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"SITE ASSESSMENT REPORT FOR BUILDING 81 TANKS 81 A, B AND C NAS CECIL FIELD
FL"

7/1/2002

TETRA TECH NUS INC

Site Assessment Report
for
Building 81 Tanks 81 A, B, and C

Naval Air Station Cecil Field
Jacksonville, Florida



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

July 2002

**SITE ASSESSMENT REPORT
FOR
BUILDING 81, TANKS 81 A, B, AND C**

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

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

**Submitted to:
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Naval Facilities Engineering Command
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**CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0168**

JULY 2002

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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 was developed for Building 81, Tanks 81 A, B, and C at the Naval Air Station Cecil Field, Jacksonville, Florida, and should not be construed to apply to any other site.

Mervin Dale
Mervin Dale
Florida Professional Geologist
P.G. Number 1917
Date

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ACRONYMS

ABB-ES	ABB Environmental Services
AST	Above Ground Storage Tank
bls	Below Land Surface
BTEX	Benzene, Toluene, Ethylbenzene, Total Xylenes
btoc	Below Top of Casing
CCI	CH2M Hill Constructors, Inc.
COCs	Compounds of Concern
CompQAP	Comprehensive Quality Assurance Plan
CSR	Confirmatory Sampling Report
°C	Degrees Celsius
DPT	Direct Push Technology
DRO	Diesel Range Organics
EBS	Environmental Baseline Survey
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FL-PRO	Florida Petroleum Range Organics
ft	Feet/Foot
ft ²	Square Feet/Foot
GCTLs	Groundwater Cleanup Target Levels
GIR	General Information Report
gpd	Gallons-Per-Day
gpm	Gallons-Per-Minute
HLA	Harding Lawson Associates
IDW	Investigative Derived Waste
K	Hydraulic Conductivity
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter
ml	Milliliter
msl	Mean Sea Level
NADSCs	Natural Attenuation Default Source Concentrations
NAS	Naval Air Station
Navy	United States Navy
ND	Not Detected
NE	Not Established
NFA	No further action
NI	Not Installed

ACRONYMS (CONTINUED)

NM	Not Measured
OD	Outside Diameter
OWS	Oil-Water Separator
PCBs	Polychlorinated Biphenyls
PPEOCs	Priority Pollutant Extractable Organic Compounds
PPVOCs	Priority Pollutant Volatile Organic Compounds
PSC	Potential Source of Contamination
PVC	Polyvinyl Chloride
PWMA	Public Works Maintenance Area
RAC	Remedial Action Contractor
RIR	Remedial Investigation Report
SA	Site Assessment
SAR	Site Assessment Report
SCTLs	Soil Cleanup Target Levels
sec	Seconds
SOUTHNAVFACENGCOM	Southern Division, Naval Facilities Engineering Command
SPECAP	Specific Capacity
SRR	Source Removal Report
S _y	Specific Yield
T	Transmissivity
TIC	Tentatively Identified Compounds
TFM	Transportation and Fuel Management
TMB	Trimethylbenzene
TRPH	Total Recoverable Petroleum Hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has completed a Site Assessment (SA) at Building 81, Tanks 81 A, B, and C, 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 (SAR) describes the previous investigations, field investigation and subsequent findings for the site, and it is being submitted to the Florida Department of Environmental Protection (FDEP) for approval.

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

The site is underlain by a surficial aquifer system consisting of sand (nonclayey to clayey) of Pleistocene and Recent deposits. This formation is estimated at approximately 85 to 95 feet (ft) thick. Immediately below the sand units are limestones and low-permeability clay units of the Hawthorn Group that collectively form a barrier to groundwater flow and prevent leakage to the Floridan Aquifer underneath. This SAR was limited to the surficial aquifer system.

The direction of groundwater flow in the immediate vicinity of the site varies from southerly to north-northeast.

The hydraulic conductivity of the water table sand deposits was estimated at 5.91 ft per day and the groundwater flow velocity was estimated at 35.95 ft per year.

ES.2 NATURE AND EXTENT OF CONTAMINATION

At Tanks 81 A, B, and C, the investigation was focused on the groundwater. The previous investigations adequately delineated the extent of soil contamination and subsequent source removals in and around the site removed any soil that exceeded the FDEP's Soil Cleanup Target Levels (SCTLs). No surface water and associated sediments are present at the site, and therefore, did not need to be evaluated.

Isopropylbenzene, naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB were detected in one well at the site in concentrations greater than FDEP Groundwater Cleanup Target Levels (GCTLs). None of the compounds of concern (COCs) that exceeded GCTLs exceeded Natural Attenuation Default Source

Concentrations (NADSCs). No other organics and no inorganics were detected at concentrations greater than GCTLs.

ES.3 CONCLUSIONS

The following conclusions are made in this SAR:

- The soil contamination was adequately addressed and removed by previous investigations.
- The groundwater contamination has been delineated to the water table.
- There is no free product and the contamination does not appear to extend deeper than the water table.

ES.4 RECOMMENDATIONS

The following additional activities are recommended in this SAR:

- Monitor the contaminated groundwater in five water table wells for the four COCs referenced in section ES.2 for five years in accordance with Chapter 62-770, FAC.
- Implement institutional controls to prevent the use of groundwater as a potable water source.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

TtNUS was authorized by SOUTHNAVFACENGCOM to conduct a SA at Building 81, Tanks 81 A, B, and C at NAS Cecil Field in Jacksonville, Florida. Specifically, the SA applied to the concrete containment pit for this site, which is located, approximately 100 ft northwest of Building 81. The following paragraphs provide available background information for the site.

This SA is intended to evaluate the extent of petroleum hydrocarbons in subsurface soils and groundwater in accordance with the requirements of Chapter 62-770, FAC. This SAR provides a characterization of site conditions from which to base future courses of action.

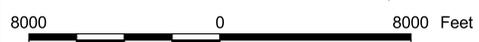
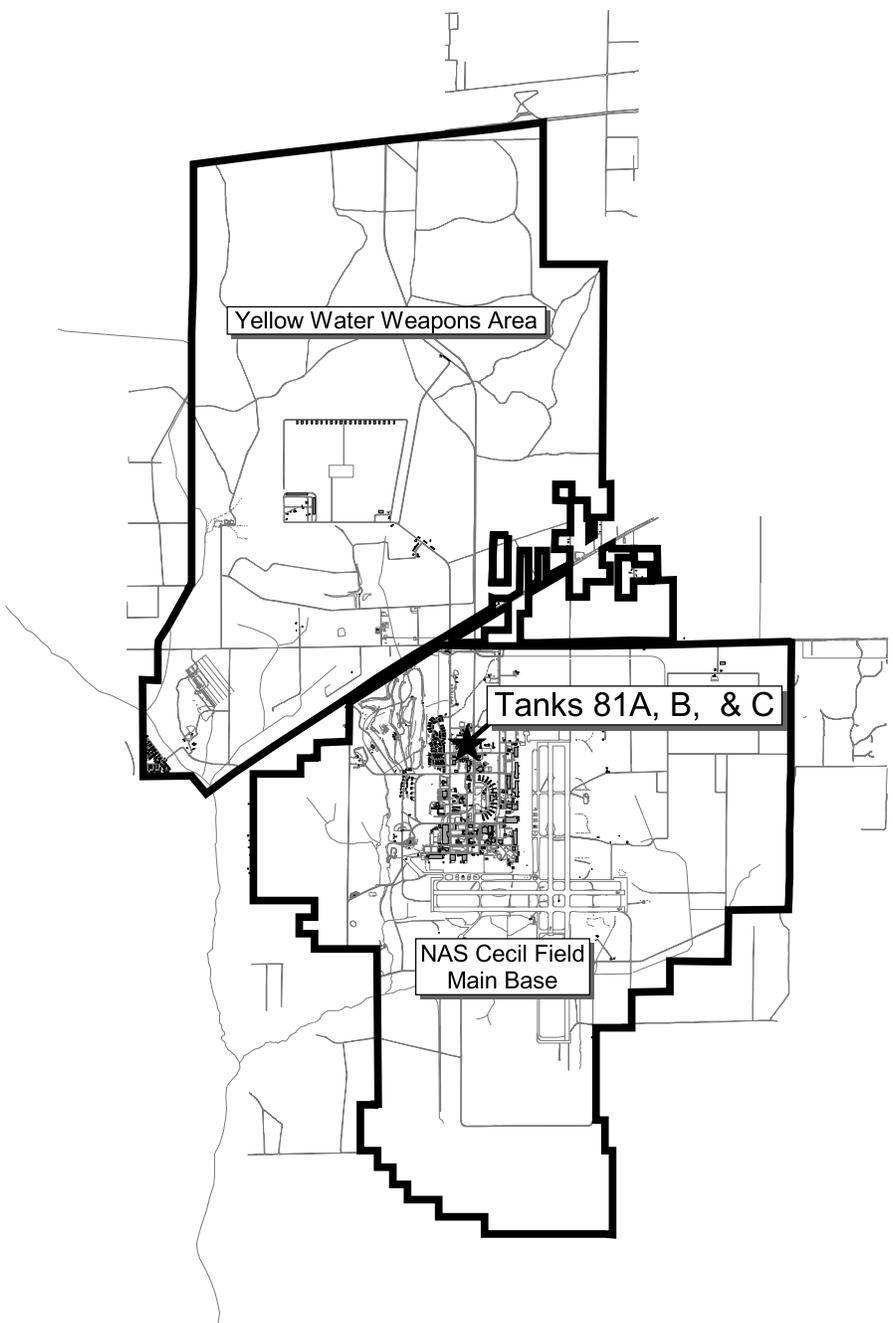
1.2 SITE DESCRIPTION, LAND USE, AND HISTORY

1.2.1 Site Description

A general location map for the site is provided as Figure 1-1, which shows the site is in the main base area of NAS Cecil Field. The United States Geological Survey topographic map from the Fiftone, Florida quadrangle, Figure 1-2, indicates the topography of the site is relatively flat at around 79 to 80 ft above mean sea level (msl). The figure also indicates the nearest surface water body is a branch of Rowell Creek approximately 2000 ft west of the site. Though the site has changed somewhat as a result of soil source removal activities, the site is still partly covered in grass and partially with asphalt (Figure 1-3).

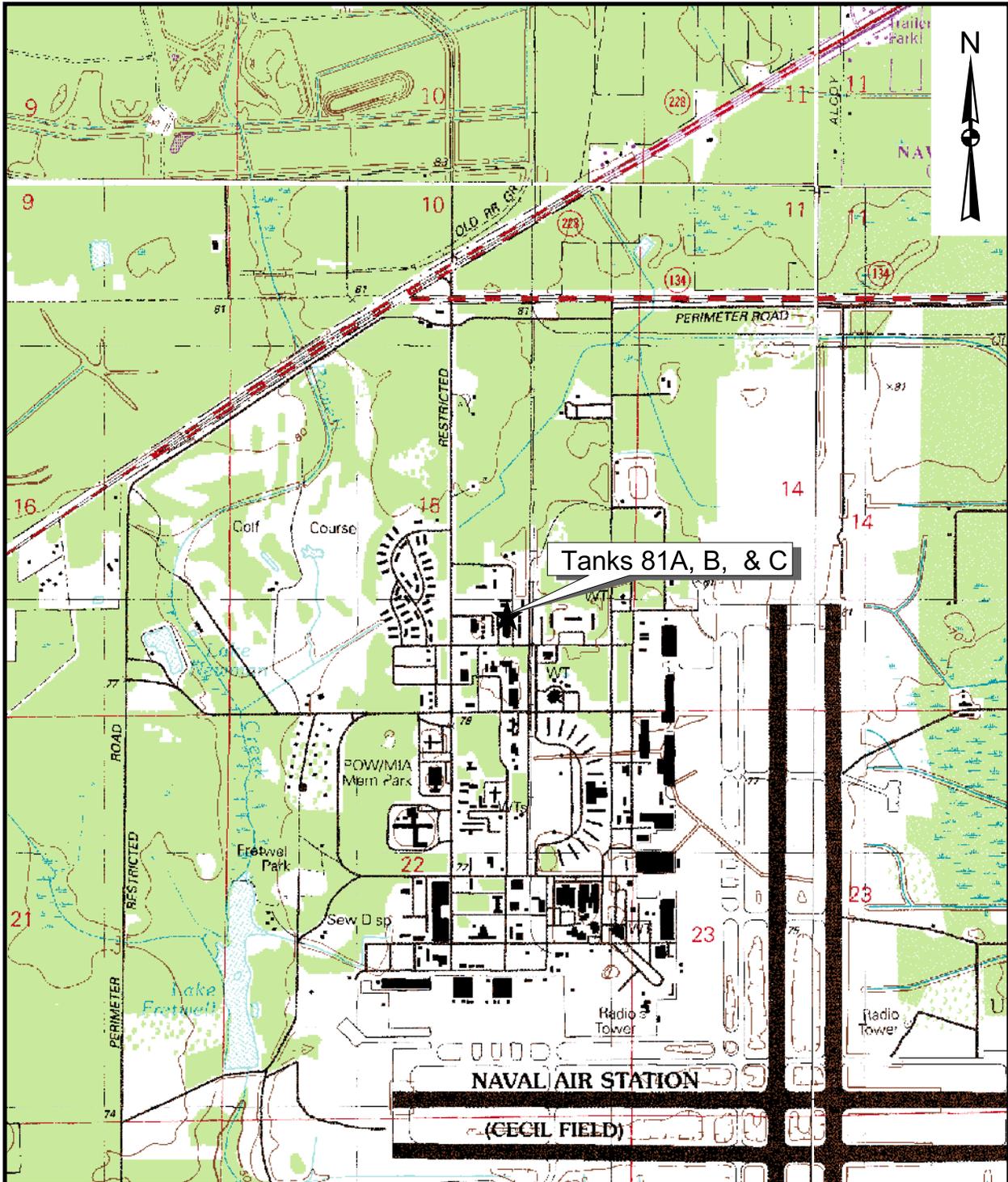
1.2.2 Land Use

According to the Environmental Baseline Survey (EBS) for NAS Cecil Field [ABB Environmental Services (ABB-ES), 1994], this site was on the eastern edge of an area called the Transportation and Fuel Management (TFM) compound. The TFM compound consisted of seven buildings (Buildings 49, 80, 80C, 178, 180, 384, and 584). Figure 1-3 shows the location of three of those buildings to the southwest of the site. Automotive maintenance for the base was managed from the TFM compound. Immediately east of the TFM compound there existed a series of buildings that housed the operations of a Navy subcontractor hired to handle plumbing, carpentry, general painting, and welding, electrical and light machine work related to general maintenance on base. This area was known as the Public Works Maintenance Area (PWMA). The central building of the PWMA was Building 81. Its support buildings to the north and east of it, shown on Figure 1-3, included Buildings 78, 98, 100, 101, 201, 247 and 929. Figure 1-4 indicates the north-south fence that separated the PWMA complex from the TFM complex;



DRAWN BY MJJ CHECKED BY COST/SCHEDULE-AREA SCALE AS NOTED	DATE 16Apr02 DATE DATE DATE DATE DATE		GENERAL LOCATION MAP TANKS 81A, B, & C SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 3996
				APPROVED BY APPROVED BY DRAWING NO. FIGURE 1-1

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2000 0 2000 Feet

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

DRAWN BY MJJ CHECKED BY COST/SCHEDULE-AREA SCALE AS NOTED	DATE 16Apr02 DATE 		TOPOGRAPHIC MAP TANKS 81A, B, & C SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 3996
				APPROVED BY APPROVED BY DRAWING NO.
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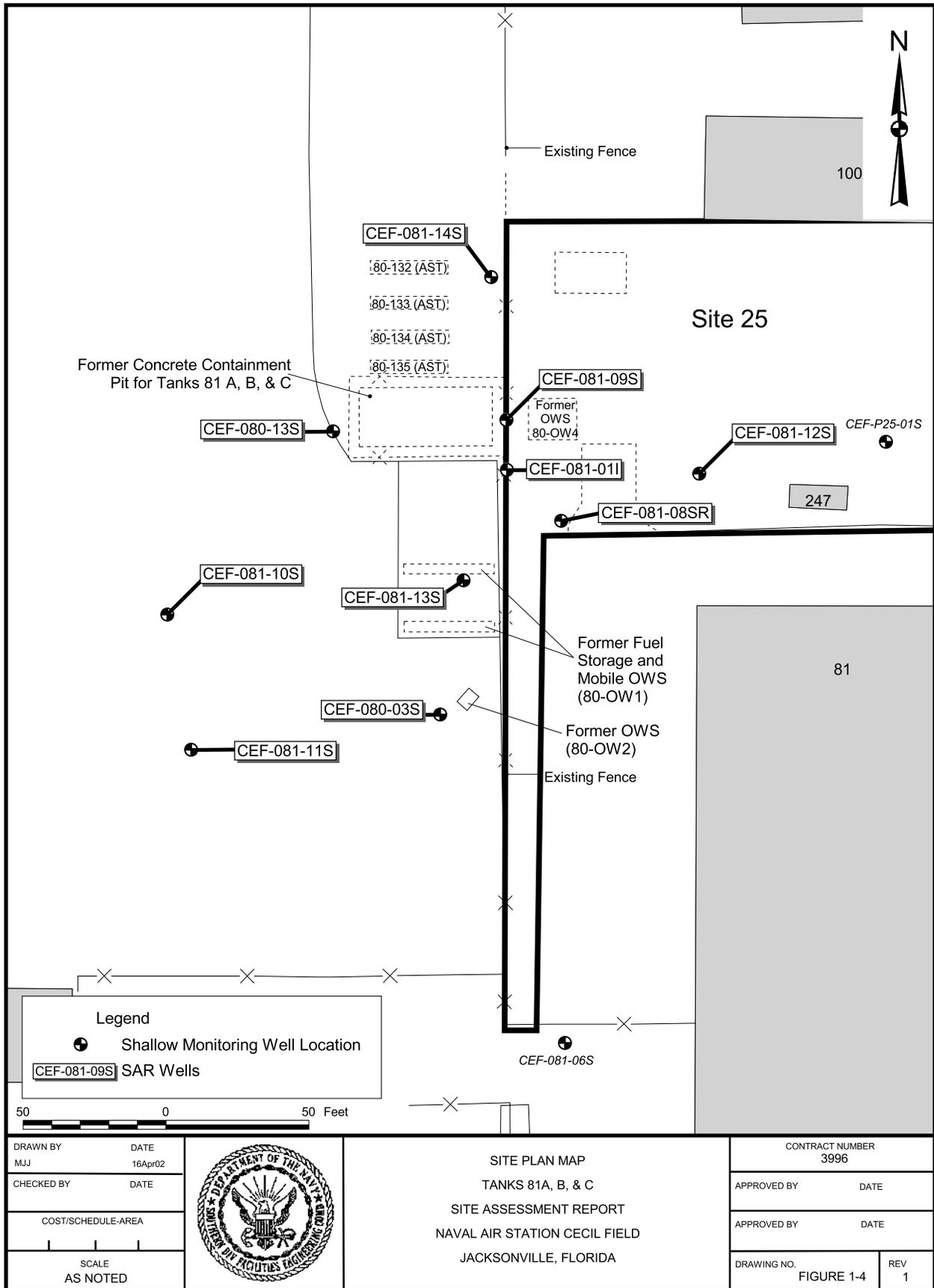
Former
Containment Pit
for Tanks 81 A, B, & C

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LAND USE MAP
TANKS 81A, B, & C
SITE ASSESSMENT REPORT
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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SITE PLAN MAP
 TANKS 81A, B, & C
 SITE ASSESSMENT REPORT
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA

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thus, placing the site west of that fence and within the bounds of the TFM compound. Although the site's identification (Building 81, Tanks 81 A, B, and C) indicates a relationship to the PWMA, this information appears to establish a closer relationship between this site and the TFM compound.

Figure 1-4 shows the presence of three oil-water separators (OWS) (80-OW1, 80-OW2, and 80-OW4) close to the site as well as the outline of Site 25 – the Former Transformer Storage Yard (TtNUS, 2001a). The EBS indicates in the section regarding Building 80 that surface water runoff from the east side of the TFM makes its way to a storm water drain which feeds into one of the OWS previously mentioned. The wastewater from that OWS is discharged to the sanitary sewer. Figure 1-5 indicates the known layout of the utilities in the area of the site. The connection between the storm water system and the OWS appears evident, but how the various OWS connect to the sanitary sewer is not known.

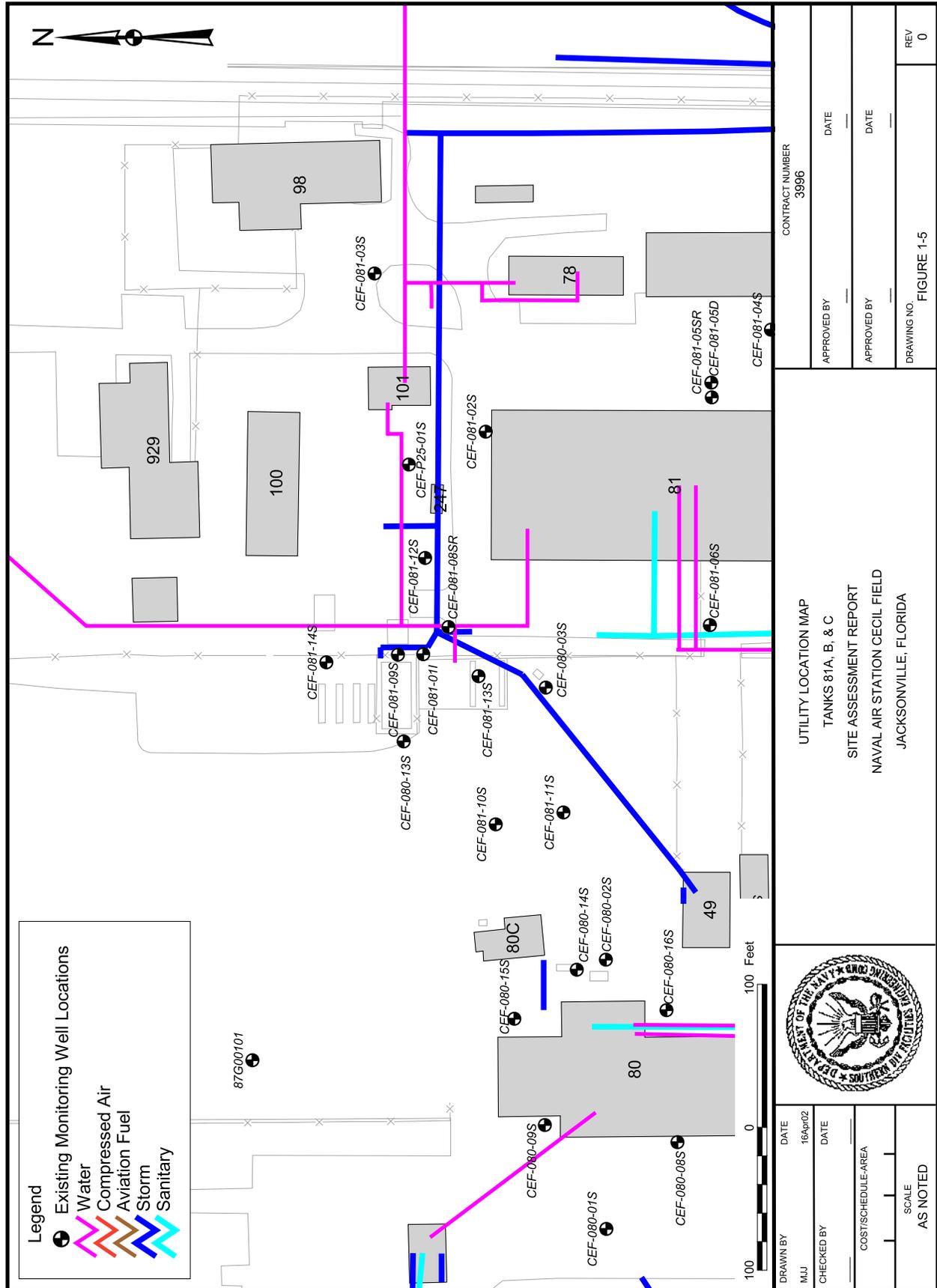
As indicated on Figure 1-4, the Tanks 81 A, B, and C were contained in a secondary concrete containment pit that was approximately 2 ft deep. There is limited available information about the construction or possible contents of the three above ground storage tanks (ASTs) kept in this pit. Harding Lawson Associates (HLA) (HLA, 1999a) reported that four other ASTs (80-132, 80-133, 80-134, and 80-135) were located in a secondary concrete containment structure immediately to the north of the site that drained to the site (Figure 1-4). Also, 80-OW1 was contained in a secondary concrete containment pit that was designed to drain into the site.

Of the buildings shown on Figure 1-3, only the shed area attached to the south end of Building 201 is currently in use. TtNUS is using that shed (not shown in figure) for temporary storage of investigative derived waste (IDW).

1.2.3 History

The EBS indicates that the buildings associated with the site were constructed approximately in 1952 and 1953. The actual construction date for the site is unknown. The EBS (ABB-ES, 1994) does indicate that petroleum product releases within the TFM compound have been documented by soil sampling. The following list outlines the series of investigations and related reports in order of the beginning of fieldwork:

- Building 80, Tank 80-OW2, Confirmatory Sampling Report (CSR) (HLA, 1999b), fieldwork conducted February 1997 to February 1999.
- Building 80, OWS 80-OW4, CSR (HLA, 1999c), fieldwork conducted November 1998 to May 1999.
- Site 25 (including OWS 80-OW1, 80-OW2 and 80-OW4), Remedial Investigation Report (RIR) (TtNUS, 2001a), fieldwork conducted June 1998 to March 2000.



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- Building 80, Tanks 80-132, 80-133, 80-134, and 80-135, CSR (HLA, 1999a), fieldwork conducted January 1999 to February 1999.
- Building 80, Tank 80-OW2, Source Removal Report (SRR) [CH2M Hill Constructors, Inc. (CCI), 2001a], fieldwork conducted August 2000.
- Building 80, Tanks 80-132, 80-133, 80-134, and 80-135, SRR (CCI, 2001b), fieldwork conducted August 2000.
- Site 25 (including OWS 80-OW4 and contaminated area of 80-OW1), SRR (CCI, 2001c), fieldwork conducted April 2001 through May 2001.
- Tanks 81 A, B, and C, SAR, TtNUS, fieldwork conducted June 2001 through May 2002.

1.3 PREVIOUS INVESTIGATIONS

1.3.1 Building 80; Tanks 80-132, 80-133, 80-134, and 80-135

Three confirmatory sampling investigations have been conducted around the site beginning with an investigation of the former ASTs immediately north of the site (Figure 1-4). Those ASTs were known as Building 80; Tanks 80-132, 80-133, 80-134, and 80-135. The CSR for this site (HLA, 1999a) indicated those ASTs were used oil tanks that were in a bermed area that drained to the concrete pit for Tanks 81 A, B, and C, which in turn drained to OWS 80-OW4. The CSR found no evidence of petroleum contamination following used oil group analyses conducted on samples from monitoring well CEF-80-12S. A map showing this well's former location is provided in Appendix A. There was evidence of soil contamination, so the report recommended that a soil source removal be completed.

Since those ASTs would no longer be needed by the Navy and FDEP concurred with the source removal recommendation, CCI removed the contaminated soil in August 2000 for SOUTHNAVFACENGCOM (CCI, 2001b). Also, during those field activities, MECO Petroleum, working for the City of Jacksonville, removed the ASTs. It appears that monitoring well CEF-80-12S was abandoned during the soil removal activities, but this assumption could not be confirmed. CCI's SRR stated: "Based on the results of the soil and groundwater analysis collected as part of the source removal activities, the SCTLs and GCTLs have been achieved at this site and no further action (NFA) per Chapter 62-770 FAC is recommended." A map of the area of excavation (CCI, 2001b) is included as Appendix A along with the letter from the FDEP concurring with the NFA recommendation.

1.3.2 Building 80, 80-OW2

Another confirmatory sampling investigation dealt with a CSR of the OWS known as Building 80, 80-OW2. As indicated on Figure 1-4, this OWS lay to the south of Tanks 81 A, B, and C. The CSR prepared by HLA (HLA, 1999b) indicated that excessively contaminated soil existed, but additional assessment was necessary to delineate it. As for groundwater, no petroleum contaminants above GCTLs were reported for the sample from the former monitoring well CEF-80-7S. The CSR recommended NFA for the site until it was due for removal. The FDEP responded with a letter concurring with the necessity for additional assessment, but it considered it would be included with the Potential Source of Contamination (PSC) 25 (also known as Site 25) work that was planned for a later time. A copy of that FDEP letter is included in Appendix B.

On August 17, 2000, CCI completed a limited closure assessment and soil source removal at this site (CCI, 2001a). CCI's report indicated that an NFA recommendation was warranted for the soil, but the groundwater was impacted. It appears that monitoring well CEF-80-7S was abandoned during the soil removal activities; however, this assumption could not be confirmed. A copy of the conclusions from that report is provided in Appendix B. A map of the area of excavation (CCI, 2001a) is included with Appendix B.

1.3.3 Site 25, 80-OW1 and 80-OW4

Another investigation that significantly affected the site began in adjacent Site 25 (Figure 1-4). It should be noted that activities at Site 25 have included the storage of pesticides and old transformers (ABB-ES, 1994). An action memorandum prepared by TtNUS for SOUTHNAVFACENCOM (TtNUS, 2001b) indicates that the site is located in the TFM Compound and the PWMA, and that it includes OWS 80-OW1, 80-OW2 and 80-OW4 (Figure 1-4). Initially, HLA began confirmatory sampling activities at each of the OWS and soil contamination appeared to be pervasive across the area, so the area was designated PSC 25 in January 1999 (TtNUS, 2001b). The PSC investigation was conducted from June 1998 to March 2000. After the presence of groundwater contamination was also confirmed in monitoring well CEF-P25-01S (Figure 1-5), the area was designated as Installation Restoration (IR) Program Site 25 in February 2000. According to the RIR (TtNUS, 2001a), the contaminated soil identified during the PSC investigation had been delineated and was subsequently excavated by CCI between April 23, 2001 and May 25, 2001.

The SRR (CCI, 2001c) indicated that approximately 1,744.5 tons of contaminated soil were excavated at Site 25, which included the area of 80-OW1 (the AST had been removed) and the underground OWS 80-OW4, itself. A map of the area of excavation taken from the SRR for Site 25 is provided in

Appendix C. The FDEP issued a letter of response to the SRR, which indicated some report-specific, non-field related comments that required CCI to address. A copy of that letter is included in Appendix C.

Following the SRR, TtNUS was tasked by the Navy to investigate the groundwater under the former location of the OWS 80-OW4. The reason for the response was the report by the Remedial Action Contractor (RAC), CCI (2001c), indicated that they removed approximately 500 gallons of free product and contact groundwater in the excavation beneath the OWS 80-OW4. The results of their waste characterization analyses indicated the liquid waste should be considered a hazardous waste due to the presence of pesticides.

TtNUS began this investigation in June 2001 with the installation of a monitoring well, CEF-81-09S, and we sampled it for several priority pollutant lists including pesticides. The results indicated that the site's groundwater was impacted by petroleum hydrocarbons only, so TtNUS was tasked to conduct an SA at this site.

1.4 SITE PHYSICAL CHARACTERISTICS

Chapter 62-770.600, FAC requires a description of surface water, geologic, hydrogeologic and subsurface manmade structure information on the site under investigation. The General Information Report (GIR) was prepared by ABB-ES (ABB-ES, 1998) to provide information common to all waste sites at NAS Cecil Field in these areas. Principally, the GIR covers the regional physiography, regional geology, and regional hydrogeology data of NAS Cecil Field. The RIR (TtNUS, 2001a) by TtNUS provides the site-specific details on surface hydrology, storm water drainage, soil types, physiography, site geology and hydrogeology, and groundwater classification.

1.5 WATER WELL INFORMATION

Chapter 62-770.600, FAC requires water well survey information relative to the site under investigation. The GIR (ABB-ES, 1998) indicates that there are five potable wells within a 0.5-mile radius of the site. The GIR also indicates those wells are Floridan Aquifer wells, and it provides a map of their location.

2.0 FIELD INVESTIGATION

2.1 QUALITY ASSURANCE

The field procedures and sampling activities described in this SAR were performed in general accord with the TtNUS Comprehensive Quality Assurance Plan (CompQAP) Number 980038, which includes the FDEP's Standard Operating Procedures for laboratory operations and sample collection activities (DEP-QA-001/92) and the Base-wide Generic Work Plan Volumes I and II (TtNUS, 1998) for NAS Cecil Field. Soil and groundwater samples collected during our investigation for analyses by a fixed-based laboratory were shipped on ice and under chain of custody to Accutest Laboratory, Orlando, Florida. The CompQAP number for the Accura facility is E87429 and the certification number for the Accutest facility is 940304. Based on the type of site and the analytical rationale given in previous investigations, TtNUS primarily used the used oil group analysis listed in Chapter 62-770, FAC for determination of fixed-based sample results.

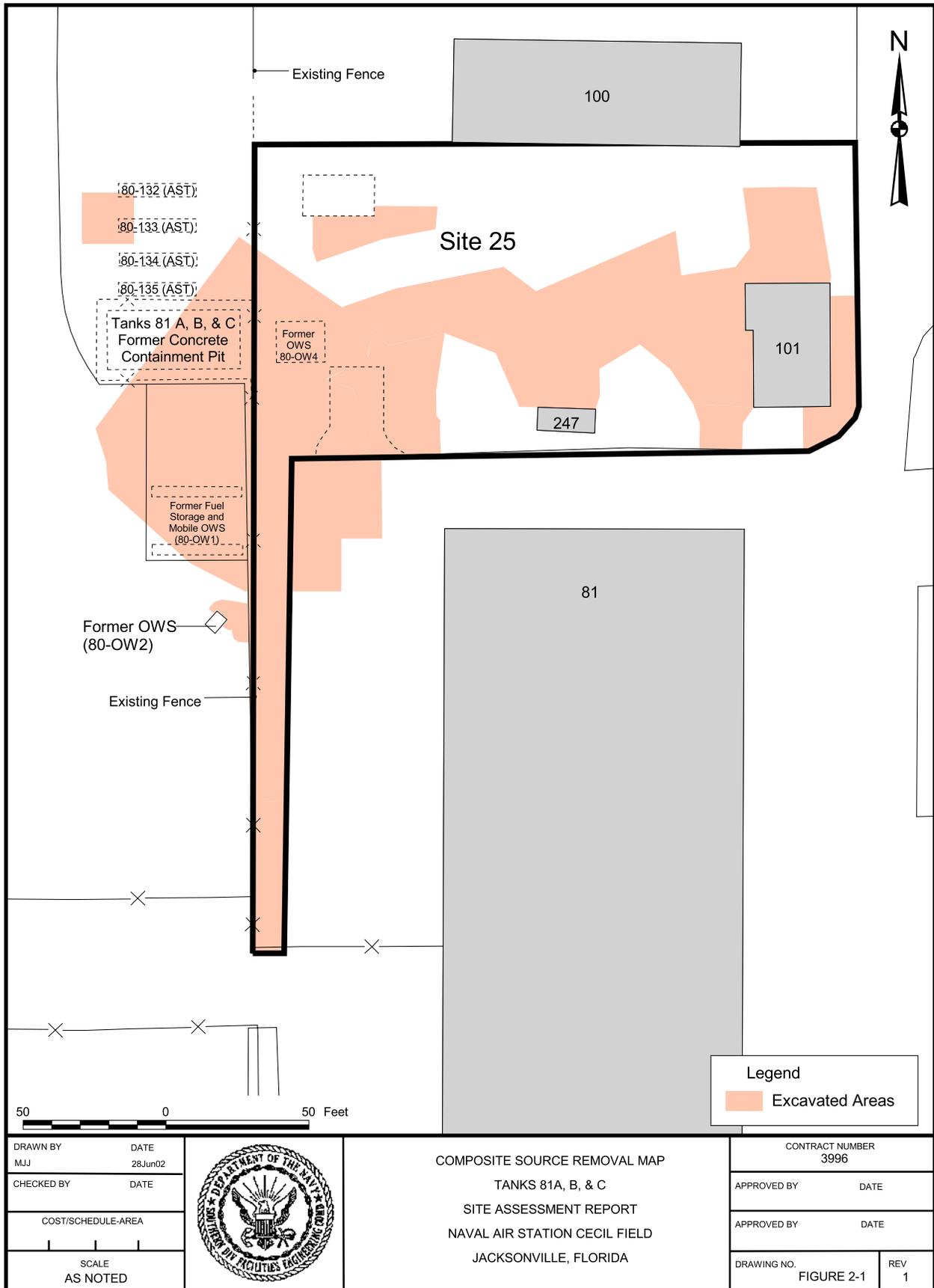
2.2 SOIL AND SEDIMENT ASSESSMENT

A soil assessment was not conducted at Building 81, Tanks 81 A, B, and C since the previous investigations and remedial actions performed at the site appear to have removed any soil contamination associated with the site. Figure 2-1 shows the extent of the three source removals conducted at the site. Since the site is approximately 2000 ft from a surface water body, a sediment assessment was also not conducted.

2.3 GROUNDWATER ASSESSMENT

2.3.1 Groundwater Flow

Water level measurements were collected to determine the depth to water in the surficial aquifer and to determine the relative groundwater flow direction. Prior to initiating the groundwater investigation, previous data was derived from the Site 25 RIR (TtNUS, 2001a) which indicated that the site was inside a groundwater high. The data showed that groundwater flowed outward from the site to the east, south and west. A copy of the groundwater flow map from that report is included in Appendix C. The Direct Push Technology (DPT) investigation was conducted based on that data.



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Synoptic groundwater level measurements were collected on three separate dates. The referenced measuring point for each well was marked on the north side of the top of the polyvinyl chloride (PVC) well casing. Water-level measurements were noted with the time and recorded to the nearest 0.01 ft. This data, included in Appendix D, was used to generate the water table flow maps in this report. The depth to water measurements were collected on December 13, 2001, January 11, 2002, and May 23, 2002 to satisfy the requirements of the SAR as stated in Chapter 62-770, FAC. An oil-water interface probe was used during the first groundwater measurement event and no free product was encountered at that time.

Except for the last well that was installed (CEF-81-14S), the elevation of the north rim for each top of well casing was surveyed on December 17, 2001. The survey was conducted by ARC Surveying and Mapping 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 data for the new and existing wells are provided in Appendix D. A relative survey was conducted, based on the registered survey data, to determine the top of casing elevation for monitoring well CEF-81-14S, and those calculations are shown 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.

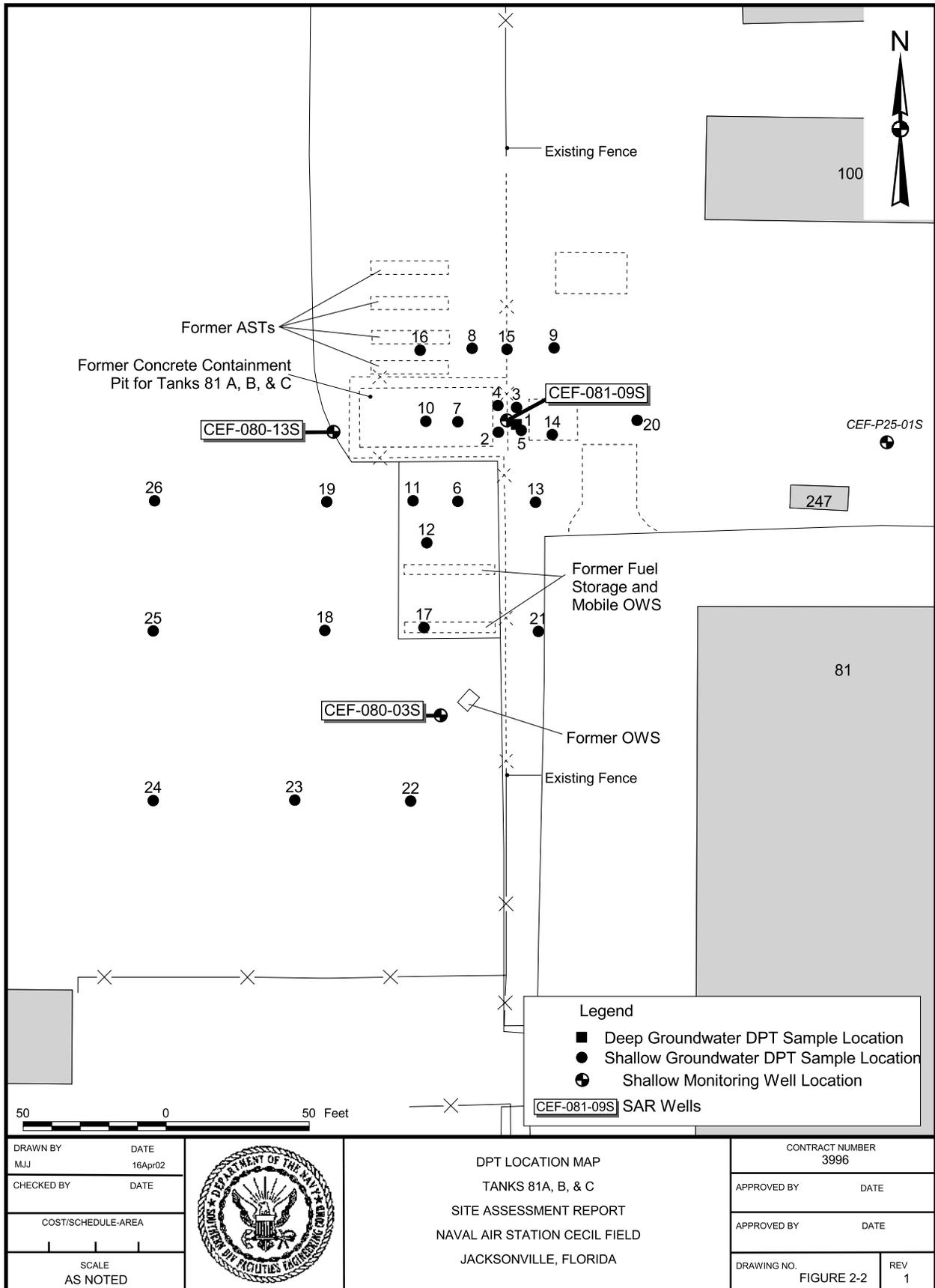
2.3.2 DPT Groundwater Investigation

TtNUS personnel collected groundwater samples from the 26 locations shown on Figure 2-2 during the period of September 5 through 7, 2001. 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 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 (ml) vials with Teflon[®]-coated septa, and one 1-liter amber glass bottle with Teflon[®] lid. Shallow groundwater samples were collected from approximately 0 to 4 or 1 to 5 ft below land surface (bls), and the deep groundwater sample was collected at approximately 26 to 30 ft bls. The groundwater samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX), naphthalene, and, diesel range organics (DRO) by a mobile laboratory.

**TABLE 2-1
MONITORING WELL CONSTRUCTION AND WATER ELEVATION DATA**

**SITE ASSESSMENT REPORT
BUILDING 81, TANKS 81 A, B, AND C
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Monitoring Well Identification	Well Depth (ft, btoc)	Top-of-Casing Elevation (ft, msl)	December 13, 2001		January 11, 2002		May 23, 2002	
			Depth to Water (feet, 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)
CEF-80-3S	15.12	77.68	3.72	73.96	4.74	72.94	5.22	72.46
CEF-80-13S	14.90	78.17	3.98	74.19	4.96	73.21	5.48	72.69
CEF-81-2S	15.00	78.41	NM	NM	NM	NM	6.02	72.39
CEF-81-8SR	12.94	77.61	3.49	74.12	4.62	72.99	5.06	72.55
CEF-81-9S	12.74	77.72	3.59	74.13	4.73	72.99	5.19	72.53
CEF-81-10S	12.99	78.46	4.52	73.94	5.45	73.01	5.98	72.48
CEF-81-11S	12.88	78.47	4.53	73.94	5.46	73.01	5.97	72.50
CEF-81-12S	11.68	77.37	3.12	74.25	4.37	73.00	4.81	72.56
CEF-81-13S	12.14	77.91	3.79	74.12	4.92	72.99	5.36	72.55
CEF-81-14S	13.00	78.30	NI	NI	NI	NI	5.85	72.45
CEF-81-11	29.25	77.73	3.72	74.01	4.77	72.96	4.77	72.96
CEF-P25-1S	12.00	77.57	NM	NM	NM	NM	5.17	72.40
Notes: msl = mean sea level btoc = below top of casing NI = not installed NM = not measured								



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2.3.3 Permanent Monitoring Well Installation

Following completion of the SRR (CCI, 2001c), TtNUS was directed to install a permanent monitoring well to confirm the groundwater impacts indicated in the RAC's report. Monitoring well CEF-81-9S was installed by Groundwater Protection under TtNUS supervision on June 1, 2001, and the laboratory results for that well (CEF-81-9S) indicated the need for the SA. Thus five additional monitoring wells were installed to an average depth of 13 ft bls for horizontal delineation, and one intermediate well was installed to a depth of approximately 30 ft bls for vertical delineation. One of the existing wells, CEF-81-8S, was properly abandoned during the SRR for Site 25, and was subsequently replaced by the RAC on October 3, 2001. The replacement well was designated CEF-81-8SR. Appendix E contains a copy of the monitoring well completion report for monitoring well CEF-81-8SR.

On December 3 and 4, 2001, four shallow monitoring wells (CEF-81-10S, CEF-81-11S, CEF-81-12S, and CEF-81-13S) and one intermediate monitoring well (CEF-81-11) were drilled and installed by Trans American Drilling under the supervision of TtNUS personnel. On May 21, 2002, Partridge Drilling installed monitoring well CEF-81-14S to complete the wells deemed necessary to delineate the impacted groundwater at the site. The location of the newly installed and existing monitoring wells that were used in this investigation are depicted on Figure 1-4.

Regarding the wells installed by TtNUS, 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. The wells were constructed using a truck-mounted drill rig with 8-inch outside diameter (OD) hollow stem augers. The soil boring logs, monitoring well completion logs, and certificates of conformance for each newly installed monitoring well are presented in Appendices F, G, and H, respectively. The soil cuttings and other solid wastes from this drilling activity were containerized and were properly disposed.

As previously indicated, shallow monitoring well CEF-81-9S was planned as the source well in the area of investigation. There were three existing wells (CEF-80-3S, CEF-80-13S, and CEF-80-8SR) that were used to delineate either cross-gradient or down-gradient of the source well. Four of the five new wells were also used to delineate cross-gradient or down-gradient and one well (CEF-81-14S) was used to delineate up-gradient of the source well. Intermediate well CEF-81-11 was installed to confirm the vertical extent of groundwater contamination in the "source" area.

Each well was developed using a submersible pump. During well development, field measurements of pH, temperature, and specific conductance were monitored from the water generated. The wells were developed under supervision of a geologist for about 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 ± 1 degree Celsius ($^{\circ}\text{C}$), pH ± 0.1 standard unit, and specific conductance ± 10 percent. The well development logs are included in Appendix I. The development water was containerized and properly disposed.

2.3.4 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. Initially, the analytical list for the site's groundwater was designed to look for the COCs in the used oil group and the site-specific COCs relative to Site 25. On that basis, monitoring well CEF-81-9S was analyzed for the following lists and methods: priority and non-priority pollutant volatile organic compounds (PPVOCs) by United States Environmental Protection Agency (USEPA) Method SW 846 8260B; priority and non-priority pollutant extractable organic compounds (PPEOCs) by USEPA Method SW 846 8270C; total recoverable petroleum hydrocarbons (TRPH) by Florida Petroleum Range Organics (FL-PRO) method; total metals for arsenic, cadmium, chromium, and lead by USEPA Method SW 846 6010B; pesticides by USEPA Method SW 846 8081A; and polychlorinated biphenyls (PCBs) by USEPA Method SW 846 8082. Since no PCBs or pesticides were detected in the samples from that well, the analytical list was shortened to the used oil group list specified in Chapter 62-770, FAC for the subsequent groundwater sampling on permanent monitoring wells. Those analyses consisted of the same list just provided except the PCBs and pesticides were excluded. The groundwater samples for CEF-81-9S were placed on ice and shipped to Accura Analytical Laboratory in Norcross, Georgia, and the remaining samples were shipped similarly to Accutest Laboratory in Orlando, Florida. Groundwater field sampling data sheets are provided in Appendix J.

2.3.5 Specific Capacity Testing (SPECAP)

SPECAP testing was performed on three wells at the site (CEF-80-3S, CEF-81-10S, and CEF-81-13S). The objective of the SPECAP tests was to determine the productivity or yield per unit of drawdown of the aquifer in which the well is screened, and to estimate hydraulic conductivity and transmissivity. Although there is published information (Halford, 1998) concerning the hydraulic conductivity for NAS Cecil Field, SPECAP tests were conducted to provide site-specific information for Building 81, Tanks 81 A, B, and C for comparison to the published values. To complete the SPECAP tests, a 1.66-inch OD PVC electronic submersible pump (Whaler[®] Brand pump) was used to pump the well while the data was collected with a Hermit[®] 3000 electronic datalogger. The aquifer parameters were calculated from the SPECAP test data using a computer program that was developed by Bradbury and Rothschild (1985). The respective drawdown and recovery graphs for each well are presented in Appendix K.

3.0 SITE ASSESSMENT RESULTS

3.1 DPT GROUNDWATER SCREENING RESULTS

The DPT groundwater sampling results from the mobile laboratory represented field screening data, which was used to determine the most appropriate placement for permanent monitoring wells. Therefore, the mobile laboratory data that indicated a reportable quantity for a COC was compared to the respective GCTL for that COC. BTEX compounds were detected at 21 of 26 DPT locations. DRO and naphthalene were not detected at any of the 26 DPT locations. The GCTL for benzene [1 microgram per liter ($\mu\text{g/L}$)] was exceeded at 13 of 26 DPT locations, and the GCTL for total xylenes (20 $\mu\text{g/L}$) was exceeded at 1 of 26 DPT locations. The complete mobile laboratory results are presented in Appendix L and they are summarized on Table 3-1. Figure 3-1 illustrates the mobile laboratory groundwater results for benzene and xylenes.

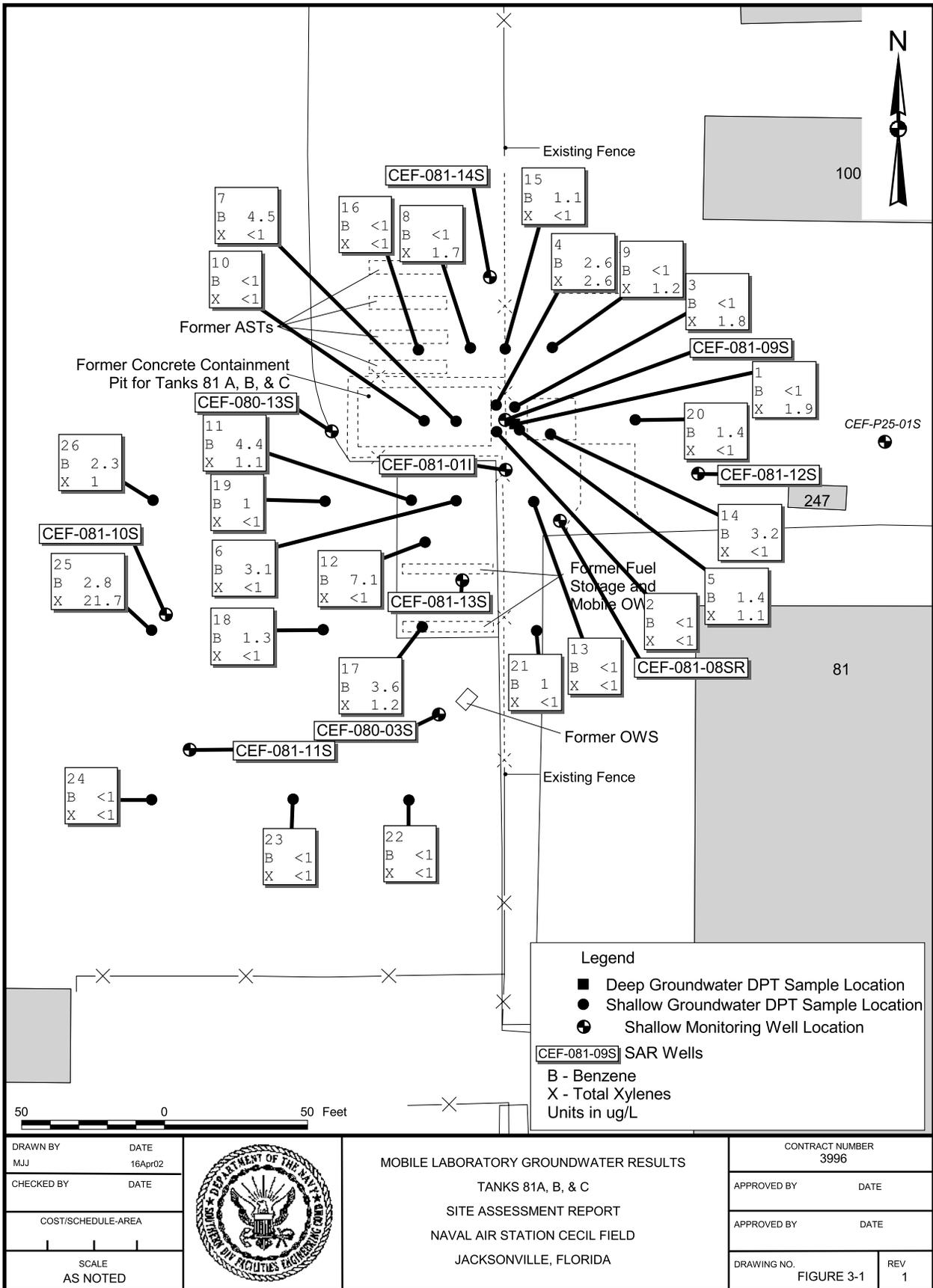
The last three digits for each sample identifier for the mobile laboratory samples is shown in Appendix L and on Table 3-1 as "001" for example. On Figure 3-1, this identifier is shortened without the leading zeroes. The following well locations were made based on the mobile laboratory data and a radial-geometry flow pattern to the east, south and west from the source well:

- Monitoring well CEF-81-10S was placed at DPT Location 25 to confirm the elevated benzene and xylenes detected there. This location is approximately west-southwest of the source area.
- Monitoring well CEF-81-11S was placed to the southwest of the site (near DPT Location 24) to confirm that the concentrations near the source area were not migrating in that direction.
- Monitoring well CEF-81-12S was placed east of the source area to determine if COCs reported at DPT Locations 14 and 20 to the east of the source well indicated any contaminant migration in that direction.
- Monitoring well CEF-81-13S was placed in an area (approximately south of the source well) of elevated concentrations of benzene and xylenes (see DPT Locations 6, 11, 12, and 17) to confirm their presence.
- Monitoring well CEF-81-14S was placed north of the source area to horizontally delineate the plume.
- Monitoring well CEF-81-11 was placed in the source area to vertically delineate the extent of the petroleum plume.

**TABLE 3-1
MOBILE LABORATORY GROUNDWATER ANALYTICAL RESULTS**

**SITE ASSESSMENT REPORT
BUILDING 81, TANKS 81 A, B, AND C
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Compounds	GCTLs	Sample Identification "CEF-81-GW-"								
		001 @ 30 ft	002 @ 4 ft	003 @ 4 ft	004 @ 4 ft	005 @ 4 ft	006 @ 4 ft	007 @ 4 ft	008 @ 4 ft	009 @ 4 ft
Benzene	1	<1	<1	<1	2.6	1.4	3.1	4.5	<1	<1
Toluene	40	<1	<1	1.2	<1	<1	<1	<1	1.1	<1
Ethylbenzene	30	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total xylenes	20	1.9	<1	1.8	2.6	1.1	<1	<1	1.7	1.2
DRO	None	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	20	<50	<50	<50	<50	<50	<50	<50	<50	<50
Compounds	GCTLs	Sample Identification "CEF-81-GW-"								
		010 @ 4 ft	011 @ 4 ft	012 @ 4 ft	013 @ 4 ft	014 @ 4 ft	015 @ 4 ft	016 @ 4 ft	017 @ 4 ft	018 @ 5 ft
Benzene	1	<1	4.4	7.1	<1	3.2	1.1	<1	3.6	1.3
Toluene	40	<1	4.9	10.5	<1	<1	1.3	<1	3.0	<1
Ethylbenzene	30	<1	<1	<1	1.1	7.4	2.4	<1	<1	<1
Total xylenes	20	<1	1.1	<1	<1	<1	<1	<1	1.2	<1
DRO	None	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	20	<50	<50	<50	<50	<50	<50	<50	<50	<50
Compounds	GCTLs	Sample Identification "CEF-81-GW-"								
		019 @ 5 ft	020 @ 5 ft	021 @ 5 ft	022 @ 5 ft	023 @ 5 ft	024 @ 5 ft	025 @ 5 ft	026 @ 5 ft	
Benzene	1	1.0	1.4	1	<1	<1	<1	2.8	2.3	
Toluene	40	<1	1.1	<1	<1	1.4	<1	2.4	2.4	
Ethylbenzene	30	<1	<1	<1	<1	1.0	<1	<1	<1	
Total xylenes	20	<1	<1	<1	<1	<1	<1	21.7	1	
DRO	None	<1	<1	<1	<1	<1	<1	<1	<1	
Naphthalene	20	<50	<50	<50	<50	<50	<50	<50	<50	
Notes: Sample dates were September 5 to 7, 2001.										
Compound units in µg/L except DRO, which is in milligrams per liter (mg/L).										
Sample identifications shown with depth of bottom of DPT sample screen.										



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It is important to note that three existing monitoring wells were used in this investigation to complete the horizontal delineation of the petroleum plume at the site. Those monitoring wells and their relation to the source area are as follows:

- Monitoring well CEF-80-13S exists due west of the source area.
- Monitoring well CEF-81-8SR exists to the southeast of the source area.
- Monitoring well CEF-80-3S exists approximately to the south of the source area.

3.2 PERMANENT MONITORING WELL ANALYTICAL RESULTS

As previously indicated monitoring well CEF-81-9S was sampled on June 16, 2001, and the samples were sent to Accura Analytical Laboratory. Groundwater samples were later collected from the newly installed wells (CEF-81-10S, CEF-81-11S, CEF-81-12S, CEF-81-13S, and CEF-81-11) and four existing monitoring wells (CEF-80-3S, CEF-81-8SR, CEF-81-9S, and CEF-80-13S) on December 13, 2001 and they were submitted to Accutest Laboratory. Lastly, CEF-81-14S was sampled on May 23, 2002 and the groundwater samples were sent to Accutest Laboratory.

A review of the analytical results (summarized on Table 3-2) for the monitoring well CEF-81-9S from the first sampling event shows that four compounds were detected that exceeds GCTLs. They were as follows: naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, and TRPH. The results for the second sampling event on that well reveal five COCs were above their respective GCTLs. Specifically, isopropylbenzene, naphthalene, 1,2,4-TMB and 1,3,5-TMB were the COCs that exceeded GCTLs. The concentration of naphthalene increased approximately 2.3 µg/L in six months, and it remains above its GCTL. The concentrations of 1- and 2-methylnaphthalene both decreased by approximately half, and they are now below the GCTLs. TRPH concentrations also decreased significantly, and it is now below the GCTL. However, the analytical results for isopropylbenzene, 1,2,4-TMB and 1,3,5-TMB are newly reported and they each exceed their respective GCTL.

The laboratory data for the intermediate well indicated that the compound 1,2,4-TMB was not detected in the usual priority pollutant search; however, the Tentatively Identified Compound (TIC) search revealed that same COC at a concentration that slightly exceeded the GCTL.

Though organic and inorganic COCs were detected in the other water table wells, none of the COCs exceeded their respective GCTLs. The results are provided on Table 3-2 and presented on Figure 3-2. The laboratory groundwater data sheets are included in Appendix M.

**TABLE 3-2
SUMMARY OF GROUNDWATER DETECTIONS**

**SITE ASSESSMENT REPORT
BUILDING 81, TANKS 81 A, B, AND C
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Well ID	GCTLs	NADSCs	CEF-81-GW-			
			9S-01	9S-02	1I-02	12S-02
Date Sampled			6/16/2001	12/13/2001	12/13/2001	12/13/2001
<u>Priority Pollutant Volatile Organic Compounds (µg/L)</u>						
n-Butylbenzene	NE	NE	ND	11.9	ND	ND
sec-Butylbenzene	NE	NE	ND	11.1	ND	ND
Chloromethane	2.7	270	0.65 J	ND	ND	ND
Ethylbenzene	30	300	2.1	2.8	0.56 J	< 2.0
Isopropylbenzene	0.8	8	ND	6.2	ND	ND
p-Isopropyltoluene	NE	NE	ND	7.8	ND	ND
Naphthalene	20	200	ND	27.3	ND	ND
n-Propylbenzene	NE	NE	ND	12.6	ND	ND
1,2,4-Trimethylbenzene	10	100	ND	79.4	ND	ND
1,3,5-Trimethylbenzene	10	100	ND	19	ND	ND
Toluene	40	400	< 1.0	< 2.0	0.58 J	< 2.0
Xylene (total)	20	200	5.0	7.8	1.6 J	< 6.0
<u>Tentatively Identified Compounds (Volatiles) (µg/L)</u>						
Benzene, 1-ethyl-2,3-dimethyl-	NE	NE	ND	15	ND	ND
Benzene, 1-ethyl-3,5-dimethyl-	NE	NE	ND	21	ND	ND
Benzene, 2-ethyl-1,4-dimethyl-	NE	NE	ND	17	ND	ND
Benzene, 4-ethyl-1,2-dimethyl-	NE	NE	ND	13	ND	ND
Benzene, (1-methylpropyl)-	NE	NE	ND	12	ND	ND
Benzene, 1-methyl-2-(1-methylethyl-	NE	NE	ND	16	ND	ND
Benzene, 1-methyl-2-(1-methylethyl-	NE	NE	ND	19	ND	ND
Benzene, 1-methyl-2-(2-propenyl)-	NE	NE	ND	14	ND	ND
Benzene, 1-methyl-2-propyl-	NE	NE	13	ND	ND	ND
Benzene, 1-methyl-3-propyl-	NE	NE	ND	12	ND	ND
2,3-Dihydro-1-methylindene	NE	NE	ND	18	ND	ND
Indan, 1- methyl-	NE	NE	ND	15	ND	ND
1H-Indene, 2,3-dihydro-1,6-dimethy	NE	NE	ND	11	ND	ND
Naphthalene, 1-methyl-	20	200	ND	14	ND	ND
Naphthalene, 2-methyl-	20	200	ND	11	ND	ND
Naphthalene, 1,2,3,4-tetrahydro-	NE	NE	19	22	ND	ND
Naphthalene, 1,2,3,4-tetrahydro-6-methyl	NE	NE	14	ND	ND	ND
Multiple Unknowns	NE	NE	295.8	ND	ND	ND
<u>Priority Pollutant Extractable Organic Compounds (µg/L)</u>						
bis(2-Ethylhexyl)phthalate	6	600	ND	4.5 J	< 5.5	3.4 J
Naphthalene, 1-methyl-	20	200	29	ND	ND	ND
Naphthalene, 2-methyl-	20	200	29	ND	ND	ND
Naphthalene	20	200	25	12.5	4.4 J	< 5.5
See notes at end of table.						

**TABLE 3-2 (CONTINUED)
SUMMARY OF GROUNDWATER DETECTIONS**

**SITE ASSESSMENT REPORT
BUILDING 81, TANKS 81 A, B, AND C
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Well ID	GCTLs	NADSCs	CEF-81-GW-			
			9S-01	9S-02	1I-02	12S-02
Date Sampled			6/16/2001	12/13/2001	12/13/2001	12/13/2001
<u>Tentatively Identified Compounds (Semi-volatiles) (µg/L)</u>						
Benzene, 2-butenyl-	NE	NE	44	ND	ND	ND
Benzene, 1-ethyl-2-methyl-	NE	NE	ND	15	ND	ND
Benzene, 1-ethyl-4-methyl-	NE	NE	ND	14	ND	ND
Benzene, 1,2,3-trimethyl-	NE	NE	23	ND	ND	ND
Benzene, 1,2,4-trimethyl-	10	100	ND	64	11	ND
Benzene, 1-methyl-3-propyl-	NE	NE	ND	18	ND	ND
Benzene, 1,4-diethyl-	NE	NE	ND	48	ND	ND
Benzene, (1-methylpropyl)-	NE	NE	ND	21	ND	ND
Benzene, 4-ethyl-1,2-dimethyl-	NE	NE	ND	22	ND	ND
Benzene, 1-methyl-4-(1-methylethyl)-	NE	NE	ND	25	ND	ND
Benzene, 1-methyl-2-(1-methylethyl)-	NE	NE	ND	13	ND	ND
1H-1,5-Benzodiazepine, 2,3,4,5-tetrahydr	NE	NE	ND	15	ND	ND
Eicosane	NE	NE	ND	ND	13	ND
Indane	NE	NE	ND	13	ND	ND
Naphthalene, 1,2,3,4-tetrahydro-	NE	NE	20	19	ND	ND
Naphthalene, 1,7-dimethyl-	NE	NE	ND	13	ND	ND
Octacosane	NE	NE	ND	ND	12	ND
Sulfur, mol. (S8)	NE	NE	ND	45	ND	ND
3,3',5,5'-Tetramethyl-2,2'-bifuryl	NE	NE	ND	ND	ND	14 J
Triacontane	NE	NE	ND	ND	12	ND
2,6,10-Dodecatrien-1-ol, 3,7,11-trimethyl	NE	NE	ND	ND	ND	ND
Multiple Unknowns	NE	NE	163	29	ND	ND
<u>TRPH, mg/L</u>						
TRPH (C8-C40)	5	50	12	1.16	0.989	< 0.28
<u>Metals (µg/L)</u>						
Arsenic	50	500	50 U	21.8	8.9 B	3.2 U
Cadmium	5	50	3.9 J	0.27 U	0.27 U	0.27 U
Chromium	100	1000	50 U	3.9 B	0.90 B	10.0 B
Lead	15	150	8.9 J	2.6 B	2.0 B	10.8
See notes at end of table.						

**TABLE 3-2 (CONTINUED)
SUMMARY OF GROUNDWATER DETECTIONS**

**SITE ASSESSMENT REPORT
BUILDING 81, TANKS 81 A, B, AND C
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Well ID	GCTLs	NADSCs	CEF-81-GW-			
			DU01-02*	8SR-02	10S-02	11S-02
Date Sampled			12/13/2001	12/13/2001	12/13/2001	12/13/2001
Priority Pollutant Volatile Organic Compounds (µg/L)						
n-Butylbenzene	NE	NE	ND	ND	ND	ND
sec-Butylbenzene	NE	NE	ND	ND	ND	ND
Chloromethane	2.7	270	ND	ND	ND	ND
Ethylbenzene	30	300	< 2.0	< 2.0	< 2.0	< 2.0
Isopropylbenzene	0.8	8	ND	ND	ND	ND
p-Isopropyltoluene	NE	NE	ND	ND	ND	ND
Naphthalene	20	200	ND	ND	ND	ND
n-Propylbenzene	NE	NE	ND	ND	ND	ND
1,2,4-Trimethylbenzene	10	100	ND	ND	ND	ND
1,3,5-Trimethylbenzene	10	100	ND	ND	ND	ND
Toluene	40	400	< 2.0	< 2.0	< 2.0	< 2.0
Xylene (total)	20	200	< 6.0	< 6.0	< 6.0	< 6.0
Tentatively Identified Compounds (Volatiles) (µg/L)						
Benzene, 1-ethyl-2,3-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-ethyl-3,5-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 2-ethyl-1,4-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 4-ethyl-1,2-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, (1-methylpropyl)-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-(1-methylethyl)	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-(1-methylethyl)	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-(2-propenyl)-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-propyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-3-propyl-	NE	NE	ND	ND	ND	ND
2,3-Dihydro-1-methylindene	NE	NE	ND	ND	ND	ND
Indan, 1- methyl-	NE	NE	ND	ND	ND	ND
1H-Indene, 2,3-dihydro-1,6-dimethy	NE	NE	ND	ND	ND	ND
Naphthalene, 1-methyl-	20	200	ND	ND	ND	ND
Naphthalene, 2-methyl-	20	200	ND	ND	ND	ND
Naphthalene, 1,2,3,4-tetrahydro-	NE	NE	ND	ND	ND	ND
Naphthalene, 1,2,3,4-tetrahydro-6-methyl	NE	NE	ND	ND	ND	ND
Multiple Unknowns	NE	NE	ND	ND	ND	ND
Priority Pollutant Extractable Organic Compounds (µg/L)						
bis(2-Ethylhexyl)phthalate	6	600	< 5.0	< 6.0	2.6 J	< 5.5
Naphthalene, 1-methyl-	20	200	ND	ND	ND	ND
Naphthalene, 2-methyl-	20	200	ND	ND	ND	ND
Naphthalene	20	200	< 5.0	< 6.0	< 5.0	< 5.5
See notes at end of table.						

**TABLE 3-2 (CONTINUED)
SUMMARY OF GROUNDWATER DETECTIONS**

**SITE ASSESSMENT REPORT
BUILDING 81, TANKS 81 A, B, AND C
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Well ID	GCTLs	NADSCs	CEF-81-GW-			
			DU01-02*	8SR-02	10S-02	11S-02
Date Sampled			12/13/2001	12/13/2001	12/13/2001	12/13/2001
<u>Tentatively Identified Compounds (Semi-volatiles) (µg/L)</u>						
Benzene, 2-butenyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-ethyl-2-methyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-ethyl-4-methyl-	NE	NE	ND	ND	ND	ND
Benzene, 1,2,3-trimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 1,2,4-trimethyl-	10	100	ND	ND	ND	ND
Benzene, 1-methyl-3-propyl-	NE	NE	ND	ND	ND	ND
Benzene, 1,4-diethyl-	NE	NE	ND	ND	ND	ND
Benzene, (1-methylpropyl)-	NE	NE	ND	ND	ND	ND
Benzene, 4-ethyl-1,2-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-4-(1-methylethyl)-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-(1-methylethyl)-	NE	NE	ND	ND	ND	ND
1H-1,5-Benzodiazepine, 2,3,4,5-tetrahydr	NE	NE	ND	ND	ND	ND
Eicosane	NE	NE	ND	ND	ND	ND
Indane	NE	NE	ND	ND	ND	ND
Naphthalene, 1,2,3,4-tetrahydro-	NE	NE	ND	ND	ND	ND
Naphthalene, 1,7-dimethyl-	NE	NE	ND	ND	ND	ND
Octacosane	NE	NE	ND	ND	ND	ND
Sulfur, mol. (S8)	NE	NE	ND	ND	ND	ND
3,3'5,5'-Tetramethyl-2,2'-bifuryl	NE	NE	ND	ND	ND	ND
Triacontane	NE	NE	ND	ND	ND	ND
2,6,10-Dodecatrien-1-ol, 3,7,11-trimethyl	NE	NE	ND	ND	ND	ND
Unknown	NE	NE	ND	ND	ND	ND
<u>TRPH, mg/L</u>						
TRPH (C8-C40)	5	50	< 0.28	< 0.28	< 0.28	< 0.28
<u>Metals (µg/L)</u>						
Arsenic	50	500	25.5	25.2	3.2 U	3.2 U
Cadmium	5	50	0.27 U	0.27 U	0.27 U	0.27 U
Chromium	100	1000	0.35 U	0.35 U	0.35 U	0.35 U
Lead	15	150	2.1 B	2.4 B	2.0 B	2.2 B
See notes at end of table.						

**TABLE 3-2 (CONTINUED)
SUMMARY OF GROUNDWATER DETECTIONS**

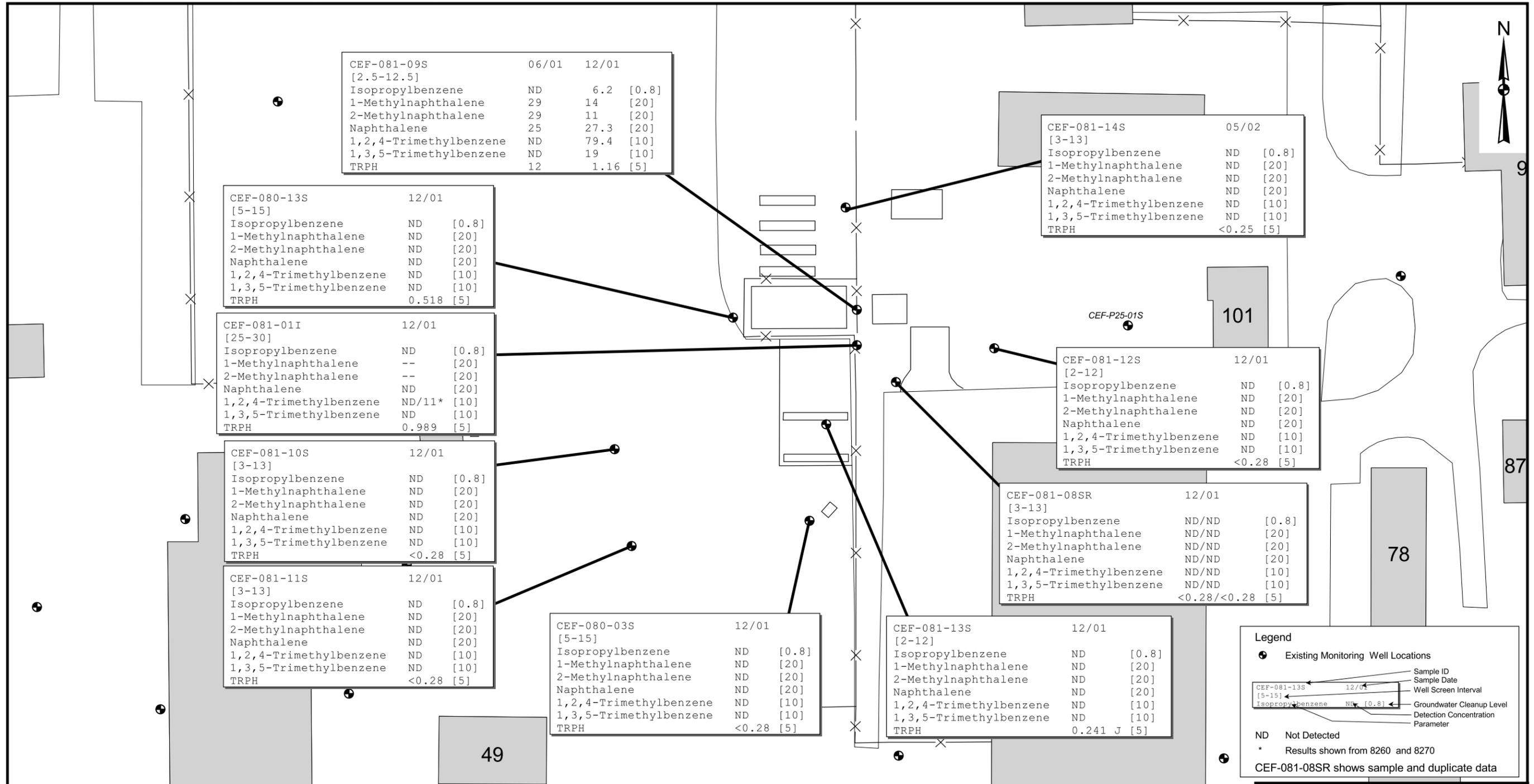
**SITE ASSESSMENT REPORT
BUILDING 81, TANKS 81 A, B, AND C
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Well ID	GCTLs	NADSCs	CEF-80-GW-		CEF-81-GW-	
			03S-02	13S-02	13S-02	14S-01
Date Sampled			12/13/2001	12/13/2001	12/13/2001	5/23/2002
<u>Priority Pollutant Volatile Organic Compounds (µg/L)</u>						
n-Butylbenzene	NE	NE	ND	ND	ND	ND
sec-Butylbenzene	NE	NE	ND	ND	ND	ND
Chloromethane	2.7	270	ND	ND	ND	ND
Ethylbenzene	30	300	< 2.0	< 2.0	< 2.0	< 1.0
Isopropylbenzene	0.8	8	ND	ND	ND	ND
p-Isopropyltoluene	NE	NE	ND	ND	ND	ND
Naphthalene	20	200	ND	ND	ND	ND
n-Propylbenzene	NE	NE	ND	ND	ND	ND
1,2,4-Trimethylbenzene	10	100	ND	ND	ND	ND
1,3,5-Trimethylbenzene	10	100	ND	ND	ND	ND
Toluene	40	400	< 2.0	< 2.0	< 2.0	< 1.0
Xylene (total)	20	200	< 6.0	< 6.0	< 6.0	< 3.0
<u>Tentatively Identified Compounds (Volatiles) (µg/L)</u>						
Benzene, 1-ethyl-2,3-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-ethyl-3,5-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 2-ethyl-1,4-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 4-ethyl-1,2-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, (1-methylpropyl)-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-(1-methylethyl)	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-(1-methylethyl)	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-(2-propenyl)-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-propyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-3-propyl-	NE	NE	ND	ND	ND	ND
2,3-Dihydro-1-methylindene	NE	NE	ND	ND	ND	ND
Indan, 1- methyl-	NE	NE	ND	ND	ND	ND
1H-Indene, 2,3-dihydro-1,6-dimethy	NE	NE	ND	ND	ND	ND
Naphthalene, 1-methyl-	20	200	ND	ND	ND	ND
Naphthalene, 2-methyl-	20	200	ND	ND	ND	ND
Naphthalene, 1,2,3,4-tetrahydro-	NE	NE	ND	ND	ND	ND
Naphthalene, 1,2,3,4-tetrahydro-6-methyl	NE	NE	ND	ND	ND	ND
Multiple Unknowns	NE	NE	ND	ND	ND	ND
<u>Priority Pollutant Extractable Organic Compounds (µg/L)</u>						
bis(2-Ethylhexyl)phthalate	6	600	< 5.0	5.2 J	< 5.5	< 5.0
Naphthalene, 1-methyl-	20	200	ND	ND	ND	ND
Naphthalene, 2-methyl-	20	200	ND	ND	ND	ND
Naphthalene	20	200	< 5.0	< 6.0	< 5.5	< 5.0
See notes at end of table.						

**TABLE 3-2 (CONTINUED)
SUMMARY OF GROUNDWATER DETECTIONS**

**SITE ASSESSMENT REPORT
BUILDING 81, TANKS 81 A, B, AND C
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Well ID	GCTLs	NADSCs	CEF-80-GW-		CEF-81-GW-	CEF-81-GW-
			03S-02	13S-02	13S-02	14S-01
Date Sampled			12/13/2001	12/13/2001	12/13/2001	5/23/2002
<u>Tentatively Identified Compounds (Semi-volatiles) (µg/L)</u>						
Benzene, 2-butenyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-ethyl-2-methyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-ethyl-4-methyl-	NE	NE	ND	ND	ND	ND
Benzene, 1,2,3-trimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 1,2,4-trimethyl-	10	100	ND	ND	ND	ND
Benzene, 1-methyl-3-propyl-	NE	NE	ND	ND	ND	ND
Benzene, 1,4-diethyl-	NE	NE	ND	ND	ND	ND
Benzene, (1-methylpropyl)-	NE	NE	ND	ND	ND	ND
Benzene, 4-ethyl-1,2-dimethyl-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-4-(1-methylethyl)-	NE	NE	ND	ND	ND	ND
Benzene, 1-methyl-2-(1-methylethyl)-	NE	NE	ND	ND	ND	ND
1H-1,5-Benzodiazepine, 2,3,4,5-tetrahydr	NE	NE	ND	ND	ND	ND
Eicosane	NE	NE	ND	ND	ND	ND
Indane	NE	NE	ND	ND	ND	ND
Naphthalene, 1,2,3,4-tetrahydro-	NE	NE	ND	ND	ND	ND
Naphthalene, 1,7-dimethyl-	NE	NE	ND	ND	ND	ND
Octacosane	NE	NE	ND	ND	ND	ND
Sulfur, mol. (S8)	NE	NE	ND	ND	ND	ND
3,3'5,5'-Tetramethyl-2,2'-bifuryl	NE	NE	ND	ND	ND	ND
Triacotane	NE	NE	ND	ND	ND	ND
2,6,10-Dodecatrien-1-ol, 3,7,11-trimethyl	NE	NE	ND	ND	ND	10
Unknown	NE	NE	ND	ND	ND	ND
<u>TRPH, mg/L</u>						
TRPH (C8-C40)	5	50	< 0.28	0.518	0.241 J	< 0.25
<u>Metals (µg/L)</u>						
Arsenic	50	500	3.2 U	3.2 U	20	2.8 U
Cadmium	5	50	0.27 U	0.27 U	3.3 B	0.26 U
Chromium	100	1000	0.35 U	0.35 U	0.35 U	0.43 U
Lead	15	150	2.8 B	2.1 B	1.2 U	1.2 U
Notes:						
Bolded concentrations indicate the respective GCTL is exceeded.			mg/L = milligrams per liter			
<u>Underlined</u> concentration indicates it is below the respective NADSC.			ND = not detected			
* Duplicate sample of CEF-81-GW-8SR-02.			NE = not established			
J = Indicates an estimated value.						
B = Indicates a result greater than or equal to the instrument detection limit but less than the reporting limit.						
U = Indicates a result less than the instrument detection limit.						
< = less than						



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES	DRAWN BY	DATE		FIXED-BASED GROUNDWATER CONCENTRATION MAP TANKS 81A, B, & C SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA		CONTRACT NO. 3996	
							MJJ	16Apr02		APPROVED BY	DATE	APPROVED BY	DATE
							CHECKED BY	DATE		APPROVED BY	DATE	APPROVED BY	DATE
							COST/SCHED-AREA			DRAWING NO.	REV.	DRAWING NO.	REV.
							SCALE	AS NOTED			FIGURE 3-2	0	

3.3 AQUIFER CHARACTERISTICS

Groundwater levels were measured on December 13, 2001 and January 11, 2002, and May 23, 2002. Groundwater elevation measurements were calculated from the field data (Table 2-1) and plotted on Figure 3-3 (December 2001 data) and Figure 3-4 (January 2002 data). Those figures indicate groundwater flow to the south. After installation of CEF-81-14S, groundwater elevation data for May 23, 2002 was calculated and plotted on Figure 3-5. This figure indicates that groundwater is flowing to the north-northeast from the source well in the general direction of monitoring well CEF-81-14S. On January 11, 2002 SPECAP testing of three shallow wells (CEF-80-3S, CEF-81-11S, and CEF-81-13S) was conducted. These wells were selected because they are evenly distributed across the site, and the analytical results for those wells indicated no petroleum contaminants were present to interfere with the test.

Using a computer program by Bradbury and Rothschild (1985), the input data and variables for each well were run to generate SPECAP, hydraulic conductivity (K), and transmissivity (T). Both the input and output data are shown in Appendix N of this report. The SPECAP, K, and T values are summarized on Table 3-3. In unconfined aquifers, the Storage Coefficient is the same as the specific yield (S_y) of the aquifer. The storage coefficient used was estimated to be 0.15, which was based on referenced information published by Fetter (1980) and it was compared to the S_y used by Halford (1998). Fetter indicated that the minimum S_y for gravel and coarse-grain sand formations equal 0.20 and the minimum S_y for fine-grain sand formations equal 0.10. Halford used a S_y value of 0.2. Since the majority of the soil underlying this site consists of very fine grain sand to silty sand, Halford's estimate for S_y was decreased to 0.15 to better represent the site-specific soils.

**TABLE 3-3
AQUIFER PROPERTIES BASED ON ANALYSIS OF SPECAP**

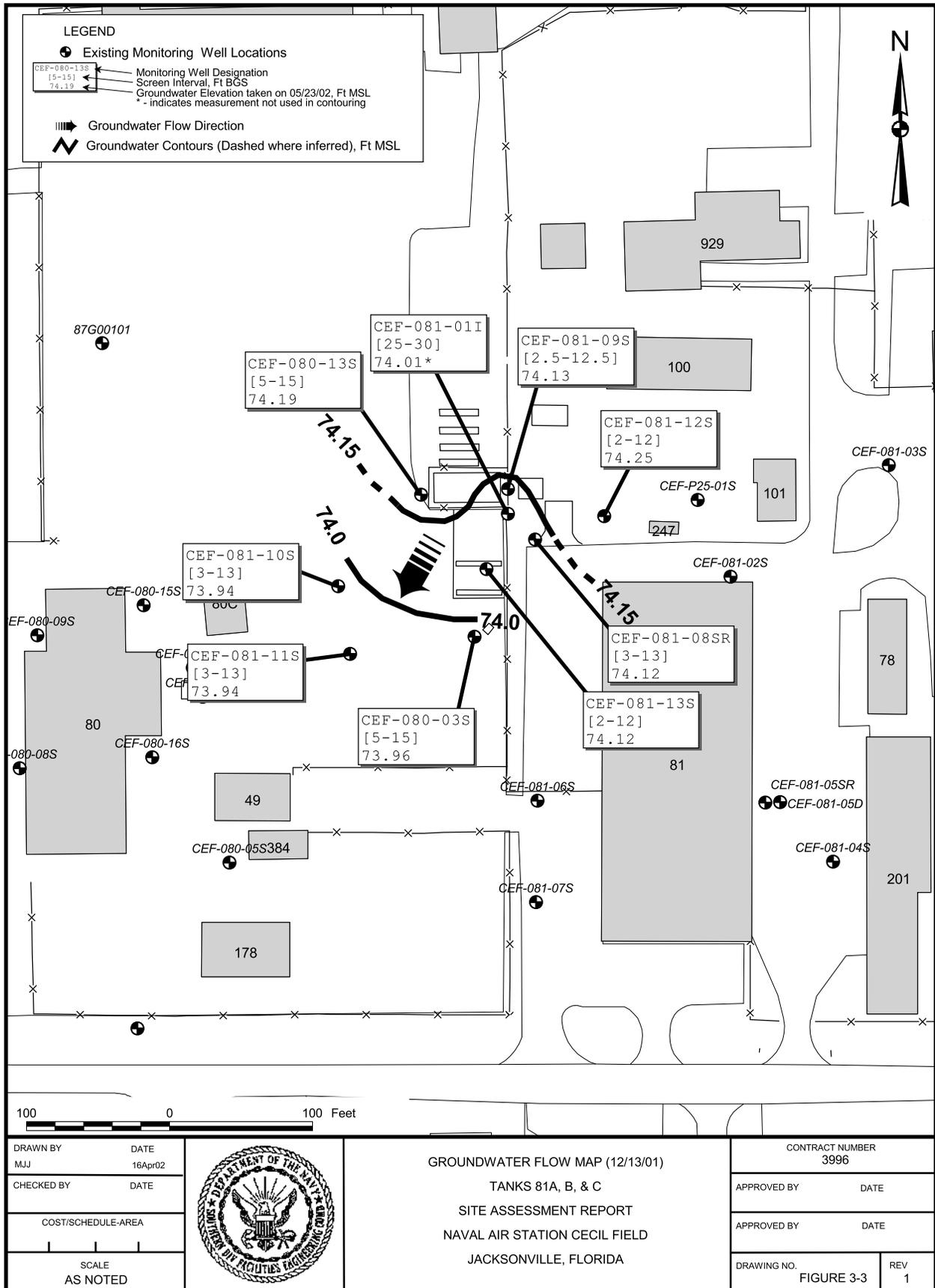
**SITE ASSESSMENT REPORT
BUILDING 81, TANKS 81 A, B, AND C
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Well Number	SPECAP	Transmissivity (T)	Hydraulic Conductivity (K) (ft/day)
CEF-80-3S	0.41 gpm/ft	$7.01 \times 10^{-3} \text{ ft}^2/\text{sec}$ or 4532.20 gpd/ft	6.06 ft/day
CEF-81-10S	0.19 gpm/ft	$3.30 \times 10^{-3} \text{ ft}^2/\text{sec}$ or 2136.72 gpd/ft	2.86 ft/day
CEF-81-13S	0.60 gpm/ft	$1.02 \times 10^{-2} \text{ ft}^2/\text{sec}$ or 6597.36 gpd/ft	8.82 ft/day

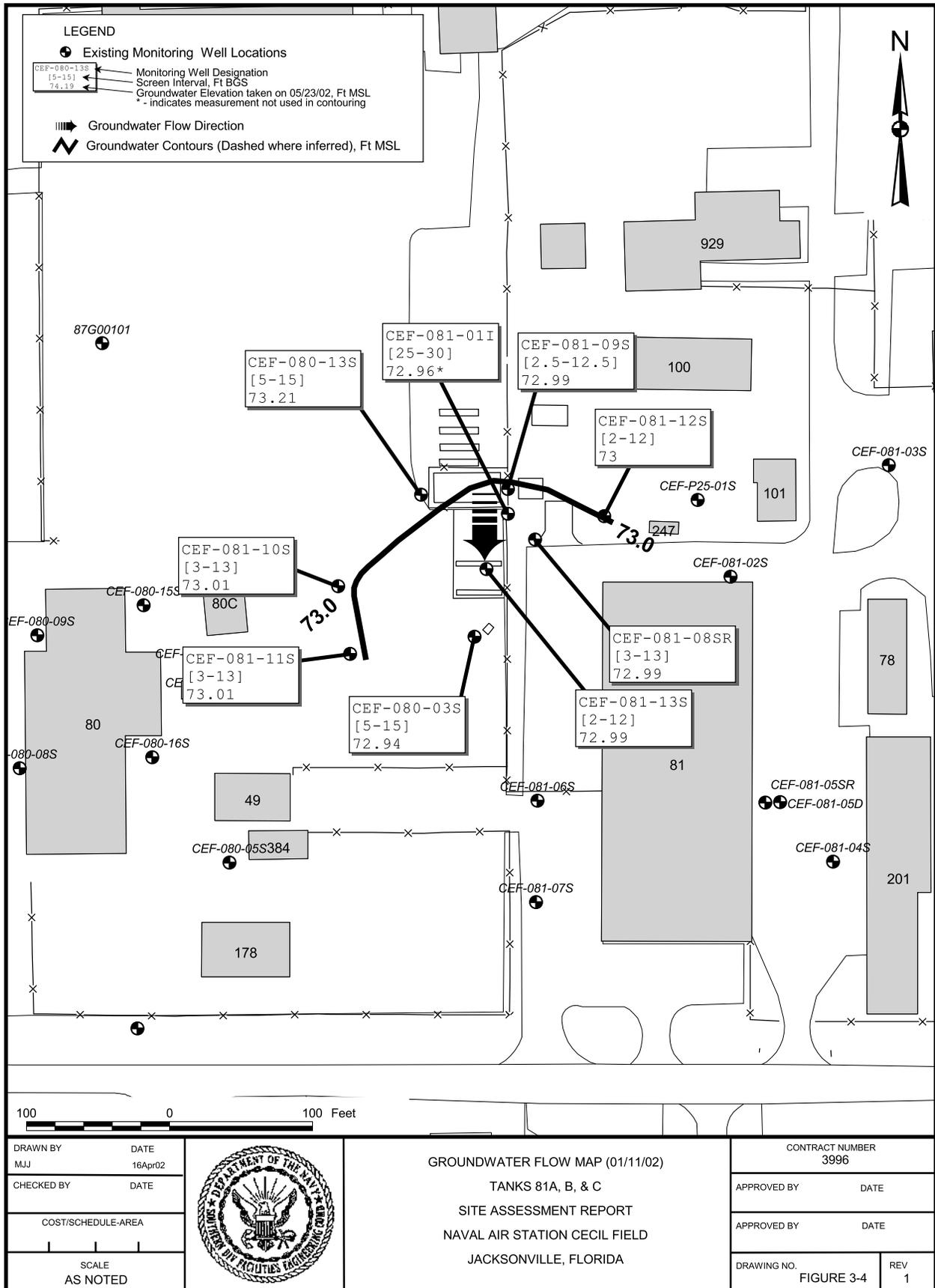
Notes:

gpm = gallons per minute
gpd = gallons per day

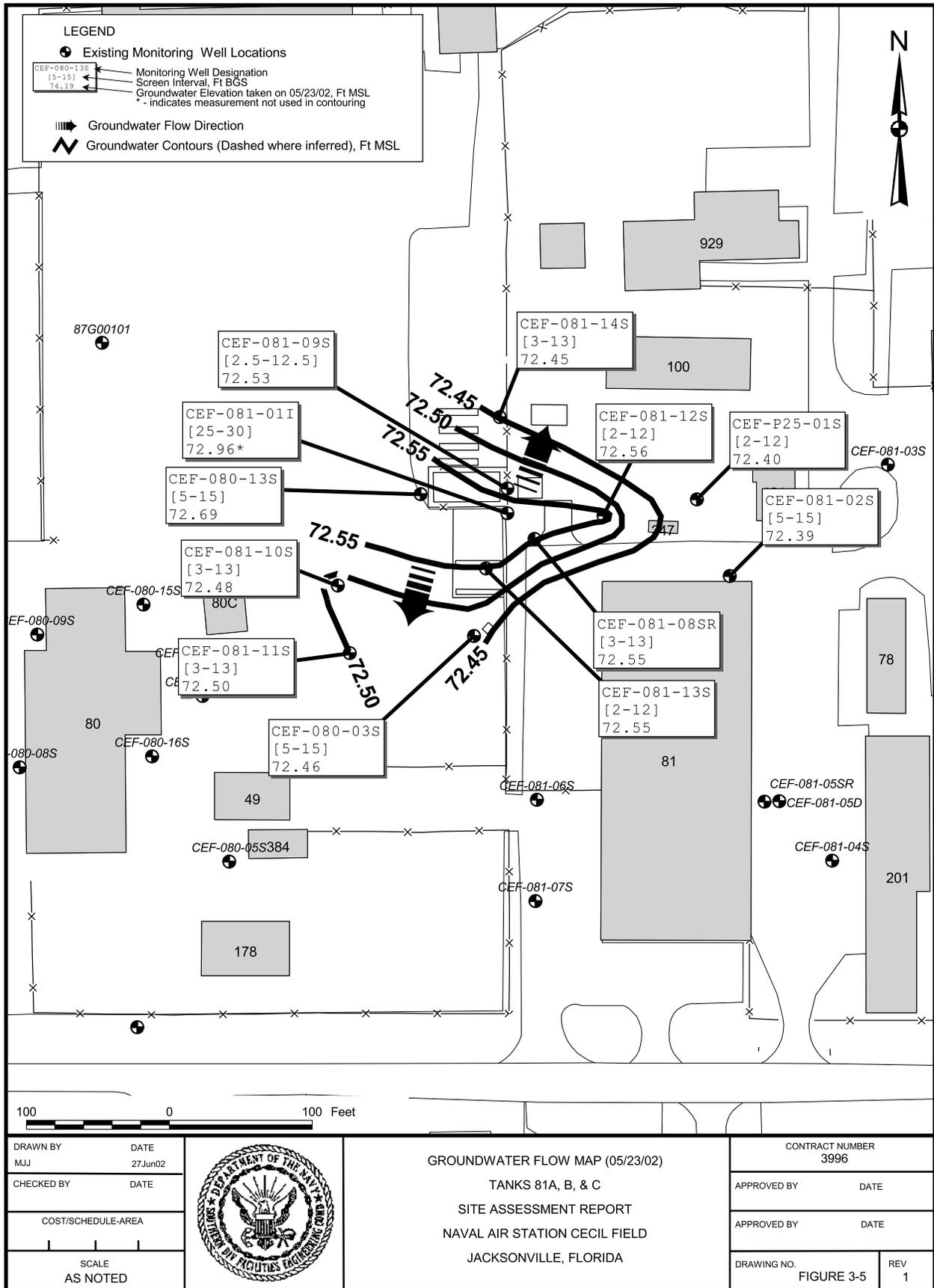
sec = seconds
 ft^2 = square feet/foot



P:\GIS\NAS_CecilField\PC25_Tanks81ABC-01.apr 27Jun02 MJJ 03_Potentiometric Layout



P:\GIS\NAS_CecilField\IPSC25_Tanks81ABC-01.apr 27Jun02 MJJ 04_Potentiometric Layout



P:\GIS\NAS_CecilField\PSC25_Tanks81ABC-01.apr 27Jun02 MJJ 05_Potentiometric Layout

Halford indicated that several wells from the same zone were tested in his study and their K value ranged from 0.6 to 5 ft per day. The average K value for this site is about 5.91 ft per day, which closely approximates Halford's upper estimate.

Using the average K value just presented, the velocity of groundwater flow through the materials underlying the site was estimated using a modified form of Darcy's equation:

$$V_h = K_h \times I/n_e$$

Where,

V_h = average horizontal velocity, ft-per-day

K_h = average horizontal hydraulic conductivity, feet-per-day

I = hydraulic gradient, feet-per-foot

n_e = effective porosity, dimensionless

The value for "I" was calculated from water level data and groundwater contours collected in December 2001 and May 2002. The approximate averaged value is 0.0025 feet per foot. The effective porosity was approximated at 0.15 for fine sands (TiNUS, 1999).

Using these values, the average V_h is estimated to be 0.0985 ft per day or 35.95 ft per year in the water table zone for this site. Groundwater velocities will vary depending on lateral and vertical aquifer permeability differences and seasonal fluctuations in the hydraulic gradient, and contaminant velocities will be further affected by the change in groundwater density.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 SOIL CONCLUSIONS AND RECOMMENDATIONS

Since the RAC removed the contaminated soil from the area around Building 81, Tanks 81 A, B, and C, TtNUS recommends NFA for the soil at the site.

4.2 GROUNDWATER CONCLUSIONS AND RECOMMENDATIONS

The concentrations of isopropylbenzene, naphthalene, 1,2,4-TMB and 1,3,5-TMB detected in the sample for well CEF-81-9S exceeded the respective GCTLs; however, those concentrations did not exceed the NADSCs for those COCs. The same COCs were not detected in the monitoring wells installed in the same zone around the source well. One of the COCs (1,2,4-TMB) was tentatively identified, but not confirmed in the vertical extent well. This information indicates that the petroleum plume is delineated to the well CEF-81-9S in the water table, and does not likely extend below the water table to the next zone.

Since all contaminated soil has been removed, and no free product was detected at the site, and the COC concentrations are below NADSCs, TtNUS recommends this site for natural attenuation monitoring for a period of five years in accordance with Chapter 62-770.690, FAC.

Based on variable groundwater flow, five groundwater monitoring wells are recommended for quarterly monitoring for the first year, followed by semi-annual monitoring for subsequent years. The five wells recommended for the monitoring program are as follows:

- Source well - CEF-81-9S
- Perimeter well - CEF-80-13S
- Perimeter well - CEF-81-8SR
- Perimeter well - CEF-81-12S
- Perimeter well - CEF-81-14S

The recommended groundwater analysis for samples from the five wells is USEPA Method SW 846 8260B for isopropylbenzene, naphthalene, 1,2,4-TMB and 1,3,5-TMB. The milestone objectives for the source well are recommended as follows:

Period	Isopropylbenzene	Naphthalene	1,2,4-TMB	1,3,5-TMB
End of Year 1	5.4 µg/L	24 µg/L	65 µg/L	17 µg/L
End of Year 2	4.1 µg/L	20.5 µg/L	50 µg/L	14 µg/L
End of Year 3	2.8 µg/L	17 µg/L	35 µg/L	11 µg/L
End of Year 4	1.6 µg/L	13.5 µg/L	20 µg/L	8 µg/L
End of Year 5	0.4 µg/L	10 µg/L	5 µg/L	5 µg/L

REFERENCES

ABB-ES (ABB Environmental Services, Inc.), 1994. "Base Realignment and Closure Environmental Baseline Survey Report", Naval Air Station (NAS) Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENCOM, North Charleston, South Carolina. November.

ABB-ES, 1998. "General Information Report, NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENCOM, North Charleston, South Carolina, August.

Bradbury, K.R. and Rothschild, E.R., 1985. "A Computerized Technique for Estimating the Hydraulic Conductivity of Aquifers from Specific Capacity Data", *Ground Water*, 23(2), pp. 240-246.

CCI (CH2M Hill Constructors, Inc.), 2001a. "Limited Closure Assessment and Source Removal Report – Oil/Water Separator (OWS) Removal at Building 80." NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENCOM, North Charleston, South Carolina. June.

CCI, 2001b. "Source Removal Report, Aboveground Storage Tank Closure/Contaminated Soil Excavation at Building 80 – Tank Numbers 80-132, 80-133, 80-134 and 80-135". NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENCOM, North Charleston, South Carolina. May.

CCI, 2001c. "Excavation of Benzo(a)pyrene, Pesticide, and PCB Contaminated Soil at Potential Source of Contamination 25 Former Transformer Storage Yard (Buildings 101 and 247)." NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENCOM, North Charleston, South Carolina. August.

Fetter, Jr., C.W., 1980. "Applied Hydrogeology". Charles E. Merrill Publishing Co., Columbus, Ohio.

Halford, K. J., 1998. "Ground-Water Flow in the Surficial Aquifer System and Potential Movement of Contaminants from Selected Waste-Disposal Sites at Cecil Field NAS, Jacksonville, Florida." U.S. Geological Survey Water-Resources Investigations Report 97-4278. Prepared in cooperation with the SOUTHNAVFACENCOM.

HLA (Harding Lawson Associates), 1999a. "Confirmatory Sampling Report (CSR), Building 80, Tanks 80-132, 80-133, 80-134, and 80-135." NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENCOM, North Charleston, South Carolina. April.

HLA, 1999b. "CSR, Building 80, Tank 80-OW2." NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. April.

HLA, 1999c. "CSR, Building 80, OWS 80-OW4." NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. August.

TtNUS (Tetra Tech NUS, Inc.), 1998. "Basewide Generic Work Plans Volumes I and II. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. October.

TtNUS, 1999. "Remedial Investigation Report for Site 36-Control Tower Plume and Site 37-Hangars 13 and 14 DCE Plume". NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. October.

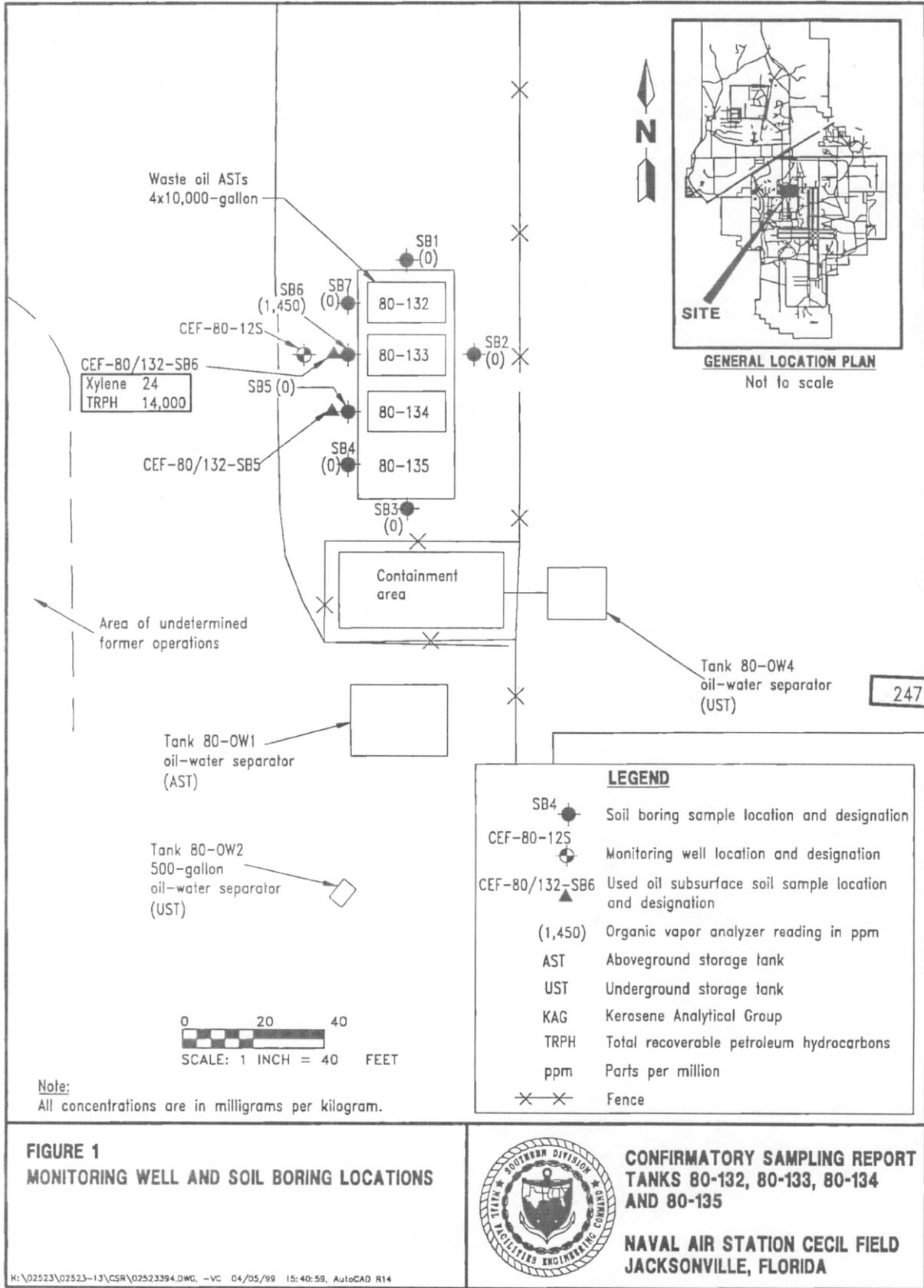
TtNUS, 2001a. "Remedial Investigation Report for Site 25 – Former Transformer Storage Yard," NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. February.

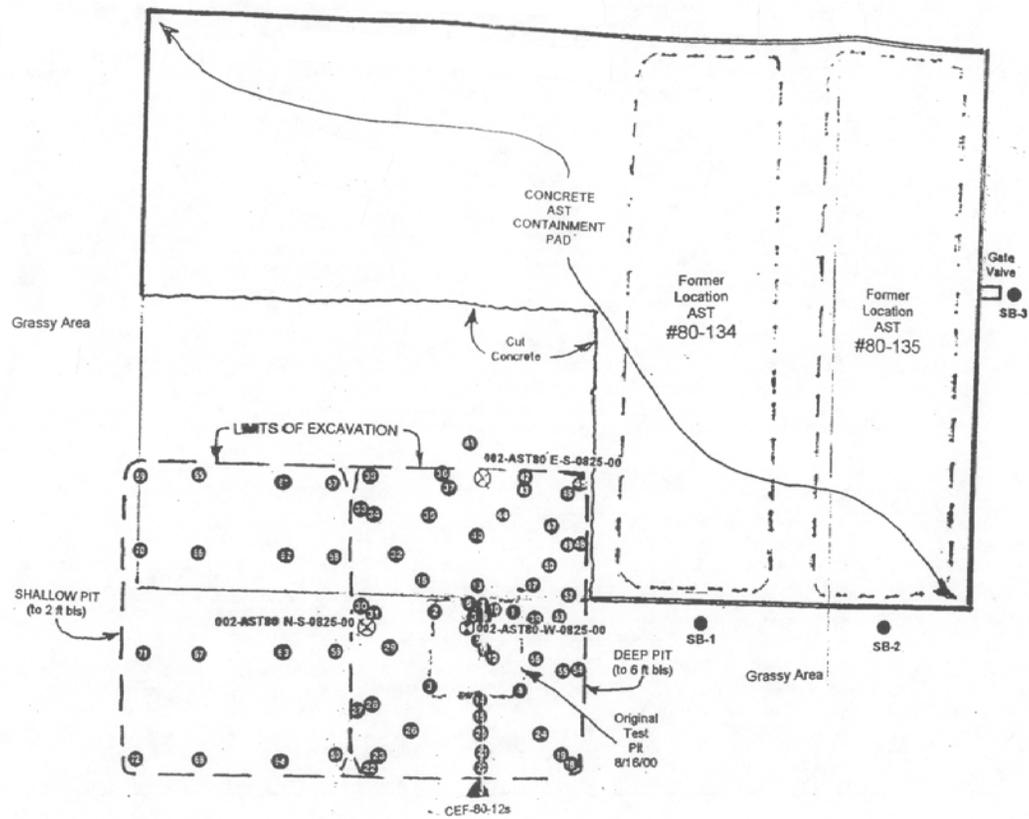
TtNUS, 2001b. "Action Memorandum for Site 25 – Former Transformer Storage Yard (Buildings 101 and 247) at NAS Cecil Field, Jacksonville, Florida." Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. April.

USEPA (U.S. Environmental Protection Agency), 1997. "Region 4 Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM)". Athens, GA Revised. May.

APPENDIX A

BUILDING 80, TANKS 80-132 THROUGH 80-135 DOCUMENTATION





- LEGEND
- ▲ EXISTING MONITORING WELL LOCATION
 - ⊕ GROUNDWATER SAMPLING LOCATION
 - ⊗ CONFIRMATORY SOIL SAMPLING LOCATION
 - OVA SOIL SAMPLING LOCATION

CH2MHILL

A042001001ATL - NASCed124.F18

Figure 2-1
Soil Excavation Area
Building 80 ASTs
NAS Cecil Field
Jacksonville, Florida



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

January 28, 2002

Commanding Officer
Mr. Nick Ugolini, Code ES242
SOUTHNAVFACENGCOM
Post Office Box 190010
North Charleston, SC 29419-0068

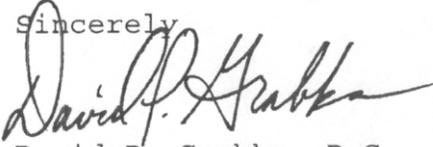
RE: Source Removal Report, Aboveground Storage Tank Removal at
Building 80, Tank Numbers 80-132, 80-133, 80-134 and 80-135,
Naval Air Station Cecil Field, Florida.

Dear Mr. Ugolini:

I have completed the technical review of the Source Removal Report, Aboveground Storage Tank Removal at Building 80, Tank Numbers 80-132, 80-133, 80-134 and 80-135, Naval Air Station Cecil Field, dated April 2001 (received May 10, 2001), prepared and submitted by CH2M Hill Constructors, Inc. I concur with the recommendation of no further action and that a further Site Assessment is not warranted under Chapter 62-770, Florida Administrative Code. The report adequately documents the closure of the above-referenced aboveground used oil storage tanks and the removal and proper disposal of 72.63 tons of contaminated soil. The source removal was conducted in response to the Department's July 9, 1999 comments on the April 1999 Confirmation Sampling Report concerning these tanks.

FDEP's concurrence is predicated on the information provided by the SOUTHNAVFACENGCOM. Therefore, any new information contradicting the basis for this concurrence, may require further investigation or remedial actions.

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

Sincerely,

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

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

Mr. Nick Ugolini
Source Removal Report
Building 80
Tanks 80-132, 80-133, 80-134 and 80-135
January 28, 2002
Page Two

cc: Brian Cheary, FDEP Northeast District
Debbie Vaughn-Wright, USEPA - Atlanta
John Flowe, City of Jacksonville
Scott Glass, SOUTHNAVFACENGCOM
Sam Ross, CCI

TJB T JJC JJC ESN ESN

APPENDIX B

BUILDING 80, TANK 80-OW2 DOCUMENTATION



Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

December 15, 1999

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Commanding Officer
Mr. Bryan Kizer, Code 1842
SOUTHNAVFACENGCOM
Post Office Box 190010
North Charleston, SC 29419-0068

RE: Confirmation Sampling Report, Revision 1, Building 80,
Tank 80-OW2, Naval Air Station Cecil Field, Florida.

Dear Mr. Kizer:

I have completed the technical review of the Confirmation Sampling Report, dated April 1999 (received April 23, 1999) submitted for the above-referenced site. FDEP concurs that additional assessment is warranted and will be included in PSC 25.

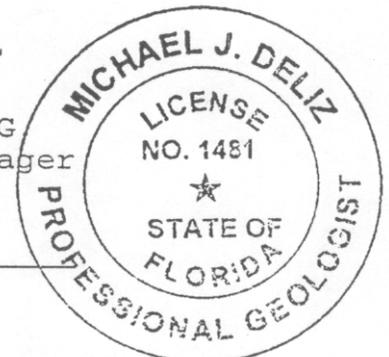
If you have any concerns regarding this letter, please contact me at (850) 921-9991.

Sincerely,

Michael J. Deliz, P.G.
Remedial Project Manager

15-DEC-99

Date



CC: Satish Kastury, FDEP
Debbie Vaughn-Wright, USEP, Atlanta
John Flowe, City of Jacksonville
Scott Glass, SOUTHNAVFACENGCOM
Mark Speranza, TtNUS, Pittsburgh
Mike Fitzsimmons, FDEP, Northeast District

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

3.0 Conclusions

The removal of OWS system 80-OWS at Building 80 was conducted on August 17, 2000. Prior to initiating the OWS removal activities, a visual inspection of the OWS system and surrounding areas was conducted, and no visible evidence of contamination was observed. The excavated OWS appeared to be in good conditions, with no holes or leaks observed. The OWS was rinsed and the residual liquid (rinseate) was recovered for disposal by vacuum tanker. The liquid (oily wastewater) generated from the field activities was staged in a holding tank along with liquid recovered from other OWS removals conducted as part of the project, were transported for disposal to Industrial Water Services, Inc., Jacksonville, Florida. The piping entering and exiting the OWS was cut and capped at the boundary of the excavation.

A total of 32.86 tons of non-hazardous petroleum-contaminated soil identified during the OWS system removal and subsequent source removal activities have been removed and thermally treated offsite. This soil was excavated from the OWS system area and from the area extending to the east of the former OWS system location. The soil was excavated to the water table, which was encountered at a depth of approximately 4.5 feet bls. Soil excavation was continued until the horizontal limits of the visual indications of contamination had been reached, and OVA headspace hydrocarbon concentrations were less than 10 ppm. The results of laboratory analysis of confirmatory soil samples collected from the limits of the excavation subsequent to completion of the soil excavation were below applicable SCTLs confirming that the applicable soil cleanup levels per Chapter 62-777 FAC have been achieved, and no further action for soil is warranted.

The results of the laboratory analysis of the groundwater samples collected indicated concentrations of petroleum compounds in excess of the applicable GCTLs and below the Natural Attenuation Default Source concentrations as specified in Chapter 62-777, FAC, Table I, including benzene ($4.1\mu\text{g/L}$), naphthalene ($154\mu\text{g/L}$), isopropylbenzene ($3.8\mu\text{g/L}$), and lead ($36\mu\text{g/L}$).

Based on the results of the laboratory analysis of the groundwater sample collected following the source removal activities at Building 80, OWS 80-OW2, additional assessment appears warranted to adequately define the extent of groundwater contamination at the site.

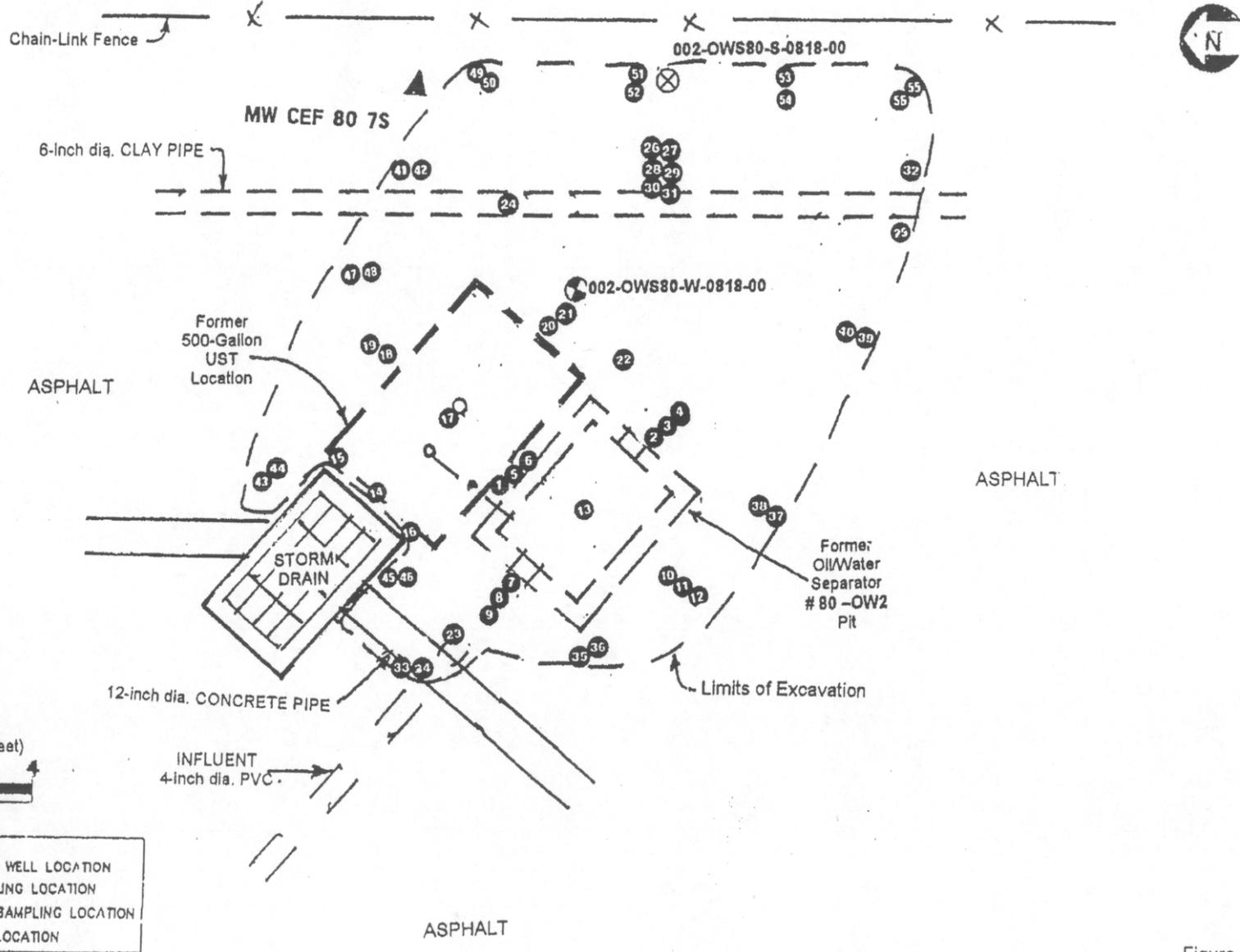
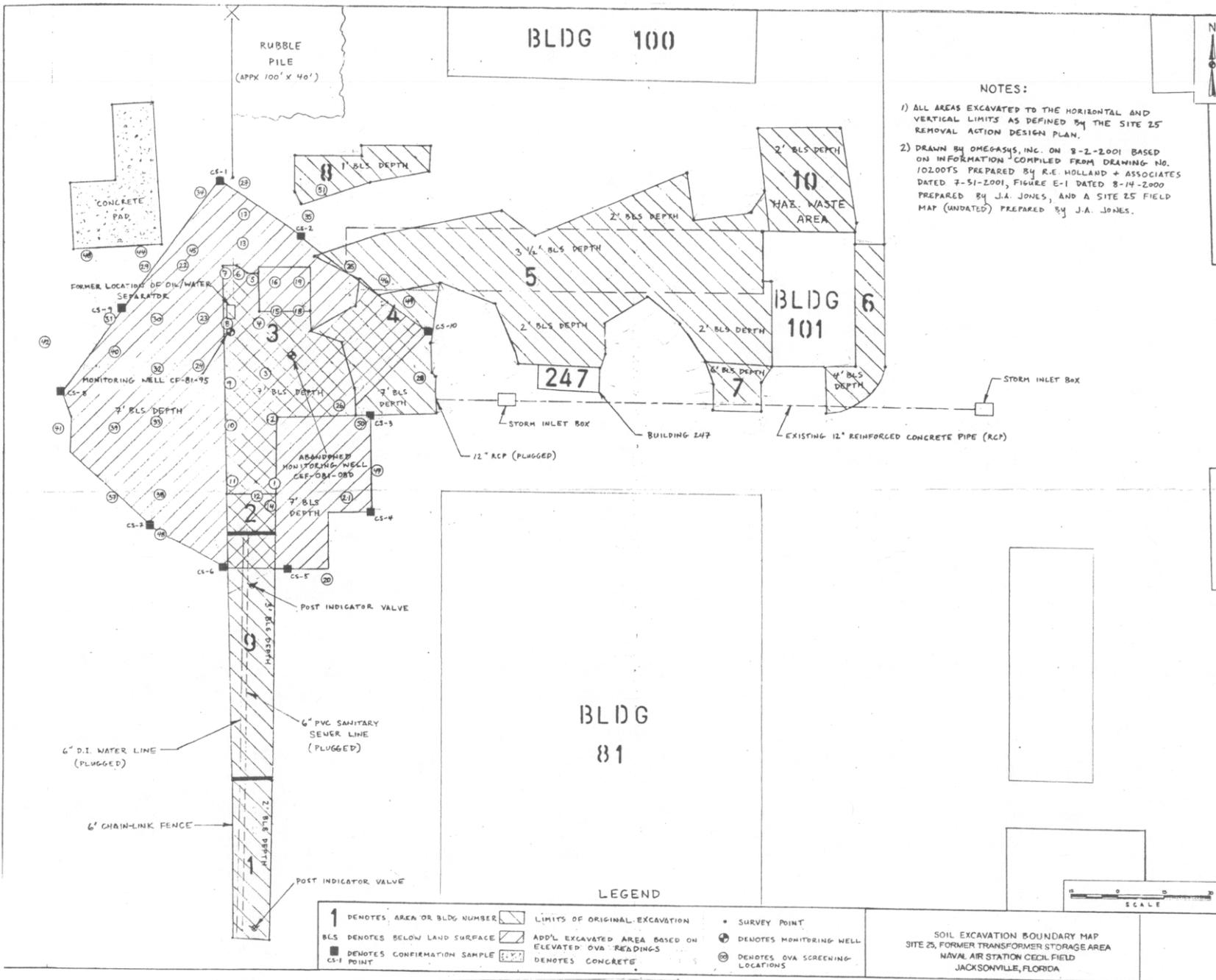


Figure 2-1
 Soil Excavation Area and Sampling Locations
 Building 80 OWS
 NAS Cecil Field
 Jacksonville, Florida

APPENDIX C

SITE 25 DOCUMENTATION



NOTES:

- 1) ALL AREAS EXCAVATED TO THE HORIZONTAL AND VERTICAL LIMITS AS DEFINED BY THE SITE 25 REMOVAL ACTION DESIGN PLAN.
- 2) DRAWN BY OMEGASH, INC. ON 8-2-2001 BASED ON INFORMATION COMPILED FROM DRAWING NO. 102.00TS PREPARED BY R.E. HOLLAND + ASSOCIATES DATED 7-51-2001, FIGURE E-1 DATED 8-14-2000 PREPARED BY J.A. JONES, AND A SITE 25 FIELD MAP (UNDATED) PREPARED BY J.A. JONES.

BLDG
81

LEGEND

1	DENOTES AREA OR BLDG NUMBER	[Hatched Box]	LIMITS OF ORIGINAL EXCAVATION	[Dot]	SURVEY POINT
BLS	DENOTES BELOW LAND SURFACE	[Diagonal Lines Box]	ADD'L EXCAVATED AREA BASED ON ELEVATED OVA READINGS	[Circle with Number]	DENOTES MONITORING WELL
[Square]	DENOTES CONFIRMATION SAMPLE CS-1 POINT	[Stippled Box]	DENOTES CONCRETE	[Circle with Number]	DENOTES OVA SCREENING LOCATIONS



SOIL EXCAVATION BOUNDARY MAP
SITE 25, FORMER TRANSFORMER STORAGE AREA
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

November 14, 2001
OFFICIAL CORRESPONDENCE

Commanding Officer
attn: Mr. Mark Davidson, Code ES339
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, SC 29419-9010

Dear Mr. Davidson:

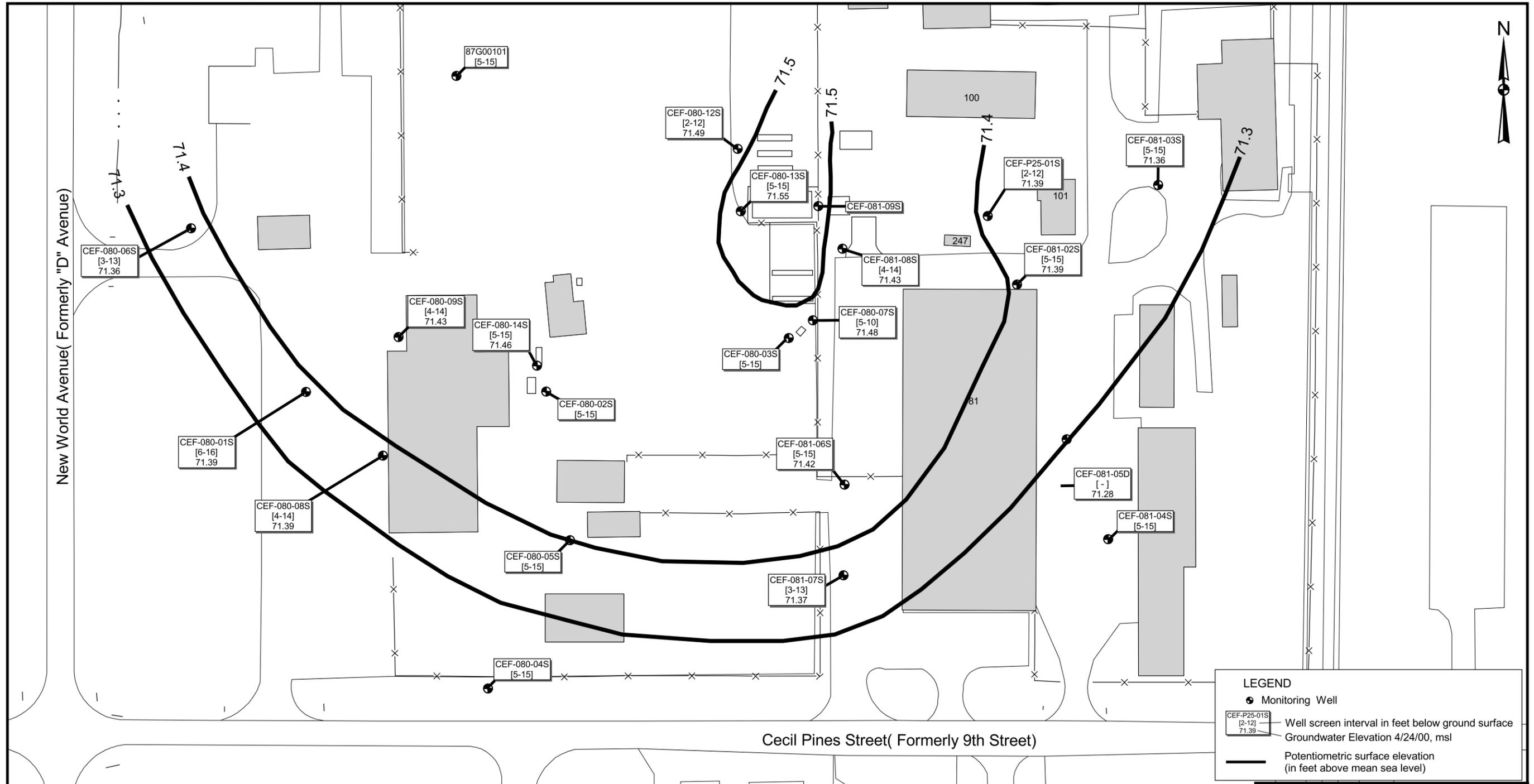
I have completed my review of the Source Removal Report, Excavation of Benzo(a)pyrene, Pesticide and PCB Contaminated Soil at Potential Source of Contamination 25, Former Transformer Storage Yard (Buildings 101 and 247), Naval Air Station Cecil Field, dated August 2001 (received August 31, 2001), prepared and submitted by CH2M Hill Constructors, Inc. I have a couple of comments that should be addressed before the report can be approved as final:

- (1) PSC 25 has been renamed Site 25 due to groundwater contamination detected at the site. It should be made clear somewhere in the report that PSC 25 was the former designation for Site 25. This should prevent any confusion that PSC 25 and Site 25 are separate sites.
- (2) Please submit the Waste Characterization for Soil (PEL #2101310), the Waste Characterization for Oily Groundwater Removed from Excavation (Kemron #L0106236, AAB #WG99245) and the Confirmatory Sample Analytical Reports (Kemron #WG97978, Kemron #WG98011).
- (3) Please submit a signed Certificate of Completion page.

This electronic message is being sent in lieu of regular mail. If you have any questions concerning this review, please contact me at (850)921-9991.

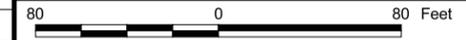
Sincerely,

David P. Grabka
Remedial Project Manager
MS4535
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Office: 850.488.3935
Direct: 850.921.9991
FAX: 850.922.4939
david.grabka@dep.state.fl.us



LEGEND

- Monitoring Well
- CEF-P25-01S [2-12] 71.39 — Well screen interval in feet below ground surface
- Groundwater Elevation 4/24/00, msl
- Potentiometric surface elevation (in feet above mean sea level)



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY MJJ	DATE 15Feb00
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE AS NOTED	



POTENTIOMETRIC SURFACE MAP
SITE 25
REMEDIAL INVESTIGATION REPORT
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO. 0039	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 4-2	REV. 0

APPENDIX D

WATER LEVEL MEASUREMENTS AND SURVEY DATA

Bldg 8100/CEF

5.23.02

N399K

MW SAMPLING/SURVEY/W.L. MEASUREMENTS

1550 - Back @ MW 145 after completing sampling @ B. 16.

BEG IN PURGING CEF-81-145

MORIBA . UZZ. # T0082020

PERISTALTIC GEOPUMP 2: # 328

WATER LEVEL - BOTHELL, WA. # 26347

(SEE GW SAMPLE LOG & LOW FLOW PURGE SHEET for -145)

130 - COLLECT SAMPLE (CEF-81-GW-145.01)

1650

SURVEY

WELL ID #	ROD READING	
	# 1	# 2
95	5.56	5.10
125	5.94	5.48
135	5.39	4.95
145	5.00	4.53

.40

.46

4.93 .40

.46

access

Elevation Calculation for CEF-81-145

Description	WELL (CEF-81)-0.	H. I.	+	-	Elev.
Known	95				77.72
Measurement at stick	95	83.28	5.56		
Measurement + check	125	83.28		5.94	77.34
					Note: registered survey elev. for 125' = 77.37.
Measurement + check	135	83.28		5.39	77.89
					Note: registered survey elev. for 135' = 77.91.
Measurement + check	145	83.28		5.00	78.28
					Note: used Rod reading #1 for + and - readings. This DATA consistently rendered differences in elev. of 0.02 to 0.03 feet. Therefore, the estimated reading of 78.28 for CEF-81-145 should be increased by at least 0.02 ft to 78.30.

H.I. = Height of instrument.

TETRA TECH
PSC 25
MONITORING WELLS
MARCH 2000

NORTHING	EASTING	DESCRIPTION	ELEVATION
2146524.03	375525.74	MW-87G00101	
		@ ASPHALT	77.87
		@ CONC.	77.87
		@ PVC	77.66
2146276.99	375596.06	MW-CEF-80-2S	
		@ ASPHALT	78.93
		@ CONC.	78.97
		@ PVC	78.57
2146319.02	375786.22	MW-CEF-80-3S	
		@ ASPHALT	77.80
		@ CONCRETE	77.85
		@ PVC	77.68
2146044.73	375550.40	MW-CEF-80-4S	
		@ GROUND	77.75
		@ CONC.	77.87
		@ PVC	77.66
2146160.90	375614.83	MW-CEF-80-5S	
		@ ASPHALT	78.43
		@ CONC.	78.53
		@ PVC	78.18
2146161.52	376036.59	MW-CEF-81-4S	
		@ ASPHALT	77.95
		@ CONC.	78.02
		@ PVC	77.84

PSC SITE 80
MONITORING WELL LOCATIONS

NORTHING	EASTING	DESCRIPTION	ELEVATION
2146276.78	375407.73	CEF-80-1S	
		ON ASPHALT	78.06
		TOP CONCRETE	78.08
		N.RIM TOP PVC	77.96
2146404.82	375317.70	CEF-80-6S	
		NATURAL GRND.	77.40
		TOP CONCRETE	77.44
		N.RIM TOP PVC	76.75
2146332.70	375805.18	CEF-80-7S	
		ON ASPHALT	77.58
		TOP CONCRETE	77.59
		N.RIM TOP PVC	77.27
2146226.88	375468.18	CEF-80-8S	
		ON ASPHALT	78.91
		TOP CONCRETE	78.95
		N.RIM TOP PVC	78.58
2146319.77	375480.35	CEF-80-9S	
		ON ASPHALT	78.83
		TOP CONCRETE	78.90
		N.RIM TOP PVC	78.64
2146467.02	375746.30	CEF-80-12S	
		NATURAL GRND.	78.60
		TOP CONCRETE	78.75
		N.RIM TOP PVC	78.54
2146418.27	375748.71	CEF-80-13S	
		NATURAL GRND.	78.40
		TOP CONCRETE	78.50
		N.RIM TOP PVC	78.17
2146297.30	375588.98	CEF-80-14S	
		ON ASPHALT	78.90
		TOP CONCRETE	78.93
		N.RIM TOP PVC	78.57

tank81_06-22-01

TETRA TECH NUS
CECIL FIELD ADDITIONAL
SOIL SAMPLE LOCATIONS
SITE BUILDING 81/tank 81
SURVEY DATE: 06/22/01
JOB NUMBER: 00-01-15

NORTHING (NAD83)	EASTING (NAD83)	DESCRIPTION	ELEVATION (NAVD88)
2146422.24	375809.37	CEF-81-9S	
		CONCRETE PAD	78.13
		GROUND	78.0
		N SIDE PVC	77.72

PSC81_17dec01

2,2146386.861,375828.573,77.878,CEF-81-8SR
 TETRA TECH NUS
 CECIL FIELD PSC81
 EXISTING WELL LOCATIONS
 SURVEY DATE 12/17/2001
 ARC JOB No. 00-01-15

DESCRIPTION	NORTHING(Y)	EASTING(X)	ELEVATION
CEF-81-8SR	2146386.86	375828.57	TOP OF CASING 77.61
			CONCRETE 77.86
			GROUND 77.7
CEF-81-1I	2146404.800	375809.49	TOP OF CASING 77.73
			CONCRETE 78.08
			GROUND 77.9
CEF-81-10S	2146354.061	375690.69	TOP OF CASING 78.46
			CONCRETE 78.70
			ASPHALT 78.67
CEF-81-11S	2146306.717	375699.06	TOP OF CASING 78.47
			CONCRETE 78.66
			ASPHALT 78.65
CEF-81-12S	2146403.345	375876.82	TOP OF CASING 77.37
			CONCRETE 77.71
			GROUND 77.7
CEF-81-13S	2146366.127	375794.43	TOP OF CASING 77.91
			CONCRETE 72.29
			GROUND 78.2

PSC SITE 81
MONITORING WELL LOCATIONS

NORTHING	EASTING	DESCRIPTION	ELEVATION
2146360.93	375965.15	CEF-81-2S	
		ON ASPHALT	78.47
		TOP CONCRETE	78.58
		N.RIM TOP PVC	78.41
2146438.73	376075.89	CEF-81-3S	
		NATURAL GRND.	78.50
		TOP CONCRETE	78.54
		N.RIM TOP PVC	78.18
2146203.33	375999.73	CEF-81-5S	
		ON ASPHALT	78.49
		TOP CONCRETE	78.50
		N.RIM TOP PVC	78.13
2146204.15	375829.94	CEF-81-6S	
		ON ASPHALT	78.13
		TOP CONCRETE	78.20
		N.RIM TOP PVC	77.63
2146133.34	375829.15	CEF-81-7S	
		ON ASPHALT	78.06
		TOP CONCRETE	78.11
		N.RIM TOP PVC	77.56
2146388.68	375828.43	CEF-81-8S	
		NATURAL GRND.	77.70
		TOP CONCRETE	77.86
		TOP PVC	77.61

APPENDIX E

WELL COMPLETION REPORT FOR CEF-81-8SR

APPENDIX F

BORING LOGS



BORING LOG

PROJECT NAME: Bldg. 81 A/B/C BORING NUMBER: CEF. 81-105
 PROJECT NUMBER: N 3996 DATE: 12-3-01
 DRILLING COMPANY: TRANSAMERICAN GEOLOGIST: L. KNIGHT
 DRILLING RIG: GEOPROBE (ADVANCE 66DT) DRILLER: D. NEARN

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	Sampler BZ	Borehole**	Driller BZ**	
				0-1			ASPHALT							
				4			SAND: FINE; brown-gray; pale yellow; mottled orange-brown							
				8			SILTY SAND; FINE; ORANGE							
				13			SAND: FINE; light orange-brown							
				13.5'			EOB							

* 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): 8-6

Converted to Well: Yes No _____ Well I.D. #: CEF. 81-105



BORING LOG

PROJECT NAME: Bldg. 81A/B/C BORING NUMBER: CEF. 81-115
 PROJECT NUMBER: N3996 DATE: 12.3.01
 DRILLING COMPANY: TRANSAMERICAN GEOLOGIST: L. KNIGHT
 DRILLING RIG: GEO PROBE (TRACK MOUNTED) DRILLER: D. HEARN

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	Sampler BZ	Borehole**	Driller BZ**	
				0.1 0.3			ASPHALT ROAD BASE							
							SAND; F/VE; brown. gray, tan, yellow-brown							
				4			SILTY SAND; F/VE; yellow-orange							
				8			SAND; VE/F; pale brownish pink; pale orange-brown							
				13			13.5' EOB							

* 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): 14.6

Converted to Well: Yes

No

Well I.D. #: CEF. 81-115

BORING LOG



Tetra Tech NUS, Inc.

Page 1 of 1

PROJECT NAME: NAS CECIL FIELD BORING NO.: CEF-81-145
 PROJECT NUMBER: N3996 JG0050385 DATE: 5.21.02
 DRILLING COMPANY: PARTRIDGE GEOLOGIST: LOUIS KNIGHT
 DRILLING RIG: _____ DRILLER: _____

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	Sampler BZ	Borehole**	Driller BZ**					
				0.2 - 0.7														
				2.0														
				4.0														
				7.0														
				14														

* When rock α _____ or rock brokenness.
 ** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____ Drilling Area Background (ppm): 0

Converted to Well: Yes No _____ Well I.D. #: CEF-81-145

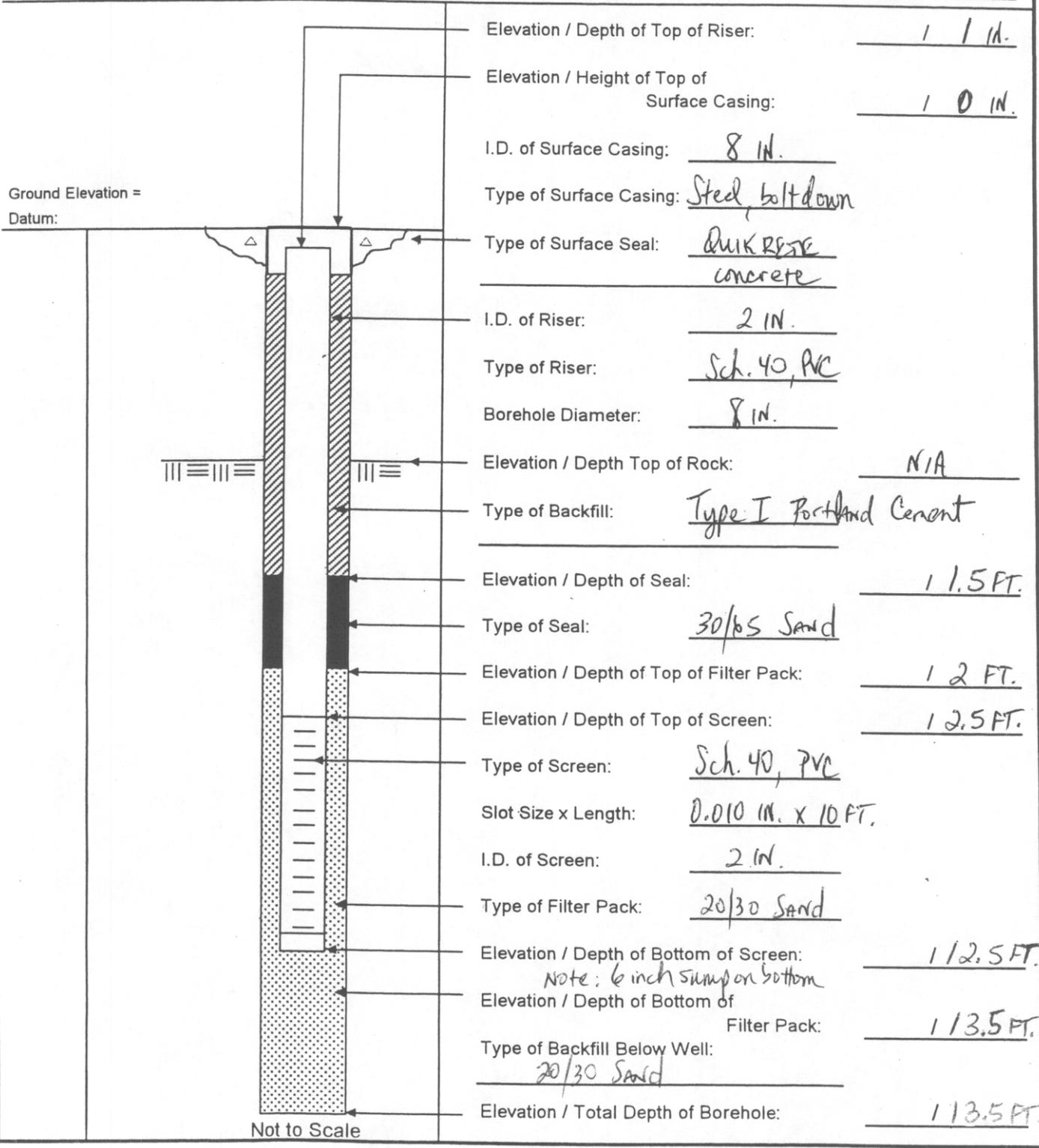
APPENDIX G

MONITORING WELL CONSTRUCTION SHEETS



MONITORING WELL SHEET

PROJECT: NAS CECIL FIELD DRILLING Co.: Groundwater PROTECTION
 PROJECT No.: ~~0039~~ 3996 DRILLER: G. WAGNER BORING No.: 005
 SITE: JETC DRILLING METHOD: Hollow Stem DATE COMPLETED: 6/1/01
 GEOLOGIST: M. DALE DEV. METHOD: Submersible NORTHING: _____
 EASTING: _____



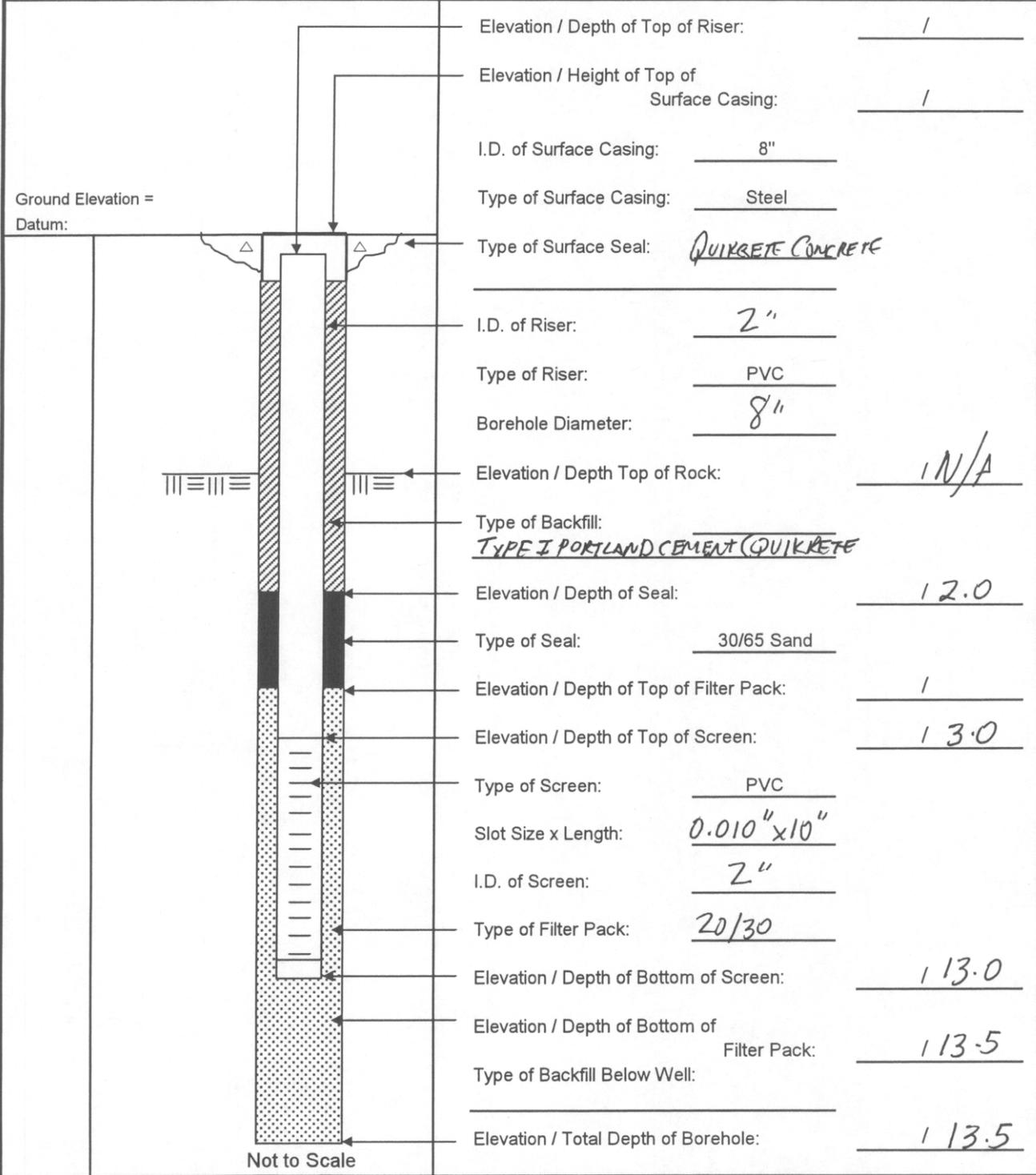


Tetra Tech NUS, Inc.

WELL No.: CEF-81-105

MONITORING WELL SHEET

PROJECT: Bldg. 81A/B/C DRILLING Co.: TRANSAMERICAN BORING No.: CEF-81-105
 PROJECT No.: N3996 DRILLER: D. HEARNE DATE COMPLETED: 12.3.01
 SITE: Bldg. 81 DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: L. KNIGHT DEV. METHOD: PERISTALTIC EASTING: _____



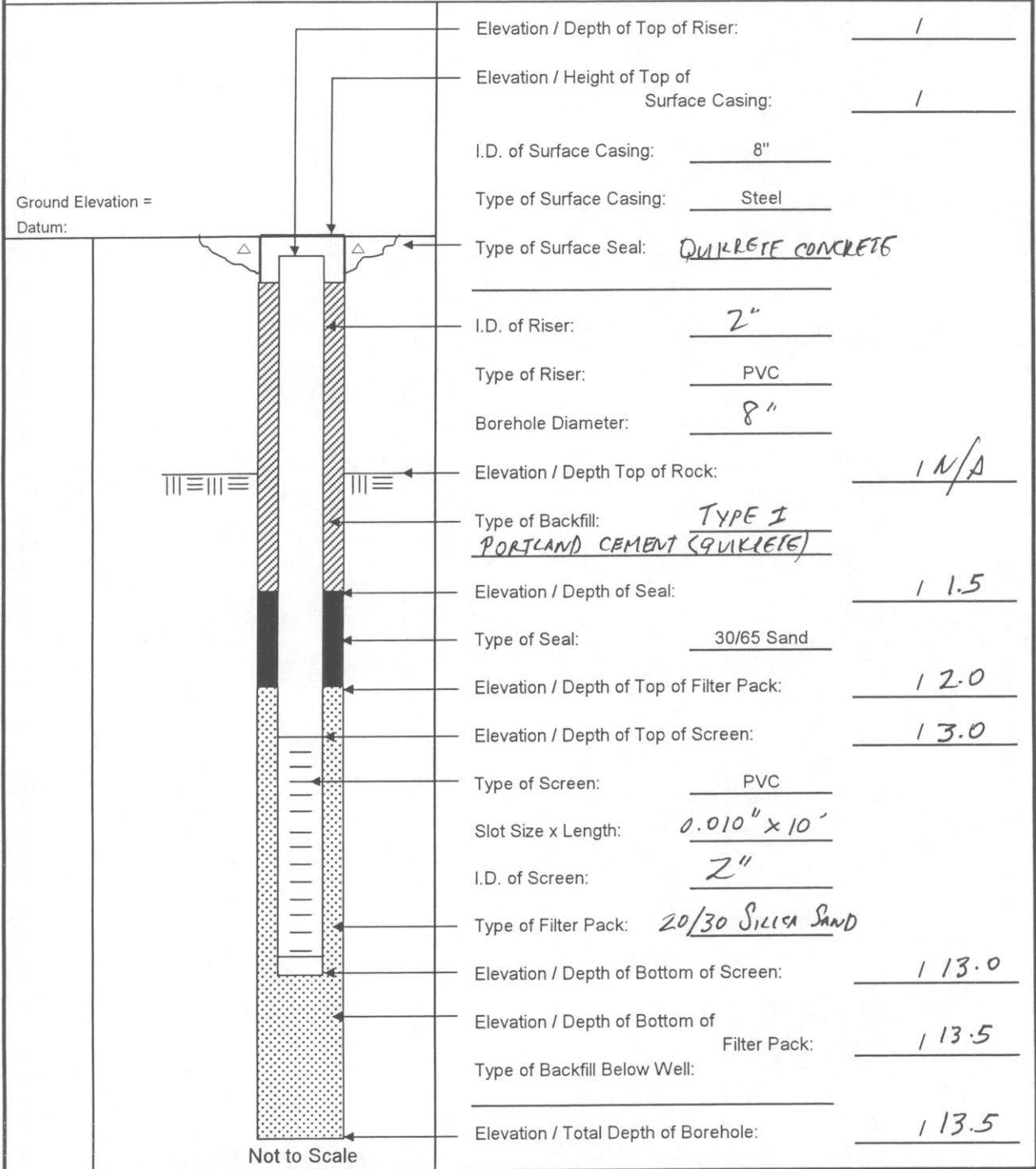


Tetra Tech NUS, Inc.

WELL No.: CEP. 81-115

MONITORING WELL SHEET

PROJECT: Bldg. 81 A/B/C DRILLING Co.: TRANSAMERICAN BORING No.: 41-81-115
 PROJECT No.: N3992 DRILLER: D. HEARNE DATE COMPLETED: 12.3.01
 SITE: Bldg. 81 (CEP) DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: L. KNIGHT DEV. METHOD: PERISTALTIC EASTING: _____





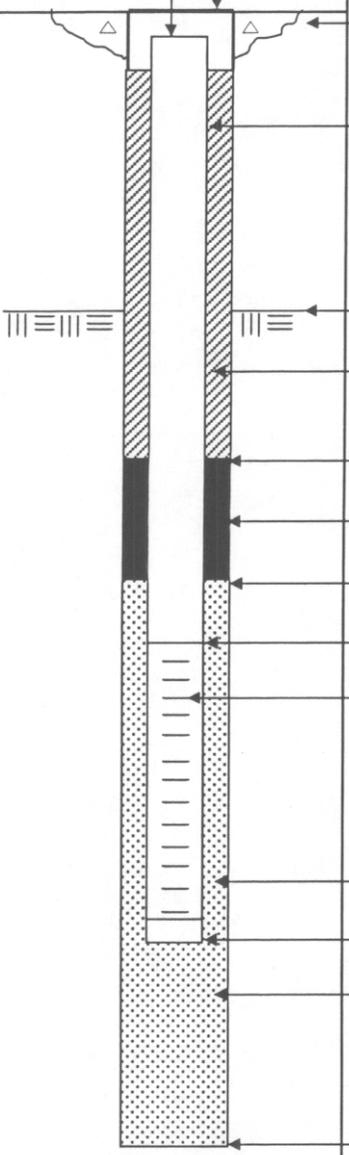
MONITORING WELL SHEET

PROJECT: Bldg. 81 A/BK DRILLING Co.: TRANSAMERICAN BORING No.: CEF-81-125
 PROJECT No.: N3996 DRILLER: D. HEARNE DATE COMPLETED: 12-3-01
 SITE: Bldg. 81 DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: L. KNIGHT DEV. METHOD: PERISTALTIC EASTING: _____

Elevation / Depth of Top of Riser: 1
 Elevation / Height of Top of Surface Casing: 1
 I.D. of Surface Casing: 8"
 Type of Surface Casing: Steel
 Type of Surface Seal: QUIKRETE CONCRETE
 I.D. of Riser: 2"
 Type of Riser: PVC
 Borehole Diameter: 8"
 Elevation / Depth Top of Rock: 1 N/A
 Type of Backfill: TYPE I PORTLAND CEMENT (QUIKRETE)
 Elevation / Depth of Seal: 10.5
 Type of Seal: 30/65 Sand
 Elevation / Depth of Top of Filter Pack: 11.0
 Elevation / Depth of Top of Screen: 12.0
 Type of Screen: PVC
 Slot Size x Length: 0.010" x 10'
 I.D. of Screen: 2"
 Type of Filter Pack: 20/30 SILICA SAND
 Elevation / Depth of Bottom of Screen: 112.0
 Elevation / Depth of Bottom of Filter Pack: 112.5
 Type of Backfill Below Well: _____
 Elevation / Total Depth of Borehole: 112.5

Ground Elevation = Datum:

Not to Scale





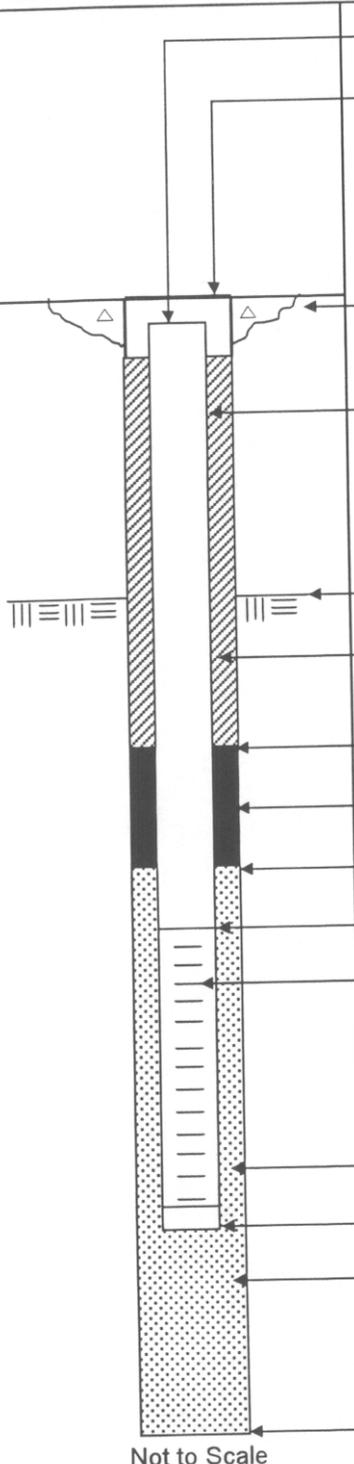
Tetra Tech NUS, Inc.

WELL No.: CEF-881-135

MONITORING WELL SHEET

PROJECT: N3996 DRILLING Co.: TRANS AMERICAN BORING No.: CEF-881-135
 PROJECT No.: Bldg 81A/B/C DRILLER: DAVID HEARNE DATE COMPLETED: 12.4.01
 SITE: Bldg. 81 DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: L. KNIGHT DEV. METHOD: PENISTALCTIC EASTING: _____

Ground Elevation =
Datum:



Elevation / Depth of Top of Riser: 1
 Elevation / Height of Top of Surface Casing: 1
 I.D. of Surface Casing: 8"
 Type of Surface Casing: Steel
 Type of Surface Seal: QUIKRETE CONCRETE
 I.D. of Riser: 2"
 Type of Riser: PVC
 Borehole Diameter: 8"
 Elevation / Depth Top of Rock: 1
 Type of Backfill: TYPE I PORTLAND CEMENT (QUIKRETE)
 Elevation / Depth of Seal: 10.5
 Type of Seal: 30/65 Sand
 Elevation / Depth of Top of Filter Pack: 11.0
 Elevation / Depth of Top of Screen: 12.0
 Type of Screen: PVC
 Slot Size x Length: 0.010" x 10'
 I.D. of Screen: 2"
 Type of Filter Pack: 20/30 SILICA SAND
 Elevation / Depth of Bottom of Screen: 112.0
 Elevation / Depth of Bottom of Filter Pack: 112.5
 Type of Backfill Below Well: _____
 Elevation / Total Depth of Borehole: 112.5

Not to Scale



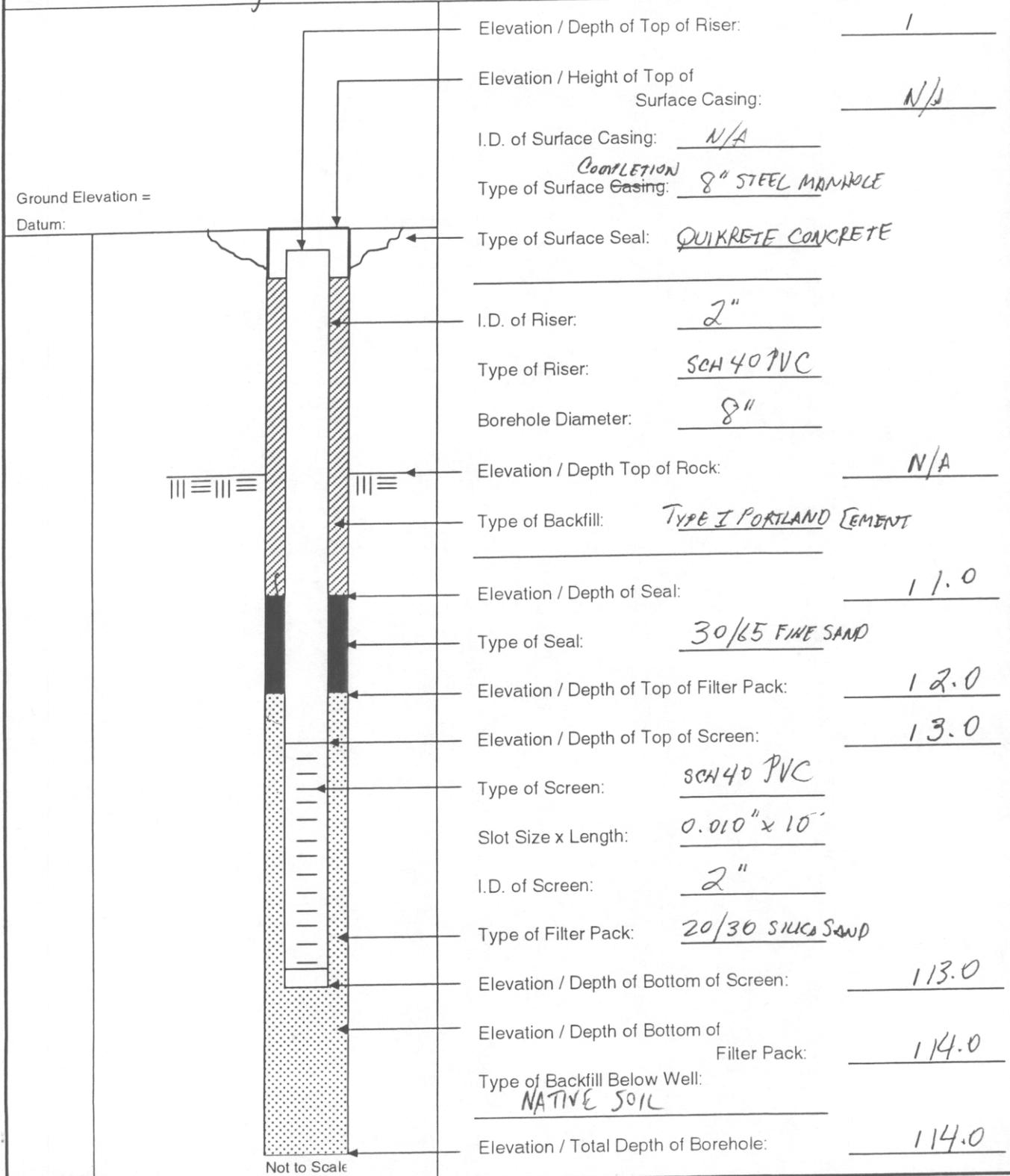
Tetra Tech NUS, Inc.

WELL No.:

CEF-81-145

MONITORING WELL SHEET

PROJECT: NAS CECIL FIELD DRILLING Co.: Partridge BORING No.: SB-145
 PROJECT No.: N3996 DRILLER: M. NICHOLSON DATE COMPLETED: 5-21-02
 SITE: TANKS 81 ABC DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: L. Knight DEV. METHOD: Submersible EASTING: _____



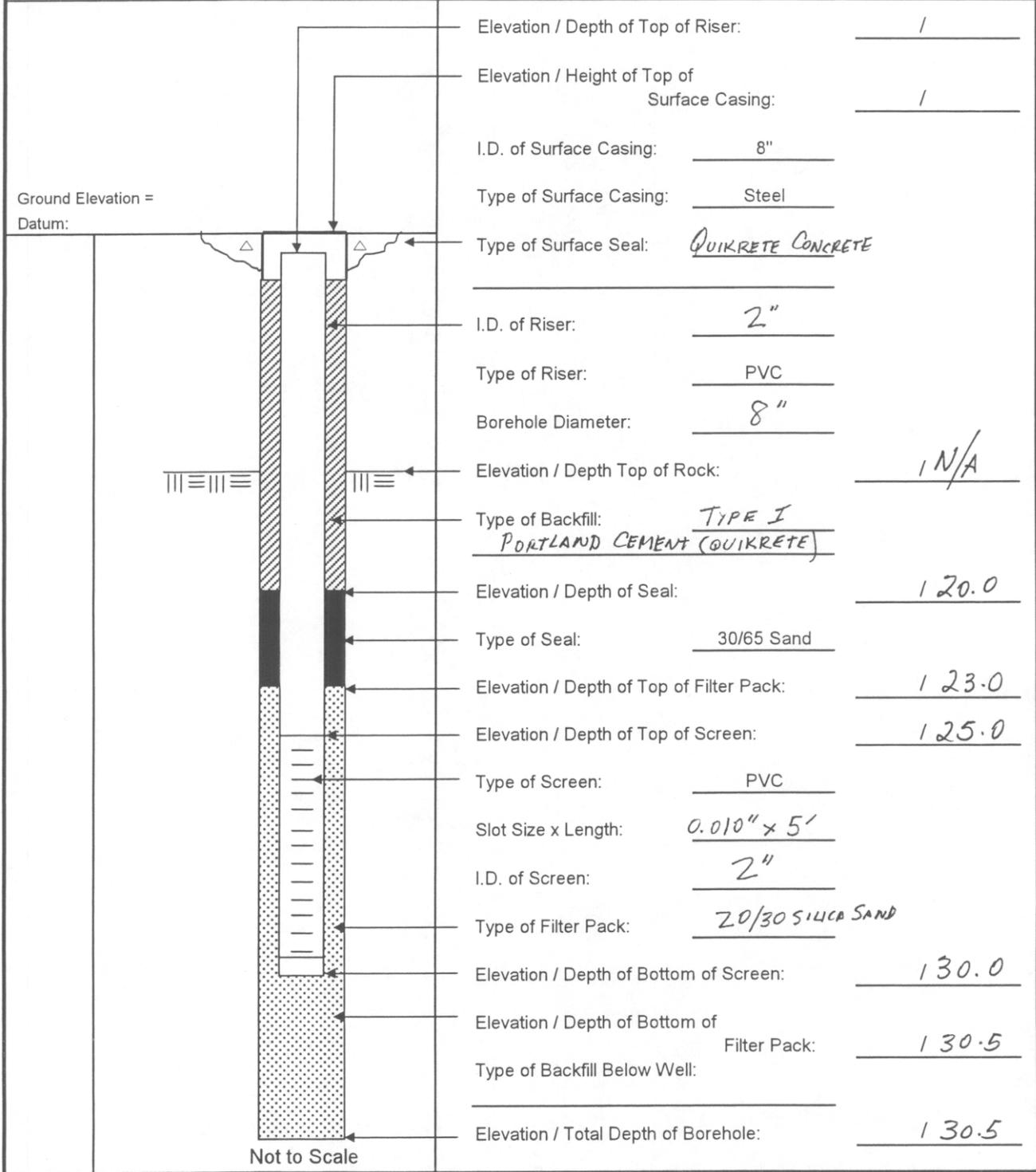


Tetra Tech NUS, Inc.

WELL No.: CEF-81-11

MONITORING WELL SHEET

PROJECT: B.81 A/B/C DRILLING Co.: TRANSAMERICAN BORING No.: W-81-11
 PROJECT No.: N3996 DRILLER: DAVID HEARNE DATE COMPLETED: 12.4.01
 SITE: Bldg. 81 DRILLING METHOD: HSA NORTHING: _____
 GEOLOGIST: L. KNIGHT DEV. METHOD: PERISTALTIC EASTING: _____



APPENDIX H

CERTIFICATES OF CONFORMANCE



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-81-9S
 Site Name: TANK 81ABC, CECIL FIELD
 Date Installed: 6/1/01
 Project Name: TANK 81ABC, CSR

Site Geologist: MERVIN W. DALE
 Drilling Company: GROUNDWATER PROTECTION
 Driller: GARY WAGNER
 Project Number: N3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	PVC, Sch. 40, 2 IN. DIAM.	LAIBE, INDIANAPOLIS, IN.	NO
Well Screen	PVC, Sch. 40, 2 IN. DIAM., 0.010 IN. SLOTS	LAIBE, INDIANAPOLIS, IN.	NO
End Cap (Bottom Sump)	PVC, Sch. 40, 2 IN. DIAM., 6 IN. LONG	LAIBE, INDIANAPOLIS, IN.	NO
Drilling Fluid	None		
Drilling Fluid Additives	None		
Backfill Material	None		
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	Type I PORTLAND Cement	HOLNAM, TAMPA, FL	NO
Surface Cement	QUIKRETE CONCRETE	QUIKRETE COMPANIES, ATLANTA, GA	NO
Protective Casing	8 in. Steel bolt-down manhole	Toney Drilling Supply, ORLANDO, 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: Mervin W. Dale



MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE

Well Designation: CEF. 81-10S
Site Name: Bldg. 81 ABC
Date Installed: 12.3.01
Project Name: Bldg. 81 ABC SAR

Site Geologist: LOUIS KNIGHT
Drilling Company: TRANSAMERICAN
Driller: D. HEARNE
Project Number: N 3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" SCH 40 PVC	TONEX DRILLING SUPPLIES / ORLANDO, FL	NO
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 CHOKESAND	STANDARD / 30-65 SILICA SAND	STANDARD SAND CO.	
Annular Grout	QUIKRETE - TYPE 2 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	
MANHOLE (8" DIAM)	PETROLEUM EQUIPMENT MANUFACTURING Co (PEMCO)	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: Louis Knight



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF. 81-11S
 Site Name: Bldg. 81 ABC
 Date Installed: 12.3.01
 Project Name: Bldg 81 ABC SAR

Site Geologist: LOUIS KNIGHT
 Drilling Company: TRANSAMERICAN
 Driller: D. HEARNE
 Project Number: 490 N3996
 (2)

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" SCH 40 PVC	TONEX DRILLING SUPPLIES / ORLANDO, FL	NO
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 CLAY 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	
MANHOLE (8" DIAM)	PETROLEUM EQUIPMENT MANUFACTURING Co (PEMCO)	TONEX DRILLING SUPPLIES / ORLANDO, FL	V

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: _____

Louis Knight



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF. 81-125
 Site Name: Bldg 81 ABC
 Date Installed: 12.3.01
 Project Name: Bldg 81 ABC SAR

Site Geologist: LOUIS KNIGHT
 Drilling Company: TRANSAMERICAN
 Driller: D. HEARNE
 Project Number: 19996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" SCH 40 PVC	TONEX DRILLING SUPPLIES / ORLANDO, FL	NO
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 CHOKESAND	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	
MANHOLE (8" DIAM)	PETROLEUM EQUIPMENT MANUFACTURING Co (PEMCO)	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: _____

Louis Knight



MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE

Well Designation: CEE-81-13S
Site Name: Bldg 81 ABC
Date Installed: 12.4.01
Project Name: Bldg. 81 SAR

Site Geologist: LOUIS KNIGHT
Drilling Company: TRANSAMERICAN
Driller: D. HEARNE
Project Number: N3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" SCH 40 PVC	TONEX DRILLING SUPPLIES / ORLANDO, FL	NO
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 CHOKESAND	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	
MANHOLE (8" DIAM)	PETROLEUM EQUIPMENT MANUFACTURING Co (PEMCO)	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: Louis Knight



**MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE**

Well Designation: CEF-81-145
 Site Name: Bldg. 81, TANKS 81 ABC
 Date Installed: 5/21/02
 Project Name: TANKS 81 ABC, SAR

Site Geologist: Louis Knight
 Drilling Company: PARTRIDGE
 Driller: Mike Nicholson
 Project Number: N3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" SCH 40 PVC	TONEY DRILLING SUPPLIES, ORL. FL.	No
Well Screen	2" SCH 40 PVC	↓	↓
End Cap	2" SCH 40 PVC		
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 <i>Fine Sand</i>	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	8" bolt down manhole steel (PEMCO)	Toney Drilling Supply, Ork., FL	
Paint	N/A	N/A	
Rod Lubricant	N/A	N/A	
Compressor Oil	N/A	N/A	
			↓

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: *Louis Knight*



MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE

Well Designation: CEF-81-11
Site Name: Bldg. 81 ABC
Date Installed: 12-4-01
Project Name: Bldg. 81 ABC SAR

Site Geologist: LOUIS KNIGHT
Drilling Company: TRANSAMERICAN
Driller: D. HEARNE
Project Number: N 3996

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	2" SCH 40 PVC	TONEX DRILLING SUPPLIES / ORLANDO, FL	NO
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 CHOKESAND	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	
MANHOLE (8" DIAM)	PETROLEUM EQUIPMENT MANUFACTURING Co (PEMCO)	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: Louis Knight

APPENDIX I

MONITORING WELL DEVELOPMENT RECORDS

$$\frac{3}{3} = \frac{55}{55} \quad 3 \frac{10}{20} \frac{18}{2}$$



Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: CEF-81-125 Depth to Bottom (ft.): 11.55 Responsible Personnel: M. O'Neill
 Site: B.81 Static Water Level Before (ft.): 4.01 Drilling Co.: Trans American
 Date Installed: 12/03/01 Static Water Level After (ft.): 4.06 Project Name: NAS CECIL FIELD
 Date Developed: 12/06/01 Screen Length (ft.): 10' Project No.: N3996
 Dev. Method: Pump Specific Capacity: N/A Geologist:
 Pump Type: Submersible Casing ID (in.): 2 PID READING: 0.0 ppm

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units: mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
0748	2'		4.01					creamy tan ^{mild} odor
0751			9.90	22.75	5.76	0.411	>K	med. tan
0759		18		22.87	5.97	0.249	>K	clearing up
0802		25	10.68	22.87	5.99	0.271	926.0	cloudy tan
0805		32		22.88	5.98	0.261	800.0	clear tan
0808		36	10.91	22.88	5.98	0.258	599.0	" "
0812		42		22.88	5.99	0.254	523.0	" "
0816		48	10.93	22.88	6.00	0.251	462.0	" "
0820		55		22.87	6.00	0.249	420.0	" "
	end development							



MONITORING WELL DEVELOPMENT RECORD

Well: LEF-80-13⁹ Depth to Bottom (ft.): 11.99 Responsible Personnel: M. O'Neill
 Site: B.81 Static Water Level Before (ft.): 4.41 Drilling Co.: Trans American
 Date Installed: 12/04/01 Static Water Level After (ft.): 4.41 Project Name: NAS CECIL FIELD
 Date Developed: 12/06/01 Screen Length (ft.): 10' Project No.: N3996
 Dev. Method: Pump Specific Capacity: N/A PID reading 2.2 ppm
 Pump Type: Submersible Casing ID (in.): 2 Geologist: L. KNIGHT

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units: mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)	
0904	/	/	4.41	/	/	/	/	creamy tan	
0912	/	10	5.50	22.97	4.16	0.671	>K	lgt tan	
0917	/	23	/	23.04	4.19	0.673	261.0	clean	
0920	/	27	/	23.07	4.21	0.670	66.0	" " slight odor	
0925	/	30	5.79	23.10	4.24	0.666	46.7	" " sheen present	
0932	/	39	/	23.11	4.34	0.645	38.3	" " some bubbles	
0938	/	45	/	23.14	4.43	0.630	39.0	" "	
0943	/	55	5.81	23.14	4.46	0.622	36.7	all the above items	
			when taking final readings water in well						slight sheen
0944	end	development							



Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

55
x3
165 total

Page 1 of 1

Well: LEF-81-1I Depth to Bottom (ft.): 29.34 Responsible Personnel: M. O'Neill
 Site: B:81 Static Water Level Before (ft.): 4.52 Drilling Co.: Trans American
 Date Installed: 12/04/01 Static Water Level After (ft.): 4.43 Project Name: NAS CECIL FIELD
 Date Developed: 12/06/01 Screen Length (ft.): 5' Project No.: N3996
 Dev. Method: Pump Specific Capacity: N/A Geologist L. Knight
 Pump Type: Submersible Casing ID (in.): 2 PID reading 78.0 PPM

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units: mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
1032	/	/	4.52	23.71	5.36	0.226	>K	sheen present
1040	/	10	/	23.76	5.46	0.179	>K	creamy light brown tan
1053	/	30	5.07	23.75	5.00	0.157	642.0	clearing up
1104	/	40	/	23.75	4.96	0.157	195.0	clear / sheen
1116	/	51	5.07	23.79	4.95	0.154	135.0	" " change drums
1128	/	63	/	23.79	4.93	0.154	108.0	" "
1138	/	75	5.04	23.80	4.94	0.152	101.0	" "
1148	/	95 99 M	/	23.81	4.93	0.152	99.0	" "
1158	/	100 99 M	5.05	23.84	4.91	0.151	94	" "
1208	/	112 101 M	5.05	23.90	4.92	0.151	72	" "
1218	/	130	5.05	23.88	4.93	0.151	82	" "
1228	/	142	/	23.87	4.91	0.151	40.1	" "
1238	/	154	5.03	23.87	4.90	0.150	56.7	" "
1248	1251	165	/	24.05	4.92	0.150	60.7	" "
1252	end development							

APPENDIX J

FIELD SAMPLING DATA SHEETS



Project Site Name: Building 81, Tanks 81 ABC
Project No.: N3996.JG0050225

Sample ID No.: CEF-80-GW-2350-2
Sample Location: CEF-80-035
Sampled By: [Signature]
C.O.C. No.: 81-121301

- [] 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 12/13/01, 1335, CLEAR, 6.56, 0.215, 24.8, 1.6, 3.80, 158.

PURGE DATA

Table with columns: Date, Time, pH, S.C., Temp (°C), Turbidity, DO, ORP. Includes handwritten values and a note 'See Low Flow Purge Sheet'.

SAMPLE COLLECTION INFORMATION

Table with columns: Analysis, Preservative, Container Requirements, Collected. Lists various analyses like PPVO w/Tics, PPEO w/Tics, TRPH, Total Metals* and their collection status.

OBSERVATIONS / NOTES

Large empty box for observations and notes.

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

[Handwritten Signature]



Project Site Name: Building 81, Tanks 81 ABC

Project No.: N3996.JG005022E

Sample ID No.: CEF-80-60-135-02

Sample Location: CEF-80-135

Sampled By: DS

C.O.C. No.: 81-121301 C

- 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
12-13-01								
Time: 1415								
Method: Low Flow Peristaltic	6	6.56	290	25.4	9	78	36	

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP	
12-13-01								
Method: Low Flow Peristaltic	See Low Flow Purge Sheet							
Monitor Reading (ppm):								0
Well Casing Diameter: 2 In.								
Well Casing Material: PVC								
Total Well Depth (TD): 14.90								
Static Water Level (WL): 3.95								
One Casing Volume (gal): 6.2								
Start Purge (hrs): 1225								
End Purge (hrs): 1410								
Total Purge Time (min): 105								
Total Vol. Purged (gal): 31.5								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
PPVO w/Tics SW846 8260B	HCL	3-40 ml vials	DS
PPEO w/Tics SW846 8270C	None	2 - 1liter glass ambers	DS
TRPH FL-PRO	H2SO4	2 - 1liter glass ambers	DS
Total Metals* SW846 6010B	HNO3	1 - 500 ml HDPE	DS
* Arsenic, Cadmium, Chromium and Lead			

OBSERVATIONS / NOTES

$$\begin{array}{r} 6.2 \\ 5 \\ \hline 31.0 \end{array}$$

120

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:



Project Site Name: Building 81, Tanks 81 ABC
 Project No.: N3996.JG0050225

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

Sample ID No.: CEF-81-GW-85R-02
 Sample Location: CEF-81-85R
 Sampled By: M.C. Neill
 C.O.C. No.: 81-121301
 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>12/13/01</u>								
Time: <u>1004</u>							<u>ORP</u>	
Method: <u>Low Flow Peristaltic</u>	<u>CLR</u>	<u>4.23</u>	<u>0.068</u>	<u>22.86</u>	<u>11.1</u>	<u>0.16</u>	<u>215</u>	

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>12/13/01</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>12.74</u>							
Static Water Level (WL): <u>3.49</u>							
One Casing Volume (gal/L): <u>1.55 / 6.8 5.8</u>							
Start Purge (hrs): <u>0822</u>							
End Purge (hrs): <u>1002</u>							
Total Purge Time (min): <u>100</u>							
Total Vol. Purged (gal/L): <u>29.4</u>							

See Low Flow Purge Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
PPVO w/Tics SW846 8260B	HCL	3-40 ml vials	<u>MO</u>
PPEO w/Tics SW846 8270C	None	2 - 1liter glass ambers	<u>MO</u>
TRPH FL-PRO	H2SO4	2 - 1liter glass ambers	<u>MO</u>
Total Metals* SW846 6010B	HNO3	1 - 500 ml HDPE	<u>MO</u>
* Arsenic, Cadmium, Chromium and Lead			

OBSERVATIONS / NOTES

$$\begin{array}{r} 12.74 \\ - 3.49 \\ \hline 9.25 \end{array}$$

$$\begin{array}{r} 5.8 \\ \times 3 \\ \hline 17.4 \end{array}$$

$$\begin{array}{r} 45.8 \\ \times 5 \\ \hline 229.0 \end{array}$$

Circle if Applicable:

MS/MSD

Duplicate ID No.:

CEF-81-GW-12U01-02

Signature(s):



Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME:

Building 81, Tanks 81 ABC

PROJECT NUMBER:

N3996.JG0050225

WELL ID.:

CEF-81-85R

DATE:

12/13/01

Time	Water Level	Flow	pH	Cond.	Turb.	DO	Temp.	ORP	(L) Comments
(Hrs)	(Ft. below TOC)	(mL/Min.)	(S.U.)	(mS/cm)	(NTU)	(mg/l)	(Celsius)	(mV)	Volume
0822	start purging	WB	3.49'	0823	3.62'	0824	3.61		med tan / no odor
0826	3.62	300							
0830	3.62	300	4.16	0.064	>K	1.41	22.81	277	2.4
0835	3.62	300	4.14	0.064	793.0	0.49	22.78	282	3.9
0840	3.62	300	4.17	0.065	425.0	1.17	22.72	268	5.4
0845	3.63	300	4.19	0.065	325.0	0.45	22.72	258	6.9
0850	3.63	300	4.20	0.066	251.0	0.25	22.72	249	8.4
0855	3.63	300	4.23	0.067	230.0	0.33	22.73	241	9.9
0900	3.63	300	4.20	0.067	162.0	1.29	22.71	239	11.4
0905	3.63	300	4.22	0.067	121.0	0.29	22.75	232	13.9
0910	3.63	300	4.22	0.067	90.2	0.24	22.76	225	14.4
0915	3.63	300	4.19	0.066	49.6	3.37	22.76	223	15.9
0920	3.63	300	4.21	0.067	47.8	0.63	22.80	219	17.4
0925	3.63	300	4.21	0.067	37.0	0.29	22.80	216	18.9
0930	3.63	300	4.23	0.067	32.0	0.22	22.77	211	20.4
0935	3.63	300	4.23	0.068	25.2	0.26	22.77	213	21.9
0940	3.63	300	4.24	0.067	22.1	0.25	22.78	211	23.4
0945	3.63	300	4.24	0.068	18.1	1.54	22.78	211	24.9
0950	3.63	300	4.24	0.068	16.0	0.31	22.82	213	26.4
0955	3.64	300	4.24	0.068	8.2	0.18	22.87	214	27.9
1000	3.64	300	4.23	0.068	11.1	0.16	22.86	215	29.4
1002	end purge								
1004	sample								

SIGNATURE(S):



Project / Site: Cecil Field, ^{TANK 81 ABC} PSC 51, Golf Course
 Project No.: ~~N0039.DS0.05P.S20~~
 N0486.GHO.050.195
 Sample ID No.: CEF-81-GW-95-01
 Sample Location: CEF-81-95
 Sampler: Rodriguez M ON Mill
 Monitoring Well
 Domestic Well
 Other:

SAMPLING DATA

Date: 6/16/01	Color	pH	S.C.	Temp.	Turbidity	DO	ORP
Time: 18:12		S.U.	mS/cm	°C	NTU	mg/L	mV
Method: Bailoh	clear	4.23	1.03	26.2	9.2	0.00	274

PURGE DATA

Date: 6/16/01
 Method: PERI PUMP
 Monitor Reading (ppm): 201.4
 Well Casing Diameter: 2 IN.
 Well Casing Material: PVC
 Total Well Depth (TD in feet): 12.7
 Static Water Level (WL in feet): 3.68 9.02
 One Casing Volume (gal/L): 1.5/5.6
 Start Purge (hrs): 1430
 End Purge (hrs): 1511
 Total Purge Time (min): 41
 Total Vol. Purged (gal): 18

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
Pesticides, PCB SW846 8081A	4 degrees C	3 1-Liter glass ambers	Accura Accutest	✓
Arsenic, Cd, Cr, Pb SW846 6010B	HNO3	2 500 mL HDPE	Accura Accutest	✓
SVOCs w/TCs SW846 8270C	None	3 - 1 Liter Ambers	Accura	✓
TRPA FL-PRO	HCL	3 - 1 liter Ambers	Accura	✓
VOCs w/TCs SW846 8260B	HCL	6 - 40ml vials.	Accura	✓

OBSERVATIONS / NOTES

LAB INFO

10 ft. well screen. BK 11.0
 * includes MSMSD bottle reqm'ts.
 LAB: ~~Accutest~~
~~4405 Vineland Rd. G-15~~
~~Orlando, FL 32811~~
 COC #: ~~P51~~
 LAB: Accura 770-449-8800
 6017 FINANCIAL DR
 NORCROSS, GA 30071
 COC #: STABC - 061601

Check if Collected:
 MS / MSD DUPLICATE / ID No.: None
 Signature(s): Elena Rodriguez



Project Site Name: Building 81, Tanks 81 ABC

Project No.: N3996.JG0050225

Sample ID No.: CEF-81-GW-95-02

Sample Location: CEF-81-95

Sampled By: D. Siefken

C.O.C. No.: 81-121301 A

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	ORP	Other
12-13-01	TAN	4.82	0.082	22.7	30.8	0.95	47	
Time: 1000								
Method: Low Flow Peristaltic								

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
12-13-01							
Method: Low Flow Peristaltic	See Low Flow Purge Sheet						
Monitor Reading (ppm): 234							
Well Casing Diameter: 2 In.							
Well Casing Material: PVC							
Total Well Depth (TD): 12.74							
Static Water Level (WL): 9.61							
One Casing Volume (gal): 5.8							
Start Purge (hrs): 0815							
End Purge (hrs): 0945							
Total Purge Time (min): 90							
Total Vol. Purged (gal): 31.5							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
PPVO w/Tics SW846 8260B	HCL	3-40 ml vials	DS
PPEO w/Tics SW846 8270C	None	2 - 1liter glass ambers	DS
TRPH FL-PRO	H2SO4	2 - 1liter glass ambers	DS
Total Metals* SW846 6010B	HNO3	1 - 500 ml HDPE	DS
* Arsenic, Cadmium, Chromium and Lead			

OBSERVATIONS / NOTES

12.74
 3.61

 9.13

17.4 l = 3 well vol
 29 l = 5 well vol

Circle if Applicable:

 MS/MSD

Duplicate ID No.:

CEF-81-GW-MD01-02

Signature(s):



Project Site Name: Building 81, Tanks 81 ABC
 Project No.: N3996.JG005022E

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

Sample ID No.: CEF-81-105-02
 Sample Location: CEF-81-105
 Sampled By: C.M. Middleton
 C.O.C. No.: 81-121301 D

Type of Sample:
 Low Concentration
 High Concentration

SAMPLING DATA

Date: <u>12/13/01</u>	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: <u>0920</u>	<u>clear</u>	<u>4.54</u>	<u>0.308</u>	<u>26.0</u>	<u>0</u>	<u>1.18</u>	<u>325</u>	
Method: <u>Low Flow Peristaltic</u>								

PURGE DATA

Date: <u>12/13/01</u>	Time	pH	S.C.	Temp (°C)	Turbidity	DO	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>1299</u>							
Static Water Level (WL): <u>452</u>							
One Casing Volume (gal/L): <u>5.0</u>							
Start Purge (hrs): <u>0820</u>							
End Purge (hrs): <u>0915</u>							
Total Purge Time (min): <u>55</u>							
Total Vol. Purged (gal/L): <u>16.5</u>							

See Low Flow Purge Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
PPVO w/Tics SW846 8260B	HCL	3-40 ml vials	X
PPEO w/Tics SW846 8270C	None	2 - 1liter glass ambers	X
TRPH FL-PRO	H2SO4	2 - 1liter glass ambers	X
Total Metals* SW846 6010B	HNO3	1 - 500 ml HDPE	X
* Arsenic, Cadmium, Chromium and Lead			

OBSERVATIONS / NOTES

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



Project Site Name: Building 81, Tanks 81 ABC
 Project No.: N3996.JG0050225

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

Sample ID No.: CEF-8 1-GW-115-02
 Sample Location: CEF-8 1-115
 Sampled By: L. MEDDINGTON
 C.O.C. No.: 81-121301 D
 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>12/13/01</u>	<u>CLEAR</u>	<u>4.87</u>	<u>0.352</u>	<u>26.2</u>	<u>0</u>	<u>1.26</u>	<u>283</u>	

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>12/13/01</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>12.88</u>							
Static Water Level (WL): <u>4.53</u>							
One Casing Volume (gal/L): <u>5.1</u>							
Start Purge (hrs): <u>1005</u>							
End Purge (hrs): <u>1100</u>							
Total Purge Time (min): <u>55</u>							
Total Vol. Purged (gal/L): <u>16.5</u>							

See Low Flow Purge Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
PPVO w/Tics SW846 8260B	HCL	3-40 ml vials	<input checked="" type="checkbox"/>
PPEO w/Tics SW846 8270C	None	2 - 1liter glass ambers	<input checked="" type="checkbox"/>
TRPH FL-PRO	H2SO4	2 - 1liter glass ambers	<input checked="" type="checkbox"/>
Total Metals* SW846 6010B	HNO3	1 - 500 ml HDPE	<input checked="" type="checkbox"/>
* Arsenic, Cadmium, Chromium and Lead			

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):



Project Site Name: Building 81, Tanks 81 ABC
 Project No.: N3996.JG0050225

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

Sample ID No.: CEF-8 1-GW-125-02
 Sample Location: CEF-8 1-125
 Sampled By: M. Owen
 C.O.C. No.: 81-121301 E
 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>12/13/01</u>								
Time: <u>12:34 1304</u>								
Method: <u>Low Flow Peristaltic</u>	<u>org tan</u>	<u>6.53</u>	<u>0.141</u>	<u>22.31</u>	<u>>K</u>	<u>1.66</u>	<u>-13</u>	

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>12/13/01</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>11.68</u>	See Low Flow Purge Sheet						
Static Water Level (WL): <u>12.20</u> ^{3.12}							
One Casing Volume (gal/L): <u>1.5</u> ^{5.6}							
Start Purge (hrs): <u>110</u>							
End Purge (hrs): <u>1242</u> ^{no 1301}							
Total Purge Time (min): <u>92</u> ^{no 111}							
Total Vol. Purged (gal/L): <u>28</u> ^{5.6 no 30.9}							

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
PPVO w/Tics SW846 8260B	HCL	3-40 ml vials	<u>no</u>
PPEO w/Tics SW846 8270C	None	2 - 1liter glass ambers	<u>no</u>
TRPH FL-PRO	H2SO4	2 - 1liter glass ambers	<u>no</u>
Total Metals* SW846 6010B	HNO3	1 - 500 ml HDPE	<u>no</u>
* Arsenic, Cadmium, Chromium and Lead			

OBSERVATIONS / NOTES

$$\begin{array}{r}
 11.68 \\
 - 3.12 \\
 \hline
 8.56
 \end{array}
 \quad
 \begin{array}{r}
 5.6 \\
 \times 3 \\
 \hline
 16.8
 \end{array}
 \quad
 \begin{array}{r}
 5.6 \\
 \times 5 \\
 \hline
 28.0
 \end{array}$$

Circle if Applicable:

MS/MSD

Duplicate ID No.:

None

Signature(s):



Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME:
PROJECT NUMBER:

Building 81, Tanks 81 ABC
N3996.JG0050225

WELL ID.:
DATE:

CEF-81-123
12/13/01

Time (Hrs.)	Water Level (Fl. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/l)	Temp. (Celsius)	ORP (mV)	(L) Comments
1110	3.12	1112	6.20		114	3.26			Volume
1116	3.26	350	6.29	0.111	>K	2.38	22.59	121	reddish brown/empty cup
1120	3.27	350	6.40	0.120	>K	3.22	22.24	69	3.5 aggregation
1130	3.27	350	6.48	0.135	>K	1.97	22.27	9	7.0 empty cup
1140	3.27	350	6.51	0.136	>K	2.40	22.17	2	10.5 empty cup
1150	3.27	350	6.50	0.139	>K	2.77	22.28	-9	13.0
1200	3.27	350	6.51	0.133	>K	2.16	22.08	-14	16.5 change in turbidity/empty
1210	3.27	350	6.54	0.137	>K	2.42	22.27	-14	19.0 empty cup
1220	3.27	350	6.56	0.143	>K	1.76	22.55	-4	22.5
1230	3.28	350	6.53	0.139	>K	1.64	22.40	-17	25.0
1240	3.28	350	6.53	0.141	>K	1.66	22.31	-13	28.5
1242	end purge no								
1244	sample no								
tried with pump slow also did not make difference for example:									
1250	3.20	125	6.58	0.140	>K	1.84	22.78	-8	
1255	3.20	125	6.57	0.140	>K	1.68	22.67	-7	water in tubing and up
1257	end purge no								
1300	sample	125	6.57	0.140	>K	1.63	22.69	-5	30.9
1302	sample 1301 end purge								
I am not sure what is wrong with this well but something is not right ↑ DO levels are due to the ↑ Turb. numbers Temp stayed within the 1° limit but heavily fluct. Talked to FDH told me to run for 5-10 min at slow rate but doubt also what I am thinking about the well might be bad.									
MPO									

125
x20
2400

SIGNATURE(S): *M. R. O'Neil*



Project Site Name: Building 81, Tanks 81 ABC
 Project No.: N3996.JG0050225

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

Sample ID No.: CEF-81-GW-135-02
 Sample Location: CEF-8 1-13, S
 Sampled By: M. O. Nelson
 C.O.C. No.: 81-121301
 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>12/13/01</u>							
Time: <u>1604</u>							<u>ORP</u>
Method: <u>Low Flow Peristaltic</u>	<u>CLR</u>	<u>3.79</u>	<u>0.735</u>	<u>23.15</u>	<u>0.0</u>	<u>0.59</u>	<u>313</u>

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
<u>12/13/01</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>12.14</u>							
Static Water Level (WL): <u>3793.82</u>							
One Casing Volume (gal/L): <u>1.4/5.5</u>							
Start Purge (hrs): <u>1447</u>							
End Purge (hrs): <u>1602</u>							
Total Purge Time (min): <u>105</u>							
Total Vol. Purged (gal): <u>0 27.8</u>							

See Low Flow Purge Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
PPVO w/Tics SW846 8260B	HCL	3-40 ml vials	<u>no</u>
PPEO w/Tics SW846 8270C	None	2 - 1liter glass ambers	<u>no</u>
TRPH FL-PRO	H2SO4	2 - 1liter glass ambers	<u>no</u>
Total Metals* SW846 6010B	HNO3	1 - 500 ml HDPE	<u>no</u>
* Arsenic, Cadmium, Chromium and Lead			

OBSERVATIONS / NOTES

12.14
 $- 3.82$

8.32

0.5
 $\times 3$

1.5

2.55
 $\times 10$

27.5

Circle if Applicable:

MS/MSD

Duplicate ID No.:

None

Signature(s):



Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME:

Building 81, Tanks 81 ABC

WELL ID.:

CEF-81-135

PROJECT NUMBER:

N3996.JG0050225

DATE:

12/13/01

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)	(L) Volume	Comments
1447	3.82	350	/	1461	387	/	/	/		CLR
1455	3.88	350	3.54	0.596	12.7	0.90	23.37	318		
1500	3.88	350	3.56	0.593	10.9	0.73	23.18	323	4.55	
1510	3.88	350	3.64	0.636	6.2	0.76	23.13	320	8.1	
1520	3.88	350	3.67	0.848	8.5	0.75	23.11	319	11.6	
1525	3.88	350	3.72	0.842	9.8	0.73	23.11	318	13.4	
1530	3.88	350	3.75	0.836	10.0	0.69	23.12	317	15.2	empty cup
1535	/	350	3.77	0	/	/	23.14	314	17.0	
1540	3.88	350	3.76	0.833	0.0	1.44	23.14	317	18.8	
1550	3.88	350	3.77	0.786	0.0	0.65	23.13	315	24.3	
1600		350	3.79	0.735	0.0	0.51	23.15	313	27.8	
1602	end purge									
1604	sample									

350
x 13
1050
350
4550

16.5 / 27.5

2350
x 5
1750

SIGNATURE(S):



Project Site Name: B-81 TRUNKS 01 ABC
 Project No.: N3996 JG0050225

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

Sample ID No.: CEF-81-GW-14S-01
 Sample Location: CEF-81-14S
 Sampled By: LM/LK
 C.O.C. No.: 81ABC-52302
 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>5/23/02</u>	<u>CLEAR</u>	<u>4.21</u>	<u>0.071</u>	<u>23.5</u>	<u>1.8</u>	<u>6.0</u>	<u>—</u>	<u>—</u>

PURGE DATA

Date:	Time	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity	ORP
<u>5/23/02</u>								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): <u>0</u>								
Well Casing Diameter: <u>2"</u>								
Well Casing Material: <u>PVC</u>								
Total Well Depth (TD): <u>13.00</u>								
Static Water Level (WL): <u>5.85</u>								
One Casing Volume (gal): <u>0.45</u>								
Start Purge (hrs): <u>15.50</u>								
End Purge (hrs): <u>16.30</u>								
Total Purge Time (min): <u>40</u>								
Total Vol. Purged (gal): <u>0.16</u>								

See Low Flow Purge Data Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
PPVOC w/TICs SW846 8260B	HCL	3 40-ml vials	<input checked="" type="checkbox"/>
PPEOC w/TICs SIM 8270C	None	2 1-liter glass ambers	<input checked="" type="checkbox"/>
TRPH FL-PRO	H2SO4	2 1-liter glass ambers	<input checked="" type="checkbox"/>
Total Arsenic, Cadmium, Chromium, and Lead SW846 6010B	HNO3	1 1-liter HDPE	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES

Circle if Applicable: MS/MSD Duplicate ID No.: None Signature(s): [Signature]



Project Site Name: Building 81, Tanks 81 ABC
Project No.: N3996.JG0050225

Sample ID No.: CEF-8-GW-1I-02

Sample Location: CEF-8-1I

Sampled By: D-S

C.O.C. No.: 81-121301 E

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

- Type of Sample:
- Low Concentration
- High Concentration

SAMPLING DATA

Date: 12-13-01	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: 1145								
Method: Low Flow Peristaltic	CC	5.44	0.197	24.0	25.1	0.96	53	

PURGE DATA

Date: 12-13-01	Time	pH	S.C.	Temp (°C)	Turbidity	DO	ORP
Method: Low Flow Peristaltic							
Monitor Reading (ppm): 149							
Well Casing Diameter: 2 in.							
Well Casing Material: PVC							
Total Well Depth (TD): 29.25							
Static Water Level (WL): 3.73							
One Casing Volume (gal): 3.1							
Start Purge (hrs): 1045							
End Purge (hrs): 1135							
Total Purge Time (min): 50							
Total Vol. Purged (gal): 17.5							

See Low Flow Purge Sheet

5 ft SCREEN

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
PPVO w/Tics SW846 8260B	HCL	3-40 ml vials	DS
PPEO w/Tics SW846 8270C	None	2 - 1liter glass ambers	DS
TRPH FL-PRO	H2SO4	2 - 1liter glass ambers	DS
Total Metals* SW846 6010B	HNO3	1 - 500 ml HDPE	DS
* Arsenic, Cadmium, Chromium and Lead			

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD

Duplicate ID No.:

None

Signature(s):

APPENDIX K

DRAWDOWN AND RECOVERY GRAPHS (SPECAP)

In-Situ Inc. Hermit 3000

Report generated: 06/26/02 22:10:08
Report from file: C:\Win-Situ\Data\SN45799 2002-01-10 093804 ~~REC~~-80-3S .bin
DataMgr Version 3.70

DR

msd

Serial number: 00045799
Firmware Version 7.10
Unit name: HERMIT 3000

Test name: ~~REC~~-80-3S

Test defined on: 01/09/02 13:49:38
Test started on: 01/10/02 09:38:04
Test stopped on: 01/10/02 09:57:26
Test extracted on: 01/11/02 06:38:34

Data gathered using Logarithmic testing

Maximum time between data points: 0.1667 Minutes.
Number of data samples: 166

TOTAL DATA SAMPLES 166

Channel number [1]

Measurement type: Pressure
Channel name: Probe #1
Linearity: 0.3594000
Scale: 30.2978000
Offset: -0.0542000
Warmup: 50
Specific gravity: 1.000
Mode: TOC
User-defined reference: 0.000 Meters H2O
Referenced on: test start
Pressure head at reference: 1.906 Meters H2O

Channel number [0]

Measurement type: Barometric Pressure
Channel name: Barometric
Linearity: 0.0000000
Scale: 0.0000000
Offset: 0.0000000
Warmup: 50

Date	Time	ET (min)	Chan[1] Meters H2O	Chan[0] Inches Hg
01/10/02	09:38:04	0.0000	0.000	30.165
01/10/02	09:38:04	0.0112	-0.039	30.163
01/10/02	09:38:05	0.0223	-0.068	30.165
01/10/02	09:38:06	0.0335	-0.107	30.163
01/10/02	09:38:06	0.0447	-0.128	30.167
01/10/02	09:38:07	0.0558	-0.153	30.165
01/10/02	09:38:08	0.0670	-0.171	30.165
01/10/02	09:38:08	0.0782	-0.187	30.167
01/10/02	09:38:09	0.0893	-0.193	30.167
01/10/02	09:38:10	0.1005	-0.196	30.165
01/10/02	09:38:10	0.1117	-0.199	30.167
01/10/02	09:38:11	0.1228	-0.200	30.165
01/10/02	09:38:12	0.1340	-0.203	30.165
01/10/02	09:38:12	0.1452	-0.207	30.167
01/10/02	09:38:13	0.1563	-0.208	30.165
01/10/02	09:38:14	0.1675	-0.209	30.165
01/10/02	09:38:14	0.1787	-0.209	30.165
01/10/02	09:38:15	0.1898	-0.218	30.165
01/10/02	09:38:16	0.2010	-0.223	30.163
01/10/02	09:38:16	0.2122	-0.228	30.165
01/10/02	09:38:17	0.2233	-0.234	30.165

pg. 1 of 26

01/10/02	09:38:18	0.2350	-0.239	30.163
01/10/02	09:38:18	0.2475	-0.243	30.163
01/10/02	09:38:19	0.2607	-0.247	30.165
01/10/02	09:38:20	0.2747	-0.252	30.165
01/10/02	09:38:21	0.2895	-0.255	30.165
01/10/02	09:38:22	0.3052	-0.259	30.163
01/10/02	09:38:23	0.3218	-0.263	30.165
01/10/02	09:38:24	0.3395	-0.267	30.165
01/10/02	09:38:25	0.3582	-0.271	30.165
01/10/02	09:38:26	0.3780	-0.275	30.165
01/10/02	09:38:27	0.3990	-0.282	30.165
01/10/02	09:38:29	0.4212	-0.286	30.163
01/10/02	09:38:30	0.4447	-0.288	30.163
01/10/02	09:38:32	0.4695	-0.295	30.163
01/10/02	09:38:33	0.4958	-0.292	30.163
01/10/02	09:38:35	0.5238	-0.303	30.165
01/10/02	09:38:37	0.5535	-0.307	30.163
01/10/02	09:38:39	0.5848	-0.312	30.165
01/10/02	09:38:41	0.6180	-0.318	30.167
01/10/02	09:38:43	0.6532	-0.323	30.165
01/10/02	09:38:45	0.6905	-0.332	30.165
01/10/02	09:38:47	0.7300	-0.335	30.167
01/10/02	09:38:50	0.7718	-0.340	30.167
01/10/02	09:38:52	0.8162	-0.344	30.167
01/10/02	09:38:55	0.8632	-0.352	30.167
01/10/02	09:38:58	0.9130	-0.359	30.163
01/10/02	09:39:01	0.9657	-0.364	30.163
01/10/02	09:39:05	1.0215	-0.374	30.167
01/10/02	09:39:08	1.0807	-0.383	30.165
01/10/02	09:39:12	1.1433	-0.390	30.163
01/10/02	09:39:16	1.2097	-0.402	30.163
01/10/02	09:39:20	1.2800	-0.412	30.165
01/10/02	09:39:25	1.3545	-0.422	30.167
01/10/02	09:39:30	1.4335	-0.432	30.163
01/10/02	09:39:35	1.5172	-0.444	30.165
01/10/02	09:39:40	1.6057	-0.459	30.165
01/10/02	09:39:45	1.6995	-0.472	30.165
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01/10/02	09:40:19	2.2590	-0.558	30.163
01/10/02	09:40:27	2.3915	-0.583	30.165
01/10/02	09:40:35	2.5320	-0.610	30.165
01/10/02	09:40:44	2.6808	-0.625	30.165
01/10/02	09:40:54	2.8383	-0.638	30.163
01/10/02	09:41:04	3.0050	-0.651	30.165
01/10/02	09:41:14	3.1717	-0.663	30.165
01/10/02	09:41:24	3.3383	-0.673	30.167
01/10/02	09:41:34	3.5050	-0.681	30.163
01/10/02	09:41:44	3.6717	-0.690	30.165
01/10/02	09:41:54	3.8383	-0.694	30.163
01/10/02	09:42:04	4.0050	-0.699	30.165
01/10/02	09:42:14	4.1717	-0.703	30.167
01/10/02	09:42:24	4.3383	-0.709	30.165
01/10/02	09:42:34	4.5050	-0.713	30.163
01/10/02	09:42:44	4.6717	-0.714	30.165
01/10/02	09:42:54	4.8383	-0.719	30.165
01/10/02	09:43:04	5.0050	-0.722	30.163
01/10/02	09:43:14	5.1717	-0.725	30.163
01/10/02	09:43:24	5.3383	-0.727	30.165
01/10/02	09:43:34	5.5050	-0.729	30.163
01/10/02	09:43:44	5.6717	-0.730	30.165
01/10/02	09:43:54	5.8383	-0.733	30.165
01/10/02	09:44:04	6.0050	-0.737	30.165
01/10/02	09:44:14	6.1717	-0.738	30.165
01/10/02	09:44:24	6.3383	-0.741	30.167
01/10/02	09:44:34	6.5050	-0.741	30.167
01/10/02	09:44:44	6.6717	-0.742	30.165
01/10/02	09:44:54	6.8383	-0.743	30.165

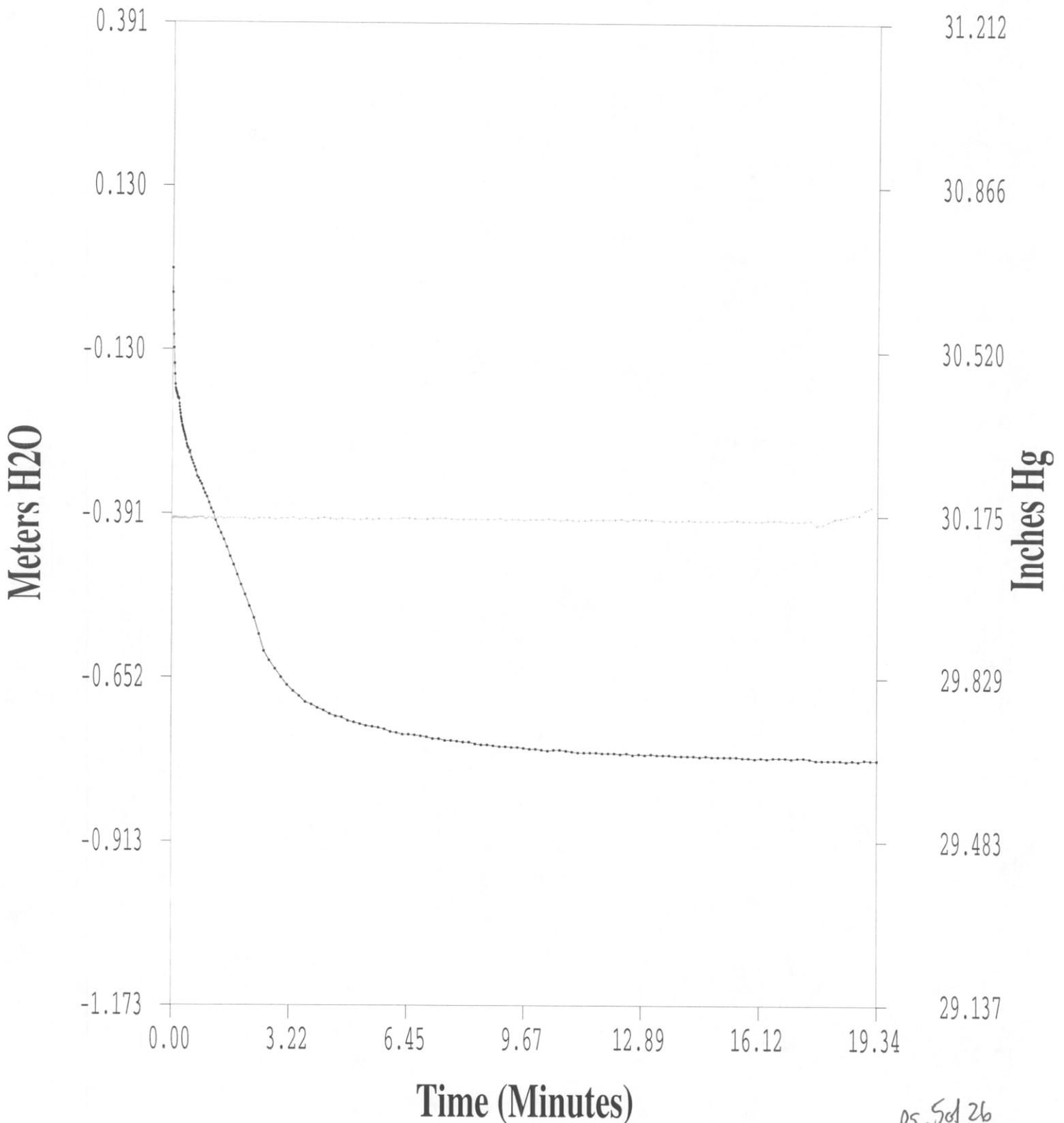
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01/10/02	09:45:14	7.1717	-0.747	30.167
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01/10/02	09:45:34	7.5050	-0.750	30.167
01/10/02	09:45:44	7.6717	-0.750	30.165
01/10/02	09:45:54	7.8383	-0.751	30.165
01/10/02	09:46:04	8.0050	-0.753	30.165
01/10/02	09:46:14	8.1717	-0.753	30.165
01/10/02	09:46:24	8.3383	-0.755	30.165
01/10/02	09:46:34	8.5050	-0.757	30.165
01/10/02	09:46:44	8.6717	-0.757	30.165
01/10/02	09:46:54	8.8383	-0.758	30.165
01/10/02	09:47:04	9.0050	-0.759	30.167
01/10/02	09:47:14	9.1717	-0.759	30.163
01/10/02	09:47:24	9.3383	-0.761	30.165
01/10/02	09:47:34	9.5050	-0.761	30.165
01/10/02	09:47:44	9.6717	-0.762	30.163
01/10/02	09:47:54	9.8383	-0.763	30.165
01/10/02	09:48:04	10.0050	-0.763	30.165
01/10/02	09:48:14	10.1717	-0.765	30.165
01/10/02	09:48:24	10.3383	-0.766	30.167
01/10/02	09:48:34	10.5050	-0.765	30.165
01/10/02	09:48:44	10.6717	-0.765	30.163
01/10/02	09:48:54	10.8383	-0.766	30.165
01/10/02	09:49:04	11.0050	-0.768	30.163
01/10/02	09:49:14	11.1717	-0.769	30.163
01/10/02	09:49:24	11.3383	-0.769	30.163
01/10/02	09:49:34	11.5050	-0.769	30.165
01/10/02	09:49:44	11.6717	-0.769	30.165
01/10/02	09:49:54	11.8383	-0.770	30.165
01/10/02	09:50:04	12.0050	-0.770	30.165
01/10/02	09:50:14	12.1717	-0.770	30.165
01/10/02	09:50:24	12.3383	-0.772	30.167
01/10/02	09:50:34	12.5050	-0.770	30.163
01/10/02	09:50:44	12.6717	-0.773	30.167
01/10/02	09:50:54	12.8383	-0.772	30.165
01/10/02	09:51:04	13.0050	-0.773	30.167
01/10/02	09:51:14	13.1717	-0.772	30.165
01/10/02	09:51:24	13.3383	-0.773	30.165
01/10/02	09:51:34	13.5050	-0.773	30.163
01/10/02	09:51:44	13.6717	-0.773	30.163
01/10/02	09:51:54	13.8383	-0.774	30.163
01/10/02	09:52:04	14.0050	-0.774	30.163
01/10/02	09:52:14	14.1717	-0.774	30.165
01/10/02	09:52:24	14.3383	-0.774	30.163
01/10/02	09:52:34	14.5050	-0.776	30.163
01/10/02	09:52:44	14.6717	-0.774	30.163
01/10/02	09:52:54	14.8383	-0.776	30.163
01/10/02	09:53:04	15.0050	-0.776	30.163
01/10/02	09:53:14	15.1717	-0.776	30.163
01/10/02	09:53:24	15.3383	-0.776	30.165
01/10/02	09:53:34	15.5050	-0.776	30.165
01/10/02	09:53:44	15.6717	-0.777	30.163
01/10/02	09:53:54	15.8383	-0.777	30.163
01/10/02	09:54:04	16.0050	-0.778	30.163
01/10/02	09:54:14	16.1717	-0.777	30.163
01/10/02	09:54:24	16.3383	-0.778	30.165
01/10/02	09:54:34	16.5050	-0.777	30.165
01/10/02	09:54:44	16.6717	-0.777	30.165
01/10/02	09:54:54	16.8383	-0.777	30.163
01/10/02	09:55:04	17.0050	-0.778	30.163
01/10/02	09:55:14	17.1717	-0.777	30.163
01/10/02	09:55:24	17.3383	-0.777	30.163
01/10/02	09:55:34	17.5050	-0.778	30.165
01/10/02	09:55:44	17.6717	-0.781	30.155
01/10/02	09:55:54	17.8383	-0.781	30.157
01/10/02	09:56:04	18.0050	-0.781	30.163
01/10/02	09:56:14	18.1717	-0.781	30.169
01/10/02	09:56:24	18.3383	-0.781	30.171
01/10/02	09:56:34	18.5050	-0.782	30.174

01/10/02	09:56:44	18.6717	-0.781	30.178
01/10/02	09:56:54	18.8383	-0.782	30.178
01/10/02	09:57:04	19.0050	-0.780	30.188
01/10/02	09:57:14	19.1717	-0.781	30.194
01/10/02	09:57:24	19.3383	-0.781	30.186

REC-80-3S

DR

MWA



[1] - Probe #1

[0] - Barometric

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In-Situ Inc. Hermit 3000

Report generated: 06/26/02 22:09:32
Report from file: C:\Win-Situ\Data\SN45799 2002-01-10 091500 DR-80-3S.bin
DataMgr Version 3.70

REC

MWD

Serial number: 00045799
Firmware Version 7.10
Unit name: HERMIT 3000

Test name: DR-80-3S

REC

Test defined on: 01/09/02 13:47:25
Test started on: 01/10/02 09:15:00
Test stopped on: 01/10/02 09:37:14
Test extracted on: 01/11/02 06:37:51

Data gathered using Logarithmic testing

Maximum time between data points: 0.1667 Minutes.
Number of data samples: 183

TOTAL DATA SAMPLES 183

Channel number [1]

Measurement type: Pressure
Channel name: Probe #1
Linearity: 0.3594000
Scale: 30.2978000
Offset: -0.0542000
Warmup: 50
Specific gravity: 1.000
Mode: TOC
User-defined reference: 0.000 Meters H2O
Referenced on: test start
Pressure head at reference: 2.703 Meters H2O

Channel number [0]

Measurement type: Barometric Pressure
Channel name: Barometric
Linearity: 0.0000000
Scale: 0.0000000
Offset: 0.0000000
Warmup: 50

Date	Time	ET (min)	Chan[1] Meters H2O	Chan[0] Inches Hg
01/10/02	09:15:00	0.0000	0.000	30.159
01/10/02	09:15:00	0.0112	0.081	30.159
01/10/02	09:15:01	0.0223	0.114	30.159
01/10/02	09:15:02	0.0335	0.143	30.159
01/10/02	09:15:02	0.0447	0.167	30.159
01/10/02	09:15:03	0.0558	0.186	30.161
01/10/02	09:15:04	0.0670	0.207	30.161
01/10/02	09:15:04	0.0782	0.222	30.159
01/10/02	09:15:05	0.0893	0.238	30.159
01/10/02	09:15:06	0.1005	0.250	30.161
01/10/02	09:15:06	0.1117	0.260	30.161
01/10/02	09:15:07	0.1228	0.266	30.159
01/10/02	09:15:08	0.1340	0.283	30.159
01/10/02	09:15:08	0.1452	0.296	30.159
01/10/02	09:15:09	0.1563	0.310	30.161
01/10/02	09:15:10	0.1675	0.324	30.161
01/10/02	09:15:10	0.1787	0.330	30.159
01/10/02	09:15:11	0.1898	0.348	30.161
01/10/02	09:15:12	0.2010	0.358	30.159
01/10/02	09:15:12	0.2122	0.364	30.159
01/10/02	09:15:13	0.2233	0.370	30.161

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01/10/02	09:15:14	0.2350	0.377	30.161
01/10/02	09:15:14	0.2475	0.386	30.161
01/10/02	09:15:15	0.2607	0.391	30.159
01/10/02	09:15:16	0.2747	0.399	30.163
01/10/02	09:15:17	0.2895	0.405	30.161
01/10/02	09:15:18	0.3052	0.409	30.161
01/10/02	09:15:19	0.3218	0.415	30.159
01/10/02	09:15:20	0.3395	0.425	30.161
01/10/02	09:15:21	0.3582	0.433	30.161
01/10/02	09:15:22	0.3780	0.438	30.161
01/10/02	09:15:23	0.3990	0.437	30.159
01/10/02	09:15:25	0.4212	0.442	30.159
01/10/02	09:15:26	0.4447	0.449	30.161
01/10/02	09:15:28	0.4695	0.455	30.161
01/10/02	09:15:29	0.4958	0.455	30.159
01/10/02	09:15:31	0.5238	0.454	30.161
01/10/02	09:15:33	0.5535	0.461	30.161
01/10/02	09:15:35	0.5848	0.462	30.161
01/10/02	09:15:37	0.6180	0.471	30.161
01/10/02	09:15:39	0.6532	0.471	30.161
01/10/02	09:15:41	0.6905	0.481	30.161
01/10/02	09:15:43	0.7300	0.477	30.161
01/10/02	09:15:46	0.7718	0.483	30.163
01/10/02	09:15:48	0.8162	0.485	30.161
01/10/02	09:15:51	0.8632	0.494	30.163
01/10/02	09:15:54	0.9130	0.489	30.159
01/10/02	09:15:57	0.9657	0.494	30.159
01/10/02	09:16:01	1.0215	0.501	30.161
01/10/02	09:16:04	1.0807	0.505	30.161
01/10/02	09:16:08	1.1433	0.503	30.161
01/10/02	09:16:12	1.2097	0.517	30.161
01/10/02	09:16:16	1.2800	0.522	30.161
01/10/02	09:16:21	1.3545	0.530	30.161
01/10/02	09:16:26	1.4335	0.537	30.161
01/10/02	09:16:31	1.5172	0.545	30.161
01/10/02	09:16:36	1.6057	0.550	30.159
01/10/02	09:16:41	1.6995	0.561	30.163
01/10/02	09:16:47	1.7988	0.563	30.161
01/10/02	09:16:54	1.9042	0.569	30.163
01/10/02	09:17:00	2.0157	0.586	30.161
01/10/02	09:17:08	2.1338	0.595	30.161
01/10/02	09:17:15	2.2590	0.597	30.159
01/10/02	09:17:23	2.3915	0.609	30.161
01/10/02	09:17:31	2.5320	0.618	30.159
01/10/02	09:17:40	2.6808	0.618	30.163
01/10/02	09:17:50	2.8383	0.633	30.161
01/10/02	09:18:00	3.0050	0.639	30.161
01/10/02	09:18:10	3.1717	0.641	30.161
01/10/02	09:18:20	3.3383	0.647	30.161
01/10/02	09:18:30	3.5050	0.653	30.161
01/10/02	09:18:40	3.6717	0.663	30.163
01/10/02	09:18:50	3.8383	0.665	30.159
01/10/02	09:19:00	4.0050	0.669	30.163
01/10/02	09:19:10	4.1717	0.679	30.161
01/10/02	09:19:20	4.3383	0.682	30.161
01/10/02	09:19:30	4.5050	0.687	30.163
01/10/02	09:19:40	4.6717	0.686	30.161
01/10/02	09:19:50	4.8383	0.691	30.163
01/10/02	09:20:00	5.0050	0.701	30.163
01/10/02	09:20:10	5.1717	0.699	30.163
01/10/02	09:20:20	5.3383	0.707	30.163
01/10/02	09:20:30	5.5050	0.713	30.163
01/10/02	09:20:40	5.6717	0.715	30.163
01/10/02	09:20:50	5.8383	0.714	30.163
01/10/02	09:21:00	6.0050	0.722	30.163
01/10/02	09:21:10	6.1717	0.715	30.163
01/10/02	09:21:20	6.3383	0.734	30.163
01/10/02	09:21:30	6.5050	0.733	30.163
01/10/02	09:21:40	6.6717	0.737	30.161
01/10/02	09:21:50	6.8383	0.745	30.161

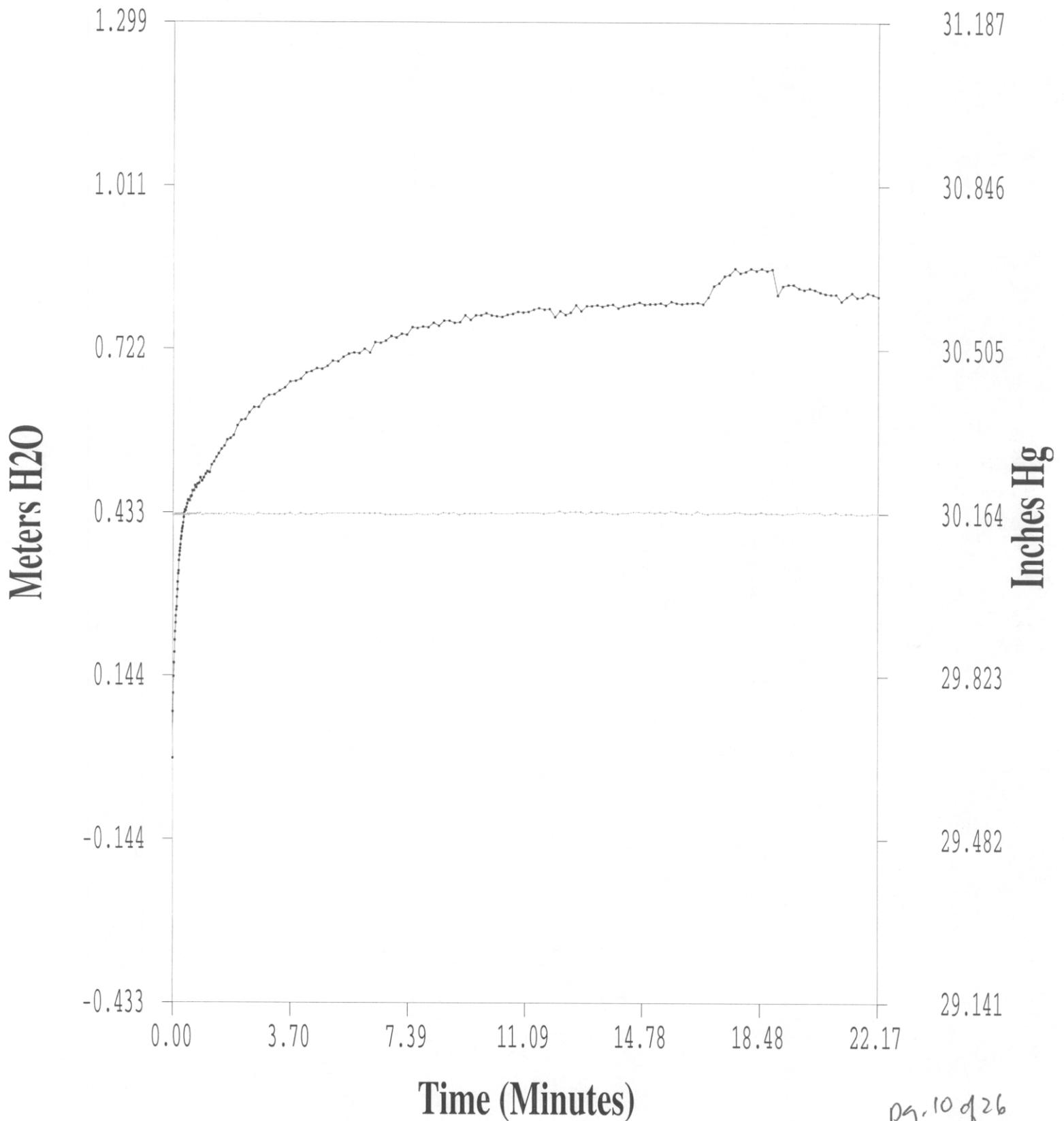
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01/10/02	09:22:00	7.0050	0.742	30.161
01/10/02	09:22:10	7.1717	0.749	30.161
01/10/02	09:22:20	7.3383	0.748	30.161
01/10/02	09:22:30	7.5050	0.761	30.161
01/10/02	09:22:40	7.6717	0.760	30.163
01/10/02	09:22:50	7.8383	0.762	30.161
01/10/02	09:23:00	8.0050	0.761	30.161
01/10/02	09:23:10	8.1717	0.769	30.163
01/10/02	09:23:20	8.3383	0.764	30.161
01/10/02	09:23:30	8.5050	0.773	30.165
01/10/02	09:23:40	8.6717	0.773	30.163
01/10/02	09:23:50	8.8383	0.769	30.165
01/10/02	09:24:00	9.0050	0.770	30.161
01/10/02	09:24:10	9.1717	0.782	30.163
01/10/02	09:24:20	9.3383	0.774	30.163
01/10/02	09:24:30	9.5050	0.782	30.163
01/10/02	09:24:40	9.6717	0.782	30.163
01/10/02	09:24:50	9.8383	0.786	30.163
01/10/02	09:25:00	10.0050	0.782	30.165
01/10/02	09:25:10	10.1717	0.781	30.163
01/10/02	09:25:20	10.3383	0.780	30.163
01/10/02	09:25:30	10.5050	0.784	30.163
01/10/02	09:25:40	10.6717	0.785	30.163
01/10/02	09:25:50	10.8383	0.789	30.165
01/10/02	09:26:00	11.0050	0.788	30.165
01/10/02	09:26:10	11.1717	0.789	30.165
01/10/02	09:26:20	11.3383	0.793	30.165
01/10/02	09:26:30	11.5050	0.796	30.165
01/10/02	09:26:40	11.6717	0.793	30.163
01/10/02	09:26:50	11.8383	0.794	30.165
01/10/02	09:27:00	12.0050	0.780	30.165
01/10/02	09:27:10	12.1717	0.790	30.169
01/10/02	09:27:20	12.3383	0.784	30.165
01/10/02	09:27:30	12.5050	0.788	30.167
01/10/02	09:27:40	12.6717	0.801	30.167
01/10/02	09:27:50	12.8383	0.790	30.167
01/10/02	09:28:00	13.0050	0.800	30.163
01/10/02	09:28:10	13.1717	0.800	30.167
01/10/02	09:28:20	13.3383	0.801	30.165
01/10/02	09:28:30	13.5050	0.798	30.167
01/10/02	09:28:40	13.6717	0.801	30.165
01/10/02	09:28:50	13.8383	0.802	30.163
01/10/02	09:29:00	14.0050	0.796	30.163
01/10/02	09:29:10	14.1717	0.800	30.165
01/10/02	09:29:20	14.3383	0.801	30.165
01/10/02	09:29:30	14.5050	0.804	30.167
01/10/02	09:29:40	14.6717	0.806	30.167
01/10/02	09:29:50	14.8383	0.802	30.165
01/10/02	09:30:00	15.0050	0.804	30.167
01/10/02	09:30:10	15.1717	0.804	30.165
01/10/02	09:30:20	15.3383	0.805	30.167
01/10/02	09:30:30	15.5050	0.801	30.165
01/10/02	09:30:40	15.6717	0.808	30.169
01/10/02	09:30:50	15.8383	0.805	30.167
01/10/02	09:31:00	16.0050	0.804	30.165
01/10/02	09:31:10	16.1717	0.805	30.165
01/10/02	09:31:20	16.3383	0.805	30.163
01/10/02	09:31:30	16.5050	0.806	30.169
01/10/02	09:31:40	16.6717	0.804	30.165
01/10/02	09:31:50	16.8383	0.816	30.163
01/10/02	09:32:00	17.0050	0.836	30.165
01/10/02	09:32:10	17.1717	0.841	30.165
01/10/02	09:32:20	17.3383	0.853	30.165
01/10/02	09:32:30	17.5050	0.856	30.165
01/10/02	09:32:40	17.6717	0.866	30.167
01/10/02	09:32:50	17.8383	0.858	30.167
01/10/02	09:33:00	18.0050	0.861	30.165
01/10/02	09:33:10	18.1717	0.866	30.165
01/10/02	09:33:20	18.3383	0.862	30.165
01/10/02	09:33:30	18.5050	0.866	30.167

01/10/02	09:33:40	18.6717	0.862	30.165
01/10/02	09:33:50	18.8383	0.865	30.165
01/10/02	09:34:00	19.0050	0.820	30.165
01/10/02	09:34:10	19.1717	0.836	30.163
01/10/02	09:34:20	19.3383	0.838	30.165
01/10/02	09:34:30	19.5050	0.838	30.165
01/10/02	09:34:40	19.6717	0.832	30.167
01/10/02	09:34:50	19.8383	0.829	30.167
01/10/02	09:35:00	20.0050	0.832	30.165
01/10/02	09:35:10	20.1717	0.829	30.167
01/10/02	09:35:20	20.3383	0.825	30.167
01/10/02	09:35:30	20.5050	0.822	30.163
01/10/02	09:35:40	20.6717	0.821	30.165
01/10/02	09:35:50	20.8383	0.821	30.167
01/10/02	09:36:00	21.0050	0.809	30.163
01/10/02	09:36:10	21.1717	0.817	30.165
01/10/02	09:36:20	21.3383	0.824	30.165
01/10/02	09:36:30	21.5050	0.816	30.163
01/10/02	09:36:40	21.6717	0.817	30.163
01/10/02	09:36:50	21.8383	0.824	30.163
01/10/02	09:37:00	22.0050	0.821	30.165
01/10/02	09:37:10	22.1717	0.817	30.165

~~DR-80-3S~~ REC

MWA



[1] - Probe #1

[0] - Barometric

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In-Situ Inc. Hermit 3000

Report generated: 06/26/02 22:11:51
Report from file: C:\Win-Situ\Data\SN45799 2002-01-10 132639 REC-81-10S.bin
DataMgr Version 3.70

Serial number: 00045799
Firmware Version 7.10
Unit name: HERMIT 3000

Test name: DL
REC-81-10S

Test defined on: 01/10/02 07:30:13
Test started on: 01/10/02 13:26:40
Test stopped on: 01/10/02 13:42:13
Test extracted on: 01/11/02 06:34:48

Data gathered using Logarithmic testing

Maximum time between data points: 0.1667 Minutes.
Number of data samples: 144

TOTAL DATA SAMPLES 144

Channel number [1]

Measurement type: Pressure
Channel name: Probe #1
Linearity: 0.3594000
Scale: 30.2978000
Offset: -0.0542000
Warmup: 50
Specific gravity: 1.000
Mode: TOC
User-defined reference: 0.000 Meters H2O
Referenced on: test start
Pressure head at reference: 0.186 Meters H2O

Channel number [0]

Measurement type: Barometric Pressure
Channel name: Barometric
Linearity: 0.0000000
Scale: 0.0000000
Offset: 0.0000000
Warmup: 50

Date	Time	ET (min)	Chan[1] Meters H2O	Chan[0] Inches Hg
01/10/02	13:26:40	0.0000	0.000	30.078
01/10/02	13:26:40	0.0110	-0.065	30.080
01/10/02	13:26:41	0.0220	-0.141	30.080
01/10/02	13:26:41	0.0330	-0.212	30.080
01/10/02	13:26:42	0.0440	-0.280	30.080
01/10/02	13:26:43	0.0550	-0.344	30.080
01/10/02	13:26:43	0.0660	-0.400	30.080
01/10/02	13:26:44	0.0770	-0.445	30.080
01/10/02	13:26:45	0.0880	-0.465	30.078
01/10/02	13:26:45	0.0990	-0.484	30.080
01/10/02	13:26:46	0.1100	-0.492	30.080
01/10/02	13:26:47	0.1210	-0.498	30.080
01/10/02	13:26:47	0.1320	-0.501	30.078
01/10/02	13:26:48	0.1430	-0.502	30.078
01/10/02	13:26:49	0.1540	-0.509	30.080
01/10/02	13:26:49	0.1650	-0.525	30.080
01/10/02	13:26:50	0.1760	-0.537	30.080
01/10/02	13:26:51	0.1870	-0.547	30.080
01/10/02	13:26:51	0.1980	-0.559	30.080
01/10/02	13:26:52	0.2090	-0.571	30.078
01/10/02	13:26:53	0.2200	-0.586	30.078

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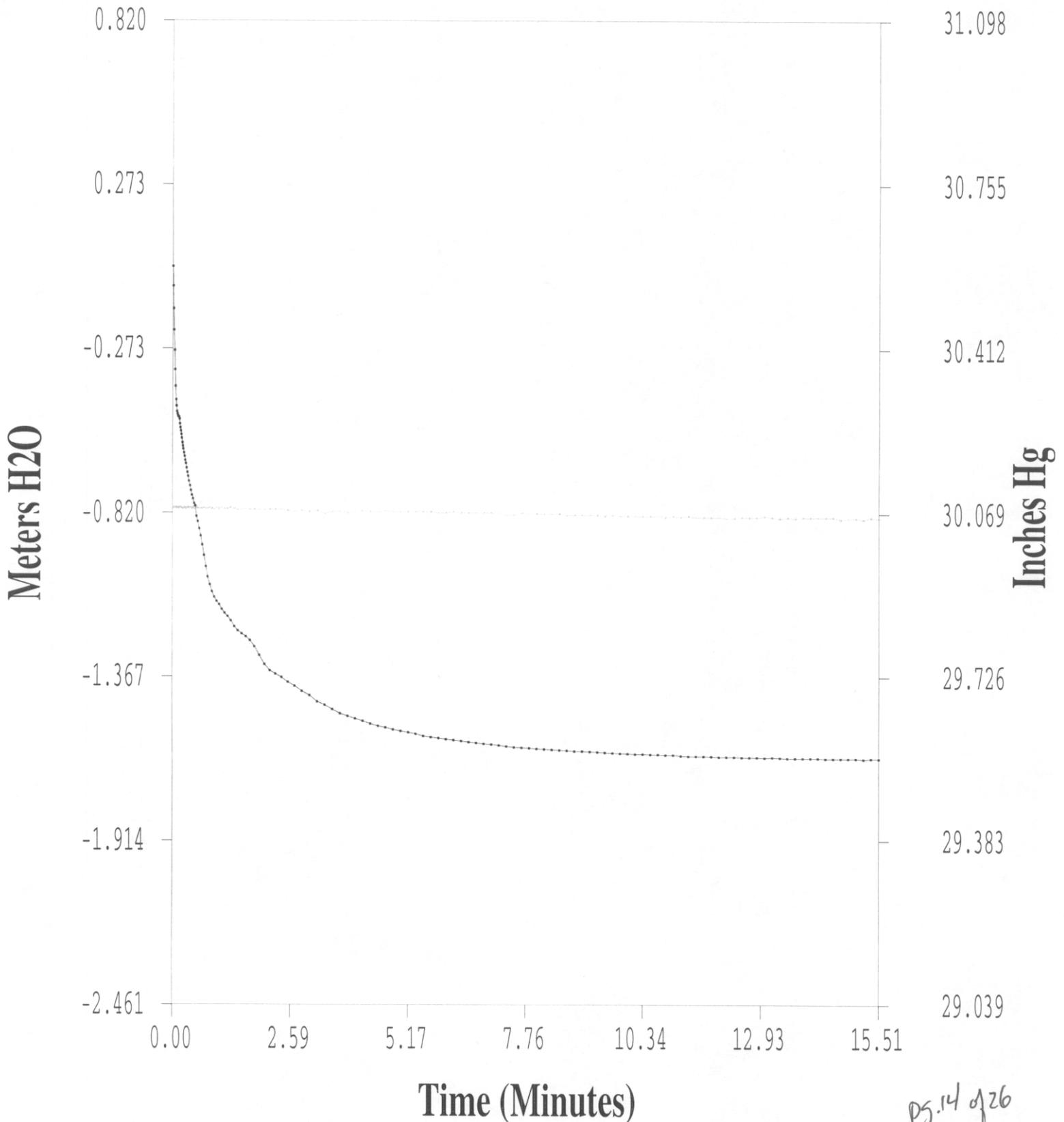
01/10/02	13:26:53	0.2310	-0.597	30.078
01/10/02	13:26:54	0.2427	-0.607	30.078
01/10/02	13:26:55	0.2552	-0.619	30.078
01/10/02	13:26:56	0.2683	-0.631	30.080
01/10/02	13:26:56	0.2823	-0.645	30.078
01/10/02	13:26:57	0.2972	-0.655	30.078
01/10/02	13:26:58	0.3128	-0.670	30.076
01/10/02	13:26:59	0.3295	-0.685	30.080
01/10/02	13:27:00	0.3472	-0.698	30.080
01/10/02	13:27:01	0.3658	-0.714	30.078
01/10/02	13:27:03	0.3857	-0.729	30.080
01/10/02	13:27:04	0.4067	-0.745	30.080
01/10/02	13:27:05	0.4288	-0.761	30.076
01/10/02	13:27:07	0.4523	-0.773	30.080
01/10/02	13:27:08	0.4772	-0.789	30.078
01/10/02	13:27:10	0.5035	-0.797	30.076
01/10/02	13:27:11	0.5315	-0.831	30.080
01/10/02	13:27:13	0.5612	-0.849	30.078
01/10/02	13:27:15	0.5925	-0.873	30.078
01/10/02	13:27:17	0.6257	-0.897	30.078
01/10/02	13:27:19	0.6608	-0.927	30.078
01/10/02	13:27:21	0.6982	-0.962	30.080
01/10/02	13:27:24	0.7377	-0.999	30.078
01/10/02	13:27:26	0.7795	-1.034	30.078
01/10/02	13:27:29	0.8238	-1.061	30.080
01/10/02	13:27:32	0.8708	-1.083	30.078
01/10/02	13:27:35	0.9207	-1.102	30.076
01/10/02	13:27:38	0.9733	-1.117	30.080
01/10/02	13:27:41	1.0292	-1.127	30.078
01/10/02	13:27:45	1.0883	-1.143	30.080
01/10/02	13:27:49	1.1510	-1.155	30.078
01/10/02	13:27:53	1.2173	-1.166	30.078
01/10/02	13:27:57	1.2877	-1.181	30.080
01/10/02	13:28:01	1.3622	-1.201	30.078
01/10/02	13:28:06	1.4412	-1.214	30.076
01/10/02	13:28:11	1.5248	-1.225	30.076
01/10/02	13:28:16	1.6133	-1.234	30.078
01/10/02	13:28:22	1.7072	-1.246	30.076
01/10/02	13:28:28	1.8065	-1.267	30.076
01/10/02	13:28:34	1.9118	-1.295	30.076
01/10/02	13:28:41	2.0233	-1.326	30.076
01/10/02	13:28:48	2.1415	-1.346	30.076
01/10/02	13:28:56	2.2667	-1.358	30.076
01/10/02	13:29:03	2.3992	-1.369	30.076
01/10/02	13:29:12	2.5397	-1.385	30.074
01/10/02	13:29:21	2.6885	-1.398	30.072
01/10/02	13:29:30	2.8460	-1.415	30.074
01/10/02	13:29:40	3.0127	-1.429	30.072
01/10/02	13:29:50	3.1793	-1.450	30.074
01/10/02	13:30:00	3.3460	-1.461	30.068
01/10/02	13:30:10	3.5127	-1.475	30.072
01/10/02	13:30:20	3.6793	-1.489	30.072
01/10/02	13:30:30	3.8460	-1.498	30.070
01/10/02	13:30:40	4.0127	-1.506	30.072
01/10/02	13:30:50	4.1793	-1.514	30.074
01/10/02	13:31:00	4.3460	-1.523	30.072
01/10/02	13:31:10	4.5127	-1.530	30.072
01/10/02	13:31:20	4.6793	-1.535	30.074
01/10/02	13:31:30	4.8460	-1.542	30.072
01/10/02	13:31:40	5.0127	-1.547	30.072
01/10/02	13:31:50	5.1793	-1.551	30.072
01/10/02	13:32:00	5.3460	-1.557	30.072
01/10/02	13:32:10	5.5127	-1.563	30.072
01/10/02	13:32:20	5.6793	-1.567	30.072
01/10/02	13:32:30	5.8460	-1.570	30.070
01/10/02	13:32:40	6.0127	-1.574	30.070
01/10/02	13:32:50	6.1793	-1.577	30.072
01/10/02	13:33:00	6.3460	-1.579	30.070
01/10/02	13:33:10	6.5127	-1.583	30.070
01/10/02	13:33:20	6.6793	-1.586	30.070

01/10/02	13:33:30	6.8460	-1.589	30.070
01/10/02	13:33:40	7.0127	-1.591	30.070
01/10/02	13:33:50	7.1793	-1.594	30.070
01/10/02	13:34:00	7.3460	-1.598	30.066
01/10/02	13:34:10	7.5127	-1.601	30.066
01/10/02	13:34:20	7.6793	-1.602	30.070
01/10/02	13:34:30	7.8460	-1.603	30.068
01/10/02	13:34:40	8.0127	-1.606	30.068
01/10/02	13:34:50	8.1793	-1.607	30.068
01/10/02	13:35:00	8.3460	-1.609	30.068
01/10/02	13:35:10	8.5127	-1.610	30.068
01/10/02	13:35:20	8.6793	-1.611	30.066
01/10/02	13:35:30	8.8460	-1.614	30.066
01/10/02	13:35:40	9.0127	-1.614	30.066
01/10/02	13:35:50	9.1793	-1.615	30.066
01/10/02	13:36:00	9.3460	-1.617	30.066
01/10/02	13:36:10	9.5127	-1.618	30.064
01/10/02	13:36:20	9.6793	-1.619	30.066
01/10/02	13:36:30	9.8460	-1.621	30.064
01/10/02	13:36:40	10.0127	-1.622	30.064
01/10/02	13:36:50	10.1793	-1.623	30.064
01/10/02	13:37:00	10.3460	-1.623	30.064
01/10/02	13:37:10	10.5127	-1.625	30.064
01/10/02	13:37:20	10.6793	-1.625	30.064
01/10/02	13:37:30	10.8460	-1.626	30.062
01/10/02	13:37:40	11.0127	-1.626	30.064
01/10/02	13:37:50	11.1793	-1.629	30.062
01/10/02	13:38:00	11.3460	-1.630	30.064
01/10/02	13:38:10	11.5127	-1.630	30.062
01/10/02	13:38:20	11.6793	-1.630	30.062
01/10/02	13:38:30	11.8460	-1.631	30.062
01/10/02	13:38:40	12.0127	-1.633	30.062
01/10/02	13:38:50	12.1793	-1.633	30.060
01/10/02	13:39:00	12.3460	-1.633	30.060
01/10/02	13:39:10	12.5127	-1.634	30.062
01/10/02	13:39:20	12.6793	-1.634	30.062
01/10/02	13:39:30	12.8460	-1.634	30.062
01/10/02	13:39:40	13.0127	-1.635	30.064
01/10/02	13:39:50	13.1793	-1.634	30.062
01/10/02	13:40:00	13.3460	-1.635	30.060
01/10/02	13:40:10	13.5127	-1.637	30.062
01/10/02	13:40:20	13.6793	-1.637	30.060
01/10/02	13:40:30	13.8460	-1.637	30.062
01/10/02	13:40:40	14.0127	-1.637	30.062
01/10/02	13:40:50	14.1793	-1.637	30.062
01/10/02	13:41:00	14.3460	-1.638	30.062
01/10/02	13:41:10	14.5127	-1.638	30.062
01/10/02	13:41:20	14.6793	-1.638	30.057
01/10/02	13:41:30	14.8460	-1.638	30.060
01/10/02	13:41:40	15.0127	-1.638	30.060
01/10/02	13:41:50	15.1793	-1.641	30.057
01/10/02	13:42:00	15.3460	-1.638	30.062
01/10/02	13:42:10	15.5127	-1.639	30.060

REC-81-10S

DR

MWA



[1] - Probe #1

[0] - Barometric

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In-Situ Inc. Hermit 3000

Report generated: 06/26/02 22:11:34
Report from file: C:\Win-Situ\Data\SN45799 2002-01-10 131201 DR-81-10S.bin
DataMgr Version 3.70

REC

MWD

Serial number: 00045799
Firmware Version 7.10
Unit name: HERMIT 3000

Test name: *REC*
DR-81-10S

Test defined on: 01/10/02 07:27:59
Test started on: 01/10/02 13:12:01
Test stopped on: 01/10/02 13:26:17
Test extracted on: 01/11/02 06:33:50

Data gathered using Logarithmic testing
Maximum time between data points: 0.1667 Minutes.
Number of data samples: 135

TOTAL DATA SAMPLES 135

Channel number [1]

Measurement type: Pressure
Channel name: Probe #1
Linearity: 0.3594000
Scale: 30.2978000
Offset: -0.0542000
Warmup: 50
Specific gravity: 1.000
Mode: TOC
User-defined reference: 0.000 Meters H2O
Referenced on: test start
Pressure head at reference: 1.788 Meters H2O

Channel number [0]

Measurement type: Barometric Pressure
Channel name: Barometric
Linearity: 0.0000000
Scale: 0.0000000
Offset: 0.0000000
Warmup: 50

Date	Time	ET (min)	Chan[1] Meters H2O	Chan[0] Inches Hg
01/10/02	13:12:01	0.0000	0.000	30.106
01/10/02	13:12:01	0.0112	-0.044	30.106
01/10/02	13:12:02	0.0223	0.021	30.106
01/10/02	13:12:03	0.0335	0.068	30.106
01/10/02	13:12:03	0.0447	0.100	30.106
01/10/02	13:12:04	0.0558	0.127	30.106
01/10/02	13:12:05	0.0670	0.155	30.106
01/10/02	13:12:05	0.0782	0.173	30.106
01/10/02	13:12:06	0.0893	0.197	30.104
01/10/02	13:12:07	0.1005	0.215	30.104
01/10/02	13:12:07	0.1117	0.236	30.108
01/10/02	13:12:08	0.1228	0.252	30.106
01/10/02	13:12:09	0.1340	0.268	30.106
01/10/02	13:12:09	0.1452	0.288	30.108
01/10/02	13:12:10	0.1563	0.304	30.106
01/10/02	13:12:11	0.1675	0.320	30.104
01/10/02	13:12:11	0.1787	0.336	30.108
01/10/02	13:12:12	0.1898	0.353	30.106
01/10/02	13:12:13	0.2010	0.363	30.106
01/10/02	13:12:13	0.2122	0.381	30.108
01/10/02	13:12:14	0.2233	0.399	30.106

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01/10/02	13:12:15	0.2350	0.416	30.106
01/10/02	13:12:15	0.2475	0.429	30.104
01/10/02	13:12:16	0.2607	0.443	30.106
01/10/02	13:12:17	0.2747	0.459	30.106
01/10/02	13:12:18	0.2895	0.476	30.106
01/10/02	13:12:19	0.3052	0.492	30.106
01/10/02	13:12:20	0.3218	0.512	30.104
01/10/02	13:12:21	0.3395	0.525	30.106
01/10/02	13:12:22	0.3582	0.545	30.102
01/10/02	13:12:23	0.3780	0.564	30.106
01/10/02	13:12:24	0.3990	0.583	30.104
01/10/02	13:12:26	0.4212	0.599	30.106
01/10/02	13:12:27	0.4447	0.625	30.104
01/10/02	13:12:29	0.4695	0.633	30.106
01/10/02	13:12:30	0.4958	0.649	30.108
01/10/02	13:12:32	0.5238	0.693	30.108
01/10/02	13:12:34	0.5535	0.719	30.104
01/10/02	13:12:36	0.5848	0.747	30.106
01/10/02	13:12:38	0.6180	0.772	30.106
01/10/02	13:12:40	0.6532	0.795	30.104
01/10/02	13:12:42	0.6905	0.821	30.104
01/10/02	13:12:44	0.7300	0.851	30.104
01/10/02	13:12:47	0.7718	0.871	30.104
01/10/02	13:12:49	0.8162	0.900	30.106
01/10/02	13:12:52	0.8632	0.920	30.104
01/10/02	13:12:55	0.9130	0.945	30.104
01/10/02	13:12:58	0.9657	0.959	30.104
01/10/02	13:13:02	1.0215	0.988	30.104
01/10/02	13:13:05	1.0807	1.004	30.104
01/10/02	13:13:09	1.1433	1.021	30.104
01/10/02	13:13:13	1.2097	1.039	30.104
01/10/02	13:13:17	1.2800	1.053	30.106
01/10/02	13:13:22	1.3545	1.068	30.102
01/10/02	13:13:27	1.4335	1.081	30.104
01/10/02	13:13:32	1.5172	1.089	30.106
01/10/02	13:13:37	1.6057	1.100	30.104
01/10/02	13:13:42	1.6995	1.111	30.104
01/10/02	13:13:48	1.7988	1.127	30.104
01/10/02	13:13:55	1.9042	1.136	30.104
01/10/02	13:14:01	2.0157	1.145	30.102
01/10/02	13:14:09	2.1338	1.152	30.102
01/10/02	13:14:16	2.2590	1.173	30.104
01/10/02	13:14:24	2.3915	1.189	30.104
01/10/02	13:14:32	2.5320	1.204	30.102
01/10/02	13:14:41	2.6808	1.221	30.100
01/10/02	13:14:51	2.8383	1.237	30.100
01/10/02	13:15:01	3.0050	1.257	30.100
01/10/02	13:15:11	3.1717	1.256	30.100
01/10/02	13:15:21	3.3383	1.297	30.098
01/10/02	13:15:31	3.5050	1.310	30.098
01/10/02	13:15:41	3.6717	1.328	30.100
01/10/02	13:15:51	3.8383	1.341	30.098
01/10/02	13:16:01	4.0050	1.354	30.096
01/10/02	13:16:11	4.1717	1.366	30.100
01/10/02	13:16:21	4.3383	1.381	30.098
01/10/02	13:16:31	4.5050	1.393	30.098
01/10/02	13:16:41	4.6717	1.406	30.096
01/10/02	13:16:51	4.8383	1.420	30.098
01/10/02	13:17:01	5.0050	1.426	30.098
01/10/02	13:17:11	5.1717	1.437	30.096
01/10/02	13:17:21	5.3383	1.448	30.094
01/10/02	13:17:31	5.5050	1.458	30.096
01/10/02	13:17:41	5.6717	1.464	30.096
01/10/02	13:17:51	5.8383	1.473	30.094
01/10/02	13:18:01	6.0050	1.478	30.094
01/10/02	13:18:11	6.1717	1.484	30.092
01/10/02	13:18:21	6.3383	1.492	30.094
01/10/02	13:18:31	6.5050	1.497	30.092
01/10/02	13:18:41	6.6717	1.502	30.092
01/10/02	13:18:51	6.8383	1.510	30.094

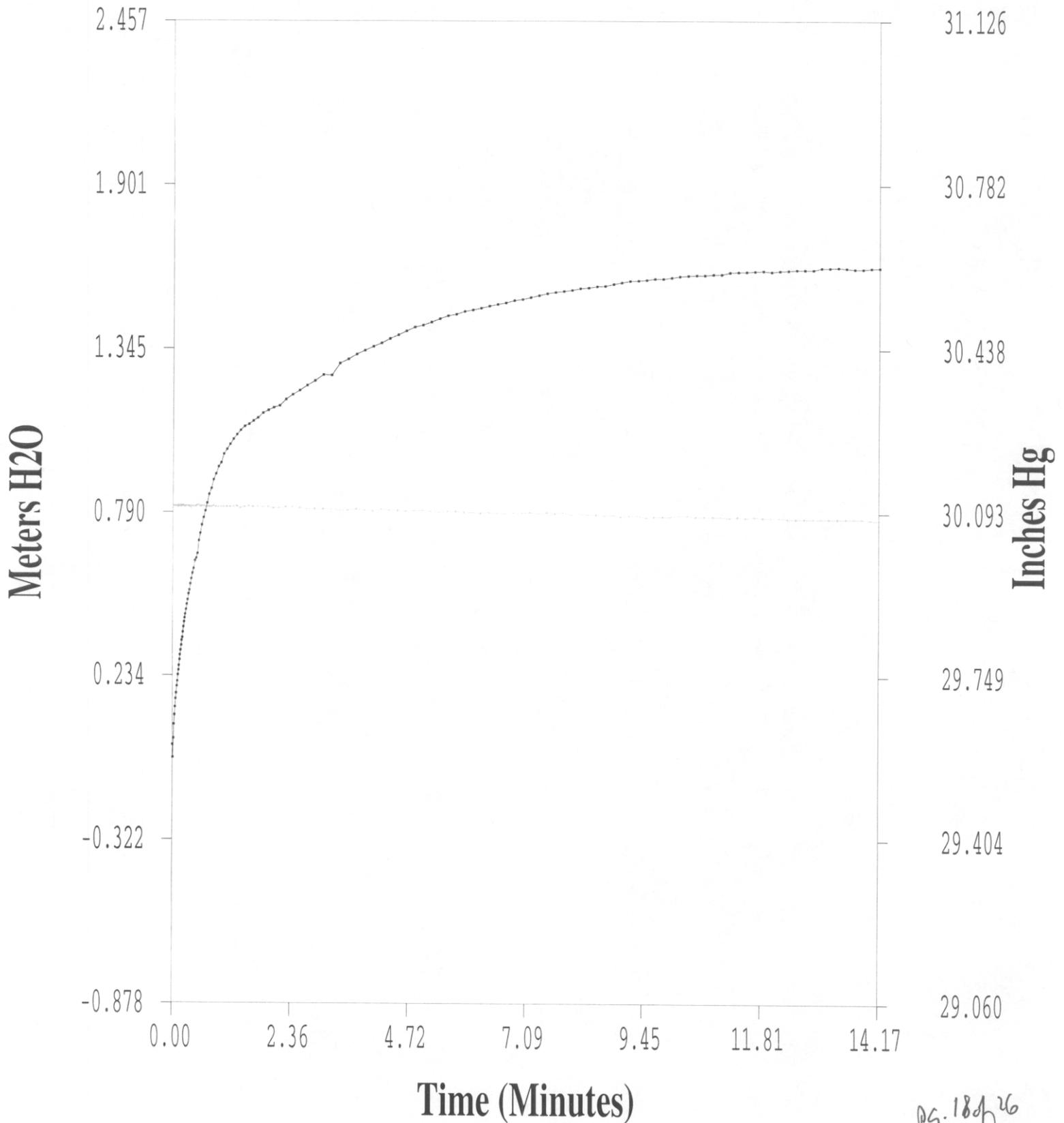
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01/10/02	13:19:01	7.0050	1.514	30.094
01/10/02	13:19:11	7.1717	1.521	30.094
01/10/02	13:19:21	7.3383	1.528	30.092
01/10/02	13:19:31	7.5050	1.534	30.094
01/10/02	13:19:41	7.6717	1.538	30.092
01/10/02	13:19:51	7.8383	1.542	30.094
01/10/02	13:20:01	8.0050	1.546	30.090
01/10/02	13:20:11	8.1717	1.551	30.092
01/10/02	13:20:21	8.3383	1.554	30.090
01/10/02	13:20:31	8.5050	1.558	30.090
01/10/02	13:20:41	8.6717	1.559	30.088
01/10/02	13:20:51	8.8383	1.566	30.090
01/10/02	13:21:01	9.0050	1.571	30.086
01/10/02	13:21:11	9.1717	1.577	30.088
01/10/02	13:21:21	9.3383	1.578	30.088
01/10/02	13:21:31	9.5050	1.581	30.084
01/10/02	13:21:41	9.6717	1.585	30.086
01/10/02	13:21:51	9.8383	1.585	30.086
01/10/02	13:22:01	10.0050	1.589	30.086
01/10/02	13:22:11	10.1717	1.593	30.088
01/10/02	13:22:21	10.3383	1.595	30.088
01/10/02	13:22:31	10.5050	1.597	30.086
01/10/02	13:22:41	10.6717	1.597	30.086
01/10/02	13:22:51	10.8383	1.599	30.086
01/10/02	13:23:01	11.0050	1.599	30.086
01/10/02	13:23:11	11.1717	1.606	30.084
01/10/02	13:23:21	11.3383	1.607	30.086
01/10/02	13:23:31	11.5050	1.609	30.084
01/10/02	13:23:41	11.6717	1.610	30.086
01/10/02	13:23:51	11.8383	1.611	30.084
01/10/02	13:24:01	12.0050	1.609	30.084
01/10/02	13:24:11	12.1717	1.611	30.084
01/10/02	13:24:21	12.3383	1.613	30.082
01/10/02	13:24:31	12.5050	1.615	30.082
01/10/02	13:24:41	12.6717	1.615	30.082
01/10/02	13:24:51	12.8383	1.615	30.082
01/10/02	13:25:01	13.0050	1.622	30.082
01/10/02	13:25:11	13.1717	1.622	30.082
01/10/02	13:25:21	13.3383	1.623	30.082
01/10/02	13:25:31	13.5050	1.621	30.082
01/10/02	13:25:41	13.6717	1.618	30.082
01/10/02	13:25:51	13.8383	1.618	30.082
01/10/02	13:26:01	14.0050	1.621	30.080
01/10/02	13:26:11	14.1717	1.622	30.078

DR-81-10S

REC

MWD



[1] - Probe #1

[0] - Barometric

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In-Situ Inc. Hermit 3000

Report generated: 06/26/02 22:11:14
Report from file: C:\Win-Situ\Data\SN45799 2002-01-10 105018 REC-81-13S.bin
DataMgr Version 3.70

Serial number: 00045799
Firmware Version 7.10
Unit name: HERMIT 3000

Test name: REC-81-13S

Test defined on: 01/10/02 07:31:51
Test started on: 01/10/02 10:50:18
Test stopped on: 01/10/02 10:58:37
Test extracted on: 01/11/02 06:37:11

Data gathered using Logarithmic testing
Maximum time between data points: 0.1667 Minutes.
Number of data samples: 99

TOTAL DATA SAMPLES 99

Channel number [1]

Measurement type: Pressure
Channel name: Probe #1
Linearity: 0.3594000
Scale: 30.2978000
Offset: -0.0542000
Warmup: 50
Specific gravity: 1.000
Mode: TOC
User-defined reference: 0.000 Meters H2O
Referenced on: test start
Pressure head at reference: 1.057 Meters H2O

Channel number [0]

Measurement type: Barometric Pressure
Channel name: Barometric
Linearity: 0.0000000
Scale: 0.0000000
Offset: 0.0000000
Warmup: 50

Date	Time	ET (min)	Chan[1] Meters H2O	Chan[0] Inches Hg
01/10/02	10:50:18	0.0000	0.000	30.165
01/10/02	10:50:18	0.0112	-0.044	30.167
01/10/02	10:50:19	0.0223	-0.107	30.165
01/10/02	10:50:20	0.0335	-0.164	30.167
01/10/02	10:50:20	0.0447	-0.212	30.167
01/10/02	10:50:21	0.0558	-0.252	30.167
01/10/02	10:50:22	0.0670	-0.281	30.167
01/10/02	10:50:22	0.0782	-0.299	30.167
01/10/02	10:50:23	0.0893	-0.296	30.165
01/10/02	10:50:24	0.1005	-0.317	30.165
01/10/02	10:50:24	0.1117	-0.328	30.165
01/10/02	10:50:25	0.1228	-0.328	30.165
01/10/02	10:50:26	0.1340	-0.329	30.165
01/10/02	10:50:26	0.1452	-0.332	30.165
01/10/02	10:50:27	0.1563	-0.336	30.169
01/10/02	10:50:28	0.1675	-0.340	30.165
01/10/02	10:50:28	0.1787	-0.343	30.167
01/10/02	10:50:29	0.1898	-0.343	30.169
01/10/02	10:50:30	0.2010	-0.356	30.167
01/10/02	10:50:30	0.2122	-0.351	30.165
01/10/02	10:50:31	0.2233	-0.360	30.167

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01/10/02	10:50:32	0.2350	-0.360	30.167
01/10/02	10:50:32	0.2475	-0.364	30.167
01/10/02	10:50:33	0.2607	-0.369	30.165
01/10/02	10:50:34	0.2747	-0.377	30.169
01/10/02	10:50:35	0.2895	-0.377	30.169
01/10/02	10:50:36	0.3052	-0.381	30.169
01/10/02	10:50:37	0.3218	-0.385	30.169
01/10/02	10:50:38	0.3395	-0.389	30.169
01/10/02	10:50:39	0.3582	-0.396	30.169
01/10/02	10:50:40	0.3780	-0.399	30.167
01/10/02	10:50:41	0.3990	-0.392	30.165
01/10/02	10:50:43	0.4212	-0.400	30.167
01/10/02	10:50:44	0.4447	-0.400	30.167
01/10/02	10:50:46	0.4695	-0.409	30.165
01/10/02	10:50:47	0.4958	-0.412	30.167
01/10/02	10:50:49	0.5238	-0.427	30.165
01/10/02	10:50:51	0.5535	-0.431	30.169
01/10/02	10:50:53	0.5848	-0.437	30.171
01/10/02	10:50:55	0.6180	-0.441	30.167
01/10/02	10:50:57	0.6532	-0.445	30.169
01/10/02	10:50:59	0.6905	-0.451	30.169
01/10/02	10:51:01	0.7300	-0.455	30.169
01/10/02	10:51:04	0.7718	-0.460	30.169
01/10/02	10:51:06	0.8162	-0.464	30.167
01/10/02	10:51:09	0.8632	-0.468	30.169
01/10/02	10:51:12	0.9130	-0.475	30.169
01/10/02	10:51:15	0.9657	-0.477	30.169
01/10/02	10:51:19	1.0215	-0.481	30.167
01/10/02	10:51:22	1.0807	-0.485	30.167
01/10/02	10:51:26	1.1433	-0.488	30.167
01/10/02	10:51:30	1.2097	-0.492	30.167
01/10/02	10:51:34	1.2800	-0.495	30.171
01/10/02	10:51:39	1.3545	-0.497	30.169
01/10/02	10:51:44	1.4335	-0.500	30.171
01/10/02	10:51:49	1.5172	-0.501	30.167
01/10/02	10:51:54	1.6057	-0.505	30.167
01/10/02	10:51:59	1.6995	-0.507	30.167
01/10/02	10:52:05	1.7988	-0.509	30.165
01/10/02	10:52:12	1.9042	-0.512	30.167
01/10/02	10:52:18	2.0157	-0.513	30.165
01/10/02	10:52:26	2.1338	-0.516	30.163
01/10/02	10:52:33	2.2590	-0.517	30.167
01/10/02	10:52:41	2.3915	-0.519	30.169
01/10/02	10:52:49	2.5320	-0.520	30.165
01/10/02	10:52:58	2.6808	-0.521	30.169
01/10/02	10:53:08	2.8383	-0.523	30.165
01/10/02	10:53:18	3.0050	-0.524	30.171
01/10/02	10:53:28	3.1717	-0.525	30.169
01/10/02	10:53:38	3.3383	-0.525	30.169
01/10/02	10:53:48	3.5050	-0.527	30.167
01/10/02	10:53:58	3.6717	-0.527	30.169
01/10/02	10:54:08	3.8383	-0.527	30.167
01/10/02	10:54:18	4.0050	-0.528	30.167
01/10/02	10:54:28	4.1717	-0.528	30.169
01/10/02	10:54:38	4.3383	-0.529	30.167
01/10/02	10:54:48	4.5050	-0.528	30.167
01/10/02	10:54:58	4.6717	-0.529	30.165
01/10/02	10:55:08	4.8383	-0.529	30.167
01/10/02	10:55:18	5.0050	-0.529	30.167
01/10/02	10:55:28	5.1717	-0.529	30.167
01/10/02	10:55:38	5.3383	-0.529	30.167
01/10/02	10:55:48	5.5050	-0.531	30.167
01/10/02	10:55:58	5.6717	-0.531	30.165
01/10/02	10:56:08	5.8383	-0.531	30.165
01/10/02	10:56:18	6.0050	-0.532	30.167
01/10/02	10:56:28	6.1717	-0.532	30.167
01/10/02	10:56:38	6.3383	-0.532	30.167
01/10/02	10:56:48	6.5050	-0.532	30.169
01/10/02	10:56:58	6.6717	-0.532	30.169
01/10/02	10:57:08	6.8383	-0.532	30.167

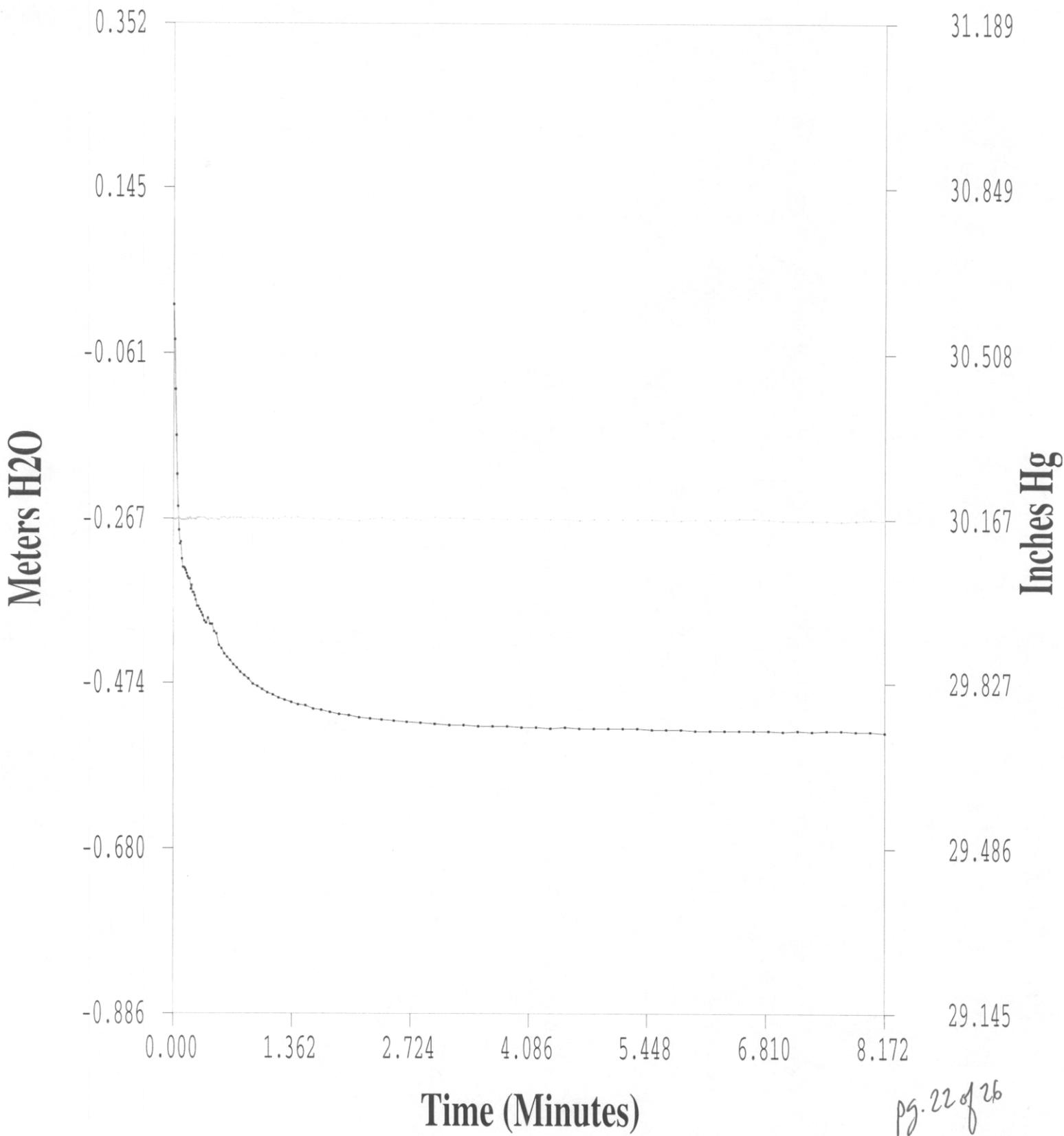
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01/10/02	10:57:18	7.0050	-0.533	30.165
01/10/02	10:57:28	7.1717	-0.532	30.165
01/10/02	10:57:38	7.3383	-0.533	30.165
01/10/02	10:57:48	7.5050	-0.532	30.165
01/10/02	10:57:58	7.6717	-0.532	30.163
01/10/02	10:58:08	7.8383	-0.533	30.165
01/10/02	10:58:18	8.0050	-0.533	30.167
01/10/02	10:58:28	8.1717	-0.535	30.165

REC-81-13S

DR

MWD



[1] - Probe #1

[0] - Barometric

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In-Situ Inc. Hermit 3000

Report generated: 06/26/02 22:10:51
Report from file: C:\Win-Situ\Data\SN45799 2002-01-10 102859 DR-81-13S.bin
DataMgr Version 3.70

REC

MMX

Serial number: 00045799
Firmware Version 7.10
Unit name: HERMIT 3000

Test name: *REC*
DR-81-13S

Test defined on: 01/10/02 07:31:06
Test started on: 01/10/02 10:28:59
Test stopped on: 01/10/02 10:40:35
Test extracted on: 01/11/02 06:35:38

Data gathered using Logarithmic testing
Maximum time between data points: 0.1667 Minutes.
Number of data samples: 119

TOTAL DATA SAMPLES 119

Channel number [1]

Measurement type: Pressure
Channel name: Probe #1
Linearity: 0.3594000
Scale: 30.2978000
Offset: -0.0542000
Warmup: 50
Specific gravity: 1.000
Mode: TOC
User-defined reference: 0.000 Meters H2O
Referenced on: test start
Pressure head at reference: 1.544 Meters H2O

Channel number [0]

Measurement type: Barometric Pressure
Channel name: Barometric
Linearity: 0.0000000
Scale: 0.0000000
Offset: 0.0000000
Warmup: 50

Date	Time	ET (min)	Chan[1] Meters H2O	Chan[0] Inches Hg
01/10/02	10:28:59	0.0000	0.000	30.192
01/10/02	10:28:59	0.0112	0.019	30.194
01/10/02	10:29:00	0.0223	0.053	30.194
01/10/02	10:29:01	0.0335	0.087	30.194
01/10/02	10:29:01	0.0447	0.108	30.194
01/10/02	10:29:02	0.0558	0.127	30.194
01/10/02	10:29:03	0.0670	0.144	30.194
01/10/02	10:29:03	0.0782	0.159	30.194
01/10/02	10:29:04	0.0893	0.173	30.192
01/10/02	10:29:05	0.1005	0.188	30.194
01/10/02	10:29:05	0.1117	0.193	30.192
01/10/02	10:29:06	0.1228	0.205	30.192
01/10/02	10:29:07	0.1340	0.216	30.192
01/10/02	10:29:07	0.1452	0.229	30.192
01/10/02	10:29:08	0.1563	0.243	30.192
01/10/02	10:29:09	0.1675	0.247	30.192
01/10/02	10:29:09	0.1787	0.256	30.192
01/10/02	10:29:10	0.1898	0.264	30.194
01/10/02	10:29:11	0.2010	0.271	30.194
01/10/02	10:29:11	0.2122	0.279	30.196
01/10/02	10:29:12	0.2233	0.279	30.194

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01/10/02	10:29:13	0.2350	0.285	30.196
01/10/02	10:29:13	0.2475	0.297	30.192
01/10/02	10:29:14	0.2607	0.299	30.192
01/10/02	10:29:15	0.2747	0.305	30.192
01/10/02	10:29:16	0.2895	0.296	30.190
01/10/02	10:29:17	0.3052	0.308	30.192
01/10/02	10:29:18	0.3218	0.319	30.192
01/10/02	10:29:19	0.3395	0.325	30.192
01/10/02	10:29:20	0.3582	0.336	30.192
01/10/02	10:29:21	0.3780	0.343	30.192
01/10/02	10:29:22	0.3990	0.344	30.190
01/10/02	10:29:24	0.4212	0.345	30.192
01/10/02	10:29:25	0.4447	0.352	30.194
01/10/02	10:29:27	0.4695	0.359	30.194
01/10/02	10:29:28	0.4958	0.364	30.192
01/10/02	10:29:30	0.5238	0.367	30.192
01/10/02	10:29:32	0.5535	0.372	30.192
01/10/02	10:29:34	0.5848	0.377	30.194
01/10/02	10:29:36	0.6180	0.387	30.194
01/10/02	10:29:38	0.6532	0.388	30.192
01/10/02	10:29:40	0.6905	0.395	30.194
01/10/02	10:29:42	0.7300	0.396	30.192
01/10/02	10:29:45	0.7718	0.403	30.190
01/10/02	10:29:47	0.8162	0.408	30.192
01/10/02	10:29:50	0.8632	0.413	30.190
01/10/02	10:29:53	0.9130	0.421	30.190
01/10/02	10:29:56	0.9657	0.425	30.190
01/10/02	10:30:00	1.0215	0.427	30.192
01/10/02	10:30:03	1.0807	0.432	30.190
01/10/02	10:30:07	1.1433	0.435	30.188
01/10/02	10:30:11	1.2097	0.443	30.190
01/10/02	10:30:15	1.2800	0.447	30.192
01/10/02	10:30:20	1.3545	0.451	30.188
01/10/02	10:30:25	1.4335	0.456	30.188
01/10/02	10:30:30	1.5172	0.460	30.188
01/10/02	10:30:35	1.6057	0.463	30.190
01/10/02	10:30:40	1.6995	0.467	30.188
01/10/02	10:30:46	1.7988	0.469	30.188
01/10/02	10:30:53	1.9042	0.475	30.190
01/10/02	10:30:59	2.0157	0.483	30.188
01/10/02	10:31:07	2.1338	0.484	30.188
01/10/02	10:31:14	2.2590	0.487	30.188
01/10/02	10:31:22	2.3915	0.488	30.186
01/10/02	10:31:30	2.5320	0.492	30.186
01/10/02	10:31:39	2.6808	0.495	30.186
01/10/02	10:31:49	2.8383	0.491	30.186
01/10/02	10:31:59	3.0050	0.496	30.186
01/10/02	10:32:09	3.1717	0.497	30.186
01/10/02	10:32:19	3.3383	0.495	30.184
01/10/02	10:32:29	3.5050	0.497	30.184
01/10/02	10:32:39	3.6717	0.503	30.184
01/10/02	10:32:49	3.8383	0.499	30.184
01/10/02	10:32:59	4.0050	0.500	30.184
01/10/02	10:33:09	4.1717	0.500	30.182
01/10/02	10:33:19	4.3383	0.505	30.180
01/10/02	10:33:29	4.5050	0.505	30.182
01/10/02	10:33:39	4.6717	0.507	30.184
01/10/02	10:33:49	4.8383	0.504	30.182
01/10/02	10:33:59	5.0050	0.504	30.182
01/10/02	10:34:09	5.1717	0.507	30.182
01/10/02	10:34:19	5.3383	0.505	30.182
01/10/02	10:34:29	5.5050	0.508	30.182
01/10/02	10:34:39	5.6717	0.505	30.180
01/10/02	10:34:49	5.8383	0.507	30.180
01/10/02	10:34:59	6.0050	0.508	30.180
01/10/02	10:35:09	6.1717	0.508	30.180
01/10/02	10:35:19	6.3383	0.511	30.180
01/10/02	10:35:29	6.5050	0.511	30.178
01/10/02	10:35:39	6.6717	0.512	30.176
01/10/02	10:35:49	6.8383	0.508	30.178

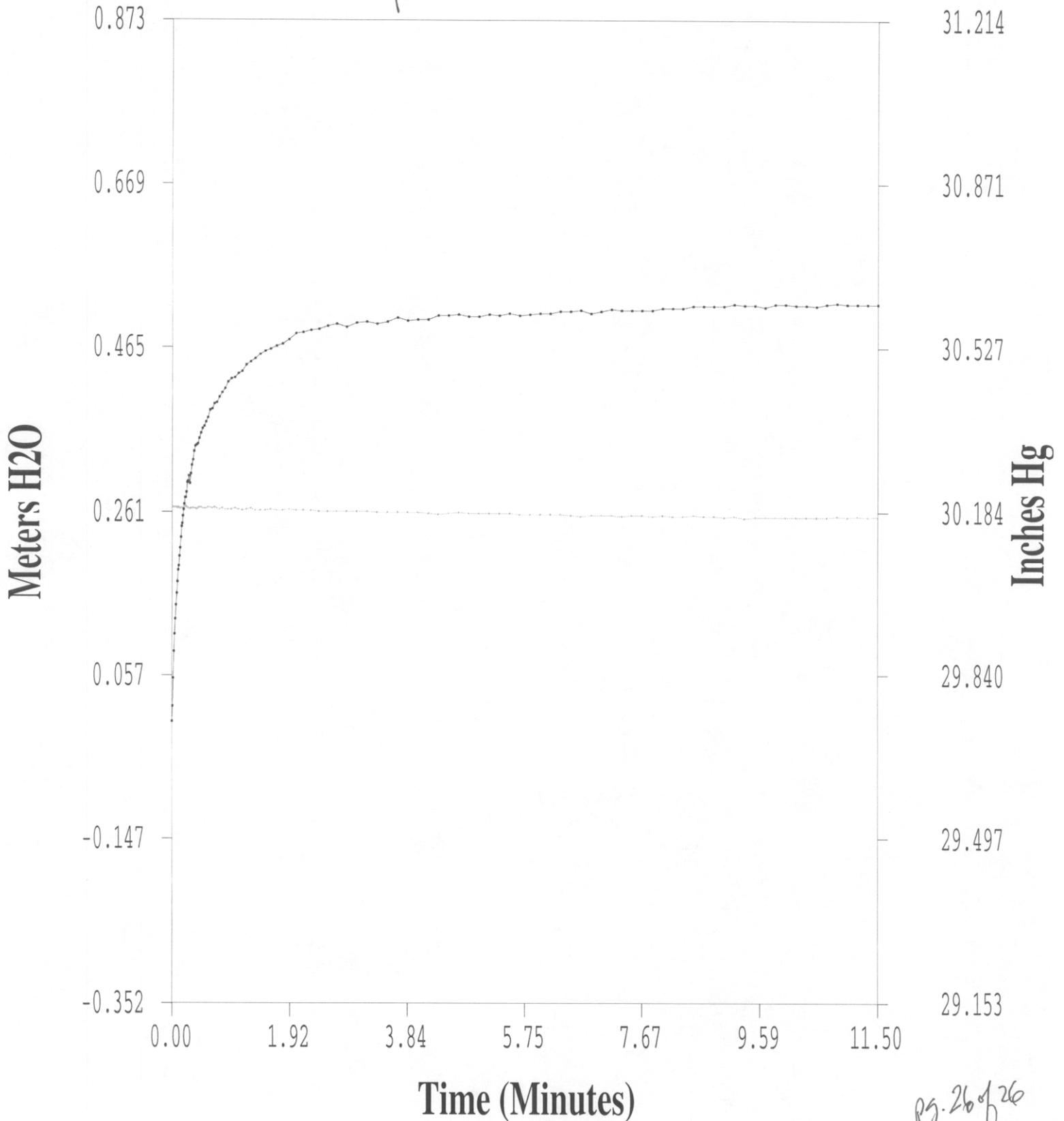
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01/10/02	10:35:59	7.0050	0.511	30.178
01/10/02	10:36:09	7.1717	0.513	30.178
01/10/02	10:36:19	7.3383	0.512	30.176
01/10/02	10:36:29	7.5050	0.512	30.178
01/10/02	10:36:39	7.6717	0.512	30.178
01/10/02	10:36:49	7.8383	0.512	30.176
01/10/02	10:36:59	8.0050	0.515	30.178
01/10/02	10:37:09	8.1717	0.515	30.176
01/10/02	10:37:19	8.3383	0.515	30.176
01/10/02	10:37:29	8.5050	0.517	30.178
01/10/02	10:37:39	8.6717	0.517	30.176
01/10/02	10:37:49	8.8383	0.517	30.176
01/10/02	10:37:59	9.0050	0.517	30.174
01/10/02	10:38:09	9.1717	0.520	30.176
01/10/02	10:38:19	9.3383	0.519	30.171
01/10/02	10:38:29	9.5050	0.519	30.174
01/10/02	10:38:39	9.6717	0.516	30.174
01/10/02	10:38:49	9.8383	0.520	30.174
01/10/02	10:38:59	10.0050	0.520	30.174
01/10/02	10:39:09	10.1717	0.519	30.174
01/10/02	10:39:19	10.3383	0.519	30.174
01/10/02	10:39:29	10.5050	0.517	30.174
01/10/02	10:39:39	10.6717	0.520	30.174
01/10/02	10:39:49	10.8383	0.521	30.176
01/10/02	10:39:59	11.0050	0.520	30.174
01/10/02	10:40:09	11.1717	0.520	30.176
01/10/02	10:40:19	11.3383	0.520	30.174
01/10/02	10:40:29	11.5050	0.520	30.176

DR-81-13S

REC

MWD



[1] - Probe #1

[0] - Barometric

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APPENDIX L

MOBILE LABORATORY DATA SHEETS



KB LABS, INC.

Final Data Report Cecil Field CEF 081

Prepared for: Tetra Tech NUS

Well ID	Matrix	Date Sampled	Benzene	Toluene	Ethylbenzene	o-Xylene	m- & p-Xylene	DRO	Naphthalene
GW1 30'	Water	9/5/01	<1	<1	<1	<1	1.9	<1	<20
GW2 4'	Water	9/5/01	<1	<1	<1	<1	<1	<1	<20
GW3 4'	Water	9/5/01	<1	1.2	<1	<1	1.8	<1	<20
GW4 4'	Water	9/5/01	2.6	<1	<1	2.6	<1	<1	<20
GW5 4'	Water	9/5/01	1.4	<1	<1	<1	1.1	<1	<20
GW6 4'	Water	9/5/01	3.1	<1	<1	<1	<1	<1	<20
GW7 4'	Water	9/5/01	4.5	<1	<1	<1	<1	<1	<20
GW8 4'	Water	9/5/01	<1	1.1	<1	<1	1.7	<1	<20
GW9 4'	Water	9/5/01	<1	<1	<1	<1	1.2	<1	<20
GW10 4'	Water	9/6/01	<1	<1	<1	<1	<1	<1	<20
GW11 4'	Water	9/6/01	4.4	4.9	<1	<1	1.1	<1	<20
GW12 4'	Water	9/6/01	7.1	10.5	<1	<1	<1	<1	<20
GW 13 4'	Water	9/6/01	<1	<1	1.1	<1	<1	<1	<20
GW14 4'	Water	9/6/01	3.2	<1	7.4	<1	<1	<1	<20
GW15 4'	Water	9/6/01	1.1	1.3	2.4	<1	<1	<1	<20
GW16 4'	Water	9/6/01	<1	<1	<1	<1	<1	<1	<20
GW 17 4'	Water	9/7/01	3.6	3.0	<1	<1	1.2	<1	<20
GW 18 5'	Water	9/7/01	1.3	<1	<1	<1	<1	<1	<20
GW 19 5'	Water	9/7/01	1.0	<1	<1	<1	<1	<1	<20
GW 20 5'	Water	9/7/01	1.4	1.1	<1	<1	<1	<1	<20
GW 21 5'	Water	9/7/01	1.0	<1	<1	<1	<1	<1	<20
GW 22 5'	Water	9/7/01	<1	<1	<1	<1	<1	<1	<20
GW 23 5'	Water	9/7/01	<1	1.4	1.0	<1	<1	<1	<20
GW 24 5'	Water	9/7/01	<1	<1	<1	<1	<1	<1	<20
GW 25 5'	Water	9/7/01	2.8	<1	<1	2.9	18.8	<1	<20
GW 26 5'	Water	9/7/01	2.4	2.4	<1	<1	1.0	<1	<20

APPENDIX M

FIXED-BASED LABORATORY DATA SHEETS

AAL Project #: 28171

Client Project: NAS Cecil Field – Tank 81 ABC / N0486 / CTO 121

CTO Manager: Paul Calligan

The following items were noted concerning this project:

1. The following sample was received by Accura Analytical Laboratory on 06/19/01 at 1000:

<u>Client I.D.</u>	<u>Laboratory I.D.</u>
CEF-81-GW-9S-01	AC15369
2. The sample cooler temperature was noted to be 4⁰C upon receipt.
3. The sample was preserved upon receipt at the laboratory for the Metals analysis.
4. The “J” values noted for the Pesticides, VOC, and Metals results indicate estimated concentrations that were above the method detection limits, but below the reporting limits.
5. The pH of the sample was 1.0 prior to the VOC analysis.
6. The following surrogates were outside the method specified limit for the sample and all Quality Control analyses performed for this project:

FLA-PRO
(Nonatriacontane/C39)
o-Terphenyl

The recovery for the Nonatriacontane/C39 was within historical limits established in the laboratory; however o-Terphenyl was outside historical limits, and there was no additional sample available in order to re-extract; therefore the results for the FLA-PRO analysis should be considered estimated.

7. The following surrogate was outside the method specified limit for the sample due to matrix interference, as indicated by the “J” qualifier code:

Pesticides – SW-846-8081A
Decachlorobiphenyl

8. Batch QC is reported for the Metals analysis.
9. Project Specific QC for the SVOC, Pesticides, and PCB analyses consists of a laboratory control sample and a laboratory control sample duplicate due to limited sample volume. Note that laboratory control sample and laboratory control sample duplicate recoveries are reported as matrix spike and matrix spike recoveries on the QC spreadsheet.

10. The laboratory control sample, matrix spike, and matrix spike recoveries were outside the project specified limit for the following analyte:

VOC – SW-846-8260B
2-Chloroethylvinyl ether

The results for this analyte should be considered estimated. Note that the samples were preserved with Hydrochloric Acid and 2-Chloroethylvinyl ether decomposes rapidly in an acidic environment.

11. The laboratory control sample duplicate recovery was outside the project specified limit for the following analyte:

Pesticides – SW-846-8081A
Laboratory Control Sample Duplicate - delta-BHC

The laboratory control sample recovery was within project specified limits, and there were no hits of this analyte in the sample; therefore the data was accepted.

12. The following spike recovery was outside the project specified limit due to possible matrix interference:

PAH – SW-846-8270C
Matrix Spike - Naphthalene

13. Tentatively Identified Compounds were detected and results reported as quantitative estimates.

Approved for Quality Assurance Release By:

Camden Robinson
Quality Assurance Officer

Date

ACCURA ANALYTICAL LABORATORY, INC.

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 FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved
LABORATORY REPORT

Accura Sample ID #:	AC15369	Accura Project #:	28171
Client:	Tetra Tech Nus -Jacksonville	Date Sampled:	6/16/01
Client Contact:	PAUL CALLIGAN	Date Received:	6/19/01
Client Project Number:	N0486 / CTO 121	Date Reported:	7/13/01
Client Project Name:	NAS CECIL FIELD-TANK 81ABC	Sample Matrix:	WATER
Client Sample ID:	CEF-81-GW-9S-01		

ANALYSIS: Metals - (Water) As, Cd, Cr, Pb

Date Ext/Dig/Prep:	6/29/01	Date Analyzed:	7/11/01	Method Ref:	3050B/6010B
				Result Units:	mg/L
Analyte Name	Analytical Results	Qualifier	Reported Detection Limits		
Arsenic	<RL		0.050		
Cadmium	0.0039	J	0.0050		
Chromium	<RL		0.050		
Lead	0.0089	J	0.010		

ANALYSIS: PAH's - Low Level

Date Ext/Dig/Prep:	6/23/01	Date Analyzed:	6/27/01	Method Ref:	8270C
				Result Units:	ug/L
Analyte Name	Analytical Results	Qualifier	Reported Detection Limits		
1-Methylnaphthalene	29		10		
2-Methylnaphthalene	29		10		
Acenaphthene	<RL		10		
Acenaphthylene	<RL		10		
Anthracene	<RL		10		
Benzo(a)anthracene	<RL		10		
Benzo(a)pyrene	<RL		10		
Benzo(b)fluoranthene	<RL		10		
Benzo(g,h,i)perylene	<RL		10		
Benzo(k)fluoranthene	<RL		10		
Chrysene	<RL		10		
Dibenz(a,h)anthracene	<RL		10		
Fluoranthene	<RL		10		
Fluorene	<RL		10		
Indeno(1,2,3-cd)pyrene	<RL		10		
Naphthalene	25		10		
Phenanthrene	<RL		10		
Pyrene	<RL		10		

ANALYSIS: PCB's

Date Ext/Dig/Prep:	6/23/01	Date Analyzed:	6/29/01	Method Ref:	8082
				Result Units:	ug/l
Analyte Name	Analytical Results	Qualifier	Reported Detection Limits		
Aroclor-1016	<RL		0.50		
Aroclor-1221	<RL		0.50		
Aroclor-1232	<RL		0.50		
Aroclor-1242	<RL		0.50		
Aroclor-1248	<RL		0.50		

ACCURA ANALYTICAL LABORATORY, INC.

<RL = Less than Reporting Limit

Pg 1 of 7

Client Sample ID: CEF-81-GW-9S-01

AALS Sample ID #: AC15369

Accura Project #: 28171

Aroclor-1254 <RL 0.50
 Aroclor-1260 <RL 0.50

ANALYSIS: Pesticides Navy

Method Ref: 8081A

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/28/01 Result Units: ug/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
4,4'-DDD	<RL		0.10
4,4'-DDE	<RL		0.10
4,4'-DDT	<RL		0.10
Aldrin	<RL		0.050
alpha-Chlordane	<RL		0.050
alpha-BHC	<RL		0.050
alpha-Endosulfan	<RL		0.050
beta-BHC	<RL		0.050
beta-Endosulfan	<RL		0.10
delta-BHC	<RL		0.050
Dieldrin	<RL		0.10
Endosulfan sulfate	<RL		0.10
Endrin	<RL		0.10
Endrin aldehyde	<RL		0.10
Endrin Ketone	<RL		0.10
gamma-BHC	<RL		0.050
gamma-Chlordane	<RL		0.050
Heptachlor	<RL		0.050
Heptachlor epoxide	<RL		0.050
Methoxychlor	<RL		0.50
Toxaphene	<RL		5.0

ANALYSIS: Petroleum Range Organics (PRO)

Method Ref: FL-PRO

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/28/01 Result Units: mg/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	1.2		1.0

ANALYSIS: SVOC's library search (water)

Method Ref: 8270C

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/27/01 Result Units: ug/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
1,2,3,4-tetrahydro-Naphthalene	20		
1,2,3-trimethyl-Benzene	23		
2-butenyl-Benzene	44		
unknown hydrocarbon	43		
unknown hydrocarbon #2	20		
unknown hydrocarbon #3	23		
unknown hydrocarbon #4	38		
unknown hydrocarbon #5	39		

ANALYSIS: VOC's - Cecil Field(25 ml purge)

Method Ref: 8260B

Date Ext/Dig/Prep: 6/25/01 Date Analyzed: 6/25/01 Result Units: ug/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
1,1,1-Trichloroethane	<RL		1.0
1,1,2,2-Tetrachloroethane	<RL		1.0
1,1,2-Trichloroethane	<RL		1.0
1,1-Dichloroethane	<RL		1.0
1,1-Dichloroethene	<RL		1.0
1,2-Dichloroethane	<RL		1.0

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<RL = Less than Reporting Limit

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Client Sample ID: CEF-81-GW-9S-01

AALSample ID #: AC15369 Accura Project #: 28171

1,2-Dichloropropane	<RL	1.0
1,3-Dichloropropene	<RL	1.0
2-Chloroethylvinyl ether	<RL	10
Acrolein	<RL	10
Acrylonitrile	<RL	10
Benzene	<RL	1.0
Bromodichloromethane	<RL	1.0
Bromoform	<RL	1.0
Bromomethane	<RL	1.0
Carbon tetrachloride	<RL	1.0
Chlorobenzene	<RL	1.0
Chloroform	<RL	1.0
Chloromethane	0.65	J 1.0
Ethylbenzene	2.1	1.0
Methylene chloride	<RL	5.0
Methyl-tert-butyl ether (MTBE)	<RL	10
Tetrachloroethene	<RL	1.0
Toluene	<RL	1.0
trans-1,2-Dichloroethene	<RL	1.0
Trichloroethene	<RL	1.0
Vinyl chloride	<RL	1.0
Xylenes (Total)	5.0	2.0

ANALYSIS: VOC's- TIC's

Method Ref: 8260B Mod

Date Ext/Dig/Prep: 6/25/01

Date Analyzed: 6/25/01

Result Units: % match

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection Limits</u>
1,2,3,4-Tetrahydro-6-methylnaphthalene	14		
1,2,3,4-Tetrahydronaphthalene	19		
1-Methyl-2-propyl-benzene	13		
Unknow 3	10		
Unknown 1	36		
Unknown 2	31		
Unknown 4	8.8		
Unknown Diethylmethylbenzene Isomer	11		
Unknown Dimethylethylbenzene Isomer 1	15		
Unknown Dimethylethylbenzene Isomer 2	14		
Unknown Dimethylethylbenzene Isomer 3	22		
Unknown Dimethylethylbenzene Isomer 4	13		
Unknown Dimethylethylbenzene Isomer 5	10		
Unknown Methylethylbenzene Isomer 1	10		
Unknown Methylethylbenzene Isomer 2	12		
Unknown Tetramethylbenzene Isomer 1	20		
Unknown Tetramethylbenzene Isomer 2	52		
Unknown Trimethylbenzene Isomer	31		

ANALYSIS: X B/N Sample Surrogates (Waters)

Method Ref: 8270C

Date Ext/Dig/Prep: 6/23/01

Date Analyzed: 6/27/01

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection Limits</u>
2-Fluorobiphenyl (Range 43-111)	90		
Nitrobenzene-d5 (Range 37-104)	76		
p-Terphenyl-d14 (Range 15-132)	107		

ANALYSIS: X PCB Sample Surrogates (Waters)

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/29/01

Method Ref: 8082

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>
Decachlorobiphenyl (Range D-128)	31

<u>Qualifier</u>	<u>Reported Detection Limits</u>
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ANALYSIS: X Pest Sample Surrogates (Water)

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/28/01

Method Ref: 8081A

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>
Decachlorobiphenyl (Range 30-150)	25
Tetrachloro-m-xylene (Range 30-150)	40

<u>Qualifier</u>	<u>Reported Detection Limits</u>
Z	

ANALYSIS: X PRO Sample Surrogates (Water)

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/28/01

Method Ref: FL-PRO

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>
C(39) (Range 42-193)	29
o-Terphenyl (Range 82-142)	64

<u>Qualifier</u>	<u>Reported Detection Limits</u>
Z	
Z	

ANALYSIS: X VOC Sample Surrogates-Waters

Date Ext/Dig/Prep: 6/25/01 Date Analyzed: 6/25/01

Method Ref: 5030B/8260B

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>
1,2-Dichloroethane-d4 (81-132)	107
4-Bromofluorobenzene (80-120)	98
Toluene-d8 (80-119)	99

<u>Qualifier</u>	<u>Reported Detection Limits</u>
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 LABORATORY REPORT

Accura Sample ID #: AC15370 Accura Project #: 28171
 Client: Tetra Tech Nus -Jacksonville Date Sampled: 6/19/01
 Client Contact: PAUL CALLIGAN Date Received: 6/19/01
 Client Project Number: N0486 / CTO 121 Date Reported: 7/13/01
 Client Project Name: NAS CECIL FIELD-TANK 81ABC Sample Matrix: WATER
 Client Sample ID: METHOD BLANK

ANALYSIS: Metals - (Water) As, Cd, Cr, Pb

Date Ext/Dig/Prep: 6/29/01 Date Analyzed: 7/11/01 Method Ref: 3050B/6010B
 Result Units: mg/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Arsenic	<RL		0.050
Cadmium	<RL		0.0050
Chromium	<RL		0.050
Lead	<RL		0.010

ANALYSIS: PAH's - Low Level

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/27/01 Method Ref: 8270C
 Result Units: ug/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
1-Methylnaphthalene	<RL		10
2-Methylnaphthalene	<RL		10
Acenaphthene	<RL		10
Acenaphthylene	<RL		10
Anthracene	<RL		10
Benzo(a)anthracene	<RL		10
Benzo(a)pyrene	<RL		10
Benzo(b)fluoranthene	<RL		10
Benzo(g,h,i)perylene	<RL		10
Benzo(k)fluoranthene	<RL		10
Chrysene	<RL		10
Dibenz(a,h)anthracene	<RL		10
Fluoranthene	<RL		10
Fluorene	<RL		10
Indeno(1,2,3-cd)pyrene	<RL		10
Naphthalene	<RL		10
Phenanthrene	<RL		10
Pyrene	<RL		10

ANALYSIS: PCB's

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/29/01 Method Ref: 8082
 Result Units: ug/l

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Aroclor-1016	<RL		0.50
Aroclor-1221	<RL		0.50
Aroclor-1232	<RL		0.50
Aroclor-1242	<RL		0.50
Aroclor-1248	<RL		0.50

ACCURA ANALYTICAL LABORATORY, INC.

<RL = Less than Reporting Limit

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Client Sample ID: METHOD BLANK

AALSample ID #: AC15370 Accura Project #: 28171

Aroclor-1254 <RL 0.50
 Aroclor-1260 <RL 0.50

ANALYSIS: Pesticides Navy

Method Ref: 8081A

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/28/01 Result Units: ug/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
4,4'-DDD	<RL		0.10
4,4'-DDE	<RL		0.10
4,4'-DDT	<RL		0.10
Aldrin	<RL		0.050
alpha-Chlordane	<RL		0.050
alpha-BHC	<RL		0.050
alpha-Endosulfan	0.021	J	0.050
beta-BHC	<RL		0.050
beta-Endosulfan	<RL		0.10
delta-BHC	<RL		0.050
Dieldrin	<RL		0.10
Endosulfan sulfate	<RL		0.10
Endrin	<RL		0.10
Endrin aldehyde	<RL		0.10
Endrin Ketone	<RL		0.10
gamma-BHC	<RL		0.050
gamma-Chlordane	<RL		0.050
Heptachlor	<RL		0.050
Heptachlor epoxide	<RL		0.050
Methoxychlor	<RL		0.50
Toxaphene	<RL		5.0

ANALYSIS: Petroleum Range Organics (PRO)

Method Ref: FL-PRO

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/27/01 Result Units: mg/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	<RL		1.0

ANALYSIS: VOC's - Cecil Field(25 ml purge)

Method Ref: 8260B

Date Ext/Dig/Prep: 6/25/01 Date Analyzed: 6/25/01 Result Units: ug/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
1,1,1-Trichloroethane	<RL		1.0
1,1,2,2-Tetrachloroethane	<RL		1.0
1,1,2-Trichloroethane	<RL		1.0
1,1-Dichloroethane	<RL		1.0
1,1-Dichloroethene	<RL		1.0
1,2-Dichloroethane	<RL		1.0
1,2-Dichloropropane	<RL		1.0
1,3-Dichloropropene	<RL		1.0
2-Chloroethylvinyl ether	<RL		10
Acrolein	<RL		10
Acrylonitrile	<RL		10
Benzene	<RL		1.0
Bromodichloromethane	<RL		1.0
Bromoform	<RL		1.0
Bromomethane	<RL		1.0
Carbon tetrachloride	<RL		1.0
Chlorobenzene	<RL		1.0
Chloroform	<RL		1.0

ACCURA ANALYTICAL LABORATORY, INC.

<RL = Less than Reporting Limit

Pg 6 of 7

Client Sample ID: METHOD BLANK

AALSample ID #: AC15370 Accura Project #: 28171

Chloromethane	<RL	1.0
Ethylbenzene	<RL	1.0
Methylene chloride	<RL	5.0
Methyl-tert-butyl ether (MTBE)	<RL	10
Tetrachloroethene	<RL	1.0
Toluene	<RL	1.0
trans-1,2-Dichloroethene	<RL	1.0
Trichloroethene	<RL	1.0
Vinyl chloride	<RL	1.0
Xylenes (Total)	<RL	2.0

ANALYSIS: X Base Neutral OC Surrogates (W)

Method Ref: 8270C

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/27/01

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection Limits</u>
2-Fluorobiphenyl (Range 27-121)	82		
Nitrobenzene-d5 (Range 24-114)	65		
p-Terphenyl-d14 (Range 28-139)	108		

ANALYSIS: X PCB OC Surrogates (Waters)

Method Ref: 8082

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/29/01

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection Limits</u>
Decachlorobiphenyl (Range 46-138)	79		

ANALYSIS: X Pest OC Surrogates (Waters)

Method Ref: 8081A

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/28/01

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection Limits</u>
Decachlorobiphenyl (Range 30-150)	73		
Tetrachloro-m-xylene (Range 30-150)	78		

ANALYSIS: X PRO OC Surrogates (Water)

Method Ref: FL-PRO

Date Ext/Dig/Prep: 6/23/01 Date Analyzed: 6/27/01

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection Limits</u>
C(39) (Range 42-193)	37	Z	
o-Terphenyl (Range 82-142)	74	Z	

ANALYSIS: X VOC OC Surrogates-Waters

Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 6/25/01 Date Analyzed: 6/25/01

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection Limits</u>
1,2-Dichloroethane-d4 (83-124)	98		
4-Bromofluorobenzene (81-118)	102		
Toluene-d8 (84-115)	103		



PROJECT NO: 0486		SITE NAME: Tank 81ABC		PROJECT MANAGER AND PHONE NUMBER: Paul Callahan 850 385 9866 x.24				LABORATORY NAME AND CONTACT: ACCURA Bonnie Hogue							
SAMPLERS (SIGNATURE): <i>[Signature]</i>				FIELD OPERATIONS LEADER AND PHONE NUMBER: MIA IN DATE 904 281 1941 x.14				ADDRESS: 6107 FINANCIAL DRIVE							
SAMPLERS (SIGNATURE): <i>[Signature]</i>				CARRIER/WAYBILL NUMBER: Fedex 8244 2558 5912				CITY, STATE: Norcross, GA 30071							
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/>				CONTAINER TYPE: PLASTIC (P) or GLASS (G)				PRESERVATIVE USED							
<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				MATRIX				TYPE OF ANALYSIS							
DATE YEAR: 2001				GRAB (G) COMP (C)				PET. TOC. TOU. TIC. TOE. HCL G							
TIME				No. OF CONTAINERS				S.W. 646 82608 * HCL G							
SAMPLE ID				No. OF CONTAINERS				NON-PET. TOC. TOU. TIC. TOE. HCL G							
4/16/12				17				PR. POL. EXT. OIG. * HCL G							
CEF-81-GW-95-01								S.W. 646 82608 * HCL G							
(E MSMSD bottles)								NON-PET. TOC. TOU. TIC. TOE. HCL G							
								S.W. 646 82608 * HCL G							
								TRPH							
								TOTAL METALS HCL G							
								S.W. 646 82608 * HCL G							
								PESTICIDES HCL G							
								S.W. 646 82608 * HCL G							
								PCBS S.W. 646 82608 * HCL G							
								COMMENTS							
								Cool to 4°C							
								Part Flur- N0486-P377(DW)							
								* with GC/ms peaks > 10 ppb.							
								** Need low detection limits in contract.							
								*** Arsenic, Cadmium, Chromium, & Lead							
RELINQUISHED BY: <i>[Signature]</i>				DATE: 6/18/01		TIME: 1000		1. RECEIVED BY:		DATE:		TIME:			
RELINQUISHED BY:				DATE:		TIME:		2. RECEIVED BY:		DATE:		TIME:			
RELINQUISHED BY:				DATE:		TIME:		3. RECEIVED BY:		DATE:		TIME:			
COMMENTS: N0486 GHO 050195															

Report of Analysis

Client Sample ID: CEF-81-GW-8SR-02
 Lab Sample ID: F11787-1
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Cecil Field CTO168

Date Sampled: 12/13/01
 Date Received: 12/14/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0007443.D	1	12/23/01	JG	n/a	n/a	VC345
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	
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	
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	
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	

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

000016

Report of Analysis

Client Sample ID:	CEF-81-GW-8SR-02	Date Sampled:	12/13/01
Lab Sample ID:	F11787-1	Date Received:	12/14/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Cecil Field CTO168		

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	92%		80-120%
2037-26-5	Toluene-D8	97%		80-120%
460-00-4	4-Bromofluorobenzene	93%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile ^a		0	ug/l	

(a) No TICs detected.

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

000017

Report of Analysis

Client Sample ID: CEF-81-GW-8SR-02	
Lab Sample ID: F11787-1	Date Sampled: 12/13/01
Matrix: AQ - Ground Water	Date Received: 12/14/01
Method: SW846 8270C SW846 3510C	Percent Solids: n/a
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W007818.D	1	12/24/01	ME	12/20/01	OP4410	SW429
Run #2							

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	6.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	6.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	6.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	30	ug/l	
51-28-5	2,4-Dinitrophenol	ND	30	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	12	ug/l	
88-75-5	2-Nitrophenol	ND	6.0	ug/l	
100-02-7	4-Nitrophenol	ND	30	ug/l	
87-86-5	Pentachlorophenol	ND	30	ug/l	
108-95-2	Phenol	ND	6.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	6.0	ug/l	
83-32-9	Acenaphthene	ND	6.0	ug/l	
208-96-8	Acenaphthylene	ND	6.0	ug/l	
120-12-7	Anthracene	ND	6.0	ug/l	
92-87-5	Benzidine	ND	30	ug/l	
56-55-3	Benzo(a)anthracene	ND	6.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	6.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	6.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	6.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	6.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	6.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	6.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	6.0	ug/l	
106-47-8	4-Chloroaniline	ND	6.0	ug/l	
218-01-9	Chrysene	ND	6.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	6.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	6.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	6.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	6.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	6.0	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	6.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	6.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	6.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	6.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	6.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	12	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

000018

Report of Analysis

Client Sample ID: CEF-81-GW-8SR-02	
Lab Sample ID: F11787-1	Date Sampled: 12/13/01
Matrix: AQ - Ground Water	Date Received: 12/14/01
Method: SW846 8270C SW846 3510C	Percent Solids: n/a
Project: Cecil Field CTO168	

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	6.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	6.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	6.0	ug/l	
84-66-2	Diethyl phthalate	ND	6.0	ug/l	
131-11-3	Dimethyl phthalate	ND	6.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	6.0	ug/l	
206-44-0	Fluoranthene	ND	6.0	ug/l	
86-73-7	Fluorene	ND	6.0	ug/l	
118-74-1	Hexachlorobenzene	ND	6.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	6.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	6.0	ug/l	
67-72-1	Hexachloroethane	ND	6.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	6.0	ug/l	
78-59-1	Isophorone	ND	6.0	ug/l	
91-20-3	Naphthalene	ND	6.0	ug/l	
98-95-3	Nitrobenzene	ND	6.0	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	6.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	6.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	6.0	ug/l	
85-01-8	Phenanthrene	ND	6.0	ug/l	
129-00-0	Pyrene	ND	6.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	33%		20-125 %
4165-62-2	Phenol-d5	30%		10-125 %
118-79-6	2,4,6-Tribromophenol	56%		35-140 %
4165-60-0	Nitrobenzene-d5	81%		46-125 %
321-60-8	2-Fluorobiphenyl	78%		46-125 %
1718-51-0	Terphenyl-d14	92%		49-126 %

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) No TICs detected.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value **000019**
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-8SR-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-1	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: FLORIDA-PRO SW846 3510C	
Project: Cecil Field CTO168	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	OP18899.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705

CAS No.	Compound	Result	RL	Units Q
	TPH (C8-C40)	ND	0.28	mg/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	93%		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 presence of compound

000020

Report of Analysis

Client Sample ID: CEF-81-GW-8SR-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-1	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Cecil Field CTO168	

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	25.2	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	0.27 U	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	0.35 U	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	2.4 B	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result < IDL
 B = Indicates a result >= IDL but < RL

000021

Report of Analysis

Client Sample ID: CEF-81-GW-9S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-2	Date Received: 12/14/01
Matrix: AQ - Ground 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	B0007688.D	1	12/24/01	JG	n/a	n/a	VB331
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
104-51-8	n-Butylbenzene ^a	11.9	2.0	ug/l	*
135-98-8	sec-Butylbenzene ^a	11.1	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	2.8	2.0	ug/l	
98-82-8	Isopropylbenzene ^a	6.2	2.0	ug/l	
99-87-6	p-Isopropyltoluene ^a	7.8	2.0	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	
91-20-3	Naphthalene ^a	27.3	5.0	ug/l	
103-65-1	n-Propylbenzene ^a	12.6	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	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value **000022**

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-9S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-2	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
95-63-6	1,2,4-Trimethylbenzene ^a	79.4	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene ^a	19.0	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
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)	7.8	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		80-120%
2037-26-5	Toluene-D8	97%		80-120%
460-00-4	4-Bromofluorobenzene	102%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
1074-43-7	Benzene, 1-methyl-3-propyl-	16.07	12	ug/l	JN
135-98-8	Benzene, (1-methylpropyl)-	16.37	12	ug/l	JN
933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	16.45	15	ug/l	JN
527-84-4	Benzene, 1-methyl-2-(1-methylethyl)	16.49	16	ug/l	JN
1758-88-9	Benzene, 2-ethyl-1,4-dimethyl-	16.57	17	ug/l	JN
767-58-8	Indan, 1-methyl-	16.76	15	ug/l	JN
934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	16.93	13	ug/l	JN
527-84-4	Benzene, 1-methyl-2-(1-methylethyl)	17.08	19	ug/l	JN
1587-04-8	Benzene, 1-methyl-2-(2-propenyl)-	17.43	14	ug/l	JN
934-74-7	Benzene, 1-ethyl-3,5-dimethyl-	17.57	21	ug/l	JN
27133-93-3	2,3-Dihydro-1-methylindene	17.62	18	ug/l	JN
119-64-2	Naphthalene, 1,2,3,4-tetrahydro-	17.83	22	ug/l	JN
17059-48-2	1H-Indene, 2,3-dihydro-1,6-dimethy	18.13	11	ug/l	JN
90-12-0	Naphthalene, 1-methyl-	19.90	14	ug/l	JN
91-57-6	Naphthalene, 2-methyl-	20.20	11	ug/l	JN
	Total TIC, Volatile		230	ug/l	

(a) Calibrated non-target analyte detected in sample, reported for informational purposes. Will not be reported in library search.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-9S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-2	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W007819.D	1	12/24/01	ME	12/20/01	OP4410	SW429
Run #2							

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.5	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.5	ug/l	
105-67-9	2,4-Dimethylphenol	ND	28	ug/l	
51-28-5	2,4-Dinitrophenol	ND	28	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	5.5	ug/l	
100-02-7	4-Nitrophenol	ND	28	ug/l	
87-86-5	Pentachlorophenol	ND	28	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.5	ug/l	
83-32-9	Acenaphthene	ND	5.5	ug/l	
208-96-8	Acenaphthylene	ND	5.5	ug/l	
120-12-7	Anthracene	ND	5.5	ug/l	
92-87-5	Benzidine	ND	28	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.5	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.5	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.5	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.5	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.5	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	5.5	ug/l	
218-01-9	Chrysene	ND	5.5	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.5	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.5	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	11	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

000024

Report of Analysis

Client Sample ID:	CEF-81-GW-9S-02	Date Sampled:	12/13/01
Lab Sample ID:	F11787-2	Date Received:	12/14/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Cecil Field CTO168		

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	5.5	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	4.5	5.5	ug/l	J
206-44-0	Fluoranthene	ND	5.5	ug/l	
86-73-7	Fluorene	ND	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.5	ug/l	
67-72-1	Hexachloroethane	ND	5.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.5	ug/l	
78-59-1	Isophorone	ND	5.5	ug/l	
91-20-3	Naphthalene	12.5	5.5	ug/l	
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
85-01-8	Phenanthrene	ND	5.5	ug/l	
129-00-0	Pyrene	ND	5.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	53%		20-125%
4165-62-2	Phenol-d5	36%		10-125%
118-79-6	2,4,6-Tribromophenol	93%		35-140%
4165-60-0	Nitrobenzene-d5	78%		46-125%
321-60-8	2-Fluorobiphenyl	79%		46-125%
1718-51-0	Terphenyl-d14	89%		49-126%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
611-14-3	Benzene, 1-ethyl-2-methyl-	4.41	15	ug/l	JN
622-96-8	Benzene, 1-ethyl-4-methyl-	4.43	14	ug/l	JN
95-63-6	Benzene, 1,2,4-trimethyl-	4.64	64	ug/l	JN
496-11-7	Indane	4.92	13	ug/l	JN
1074-43-7	Benzene, 1-methyl-3-propyl-	5.01	18	ug/l	JN
105-05-5	Benzene, 1,4-diethyl-	5.05	48	ug/l	JN

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value **000025**

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-9S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-2	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: Cecil Field CTO168	

ABN PPL List

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
135-98-8	Benzene, (1-methylpropyl)-	5.11	21	ug/l	JN
934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	5.17	22	ug/l	JN
99-87-6	Benzene, 1-methyl-4-(1-methylethyl)-	5.19	25	ug/l	JN
527-84-4	Benzene, 1-methyl-2-(1-methylethyl)-	5.34	13	ug/l	JN
6516-89-8	1H-1,5-Benzodiazepine, 2,3,4,5-tetrahydr	5.60	15	ug/l	JN
	unknown	5.68	29	ug/l	J
119-64-2	Naphthalene, 1,2,3,4-tetrahydro-	5.78	19	ug/l	JN
575-37-1	Naphthalene, 1,7-dimethyl-	7.69	13	ug/l	JN
10544-50-0	Sulfur, mol. (S8)	12.91	45	ug/l	JN
	Total TIC, Semi-Volatile		374	ug/l	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated **000026**
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-9S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-2	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: FLORIDA-PRO SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18900.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	1.16	0.28	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		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: CEF-81-GW-9S-02 Lab Sample ID: F11787-2 Matrix: AQ - Ground Water Project: Cecil Field CTO168	Date Sampled: 12/13/01 Date Received: 12/14/01 Percent Solids: n/a
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Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	21.8	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	0.27 U	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	3.9 B	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	2.6 B	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result **000027**
 B = Indicates a result \geq IDL but $<$ RL

Report of Analysis

Client Sample ID: CEF-81-GW-11-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-3	Date Received: 12/14/01
Matrix: AQ - Ground 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	C0007444.D	1	12/23/01	JG	n/a	n/a	VC345
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	0.56	2.0	ug/l	J
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	
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	0.58	2.0	ug/l	J
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)	1.6	6.0	ug/l	J

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

000028

Report of Analysis

Client Sample ID: CEF-81-GW-1I-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-3	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		80-120%
17060-07-0	1,2-Dichloroethane-D4	93%		80-120%
2037-26-5	Toluene-D8	95%		80-120%
460-00-4	4-Bromofluorobenzene	88%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile ^a		0	ug/l	

(a) No TICs detected.

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

000029

Report of Analysis

Client Sample ID: CEF-81-GW-11-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-3	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W007822.D	1	12/24/01	ME	12/20/01	OP4410	SW429
Run #2							

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.5	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.5	ug/l	
105-67-9	2,4-Dimethylphenol	ND	28	ug/l	
51-28-5	2,4-Dinitrophenol	ND	28	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	5.5	ug/l	
100-02-7	4-Nitrophenol	ND	28	ug/l	
87-86-5	Pentachlorophenol	ND	28	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.5	ug/l	
83-32-9	Acenaphthene	ND	5.5	ug/l	
208-96-8	Acenaphthylene	ND	5.5	ug/l	
120-12-7	Anthracene	ND	5.5	ug/l	
92-87-5	Benzidine	ND	28	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.5	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.5	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.5	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.5	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.5	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	5.5	ug/l	
218-01-9	Chrysene	ND	5.5	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.5	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.5	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	11	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

000030

Report of Analysis

Client Sample ID: CEF-81-GW-11-02	
Lab Sample ID: F11787-3	
Matrix: AQ - Ground Water	Date Sampled: 12/13/01
Method: SW846 8270C SW846 3510C	Date Received: 12/14/01
Project: Cecil Field CTO168	Percent Solids: n/a

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	5.5	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.5	ug/l	
206-44-0	Fluoranthene	ND	5.5	ug/l	
86-73-7	Fluorene	ND	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.5	ug/l	
67-72-1	Hexachloroethane	ND	5.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.5	ug/l	
78-59-1	Isophorone	ND	5.5	ug/l	
91-20-3	Naphthalene	4.4	5.5	ug/l	J
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
85-01-8	Phenanthrene	ND	5.5	ug/l	
129-00-0	Pyrene	ND	5.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%		20-125%
4165-62-2	Phenol-d5	41%		10-125%
118-79-6	2,4,6-Tribromophenol	102%		35-140%
4165-60-0	Nitrobenzene-d5	87%		46-125%
321-60-8	2-Fluorobiphenyl	85%		46-125%
1718-51-0	Terphenyl-d14	94%		49-126%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
95-63-6	Benzene, 1,2,4-trimethyl-	4.64	11	ug/l	JN
630-02-4	Octacosane	16.33	12	ug/l	JN
112-95-8	Eicosane	16.93	13	ug/l	JN
638-68-6	Triacontane	17.50	12	ug/l	JN
	Total TIC, Semi-Volatile		48	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-11-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-3	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: FLORIDA-PRO SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18901.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.989	0.25	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	87%		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

000032

Report of Analysis

Client Sample ID: CEF-81-GW-11-02 Lab Sample ID: F11787-3 Matrix: AQ - Ground Water Project: Cecil Field CTO168	Date Sampled: 12/13/01 Date Received: 12/14/01 Percent Solids: n/a
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Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	8.9 B	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	0.27 U	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	0.90 B	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	2.0 B	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

000033

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: CEF-81-GW-12S-02
 Lab Sample ID: F11787-4
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Cecil Field CTO168

Date Sampled: 12/13/01
 Date Received: 12/14/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0007445.D	1	12/23/01	JG	n/a	n/a	VC345
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	
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	
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	
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	

000034

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-12S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-4	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-120%
17060-07-0	1,2-Dichloroethane-D4	92%		80-120%
2037-26-5	Toluene-D8	97%		80-120%
460-00-4	4-Bromofluorobenzene	92%		80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile ^a		0	ug/l	

(a) No TICs detected.

000035

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-12S-02
 Lab Sample ID: F11787-4
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: Cecil Field CTO168

Date Sampled: 12/13/01
 Date Received: 12/14/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W007823.D	1	12/24/01	ME	12/20/01	OP4410	SW429
Run #2							

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.5	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.5	ug/l	
105-67-9	2,4-Dimethylphenol	ND	28	ug/l	
51-28-5	2,4-Dinitrophenol	ND	28	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	5.5	ug/l	
100-02-7	4-Nitrophenol	ND	28	ug/l	
87-86-5	Pentachlorophenol	ND	28	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.5	ug/l	
83-32-9	Acenaphthene	ND	5.5	ug/l	
208-96-8	Acenaphthylene	ND	5.5	ug/l	
120-12-7	Anthracene	ND	5.5	ug/l	
92-87-5	Benzidine	ND	28	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.5	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.5	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.5	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.5	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.5	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	5.5	ug/l	
218-01-9	Chrysene	ND	5.5	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.5	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.5	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	11	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

000036

Report of Analysis

Client Sample ID: CEF-81-GW-12S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-4	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: Cecil Field CTO168	

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	5.5	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	3.4	5.5	ug/l	J
206-44-0	Fluoranthene	ND	5.5	ug/l	
86-73-7	Fluorene	ND	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.5	ug/l	
67-72-1	Hexachloroethane	ND	5.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.5	ug/l	
78-59-1	Isophorone	ND	5.5	ug/l	
91-20-3	Naphthalene	ND	5.5	ug/l	
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
85-01-8	Phenanthrene	ND	5.5	ug/l	
129-00-0	Pyrene	ND	5.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		20-125%
4165-62-2	Phenol-d5	29%		10-125%
118-79-6	2,4,6-Tribromophenol	81%		35-140%
4165-60-0	Nitrobenzene-d5	76%		46-125%
321-60-8	2-Fluorobiphenyl	74%		46-125%
1718-51-0	Terphenyl-d14	93%		49-126%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	3,3',5,5'-Tetramethyl-2,2'-bifuryl	11.75	14	ug/l	J
	Total TIC, Semi-Volatile		14	ug/l	

000037

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-12S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-4	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: FLORIDA-PRO SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18902.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.28	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	69%		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

000038

Report of Analysis

Client Sample ID: CEF-81-GW-12S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-4	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Cecil Field CTO168	

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.2 U	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	0.27 U	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	10.0 B	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	10.8	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result < IDL
 B = Indicates a result >= IDL but < RL

000039

Report of Analysis

Client Sample ID: CEF-81-GW-DU01-02
 Lab Sample ID: F11787-5
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Cecil Field CTO168

Date Sampled: 12/13/01
 Date Received: 12/14/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0007690.D	1	12/24/01	JG	n/a	n/a	VB331
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	
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	
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	
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	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-DU01-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-5	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		80-120%
17060-07-0	1,2-Dichloroethane-D4	103%		80-120%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	104%		80-120%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) No TICs detected.

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

000041

Report of Analysis

Client Sample ID: CEF-81-GW-DU01-02
 Lab Sample ID: F11787-5
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: Cecil Field CTO168

Date Sampled: 12/13/01
 Date Received: 12/14/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W007824.D	1	12/24/01	ME	12/20/01	OP4410	SW429
Run #2							

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	25	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	ug/l	
100-02-7	4-Nitrophenol	ND	25	ug/l	
87-86-5	Pentachlorophenol	ND	25	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	ug/l	
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
92-87-5	Benzidine	ND	25	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	ug/l	

000042

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-DU01-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-5	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: Cecil Field CTO168	

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
78-59-1	Isophorone	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	60%		20-125%
4165-62-2	Phenol-d5	39%		10-125%
118-79-6	2,4,6-Tribromophenol	99%		35-140%
4165-60-0	Nitrobenzene-d5	90%		46-125%
321-60-8	2-Fluorobiphenyl	91%		46-125%
1718-51-0	Terphenyl-d14	101%		49-126%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) No TICs detected.

000043

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-81-GW-DU01-02	Date Sampled:	12/13/01
Lab Sample ID:	F11787-5	Date Received:	12/14/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	FLORIDA-PRO SW846 3510C		
Project:	Cecil Field CTO168		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18903.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.28	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	95%		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

000044

Report of Analysis

Client Sample ID: CEF-81-GW-DU01-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-5	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Cecil Field CTO168	

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	25.5	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	0.27 U	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	0.35 U	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	2.1 B	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

000045

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: CEF-81-GW-13S-02	
Lab Sample ID: F11787-8	Date Sampled: 12/13/01
Matrix: AQ - Ground Water	Date Received: 12/14/01
Method: SW846 8260B	Percent Solids: n/a
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0007682.D	1	12/24/01	JG	n/a	n/a	VB331
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	
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	
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	
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	

000053

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-13S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-8	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		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	104%		80-120%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) No TICs detected.

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

00005J

Report of Analysis

Client Sample ID: CEF-81-GW-13S-02
 Lab Sample ID: F11787-8
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: Cecil Field CTO168

Date Sampled: 12/13/01
 Date Received: 12/14/01
 Percent Solids: n/a

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	W007827.D	1	12/24/01	ME	12/20/01	OP4410	SW429

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.5	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.5	ug/l	
105-67-9	2,4-Dimethylphenol	ND	28	ug/l	
51-28-5	2,4-Dinitrophenol	ND	28	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	5.5	ug/l	
100-02-7	4-Nitrophenol	ND	28	ug/l	
87-86-5	Pentachlorophenol	ND	28	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.5	ug/l	
83-32-9	Acenaphthene	ND	5.5	ug/l	
208-96-8	Acenaphthylene	ND	5.5	ug/l	
120-12-7	Anthracene	ND	5.5	ug/l	
92-87-5	Benzidine	ND	28	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.5	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.5	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.5	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.5	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.5	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	5.5	ug/l	
218-01-9	Chrysene	ND	5.5	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.5	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.5	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	11	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

000060

Report of Analysis

Client Sample ID: CEF-81-GW-13S-02
 Lab Sample ID: F11787-8
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: Cecil Field CTO168

Date Sampled: 12/13/01
 Date Received: 12/14/01
 Percent Solids: n/a

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	5.5	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.5	ug/l	
206-44-0	Fluoranthene	ND	5.5	ug/l	
86-73-7	Fluorene	ND	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.5	ug/l	
67-72-1	Hexachloroethane	ND	5.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.5	ug/l	
78-59-1	Isophorone	ND	5.5	ug/l	
91-20-3	Naphthalene	ND	5.5	ug/l	
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
85-01-8	Phenanthrene	ND	5.5	ug/l	
129-00-0	Pyrene	ND	5.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	61%		20-125%
4165-62-2	Phenol-d5	40%		10-125%
118-79-6	2,4,6-Tribromophenol	98%		35-140%
4165-60-0	Nitrobenzene-d5	91%		46-125%
321-60-8	2-Fluorobiphenyl	85%		46-125%
1718-51-0	Terphenyl-d14	96%		49-126%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) No TICs detected.

000061

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-81-GW-13S-02	Date Sampled:	12/13/01
Lab Sample ID:	F11787-8	Date Received:	12/14/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	FLORIDA-PRO SW846 3510C		
Project:	Cecil Field CTO168		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18907.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.241	0.28	mg/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	87%		55-130%	

000062

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-13S-02
Lab Sample ID: F11787-8
Matrix: AQ - Ground Water
Project: Cecil Field CTO168

Date Sampled: 12/13/01
Date Received: 12/14/01
Percent Solids: n/a

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	20.0	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	3.3 B	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	0.35 U	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	1.2 U	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result < IDL
 B = Indicates a result >= IDL but < RL

000063

Report of Analysis

Client Sample ID: CEF-81-GW-10S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-9	Date Received: 12/14/01
Matrix: AQ - Ground 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	B0007683.D	1	12/24/01	JG	n/a	n/a	VB331
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	
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	
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	
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	

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

000064

Report of Analysis

Client Sample ID: CEF-81-GW-10S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-9	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		80-120%
2037-26-5	Toluene-D8	98%		80-120%
460-00-4	4-Bromofluorobenzene	105%		80-120%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) No TICs detected.

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

000065

Report of Analysis

Client Sample ID: CEF-81-GW-10S-02
 Lab Sample ID: F11787-9
 Matrix: AQ - Ground Water
 Method: SW846 8270C SW846 3510C
 Project: Cecil Field CTO168

Date Sampled: 12/13/01
 Date Received: 12/14/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W007828.D	1	12/24/01	ME	12/20/01	OP4410	SW429
Run #2							

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	25	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	ug/l	
100-02-7	4-Nitrophenol	ND	25	ug/l	
87-86-5	Pentachlorophenol	ND	25	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	ug/l	
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
92-87-5	Benzidine	ND	25	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-10S-02	
Lab Sample ID: F11787-9	Date Sampled: 12/13/01
Matrix: AQ - Ground Water	Date Received: 12/14/01
Method: SW846 8270C SW846 3510C	Percent Solids: n/a
Project: Cecil Field CTO168	

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.6	5.0	ug/l	J
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
78-59-1	Isophorone	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%		20-125%
4165-62-2	Phenol-d5	40%		10-125%
118-79-6	2,4,6-Tribromophenol	100%		35-140%
4165-60-0	Nitrobenzene-d5	91%		46-125%
321-60-8	2-Fluorobiphenyl	90%		46-125%
1718-51-0	Terphenyl-d14	100%		49-126%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) No TICs detected.

000067

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-10S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-9	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: FLORIDA-PRO SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18908.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.28	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

000068

Report of Analysis

Client Sample ID: CEF-81-GW-10S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-9	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Cecil Field CTO168	

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.2 U	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	0.27 U	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	0.35 U	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	2.0 B	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result < 000069
 B = Indicates a result >= IDL but < RL

Report of Analysis

Client Sample ID: CEF-81-GW-11S-02
 Lab Sample ID: F11787-10
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Cecil Field CTO168

Date Sampled: 12/13/01
 Date Received: 12/14/01
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0007684.D	1	12/24/01	JG	n/a	n/a	VB331
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	
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	
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	
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	

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

000070

Report of Analysis

Client Sample ID:	CEF-81-GW-11S-02
Lab Sample ID:	F11787-10
Matrix:	AQ - Ground Water
Method:	SW846 8260B
Project:	Cecil Field CTO168

Date Sampled:	12/13/01
Date Received:	12/14/01
Percent Solids:	n/a

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		80-120%
17060-07-0	1,2-Dichloroethane-D4	100%		80-120%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	106%		80-120%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) No TICs detected.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

000071

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-11S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-10	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W007829.D	1	12/24/01	ME	12/20/01	OP4410	SW429
Run #2							

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.5	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.5	ug/l	
105-67-9	2,4-Dimethylphenol	ND	28	ug/l	
51-28-5	2,4-Dinitrophenol	ND	28	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	5.5	ug/l	
100-02-7	4-Nitrophenol	ND	28	ug/l	
87-86-5	Pentachlorophenol	ND	28	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.5	ug/l	
83-32-9	Acenaphthene	ND	5.5	ug/l	
208-96-8	Acenaphthylene	ND	5.5	ug/l	
120-12-7	Anthracene	ND	5.5	ug/l	
92-87-5	Benzidine	ND	28	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.5	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.5	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.5	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.5	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.5	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	5.5	ug/l	
218-01-9	Chrysene	ND	5.5	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.5	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.5	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	11	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

000073

Report of Analysis

Client Sample ID: CEF-81-GW-11S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-10	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: Cecil Field CTO168	

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	5.5	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.5	ug/l	
206-44-0	Fluoranthene	ND	5.5	ug/l	
86-73-7	Fluorene	ND	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.5	ug/l	
67-72-1	Hexachloroethane	ND	5.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.5	ug/l	
78-59-1	Isophorone	ND	5.5	ug/l	
91-20-3	Naphthalene	ND	5.5	ug/l	
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
85-01-8	Phenanthrene	ND	5.5	ug/l	
129-00-0	Pyrene	ND	5.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%		20-125%
4165-62-2	Phenol-d5	40%		10-125%
118-79-6	2,4,6-Tribromophenol	101%		35-140%
4165-60-0	Nitrobenzene-d5	88%		46-125%
321-60-8	2-Fluorobiphenyl	88%		46-125%
1718-51-0	Terphenyl-d14	100%		49-126%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) No TICs detected.

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

000074

Report of Analysis

Client Sample ID: CEF-81-GW-11S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-10	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: FLORIDA-PRO SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18909.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.28	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		55-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value **0.00075**
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-81-GW-11S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-10	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Cecil Field CTO168	

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.2 U	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	0.27 U	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	0.35 U	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	2.2 B	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

000076

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:	CEF-80-GW-13S-02	Date Sampled:	12/13/01
Lab Sample ID:	F11787-7	Date Received:	12/14/01
Matrix:	AQ - Ground 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	B0007680.D	1	12/24/01	JG	n/a	n/a	VB331
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	
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	
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	
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	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value **000052**
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-80-GW-13S-02
Lab Sample ID:	F11787-7
Matrix:	AQ - Ground Water
Method:	SW846 8260B
Project:	Cecil Field CTO168

Date Sampled:	12/13/01
Date Received:	12/14/01
Percent Solids:	n/a

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		80-120%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	103%		80-120%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) No TICs detected.

000053

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-80-GW-13S-02	
Lab Sample ID: F11787-7	Date Sampled: 12/13/01
Matrix: AQ - Ground Water	Date Received: 12/14/01
Method: SW846 8270C SW846 3510C	Percent Solids: n/a
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W007826.D	1	12/24/01	ME	12/20/01	OP4410	SW429
Run #2							

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	6.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	6.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	6.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	30	ug/l	
51-28-5	2,4-Dinitrophenol	ND	30	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	12	ug/l	
88-75-5	2-Nitrophenol	ND	6.0	ug/l	
100-02-7	4-Nitrophenol	ND	30	ug/l	
87-86-5	Pentachlorophenol	ND	30	ug/l	
108-95-2	Phenol	ND	6.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	6.0	ug/l	
83-32-9	Acenaphthene	ND	6.0	ug/l	
208-96-8	Acenaphthylene	ND	6.0	ug/l	
120-12-7	Anthracene	ND	6.0	ug/l	
92-87-5	Benzidine	ND	30	ug/l	
56-55-3	Benzo(a)anthracene	ND	6.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	6.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	6.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	6.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	6.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	6.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	6.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	6.0	ug/l	
106-47-8	4-Chloroaniline	ND	6.0	ug/l	
218-01-9	Chrysene	ND	6.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	6.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	6.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	6.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	6.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	6.0	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	6.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	6.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	6.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	6.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	6.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	12	ug/l	

000054

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-80-GW-13S-02	Date Sampled:	12/13/01
Lab Sample ID:	F11787-7	Date Received:	12/14/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Cecil Field CTO168		

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	6.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	6.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	6.0	ug/l	
84-66-2	Diethyl phthalate	ND	6.0	ug/l	
131-11-3	Dimethyl phthalate	ND	6.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	5.2	6.0	ug/l	J
206-44-0	Fluoranthene	ND	6.0	ug/l	
86-73-7	Fluorene	ND	6.0	ug/l	
118-74-1	Hexachlorobenzene	ND	6.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	6.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	6.0	ug/l	
67-72-1	Hexachloroethane	ND	6.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	6.0	ug/l	
78-59-1	Isophorone	ND	6.0	ug/l	
91-20-3	Naphthalene	ND	6.0	ug/l	
98-95-3	Nitrobenzene	ND	6.0	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	6.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	6.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	6.0	ug/l	
85-01-8	Phenanthrene	ND	6.0	ug/l	
129-00-0	Pyrene	ND	6.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%		20-125%
4165-62-2	Phenol-d5	45%		10-125%
118-79-6	2,4,6-Tribromophenol	107%		35-140%
4165-60-0	Nitrobenzene-d5	92%		46-125%
321-60-8	2-Fluorobiphenyl	92%		46-125%
1718-51-0	Terphenyl-d14	106%		49-126%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) No TICs detected.

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

000055

Report of Analysis

Client Sample ID: CEF-80-GW-13S-02	
Lab Sample ID: F11787-7	Date Sampled: 12/13/01
Matrix: AQ - Ground Water	Date Received: 12/14/01
Method: FLORIDA-PRO SW846 3510C	Percent Solids: n/a
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18906.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.518	0.28	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

000056

Report of Analysis

Client Sample ID: CEF-80-GW-13S-02
Lab Sample ID: F11787-7
Matrix: AQ - Ground Water
Project: Cecil Field CTO168

Date Sampled: 12/13/01
Date Received: 12/14/01
Percent Solids: n/a

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.2 U	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	0.27 U	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	0.35 U	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	2.1 B	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
 IDL = Instrument Detection Limit

U = Indicates a result < IDL
 B = Indicates a result >= IDL but < RL

000057

Report of Analysis

Client Sample ID: CEF-80-GW-03S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-6	Date Received: 12/14/01
Matrix: AQ - Ground 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	B0007741.D	1	12/27/01	NAF	n/a	n/a	VB334
Run #2							

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
107-02-8	Acrolein	ND	10	ug/l	
107-13-1	Acrylonitrile	ND	10	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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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	
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	
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	
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	

000046

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-80-GW-03S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-6	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Cecil Field CTO168	

VOA PPL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-120%
17060-07-0	1,2-Dichloroethane-D4	96%		80-120%
2037-26-5	Toluene-D8	97%		80-120%
460-00-4	4-Bromofluorobenzene	106%		80-120%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) No TICs detected.

000047

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-80-GW-03S-02	
Lab Sample ID: F11787-6	Date Sampled: 12/13/01
Matrix: AQ - Ground Water	Date Received: 12/14/01
Method: SW846 8270C SW846 3510C	Percent Solids: n/a
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W007825.D	1	12/24/01	ME	12/20/01	OP4410	SW429
Run #2							

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	25	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	ug/l	
100-02-7	4-Nitrophenol	ND	25	ug/l	
87-86-5	Pentachlorophenol	ND	25	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	ug/l	
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
92-87-5	Benzidine	ND	25	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	ug/l	

000048

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-80-GW-03S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-6	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: Cecil Field CTO168	

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
78-59-1	Isophorone	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	54%		20-125%
4165-62-2	Phenol-d5	35%		10-125%
118-79-6	2,4,6-Tribromophenol	97%		35-140%
4165-60-0	Nitrobenzene-d5	80%		46-125%
321-60-8	2-Fluorobiphenyl	81%		46-125%
1718-51-0	Terphenyl-d14	97%		49-126%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) No TICs detected.

000049

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CEF-80-GW-03S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-6	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: FLORIDA-PRO SW846 3510C	
Project: Cecil Field CTO168	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18904.D	1	12/20/01	SKW	12/20/01	OP4408	GOP705
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.28	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	86%		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: CEF-80-GW-03S-02	Date Sampled: 12/13/01
Lab Sample ID: F11787-6	Date Received: 12/14/01
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Cecil Field CTO168	

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.2 U	10	3.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Cadmium	0.27 U	5.0	0.27	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Chromium	0.35 U	10	0.35	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A
Lead	2.8 B	5.0	1.2	ug/l	1	12/19/01	12/20/01 DM	SW846 6010B	SW846 3010A

000051

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result > = IDL but < RL



PROJECT NO: N3996		SITE NAME: Bldg 81, TANK 81AOC		PROJECT MANAGER AND PHONE NUMBER: PAUL CALLIGAN 850/385-9899				LABORATORY NAME AND CONTACT: ACCURST L. Williams			
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER AND PHONE NUMBER: MERU DALE 904/281-0400				ADDRESS: 4405 Vineland RD -C-15					
		CARRIER/WAYBILL NUMBER: FRO EX 8115 8311-6072-8115				CITY, STATE: Orlando, FL 32811					
STANDARD TAT <input type="checkbox"/>		CONTAINER TYPE PLASTIC (P) or GLASS (G)		PRESERVATIVE USED							
RUSH TAT <input type="checkbox"/>											
<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 YEAR	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS				COMMENTS	
12/13	1004	CEF-81-6W	GW	G	8	3	2	2	1	Cool to 4°C	
12/13	1000	CEF-95-6W	GW	G	8	3	2	2	1	WORK RELEASE #	
12/13	1004	CEF-81-GW-8SR-02	GW	G	8	3	2	2	1	168CF-4	
12/13	1000	CEF-81-GW-95-02	GW	G	8	3	2	2	1	* ARSENIC CADMIUM CHROMIUM LEAD	
1. RELINQUISHED BY		DATE	TIME	1. RECEIVED BY		DATE	TIME				
2. RELINQUISHED BY		DATE	TIME	2. RECEIVED BY		DATE	TIME				
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY		DATE	TIME				
COMMENTS											



8

PROJECT NO: N 3996		SITE NAME: Ddy Tanks S1 ABC		PROJECT MANAGER AND PHONE NUMBER Paul Calligan 850/385-9899				LABORATORY NAME AND CONTACT: AccuTEST L. Williams				
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER AND PHONE NUMBER MERU DALE 904/281-0400				ADDRESS 4405 Vineland RD C-15						
		CARRIER/WAYBILL NUMBER FED EX 8311 6072-8104				CITY, STATE ORLANDO, FL 32811						
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/> <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				CONTAINER TYPE PLASTIC (P) or GLASS (G)								
				PRESERVATIVE USED								
DATE YEAR	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS					COMMENTS	
12/13	0000	CEF-81-GW-DU01-02	GW	G	8	3	2	2	1			Cool to 4°C
12/13	1000	CEF-81-GW-MD01-02	GW	G	8	3	2	2	1			Work Release # 168CF-4
												* ARSENIC Cadmium Chromium Lead
1. RELINQUISHED BY			DATE	TIME	1. RECEIVED BY			DATE	TIME			
2. RELINQUISHED BY			DATE	TIME	2. RECEIVED BY			DATE	TIME			
3. RELINQUISHED BY			DATE	TIME	3. RECEIVED BY			DATE	TIME			
COMMENTS												



PROJECT NO: N3996		SITE NAME: BLDG. 91, TANKS 81A-C		PROJECT MANAGER AND PHONE NUMBER PAUL CALUGAN 850/385-3959			LABORATORY NAME AND CONTACT: ACUTEST - L. Williams			
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER AND PHONE NUMBER MERU DALE 904/291-0400			ADDRESS 4405 Vineland RD, C-15			CITY, STATE Orlando, FL 32811		
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/> <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		CONTAINER TYPE PLASTIC (P) or GLASS (G)			PRESERVATIVE USED					
DATE YEAR 2001	TIME	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS PRIO w/TICS SU 846 TRPH 8260 B PPEO FL-PRO SU 846 * TOTAL METALS				COMMENTS	
12/13	1335	CEF-80- 135 ^{GW-025} GW-02	GW	6	8	3	2	2	1	Cool to 4°C
12/13	1415	CEF-80- 135 ^{GW-135} GW-02	GW	6	8	3	2	2	1	WORK RELEASE # 168CF-4 * ARSENIC CADMIUM CHROMIUM LEAD
1. RELINQUISHED BY		DATE	TIME	1. RECEIVED BY		DATE	TIME			
2. RELINQUISHED BY		DATE	TIME	2. RECEIVED BY		DATE	TIME			
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY		DATE	TIME			
COMMENTS										



TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER

81-121301

PAGE 1 OF 1

PROJECT NO:

N3996

SITE NAME:

Bldg. 81 Tanks 81ABC

PROJECT MANAGER AND PHONE NUMBER

PAUL CALLIGAN 8503859899

LABORATORY NAME AND CONTACT:

ACCUTEST L. WILLIAMS

SAMPLERS (SIGNATURE)

[Handwritten signatures]

FIELD OPERATIONS LEADER AND PHONE NUMBER

MERY DACE 412 921 77

ADDRESS

4405 Vine Land Rd C-15

CARRIER/WAYBILL NUMBER

Fedex 8311-6072-8126

CITY, STATE

ORLANDO, FL 32811

STANDARD TAT

RUSH TAT

24 hr. 48 hr. 72 hr. 7 day 14 day

CONTAINER TYPE

PLASTIC (P) or GLASS (G)

PRESERVATIVE

USED

TYPE OF ANALYSIS

DATE YEAR

TIME

SAMPLE ID

MATRIX

GRAB (G)
COMP (C)

No. OF CONTAINERS

COMMENTS

~~12/13~~

~~CEF 80 GW 35 85~~

~~GW~~

~~6~~

~~8~~

~~3~~

~~2~~

~~2~~

~~1~~

Cool to 4°C

~~12/13~~

~~CEF 81 GW~~

~~GW~~

~~6~~

~~8~~

~~3~~

~~2~~

~~2~~

~~1~~

~~RCM~~

Work Release

12/13

0920

CEF-81-GW-105-02

GW

6

8

3

2

2

1

168CF-4

12/13

1140

CEF-81-GW-115-02

GW

6

8

3

2

2

1

A Arsenic
Cadmium
Chromium
Lead

1. RELINQUISHED BY

DATE

12/13

TIME

1630

1. RECEIVED BY

DATE

TIME

2. RELINQUISHED BY

DATE

TIME

3. RELINQUISHED BY

DATE

TIME

3. RECEIVED BY

DATE

TIME

COMMENTS

DISTRIBUTION:

WHITE (ACCOMPANIES SAMPLE)

YELLOW (FIELD COPY)

PINK (FILE COPY)

3/99
FORM NO. T1NUS-001



PROJECT NO: N 3996		SITE NAME: Bldg 81 TANKS		PROJECT MANAGER AND PHONE NUMBER PAUL CALLIGAN 850/385-9899				LABORATORY NAME AND CONTACT: ACCUTEST L. Williams						
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER AND PHONE NUMBER MERU DALE 904-281-0400				ADDRESS 4465 Vineland RD C-15								
		CARRIER/WAYBILL NUMBER FEDEX 831160728137				CITY, STATE ORLANDO, FL 32811								
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/>		MATRIX		GRAB (G) COMP (C)		No. OF CONTAINERS		CONTAINER TYPE PLASTIC (P) or GLASS (G)						
<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								PRESERVATIVE USED						
DATE YEAR	TIME	SAMPLE ID				TYPE OF ANALYSIS								
12/13	1145	CEF-81- 125 - ^{GW-125} GW-02		GW	G	8	3	3	2	1				
12/13	1304	CEF-81- 125 - ^{GW-125} GW-02		GW	G	8	3	2	2	1				
											Work Release # 168CF-4			
											* ARSENIC CADMIUM CHROMIUM LEAD			
1. RELINQUISHED BY				DATE	TIME	1. RECEIVED BY				DATE	TIME			
2. RELINQUISHED BY				DATE	TIME	2. RECEIVED BY				DATE	TIME			
3. RELINQUISHED BY				DATE	TIME	3. RECEIVED BY				DATE	TIME			
COMMENTS														



TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER

81-121301

PAGE

1 OF 1

DN3996:4.6.51

PROJECT NO: N3996		SITE NAME: Bldg. 81 Tanks 81A		PROJECT MANAGER AND PHONE NUMBER: PAUL CALLIGAN 850/385-9899			LABORATORY NAME AND CONTACT: ACCUTEST L. Williams				
SAMPLERS (SIGNATURE) 				FIELD OPERATIONS LEADER AND PHONE NUMBER: MERU DALE 904/291-0400			ADDRESS: 4405. Umieland RD - C-15				
				CARRIER/WAYBILL NUMBER: FEDEX 83116072 8148			CITY, STATE: ORLANDO, FL 32811				
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/> <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				CONTAINER TYPE PLASTIC (P) or GLASS (G)			PRESERVATIVE USED				
				TYPE OF ANALYSIS							
DATE YEAR	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	PPRO W/TICS SW 846	TRPH - FL-PRO 8260B HCL	PPRO W/TICS SW 846 - 82700	* TOTAL METALS HWS	COMMENTS	
12/13	1604	CEF-81-6W-135-02	GW	G	8	3	2	2	1	Cool to 4°C	
12/13	1604	CEF-81-6W-135-02	GW	G	8	3	2	2	1	Work RELEASE #	
										168CF-4	
										* ARSENIC CADMIUM CHROMIUM LEAD	
1. RELINQUISHED BY:				DATE:	TIME:	1. RECEIVED BY:				DATE:	TIME:
2. RELINQUISHED BY:				DATE:	TIME:	2. RECEIVED BY:				DATE:	TIME:
3. RELINQUISHED BY:				DATE:	TIME:	3. RECEIVED BY:				DATE:	TIME:
COMMENTS											

DISTRIBUTION:

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PINK (FILE COPY)

Sample Summary

Tetra Tech, NUS

Job No: F13319

Building 81, Tanks 81A,B,&C Cecil Field
Project No: CECIL FIELD 81ABC

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
F13319-1	05/23/02	16:30	RMLK05/24/02	AQ Ground Water	CEF-81GW-14S-01

Report of Analysis

Client Sample ID:	CEF-81GW-14S-01	Date Sampled:	05/23/02
Lab Sample ID:	F13319-1	Date Received:	05/24/02
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Building 81, Tanks 81A,B,&C Cecil Field		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0010030.D	1	06/03/02	JG	n/a	n/a	VB437
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

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

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-81GW-14S-01	Date Sampled:	05/23/02
Lab Sample ID:	F13319-1	Date Received:	05/24/02
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Building 81, Tanks 81A,B,&C Cecil Field		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		80-120%
2037-26-5	Toluene-D8	104%		80-120%
460-00-4	4-Bromofluorobenzene	102%		80-120%

CAS No.	Tentatively Identified Compounds ^a	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) No TICs detected.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-81GW-14S-01	Date Sampled:	05/23/02
Lab Sample ID:	F13319-1	Date Received:	05/24/02
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Building 81, Tanks 81A,B,&C Cecil Field		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L012582.D	1	06/01/02	ME	05/28/02	OP5224	SL700
Run #2							

Run #	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	25	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	ug/l	
100-02-7	4-Nitrophenol	ND	25	ug/l	
87-86-5	Pentachlorophenol	ND	25	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	ug/l	
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
92-87-5	Benzidine	ND	25	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-81GW-14S-01	Date Sampled:	05/23/02
Lab Sample ID:	F13319-1	Date Received:	05/24/02
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Building 81, Tanks 81A,B,&C Cecil Field		

ABN PPL List

CAS No.	Compound	Result	RL	Units	Q
91-94-1	3,3'-Dichlorobenzidine	ND	10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
78-59-1	Isophorone	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	46%		20-125%
4165-62-2	Phenol-d5	29%		10-125%
118-79-6	2,4,6-Tribromophenol	75%		35-140%
4165-60-0	Nitrobenzene-d5	64%		46-125%
321-60-8	2-Fluorobiphenyl	69%		46-125%
1718-51-0	Terphenyl-d14	84%		49-126%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
106-28-5	2,6,10-Dodecatrien-1-ol, 3,7,11-trimethyl	18.15	10	ug/l	JN
	Total TIC, Semi-Volatile		10	ug/l	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-81GW-14S-01	Date Sampled:	05/23/02
Lab Sample ID:	F13319-1	Date Received:	05/24/02
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	FLORIDA-PRO SW846 3510C		
Project:	Building 81, Tanks 81A,B,&C Cecil Field		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP21099.D	1	05/29/02	SKW	05/28/02	OP5230	GOP781
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	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:	CEF-81GW-14S-01	Date Sampled:	05/23/02
Lab Sample ID:	F13319-1	Date Received:	05/24/02
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Building 81, Tanks 81A,B,&C Cecil Field		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.8 U	10	2.8	ug/l	1	05/28/02	05/29/02	DM SW846 6010B	SW846 3010A
Cadmium	0.26 U	5.0	0.26	ug/l	1	05/28/02	05/29/02	DM SW846 6010B	SW846 3010A
Chromium	0.43 U	10	0.43	ug/l	1	05/28/02	05/29/02	DM SW846 6010B	SW846 3010A
Lead	1.2 U	5.0	1.2	ug/l	1	05/28/02	05/29/02	DM SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result > = IDL but < RL

APPENDIX N

AQUIFER DATA

CEF-81-3S MWD

Well diameter = 2 inches

Static water level = 4.72 feet

Drawdown = 0.781 meter at Elapsed time = 18.3383 minutes

Depth to water during test = Static water level + drawdown = 4.72 ft + 2.562 ft = 7.28 ft

Drawdown = 0.781 m x 3.281 ft/m = 2.562 ft

Length of test = 18.3383 min x 1 hour/60 min = 0.3056 hour

Pumping rate = 4000 ml/min = 1.06 gpm

4000 ml/min = 4000 cm³/min x 3.531E-5 ft³/1 cm³ x 1 min/60 sec
x 4.488 E+2 gpm/1 ft³/sec = 1.06 gpm

Thickness of aquifer = Depth to bedrock - average water level = 105 ft - 5 ft = 100 ft

Open interval = 10 ft

Storage coefficient = 0.15

Well loss coefficient = 1

 DETERMINATION OF AQUIFER PROPERTIES BASED ON ANALYSIS OF
 SPECIFIC CAPACITY TESTS

Copied from: Bradbury, K. R. and Rothschild, E. R., 1985. A computerized technique for estimating the hydraulic conductivity of aquifers from specific capacity data, Ground Water, 23(2), pp. 240-246.

WELL NUMBER CEF-8⁰₁-3S *MWA*

WELL DIAMETER (IN) = 2
 STATIC WATER LEVEL (FT) = 4.72
 DEPTH TO WATER DURING TEST (FT) = 7.28
 THE LENGTH OF THE TEST (HR) = .3056
 PUMPING RATE (GPM) = 1.06
 THICKNESS OF AQUIFER (FT) = 100
 OPEN INTERVAL (FT) = 10
 STORAGE COEFFICIENT = .15
 WELL-LOSS COEFFICIENT = 1

SPECIFIC CAPACITY (GPM/FT) = .4140633

TRANSMISSIVITY: (FT*FT/SEC) = 7.012376E-03
 (FT*FT/DAY) = 605.8693
 (GAL/DAY/FT) = 4532.205

$$T = bK \quad K = T/b$$

$$K = \frac{605.8693 \text{ ft}^2/\text{day}}{100 \text{ ft}} = 6.06 \text{ ft/day}$$

CEF-81-10S

Well diameter = 2 inches

Static water level = 5.45 feet

Drawdown = 1.638 meter at Elapsed time = 14.5127 minutes

Depth to water during test = Static water level + drawdown = 5.45 ft + 5.374 ft = 10.824 ft

Drawdown = 1.638 m x 3.281 ft/m = 5.374 ft

Length of test = 14.5127 min x 1 hour/60 min = 0.2419 hour

Pumping rate = 4000 ml/min = 1.06 gpm

4000 ml/min = 4000 cm³/min x 3.531E-5 ft³/1 cm³ x 1 min/60 sec

x 4.488 E+2 gpm/1 ft³/sec = 1.06 gpm

Thickness of aquifer = Depth to bedrock - average water level = 105 ft - 5 ft = 100 ft

Open interval = 10 ft

Storage coefficient = 0.15

Well loss coefficient = 1

 DETERMINATION OF AQUIFER PROPERTIES BASED ON ANALYSIS OF
 SPECIFIC CAPACITY TESTS

Copied from: Bradbury, K. R. and Rothschild, E. R., 1985. A computerized technique for estimating the hydraulic conductivity of aquifers from specific capacity data, Ground Water, 23(2), pp. 240-246.

WELL NUMBER CEF-81-10S

WELL DIAMETER (IN) = 2
 STATIC WATER LEVEL (FT) = 5.45
 DEPTH TO WATER DURING TEST (FT) = 10.824
 THE LENGTH OF THE TEST (HR) = .2419
 PUMPING RATE (GPM) = 1.06
 THICKNESS OF AQUIFER (FT) = 100
 OPEN INTERVAL (FT) = 10
 STORAGE COEFFICIENT = .15
 WELL-LOSS COEFFICIENT = 1

SPECIFIC CAPACITY (GPM/FT) = .1972462

TRANSMISSIVITY: (FT*FT/SEC) = 3.306007E-03
 (FT*FT/DAY) = 285.639
 (GAL/DAY/FT) = 2136.723

$$T = bK \quad K = T/b$$

$$K = \frac{285.639 \text{ ft}^2/\text{day}}{100 \text{ ft}} = 2.86 \text{ ft/day}$$

CEF-81-13S

Well diameter = 2 inches

Static water level = 4.91 feet

Drawdown = 0.532 meter at Elapsed time = 6.005 minutes

Depth to water during test = Static water level + drawdown = 4.91 ft + 1.745 ft = 6.655 ft

Drawdown = 0.532 m x 3.281 ft/m = 1.745 ft

Length of test = 6.0057 min x 1 hour/60 min = 0.100 hour

Pumping rate = 4000 ml/min = 1.06 gpm

4000 ml/min = 4000 cm³/min x 3.531E-5 ft³/1 cm³ x 1 min/60 sec

x 4.488 E+2 gpm/1 ft³/sec = 1.06 gpm

Thickness of aquifer = Depth to bedrock - average water level = 105 ft - 5 ft = 100 ft

Open interval = 10 ft

Storage coefficient = 0.15

Well loss coefficient = 1

 DETERMINATION OF AQUIFER PROPERTIES BASED ON ANALYSIS OF
 SPECIFIC CAPACITY TESTS

Copied from: Bradbury, K. R. and Rothschild, E. R., 1985. A computerized technique for estimating the hydraulic conductivity of aquifers from specific capacity data, Ground Water, 23(2), pp. 240-246.

WELL NUMBER CEF-81-13S

WELL DIAMETER (IN) = 2
 STATIC WATER LEVEL (FT) = 4.91
 DEPTH TO WATER DURING TEST (FT) = 6.655
 THE LENGTH OF THE TEST (HR) = .1
 PUMPING RATE (GPM) = 1.06
 THICKNESS OF AQUIFER (FT) = 100
 OPEN INTERVAL (FT) = 10
 STORAGE COEFFICIENT = .15
 WELL-LOSS COEFFICIENT = 1

SPECIFIC CAPACITY (GPM/FT) = .6074517

TRANSMISSIVITY: (FT*FT/SEC) = 1.020766E-02
 (FT*FT/DAY) = 881.9419
 (GAL/DAY/FT) = 6597.366

$$T = bK \quad K = T/b$$

$$K = \frac{881.9419 \text{ ft}^2/\text{day}}{100} = 8.82 \text{ ft}/\text{day}$$