sand
 ELEVATION / DEPTH OF BOREHOLE: 142'



MONITORING WELL SHEET (SINGLE-CASED)

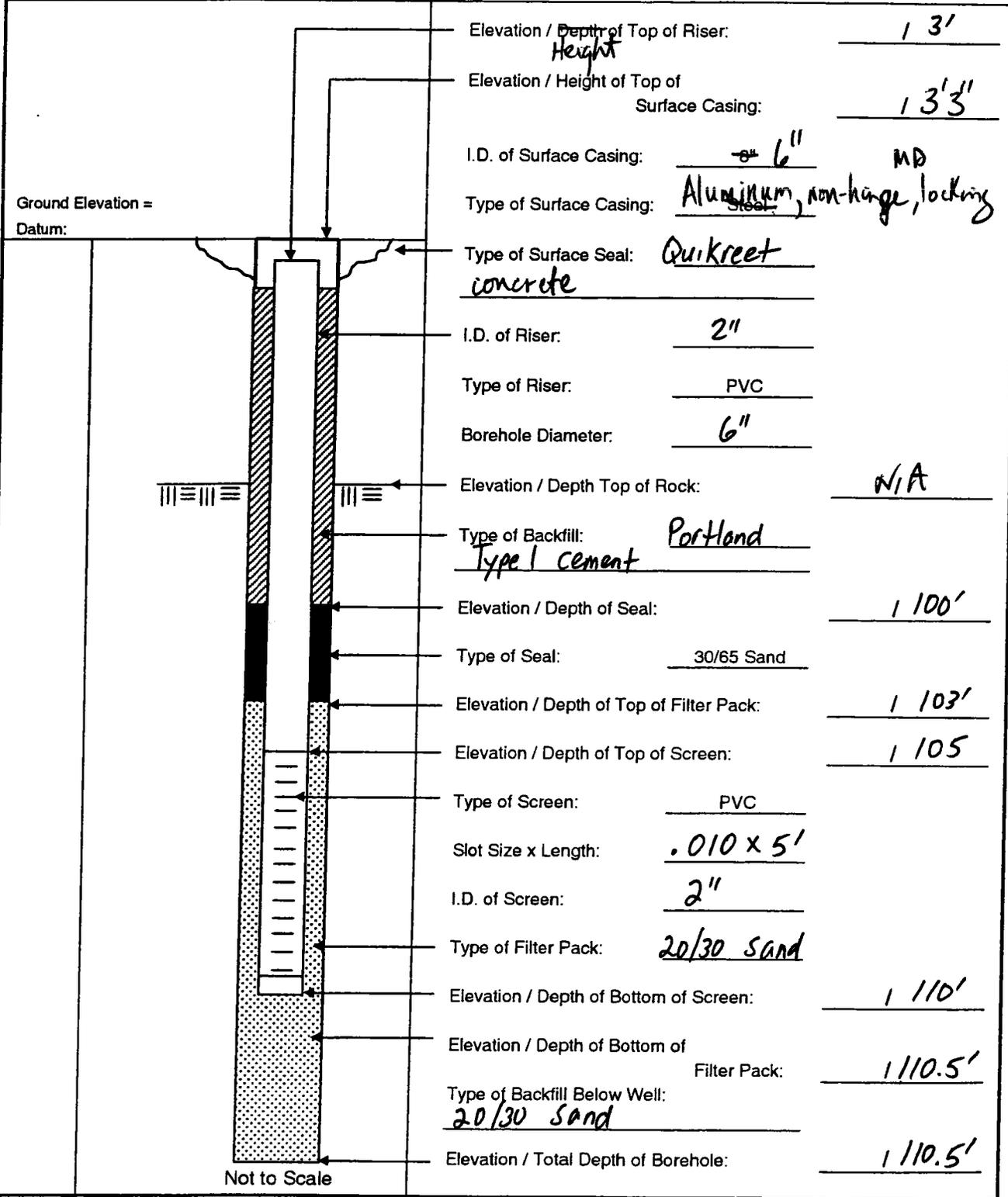
PROJECT: NFF SATRA DRILLING Co.: Pro Sonic BORING No.: CEF-076-1145
 PROJECT No.: #4248 N3996 DRILLER: D. Mitchell DATE COMPLETED: 7/1/03
 SITE: NFF DRILLING METHOD: Rotasonic NORTHING: ---
 GEOLOGIST: S. McGuire DEV. METHOD: Submersible EASTING: ---





MONITORING WELL SHEET (SINGLE-CASED)

PROJECT: NFF SARA DRILLING Co.: Pro Sonic BORING No.: CEF-076-115D
 PROJECT No.: N3996 DRILLER: C. Wilson DATE COMPLETED: 6/30/03
 SITE: NFF DRILLING METHOD: Rotasonic NORTHING: ---
 GEOLOGIST: S. McGuire DEV. METHOD: Reverse Air Pump EASTING: ---



Elevation / Depth of Top of Riser: 1 3'
 Elevation / Height of Top of Surface Casing: 1 3'3"
 I.D. of Surface Casing: 6" MD
 Type of Surface Casing: Aluminum, non-hinge, locking
 Type of Surface Seal: Quikreet concrete
 I.D. of Riser: 2"
 Type of Riser: PVC
 Borehole Diameter: 6"
 Elevation / Depth Top of Rock: N/A
 Type of Backfill: Portland Type 1 cement
 Elevation / Depth of Seal: 1 100'
 Type of Seal: 30/65 Sand
 Elevation / Depth of Top of Filter Pack: 1 103'
 Elevation / Depth of Top of Screen: 1 105'
 Type of Screen: PVC
 Slot Size x Length: .010 x 5'
 I.D. of Screen: 2"
 Type of Filter Pack: 20/30 sand
 Elevation / Depth of Bottom of Screen: 1 110'
 Elevation / Depth of Bottom of Filter Pack: 1 110.5'
 Type of Backfill Below Well: 20/30 sand
 Elevation / Total Depth of Borehole: 1 110.5'

Not to Scale



MONITORING WELL SHEET

PROJECT: NAS GECIL FIELD

DRILLING Co.:

PROSONIC

BORING No.:

CEF-076-116D

PROJECT No.: 0009 3996

DRILLER:

Ch. Wilson

DATE COMPLETED:

6/27/03

SITE: North Fuel Farm

DRILLING METHOD:

Rotosonic

NORTHING:

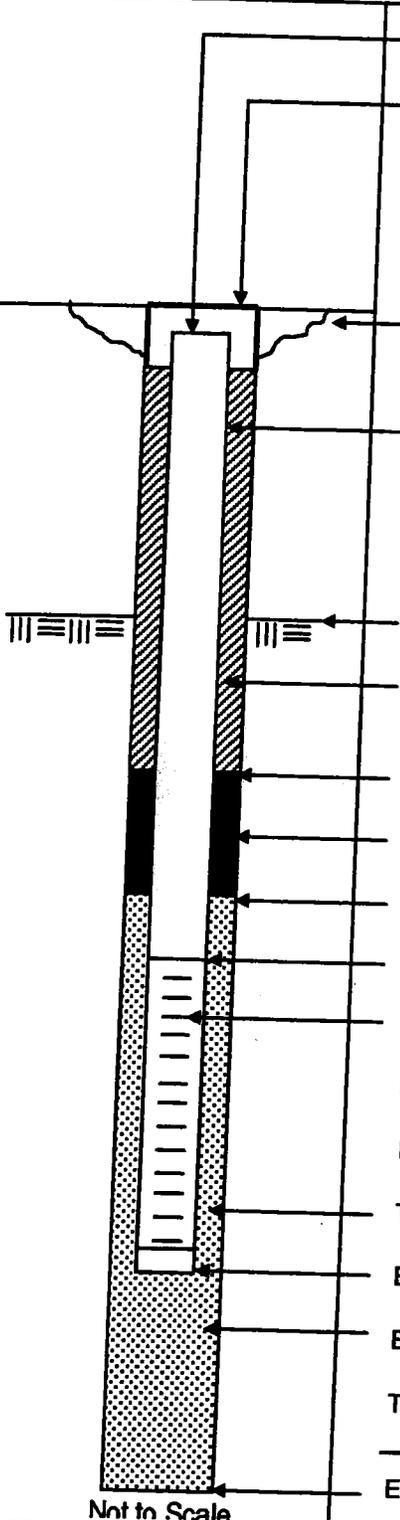
GEOLOGIST: M. Dale

DEV. METHOD:

Reverse Air Pump

EASTING:

Ground Elevation = Datum:



Not to Scale

Elevation / Depth of Top of Riser:

13'

Elevation / Height of Top of Surface Casing:

13'3"

I.D. of Surface Casing:

6 inches

Type of Surface Casing:

Aluminum Non-hinge Above-grade

Type of Surface Seal:

Quikrete Concrete

I.D. of Riser:

2 inch

Type of Riser:

Sch. 40 PVC

Borehole Diameter:

6 inch

Elevation / Depth Top of Rock:

N/A

Type of Backfill:

Portland Cement Type I

Elevation / Depth of Seal:

1100'

Type of Seal:

30/65 Fine Sand

Elevation / Depth of Top of Filter Pack:

1103'

Elevation / Depth of Top of Screen:

1105'

Type of Screen:

Sch. 40 PVC

Slot Size x Length:

0.010" x 5'

I.D. of Screen:

2 inch

Type of Filter Pack:

20/30 SAND

Elevation / Depth of Bottom of Screen:

1110'

Elevation / Depth of Bottom of Filter Pack:

1110'

Type of Backfill Below Well:

NATIVE SOIL

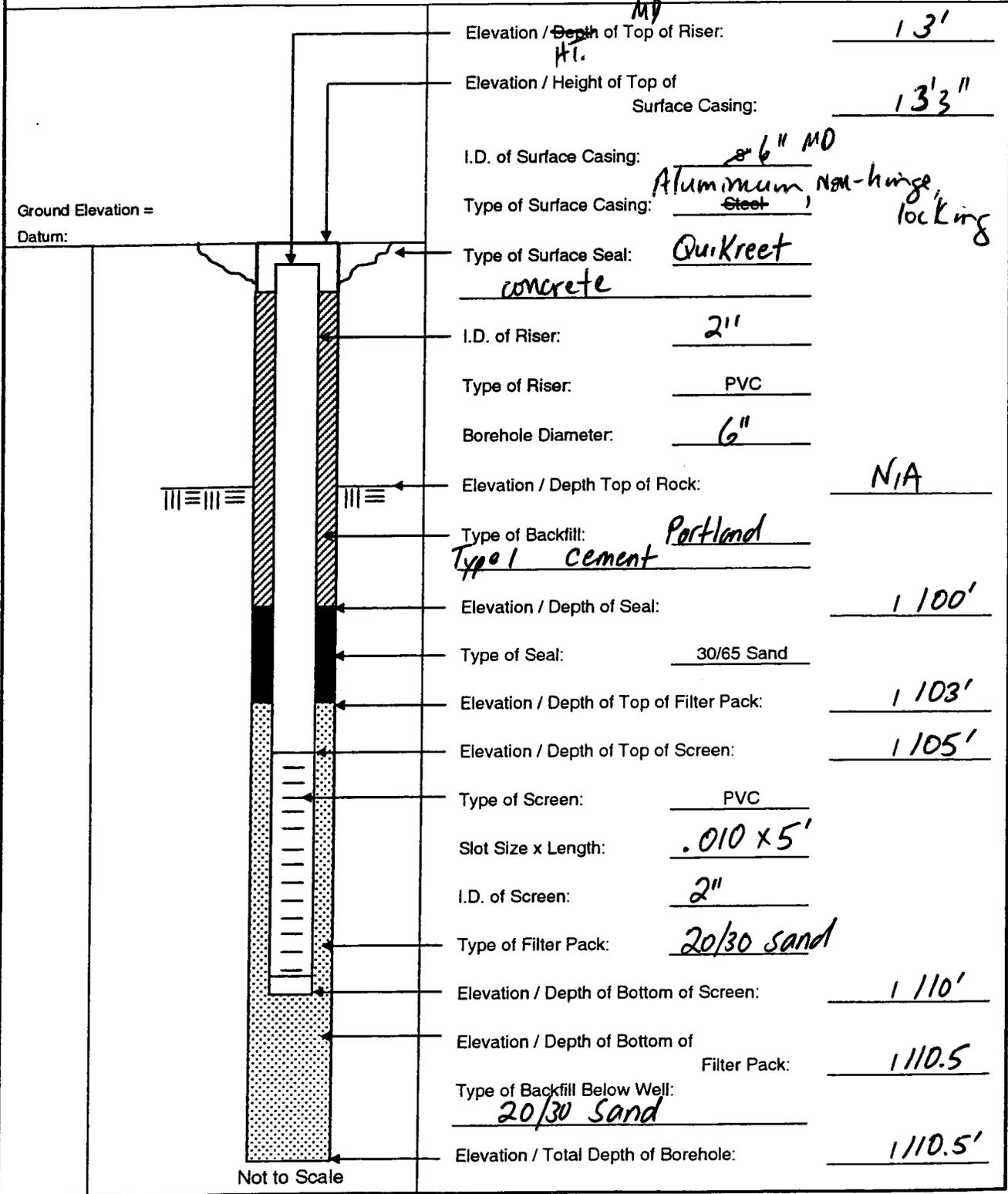
Elevation / Total Depth of Borehole:

1110'



MONITORING WELL SHEET (SINGLE-CASED)

PROJECT: NFF SARA DRILLING Co.: Pro Sonic BORING No.: CEF-076-117D
 PROJECT No.: ~~N4248~~ N3996 DRILLER: C. Wilson DATE COMPLETED: 6/29/03
 SITE: NFF DRILLING METHOD: Rotosonic NORTHING: ---
 GEOLOGIST: S. McGuire DEV. METHOD: AIR BLADDER PUMP EASTING: ---



Elevation / ^{MP}Depth of Top of Riser: 13'
 Elevation / Height of Top of Surface Casing: 13'3"
 I.D. of Surface Casing: 8 1/2" MD
 Type of Surface Casing: Aluminum Non-hinge locking
 Type of Surface Seal: Quikreet
concrete
 I.D. of Riser: 2"
 Type of Riser: PVC
 Borehole Diameter: 6"
 Elevation / Depth Top of Rock: N/A
 Type of Backfill: Portland
Type 1 cement
 Elevation / Depth of Seal: 1100'
 Type of Seal: 30/65 Sand
 Elevation / Depth of Top of Filter Pack: 1103'
 Elevation / Depth of Top of Screen: 1105'
 Type of Screen: PVC
 Slot Size x Length: .010 x 5'
 I.D. of Screen: 2"
 Type of Filter Pack: 20/30 sand
 Elevation / Depth of Bottom of Screen: 1110'
 Elevation / Depth of Bottom of Filter Pack: 1110.5
 Type of Backfill Below Well: 20/30 Sand
 Elevation / Total Depth of Borehole: 1110.5'

APPENDIX H
CERTIFICATES OF CONFORMANCE



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-81S Site Geologist: LOUIS KNIGHT
 Site Name: NORIN FUEL FARM Drilling Company: TRANS AMERICAN
 Date Installed: 12-4-01 Driller: D. HERRNE
 Project Name: NEP SAR Project Number: 1399L

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" SCH 40 PVC	TONY DRILLING SUPPLIES / ORLANDO, FL	N/O
Well Screen	2" SCH 40 PVC	TONY DRILLING SUPPLIES / ORLANDO, FL	
End Cap	2" SCH 40 PVC	TONY DRILLING SUPPLIES / ORLANDO, FL	
Drilling Fluid	N/A	N/A	
Drilling Fluid Additives	N/A	N/A	
Backfill Material	N/A	N/A	
Annular Filter Pack	STANDARD / 20/30 SILICA SAND	STANDARD SAND CO.	
Bentonite Seal CAULS SAND	STANDARD / 30-65 SILICA SAND	STANDARD SAND CO.	
Annular Grout	QUIKRETE - TYPE I PORTLAND CEMENT	FLORIDA IRRIGATION	
Surface Cement	QUIKRETE - CONCRETE	FLORIDA IRRIGATION	
Protective Casing	N/A	N/A	
Paint	N/A	N/A	
Rod Lubricant	N/A	N/A	
Compressor Oil	N/A	N/A	
MANHOLES (8" DIAM)	PETROLEUM EQUIPMENT MANUFACTURING Co (PENCO)	TONY DRILLING SUPPLIES / ORLANDO, FL	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: *[Signature]*



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF. 076. 82S Site Geologist: LOUIS KNIGHT
 Site Name: NORTH FUEL FARM Drilling Company: TRANS AMERICAN
 Date Installed: 12-4-01 Driller: D. HERRN
 Project Name: NFF SAR Project Number: N3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" SCH 40 PVC	TONEX DRILLING SUPPLIES / ORLANDO, FL	N/A
Well Screen	2" SCH 40 PVC	TONEX DRILLING SUPPLIES / ORLANDO, FL	
End Cap	2" SCH 40 PVC	TONEX DRILLING SUPPLIES / ORLANDO, FL	
Drilling Fluid	N/A	N/A	
Drilling Fluid Additives	N/A	N/A	
Backfill Material	N/A	N/A	
Annular Filter Pack	STANDARD / 20/30 SILICA SAND	STANDARD SAND CO.	
Bentonite Seal CABLE SAND	STANDARD / 30-65 SILICA SAND	STANDARD SAND CO.	
Annular Grout	QUIKRETE - TYPE I PORTLAND CEMENT	FLORIDA IRRIGATION	
Surface Cement	QUIKRETE - CONCRETE	FLORIDA IRRIGATION	
Protective Casing	N/A	N/A	
Paint	N/A	N/A	
Rod Lubricant	N/A	N/A	
Compressor Oil	N/A	N/A	
MANHOLES (8" DIAM)	PETROLEUM EQUIPMENT MANUFACTURING Co (PENCO)	TONEX DRILLING SUPPLIES / ORLANDO, FL	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: [Signature]



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: 372 SAN 25F
 Site Name: CEF-0776-835
 Date Installed: 12/10/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996 J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2 x 10' sch 40	Atlantic Drilling Supply / Jax	No
Well Screen	Monoflex 2 x 5' sch 40 .010	Atlantic Drilling Supply / Jax	
End Cap / Well Point	Locking cap / PVC	Atlantic Drilling Supply / Jax	
Drilling Fluid	none		
Drilling Fluid Additives			
Backfill Material			
Annular Filter Pack	Standard Sand 20-30	Standard sand / Jax	
Bentonite Seal	Standard sand 30-65	Standard sand / Jax	
Annular Grout	Portland Cement	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete Co. Atlanta, GA	
Protective Casing	8" bolt-down cover steel	Atlantic Drilling Supply, Jax	
Paint	None		
Rod Lubricant			
Compressor Oil			
Drums	(1) 55 Gallon	Duval Container / Jax 355-0711	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McGuire



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-04I
 Site Name: NORTH FUEL FARM
 Date Installed: 12/11/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996 J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	MonoFlex 2x10' sch 40	Atlantic Drilling Supply / JAX	NO
Well Screen	MonoFlex 2x5' sch 40 .010	Atlantic Drilling Supply / JAX	
End Cap / Well Point	Locking cap / PVC	Atlantic Drilling Supply / JAX	
Drilling Fluid	None		
Drilling Fluid Additives	↓		
Backfill Material			
Annular Filter Pack	Standard sand 20-30	Standard Sand / JAX	
Bentonite Seal	Standard sand 30-65	Standard Sand / JAX	
Annular Grout	Portland Cement Quikrete	Florida Irrigation / JAX	
Surface Cement	Quikrete	Quikrete Co. Atlanta, GA	
Protective Casing	Aluminum 6" sticking / cable	ADS, JAX, FL.	
Paint	None		
Rod Lubricant	↓		
Compressor Oil			
Drum	55 Gallon	Duval Container 355-0711 / JAX	↓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-85 I
 Site Name: NORTH FUEL FARM
 Date Installed: 12/11/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996 J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	MonoFlex 2x10' Sch 40	Atlantic Drilling Supply / Jax	NO
Well Screen	MonoFlex 2x5' Sch 40 .010	Atlantic Drilling Supply / Jax	
End Cap / Well Point	Locking cap / PVC	Atlantic Drilling Supply / Jax	
Drilling Fluid	None		
Drilling Fluid Additives			
Backfill Material			
Annular Filter Pack	Standard Sand 20-30	Standard Sand / Jax	
Bentonite-Seal	Standard Sand 30-65	Standard Sand / Jax	
Annular Grout	Portland Cement Quikrete	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete Co. ATLANTA, GA	
Protective Casing	6" Aluminum hinged lockable	ADS, Jax, FL.	
Paint	None		
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Duval Container 355-0711 / Jax	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-865
 Site Name: NORTH FUEL FARM
 Date Installed: 12/12/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996 J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2x10' sch 40	Atlantic Drilling Supply / Jax	No
Well Screen	Monoflex 2x5' sch 40	Atlantic Drilling supply / Jax	
End Cap	Locking cap / PVC	Atlantic Drilling supply / Jax	
Drilling Fluid	None		
Drilling Fluid Additives			
Backfill Material	↓		
Annular Filter Pack	Standard Sand 20-30	Standard sand / Jax	
Bentonite Seal	Standard sand 30-65	Standard sand / Jax	
Annular Grout	Portland Cement Quikrete	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete Atlanta, GA	
Protective Casing	6" Aluminum hinged lockable	ADS, Jax, Ec	
Paint	None		
Rod Lubricant			
Compressor Oil	↓		
Drum	55 Gallon		
		↑ Dual Containers / Jax	↓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McQuinn



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-876-87S
 Site Name: NORTH FUEL FARM
 Date Installed: 12/12/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996 J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	MonoFlex 2x10' sch 40	Atlantic Drilling Supply / Jax	ND
Well Screen	MonoFlex 2x5' sch 40	Atlantic Drilling Supply / Jax	
End Cap / well Point	Locking Cap & PVC	Atlantic Drilling supply / Jax	
Drilling Fluid	None		
Drilling Fluid Additives			
Backfill Material	↓		
Annular Filter Pack	Standard sand	Standard sand / Jax	
Bentonite Seal	Standard sand	Standard sand / Jax	
Annular Grout	Per Hand cement Quikrete	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete Atlanta, GA.	
Protective Casing	6" Aluminum hinged lockable	ADS, Jax, FL	
Paint	None		
Rod Lubricant	↓		
Compressor Oil			
Drum	55 Gallon		
		Dual Container	Jax ↓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McShane



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-88S
 Site Name: NORTH FUEL FARM
 Date Installed: 12/12/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DAVE
 Drilling Company: TRANSAMERICAN
 Driller: LOUIS JOHNSON
 Project Number: N3996J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	MonoFlex 2x10' sch 40	Atlantic Drilling Supply / JAX	NO
Well Screen	MonoFlex 2x10' sch 40	Atlantic Drilling Supply / JAX	
End Cap / Well Point	Locking cap / PVC	Atlantic Drilling Supply / JAX	
Drilling Fluid	None		
Drilling Fluid Additives			
Backfill Material			
Annular Filter Pack	Standard Sand 20-30	Standard Sand / JAX	
Bentonite Seal	Standard Sand 30-65	Standard Sand / JAX	
Annular Grout	Portland Cement Quikrete	Florida Irrigation / JAX	
Surface Cement	Quikrete	Quikrete, Atlanta, GA	
Protective Casing	6" Aluminum, hinged, locking	ADS, JAX, FL	
Paint	none		
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Dural Container / JAX	

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dave



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-876-89I
 Site Name: NORTH FUEL FARM
 Date Installed: 12/13/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996J60050320

Material	Brand/Description	Source/Supplier	Sample Collected?
Well Casing	Monoflex 2x10' sch 40	Atlantic Drilling Supply / Jax	No
Well Screen	Monoflex 2x5' sch 40	Atlantic Drilling Supply / Jax	
End Cap / Well Point	Locking Cap / PVC	Atlantic Drilling Supply / Jax	
Drilling Fluid	None		
Drilling Fluid Additives			
Backfill Material	↓		
Annular Filter Pack	Standard sand 20-30	Standard sand / Jax	
Bentonite Seal	Standard sand 30-65	Standard sand / Jax	
Annular Grout	Portland Cement Quikrete	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete, Atlanta, GA	
Protective Casing	8" steel bolt-tension manhole	AP 5, Jax, FL	
Paint	None		
Rod Lubricant	↓		
Compressor Oil			
Drum	55 Gallon		
		Duval Container / Jax	

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McShure



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-905
 Site Name: NORTH FUEL FARM
 Date Installed: 12/13/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	MonoFlex 2x10' sch 40	Atlantic Drilling Supply / Jax	NO
Well Screen	MonoFlex 2x10' sch 40	Atlantic Drilling Supply / Jax	
End Cap / Well Point	Locking cap / PVC	Atlantic Drilling Supply / Jax	
Drilling Fluid	None		
Drilling Fluid Additives			
Backfill Material	✓		
Annular Filter Pack	Standard Sand	Standard sand / Jax	
Bentonite Seal	Standard sand	Standard sand / Jax	
Annular Grout	Portland cement	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete Atlanta, GA	
Protective Casing	8" steel bolt down manhole	ADS, Jax, FL	
Paint	None		
Rod Lubricant	✓		
Compressor Oil			
Drum	55 Gallon	Dual Container / Jax	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McShane



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-276-915
 Site Name: NORTH FUEL FARM
 Date Installed: 12/13/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: LEAS JOHNSON
 Project Number: N3996J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex, sch 40 2x10'	Atlantic Drilling Supply / JAX	NO
Well Screen	Monoflex 2x5' sch 40	Atlantic Drilling Supply / JAX	
End Cap / P Well Point	Locking Cap / PVC	Atlantic Drilling Supply / JAX	
Drilling Fluid	None		
Drilling Fluid Additives			
Backfill Material			
Annular Filter Pack	Standard sand	Standard Sand / JAX	
Bentonite Seal	Standard sand	Standard Sand / JAX	
Annular Grout	Portland Cement Quikrete	Florida Irrigation / JAX	
Surface Cement	Quikrete	Quikrete Atlanta, GA	
Protective Casing	6" Aluminum, hinged, locking	ADS, JAX, FL	
Paint	None		
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Dual Container / JAX	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Cott R McQuinn



MONITORING WELL MATERIALS CERTIFICATE OF CONFORMANCE

Well Designation: CEF-876-925
 Site Name: NORTH FUEL FARM
 Date Installed: 12/16/02
 Project Name: SARA, NORTH FUEL FARM
 Site Geologist: MERVIN W. DACE
 Drilling Company: TRANSAMERICAN
 Driller: LOUIS JOHNSON
 Project Number: N3996J60050320

Material	Brand/Description	Source/Supplier	Sample Collected?
Well Casing	Monoflex, sch 40 2x10	Atlantic Drilling Supply/Jax	ND
Well Screen	Monoflex, sch 40 2SS 6010scem	Atlantic Drilling Supply/Jax	
End Cap / Well Point	Locking Cap / PVC	Atlantic Drilling Supply/Jax	
Drilling Fluid	None	Atlantic Drilling Supply/Jax	
Drilling Fluid Additives			
Backfill Material			
Annular Filter Pack	20130 Standard Sand	Standard Sand / Jax	
Bentonite Seal	30165 Fine Grain Sand	Standard Sand / Jax	
Annular Grout	Portland Cement	Florida Innovation / Jax	
Surface Cement	Quikrete	Quikrete Atlanta, GA.	
Protective Casing	6" Aluminum, Anodized, Locking	ADS, JAX, FL	
Paint	None		
Rod Lubricant			
Compressor Oil			
			✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: C. D. Dace



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-955 Site Geologist: MERVIN W. DALE
 Site Name: NORTH FUEL FARM Drilling Company: TRANSAMERICAN
 Date Installed: 12/16/02 Driller: Louis Johnson
 Project Name: SARA, NORTH FUEL FARM Project Number: N3996J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex sch 40 2x10	Atlantic Drilling Supply/Jax	NO
Well Screen	Monoflex sch 40 2x5 geo screen	Atlantic Drilling Supply/Jax	
End Cap / Well Point	Locking Cap / PVC	Atlantic Drilling Supply/Jax	
Drilling Fluid	NOKO		
Drilling Fluid Additives	↓		
Backfill Material			
Annular Filter Pack	20130 Standard Sand	Standard Sand / Jax	
Bentonite Seal	30165 Fine Grain Sand	Standard Sand / Jax	
Annular Grout	Portland Cement	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete, ATLANTA, GA	
Protective Casing	6" Aluminum lined / locking	AOS, JAX, FL	
Paint	None		
Rod Lubricant	↓		
Compressor Oil			

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: C. Fleck



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-97D
 Site Name: NORTH FUEL FARM
 Date Installed: 12/19/02
 Project Name: SARA, NORTH FUEL FARM
 Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: LOUIS JOHNSON
 Project Number: A3996J6050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex, sch 40 2x10	Atlantic Drilling Supply/Jax	NO
Well Screen	Monoflex, sch 40 2x5 6010 screen	Atlantic Drilling Supply/Jax	
End Cap / Well Point	Locking Cap / PVC	Atlantic Drilling Supply/Jax	
Drilling Fluid	High Yield Bentonite	WYO-BEN / Billings Mont	
Drilling Fluid Additives	None		
Backfill Material	Potable H ₂ O	CECIL FIELD	
Annular Filter Pack	None	None	
Bentonite Seal	20130 Standard Sand	Standard Sand Jax	
Annular Grout	30165 Fine Grain Sand	Standard Sand Jax	
Surface Cement	Portland Cement	Florida Irrigation Jax	
Protective Casing	Quikrete	Buckrete ATLANTA, GA	
Paint	6" Aluminum hinged locking	ADS, JAX, FL	
Rod Lubricant	None		
Compressor Oil			
			✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: C. Dale



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076 - FOD
 Site Name: NORTH FUEL FARM
 Date Installed: 12/19/02
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: A3996 J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2x10' Sch 40	Atlantic Drilling Supply / Jax	No
Well Screen	Monoflex 2x5' Sch 40	Atlantic Drilling Supply / Jax	
End Cap / Well Point	Locking Cap / PVC	Atlantic Drilling Supply / Jax	
Drilling Fluid	None - Potable Water	CECIL FIELD	
Drilling Fluid Additives	None	WYO-BEN, BIRMINGHAM, MT.	
Backfill Material	None		
Annular Filter Pack	Standard Sand 20-30	Standard Sand / Jax	
Bentonite-Seal	Standard Sand 30-65	Standard Sand / Jax	
Annular Grout	Portland Cement Quikrete	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete, Atlanta, GA	
Protective Casing	6" Aluminum, hinged, locking	AOS, JAX, FL.	
Paint	None		
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Duval Container 355-0711/JAX	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: M. W. Dale



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-09D
 Site Name: NORTH FUEL FARM
 Date Installed: 11/6/03
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DAVE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2x10' Sch 40	Atlantic Drilling Supply / Jax	NO
Well Screen	Monoflex 2x5' Sch 40 .010	Atlantic Drilling Supply / Jax	
End Cap / well Point	Locking cap / PVC	Atlantic Drilling supply / Jax	
Drilling Fluid	None	CECIL FIKERD	
Drilling Fluid Additives	High yield bentonite	WYO-BEN, Billings, MT.	
Backfill Material	None		
Annular Filter Pack	Standard Sand 20-30	Standard Sand / Jax	
Bentonite-Seal	Standard Sand 30-65	Standard Sand / Jax	
Annular Grout	Port Hand Cement Quikrete	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete, Atlanta, GA	
Protective Casing	6" Aluminium, hinged, locking	APS, Jax, FL	
Paint	None		
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Duval Container 355-0711 / Jax	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. Mc June



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-276-00D
 Site Name: NORTH FUEL FARM
 Date Installed: 11/7/03
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: LEYS JOHNSON
 Project Number: N3996 J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2x10' Sch 40	Atlantic Drilling Supply / Jax	NO
Well Screen	Monoflex 2x5' Sch 40 .010	Atlantic Drilling Supply / Jax	
End Cap / Well Point	Locking cap / PVC	Atlantic Drilling Supply / Jax	
Drilling Fluid	None - Potable water	CECIL FIELD	
Drilling Fluid Additives	None - High Yield bentonite	WYO-BEN, Billings, MT.	
Backfill Material	None		
Annular Filter Pack	Standard Sand 20-30	Standard Sand / Jax	
Bentonite-Seal	Standard Sand 30-65	Standard Sand / Jax	
Annular Grout	Portland Cement Quikrete	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete, ATLANTA, GA	
Protective Casing	6" Aluminum, lined, locking	ADS, Jax, FL.	
Paint	None		
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Duval Container 355-0711/Jax	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McJune



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-015
 Site Name: NORTH FUEL FARM
 Date Installed: 1/8/03
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2x10' Sch 40	Atlantic Drilling Supply / Jax	No
Well Screen	Monoflex 2x5' Sch 40 .010	Atlantic Drilling Supply / Jax	
End Cap / Well Point	Locking cap / PVC	Atlantic Drilling supply / Jax	
Drilling Fluid	None		
Drilling Fluid Additives			
Backfill Material			
Annular Filter Pack	Standard Sand 20-30	Standard Sand / Jax	
Bentonite-Seal	Standard Sand 30-65	Standard sand / Jax	
Annular Grout	Portland Cement Quikrete	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete, ATLANTA, GA	
Protective Casing	6" Aluminum, hinged, locking	ADS, JAX, FL	
Paint	None		
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Duval Container 355-0711/Jax	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McJune



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-102D
 Site Name: NORTH FUEL FARM
 Date Installed: 1/19/03
 Project Name: SARA, NORTH FUEL FARM

Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Louis Johnson
 Project Number: N3996J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2x10' Sch 40	Atlantic Drilling Supply /JAX	NO
Well Screen	Monoflex 2x5' Sch 40 .010	Atlantic Drilling Supply /JAX	
End Cap / Well Point	Locking Cap / PVC	Atlantic Drilling Supply /JAX	
Drilling Fluid	MP Water Potable WATER	CECIL FLEED	
Drilling Fluid Additives	High Yield Bentonite	WYO-BEN, BILLINGS, MONT.	
Backfill Material	None		
Annular Filter Pack	Standard Sand 20-30	Standard Sand /JAX	
Bentonite-Seal	Standard Sand 30-65	Standard Sand /JAX	
Annular Grout	Portland Cement Quikrete	Florida Irrigation /JAX	
Surface Cement	Quikrete	Quikrete, ATLANTA, GA	
Protective Casing	6' Aluminum hinged locking	ADS, JAX, FL	
Paint	None		
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Duval Container 355-0711/JAX	✓

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McGuire



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-876-103D
 Site Name: NORTH FUEL FARM
 Date Installed: 1/21/03
 Project Name: SARA, NORTH FUEL FARM
 Site Geologist: MERVIN W. DALE
 Drilling Company: TRANSAMERICAN
 Driller: Lewis Johnson
 Project Number: A3996 J60050320

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2x10' sch 40	Atlantic Drilling Supply / Jax	NO
Well Screen	Monoflex 2x5' sch 40	Atlantic Drilling Supply / Jax	
End Cap / Well Point	Locking Cap / PVC	Atlantic Drilling Supply / Jax	
Drilling Fluid	Portable WATER	CECIL FIELD	
Drilling Fluid Additives	High yield bentonite		
Backfill Material	NONE	WYO-BEN, BILLINGS, MT.	
Annular Filter Pack	Standard sand 20-30	Standard sand / Jax	
Bentonite Seal	Standard sand 30-65	Standard sand / Jax	
Annular Grout	Port-Hand Cement	Florida Irrigation / Jax	
Surface Cement	Quikrete	Quikrete, ATLANTA, GA.	
Protective Casing	6" Aluminum, hinged locking	AOS, JAX, FL	
Paint	NONE		
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Duval Container 355-0711/JAX	

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McGinnis



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-104D Site Geologist: MELVIN DAVE
 Site Name: NORTH FUEL FARM Drilling Company: PROSONIC
 Date Installed: 5/14/03 Driller: DAN MITCHELL
 Project Name: SARA INVESTIGATION Project Number: N3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" X 10' Sch. 40 Flush-threaded	MONOFLEX, LARGO, FL	NO
Well Screen	2" X 5' Sch. 40 0.010" slots flush threaded	MONOFLEX, LARGO, FL	NO
End Cap	6" Sch. 40 PVC (2" I.D.)	MONOFLEX, LARGO, FL	NO
Drilling Fluid	None Potable water	Hyramite Activation Loop	NO
Drilling Fluid Additives	None		NO
Backfill Material	None		NO
Annular Filter Pack	20-30 GRADE SAND	STANDARD SAND, JAX, FL	NO
Bentonite Seal, Fine Sand	30-65 GRADE SAND	STANDARD SAND, JAX, FL	NO
Annular Grout	PORTLAND CEMENT Type I	TARMAC AMERICA Inc. Medley, FL	NO
Surface Cement	Quikrete	Quikrete, ATLANTA, GA	NO
Protective Casing	6" Aluminum hinged locking	ADS, JAX, FL	NO
Paint	None		NO
Rod Lubricant	None		NO
Compressor Oil	None		NO

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Melvin W. Dave



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEJ-076-105I
 Site Name: NORTH FUEL FARM
 Date Installed: 5/15/03
 Project Name: SARA INVESTIGATION

Site Geologist: MELVIN DAVE
 Drilling Company: PROSONIC
 Driller: DAN MITCHELL
 Project Number: N3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" x 10' SCH. 40 Flush-threaded	MONOFLEX, LARGO, FL	NO
Well Screen	2" x 5' SCH. 40, 0.010" slots flush threaded	MONOFLEX, LARGO, FL	NO
End Cap	6" SCH. 40 PVC (2" I.D.)	MONOFLEX, LARGO, FL	NO
Drilling Fluid	None <u>None</u>	<u>Hydrant @ Aviation of Loop</u>	<u>YES</u> <u>NO</u>
Drilling Fluid Additives	<u>None</u>		
Backfill Material	<u>None</u>		
Annular Filter Pack	<u>None</u>		
Bentonite Seal, Fine Sand	20-30 GRADE SAND	STANDARD SAND, JAX, FL	
Annular Grout	30-65 GRADE SAND	STANDARD SAND, JAX, FL	NO
Surface Cement	PORTLAND CEMENT, Type I	TARMAC AMERICA, Inc. Melby, FL	NO
Protective Casing	Quikrete	Quikrete Atlanta, GA	NO
Paint	6" Aluminum thirged backing	ADS, JAX, FL	NO
Rod Lubricant	<u>None</u>		NO
Compressor Oil	<u>None</u>		NO

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Melvin H. Dale



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-110D
 Site Name: NORTH FUEL FARM
 Date Installed: 5/16/03
 Project Name: SARA INVESTIGATION

Site Geologist: MELVIN DAVE
 Drilling Company: PROSENIC
 Driller: DAN MITCHELL
 Project Number: N3996

Material	Brand/Description	Source/Supplier	Sample Collected?
Well Casing	2" X 10' SCH. 40 Flush-threaded	MONOFLEX, LARGO FL	NO
Well Screen	2" X 5' SCH. 40 0.010" slots flush threaded	MONOFLEX, LARGO FL	NO
End Cap	2" I.D. X 6" long SCH. 40 PIC, final thread	MONOFLEX, LARGO FL	NO
Drilling Fluid	NO	MONOFLEX, LARGO FL	NO
Drilling Fluid Additives	None	HYDRANT & AVIATION AND LOOP	YES/MD
Backfill Material	None		
Annular Filter Pack	20-30 GRADE SAND	STANDARD SAND, JAX, FL	
Bentonite Seal, Fine Sand	30-65 GRADE SAND	STANDARD SAND, JAX, FL	NO
Annular Grout	PORTLAND CEMENT, Type I	TARMAC AMERICA INC. Mcdonia FL	NO
Surface Cement	Quikrete	Quikrete, ATLANTA, GA.	NO
Protective Casing	6" Aluminum winged locking	ADS, JAX, FL	NO
Paint	None		NO
Rod Lubricant	None		
Compressor Oil	None		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Melvin W. Dave



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-111I Site Geologist: MIRVIN DAVE
 Site Name: NORTH FUEL FARM Drilling Company: PROSONIC
 Date Installed: 5/18/03 Driller: Dan Mitchell
 Project Name: SARA INVESTIGATION Project Number: N3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	1.0. 2" X 10' SCH. 40 Flush-threaded	MANOFLEX, LARGO, FL	NO
Well Screen	2" X 5' SCH. 40, 0.010" slots, flush threaded	MANOFLEX, LARGO, FL	NO
End Cap	2" 1.0 X 6" long, Sch. 40 PVC, flush threaded	MANOFLEX, LARGO, FL	NO
Drilling Fluid	NO None Potable water	Firehydrant @ Avon Lake Ave Log Rd.	YES
Drilling Fluid Additives	NO None Bentonite powder	QUICKCEL, BAROD, HYPONIX, NO	
Backfill Material	None		
Annular Filter Pack	20-30 GRADE SAND	STANDARD SAND, JAX, FL	NO
Bentonite Seal	Fine Sand	STANDARD SAND, JAX, FL	NO
Annular Grout	PORTLAND CEMENT, Type I	FARMAC America Inc. Wadsworth, GA	NO
Surface Cement	Quikrete	Quikrete Atlanta, GA	NO
Protective Casing	6" Aluminum winged locking	ADS, JAX, FL	NO
Paint	None		
Rod Lubricant	None		
Compressor Oil	None		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mirvin D. Sale

* CEMEX, TIFTON, GA.



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-1121 Site Geologist: MERVIN W. DALE
 Site Name: NORTH FUEL FARM Drilling Company: PROSONIC
 Date Installed: 5/18/03 Driller: DAN MITCHELL
 Project Name: NORTH FUEL FARM SARA INVESTIGATION Project Number: N3976 C70168

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2 IN. I.D. SCH. 40 PVC Flush Thread	Monoflex, Largo, FL	NO
Well Screen	5' long 2 IN. I.D. SCH. 40 PVC Flush Thread 0.010 in. Slots	Monoflex, Largo, FL	NO
End Cap	2 IN. I.D. SCH. 40 PVC Flush Thread 1/2" long	Monoflex, Largo, FL	NO
Drilling Fluid	Potable WATER	HYDRANT AT AVIATION AND LOOP	YES
Drilling Fluid Additives	NONE		NO
Backfill Material	NONE		NO
Annular Filter Pack	20/30 SAND	STANDARD SAND JAX, FL	NO
Bentonite Seal, FINE SAND	30/65 FINE SAND	STANDARD SAND, JAX, FL	NO
Annular Grout	Type I Portland Cement of Quikrete	CEMEX, TIFTON, GA	NO
Surface Cement	Quikrete	Quikrete Atlanta, GA	NO
Protective Casing	6" Aluminum, hung, baling	AOS, JAX, FL	NO
Paint	NONE		
Rod Lubricant	NONE		
Compressor Oil	NONE		

MD

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-1135 Site Geologist: MELVIN DACE
 Site Name: NORTH FUEL FARM Drilling Company: PROSONIC
 Date Installed: 5/19/03 Driller: DAN MITCHELL
 Project Name: NFF SARA Project Number: A13996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2IN. F.D. Sch. 40 PVC Flush Thread	MONOFLEX LARGO, FL	NO
Well Screen	5' long 2IN. F.D. Sch. 40 PVC Flush Thread 0.010" Slots	MONOFLEX LARGO, FL	NO
End Cap	2IN. F.D. Sch. 40 PVC Flush Thread 6" long	MONOFLEX LARGO, FL	NO
Drilling Fluid	Potable Water		
Drilling Fluid Additives	None	HighPoint AT Aviation & Loop	NO YES AND
Backfill Material	None		
Annular Filter Pack	20/30 Sand	STANDARD, JAX, FL	NO
Bentonite Seal Fine Sand	20/30 Sand	STANDARD, JAX, FL	NO
Annular Grout	Type I Portland Cement	CEMEX, TIFTON, GA	NO
Surface Cement	Quikrete	Quikrete ATLANTA, GA	NO
Protective Casing	6" Aluminum, lugged, locked	ADS, JAX, FL	NO
Paint	None		
Rod Lubricant			
Compressor Oil			

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Melvin D. Dace



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEP-076-1145
 Site Name: NORTH FUEL FARM
 Date Installed: 7/1/03
 Project Name: SARA INVESTIGATION

Site Geologist: SCOTT MC GUIRE
 Drilling Company: PROSONIC
 Driller: Charles W. Lora
 Project Number: 13996

Material	Brand/Description	Source/Supplier	Sample Collected?
Well Casing	Sch. 40 PVC Flush Thread 2" x 10'	MONOFLEX / ADS	NO
Well Screen	Sch. 40 PVC Flush Thread 3" x 10', 0.010" slots	MONOFLEX / ADS	NO
End Cap	Sch. 40 PVC	MONOFLEX / ADS	NO
Drilling Fluid	POTABLE WATER	CECIL WATER SUPPLY (Local Hydrant)	NO
Drilling Fluid Additives	None		
Backfill Material	None		
Annular Filter Pack	20/70 Sand		
Bentonite Seal	Fine Sand	Standard Sand, TX, FL	NO
Annular Grout	30/65 Sand	Standard Sand, TX, FL	NO
Surface Cement	Type I PORTLAND Cement *	ARMAC, MEDLEY, FL	NO
Protective Casing	CONCRETE	QUICKRETE CO. ATLANTA, GA	NO
Paint	6 IN. ALUMINUM NON-RING JOLKING	ADS, TX, FL	NO
Rod Lubricant	None		
Compressor Oil	None		
* Annular Grout Add.	QUICKCEL (Hi Yield Bentonite)	BAROID DRILLING, HOUSTON, TX	NO

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott Mc Guire *ADS = Atlantic Drilling Supply*



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-115D
 Site Name: NORTH TUEL FARM
 Date Installed: 6/30/03
 Project Name: SARA INVESTIGATION

Site Geologist: SCOTT MCGUIRE
 Drilling Company: PROSONIC
 Driller: Charles Wilcox
 Project Number: 13926

Material	Brand/Description	Source/Supplier	Sample Collected?
Well Casing	Sch. 40 PVC Flush Thread 2" x 10'	MONOFLEX / ADS	NO
Well Screen	Sch. 40 PVC Flush Thread, 3" x 10', 0.010" slots	MONOFLEX / ADS	NO
End Cap	Sch. 40 PVC	MONOFLEX / ADS	NO
Drilling Fluid	POTABLE WATER	CECIL WATER SUPPLY (Lower Hydro)	NO
Drilling Fluid Additives	None		
Backfill Material	None		
Annular Filter Pack	20/70 Sand	Standard Sand, TAY, FL	NO
Bentonite Seal	Fine Sand	Standard Sand, TAY, FL	NO
Annular Grout	Type I Portland Cement	LARMAC, MEDLEY, FL	NO
Surface Cement	QUICKRETE	QUICKRETE CO. ARANDA, GA.	NO
Protective Casing	6" Aluminum, non-hinge locking	ADS, TAY, FL.	NO
Paint	None		
Rod Lubricant	None		
Compressor Oil	None		
* Annular Grout Add.	QUICKCEL (Hi Yield Bentonite)	BAROID DRILLING, HOUSTON, TX	NO

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

ADS = Atlantic Drilling Supply

Signature of Site Geologist: Scott R. McGuire



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEJ-076-116D
 Site Name: NORTH FUEL FARM NASCF
 Date Installed: 6/26-6/27/03
 Project Name: SARA INVESTMENT ACTION

Site Geologist: MERVYN DARE
 Drilling Company: PROSONIC
 Driller: Ch. Wilson
 Project Number: N3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	MONOFLEX Sch. 40 PVC Flush Thread 2" x 10'	Atlantic Drilling Supply, JAX, FL	NO
Well Screen	MONOFLEX Sch. 40 PVC, Flush Th. 2" x 10' 0.010" slots	Atlantic Drilling Supply, JAX, FL	NO
End Cap (SUP CAP)	MONOFLEX PVC 4" x 2" diam, Sch. 40 PVC	Atlantic Drilling Supply, JAX, FL	NO
Drilling Fluid	Portable Water		NO
Drilling Fluid Additives	None	Cecil Water Supply (local hydrant)	NO
Backfill Material	None		—
Annular Filter Pack	20/30 Sand		—
Bentonite Seal Fine Sand	30/65 Sand	Standard Sand, JAX, FL	NO
Annular Grout	Type 1 Portland Cement x	Standard Sand, JAX, FL	NO
Surface Cement	QUICKRETE	TARMAC MEALEY, FL	NO
Protective Casing	6" Aluminum, non-hinge, locking	QUICKRETE CO. Atlanta, GA	NO
Paint		ADS, JAX, FL	NO
Rod Lubricant			—
Compressor Oil			—
* Annular Grout Add.	QUICK GEL (Hi-Yield Bentonite)	BAROID DRILLING, Houston, TX	NO

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervyn Dare



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-076-117D
 Site Name: NORTH FUEL FARM
 Date Installed: 6/29/03
 Project Name: SARA INVESTIGATION

Site Geologist: Scott McGuire
 Drilling Company: PROSONIC
 Driller: Charles Wilcox
 Project Number: 13586

Material	Brand/Description	Source/Supplier	Sample Collected?
Well Casing	Sch. 40 PVC Flush Thread, 2" x 10'	MONOFLEX / ADS	NO
Well Screen	Sch. 40 PVC Flush Thread, 2" x 10', 0.010" slots	MONOFLEX / ADS	NO
End Cap	Sch. 40 PVC	MONOFLEX / ADS	NO
Drilling Fluid	POTABLE WATER	CECIL WATER SUPPLY (Local Hydro)	NO
Drilling Fluid Additives	NONE		
Backfill Material	NONE		
Annular Filter Pack	20/30 SAND		
Annular Seal	Fine Sand	Standard Sand, JAX, FL	NO
Annular Grout	30/65 Sand	Standard Sand, JAX, FL	NO
Surface Cement	Type I PORTLAND Cement X	ALMAC, MEXICO, FL	NO
Protective Casing	QUIKRETE	QUIKRETE CO. ATLANTA, GA	NO
Paint	6" Aluminum Non-hung, locking	ADS, JAX, FL	NO
Rod Lubricant	NONE		
Compressor Oil	NONE		
* Annular Grout Add.	QUIK GEL (4 1/2 Yield Bentonite)	BAROID DRILLING, HOUSTON, TX	NO

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Scott R. McGuire

ADS = Atlantic Drilling Supply

APPENDIX I

GROUNDWATER SAMPLING AND LOW FLOW DATA SHEETS



Project Site Name: North Fuel Farm, Cecil Field
Project No.: 3996.JG0050325

Sample ID No.: CEF-076-GW- 12
Sample Location: CEF-076- 12
Sampled By: MONTELL
C.O.C. No.: NFF-121001

- [] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

- Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA

Table with columns: Date, Time, Method, Color Visual, pH Standard, S.C. ms/cm, Temp. °C, Turbidity NTU, DO mg/l, ORP, Other. Includes handwritten values like 2/10/01, 16.50, 4.70, 0.06, 23.3, 33.1, 0.77, 117.

PURGE DATA

Table with columns: Date, Time, pH, S.C., Temp (°C), Turbidity, DO, ORP. Includes handwritten notes like 'See Low Flow Purge Sheet', '1315', '1550', and calculations for flow rates.

SAMPLE COLLECTION INFORMATION

Table with columns: Analysis, Preservative, Container Requirements, Collected. Lists various analyses like VOCs, Metals, PAHs, and TRPH with their respective preservatives and collection methods.

OBSERVATIONS / NOTES

Large empty box for observations and notes.

Circle if Applicable:

MS/MSD Duplicate ID No.: None

Signature(s): [Handwritten Signature]



Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME:
PROJECT NUMBER:

North Fuel Farm Cecil Field
3996.JG0050325

WELL ID.: CEF-076-12
DATE: 12/10/01

2.250
+3.0
2.250
+3.0

810 5429

Time (Hr.)	Water Level (ft. below TOC)	Flow (ml/Min)	pH (SU)	Cond. (MS/cm)	Turb. (NTU)	DO (mg/l)	Temp. (Celsius)	ORP (mV)	Comments
1317	2.06	1318	4.29	1319	151.0	1.13	22.70	251	clear med brown
1320	2.28	250	4.93	0.065	157.0	2.31	22.50	255	
1327	2.41	250	4.83	0.063	125.0	3.84	22.7	244	slow pump
1332	2.58	200	4.97	0.066	62.4	1.43	22.3	250	
1337	2.40	200	4.73	0.066	63.8	1.24	22.3	248	
1340	2.40	200	4.70	0.066	65.7	1.14	22.4	246	
1347	2.40	200	4.69	0.066	56.0	1.78	22.3	236	
1352	2.40	200	4.68	0.066	49.6	1.21	22.3	224	
1357	2.37	200	4.67	0.066	50.1	0.98	22.3	212	
1402	2.37	200	4.67	0.066	56.7	0.87	22.4	203	
1407	2.37	200	4.67	0.066	49.6	0.84	22.4	193	
1412	2.37	200	4.72	0.066	39.1	2.24	22.4	172	empty cup
1417	2.37	200	4.70	0.066	37.7	0.93	22.4	169	
1422	2.37	200	4.70	0.066	37.0	0.85	22.4	159	
1427	2.37	200	4.72	0.066	33.8	2.33	22.4	148	
1432	2.37	200	4.70	0.066	33.6	1.37	22.4	145	15.5 change bucket empty cup
1437	2.37	200	4.69	0.066	33.6	0.87	22.4	135	
1442	2.37	200	4.69	0.066	33.8	0.83	22.4	134	
1447	2.37	200	4.70	0.066	34.4	0.83	22.4	132	
1452	2.37	200	4.69	0.066	34.5	0.83	22.4	128	
1457	2.37	200	4.70	0.066	35.6	0.81	22.3	123	
1502	2.37	200	4.70	0.066	33.8	0.83	22.4	120	looking for well 076-11
1507	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1512	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1517	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1522	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1527	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1532	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1537	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1542	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1547	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1552	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1557	2.37	200	4.70	0.066	33.1	0.77	22.3	117	
1600	sample								

1452

SIGNATURE(S):



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-42
 Sample Location: CEF-076-42
 Sampled By: L. MEDLOCK
 C.O.C. No.: NFF-121001
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Other
<u>12/11/01</u>	<u>CLEAR</u>	<u>4.92</u>	<u>0.099</u>	<u>21.8</u>	<u>3.2</u>	<u>0.80</u>	
Time: <u>1520</u>							
Method: <u>Low Flow Peristaltic</u>							

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>12/11/01</u>							
Method: <u>Low Flow Peristaltic</u>							
Monitor Reading (ppm): <u>0.0</u>							
Well Casing Diameter: <u>2 in.</u>							
Well Casing Material: <u>PVC</u>							
Total Well Depth (TD): <u>12.40</u>	See Low Flow Purge Sheet						
Static Water Level (WL): <u>1.95</u>	<u>10FT SCREEN</u>						
One Casing Volume (gal): <u>0.62</u>							
Start Purge (hrs): <u>1405</u>							
End Purge (hrs): <u>1510</u>							
Total Purge Time (min): <u>65</u>							
Total Vol. Purged (gal): <u>19.5</u>							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	X
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	X
#include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	X
<u>EDS</u>			X
<u>METALS</u>			X

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): [Signature]



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page 1 of 2

Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-815
 Sample Location: CEF-076-815
 Sampled By: M. O'Neill
 C.O.C. No.: NFF-121001

Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Other
<u>12/10/01</u>							
Time: <u>1205</u>							
Method: Low Flow Peristaltic	<u>CLR</u>	<u>4.91</u>	<u>0.135</u>	<u>22.4</u>	<u>4.0</u>	<u>2.19</u>	<u>ORP 164</u>

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>12/10/01</u>							
Method: Low Flow Peristaltic							
Monitor Reading (ppm): <u>0.0</u>							
Well Casing Diameter: 2 In.							
Well Casing Material: PVC							
Total Well Depth (TD): <u>132.0</u>							
Static Water Level (WL): <u>5.20</u>							
One Casing Volume (gal): <u>1.3/4.9</u>							
Start Purge (hrs): <u>10.53</u>							
End Purge (hrs): <u>1202</u>							
Total Purge Time (min): <u>69</u>							
Total Vol. Purged (gal): <u>13.8</u>							

See Low Flow Purge Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	MO
#VOHs+1,2 dichloroethane+BTEX+MTBE			
Metals <u>Check</u>	HNO ₃	1-500 ml	MO
PAHs SW846 8310	None	2 - 1 liter glass ambers	MO
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H ₂ SO ₄	2 - 1 liter glass ambers	MO
<u>esb</u>			MO

OBSERVATIONS / NOTES

Check if Applicable:

 MS/MSD

Duplicate ID No.:

CEF-076-MD-GW-01

Signature(s):

MS/MSD



Project Site Name: North Fuel Farm, Cecil Field
Project No.: 3996.JG0050325

Sample ID No.: CEF-076-GW-825
Sample Location: CEF-076-825
Sampled By: D.S.
C.O.C. No.: NFF-121001

- [] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

- Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA

Table with columns: Date, Color Visual, pH Standard, S.C. mS/cm, Temp. °C, Turbidity NTU, DO mg/l, ORP, Other. Includes handwritten values for Date (12/10/01), Time (16:20), Method (Low Flow Peristaltic), pH (5.44), S.C. (0.153), Temp. (23.03), Turbidity (81), DO (1.19), ORP (-91).

PURGE DATA

Table with columns: Date, Time, pH, S.C., Temp (°C), Turbidity, DO, ORP. Includes handwritten values for Date (12/10/01), Time, pH, S.C., Temp (12:30), End Purge (16:10), Total Purge Time (220), Total Vol. Purged (26.4). Includes handwritten calculation: 180 + 40 = 220.

SAMPLE COLLECTION INFORMATION

Table with columns: Analysis, Preservative, Container Requirements, Collected. Includes rows for Select VOCs, #VOHs+1,2 dichloroethane+BTEX+MTBE, PAHs, #Include 1- and 2-methylnaphthalene, TRPH.

OBSERVATIONS / NOTES

Well Purged Slow

Circle if Applicable:

MS/MSD

Duplicate ID No.:

CEF-076-DU-GW-01

Signature(s):

Handwritten signature



Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME:
PROJECT NUMBER:

North Fuel Farm
3996.JG0050325

Cecil Field

WELL ID: CEF-076-GW-825
DATE: 12-10-01

Time (hrs)	Water Level (ft. below 100)	Flow (ml/min)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1230	4.28	200							
1240	4.81	120	5.48	0.141	224	9.61	24.30	44	TURBID PAIN PUMP
1250	4.76	120	5.41	0.148	223	2.49	24.15	7	H ₂ O BROWN
1300	4.78	120	5.41	0.149	202	2.47	23.60	-23	
1310	4.78	120	5.42	0.148	192	1.99	23.59	-33	
1320	4.78	120	5.43	0.149	190	1.65	23.66	-44	
1330	4.78	120	5.43	0.149	185	1.54	23.49	-50	
1340	4.78	120	5.42	0.149	183	1.52	23.52	-55	
1350	4.78	120	5.42	0.150	184	1.51	23.54	-55	
1400	4.75	120	5.42	0.149	180	1.39	23.30	-65	
1410	4.72	120	5.43	0.149	140	1.33	23.34	-68	
1420	4.71	120	5.42	0.149	136	1.30	23.34	-70	H ₂ O STILL TAN
1430	4.71	120	5.81	0.148	105	8.35	23.13	-64	DUMPED H ₂ O
1440	4.69	120	5.45	0.151	97.9	2.17	23.15	-76	BATTERY SCAVED TURND UP
1500	4.73	120	5.45	0.150	87	1.37	23.13	-82	
1510	4.73	120	5.45	0.151	88	4.35	23.14	-80	
1520	4.74	120	5.45	0.151	85	1.29	23.12	-83	
1530	4.75	120	5.45	0.152	83	1.25	23.15	-86	
1540	4.75	120	5.45	0.152	84	1.21	23.16	-88	
1550	4.75	120	5.44	0.153	83	1.19	23.11	-89	STILL TAN COLOR
1600	4.75	120	5.44	0.153	81	1.20	23.04	-91	
1610	4.75	120	5.44	0.153	81	1.19	23.03	-91	Lt. Brown + TAN COLOR
1620	Sample	STOP PUSHER	5 well		Unlabeled				

20 min

SIGNATURE(S): [Signature]

* () Developing well vent dry. - normal H₂O producer.

6.2
186

DN 3496: 4.4:61



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: North Fuel Farm Sample ID No.: CEF-076-GW-E012-01a
 Project No.: N3996.JG0050325 Sample Location: CEF-076-012
 [] Domestic Well Data Sampled By: DS
 [X] Monitoring Well Data C.O.C. No.: NFF-010802
 [] Other Well Type: _____ Type of Sample:
 [] QA Sample Type: _____ [X] Low Concentration
 [] High Concentration

SAMPLING DATA								
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time:	Visual	Standard	mS/cm	°C	NTU	mg/l		
1-8-02	ORANGE	5.21	0.075	17.61	69.1	9.28	75	

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
1-8-02								
Method: Low Flow Peristaltic		See Low Flow Purge Sheet						
Monitor Reading (ppm): 0								
Well Casing Diameter: 2								
Well Casing Material: PUC								
Total Well Depth (TD): 15.18								
Static Water Level (WL): 3.09								
One Casing Volume (gal): 6.2								
Start Purge (hrs): 0938								
End Purge (hrs): 1530								
Total Purge Time (min): 95								
Total Vol. Purged (gal): 19								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Total Lead SW846 6010B	HNO3	Minimum 500 ml HDPT	DS
Dissolved Lead SW846 6010B	HNO3	Minimum 500 ml HDPT	DS

OBSERVATIONS / NOTES

Note: For the Dissolved (or filtered) sample, use a 1 micron filter. Also, change the label of that sample by changing the "GW" to a "GF"

18.6 TOTAL

work release
169cf-4

Circle if Applicable: _____ Signature(s): [Signature]

MS/MSD	Duplicate ID No.:
None	None



Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E75-01
 Project No.: N3996 JG0 050 325 Sample Location: CEF-076-75
 Sampled By: S
 C.O.C. No.: 076-121702
 Type of Sample:
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA

Date: <u>12-17-02</u>	Color Visual	pH Standard	S.C. ms/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
Time: <u>1545</u>								
Method: <u>Low Flow Peristaltic</u>	<u>CL</u>	<u>6.30</u>	<u>0.112</u>	<u>12.7</u>	<u>14.0</u>	<u>4.61</u>		

PURGE DATA

Date: <u>12-17-02</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
Method: <u>Low Flow Peristaltic</u>								
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>15.5</u>								
Static Water Level (WL): <u>4.26</u>								
One Casing Volume (gal/L):								
Start Purge (hrs): <u>1340</u>								
End Purge (hrs): <u>1540</u>								
Total Purge Time (min): <u>120</u>								
Total Vol. Purged (gal/L): <u>2.2</u>								

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>8260B HCL</u>	<u>3- 40 ml vials</u>	<u>D</u>
<u>PAHs</u>	<u>8270C NONE</u>	<u>2- 1 liter gl. Amber</u>	<u>I</u>
<u>EDB</u>	<u>504.1</u>	<u>3- 40 ml vials</u>	<u>I</u>
<u>TOTAL LEAD</u>	<u>6010B HNO₃</u>	<u>1- 500 ml HDPE</u>	<u>I</u>
<u>TRIH</u>	<u>PL-PRO H₂SO₄</u>	<u>2- 1 liter gl. Amber</u>	<u>I</u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Dup

Signature(s):



Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E85-01
 Project No.: N3998 JGO 050 325 Sample Location: CEF-076-B
 Sampled By: S
 C.O.C. No.: 076-12702
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12-17-02</u>								
Time: <u>1300</u>								
Method: Low Flow Peristaltic	<u>CL</u>	<u>6.31</u>	<u>0.136</u>	<u>22.3</u>	<u>.8</u>	<u>6.48</u>	<u>-</u>	<u>-</u>

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12-17-02</u>								
Method: Low Flow Peristaltic	See Low Flow Purge Data Sheet							
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>14.3</u>								
Static Water Level (WL): <u>4.65</u>								
One Casing Volume (gal/L): <u>6.2</u>								
Start Purge (hrs): <u>1145</u>								
End Purge (hrs): <u>1250</u>								
Total Purge Time (min): <u>1205</u>								
Total Vol. Purged (gal/L): <u>19</u>								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<u>DS</u>
<u>PAHs</u>	<u>None</u>	<u>2- 1 liter gr. Amber</u>	<u>I</u>
<u>EDB</u>		<u>3- 40 ml vials</u>	<u>I</u>
<u>TOTAL LEAD</u>	<u>HNO3</u>	<u>1- 500ml HDPE</u>	<u>I</u>
<u>TRPH</u>	<u>H2SO4</u>	<u>2- 1 liter gr. Amber</u>	<u>I</u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: _____ Signature(s): [Signature]

MS/MSD	Duplicate ID No.:
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Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E39D-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-39D
 Sampled By: LM
 C.O.C. No.: 076-39D
 Type of Sample:
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12-17-02</u>		<u>5.23</u>	<u>0.06</u>	<u>22.5</u>	<u>0.06</u>	<u>0.3</u>		
Time: <u>1420</u>								
Method: <u>Low Flow Peristaltic</u>								

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12-17-02</u>								
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Data Sheet							
Monitor Reading (ppm): <u>10.2</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>60</u>								
Static Water Level (WL): <u>3.6</u>								
One Casing Volume (gal): <u>16.2</u>								
Start Purge (hrs): <u>1220</u>								
End Purge (hrs): <u>1400</u>								
Total Purge Time (min): <u>100</u>								
Total Vol. Purged (gal): <u>10</u>								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>PAHs</u>	<u>None</u>	<u>2- 1 liter gl. Amber</u>	<input checked="" type="checkbox"/>
<u>EDB</u>		<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>TOTAL LEAD</u>	<u>HNO3</u>	<u>1- 500ml HDPE</u>	<input checked="" type="checkbox"/>
<u>TRIH</u>	<u>H2SO4</u>	<u>2- 1 liter gl. Amber</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Lab: Accutest

STRAW6 Redo. ODOR

Circle if Applicable: _____ Signature(s): [Signature]

MS/MSD	Duplicate ID No.: <u>DUP01</u>
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CEF-076-GW-DUP01



Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E435-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-435
 Sampled By: LM
 C.O.C. No.: 076-385 23
 Type of Sample: 12/16/02
 Domestic Well Data
 Monitoring Well Data
 Other Well Type:
 QA Sample Type:

SAMPLING DATA									
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other	
<u>12/16/02</u>	<u>CLEAR</u>	<u>5.41</u>	<u>0.07</u>	<u>20.2</u>	<u>20</u>	<u>0.1</u>	<u>—</u>	<u>—</u>	

PURGE DATA									
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP	
<u>12/16/02</u>									
Method: Low Flow Peristaltic									
Monitor Reading (ppm): <u>0/0</u>									
Well Casing Diameter: <u>2 IN.</u>									
Well Casing Material: <u>PVC</u>									
Total Well Depth (TD): <u>42</u>									
Static Water Level (WL): <u>2.92</u>									
One Casing Volume (gal): <u>3.1</u> <u>5' SCREEN</u>									
Start Purge (hrs): <u>1130</u>									
End Purge (hrs): <u>1405</u>									
Total Purge Time (min): <u>155</u>									
Total Vol. Purged (gal): <u>15.5</u>									

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Collected	
<u>Select VOCs</u>	<u>8260B</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>PAHs</u>	<u>8270C</u>	<u>NONE</u>	<u>2- 1 liter gr. Amber</u>	<input checked="" type="checkbox"/>
<u>EDB</u>	<u>504.1</u>		<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>TOTAL LEAD</u>	<u>6010.B</u>	<u>HNO3</u>	<u>1- 500ml HDPE</u>	<input checked="" type="checkbox"/>
<u>TRPH</u>	<u>PL-PRO</u>	<u>H2SO4</u>	<u>2- 1 liter gr. Amber</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): [Signature]



Project Site Name: NFF, GW SAMPLE VENT. 1 SARA Sample ID No.: CEF-076-GW-E44F-01
 Project No.: N3998 JGO 050 325 Sample Location: CEF-076-44F
 Sampled By: DS
 C.O.C. No.: 076-44F-175
 Type of Sample: 121702
 Domestic Well Data
 Monitoring Well Data
 Other Well Type:
 QA Sample Type:

SAMPLING DATA									
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other	
<u>12/17/02</u>	<u>CL</u>	<u>5.40</u>	<u>0.55</u>	<u>19.3</u>	<u>58</u>	<u>0.75</u>			
Time: <u>1040</u>									
Method: <u>Low Flow Peristaltic</u>									

PURGE DATA									
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP	
<u>12/17/02</u>									
Method: <u>Low Flow Peristaltic</u>									
Monitor Reading (ppm): <u>0</u>									
Well Casing Diameter: <u>2 IN.</u>									
Well Casing Material: <u>PVC</u>									
Total Well Depth (TD): <u>73</u>									
Static Water Level (WL): <u>3.05</u>	See Low Flow Purge Data Sheet								
One Casing Volume (gal): <u>3.1</u>									
Start Purge (hrs): <u>0920</u>									
End Purge (hrs): <u>1130</u>									
Total Purge Time (min): <u>130</u>									
Total Vol. Purged (gal): <u>16</u>									

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Collected	
<u>Select VOCs</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<u>DS</u>	
<u>PAHs</u>	<u>None</u>	<u>2- 1 liter gl. Amber</u>	<u>1</u>	
<u>EDB</u>		<u>3- 40 ml vials</u>		
<u>TOTAL LEAD</u>	<u>HNO3</u>	<u>1- 500ml HDPE</u>		
<u>TRPH</u>	<u>H2SO4</u>	<u>2- 1 liter gl. Amber</u>	<u>←</u>	

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): [Signature]

13.5



Project Site Name: NFF, GW SAMPLE EXT. 1, SARA Sample ID No.: CEF-076-GW-EYS-01
 Project No.: N3998 JGO 050 325 Sample Location: CEF-076-495
 Sampled By: PL
 C.O.C. No.: 076-12-1202
 Type of Sample:
 Low Concentration
 High Concentration

Domestic Well Data
 Monitoring Well Data
 Other Well Type:
 QA Sample Type:

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12/12/02</u>								
Time: <u>0955</u>								
Method: Low Flow Peristaltic	<u>Clear</u>	<u>5.0</u>	<u>0.05</u>	<u>20.1</u>	<u>6.1</u>	<u>0.4</u>	<u>-</u>	

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12/12/02</u>								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>53.2'</u>								
Static Water Level (WL): <u>4.4'</u>								
One Casing Volume (gal): <u>3.1</u>								
Start Purge (hrs): <u>0915</u>								
End Purge (hrs): <u>0950</u>								
Total Purge Time (min): <u>35</u>								
Total Vol. Purged (gal): <u>10.5</u>								

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>8260B HCL</u>	<u>3- 40 ml vials</u>	<u>X</u>
<u>PAHs</u>	<u>8270C None</u>	<u>2- 1 liter gl. Amber</u>	<u>X</u>
<u>EDB</u>	<u>504.1</u>	<u>3- 40 ml vials</u>	<u>X</u>
<u>TOTAL LEAD</u>	<u>6010B HNO₃</u>	<u>1- 500 ml HDPE</u>	<u>X</u>
<u>TRIH</u>	<u>PL-PRO H₂SO₄</u>	<u>2- 1 liter gl. Amber</u>	<u>X</u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: MS/MSD Duplicate ID No.: Signature(s): [Signature]



Project Site Name: NFF, GW SAMPLE EXT. 1, SARA Sample ID No.: CEF-076-GW-E 50-E 01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-50-E
 Domestic Well Data Sampled By: _____
 Monitoring Well Data C.O.C. No.: 076-12/12/02
 Other Well Type: _____ Type of Sample:
 QA Sample Type: _____ Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12/12/02</u>								
Time: <u>1020</u>								
Method: Low Flow Peristaltic	<u>CL</u>	<u>4.94</u>	<u>0.057</u>	<u>20.4</u>	<u>4.3</u>	<u>0.62</u>		

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12/12/02</u>								
Method: Low Flow Peristaltic	See Low Flow Purge Data Sheet							
Monitor Reading (ppm): <u>19</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>52</u>								
Static Water Level (WL): <u>4.44</u>								
One Casing Volume (gal): <u>3.1</u>								
Start Purge (hrs): <u>0815</u>								
End Purge (hrs): <u>1005</u>								
Total Purge Time (min): <u>60</u>								
Total Vol. Purged (gal): <u>18</u>								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<u>✓</u>
<u>PAHs</u>	<u>None</u>	<u>2- 1 liter gr. Amber</u>	<u>✓</u>
<u>EDB</u>		<u>3- 40 ml vials</u>	<u>✓</u>
<u>TOTAL LEAD</u>	<u>HNO₃</u>	<u>1- 500 ml HDPE</u>	<u>✓</u>
<u>TRIH</u>	<u>H₂SO₄</u>	<u>2- 1 liter gr. Amber</u>	<u>✓</u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: _____ Signature(s): [Signature]
 MS/MSD Duplicate ID No.: _____



Project Site Name: NFF, GW SAMPLE EXT. 1, SARA Sample ID No.: CEF-076-GW-E510-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-510
 Sampled By: PL
 C.O.C. No.: 076-12-12-02
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12/12/02</u>	<u>CLEAR</u>	<u>5.3</u>	<u>0.08</u>	<u>20.4</u>	<u>0.20</u>	<u>0.4</u>	<u>-</u>	
Time: <u>1135</u>								
Method: <u>Low Flow Peristaltic</u>								

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12/12/02</u>								
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Data Sheet							
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>112</u>								
Static Water Level (WL): <u>4.55'</u>								
One Casing Volume (gal): <u>6.2</u>								
Start Purge (hrs): <u>1025</u>								
End Purge (hrs): <u>1130</u>								
Total Purge Time (min): <u>65</u>								
Total Vol. Purged (gal): <u>19.5</u>								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>8260B HCL</u>	<u>3- 40 ml vials</u>	<u>X</u>
<u>PAHs</u>	<u>8270C None</u>	<u>2- 1 liter gl. Amber</u>	<u>X</u>
<u>EDB</u>	<u>504.1</u>	<u>3- 40 ml vials</u>	<u>X</u>
<u>TOTAL LEAD</u>	<u>6010B HNO₃</u>	<u>1- 500 ml HDPE</u>	<u>X</u>
<u>TRIH</u>	<u>PL-PRO H₂SO₄</u>	<u>2- 1 liter gl. Amber</u>	<u>X</u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

205 / 936 4086



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-ESLT-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-562
 Sampled By: DS
 C.O.C. No.: 076-121802
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12/18/02</u>	<u>CL</u>	<u>5.19</u>	<u>0.044</u>	<u>21.6</u>	<u>11.0</u>	<u>0.55</u>	—	—
Method: Low Flow Peristaltic								

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12-18-02</u>								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>76</u>								
Static Water Level (WL): <u>6.82</u>								
One Casing Volume (gal/L): <u>3.1</u>								
Start Purge (hrs): <u>1330</u>								
End Purge (hrs): <u>1605</u>								
Total Purge Time (min): <u>235</u> ^{ps} <u>155</u>								
Total Vol. Purged (gal/L): <u>15.5</u>								
See Low Flow Purge Data Sheet								

SAMPLE COLLECTION INFORMATION			
Analyte	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>8260B</u>	<u>HCL</u>	<u>3- 40 ml vials</u>
<u>PAHs</u>	<u>8270C</u>	<u>None</u>	<u>2- 1 liter gl. Amber</u>
<u>EDB</u>	<u>504.1</u>		<u>3- 40 ml vials</u>
<u>TOTAL LEAD</u>	<u>6010B</u>	<u>HNO3</u>	<u>1- 500 ml HDPE</u>
<u>TRPH</u>	<u>PC-PRO</u>	<u>H2SO4</u>	<u>2- 1 liter gl. Amber</u>

OBSERVATIONS / NOTES
 Pumped a lot of sand back sand Lab: Accutest
 Glogged pump several times

MS/MSD Duplicate ID No.: _____ Signature(s): [Signature]

CEF-076-GW-MRDR-01



Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-ES35-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-ES35
 Sampled By: PL
 C.O.C. No.: 076-12-11-02
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12-11-02</u>								
Time: <u>1340</u>								
Method: <u>Low Flow Peristaltic</u>	<u>CLEAR</u>	<u>5.3</u>	<u>0.06</u>	<u>20.1</u>	<u>34</u>	<u>0.4</u>	<u>-</u>	

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12-11-02</u>								
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Data Sheet							
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>37.9</u>								
Static Water Level (WL): <u>3.98</u>								
One Casing Volume (gal): <u>3.1</u>								
Start Purge (hrs): <u>1150</u>								
End Purge (hrs): <u>1335</u>								
Total Purge Time (min): <u>105</u>								
Total Vol. Purged (gal): <u>15.75</u>								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<u>X</u>
<u>PAHs</u>	<u>NONE</u>	<u>2- 1 liter ql. Amber</u>	<u>X</u>
<u>EDB</u>		<u>3- 40 ml vials</u>	<u>X</u>
<u>TOTAL LEAD</u>	<u>HNO3</u>	<u>1- 500 ml HDPE</u>	<u>X</u>
<u>TRIH</u>	<u>H2SO4</u>	<u>2- 1 liter ql. Amber</u>	<u>X</u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):



Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-EG11-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-G11
 Sampled By: PC
 C.O.C. No.: 076-12-11-02
 Type of Sample:
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA									
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other	
<u>12/11/02</u>									
Time: <u>1715</u>									
Method: Low Flow Peristaltic	<u>CLEAR</u>	<u>4.8</u>	<u>0.04</u>	<u>22.5</u>	<u>19.5</u>	<u>9.4</u>			

PURGE DATA									
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP	
<u>12/11/02</u>									
Method: Low Flow Peristaltic									
Monitor Reading (ppm): <u>()</u>									
Well Casing Diameter: <u>2 IN.</u>									
Well Casing Material: <u>PVC</u>									
Total Well Depth (TD): <u>73.85'</u>									
Static Water Level (WL): <u>7.0'</u>									
One Casing Volume (gal): <u>3.1</u>									
Start Purge (hrs): <u>1435</u>									
End Purge (hrs): <u>1710</u>									
Total Purge Time (min): <u>155</u>									
Total Vol. Purged (gal): <u>15.5</u>									

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>8260B HCL</u>	<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>PAHs</u>	<u>8270C NONE</u>	<u>2- 1 liter ql. Amber</u>	<input checked="" type="checkbox"/>
<u>EDB</u>	<u>504.1</u>	<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>TOTAL LEAD</u>	<u>6010B HNO3</u>	<u>1- 500ml HDPE</u>	<input checked="" type="checkbox"/>
<u>TRIH</u>	<u>PL-PRO H2SO4</u>	<u>2- 1 liter ql. Amber</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): [Signature]



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page 1 of 2

Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E62D 01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-62D
 Sampled By: DJ
 C.O.C. No.: 076-121102
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA									
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other	
12-11-02									
Time: 1800									
Method: Low Flow Peristaltic	CL	6.26	0.264	20.1	7	0.70			

PURGE DATA									
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP	
12-11-02									
Method: Low Flow Peristaltic									
Monitor Reading (ppm): 0									
Well Casing Diameter: 2 IN.									
Well Casing Material: PVC									
Total Well Depth (TD): 113.8									
Static Water Level (WL): 7.58									
One Casing Volume (gal): 6.2									
Start Purge (hrs): 1440									
End Purge (hrs): 1850									
Total Purge Time (min): 190									
Total Vol. Purged (gal): 19									

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION			
Analyte	Preservative	Container Requirements	Collected
Select VOCs	HCL	3- 40 ml vials	DS
PAHs	NONE	2- 1 liter gl. Amber	
EDB		3- 40 ml vials	
TOTAL LEAD	HNO ₃	1- 500 ml HDPE	
TRIH	H ₂ SO ₄	2- 1 liter gl. Amber	

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: _____ Signature(s):

MS/MSD	Duplicate ID No.:
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Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E635 01
 Project No.: N3998 JGO 050 325 Sample Location: CEF-076-635
 Sampled By: DS
 C.O.C. No.: 076-635
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA									
Date: <u>12/12/02</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other	
Time: <u>1330</u>									
Method: <u>Low Flow Peristaltic</u>									

PURGE DATA									
Date: <u>12/12/02</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP	
Method: <u>Low Flow Peristaltic</u>									
Monitor Reading (ppm):									
Well Casing Diameter: <u>2 IN.</u>									
Well Casing Material: <u>PVC</u>									
Total Well Depth (TD): <u>47</u>									
Static Water Level (WL): <u>4.36</u>									
One Casing Volume (gal/L): <u>3.1</u>									
Start Purge (hrs): <u>1100</u>									
End Purge (hrs): <u>1230</u>									
Total Purge Time (min): <u>90</u>									
Total Vol. Purged (gal/L): <u>182</u>									
See Low Flow Purge Data Sheet									

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Collected	
<u>Select VOCs</u>	<u>8260B</u>	<u>HCL</u>	<u>3 - 40 ml vials</u>	<u>DS</u>
<u>PAHs</u>	<u>8270C</u>	<u>None</u>	<u>2 - 1 liter gr. Amber</u>	
<u>EDB</u>	<u>504.1</u>		<u>3 - 40 ml vials</u>	
<u>TOTAL LEAD</u>	<u>6010B</u>	<u>HNO3</u>	<u>1 - 500 ml HDPE</u>	
<u>TRPH</u>	<u>PL-PRO</u>	<u>H2SO4</u>	<u>2 - 1 liter gr. Amber</u>	

OBSERVATIONS / NOTES
 Lab: Accutest

Circle if Applicable: _____ Signature(s): [Signature]
 MS/MSD Duplicate ID No.: _____



64E-01

Project Site Name: NFF, GW SAMPLE VENT. 1 SARA
Project No.: N3996 JGO 050 325

Sample ID No.: CEF-076-GW-E706-0105
Sample Location: CEF-076-76
Sampled By: [Signature]
C.O.C. No.: 076-121202
Type of Sample:
 Low Concentration
 High Concentration

- Domestic Well Data
- Monitoring Well Data
- Other Well Type: _____
- QA Sample Type: _____

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>121202</u>								
Time: <u>1445</u>								
Method: Low Flow Peristaltic	<u>CL</u>	<u>4.87</u>	<u>0.43</u>	<u>20.7</u>	<u>4.5</u>	<u>0.61</u>		

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12-12-02</u>								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>4.22</u> PS 77								
Static Water Level (WL): <u>4.22</u>								
One Casing Volume (gal/L): <u>3.1</u>								
Start Purge (hrs): <u>1355</u>								
End Purge (hrs): <u>1430</u>								
Total Purge Time (min): <u>35</u>								
Total Vol. Purged (gal/L): <u>10.8</u>								

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION

Analyte	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<u>YS</u>
<u>PAHs</u>	<u>None</u>	<u>2- 1 liter gl. Amber</u>	<u> </u>
<u>EDB</u>	<u>50% I</u>	<u>3- 40 ml vials</u>	<u> </u>
<u>TOTAL LEAD</u>	<u>HNO3</u>	<u>1- 500ml HDPE</u>	<u> </u>
<u>TRPH</u>	<u>H2SO4</u>	<u>2- 1 liter gl. Amber</u>	<u> </u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable:

Signature(s):

MS/MSD Duplicate ID No.:

[Signature]



Project Site Name: NFF, GW SAMPLE EXT. 1, SARA Sample ID No.: CEF-076-GW-EG50-01
 Project No.: N3996 JG0 050 325 Sample Location: CEF-076-650
 Sampled By: PC
 C.O.C. No.: 076-12-12-02
 Type of Sample:
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12-12-02</u>								
Time: <u>15:35</u>								
Method: Low Flow Peristaltic	<u>CLEAR</u>	<u>5.8</u>	<u>0.15</u>	<u>20.0</u>	<u>1.77</u>	<u>0.6</u>	<u>—</u>	

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12/12/02</u>								
Method: Low Flow Peristaltic	See Low Flow Purge Data Sheet							
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>112</u>								
Static Water Level (WL): <u>4.2</u>								
One Casing Volume (gal/L): <u>6.2</u>								
Start Purge (hrs): <u>1220</u>								
End Purge (hrs): <u>1530</u>								
Total Purge Time (min): <u>190</u>								
Total Vol. Purged (gal/L): <u>19.0</u>								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected	
<u>Select VOCs</u>	<u>8260B</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<u>X</u>
<u>PAHs</u>	<u>8270C</u>	<u>None</u>	<u>2- 1 liter gl. Amber</u>	<u>X</u>
<u>EDB</u>	<u>504.1</u>		<u>3- 40 ml vials</u>	<u>X</u>
<u>TOTAL LEAD</u>	<u>6010B</u>	<u>HNO₃</u>	<u>1- 500 ml HDPE</u>	<u>X</u>
<u>TRIH</u>	<u>FL-PRO</u>	<u>H₂SO₄</u>	<u>2- 1 liter gl. Amber</u>	<u>X</u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):



Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E695 01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-
 Domestic Well Data Sampled By: DS
 Monitoring Well Data C.O.C. No.: 076-121102
 Other Well Type: _____ Type of Sample:
 QA Sample Type: _____ Low Concentration
 High Concentration

SAMPLING DATA									
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other	
<u>12-11-02</u>	Visual	Standard	mS/cm	°C	NTU	mg/l	%		
Time: <u>1035</u>	<u>CL</u>	<u>4.92</u>	<u>0.030</u>	<u>20.2</u>	<u>18</u>	<u>0.59</u>	<u>-</u>	<u>-</u>	
Method: Low Flow Peristaltic									

PURGE DATA									
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP	
<u>12-11-02</u>									
Method: Low Flow Peristaltic									
Monitor Reading (ppm): <u>0</u>									
Well Casing Diameter: <u>2 IN.</u>									
Well Casing Material: <u>PVC</u>									
Total Well Depth (TD): <u>38</u>									
Static Water Level (WL): <u>4.2</u>									
One Casing Volume (gal): <u>31</u>									
Start Purge (hrs): <u>0920</u>									
End Purge (hrs): <u>1030</u>									
Total Purge Time (min): <u>70</u>									
Total Vol. Purged (gal): <u>21</u>									
See Low Flow Purge Data Sheet									

SAMPLE COLLECTION INFORMATION				
Analysis	Preservative	Container Requirements	Collected	
<u>Select VOCs</u>	<u>8260B</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<u>/</u>
<u>PAHs</u>	<u>8270C</u>	<u>None</u>	<u>2- 1 liter ql. Amber</u>	<u>/</u>
<u>EDB</u>	<u>504.1</u>		<u>3- 40 ml vials</u>	<u>/ DS</u>
<u>TOTAL LEAD</u>	<u>6010.B</u>	<u>HNO3</u>	<u>1- 500 ml HDPE</u>	<u>/</u>
<u>TRPH</u>	<u>PL-PRO</u>	<u>H2SO4</u>	<u>2- 1 liter ql. Amber</u>	<u>/</u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: _____ Signature(s): [Signature]

MS/MSD	Duplicate ID No.:
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Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E701-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-701
 Sampled By: PL
 C.O.C. No.: 076-12-11-02
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12/11/02</u>	<u>1040</u>	<u>5.0</u>	<u>0.05</u>	<u>19.4</u>	<u>4.3</u>	<u>0.6</u>	<u>—</u>	
Method: Low Flow Peristaltic <u>CLEAR</u>								

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12/11/02</u>								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>23.4</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>73</u>								
Static Water Level (WL): <u>4.4'</u>								
One Casing Volume(gal/L): <u>3.1</u>								
Start Purge (hrs): <u>0930</u>								
End Purge (hrs): <u>1030</u>								
Total Purge Time (min): <u>60</u>								
Total Vol. Purged (gal/L): <u>145</u>								
See Low Flow Purge Data Sheet								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected	
<u>Select VOCs</u>	<u>8260B</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>PAHs</u>	<u>8270C</u>	<u>None</u>	<u>2- 1 liter gl. Amber</u>	<input checked="" type="checkbox"/>
<u>EDB</u>	<u>504.1</u>		<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>TOTAL LEAD</u>	<u>6010B</u>	<u>HNO₃</u>	<u>1- 500ml HDPE</u>	<input checked="" type="checkbox"/>
<u>TRPH</u>	<u>PL-PRO</u>	<u>H₂SO₄</u>	<u>2- 1 liter gl. Amber</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): [Signature]



Project Site Name: NFF, GW SAMPLE VENT. 1 SARA Sample ID No.: CEF-076-GW-E 715 01
 Project No.: N3996 JG0 050 325 Sample Location: CEF-076-71D
 Sampled By: DS
 C.O.C. No.: 076-12702
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other
<u>12-11-02</u>	<u>CL</u>	<u>6.95</u>	<u>0.542</u>	<u>19.8</u>	<u>0</u>	<u>0.78</u>	<u>-</u>	<u>-</u>

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>12-11-02</u>								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>112</u>								
Static Water Level (WL): <u>4.25</u>								
One Casing Volume (gal): <u>3.1</u>								
Start Purge (hrs): <u>1250</u>								
End Purge (hrs): <u>1340</u>								
Total Purge Time (min): <u>110</u>								
Total Vol. Purged (gal): <u>11</u>								

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>8260B HCL</u>	<u>3- 40 ml vials</u>	<u>DS</u>
<u>PAHs</u>	<u>8270C None</u>	<u>2- 1 liter gl. Amber</u>	
<u>EDB</u>	<u>504.1</u>	<u>3- 40 ml vials</u>	
<u>TOTAL LEAD</u>	<u>6010B HNO₃</u>	<u>1- 500 ml HDPE</u>	
<u>TRPH</u>	<u>PL-PRO H₂SO₄</u>	<u>2- 1 liter gl. Amber</u>	

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable

Signature(s):

MS/MSD

Duplicate ID No.:

RL



Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E13E-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-73E
 Sampled By: ME
 C.O.C. No.: 076-121802
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date: <u>12.18.02</u>	Color Visual	pH Standard	S.C. ms/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other ORP
Time: <u>1350</u>	<u>clear</u>	<u>4.07</u>	<u>0.104</u>	<u>20.10</u>	<u>5.0</u>	<u>1.13</u>		<u>-28</u>
Method: Low Flow Peristaltic								

PURGE DATA

Date: <u>12.18.02</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0.0</u>								
Well Casing Diameter: <u>2 IN.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>67.5</u>								
Static Water Level (WL): <u>2.74</u>								
One Casing Volume (gal): <u>3.1</u>								
Start Purge (hrs): <u>1120</u>								
End Purge (hrs): <u>1350</u>								
Total Purge Time (min): <u>150</u>								
Total Vol. Purged (gal): <u>15L</u>								

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs	HCL	3- 40 ml vials	MC
PAHs	None	2- 1 liter gl. Amber	↓
EDB		3- 40 ml vials	↓
TOTAL LEAD	HNO ₃	1- 500 ml HDPE	↓
TRIH	H ₂ SO ₄	2- 1 liter gl. Amber	↓

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable:

MS/MSD

Duplicate ID No.:

CEF.076-GW-DUP03.01

Signature(s):



Project Site Name: NFF, GW SAMPLE VENT. 1 SARA Sample ID No.: CEF-076-GW-E 80D 01
 Project No.: N3996 JG0 050 325 Sample Location: CEF-076-80D
 Sampled By: VIM
 C.O.C. No.: 076-80D
 Type of Sample: 12/16/02
 Domestic Well Data
 Monitoring Well Data
 Other Well Type:
 QA Sample Type:

SAMPLING DATA									
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other	
<u>12/16/02</u>									
Time: <u>1030</u>									
Method: <u>Low Flow Peristaltic</u>	<u>CLEAR</u>	<u>5.78</u>	<u>0.147</u>	<u>20.7</u>	<u>4</u>	<u>0.54</u>	<u>-</u>	<u>-</u>	

PURGE DATA									
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP	
<u>12/16/02</u>									
Method: <u>Low Flow Peristaltic</u>									
Monitor Reading (ppm): <u>0/0</u>									
Well Casing Diameter: <u>2 IN.</u>									
Well Casing Material: <u>PVC</u>									
Total Well Depth (TD): <u>112</u>									
Static Water Level (WL): <u>5.04</u>									
One Casing Volume (gal): <u>106.2</u>									
Start Purge (hrs): <u>0915</u>									
End Purge (hrs): <u>1030</u>									
Total Purge Time (min): <u>75</u>									
Total Vol. Purged (gal): <u>122.5</u>									

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION				Collected
Analysis	Preservative	Container Requirements		
<u>Select VOCs</u>	<u>8260B</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<u>X</u>
<u>PAHs</u>	<u>8270C</u>	<u>None</u>	<u>2- 1 liter gl. Amber</u>	<u>X</u>
<u>EDB</u>	<u>504.1</u>		<u>3- 40 ml vials</u>	<u>X</u>
<u>TOTAL LEAD</u>	<u>6010B</u>	<u>HNO3</u>	<u>1- 500 ml HDPE</u>	<u>X</u>
<u>TRPH</u>	<u>PL-PRO</u>	<u>H2SO4</u>	<u>2- 1 liter gl. Amber</u>	<u>X</u>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: MS/MSD Duplicate ID No.: Signature(s): [Signature]



Project Site Name: NFF, GW SAMPLE EXT. 1 SARA Sample ID No.: CEF-076-GW-E315-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-E315
 Sampled By: MF
 C.O.C. No.: 076-12.18.02
 Type of Sample:
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA									
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other ORP	
12.18.02	clear	3.98	0.690	21.20	1.2	0.92		358	
Time: 1035									
Method: Low Flow Peristaltic									

PURGE DATA									
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP	
12.18.02	1035								
Method: Low Flow Peristaltic									
Monitor Reading (ppm): 0.0									
Well Casing Diameter: 2 IN.									
Well Casing Material: PVC									
Total Well Depth (TD): 13.0									
Static Water Level (WL): 5.00	See Low Flow Purge Data Sheet								
One Casing Volume (gal/L): 4.9									
Start Purge (hrs): 0910									
End Purge (hrs): 1010									
Total Purge Time (min): 60									
Total Vol. Purged (gal/L): 152									

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs	HCL	3- 40 ml vials	MF
PAHs	NONE	2- 1 liter gl. Amber	
EDB		3- 40 ml vials	
TOTAL LEAD	HNO ₃	1- 500ml HDPE	
TRPH	H ₂ SO ₄	2- 1 liter gl. Amber	

OBSERVATIONS / NOTES
 Lab: Accutest

Circle 1 if Applicable
 MS/MSD Duplicate ID No.: _____ Signature(s): MF Ingram



Project Site Name: NFF, GW SAMPLE VENT. 1 SARA Sample ID No.: CEF-076-GW-E825-01
 Project No.: N3996 JGO 050 325 Sample Location: CEF-076-825
 Sampled By: CM
 C.O.C. No.: 076-121702
 Type of Sample:
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Low Concentration
 High Concentration

SAMPLING DATA									
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Salinity %	Other	
<u>12/17/02</u>									
Time: <u>1155</u>									
Method: <u>Low Flow Peristaltic</u>	<u>LT Brown</u>	<u>5.36</u>	<u>0.15</u>	<u>21.4</u>	<u>100</u>	<u>0.8</u>	<u>-</u>	<u>-</u>	

PURGE DATA									
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP	
<u>12/17/02</u>									
Method: <u>Low Flow Peristaltic</u>									
Monitor Reading (ppm): <u>0/0</u>									
Well Casing Diameter: <u>2 IN.</u>									
Well Casing Material: <u>PVC</u>									
Total Well Depth (TD): <u>12.5</u>									
Static Water Level (WL): <u>4.42</u>									
One Casing Volume (gal): <u>0.5</u>									
Start Purge (hrs): <u>0945</u>									
End Purge (hrs): <u>1150</u>									
Total Purge Time (min): <u>125</u>									
Total Vol. Purged (gal): <u>0.25</u>									

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
<u>Select VOCs</u>	<u>HCL</u>	<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>PAHs</u>	<u>None</u>	<u>2- 1 liter gl. Amber</u>	<input checked="" type="checkbox"/>
<u>EDB</u>		<u>3- 40 ml vials</u>	<input checked="" type="checkbox"/>
<u>TOTAL LEAD</u>	<u>HNO3</u>	<u>1- 500 ml HDPE</u>	<input checked="" type="checkbox"/>
<u>TRPH</u>	<u>H2SO4</u>	<u>2- 1 liter gl. Amber</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Lab: Accutest

Circle if Applicable: _____ Signature(s): [Signature]

MS/MSD	Duplicate ID No.:
_____	_____



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-~~E48D~~-01
 Sample Location: CEF-076-E48D
 Sampled By: SRM
 C.O.C. No.: _____
 Type of Sample: _____
 Low Concentration
 High Concentration

SAMPLING DATA

Date: <u>2/10/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: <u>1345</u>								
Method: <u>Low Flow Peristaltic</u>	<u>clear</u>	<u>6.80</u>	<u>0.565</u>	<u>21.11</u>	<u>13.2</u>	<u>0.00</u>	<u>-110</u>	

PURGE DATA

Date: <u>2/10/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Sheet						
Monitor Reading (ppm): <u>0</u>							
Well Casing Diameter: <u>2 in.</u>							
Well Casing Material: <u>PVC</u>							
Total Well Depth (TD): <u>100</u>							
Static Water Level (WL): <u>4.45</u>							
One Screen Volume (gal/L): _____							
Start Purge (hrs): <u>0945</u>							
End Purge (hrs): <u>1335</u>							
Total Purge Time (min): <u>3hr 50min</u>							
Total Vol. Purged (gal/L): <u>23</u>							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	None	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

*Note New tubing down to 90ft per Meru Dale. purge rate 100 ml/min. turbidity below 100 ntu's.

Horiba 46.6 NTU's
 Lamothe 23.3

Circle if Applicable:

MS/MSD Duplicate ID No.:

Signature(s):

Scott R. McEure



Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

WELL ID.: 076-48D
CEF-36-236
DATE: 2/10/03

PROJECT SITE NAME: NAS Cecil Field Site 36
PROJECT NUMBER: N8442-PJ0-050140 N3996 JG C050325

Time (HHMM)	Water Level (Feet BTOC)	Flow (mL/min.)	Cum. Vol. (Liters)	pH (S.U.)	Cond. (mS/cm)	Turb. HORIBA (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	TURB NTM / AMPITE	Comments
0945	4.45	100								22.4	
0955	8.44	100	1	7.00	0.582	55.1	1.50	19.51	-19	24.1	
1005	8.56	100	2	7.00	0.576	61.7	1.76	19.60	-17	27.3	
1015	8.72	100	3	7.01	0.575	64.8	0.99	19.66	-51	28.1	
1025	8.84	100	4	6.99	0.575	67.3	0.72	19.76	-56	24.2	
1035	8.99	100	5	6.99	0.575	71.2	0.31	19.77	-59	27.6	Pump stopped *
1045	9.21	100	6	6.99	0.573	72.8	0.28	19.81	-62	22.3	
1055	10.96	100	7	6.98	0.573	49.6	0.25	19.98	-66	20.3	Pump stopped *
1105	12.10	100	8	6.97	0.573	47.2	0.15	19.99	-73	21.7	
1115	12.96	100	9	6.93	0.572	48.7	0.04	20.14	-77	21.5	
1125	13.75	100	10	6.93	0.571	43.9	0.01	20.19	-81	20.5	
1135	16.05	100	11	6.92	0.570	42.7	0.68	20.21	-84	18.9	Pump stopped *
1145	15.12	100	12	6.89	0.570	43.1	0.49	20.27	-87	17.7	
1155	15.43	100	13	6.88	0.570	40.2	0.26	20.36	-89	17.0	
1205	16.15	100	14	6.88	0.569	39.8	0.18	20.33	-89	15.9	
1215	16.23	100	15	6.87	0.571	36.7	0.10	20.29	-91	15.3	
1225	16.27	100	16	6.87	0.571	34.8	0.07	20.11	-96	14.4	
1235	16.38	100	17	6.87	0.567	33.6	0.04	20.06	-99	15.1	
1245	16.47	100	18	6.87	0.566	39.5	0.00	20.00	-102	15.8	
1255	16.56	100	19	6.87	0.566	38.4	0.01	20.03	-107	15.8	
1305	16.76	100	20	6.89	0.565	38.5	0.03	20.06	-109	16.1	
1315	16.91	100	21	6.87	0.565	38.9	0.00	20.10	-110	14.4	
1325	16.99	100	22	6.84	0.565	38.1	0.00	20.91	-110	13.9	
1335	17.10	100	23	6.80	0.565	37.3	0.00	21.11	-110	13.2	
1345	Sample Collected										

SIGNATURE(S):

Scott R. McQuinn

* Pump stopped due to slow purge rate. Page 2 of 2
This affected drawdown.



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-^{F MD}1605-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-605
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Sampled By: P. Laverette
 C.O.C. No.: 0399
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA								
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Other	
Time:	Visual	Standard	mS/cm	°C	NTU	mg/l		
<u>1-28-03</u>	<u>CLEAR</u>	<u>4.57</u>	<u>0.057</u>	<u>20.89</u>	<u>1.4</u>	<u>1.08</u>	<u>101.7</u>	

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP	
<u>1-28-03</u>								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: 2 in.								
Well Casing Material: PVC								
Total Well Depth (TD): <u>42.5'</u>								
Static Water Level (WL): <u>7.06'</u>								
One Screen Volume (gal/L): <u>3.1</u>								
Start Purge (hrs): <u>1445</u>								
End Purge (hrs): <u>1515</u>								
Total Purge Time (min): <u>30</u>								
Total Vol. Purged (gal): <u>12.0</u>								
See Low Flow Purge Sheet								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	None	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD Duplicate ID No.: None Signature(s): [Signature]



Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME:
PROJECT NUMBER:

North Fuel Farm
3996.JG0050325

Cecil Field

WELL ID.: CEF-076-60s
DATE: 1-28-03

Time (Hrs.)	Water Level (ft. below TOC)	Flow (ml./min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1445	7.06	400	-	-	-	-	-	-	START PURGE
1455	7.30	40 400	4.54	0.056	1.6	1.45	21.05	110.8	
1500	7.30	60 400	4.56	0.057	1.3	1.25	21.01	107.3	
1505	7.30	90 400	4.54	0.057	1.5	1.10	20.95	104.7	
1510	7.30	120 400	4.59	0.057	1.5	1.06	20.95	102.5	
1515	7.30	120 400	4.57	0.057	1.4	1.08	20.89	101.7	
SAMPLE TIME 1520									
PTD RZ-0 8G-0									

SIGNATURE(S): Photo Scientist



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N 835-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-835
 [] Domestic Well Data Sampled By: MJF
 [X] Monitoring Well Data C.O.C. No.: 0342
 [] Other Well Type: _____ Type of Sample:
 [] QA Sample Type: _____ [X] Low Concentration
 [] High Concentration

SAMPLING DATA								
Date: <u>1/27/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		Other
Time: <u>1420</u>								
Method: Low Flow Peristaltic								

PURGE DATA								
Date: <u>1.27.03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0.0</u>								
Well Casing Diameter: 2 In.								
Well Casing Material: PVC								
Total Well Depth (TD): <u>30</u>								
Static Water Level (WL): <u>9.41</u>								
One Screen Volume (gal/L): <u>31</u>								
Start Purge (hrs): <u>1240</u>								
End Purge (hrs): <u>1410</u>								
Total Purge Time (min): <u>90</u>								
Total Vol. Purged (gal/L): <u>15.25</u>								
See Low Flow Purge Sheet								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	None	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD Duplicate ID No.: None Signature(s): MJF



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-N 84I-01
 Sample Location: CEF-076-844
 Sampled By: C Gleaton
 C.O.C. No.: 0399
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date: <u>1/28/03</u>	Color	pH	S.C.	Temp.	Turbidity	DO		Other
Time: <u>11:20</u>	Visual	Standard	mS/cm	°C	NTU	mg/l		
Method: <u>Low Flow Peristaltic</u>	<u>Clear</u>	<u>5.14</u>	<u>0.091</u>	<u>20.2</u>	<u>10</u>	<u>6.93</u>		

PURGE DATA

Date: <u>1/28/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Sheet							
Monitor Reading (ppm): <u>0.0</u>								
Well Casing Diameter: <u>2 in.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>63.7</u>								
Static Water Level (WL): <u>7.69</u>								
One Screen Volume (gal): <u>.81</u>								
Start Purge (hrs): <u>1400</u>								
End Purge (hrs): <u>1610</u>								
Total Purge Time (min): <u>130</u>								
Total Vol. Purged (gal): <u>4.2</u>								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD

Duplicate ID No.: _____

Signature(s):

C. Gleaton



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-078-GW-N95I-01
 Project No.: 3996.JG0050325 Sample Location: CEF-078-85E
 [] Domestic Well Data Sampled By: P. LAIGLETTE
 [X] Monitoring Well Data C.O.C. No.: 0399
 [] Other Well Type: _____ Type of Sample:
 [] QA Sample Type: _____ [X] Low Concentration
 [] High Concentration

SAMPLING DATA

Date: <u>1-28-03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: <u>1340</u>								
Method: Low Flow Peristaltic	<u>CLEAR</u>	<u>5.04</u>	<u>0.054</u>	<u>22.42</u>	<u>9.35</u>	<u>0.12</u>	<u>87.2</u>	

PURGE DATA

Date: <u>1-28-03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: Low Flow Peristaltic	See Low Flow Purge Sheet						
Monitor Reading (ppm): <u>10.8</u>							
Well Casing Diameter: 2 in.							
Well Casing Material: PVC							
Total Well Depth (TD): <u>63.6</u>							
Static Water Level (WL): <u>7.4'</u>							
One Screen Volume(gal/L): <u>3.1</u>							
Start Purge (hrs): <u>1220</u>							
End Purge (hrs): <u>1330</u>							
Total Purge Time (min): <u>70</u>							
Total Vol. Purged (gal): <u>10.5</u>							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	None	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): P. Laiglette



Project Site Name:	North Fuel Farm, Cecil Field	Sample ID No.:	CEF-076-GW-865-01
Project No.:	3996.JG0050325	Sample Location:	CEF-076-865
<input type="checkbox"/> Domestic Well Data		Sampled By:	C Gleason
<input checked="" type="checkbox"/> Monitoring Well Data		C.O.C. No.:	0399
<input type="checkbox"/> Other Well Type:		Type of Sample:	
<input type="checkbox"/> QA Sample Type:		<input checked="" type="checkbox"/> Low Concentration	
		<input type="checkbox"/> High Concentration	

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		Other
1/28/03	Gray	5.38	0.108	18.9	1000	0.71		
Time: 1050								
Method: Low Flow Peristaltic								

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
1/28/03								
Method: Low Flow Peristaltic	See Low Flow Purge Sheet							
Monitor Reading (ppm): 0.0								
Well Casing Diameter: 2 In.								
Well Casing Material: PVC								
Total Well Depth (TD): 53.1								
Static Water Level (WL): 4.45								
One Screen Volume (gal): .81								
Start Purge (hrs): 0909								
End Purge (hrs): 1033								
Total Purge Time (min): 89								
Total Vol. Purged (gal/L): 4.2								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES	

Circle if Applicable:	Signature(s):
<input checked="" type="checkbox"/> MS/MSD Duplicate ID No.: CEF-076-GW-MD3-01	



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-N
 Sample Location: CEF-076-875
 Sampled By: C. Gleason
 C.O.C. No.: 0342
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Other
<u>1/27/03</u>							
Time: <u>1745</u>							
Method: <u>Low Flow Peristaltic</u>	<u>Colorless</u>	<u>5.08</u>	<u>0.079</u>	<u>17.6</u>	<u>450</u>	<u>6.45</u>	

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>1.27.03</u>							
Method: <u>Low Flow Peristaltic</u>							
Monitor Reading (ppm): <u>0.0</u>							
Well Casing Diameter: <u>2 in.</u>							
Well Casing Material: <u>PVC</u>							
Total Well Depth (TD): <u>50</u>							
Static Water Level (WL): <u>7.45</u>							
One Screen Volume (gal): <u>0.81</u>							
Start Purge (hrs): <u>16:12</u>							
End Purge (hrs): <u>17:38</u>							
Total Purge Time (min): <u>86</u>							
Total Vol. Purged (gal): <u>6</u>							
See Low Flow Purge Sheet							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<u>yes</u>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<u>yes</u>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<u>yes</u>
EDB 504	None	3-40 ml vials	<u>yes</u>
Total Lead. SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<u>yes</u>

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD Duplicate ID No.: None

Signature(s):

C. Gleason



Project Site Name: <u>North Fuel Farm, Cecil Field</u>		Sample ID No.: <u>CEF-076-GW-N 885-01</u>	
Project No.: <u>3996.JG0050325</u>		Sample Location: <u>CEF-076-885</u>	
<input type="checkbox"/> Domestic Well Data		Sampled By: <u>S. McGuire</u>	
<input checked="" type="checkbox"/> Monitoring Well Data		C.O.C. No.: <u>0399</u>	
<input type="checkbox"/> Other Well Type: _____		Type of Sample:	
<input type="checkbox"/> QA Sample Type: _____		<input checked="" type="checkbox"/> Low Concentration	
		<input type="checkbox"/> High Concentration	

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
<u>1/28/03</u>								
Time: <u>1125</u>								
Method: <u>Low Flow Peristaltic</u>	<u>Lt Brown</u>	<u>4.89</u>	<u>0.101</u>	<u>16.7</u>	<u>999</u>	<u>7.26</u>	<u>-41</u>	

PURGE DATA							
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>1/28/03</u>							
Method: <u>Low Flow Peristaltic</u>							
Monitor Reading (ppm): <u>0</u>							
Well Casing Diameter: <u>2 In.</u>							
Well Casing Material: <u>PVC</u>							
Total Well Depth (TD): <u>17.5</u>							
Static Water Level (WL): <u>4.96</u>							
One Screen Volume (gal/L): <u>6.2</u>							
Start Purge (hrs): <u>0920</u>							
End Purge (hrs): <u>1120</u>							
Total Purge Time (min): <u>120</u>							
Total Vol. Purged (gal/L): <u>33</u>							
See Low Flow Purge Sheet							

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs <u>SW846 8260B</u>	<u>HCl</u>	<u>3-40ml vials</u>	<input checked="" type="checkbox"/>
<u>#VOHs+1,2 dichloroethane+BTEX+MTBE</u>			
PAHs <u>SW846 8310</u>	<u>None</u>	<u>2 - 1 liter glass ambers</u>	<input checked="" type="checkbox"/>
<u>#Include 1- and 2-methylnaphthalene</u>			
TRPH <u>FL-PRO</u>	<u>H2SO4</u>	<u>2 - 1 liter glass ambers</u>	<input checked="" type="checkbox"/>
EDB <u>504</u>	<u>None</u>	<u>3-40 ml vials</u>	<input checked="" type="checkbox"/>
Total Lead. <u>SW846 6010B</u>	<u>HNO3</u>	<u>1 - 500 ml HDPE bottle</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES
<u>Water level decreased to 6.43 upon pumping due to poor recharge. At 6.43 water level stabilized with pumping rate 200 ml/min.</u>
<u>BZ = 0 ppm</u>
<u>Bt = 0 ppm</u>

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.: <u>CEF-076-GW-DUP5-01</u>	<u>Scott R. McGuire</u>



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N89E-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-89E
 [] Domestic Well Data
 [X] Monitoring Well Data
 [] Other Well Type: _____
 [] QA Sample Type: _____
 Sampled By: C. Gleaton
 C.O.C. No.: 0342
 Type of Sample:
 [X] Low Concentration
 [] High Concentration

SAMPLING DATA

Date: <u>1/27/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		Other
Time: <u>1505</u>	<u>Clear</u>	<u>4.89</u>	<u>0.050</u>	<u>23.3</u>	<u>150</u>	<u>5.98</u>		
Method: Low Flow Peristaltic								

PURGE DATA

Date: <u>1/27/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0.0</u>								
Well Casing Diameter: 2 In.								
Well Casing Material: PVC								
Total Well Depth (TD): <u>55</u>								
Static Water Level (WL): <u>3.88</u>								
One Screen Volume (gal/L): <u>0.91</u>								
Start Purge (hrs): <u>1315</u>								
End Purge (hrs): <u>1502</u>								
Total Purge Time (min): <u>108</u>								
Total Vol. Purged (gal/L): <u>4</u>								
See Low Flow Purge Sheet								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<u>yes</u>
#VOHs+1,2 dichloroethane+BTEX+MTBE			<u>no</u>
PAHs SW846 8310	None	2 - 1 liter glass ambers	<u>yes</u>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<u>yes</u>
EDB 504	None	3-40 ml vials	<u>yes</u>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<u>yes</u>

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD — Duplicate ID No.: None Signature(s): C. Gleaton



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N
 Project No.: 3996.JG0050325 Sample Location: CEF-076-89I 905
 Sampled By: S. McGuire
 C.O.C. No.: 0342
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA								
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Time:	Visual	Standard	mS/cm	°C	NTU	mg/l	(mV)	
1/27/03	Clear	4.47	0.303	19.6	3.0	0.44	-71	
Method: Low Flow Peristaltic								

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
1/27/03								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): 0								
Well Casing Diameter: 2 In.								
Well Casing Material: PVC								
Total Well Depth (TD): 15'								
Static Water Level (WL): 2.86								
One Screen Volume (gal/L): 6.2								
Start Purge (hrs): 1315								
End Purge (hrs): 1420								
Total Purge Time (min): 8070								
Total Vol. Purged (gal/L): 245								
See Low Flow Purge Sheet								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead. SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s): <i>S. McGuire</i>



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N 915-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-GW-915
 [] Domestic Well Data Sampled By: MJE
 [X] Monitoring Well Data C.O.C. No.: 0399
 [] Other Well Type: _____ Type of Sample:
 [] QA Sample Type: _____ [X] Low Concentration
 [] High Concentration

SAMPLING DATA

Date: <u>1-28-03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Other
Time: <u>1510</u>	<u>Clear</u>	<u>5.63</u>	<u>0.24</u>	<u>21.0</u>	<u>48.8</u>	<u>0.48</u>	<u>ORP -123</u>
Method: Low Flow Peristaltic							

PURGE DATA

Date: <u>1-28-03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: Low Flow Peristaltic							
Monitor Reading (ppm): <u>0.0</u>							
Well Casing Diameter: 2 in.							
Well Casing Material: PVC							
Total Well Depth (TD): <u>35.1</u> - <u>plan to c.</u> See Low Flow Purge Sheet							
Static Water Level (WL): <u>10.75</u>							
One Screen Volume (gal/L): <u>3.1</u>							
Start Purge (hrs): <u>1320</u>							
End Purge (hrs): <u>1505</u>							
Total Purge Time (min): <u>105</u>							
Total Vol. Purged (gal/L): <u>15.75</u>							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

Circle if Applicable: _____ Signature(s): MJE

MS/MSD	Duplicate ID No.: <u>None</u>
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Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME:
PROJECT NUMBER:

North Fuel Farm
3996..JG0050325

Cecil Field

WELL ID.: CEF-076-GW-915-01
DATE: 1.28.03

(TURB)
Lammott
80
60
50

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1320	10.75	—	—	—	—	—	—	—	Cum Volume.
1330	10.75	150	5.66	0.267	214	0.71	21.1	-102	15 L
1345	10.75	150	5.63	0.264	117	0.52	21.0	-106	4.25 L
1355	10.75	200	5.62	0.265	819	0.45	21.2	-113	6.75 L
1400	10.80	200	5.63	0.267	872	0.43	21.3	-52	7.25 L
1410	10.80	200	5.63	0.268	80.1	0.43	21.3	-76	8.25 L
1430	10.80	200	5.63	0.268	66.6	0.39	21.3	-104	13.25 L
1440	10.80	100	5.63	0.263	64.0	0.43	21.0	-99	13.25 L
1450	10.80	100	5.63	0.264	68.3	0.41	21.1	-112	14.25 L
1505	10.80	100	5.63	0.262	48.8	0.42	21.0	-123	15.75
1510	Sampling	—	—	—	—	—	—	—	—

SIGNATURE(S): MCJ gpc



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-N 925
 Sample Location: CEF-076- GW 925
 Sampled By: MJE
 C.O.C. No.: 0399
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA								
Date: <u>1.28.03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: <u>1115</u>								
Method: <u>Low Flow Peristaltic</u>	<u>lt. Brn.</u>	<u>6.50</u>	<u>0.169</u>	<u>20.1</u>	<u>630</u>	<u>0.52</u>	<u>-169</u>	

PURGE DATA								
Date: <u>1.28.03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Sheet							
Monitor Reading (ppm): <u>0.0</u>								
Well Casing Diameter: <u>2 in.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>33.65</u>								
Static Water Level (WL): <u>4.95</u>								
One Screen Volume (gal/L): <u>3.1</u>								
Start Purge (hrs): <u>0900</u>								
End Purge (hrs): <u>1110</u>								
Total Purge Time (min): <u>30</u>								
Total Vol. Purged (gal/L): <u>16</u>								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	None	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Duplicate!

Circle if Applicable: MS/MSD Duplicate ID No.: CEF-076-GW-DUP4-01

Signature(s):



Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME:
PROJECT NUMBER:

North Fuel Farm
3996.JG0050325

Cecil Field

WELL ID.: CEF-076-~~OW~~ 925-01
DATE: 1.28.03

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
0900	7.95	—	—	—	—	—	—	—	—
0910	7.95	200	6.54	0.179	>999	0.100	20.0	-167	2L 16 BROWN
0920	7.95	100	6.60	0.169	996	3.28	18.9	-141	3L
0940	7.95	100	6.65	0.173	782	0.53	19.4	-179	7L
0950	7.95	100	6.62	0.173	735	0.49	19.6	-182	8L
1005	7.95	100	6.61	0.173	719.0	0.45	19.9	-183	9.5
1015	7.95	100	6.59	0.172	706.0	0.48	20.0	-183	10.5
1030	7.95	100	6.57	0.173	682.0	0.78	20.4	-170	12.0
1040	7.95	100	6.56	0.169	648	0.48	20.5	-182	13.0
1050	7.95	100	6.52	0.167	641	0.57	20.3	-183	14.0
1100	7.95	100	6.50	0.168	635	0.50	20.2	-172	15.0
1110	7.95	100	6.50	0.169	630	0.52	20.1	-169	16.0
1115	Sampling	—	—	—	—	—	—	—	—

Laminar HC

SIGNATURE(S): M. C. [Signature]



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-N935
 Sample Location: CEF-076-935
 Sampled By: MCF
 C.O.C. No.: 0342

Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Other
<u>1.27.05</u>		<u>7.45</u>	<u>0.286</u>	<u>20.9</u>	<u>64.8</u>	<u>0.53</u>	
Time: <u>1640</u>							
Method: Low Flow Peristaltic							

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>1.27.05</u>							
Method: Low Flow Peristaltic							
Monitor Reading (ppm):							
Well Casing Diameter: 2 In.							
Well Casing Material: PVC							
Total Well Depth (TD): <u>34.2</u>							
Static Water Level (WL): <u>7.61</u>							
One Screen Volume (gal/L): <u>3.1</u>							
Start Purge (hrs): <u>1510</u>							
End Purge (hrs): <u>1630</u>							
Total Purge Time (min): <u>80</u>							
Total Vol. Purged (gal/L): <u>16</u>							
See Low Flow Purge Sheet							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<u>yes</u>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	
EDB 504	None	3-40 ml vials	
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD Duplicate ID No.: None

Signature(s): MCF



Project Site Name: North Fuel Farm, Cecil Field
Project No.: 3996.JG0050325

Sample ID No.: CEF-076-GW-N 945-01
Sample Location: CEF-076-945
Sampled By: S. McConire
C.O.C. No.: 0342
Type of Sample: [X] Low Concentration [] High Concentration

- [] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

SAMPLING DATA

Table with columns: Date, Time, Method, Color Visual, pH Standard, S.C. mS/cm, Temp. °C, Turbidity NTU, DO mg/l, ORP, Other. Includes handwritten values like 1/27/03, 1900, Clear, 5.02, 0.395, 16.7, 5, 5.10, -144.

PURGE DATA

Table with columns: Date, Time, pH, S.C., Temp (°C), Turbidity, DO, ORP. Includes handwritten values like 1/27/03, 1605, 1750, 22. Note: See Low Flow Purge Sheet.

SAMPLE COLLECTION INFORMATION

Table with columns: Analysis, Preservative, Container Requirements, Collected. Lists various analyses like Select VOCs, PAHs, TRPH, EDB, Total Lead with their respective preservatives and collection methods.

OBSERVATIONS / NOTES

Large empty box for observations and notes.

Signature(s):
MS/MSD Duplicate ID No.: None



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N 955-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-955
 [] Domestic Well Data Sampled By: SCOTT McGUIRE
 [X] Monitoring Well Data C.O.C. No.: 0399
 [] Other Well Type: _____ Type of Sample:
 [] QA Sample Type: _____ [X] Low Concentration
 [] High Concentration

SAMPLING DATA

Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Other
Time:	Visual	Standard	mS/cm	°C	NTU	mg/l	
<u>1/20/03</u>	<u>Lt Grey</u>	<u>5.78</u>	<u>0.092</u>	<u>16.9</u>	<u>171.0</u>	<u>1.87</u>	<u>ORP</u>
<u>1735</u>							<u>-19</u>

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>1/20/03</u>							
Method: Low Flow Peristaltic	See Low Flow Purge Sheet						
Monitor Reading (ppm): <u>0</u>							
Well Casing Diameter: <u>2 In.</u>							
Well Casing Material: <u>PVC</u>							
Total Well Depth (TD): <u>17.6</u>							
Static Water Level (WL): <u>6.40</u>							
One Screen Volume (gal/L): <u>6.2</u>							
Start Purge (hrs): <u>1355</u>							
End Purge (hrs): <u>1735</u>							
Total Purge Time (min): <u>220</u>							
Total Vol. Purged (gal/L): <u>32</u>							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	None	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Purged to 5 volumes, turbidity still somewhat high. The water has cleared up quite a bit.

BZ = 0ppm
BH = 0ppm

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): Scott R. McGuire



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:
Project No.:

North Fuel Farm, Cecil Field
3996.JG0050325

Sample ID No.:
Sample Location:
Sampled By:
C.O.C. No.:

CEF-076-GW-N960-01
CEF-076-960
MFCMFM
2226 0350 MA

- Domestic Well Data
- Monitoring Well Data
- Other Well Type: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
- High Concentration

SAMPLING DATA								Other
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	
2.11.03	yellow clear	10.84	0.702	19.3	6.9	0.21	-46	
Time: 1045								
Method: Low Flow Peristaltic								

PURGE DATA						DO	ORP
Date:	Time	pH	S.C.	Temp (°C)	Turbidity		
2.11.03							
Method: Low Flow Peristaltic							
Monitor Reading (ppm): 0.0							
Well Casing Diameter: 2 In.							
Well Casing Material: PVC							
Total Well Depth (TD): 115 ft							
Static Water Level (WL): 3.21							
One Screen Volume (gal/L): 3.1							
Start Purge (hrs): 0900							
End Purge (hrs): 1030							
Total Purge Time (min): 95							
Total Vol. Purged (gal/L): 9.5							

See Low Flow Purge Sheet

1045 = Sample Time

SAMPLE COLLECTION INFORMATION				Collected
Analysis	Preservative	Container Requirements		
Select VOCs SW846 8260B	HCl	3-40ml vials		<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE				
PAHs SW846 8310	None	2 - 1 liter glass ambers		<input checked="" type="checkbox"/>
#Include 1- and 2-methylnaphthalene				
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers		<input checked="" type="checkbox"/>
EDB 504	None	3-40 ml vials		<input checked="" type="checkbox"/>
Total Lead. SW846 6010B	HNO3	1 - 500 ml HDPE bottle		<input checked="" type="checkbox"/>

5 FOOT SCREEN.

BACKGROUND (ppm) = 0.2 . Borehole (ppm) = 0.0 . Breathing zone = 0.0 .

Circle if Applicable: MS/MSD Duplicate ID No.: None Signature(s): MFCMFM



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-N 97D-01
 Sample Location: CEF-076-97D
 Sampled By: S. McQuire
 C.O.C. No.: 2226
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
<u>2/10/03</u>								
Time: <u>1950</u>								
Method: <u>Low Flow Peristaltic</u>	<u>clear</u>	<u>7.02</u>	<u>0.643</u>	<u>920.50</u>	<u>9.1</u>	<u>0.00</u>	<u>-92</u>	

PURGE DATA							
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>2/10/03</u>							
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Sheet						
Monitor Reading (ppm): <u>0</u>							
Well Casing Diameter: <u>2 in.</u>							
Well Casing Material: <u>PVC</u>							
Total Well Depth (TD): <u>115</u>							
Static Water Level (WL): <u>7.10</u>							
One Screen Volume (gal): <u>3.1</u>							
Start Purge (hrs): <u>1650</u>							
End Purge (hrs): <u>1945</u>							
Total Purge Time (min): <u>115</u>							
Total Vol. Purged (gal): <u>95</u>							

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	None	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

5 FOOT SCREEN

BACKGROUND (ppm) = 0 . BOREHOLE (ppm) = 0 . Breathing zone (ppm) = 0

Circle if Applicable:

MS/MSD	Duplicate ID No.: <u>None</u>
--------	-------------------------------

Signature(s): _____



Project Site Name:	North Fuel Farm, Cecil Field	Sample ID No.:	CEF-076-GW-N <u>98D-01</u>
Project No.:	3996.JG0050325	Sample Location:	CEF-076- <u>98D</u>
<input type="checkbox"/> Domestic Well Data		Sampled By:	<u>C Gleeson</u>
<input checked="" type="checkbox"/> Monitoring Well Data		C.O.C. No.:	<u>2226 0350</u>
<input type="checkbox"/> Other Well Type:		Type of Sample:	<u>MA</u>
<input type="checkbox"/> QA Sample Type:		<input checked="" type="checkbox"/> Low Concentration	
		<input type="checkbox"/> High Concentration	

SAMPLING DATA

Date: <u>2/11/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: <u>1115</u>							<u>0</u>	
Method: Low Flow Peristaltic	<u>Clear</u>	<u>6.59</u>	<u>0.706</u>	<u>18.72</u>	<u>0.34</u>	<u>1.3</u>	<u>0</u>	

PURGE DATA

Date: <u>2/11/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: Low Flow Peristaltic	See Low Flow Purge Sheet						
Monitor Reading (ppm): <u>0.0</u>							
Well Casing Diameter: 2 In.							
Well Casing Material: PVC							
Total Well Depth (TD): <u>110</u>							
Static Water Level (WL): <u>7.2</u>							
One Screen Volume (gal): <u>82</u>							
Start Purge (hrs): <u>0912</u>							
End Purge (hrs): <u>1110</u>							
Total Purge Time (min): <u>118</u>							
Total Vol. Purged (gal): <u>2.6</u>							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

5 FOOT SCREEN

BACKGROUND (PPM) = 0. Boroholo (PPM) = 0. Breathing zone (PPM) = 0.

Circle if Applicable:

Signature(s)

MS/MSD

Duplicate ID No.:

None

C. Gleeson



Project Site Name: <u>North Fuel Farm, Cecil Field</u>		Sample ID No.: <u>CEF-076-GW-N 990-01</u>	
Project No.: <u>3996.JG0050325</u>		Sample Location: <u>CEF-076-990</u>	
<input type="checkbox"/> Domestic Well Data		Sampled By: _____	
<input checked="" type="checkbox"/> Monitoring Well Data		C.O.C. No.: <u>2226</u>	
<input type="checkbox"/> Other Well Type: _____		Type of Sample:	
<input type="checkbox"/> QA Sample Type: _____		<input checked="" type="checkbox"/> Low Concentration	
		<input type="checkbox"/> High Concentration	

SAMPLING DATA								
Date: <u>2/10/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: <u>1920</u>	<u>Clear</u>	<u>6.94</u>	<u>0.625</u>	<u>19.52</u>	<u>0.36</u>	<u>1.3</u>	<u>0</u>	
Method: <u>Low Flow Peristaltic</u>								

PURGE DATA								
Date: <u>2/10/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP	
Method: <u>Low Flow Peristaltic</u>								
Monitor Reading (ppm): _____								
Well Casing Diameter: <u>2 In.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>100</u>								
Static Water Level (WL): <u>7.64</u>								
One Screen Volume (gal): <u>.82</u>								
Start Purge (hrs): <u>1700</u>								
End Purge (hrs): <u>1910</u>								
Total Purge Time (min): <u>130</u>								
Total Vol. Purged (gal): <u>2.6</u>								
See Low Flow Purge Sheet								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES
<u>5 FT. SCREEN</u>
<u>BACKGRND (PPM) = C.C. Borohole (PPM) = C.C. BZ (PPM) = C.C.</u>

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.: <u>None</u>	<u>C. D. Lester</u>



Project Site Name: <u>North Fuel Farm, Cecil Field</u>		Sample ID No.: <u>CEF-076-GW-N</u>						
Project No.: <u>3996.JG0050325</u>		Sample Location: <u>CEF-076-1D00</u>						
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: _____ <input type="checkbox"/> QA Sample Type: _____		Sampled By: _____ C.O.C. No.: <u>03916</u> Type of Sample: <input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration						
SAMPLING DATA								
Date: <u>1/29/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	<u>ORP</u>	Other
Time: <u>1245</u>								
Method: <u>Low Flow Peristaltic</u>	<u>Clear</u>	<u>6.89</u>	<u>0.461</u>	<u>20.7</u>	<u>5.1</u>	<u>.86</u>	<u>-66</u>	
PURGE DATA								
Date: <u>1/29/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Sheet							
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 In.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>100</u>								
Static Water Level (WL): <u>7.48</u>								
One Screen Volume (gal/L): <u>3.1</u>								
Start Purge (hrs): <u>0955/1050</u>								
End Purge (hrs): <u>1035/1240</u>								
Total Purge Time (min): <u>140</u>								
Total Vol. Purged (gal/L): <u>14</u>								
SAMPLE COLLECTION INFORMATION								
Analysis		Preservative		Container Requirements			Collected	
Select VOCs	<u>SW846 8260B</u>	<u>HCl</u>		<u>3-40ml vials</u>				
#VOHs+1,2 dichloroethane+BTEX+MTBE								
PAHs	<u>SW846 8310</u>	<u>None</u>		<u>2 - 1 liter glass ambers</u>				
#Include 1- and 2-methylnaphthalene								
TRPH	<u>FL-PRO</u>	<u>H2SO4</u>		<u>2 - 1 liter glass ambers</u>				
EDB	<u>504</u>	<u>None</u>		<u>3-40 ml vials</u>				
Total Lead.	<u>SW846 6010B</u>	<u>HNO3</u>		<u>1 - 500 ml HDPE bottle</u>				
OBSERVATIONS / NOTES								
<u>Over purged trying to get well to stabilize within 3/10'</u>								
<u>BZ = 0 ppm</u>								
<u>BH = 0 ppm</u>								
Circle if Applicable:					Signature(s):			
MS/MSD	Duplicate ID No.:				<u>Scott R. McNamee</u>			



Project Site Name: <u>North Fuel Farm, Cecil Field</u>		Sample ID No.: <u>CEF-076-GW-N</u>	
Project No.: <u>3996.JG0050325</u>		Sample Location: <u>CEF-076-1015</u>	
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: <input type="checkbox"/> QA Sample Type:		Sampled By: <u>C. Gleason</u> C.O.C. No.: <u>0246</u> Type of Sample: <input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration	

SAMPLING DATA							
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Other
Time:	Visual	Standard	mS/cm	°C	NTU	mg/l	
<u>1/29/03</u>	<u>Brown</u>	<u>5.10</u>	<u>0.086</u>	<u>20.5</u>	<u>1000</u>	<u>7.26</u>	
Method: <u>Low Flow Peristaltic</u>							

PURGE DATA							
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>1/29/03</u>							
Method: <u>Low Flow Peristaltic</u>							
Monitor Reading (ppm): <u>0.0</u>							
Well Casing Diameter: <u>2 In.</u>							
Well Casing Material: <u>PVC</u>							
Total Well Depth (TD): <u>37.8</u>							
Static Water Level (WL): <u>4.21</u>							
One Screen Volume (gal): <u>1.62</u>							
Start Purge (hrs): <u>1013</u>							
End Purge (hrs): <u>1255</u>							
Total Purge Time (min): <u>162</u>							
Total Vol. Purged (gal): <u>8.1</u>							
See Low Flow Purge Sheet							

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	None	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES	

Circle if Applicable:		Signature(s):
<input checked="" type="checkbox"/> MS/MSD	Duplicate ID No.: <u> </u>	<u>C. Gleason</u>



Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

WELL ID.: CEF-076-1015
DATE: 1/29/03

PROJECT SITE NAME: North Fuel Farm Cecil Field
PROJECT NUMBER: 3996.JG0050325

Time (Hrs.)	Water Level (ft. below TOC)	Flow (mL/Min)	pH (S.U.)	Cond. (µS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1013	4.16	189.2	5.17	0.106	712	2.0	13.6	106	Horiba NTC
1016	4.21	189.2	5.14	0.100	724	16.53	16.1	75	759.0
1026	4.21	189.2	5.18	0.097	1000	14.90	16.7	45	759.0
1036	4.21	189.2	5.17	0.096	1060	13.51	17.6	79	999
1045	4.21	189.2	5.16	0.093	1000	9.46	19.1	14	999
1055	4.21	189.2	5.13	0.093	1000	8.53	19.5	13	999
1115	4.21	189.2	5.12	0.093	1000	8.04	19.9	11	999
1124	4.21	189.2	5.13	0.091	1000	7.52	20.6	4	999
1135	4.21	189.2	5.13	0.089	1000	7.28	20.3	1	999
1145	4.21	189.2	5.12	0.088	1000	7.26	20.3	0	999
1155	4.21	189.2	5.11	0.088	1000	7.27	20.3	0	999
1205	4.21	189.2	5.12	0.087	1000	7.26	20.5	0	999
1215	4.21	189.2	5.13	0.087	1000	7.26	20.5	0	999
1225	4.21	189.2	5.11	0.087	1000	7.26	20.5	0	999
1235	4.21	189.2	5.11	0.086	1000	7.26	20.5	0	999
1245	4.21	189.2	5.10	0.086	1000	7.26	20.5	0	999
1255	4.21	189.2	5.10	0.086	1000	7.28	20.5	0	999 Purged 8.1 gal

SIGNATURE(S): C. J. [Signature]



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N 102D-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-102D
 [] Domestic Well Data
 [X] Monitoring Well Data
 [] Other Well Type: _____
 [] QA Sample Type: _____
 Sampled By: S. McGuire
 C.O.C. No.: -2226 0350 MD
 Type of Sample:
 [X] Low Concentration
 [] High Concentration

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Date: <u>2/11/03</u> Time: <u>1110</u>	<u>clear</u>	<u>6.93</u>	<u>0.529</u>	<u>18.30</u>	<u>4.79</u>	<u>0.00</u>	<u>-51</u>	

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP	
Date: <u>2/11/03</u>								
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Sheet							
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 In.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>121</u>								
Static Water Level (WL): <u>6.78</u>								
One Screen Volume (gal/L): <u>3.1</u>								
Start Purge (hrs): <u>0855</u>								
End Purge (hrs): <u>1100</u>								
Total Purge Time (min): <u>125</u>								
Total Vol. Purged (gal/L): <u>10</u>								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

5 FT. SCRIN

BACKGROUND (PPM) = 0. Borohde (PPM) = 0. BE (PPM) = 0.

Circle if Applicable:

MS/MSD	Duplicate ID No.: <u>None</u>	Signature(s):
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Project Site Name:	North Fuel Farm, Cecil Field	Sample ID No.:	CEF-076-GW-N/03D-01
Project No.:	3996.JG0050325	Sample Location:	CEF-076-103D
<input type="checkbox"/> Domestic Well Data		Sampled By:	C. Gleason
<input checked="" type="checkbox"/> Monitoring Well Data		C.O.C. No.:	2226
<input type="checkbox"/> Other Well Type:		Type of Sample:	
<input type="checkbox"/> QA Sample Type:		<input checked="" type="checkbox"/> Low Concentration	
		<input type="checkbox"/> High Concentration	

SAMPLING DATA

Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
2/10/03	Clear	7.62	0.612	22.74	8.07	1.7	0	
Time: 1520								
Method: Low Flow Peristaltic								

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
2/10/03							
Method: Low Flow Peristaltic	See Low Flow Purge Sheet						
Monitor Reading (ppm):							
Well Casing Diameter: 2 In.							
Well Casing Material: PVC							
Total Well Depth (TD): 150							
Static Water Level (WL): 6.95							
One Screen Volume (gal): .82							
Start Purge (hrs): 1230							
End Purge (hrs): 1520							
Total Purge Time (min): 170							
Total Vol. Purged (gal): 4.2							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

5 FT. SURN

BACKGROUND (PPM) = C.C. . Borohole (PPM) = C.C. . BZ (PPM) = C.C. .

Circle if Applicable:	Signature(s):
MS/MSD Duplicate ID No.: None	C. Gleason



Project Site Name: <u>North Fuel Farm, Cecil Field</u>		Sample ID No.: <u>CEF-076-GW-E 53I-01</u>	
Project No.: <u>3996.JG0050325</u>		Sample Location: <u>CEF-076-53I</u>	
<input type="checkbox"/> Domestic Well Data		Sampled By: <u>C. G. Lester</u>	
<input checked="" type="checkbox"/> Monitoring Well Data		C.O.C. No.: _____	
<input type="checkbox"/> Other Well Type: _____		Type of Sample:	
<input type="checkbox"/> QA Sample Type: _____		<input checked="" type="checkbox"/> Low Concentration	
		<input type="checkbox"/> High Concentration	

SAMPLING DATA								
Date: <u>5/23/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	<u>ORP</u>	Other
Time: <u>1150</u>	<u>Clear</u>	<u>5.67</u>	<u>0.050</u>	<u>20.71</u>	<u>0.10</u>	<u>4.03</u>	<u>188</u>	
Method: Low Flow Peristaltic								

PURGE DATA								
Date: <u>5/23/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0.6</u>								
Well Casing Diameter: 2 in.								
Well Casing Material: PVC								
Total Well Depth (TD): _____								
Static Water Level (WL): <u>4.36</u>								
One Screen Volume (gal/L): <u>3.1</u>								
Start Purge (hrs): <u>1115</u>								
End Purge (hrs): <u>1145</u>								
Total Purge Time (min): <u>30</u>								
Total Vol. Purged (gal/L): <u>10.5</u>								
See Low Flow Purge Sheet								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	<u>HCl</u> -None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES	

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.: _____	<u>C. G. Lester</u>



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N105I-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-105I
 Sampled By: C. Gledits
 Domestic Well Data C.O.C. No.: _____
 Monitoring Well Data Type of Sample: _____
 Other Well Type: _____ Low Concentration
 QA Sample Type: _____ High Concentration

SAMPLING DATA							
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Other
<u>5/21/03</u>							<u>ORP</u>
Time: <u>1615</u>							
Method: <u>Low Flow Peristaltic</u>	<u>L+Gray</u>	<u>7.21</u>	<u>0.245</u>	<u>22.21</u>	<u>227</u>	<u>1.26</u>	<u>-234</u>

PURGE DATA							
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>5/21/03</u>							
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Sheet						
Monitor Reading (ppm): <u>0.0</u>							
Well Casing Diameter: <u>2 in.</u>							
Well Casing Material: <u>PVC</u>							
Total Well Depth (TD): <u>55.09</u>							
Static Water Level (WL): <u>4.85</u>							
One Screen Volume (gal): <u>3.1</u>							
Start Purge (hrs): <u>1525</u>							
End Purge (hrs): <u>1610</u>							
Total Purge Time (min): <u>45</u>							
Total Vol. Purged (gal): <u>17.5</u>							

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

B1 0.0 ppm
B2 0.0 ppm

Circle if Applicable:		Signature(s): <u>C. Gledits</u>
MS/MSD	Duplicate ID No.:	



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-N 1065-01
 Sample Location: CEF-076-1065
 Sampled By: C. Gleason
 C.O.C. No.: _____
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date: <u>5/22/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: <u>1550</u>	<u>Brown</u>	<u>5.02</u>	<u>0.090</u>	<u>21.89</u>	<u>948</u>	<u>0.07</u>	<u>-50.1</u>	
Method: <u>Low Flow Peristaltic</u>								

PURGE DATA

Date: <u>5/22/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: <u>Low Flow Peristaltic</u>							
Monitor Reading (ppm): <u>0.0</u>							
Well Casing Diameter: <u>2 In.</u>							
Well Casing Material: <u>PVC</u>							
Total Well Depth (TD): <u>33.48</u>							
Static Water Level (WL): <u>7.8</u>							
One Screen Volume (gal/L): <u>3.1</u>							
Start Purge (hrs): <u>1500</u>							
End Purge (hrs): <u>1545</u>							
Total Purge Time (min): <u>45</u>							
Total Vol. Purged (gal/L): <u>15.75</u>							
See Low Flow Purge Sheet							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD Duplicate ID No.: _____

Signature(s):

C. Gleason



Project Site Name: <u>North Fuel Farm, Cecil Field</u>		Sample ID No.: <u>CEF-076-GW-N 1085-01</u>	
Project No.: <u>3996.JG0050325</u>		Sample Location: <u>CEF-076-1085</u>	
<input type="checkbox"/> Domestic Well Data		Sampled By: <u>KENNEDY</u>	
<input checked="" type="checkbox"/> Monitoring Well Data		C.O.C. No.: _____	
<input type="checkbox"/> Other Well Type: _____		Type of Sample:	
<input type="checkbox"/> QA Sample Type: _____		<input checked="" type="checkbox"/> Low Concentration	
		<input type="checkbox"/> High Concentration	

SAMPLING DATA								
Date: <u>5/22/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	<u>ORP</u>	Other
Time: <u>1450</u>								
Method: Low Flow Peristaltic	<u>6.7 TAN</u>	<u>4.71</u>	<u>0.115</u>	<u>23.41</u>	<u>10.3</u>	<u>0.03</u>	<u>77.6</u>	

PURGE DATA							
Date: <u>5/22/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: Low Flow Peristaltic							
Monitor Reading (ppm): <u>0.0</u>	See Low Flow Purge Sheet						
Well Casing Diameter: 2 In.							
Well Casing Material: PVC							
Total Well Depth (TD): <u>17.6</u>							
Static Water Level (WL): <u>7.00</u>							
One Screen Volume (gal): <u>0.67</u>							
Start Purge (hrs): <u>1335</u>							
End Purge (hrs): <u>1440</u>							
Total Purge Time (min): <u>65</u>							
Total Vol. Purged (gal): <u>19.5</u>							

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	<u>HCl</u> None	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES	

Circle if Applicable:		Signature(s): 
MS/MSD	Duplicate ID No.: <u>CEF-076-GW-DUP6-01</u>	



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N/095-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-1095
 Sampled By: P. LEBLANC
 C.O.C. No.: _____
 Type of Sample:
 Low Concentration
 High Concentration

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

SAMPLING DATA								
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Other	
Time:	Visual	Standard	mS/cm	°C	NTU	mg/l		
<u>5/22/03</u>	<u>CLEAR</u>	<u>4.41</u>	<u>0.174</u>	<u>23.68</u>	<u>8.4</u>	<u>0.29</u>	<u>OKP</u>	<u>232.8</u>
Method: Low Flow Peristaltic								

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP	
<u>5/22/03</u>								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: 2 in.								
Well Casing Material: PVC								
Total Well Depth (TD): <u>17.4</u>								
Static Water Level (WL): <u>6.35</u>								
One Screen Volume (gal): <u>0.62</u>								
Start Purge (hrs): <u>1:55</u>								
End Purge (hrs): <u>12:57</u>								
Total Purge Time (min): <u>62</u>								
Total Vol. Purged (gal): <u>1.05</u>								
See Low Flow Purge Sheet								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	<u>HCL-None</u>	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): [Signature]



Project Site Name: North Fuel Farm, Cecil Field		Sample ID No.: CEF-076-GW-N / 110D-01						
Project No.: 3996.JG0050325		Sample Location: CEF-076-110D						
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: <input type="checkbox"/> QA Sample Type:		Sampled By: C. Gleason C.O.C. No.: Type of Sample: <input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration						
SAMPLING DATA								
Date: 5/22/03	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: 1305	Brown	6.00	0.192	22.76	450	0.08	-221	
Method: Low Flow Peristaltic								
PURGE DATA								
Date: 5/22/03	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: Low Flow Peristaltic								
Monitor Reading (ppm): 0.0								
Well Casing Diameter: 2 In.								
Well Casing Material: PVC								
Total Well Depth (TD): 114.77								
Static Water Level (WL): 250.810.09								
One Screen Volume (gal/L): 3.1								
Start Purge (hrs): 1200								
End Purge (hrs): 1300								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 18								
See Low Flow Purge Sheet								
SAMPLE COLLECTION INFORMATION								
Analysis		Preservative		Container Requirements		Collected		
Select VOCs	SW846 8260B	HCl		3-40ml vials		✓		
#VOHs+1,2 dichloroethane+BTEX+MTBE								
PAHs	SW846 8310	None		2 - 1 liter glass ambers		✓		
#Include 1- and 2-methylnaphthalene								
TRPH	FL-PRO	H2SO4		2 - 1 liter glass ambers		✓		
EDB	504	HCl None		3-40 ml vials		✓		
Total Lead	SW846 6010B	HNO3		1 - 500 ml HDPE bottle		✓		
OBSERVATIONS / NOTES								
BZ = 0.0 BH = 0.0								
Circle if Applicable:					Signature(s):			
MS/MSD	Duplicate ID No.:				C. Gleason			



Project Site Name: North Fuel Farm, Cecil Field
Project No.: 3996.JG0050325

Sample ID No.: CEF-076-GW-N IIII-01

Sample Location: CEF-076-III I

Sampled By: P. LEVETRE

C.O.C. No.:

Type of Sample:

[X] Low Concentration

[] High Concentration

- [] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

SAMPLING DATA

Table with columns: Date, Time, Method, Color Visual, pH Standard, S.C. mS/cm, Temp. °C, Turbidity NTU, DO mg/l, OLP, Other. Values include 5/22/03, 1055, Low Flow Peristaltic, 67-TA4, 5.36, 0.111, 25.37, 220, 0.73, 29.3.

PURGE DATA

Table with columns: Date, Time, pH, S.C., Temp (°C), Turbidity, DO, ORP. Includes detailed purge parameters like Monitor Reading (0.0), Well Casing Diameter (2 in), Total Well Depth (74.9), and Total Vol. Purged (15.5).

SAMPLE COLLECTION INFORMATION

Table with columns: Analysis, Preservative, Container Requirements, Collected. Lists various analyses like Select VOCs, PAHs, TRPH, EDB, and Total Lead with their respective preservatives and collection methods.

OBSERVATIONS / NOTES

Large empty box for observations and notes.

Circle if Applicable:

MS/MSD

Duplicate ID No.:

CEF-076-GW-DUP7-01

Signature(s):

Handwritten signature of P. Levetre



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N/12I-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-112I
 [] Domestic Well Data Sampled By: C Gleason
 [X] Monitoring Well Data C.O.C. No.: _____
 [] Other Well Type: _____ Type of Sample:
 [] QA Sample Type: _____ [X] Low Concentration
 [] High Concentration

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
<u>5/22/03</u>	<u>Clear</u>	<u>11.29</u>	<u>0.828</u>	<u>22.99</u>	<u>3.1</u>	<u>2.31</u>	<u>-170</u>	
Time: <u>1435</u>								
Method: <u>Low Flow Peristaltic</u>								

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP	
<u>5/22/03</u>								
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Sheet							
Monitor Reading (ppm): <u>0.0</u>								
Well Casing Diameter: <u>2 in.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>59.56</u>								
Static Water Level (WL): <u>7.46</u>								
One Screen Volume (gal/L): <u>3.1</u>								
Start Purge (hrs): <u>1400</u>								
End Purge (hrs): <u>1430</u>								
Total Purge Time (min): <u>30</u>								
Total Vol. Purged (gal/L): <u>10.5</u>								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	<u>HCl</u> None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): C Gleason



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type:
 QA Sample Type:

Sample ID No.: CEF-076-GW-N/1135-01
 Sample Location: CEF-076-1135
 Sampled By: D. LEVETTE
 C.O.C. No.:
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date: <u>5/23/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Other
Time: <u>1030</u>	<u>CEPL</u>	<u>6.77</u>	<u>0.372</u>	<u>23.52</u>	<u>89.8</u>	<u>0.33</u>	<u>OLP</u>
Method: Low Flow Peristaltic							

PURGE DATA

Date: <u>5/23/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: Low Flow Peristaltic							
Monitor Reading (ppm): <u>0</u>							
Well Casing Diameter: 2 in.							
Well Casing Material: PVC							
Total Well Depth (TD): <u>43.9</u>							
Static Water Level (WL): <u>6.98</u>							
One Screen Volume (gal): <u>0.3.1</u>							
Start Purge (hrs): <u>02:05</u>							
End Purge (hrs): <u>10:20</u>							
Total Purge Time (min): <u>85</u>							
Total Vol. Purged (gal): <u>0.16.0</u>							

See Low Flow Purge Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			✓
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	<u>HCl</u> None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD (MSD)

Duplicate ID No.: CEF-076-GW-~~1135~~-01 ^{N/1135}

Signature(s): D. Levette



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: ~~3990-JG0050005~~ 0039 DSD 05G/20

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-N 1075-01 (F)
 Sample Location: CEF-076-1075
 Sampled By: P. LEVY/ETZ
 C.O.C. No.: _____
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA								
Date: <u>6/2/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	<u>0.46</u>	Other
Time: <u>1825</u>							<u>209.6</u>	
Method: <u>Low Flow Peristaltic</u>	<u>4.8</u>	<u>5.53</u>	<u>1.20</u>	<u>24.25</u>	<u>41.1</u>	<u>0.46</u>	<u>209.6</u>	

PURGE DATA								
Date: <u>6/2/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: <u>Low Flow Peristaltic</u>	See Low Flow Purge Sheet							
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2 in.</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>17.30</u>								
Static Water Level (WL): <u>7.30</u>								
One Screen Volume (gal): <u>6.2</u>								
Start Purge (hrs): <u>1500</u>								
End Purge (hrs): <u>1820</u>								
Total Purge Time (min): <u>200</u>								
Total Vol. Purged (gal): <u>123.10</u>								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs <u>SW846 8260B</u>	<u>HCl</u>	<u>3-40ml vials</u>	<u>NO</u>
<u>#VOHs+1,2 dichloroethane+BTEX+MTBE</u>			
PAHs <u>SW846 8310</u>	<u>None</u>	<u>2 - 1 liter glass ambers</u>	<u>NO</u>
<u>#Include 1- and 2-methylnaphthalene</u>			
TRPH <u>FL-PRO</u>	<u>H2SO4</u>	<u>2 - 1 liter glass ambers</u>	<u>NO</u>
EDB <u>504</u>	<u>None</u>	<u>3-40 ml vials</u>	<u>NO</u>
Total Lead <u>SW846 6010B</u>	<u>HNO3</u>	<u>1 - 500 ml HDPE bottle</u>	<u>✓</u>
<u>Filtered Lead SW846 6010B</u>	<u>HNO3</u>	<u>1-500ml HDPE bottle</u>	<u>✓</u>

OBSERVATIONS / NOTES

PLACE "F" AS SUFFIX ON LABEL I.D. OF FILTERED SAMPLE.
Filtered with 1-micron filter.

Circle if Applicable:

MS/MSO <input checked="" type="checkbox"/>	Duplicate ID No.: <u>CEF-076-GW-DUP8-01</u>	Signature(s):
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CEF-076-GW-MD5-01



Project Site Name: <u>North Fuel Farm, Cecil Field</u>		Sample ID No.: <u>CEF-076-GW-E21-01</u>	
Project No.: <u>3996.JG0050325</u>		Sample Location: <u>CEF-076-E21</u>	
<input type="checkbox"/> Domestic Well Data		Sampled By: <u>P. LEVETT</u>	
<input checked="" type="checkbox"/> Monitoring Well Data		C.O.C. No.: _____	
<input type="checkbox"/> Other Well Type: _____		Type of Sample:	
<input type="checkbox"/> QA Sample Type: _____		<input checked="" type="checkbox"/> Low Concentration	
		<input type="checkbox"/> High Concentration	

SAMPLING DATA								
Date: <u>6/3/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	<u>ORP</u>	Other
Time: <u>1020</u>								
Method: Low Flow Peristaltic	<u>CLEAR</u>	<u>5.60</u>	<u>0.172</u>	<u>23.96</u>	<u>3.73</u>	<u>0.11</u>	<u>108.5</u>	

PURGE DATA								
Date: <u>6/3/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0</u>	See Low Flow Purge Sheet							
Well Casing Diameter: 2 in.								
Well Casing Material: PVC								
Total Well Depth (TD): <u>11.8</u>								
Static Water Level (WL): <u>3.75</u>								
One Screen Volume (gal): <u>4.9</u>								
Start Purge (hrs): <u>0920</u>								
End Purge (hrs): <u>1010</u>								
Total Purge Time (min): <u>50</u>								
Total Vol. Purged (gal): <u>15.0</u>								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
EDB 504	HCl	3-40 ml vials	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES	

Circle if Applicable:		Signature(s): 
MS/MSD	Duplicate ID No.:	



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N 1145-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-1145
 [] Domestic Well Data Sampled By: S. McGuire
 [X] Monitoring Well Data C.O.C. No.: 2324
 [] Other Well Type: _____ Type of Sample:
 [] QA Sample Type: _____ [X] Low Concentration
 [] High Concentration

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
<u>7/9/03</u>								
Time: <u>1615</u>								
Method: Low Flow Peristaltic	<u>Lt Brn</u>	<u>5.86</u>	<u>0.114</u>	<u>24.52</u>	<u>999</u>	<u>0.17</u>	<u>-157</u>	

PURGE DATA							
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>7/9/03</u>							
Method: Low Flow Peristaltic	See Low Flow Purge Sheet						
Monitor Reading (ppm): <u>0</u>							
Well Casing Diameter: 2 in.							
Well Casing Material: PVC							
Total Well Depth (TD): <u>40</u>							
Static Water Level (WL): <u>5.1</u>							
One Casing Volume (gal): <u>3.1</u>							
Start Purge (hrs): <u>1410</u>							
End Purge (hrs): <u>1610</u>							
Total Purge Time (min): <u>120</u>							
Total Vol. Purged (gal): <u>16</u>							

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW-846 8260B	4C/HCl	3 - 40 ml vials with teflon septum	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW-846 8310	4C	2 - 1 liter glass ambers	✓
TRPH FL-PRO	4C/H2SO4	2 - 1 liter glass ambers	✓
Total Lead SW846 6010B	4C/HNO3	1 - 500 ml HDPE	✓
EDB EPA 504.1	4C/HCl	3 - 40 ml vials with teflon septum	✓

OBSERVATIONS / NOTES

*Well began clear then went bad
Purged 5 well vol's per Meru Dale.*

Circle if Applicable: MS/MSD Duplicate ID No.: _____ Signature(s): Scott R McGuire



Project Site Name: North Fuel Farm, Cecil Field
Project No.: 3996.JG0050325

Sample ID No.: CEF-076-GW-N //50-01
Sample Location: CEF-076-

- Domestic Well Data
- Monitoring Well Data
- Other Well Type:
- QA Sample Type:

Sampled By: _____
C.O.C. No.: 2324
Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date: 7/10/03	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: 1025	Clear	7.26	0.403	27.32	3.1	0.15	-178.9	
Method: Low Flow Peristaltic								

PURGE DATA

Date: 7/10/03	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: Low Flow Peristaltic							
Monitor Reading (ppm): 0							
Well Casing Diameter: 2 In.							
Well Casing Material: PVC							
Total Well Depth (TD): 110							
Static Water Level (WL): 8.34							
One Casing Volume (gal): 3.1							
Start Purge (hrs): 0845							
End Purge (hrs): 1020							
Total Purge Time (min): 95							
Total Vol. Purged (gal): 9.5							
See Low Flow Purge Sheet							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW-846 8260B	4C/HCl	3 - 40 ml vials with teflon septum	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW-846 8310	4C	2 - 1 liter glass ambers	✓
TRPH FL-PRO	4C/H2SO4	2 - 1 liter glass ambers	✓
Total Lead SW846 6010B	4C/HNO3	1 - 500 ml HDPE	✓
EDB EPA 504.1	4C/HCl	3 - 40 ml vials with teflon septum	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD Duplicate ID No.:

Signature(s):

Scott R. McG...



Project Site Name: North Fuel Farm, Cecil Field
 Project No.: 3996.JG0050325

Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____

Sample ID No.: CEF-076-GW-N116D-01
 Sample Location: CEF-076-116D
 Sampled By: S. McGuire
 C.O.C. No.: 2324

Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date: <u>7/10/03</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: <u>1335</u>								
Method: Low Flow Peristaltic	<u>Chalky</u>	<u>6.11</u>	<u>0.193</u>	<u>25.37</u>	<u>54.2</u>	<u>1.70</u>	<u>4.0</u>	

PURGE DATA

Date: <u>7/10/03</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: Low Flow Peristaltic	See Low Flow Purge Sheet						
Monitor Reading (ppm): <u>0</u>							
Well Casing Diameter: 2 In.							
Well Casing Material: PVC							
Total Well Depth (TD): <u>110</u>							
Static Water Level (WL): <u>9.93</u>							
One Casing Volume (gal/L): <u>3.1</u>							
Start Purge (hrs): <u>1145</u>							
End Purge (hrs): <u>1330</u>							
Total Purge Time (min): <u>100</u>							
Total Vol. Purged (gal/L): <u>16</u>							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW-846 8260B	4C/HCl	3 - 40 ml vials with teflon septum	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW-846 8310	4C	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
TRPH FL-PRO	4C/H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	4C/HNO3	1 - 500 ml HDPE	<input checked="" type="checkbox"/>
EDB EPA 504.1	4C/HCl	3 - 40 ml vials with teflon septum	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

*Duplicate collected.
 Lots of Suspended solids*

Circle if Applicable: MS/MSD Duplicate ID No.: CEF-076-GW-DUPB-01

Signature(s): Scott R. McGuire



Project Site Name: North Fuel Farm, Cecil Field Sample ID No.: CEF-076-GW-N/170-01
 Project No.: 3996.JG0050325 Sample Location: CEF-076-
 Sampled By: S. McGuire
 C.O.C. No.: 2324
 Domestic Well Data
 Monitoring Well Data
 Other Well Type: _____
 QA Sample Type: _____
 Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA								
Date:	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
<u>7/10/03</u>							<u>ORP</u>	
Time: <u>1705</u>								
Method: Low Flow Peristaltic	<u>Cloudy</u>	<u>6.07</u>	<u>0.197</u>	<u>24.72</u>	<u>86.4</u>	<u>2.48</u>	<u>-56.4</u>	

PURGE DATA								
Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP	-ORP-
<u>7/10/03</u>								
Method: Low Flow Peristaltic		<u>6.07</u>	<u>0.197</u>	<u>24.72</u>	<u>86.4</u>	<u>2.48</u>	<u>-56.4</u>	
Monitor Reading (ppm):	See Low Flow Purge Sheet							
Well Casing Diameter: 2 In.								
Well Casing Material: PVC								
Total Well Depth (TD): <u>110'</u>								
Static Water Level (WL): <u>9.09</u>								
One Casing Volume (gal/L): <u>3.1</u>								
Start Purge (hrs): <u>1655</u>								
End Purge (hrs): <u>1700</u>								
Total Purge Time (min): <u>65</u>								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION			
Analysis	Preservative	Container Requirements	Collected
Select VOCs SW-846 8260B	4C/HCl	3 - 40 ml vials with teflon septum	<input checked="" type="checkbox"/>
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW-846 8310	4C	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
TRPH FL-PRO	4C/H2SO4	2 - 1 liter glass ambers	<input checked="" type="checkbox"/>
Total Lead SW846 6010B	4C/HNO3	1 - 500 ml HDPE	<input checked="" type="checkbox"/>
EDB EPA 504.1	4C/HCl	3 - 40 ml vials with teflon septum	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES
H2O cloudy with suspended solids

Circle if Applicable:
 MS/MSD Duplicate ID No.: _____
 Signature(s): Scott R. McJ

APPENDIX J

SURFACE WATER AND SEDIMENT LABORATORY REPORT



Technical Report for

Tetra Tech, NUS

Cecil Field CTO168

WORK RELEASE 168CF-4 Site 076(NFF)

Accutest Job Number: F10852

Report to:

Tetra-Tech, NUS

OlsonB@ttnus.com

ATTN: Bill Olson

Total number of pages in report: 50



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

H. Behzadi
Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
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Sample Summary

Tetra Tech, NUS

Job No: F10852

Cecil Field CTO168

Project No: WORK RELEASE 168CF-4 Site 076(NFF)

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F10852-1	09/06/01	09:40 JZ	09/07/01	AQ	Surface Water	CEF076SWW00101
F10852-2	09/06/01	10:15 JZ	09/07/01	AQ	Surface Water	CEF076SWW00201
F10852-3	09/06/01	10:55 JZ	09/07/01	AQ	Surface Water	CEF076SWW00301
F10852-4	09/06/01	11:35 JZ	09/07/01	AQ	Surface Water	CEF076SWW00401
F10852-5	09/06/01	09:40 JZ	09/07/01	AQ	Surface Water	CEF076MDW01
F10852-6	09/06/01	09:40 JZ	09/07/01	SO	Soil	CEF076SDC00101
F10852-7	09/06/01	10:15 JZ	09/07/01	SO	Soil	CEF076SDC00201
F10852-8	09/06/01	10:55 JZ	09/07/01	SO	Soil	CEF076SDC00301
F10852-9	09/06/01	11:35 JZ	09/07/01	SO	Soil	CEF076SDC00401
F10852-10	09/06/01	00:00 JZ	09/07/01	SO	Soil	CEF076DUC01
F10852-11	09/06/01	11:35 JZ	09/07/01	SO	Soil	CEF076MDC01

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

Report of Analysis

Client Sample ID: CEF076SWW00101
 Lab Sample ID: F10852-1
 Matrix: AQ - Surface Water
 Method: SW846 8260B
 Project: Cecil Field CTO168

Date Sampled: 09/06/01
 Date Received: 09/07/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H013433.D	1	09/18/01	NAF	n/a	n/a	VH407
Run #2							

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	5.0	ug/l	
74-87-3	Methyl chloride	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	

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

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

Report of Analysis

Client Sample ID:	CEF076SWW00101	Date Sampled:	09/06/01
Lab Sample ID:	F10852-1	Date Received:	09/07/01
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Cecil Field CTO168		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		80-120%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

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

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

Report of Analysis

Client Sample ID: CEF076SWW00101	Date Sampled: 09/06/01
Lab Sample ID: F10852-1	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: EPA 504.1 EPA 504	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD03021.D	1	09/11/01	SKW	09/11/01	OP3828	GDD111
Run #2							

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

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

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

Report of Analysis

Client Sample ID: CEF076SWW00101	Date Sampled: 09/06/01
Lab Sample ID: F10852-1	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: EPA 8310 SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA008711.D	1	09/12/01	MRE	09/11/01	OP3824	GAA373
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.4	ug/l	
208-96-8	Acenaphthylene	ND	4.4	ug/l	
120-12-7	Anthracene	ND	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	ug/l	
218-01-9	Chrysene	ND	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	ug/l	
206-44-0	Fluoranthene	ND	2.2	ug/l	
86-73-7	Fluorene	ND	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	ug/l	
91-20-3	Naphthalene	ND	2.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	ug/l	
85-01-8	Phenanthrene	ND	2.2	ug/l	
129-00-0	Pyrene	ND	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	97%		33-141%
92-94-4	p-Terphenyl	102%		31-122%

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

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

Report of Analysis

Client Sample ID: CEF076SWW00101 Lab Sample ID: F10852-1 Matrix: AQ - Surface Water Method: FLORIDA-PRO SW846 3510C Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
---	--

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	OP17065.D	1	09/13/01	SKW	09/12/01	OP3829	GOP659

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.688	0.25	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	88%		55-130%	

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

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

Report of Analysis

Client Sample ID: CEF076SWW00101 Lab Sample ID: F10852-1 Matrix: AQ - Surface Water Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
--	--

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	09/14/01	09/24/01 JK	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result < IDL
 B = Indicates a result > = IDL but < RL

Report of Analysis

Client Sample ID: CEF076SWW00201	Date Sampled: 09/06/01
Lab Sample ID: F10852-2	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H013434.D	1	09/18/01	NAF	n/a	n/a	VH407
Run #2							

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	5.0	ug/l	
74-87-3	Methyl chloride	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF076SWW00201	Date Sampled: 09/06/01
Lab Sample ID: F10852-2	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		80-120%
2037-26-5	Toluene-D8	117%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

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

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

Report of Analysis

Client Sample ID: CEF076SWW00201 Lab Sample ID: F10852-2 Matrix: AQ - Surface Water Method: EPA 504.1 EPA 504 Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD03025.D	1	09/11/01	SKW	09/11/01	OP3828	GDD111
Run #2							

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

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

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

Report of Analysis

Client Sample ID: CEF076SWW00201	Date Sampled: 09/06/01
Lab Sample ID: F10852-2	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: EPA 8310 SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA008712.D	1	09/12/01	MRE	09/11/01	OP3824	GAA373
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	97%		33-141%
92-94-4	p-Terphenyl	98%		31-122%

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

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

Report of Analysis

Client Sample ID: CEF076SWW00201 Lab Sample ID: F10852-2 Matrix: AQ - Surface Water Method: FLORIDA-PRO SW846 3510C Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17066.D	1	09/13/01	SKW	09/12/01	OP3829	GOP659
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.715	0.25	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	96%		55-130%	

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

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

Report of Analysis

Client Sample ID: CEF076SWW00201	Date Sampled: 09/06/01
Lab Sample ID: F10852-2	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Cecil Field CTO168	

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	09/14/01	09/24/01 JK	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result > = IDL but < RL

Report of Analysis

Client Sample ID: CEF076SWW00301
 Lab Sample ID: F10852-3
 Matrix: AQ - Surface Water
 Method: SW846 8260B
 Project: Cecil Field CTO168

Date Sampled: 09/06/01
 Date Received: 09/07/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H013435.D	1	09/18/01	NAF	n/a	n/a	VH407
Run #2							

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	5.0	ug/l	
74-87-3	Methyl chloride	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF076SWW00301	Date Sampled: 09/06/01
Lab Sample ID: F10852-3	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-120%
17060-07-0	1,2-Dichloroethane-D4	100%		80-120%
2037-26-5	Toluene-D8	117%		80-120%
460-00-4	4-Bromofluorobenzene	100%		80-120%

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

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

Report of Analysis

Client Sample ID: CEF076SWW00301 Lab Sample ID: F10852-3 Matrix: AQ - Surface Water Method: EPA 504.1 EPA 504 Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
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Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	DD03026.D	1	09/11/01	SKW	09/11/01	OP3828	GDD111

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

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

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

Report of Analysis

Client Sample ID: CEF076SWW00301	Date Sampled: 09/06/01
Lab Sample ID: F10852-3	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: EPA 8310 SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA008713.D	1	09/12/01	MRE	09/11/01	OP3824	GAA373
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	74%		33-141%
92-94-4	p-Terphenyl	58%		31-122%

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

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

Report of Analysis

Client Sample ID: CEF076SWW00301 Lab Sample ID: F10852-3 Matrix: AQ - Surface Water Method: FLORIDA-PRO SW846 3510C Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
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	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17067.D	1	09/13/01	SKW	09/12/01	OP3829	GOP659
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.312	0.25	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	81%		55-130%	

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

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

Report of Analysis

Client Sample ID: CEF076SWW00301	Date Sampled: 09/06/01
Lab Sample ID: F10852-3	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Cecil Field CTO168	

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.2 B	5.0	1.2	ug/l	1	09/14/01	09/24/01 JK	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result > = IDL but < RL

Report of Analysis

Client Sample ID: CEF076SWW00401
 Lab Sample ID: F10852-4
 Matrix: AQ - Surface Water
 Method: SW846 8260B
 Project: Cecil Field CTO168

Date Sampled: 09/06/01
 Date Received: 09/07/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H013438.D	1	09/18/01	NAF	n/a	n/a	VH407
Run #2							

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	5.0	ug/l	
74-87-3	Methyl chloride	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF076SWW00401	Date Sampled: 09/06/01
Lab Sample ID: F10852-4	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-120%
17060-07-0	1,2-Dichloroethane-D4	100%		80-120%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

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

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

Report of Analysis

Client Sample ID: CEF076SWW00401 Lab Sample ID: F10852-4 Matrix: AQ - Surface Water Method: EPA 504.1 EPA 504 Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD03027.D	1	09/11/01	SKW	09/11/01	OP3828	GDD111
Run #2							

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

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

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

Report of Analysis

Client Sample ID: CEF076SWW00401
 Lab Sample ID: F10852-4
 Matrix: AQ - Surface Water
 Method: EPA 8310 SW846 3510C
 Project: Cecil Field CTO168

Date Sampled: 09/06/01
 Date Received: 09/07/01
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA008714.D	1	09/12/01	MRE	09/11/01	OP3824	GAA373
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		33-141%
92-94-4	p-Terphenyl	56%		31-122%

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

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

Report of Analysis

Client Sample ID: CEF076SWW00401 Lab Sample ID: F10852-4 Matrix: AQ - Surface Water Method: FLORIDA-PRO SW846 3510C Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17068.D	1	09/13/01	SKW	09/12/01	OP3829	GOP659
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.308	0.25	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	84%		55-130%	

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

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

Report of Analysis

Client Sample ID: CEF076SWW00401 Lab Sample ID: F10852-4 Matrix: AQ - Surface Water Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
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Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	3.5 B	5.0	1.2	ug/l	1	09/14/01	09/24/01 JK	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result < IDL
 B = Indicates a result > = IDL but < RL

Report of Analysis

Client Sample ID: CEF076MDW01	Date Sampled: 09/06/01
Lab Sample ID: F10852-5	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H013439.D	1	09/18/01	NAF	n/a	n/a	VH407
Run #2							

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	5.0	ug/l	
74-87-3	Methyl chloride	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF076MDW01	Date Sampled:	09/06/01
Lab Sample ID:	F10852-5	Date Received:	09/07/01
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Cecil Field CTO168		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		80-120%
2037-26-5	Toluene-D8	116%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

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

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

Report of Analysis

Client Sample ID: CEF076MDW01	Date Sampled: 09/06/01
Lab Sample ID: F10852-5	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: EPA 504.1 EPA 504	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD03028.D	1	09/11/01	SKW	09/11/01	OP3828	GDD111
Run #2							

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

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

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

Report of Analysis

Client Sample ID: CEF076MDW01	Date Sampled: 09/06/01
Lab Sample ID: F10852-5	Date Received: 09/07/01
Matrix: AQ - Surface Water	Percent Solids: n/a
Method: EPA 8310 SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA008715.D	1	09/12/01	MRE	09/11/01	OP3824	GAA373
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		33-141%
92-94-4	p-Terphenyl	96%		31-122%

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

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

Report of Analysis

Client Sample ID: CEF076MDW01 Lab Sample ID: F10852-5 Matrix: AQ - Surface Water Method: FLORIDA-PRO SW846 3510C Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17070.D	1	09/13/01	SKW	09/12/01	OP3829	GOP659
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.704	0.28	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	91%		55-130%

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

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

Report of Analysis

Client Sample ID: CEF076MDW01 Lab Sample ID: F10852-5 Matrix: AQ - Surface Water Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: n/a
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Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	1.5 B	5.0	1.2	ug/l	1	09/18/01	09/24/01 JK	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result < IDL
 B = Indicates a result > = IDL but < RL

Report of Analysis

Client Sample ID: CEF076SDC00101
 Lab Sample ID: F10852-6
 Matrix: SO - Soil
 Method: SW846 8260B
 Project: Cecil Field CTO168

Date Sampled: 09/06/01
 Date Received: 09/07/01
 Percent Solids: 66.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K006692.D	1	09/14/01	NAF	n/a	n/a	VK215
Run #2							

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	7.4	ug/kg	
108-88-3	Toluene	ND	7.4	ug/kg	
100-41-4	Ethylbenzene	ND	7.4	ug/kg	
1330-20-7	Xylene (total)	ND	22	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		75-125%
2037-26-5	Toluene-D8	98%		75-125%
460-00-4	4-Bromofluorobenzene	102%		72-137%
17060-07-0	1,2-Dichloroethane-D4	104%		68-125%

(a) Sample introduction performed using method 5030A.

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

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

Report of Analysis

Client Sample ID: CEF076SDC00101
 Lab Sample ID: F10852-6
 Matrix: SO - Soil
 Method: EPA 8310 SW846 3550B
 Project: Cecil Field CTO168

Date Sampled: 09/06/01
 Date Received: 09/07/01
 Percent Solids: 66.3

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE004933.D	1	09/13/01	MRE	09/12/01	OP3833	GEE231
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	1000	ug/kg	
208-96-8	Acenaphthylene	ND	1000	ug/kg	
120-12-7	Anthracene	ND	500	ug/kg	
56-55-3	Benzo(a)anthracene	ND	500	ug/kg	
50-32-8	Benzo(a)pyrene	ND	100	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	100	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	100	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	100	ug/kg	
218-01-9	Chrysene	ND	500	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	100	ug/kg	
206-44-0	Fluoranthene	ND	500	ug/kg	
86-73-7	Fluorene	ND	500	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	100	ug/kg	
91-20-3	Naphthalene	ND	500	ug/kg	
90-12-0	1-Methylnaphthalene	ND	500	ug/kg	
91-57-6	2-Methylnaphthalene	ND	500	ug/kg	
85-01-8	Phenanthrene	ND	500	ug/kg	
129-00-0	Pyrene	ND	500	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		37-158%
92-94-4	p-Terphenyl	83%		59-149%

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

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

Report of Analysis

Client Sample ID:	CEF076SDC00101	Date Sampled:	09/06/01
Lab Sample ID:	F10852-6	Date Received:	09/07/01
Matrix:	SO - Soil	Percent Solids:	66.3
Method:	FLORIDA-PRO SW846 3550B		
Project:	Cecil Field CTO168		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17044.D	1	09/12/01	SKW	09/12/01	OP3830	GOP658
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	76.0	12	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	92%		66-130%	

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

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

Report of Analysis

Client Sample ID: CEF076SDC00201	Date Sampled: 09/06/01
Lab Sample ID: F10852-7	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 76.8
Method: SW846 8260B	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K006696.D	50	09/14/01	NAF	n/a	n/a	VK215
Run #2							

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	290	ug/kg	
108-88-3	Toluene	ND	290	ug/kg	
100-41-4	Ethylbenzene	ND	290	ug/kg	
1330-20-7	Xylene (total)	ND	880	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	290	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		75-125%
2037-26-5	Toluene-D8	95%		75-125%
460-00-4	4-Bromofluorobenzene	97%		72-137%
17060-07-0	1,2-Dichloroethane-D4	97%		68-125%

(a) Dilution required due to matrix interference (non-target analytes present above calibration range). Sample introduction performed using method 5030A.

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

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

Report of Analysis

Client Sample ID: CEF076SDC00201	Date Sampled: 09/06/01
Lab Sample ID: F10852-7	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 76.8
Method: EPA 8310 SW846 3550B	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE004934.D	1	09/13/01	MRE	09/12/01	OP3833	GEE231
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	840	ug/kg	
208-96-8	Acenaphthylene	ND	840	ug/kg	
120-12-7	Anthracene	ND	420	ug/kg	
56-55-3	Benzo(a)anthracene	ND	420	ug/kg	
50-32-8	Benzo(a)pyrene	ND	84	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	84	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	84	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	84	ug/kg	
218-01-9	Chrysene	ND	420	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	84	ug/kg	
206-44-0	Fluoranthene	ND	420	ug/kg	
86-73-7	Fluorene	ND	420	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	84	ug/kg	
91-20-3	Naphthalene	ND	420	ug/kg	
90-12-0	1-Methylnaphthalene	ND	420	ug/kg	
91-57-6	2-Methylnaphthalene	ND	420	ug/kg	
85-01-8	Phenanthrene	ND	420	ug/kg	
129-00-0	Pyrene	ND	420	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		37-158%
92-94-4	p-Terphenyl	93%		59-149%

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

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

Report of Analysis

Client Sample ID: CEF076SDC00201	Date Sampled: 09/06/01
Lab Sample ID: F10852-7	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 76.8
Method: FLORIDA-PRO SW846 3550B	
Project: Cecil Field CTO168	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17058.D	8	09/13/01	SKW	09/12/01	OP3830	GOP659
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	427	86	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	95%		66-130%	

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

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

Report of Analysis

Client Sample ID: CEF076SDC00301	Date Sampled: 09/06/01
Lab Sample ID: F10852-8	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 68.9
Method: SW846 8260B	
Project: Cecil Field CTO168	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K006693.D	1	09/14/01	NAF	n/a	n/a	VK215
Run #2							

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	7.1	ug/kg	
108-88-3	Toluene	5.0	7.1	ug/kg	J
100-41-4	Ethylbenzene	ND	7.1	ug/kg	
1330-20-7	Xylene (total)	ND	21	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		75-125%
2037-26-5	Toluene-D8	96%		75-125%
460-00-4	4-Bromofluorobenzene	102%		72-137%
17060-07-0	1,2-Dichloroethane-D4	105%		68-125%

(a) Sample introduction performed using method 5030A.

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

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

Report of Analysis

Client Sample ID: CEF076SDC00301	Date Sampled: 09/06/01
Lab Sample ID: F10852-8	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 68.9
Method: EPA 8310 SW846 3550B	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE004935.D	1	09/13/01	MRE	09/12/01	OP3833	GEE231
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	950	ug/kg	
208-96-8	Acenaphthylene	ND	950	ug/kg	
120-12-7	Anthracene	ND	480	ug/kg	
56-55-3	Benzo(a)anthracene	ND	480	ug/kg	
50-32-8	Benzo(a)pyrene	ND	95	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	95	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	95	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	95	ug/kg	
218-01-9	Chrysene	ND	480	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	95	ug/kg	
206-44-0	Fluoranthene	ND	480	ug/kg	
86-73-7	Fluorene	ND	480	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	95	ug/kg	
91-20-3	Naphthalene	ND	480	ug/kg	
90-12-0	1-Methylnaphthalene	ND	480	ug/kg	
91-57-6	2-Methylnaphthalene	ND	480	ug/kg	
85-01-8	Phenanthrene	ND	480	ug/kg	
129-00-0	Pyrene	ND	480	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	71%		37-158%
92-94-4	p-Terphenyl	75%		59-149%

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

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

Report of Analysis

Client Sample ID: CEF076SDC00301	Date Sampled: 09/06/01
Lab Sample ID: F10852-8	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 68.9
Method: FLORIDA-PRO SW846 3550B	
Project: Cecil Field CTO168	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17059.D	2	09/13/01	SKW	09/12/01	OP3830	GOP659
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	93.0	24	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	104%		66-130%	

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

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

Report of Analysis

Client Sample ID: CEF076SDC00401	Date Sampled: 09/06/01
Lab Sample ID: F10852-9	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 69.3
Method: SW846 8260B	
Project: Cecil Field CTO168	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K006694.D	1	09/14/01	NAF	n/a	n/a	VK215
Run #2							

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	7.1	ug/kg	
108-88-3	Toluene	ND	7.1	ug/kg	
100-41-4	Ethylbenzene	ND	7.1	ug/kg	
1330-20-7	Xylene (total)	ND	21	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		75-125%
2037-26-5	Toluene-D8	97%		75-125%
460-00-4	4-Bromofluorobenzene	102%		72-137%
17060-07-0	1,2-Dichloroethane-D4	106%		68-125%

(a) Sample introduction performed using method 5030A.

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

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

Report of Analysis

Client Sample ID: CEF076SDC00401
 Lab Sample ID: F10852-9
 Matrix: SO - Soil
 Method: EPA 8310 SW846 3550B
 Project: Cecil Field CTO168

Date Sampled: 09/06/01
 Date Received: 09/07/01
 Percent Solids: 69.3

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	EE004944.D	1	09/13/01	MRE	09/12/01	OP3833	GEE231
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	920	ug/kg	
208-96-8	Acenaphthylene	ND	920	ug/kg	
120-12-7	Anthracene	ND	460	ug/kg	
56-55-3	Benzo(a)anthracene	ND	460	ug/kg	
50-32-8	Benzo(a)pyrene	ND	92	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	92	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	92	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	92	ug/kg	
218-01-9	Chrysene	ND	460	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	92	ug/kg	
206-44-0	Fluoranthene	ND	460	ug/kg	
86-73-7	Fluorene	ND	460	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	92	ug/kg	
91-20-3	Naphthalene	ND	460	ug/kg	
90-12-0	1-Methylnaphthalene	ND	460	ug/kg	
91-57-6	2-Methylnaphthalene	ND	460	ug/kg	
85-01-8	Phenanthrene	ND	460	ug/kg	
129-00-0	Pyrene	ND	460	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		37-158%
92-94-4	p-Terphenyl	93%		59-149%

(a) Confirmed by GC/MS

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

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

Report of Analysis

Client Sample ID: CEF076SDC00401	Date Sampled: 09/06/01
Lab Sample ID: F10852-9	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 69.3
Method: FLORIDA-PRO SW846 3550B	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17060.D	4	09/13/01	SKW	09/12/01	OP3830	GOP659
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	142	48	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	87%		66-130%	

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: CEF076DUC01
 Lab Sample ID: F10852-10
 Matrix: SO - Soil
 Method: SW846 8260B
 Project: Cecil Field CTO168

Date Sampled: 09/06/01
 Date Received: 09/07/01
 Percent Solids: 70.0

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K006714.D	1	09/16/01	NAF	n/a	n/a	VK216
Run #2							

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	7.2	ug/kg	
108-88-3	Toluene	9.9	7.2	ug/kg	
100-41-4	Ethylbenzene	ND	7.2	ug/kg	
1330-20-7	Xylene (total)	ND	21	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		75-125%
2037-26-5	Toluene-D8	98%		75-125%
460-00-4	4-Bromofluorobenzene	113%		72-137%
17060-07-0	1,2-Dichloroethane-D4	104%		68-125%

(a) Sample introduction performed using method 5030A.

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

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

Report of Analysis

Client Sample ID: CEF076DUC01	Date Sampled: 09/06/01
Lab Sample ID: F10852-10	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 70.0
Method: EPA 8310 SW846 3550B	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE004937.D	1	09/13/01	MRE	09/12/01	OP3833	GEE231
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	960	ug/kg	
208-96-8	Acenaphthylene	ND	960	ug/kg	
120-12-7	Anthracene	ND	480	ug/kg	
56-55-3	Benzo(a)anthracene	ND	480	ug/kg	
50-32-8	Benzo(a)pyrene	ND	96	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	96	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	96	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	96	ug/kg	
218-01-9	Chrysene	ND	480	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	96	ug/kg	
206-44-0	Fluoranthene	ND	480	ug/kg	
86-73-7	Fluorene	ND	480	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	96	ug/kg	
91-20-3	Naphthalene	ND	480	ug/kg	
90-12-0	1-Methylnaphthalene	ND	480	ug/kg	
91-57-6	2-Methylnaphthalene	ND	480	ug/kg	
85-01-8	Phenanthrene	ND	480	ug/kg	
129-00-0	Pyrene	ND	480	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		37-158%
92-94-4	p-Terphenyl	92%		59-149%

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

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

Report of Analysis

Client Sample ID: CEF076DUC01 Lab Sample ID: F10852-10 Matrix: SO - Soil Method: FLORIDA-PRO SW846 3550B Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: 70.0
--	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17049.D	1	09/12/01	SKW	09/12/01	OP3830	GOP658
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	54.7	12	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	92%		66-130%	

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

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

Report of Analysis

Client Sample ID: CEF076MDC01	Date Sampled: 09/06/01
Lab Sample ID: F10852-11	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 58.0
Method: SW846 8260B	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K006695.D	1	09/14/01	NAF	n/a	n/a	VK215
Run #2							

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	8.4	ug/kg	
108-88-3	Toluene	ND	8.4	ug/kg	
100-41-4	Ethylbenzene	ND	8.4	ug/kg	
1330-20-7	Xylene (total)	ND	25	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	8.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		75-125%
2037-26-5	Toluene-D8	95%		75-125%
460-00-4	4-Bromofluorobenzene	101%		72-137%
17060-07-0	1,2-Dichloroethane-D4	105%		68-125%

(a) Sample introduction performed using method 5030A.

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

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

Report of Analysis

Client Sample ID: CEF076MDC01	Date Sampled: 09/06/01
Lab Sample ID: F10852-11	Date Received: 09/07/01
Matrix: SO - Soil	Percent Solids: 58.0
Method: EPA 8310 SW846 3550B	
Project: Cecil Field CTO168	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	EE004945.D	1	09/13/01	MRE	09/12/01	OP3833	GEE231
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	1100	ug/kg	
208-96-8	Acenaphthylene	ND	1100	ug/kg	
120-12-7	Anthracene	ND	570	ug/kg	
56-55-3	Benzo(a)anthracene	ND	570	ug/kg	
50-32-8	Benzo(a)pyrene	ND	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	110	ug/kg	
218-01-9	Chrysene	ND	570	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	110	ug/kg	
206-44-0	Fluoranthene	ND	570	ug/kg	
86-73-7	Fluorene	ND	570	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	110	ug/kg	
91-20-3	Naphthalene	ND	570	ug/kg	
90-12-0	1-Methylnaphthalene	ND	570	ug/kg	
91-57-6	2-Methylnaphthalene	ND	570	ug/kg	
85-01-8	Phenanthrene	ND	570	ug/kg	
129-00-0	Pyrene	ND	570	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	79%		37-158%
92-94-4	p-Terphenyl	82%		59-149%

(a) Confirmed by GC/MS

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

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

Report of Analysis

Client Sample ID: CEF076MDC01 Lab Sample ID: F10852-11 Matrix: SO - Soil Method: FLORIDA-PRO SW846 3550B Project: Cecil Field CTO168	Date Sampled: 09/06/01 Date Received: 09/07/01 Percent Solids: 58.0
--	---

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17061.D	2	09/13/01	SKW	09/12/01	OP3830	GOP659
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	115	29	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	86%		66-130%	

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

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



TEI. TECH NUS, INC.

CHAIN OF CUSTODY

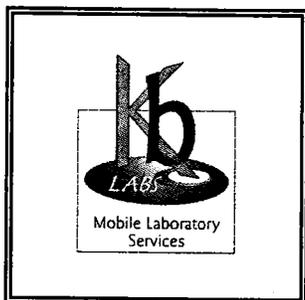
BER

PAGE 1 OF 2

PROJECT NO: 3796	SITE NAME: Site 076 (WFE)	PROJECT MANAGER AND PHONE NUMBER P. Collins 8503859899	LABORATORY NAME AND CONTACT: Accutest L. Williams					
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER AND PHONE NUMBER M. Dale 8092810400	ADDRESS 4905 Vineland Rd C-15					
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/>		CARRIERWAYBILL NUMBER	CITY, STATE Orlando FL					
<input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day								
DATE TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (G)	No. OF CONTAINERS	TYPE OF ANALYSIS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	COMMENTS
10/6/01 0940	CEF076SwW00101	SW	6	11	PRIO (B2603)	6	Xc1	
2	1015 CEF076SwW00201				PRIO (B2603)	6		
3	1055 CEF076SwW00301				PRIO (B2603)	6		
4	1135 CEF076SwW00401				PRIO (B2603)	6		
5	0940 CEF076MDW01	T	T	T	PRIO (B2603)	6		
6	0940 CEF076SDC00101	SD	6	2	PRIO (B2603)	6		
7	1015 CEF076SDC00201				PRIO (B2603)	6		
8	1055 CEF076SDC00301				PRIO (B2603)	6		
9	1135 CEF076SDC00401				PRIO (B2603)	6		
10	0000 CEF076DUC01				PRIO (B2603)	6		
11	1135 CEF076MDC01	T	T	T	PRIO (B2603)	6		
1. RELINQUISHED BY		DATE	TIME	1. RECEIVED BY	DATE	TIME		
		9/6/01	1830		9/16/00	4:20		
2. RELINQUISHED BY		DATE	TIME	2. RECEIVED BY	DATE	TIME		
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY	DATE	TIME		
COMMENTS								
WB-168CF-4								

APPENDIX K

MOBILE LABORATORY DATA REPORT



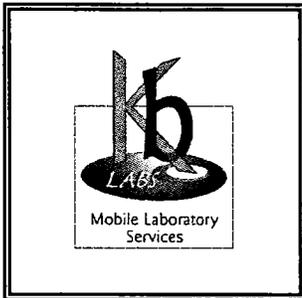
KB LABS, INC.

Final Data Report Cecil Field CEF 076

Prepared for: Tetra Tech NUS

Well ID	Matrix	Date Sampled	Benzene	Toluene	Ethylbenzene	o-Xylene	m- & p-Xylene	DRO	Naphthalene
a3-12'	Water	8/27/01	380	29.6	160	180	160	<1	78
a3-27	Water	8/27/01	140	69	230	260	330	<1	250
A3 56	Water	8/27/01	340	71	480	540	1400	<1	33
A7 12'	Water	8/28/01	11.6	18.9	15.3	36.5	120	<1	35
A7 49'	Water	8/28/01	5.2	9.2	5.1	42.6	74.6	<1	<20
AA2 12	Water	8/27/01	490	93.7	52.7	66.9	28	<1	<20
AA4-19'	Water	8/27/01	10.4	<1	1.7	1.4	1.6	<1	<20
AA4 50'	Water	8/28/01	270	16.3	5.4	640	1700	<1	<20
AA4 60'	Water	8/28/01	92.4	21.1	490	490	1400	<1	<20
B2 12'	Water	8/29/01	7.8	14.4	310	17.4	530	<1	98
c2-12'	Water	8/27/01	4900	130	540	1090	730	<1	260
c2-17'	Water	8/27/01	2600	31.8	260	520	390	<1	270
c2-24'	Water	8/27/01	4100	32.2	370	590	540	<1	280
C2 -42'	Water	8/29/01	52.4	12.6	14.2	54.8	160	<1	<20
C4 -28'	Water	8/28/01	2000	4200	1400	1500	4400	<1	100
C4 40'	Water	8/28/01	4800	280	560	830	1800	<1	<20
C4 -50'	Water	8/28/01	10000	300	1000	1400	3100	<1	43
C4 -67'	Water	8/28/01	6100	530	660	1200	2600	<1	<20
C7 -22'	Water	8/29/01	11.8	9.1	14.8	11.8	31.1	<1	<20
C7 -53'	Water	8/29/01	240	16.5	45	170	240	<1	<20
C7-62'	Water	8/29/01	980	10.8	<1	240	230	<1	<20
D2 -27'	Water	8/28/01	740	440	470	1300	2400	<1	220
E1 22'	Water	8/29/01	5.3	<1	<1	<1	2.9	<1	<20
E1 42'	Water	8/29/01	9.7	14.7	19.7	59.8	280	<1	<20
E1 62'	Water	8/30/01	2.9	4.1	<1	2.0	<1	<1	<20
E2 18'	Water	8/28/01	1.0	1.5	1.5	3.0	4.2	<1	<20
E2 27'	Water	8/29/01	5.6	<1	<1	4.5	3.2	<1	<20
E7-14'	Water	8/29/01	11.2	18.2	1.7	3.7	5.8	<2.2	<44
E7 - 19'	Water	8/29/01	6.9	13.2	3.7	<1	5.8	<1	<20
E7 53'	Water	8/29/01	54.4	12.6	6.8	170	500	<1	<20
F2 12'	Water	8/30/01	<1	1.5	<1	1.6	<1	<1	<20
F2-56'	Water	8/30/01	1500	16.6	330	490	1500	<1	<20
F2 -66'	Water	8/30/01	260	14.1	<1	230	460	<1	<20
F7 -10	Water	8/30/01	3.6	1.0	<1	1.5	3.0	<1	110
H5-32'	Water	8/30/01	7.3	10.1	<1	2.8	3.6	<1	<20
AB2 - 12'	Water	9/4/01	6.3	6.3	<1	6.8	<1	<1	<20
AB2 - 22'	Water	9/4/01	7.4	12.0	<1	<1	<1	<1	<20

Reporting units for waters is: mg/L for DRO; ug/L for all other analytes



KB LABS, INC.

Final Data Report Cecil Field CEF 076

Prepared for: Tetra Tech NUS

Well ID	Matrix	Date Sampled	Benzene	Toluene	Ethylbenzene	o-Xylene	m- & p-Xylene	DRO	Naphthalene
AB2 - 32'	Water	9/4/01	1.4	<1	<1	1.5	2.2	<1	<20
AB4 - 22	Water	9/4/01	<1	<1	<1	2.6	1.8	<1	<20
AB4 - 52'	Water	9/4/01	5.7	10.2	<1	<1	<1	<1	<20
AB7 - 12'	Water	9/5/01	3.8	<1	1.8	<1	6.5	<1	<20
AB7 - 52'	Water	9/5/01	4.1	<1	<1	6.4	27.6	NA	NA
AC2 14'	Water	9/6/01	<1	<1	<1	<1	<1	<1	<20
AC2 24'	Water	9/6/01	<1	<1	<1	1.2	<1	<1	<20
AC2 34'	Water	9/6/01	<1	1.2	<1	<1	1.3	<1	<20
AC3 14'	Water	9/6/01	1.7	1.2	<1	<1	1.5	<1	<20
AC3 24'	Water	9/6/01	1.3	1.5	<1	<1	1.6	<1	<20
AC1 -14'	Water	9/7/01	3.9	<1	<1	<1	2.9	<1	<20
AC1 - 24'	Water	9/7/01	<1	<1	1.0	<1	<1	<1	<20
AB3 52'	Water	9/10/01	<1	<1	<1	<1	<1	<1	<20
AB5 -52'	Water	9/10/01	<1	<1	10.5	42.4	70.0	<1	<20
AC4 -52	Water	9/10/01	<1	<1	<1	<1	<1	<1	<20
M2 -37	Water	9/10/01	<1	<1	<1	1.6	3.4	<1	<20
M2-53	Water	9/10/01	1.4	<1	<1	1.1	1.4	<1	<20
K1 -17	Water	9/10/01	<1	<1	<1	<1	<1	<1	<20
A8-12'	Water	9/12/01	<1	1.5	<1	<1	1.1	<1	<20
A8-49'	Water	9/12/01	1.8	2.2	<1	1.3	1.2	<1	<20
C8 22'	Water	9/13/01	<1	<1	<1	<1	<1	<1	<20
C8 53'	Water	9/13/01	260	2.7	1.2	2.7	3.6	NA	NA
C8 62'	Water	9/13/01	6.6	1.4	<1	1.0	1.3	<1	<20
E8 14'	Water	9/13/01	<1	<1	<1	<1	<1	<1	<20
E8 53'	Water	9/13/01	2.0	3.1	<1	1.6	2.1	NA	NA

APPENDIX L

GROUNDWATER LABORATORY DATA REPORTS CD

Please see attached CD for Appendix L.

APPENDIX M
VERTICAL GRADIENT DATA

Monitoring Well Identification (CEF-076-)	Screen Interval (ft. bis)	Well Depth (ft. btoc)	Zone	Top-of-Casing Elevation (ft. msl)	Bottom Screen Elevation	Top Screen Elevation	June 11, 2003		Change in GW Elevation	Difference in Screen Elevation	Vertical Gradient
							Depth to Water (ft. btoc)	Water-Level Elevation (ft. msl)			
106S	25 - 30	33.35	UI	81.85	48.5	53.5	7.16	74.69	0.02	19.94	0.00
112I	50 - 55	58	LI	81.56	23.56	28.56	6.89	74.67			
90S	5 - 15	15	WT	77.58	62.58	72.58	2.14	75.44	0.7	34.98	0.02
89I	50 - 55	55	LI	77.6	22.6	27.6	2.86	74.74	0.31	55.09	0.01
96D	110 - 115	115	DP	77.51	-37.49	-32.49	3.08	74.43			
95S	5 - 15	18.01	WT	80.88	62.87	72.87	5.64	75.24	0.59	84.97	0.01
97D	100 - 105	108	DP	80.9	-27.1	-22.1	6.25	74.65			
88S	5 - 15	17.99	WT	78.5	60.51	70.51	4.32	74.18	-0.37	30.48	-0.012
86S	45 - 50	53.32	UI	78.35	25.03	30.03	3.8	74.55			
72S	30 - 35	37.5	UI	77.2	39.7	44.7	2.82	74.38	0.02	25.08	0.00
73I	60 - 65	67.4	LI	77.02	9.62	14.62	2.66	74.36	0.08	35.56	0.00
74D	100 - 110	113	DP	77.06	-35.94	-25.94	2.78	74.28			
4	5 - 15	12.93	WT	80.15	67.22	77.22	6.65	73.5	-1.21	44.02	-0.03
85I	55 - 60	63.3	LI	81.5	18.2	23.2	6.79	74.71			
21	2 - 12	11.76	WT	78.28	66.52	76.52	2.98	75.3	0.64	12.82	0.05
92S	25 - 30	33.18	UI	81.88	48.7	53.7	7.22	74.66	-0.03	15.51	0.00
X2S	45 - 50	51.81	UI	80	28.19	33.19	5.31	74.69	0.01	0.37	0.03
39D	55 - 65	60	LI	77.82	17.82	27.82	3.14	74.68	0.26	13.43	0.02
X2D	75 - 80	80.6	LI	79.99	-0.61	4.39	5.57	74.42	0.02	0.84	0.02
28D	80 - 90	89.5	DP	78.05	-11.45	-1.45	3.65	74.4	0.07	15.43	0.00
41D	108.5 - 118.5	115	DP	78.12	-36.88	-26.88	3.79	74.33			
69S	30 - 35	38	UI	78.21	40.21	50.21	3.75	74.46	0.09	29.8	0.00
70I	65 - 70	72.8	LI	78.21	5.41	10.41	3.84	74.37	0.11	10.01	0.01
71D	80 - 85	87.64	DP	78.04	-9.6	-4.6	3.78	74.26			

Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bis)	Well Depth (ft, btoc)	Zone	Top-of-Casing Elevation (ft, msl)	Bottom Screen Elevation	Top Screen Elevation	June 11, 2003		Change in GW Elevation	Difference in Screen Elevation	Vertical Gradient
							Depth to Water (ft, bloc)	Water-Level Elevation (ft, msl)			
7	5 - 15	15	WT	79.46	64.46	74.46	3.79	75.67	1.29	54.53	0.02
27D	66 - 76	79.5	LI	79.43	-0.07	9.93	5.05	74.38			
60S	35 - 40	42.73	UI	80.93	38.2	43.2	6.5	74.43	0.04	24.78	0.00
61I	65 - 70	72.7	LI	81.12	8.42	13.42	6.73	74.39	0.27	35.02	0.01
62D	105 - 110	112.58	DP	80.98	-31.6	-26.6	6.86	74.12			
49S	45 - 50	52.8	LI	78.14	25.34	30.34	4.1	74.04	-0.02	24.97	0.00
50I	75 - 80	82.8	LI	78.17	-4.63	0.37	4.11	74.06	0	20.07	0.00
51D	100 - 110	112.79	DP	78.09	-34.7	-24.7	4.03	74.06			
57S	30 - 35	37.44	UI	77.74	40.3	45.3	3.47	74.27	0.01	30.34	0.00
58I	65 - 70	72.7	LI	77.66	4.96	9.96	3.4	74.26	0.21	30.06	0.01
59D	100 - 110	112.73	DP	77.63	-35.1	-25.1	3.58	74.05			
43S	35 - 40	42	UI	77.68	35.68	40.68	3.08	74.6	0.03	25.88	0.00
44I	65 - 70	72.9	LI	77.7	4.8	9.8	3.13	74.57			
46S	37 - 42	44.81	UI	77.31	32.5	37.5	3.1	74.21	0	22.89	0.00
47I	65 - 70	72.7	LI	77.31	4.61	9.61	3.1	74.21	0.21	16.76	0.01
48D	100 - 110	100	DP	77.85	-22.15	-12.15	3.85	74			
101S	30 - 35	38.24	UI	77.64	39.4	44.4	3.64	74	-0.03	45.1	0.00
29B 55I	80 - 85	87.79	DP	77.09	-10.7	-5.7	3.06	74.03			
X2S	45 - 50	51.81	UI	80	28.19	33.19	5.31	74.69	0.27	23.8	0.01
X2D	75 - 80	80.6	LI	79.99	-0.61	4.39	5.57	74.42			
87S	45 - 50	53.33	UI	81.53	28.2	33.2	6.72	74.81	0.38	45.11	0.01
99D	95 - 100	103.6	DP	81.69	-21.91	-16.91	7.26	74.43			

Monitoring Well Identification (CEF-076-)	Screen Interval (ft, bis)	Well Depth (ft, btoc)	Zone	Top-of-Casing Elevation (ft, msl)	Bottom Screen Elevation	Top Screen Elevation	June 11, 2003		Change in GW Elevation	Difference in Screen Elevation	Vertical Gradient
							Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)			
94S	5 - 15	18.22	WT	81.59	63.37	73.37	6.76	74.83	-0.79	10.07	-0.08
93S	25 - 30	33.29	UI	81.59	48.3	53.3	5.97	75.62			
56I	70 - 75	38	UI	80.91	42.91	47.91	6.72	74.19	0.37	69.82	0.01
98D	105 - 110	113.3	DP	81.39	-31.91	-26.91	7.57	73.82			