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FINAL ANNUAL GROUNDWATER MONITORING REPORT YEAR 1 FOR OPERABLE UNIT 9 (OU 9) SITE 58 NAS CECIL FIELD FL

8/8/2005

TETRA TECH NUS INC

Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-94-D-0888

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Annual Groundwater Monitoring Report - Year 1
for
Operable Unit 9, Site 58

Naval Air Station Cecil Field
Jacksonville, Florida

Contract Task Order 0161

August 2005

Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29406

TETRA TECH NUS, Inc.

120406/P

ANNUAL GROUNDWATER MONITORING REPORT - YEAR 1
OPERABLE UNIT 9, SITE 58
FOR
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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CERTIFICATION OF TECHNICAL
DATA CONFORMITY

The Contractor, Tetra Tech NUS, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-94-D-0888 are complete and accurate and comply with all requirements of this contract.

DATE: August 8, 2005

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ACRONYMS

BTEX	Benzene, toluene, ethylbenzene, and xylenes
bgs	Below ground surface
COC	Chemical of concern
DCA	Dichloroethane
DCE	Dichloroethene
DO	Dissolved oxygen
EISOPQAM	Environmental Investigations Standard Operating Procedures and Quality Assurance Manual
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
GCTL	Groundwater Cleanup Target Level
LUC	Land use controls
msl	Mean sea level
NAS	Naval Air Station
NTU	Nephelometric turbidity unit
ORP	Oxidation-reduction potential
OU	Operable Unit
PAH	Polynuclear aromatic hydrocarbon
PRE	Preliminary Risk Evaluation
PRG	Preliminary remediation goal
PRO	Petroleum Range Organics
RAO	Remedial Action Objective
RI	Remedial Investigation
ROD	Record of Decision
SCTL	Soil Cleanup Target Level
TCA	Trichloroethane
TtNUS	Tetra Tech NUS, Inc.
TOC	Total organic carbon
T.O.C.	Top of casing
TRPH	Total recoverable petroleum hydrocarbons
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile organic compound

1.0 INTRODUCTION

This Annual Groundwater Monitoring Report – Year 1 presents a summary of the work performed during the first year of groundwater monitoring at Operable Unit (OU) 9, Site 58 at the Naval Air Station (NAS) Cecil Field located in Jacksonville, Florida. This report was prepared under Contract Task Order 0161 as part of the Comprehensive Long-Term Environmental Action Navy III Contract No. N62467-94-D-0888 for the Naval Facilities Engineering Field Division South. Site 58 is located in the Main Base area, on the western side of the North-South Runways in the area southeast of Building 312 (see Figures 1-1 and 1-2).

Site 58 consists of groundwater contaminated with total recoverable petroleum hydrocarbons (TRPH) and naphthalene that is located near an aircraft wash rack next to Building 312, a corrosion control hangar. The plume is located southeast of Building 312 and is approximately 0.3 acre in size (see Figure 1-3). Tetra Tech NUS, Inc. (TtNUS) conducted a Remedial Investigation (RI) at OU 9, Site 58 in 2001 and 2002 to delineate the nature and extent of groundwater contamination, to assess the human health and environmental risks posed by contamination [by a Preliminary Risk Evaluation (PRE) rather than a Baseline Risk Assessment], and to provide a basis for selecting alternatives for remediation of the site (TtNUS, 2002).

Based on the results of the RI, a naphthalene plume was defined as presented in Figure 1-3. This Site 58 Naphthalene Plume encompasses the TRPH exceedances at CEF-B312-01S, which was the other confirmed Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Level (GCTL) exceedances detected during the RI. The outline of the Site 58 Naphthalene Plume encompasses well CEF-B312-08S where three chlorinated volatile organic compounds (VOCs) [1,1-dichloroethane (DCA), 1,1-dichloroethene (DCE), 1,1,1-trichloroethane (TCA)] and xylenes were detected at concentrations greater than their FDEP GCTLs (FDEP, 1999) during the September 2001 sampling but not during the December 2001 sampling.

The Record of Decision (ROD) details the selected remedy for OU 9, Site 58, which includes the following:

- Land use controls (LUCs) to prohibit usage of the surficial aquifer beneath the site and thereby preclude unacceptable risks from exposure to contaminated groundwater.

- Long-term groundwater monitoring to verify that no chemicals of concern (COCs) are migrating past selected compliance wells and to evaluate the natural attenuation of the COCs (TtNUS, 2004).

Following completion of the RI, a long-term monitoring program was designed to monitor the concentrations of the COCs and the effectiveness of natural attenuation. The Groundwater Remedial Design Work Plan for Long-Term Monitoring was submitted in April 2003 (TtNUS, 2003).

Polynuclear aromatic hydrocarbon (PAH) contaminated soil at Site 58 is being addressed under the Petroleum Program, Chapter 62-770 of the Florida Administrative Code (FAC). Three soil samples were collected from the drainage ditch south of Building 312 to investigate potential migration of contaminants from the wash rack area. A sample was collected near the discharge point of the storm sewer from the wash rack, and samples were collected approximately 70 feet south (downstream) and approximately 165 feet south of the discharge point. The average concentrations of three PAHs (benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene) in the sample near the discharge point and its duplicate exceeded FDEP residential Soil Cleanup Target Levels (SCTLs),. The soil samples downstream of this location did not have PAH concentrations in excess of FDEP SCTLs. Approximately 135 cubic yards of contaminated soil were excavated from the ditch and disposed off site between September 27 and 29, 2003.

In accordance with the long-term monitoring component of the selected remedy, TtNUS collected and analyzed groundwater samples for COCs and natural attenuation parameters during the following groundwater monitoring events at OU 9, Site 58:

- First quarter, Year 1: April 2003
- Second quarter, Year 1: August 2003
- Third quarter, Year 1: October 2003
- Fourth quarter, Year 1: January 2004

Water-level measurements and groundwater elevations obtained during quarterly sampling events are presented in Table 1-1. A potentiometric surface elevation map generated with water-level data from the January 2004 monitoring event is presented as Figure 1-4. Appendix A includes the potentiometric surface elevation maps from the other quarterly monitoring events. Results from the quarterly sampling events were presented to the Navy and regulators during scheduled meetings. Formal reports with these results were no submitted.

Depth to groundwater in January 2004 ranged from approximately 8.6 to 13.2 feet below ground surface (bgs), approximately 3.3 to 6.6 feet deeper than the depths reported in the RI in September 2001. Based on groundwater elevations from January 2004, groundwater flow appear to be influenced by construction dewatering activities in the site area and the storm sewers. Flow is to the southeast in the western portion of Site 58, but in the eastern portion of the site, groundwater appears to move to the west toward

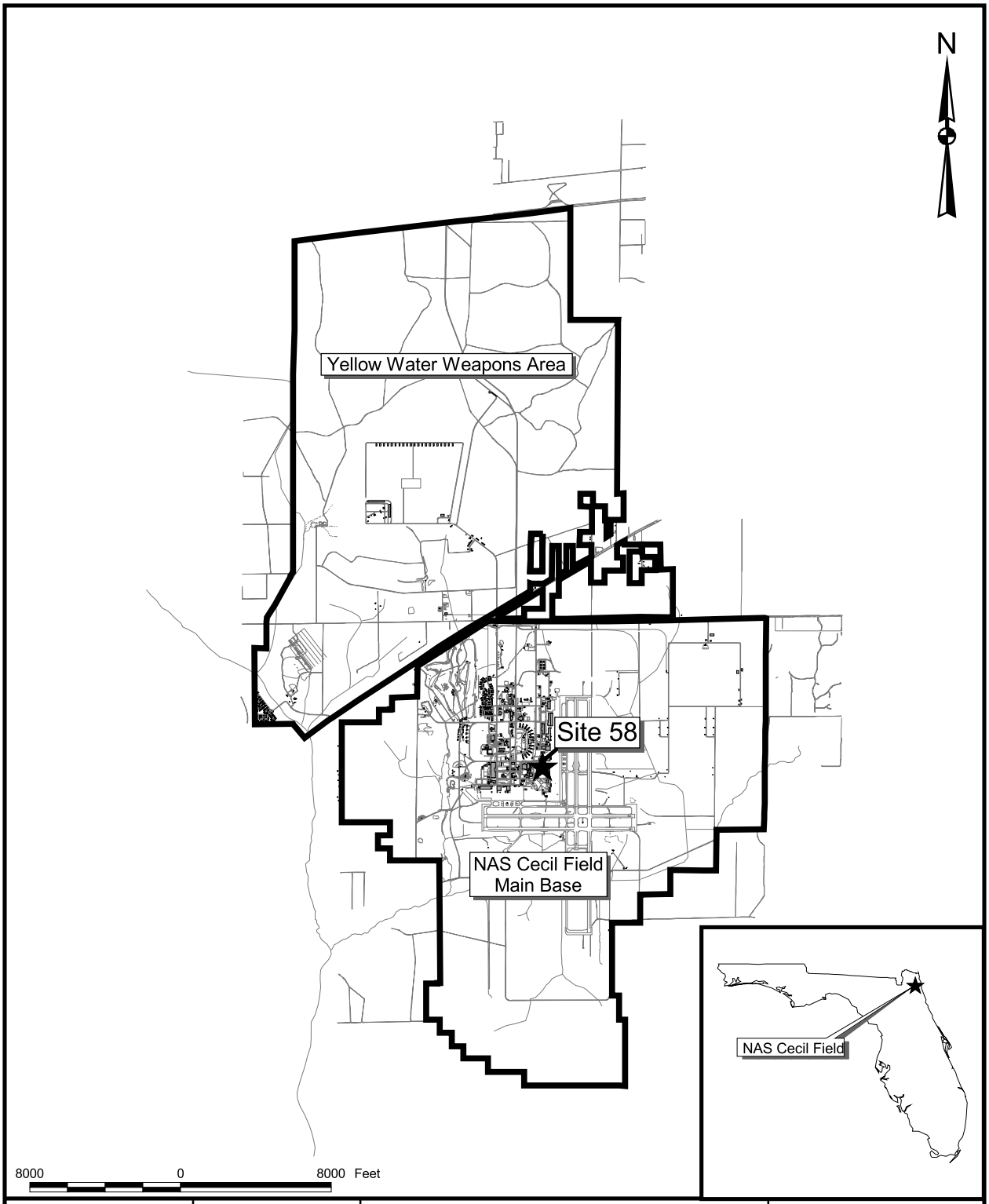
the construction dewatering activities and the storm sewers. The groundwater pattern for the previous quarterly sampling events was similar to the RI, with the storm sewers impacting the localized groundwater flow patterns.

TABLE 1-1

WATER LEVEL AND POTENTIOMETRIC SURFACE ELEVATION DATA
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

WELL NUMBER	GROUND SURFACE ELEVATION (ft above msl)	TOP OF CASING ELEVATION (ft above msl)	APRIL 2003		AUGUST 2003		OCTOBER 2003		JANUARY 2004	
			DEPTH TO WATER (from T.O.C.)	ELEVATION (ft above msl)	DEPTH TO WATER (from T.O.C.)	ELEVATION (ft above msl)	DEPTH TO WATER (from T.O.C.)	ELEVATION (ft above msl)	DEPTH TO WATER (from T.O.C.)	ELEVATION (ft above msl)
CEF-312-01	72.12	71.88	5.74	66.14	4.10	67.78	NM	-	9.07	62.81
CEF-B312-01I	72.26	72.08	5.97	66.11	4.33	67.75	NM	-	9.31	62.77
CEF-B312-01S	73.40	73.22	6.01	67.21	4.33	68.89	6.31	66.91	9.48	63.74
CEF-B312-02S	72.05	71.79	5.78	66.01	4.18	67.61	6.11	65.68	8.96	62.83
CEF-B312-03S	76.35	73.24	6.45	66.79	4.83	68.41	6.77	66.47	9.46	63.78
CEF-B312-04S	72.66	72.45	6.25	66.20	4.55	67.90	6.60	65.85	9.70	62.75
CEF-B312-05S	71.78	71.51	5.70	65.81	4.12	67.39	6.01	65.50	8.64	62.87
CEF-B312-06S	72.75	72.44	6.71	65.73	5.15	67.29	7.00	65.44	9.52	62.92
CEF-B312-07S	73.07	72.75	6.90	65.85	5.33	67.42	7.23	65.52	9.83	62.92
CEF-B312-08S	77.25	74.10	6.84	67.26	5.08	69.02	7.19	66.91	10.5	63.60
CEF-B312-09S	76.97	76.77	9.25	67.52	7.41	69.36	9.62	67.15	13.18	63.59
CEF-B312-10S	74.15	73.93	6.71	67.22	5.02	68.91	7.03	66.90	10.1	63.83
CEF-B312-11S	73.80	73.61	7.19	66.42	5.68	67.93	7.44	66.17	9.70	63.91
CEF-B312-12S	73.27	72.92	7.01	65.91	5.76	67.16	7.17	65.75	8.95	63.97
CEF-B312-13S	73.52	73.34	6.79	66.55	5.30	68.04	7.07	66.27	9.45	63.89
CEF-B312-14S	74.80	74.64	7.09	67.55	5.23	69.41	7.50	67.14	11.09	63.55
CEF-B312-15I	74.50	74.15	7.79	66.36	5.03	69.12	7.13	67.02	10.47	63.68
CEF-312LS-01S	74.70	74.32	6.77	67.55	4.93	69.39	7.14	67.18	10.64	63.68
CEF-312LS-01Sa	75.50	75.25	7.38	67.87	5.31	69.94	7.78	67.47	11.95	63.30

T.O.C. = Top of casing.
NM = Not measured.
msl = Mean sea level.



DRAWN BY MJJ	DATE 15Oct04	GENERAL LOCATION MAP OPERABLE UNIT 9, SITE 58 NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4187
CHECKED BY RFD	DATE ---		APPROVED BY / DATE
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1-1 / REV 0

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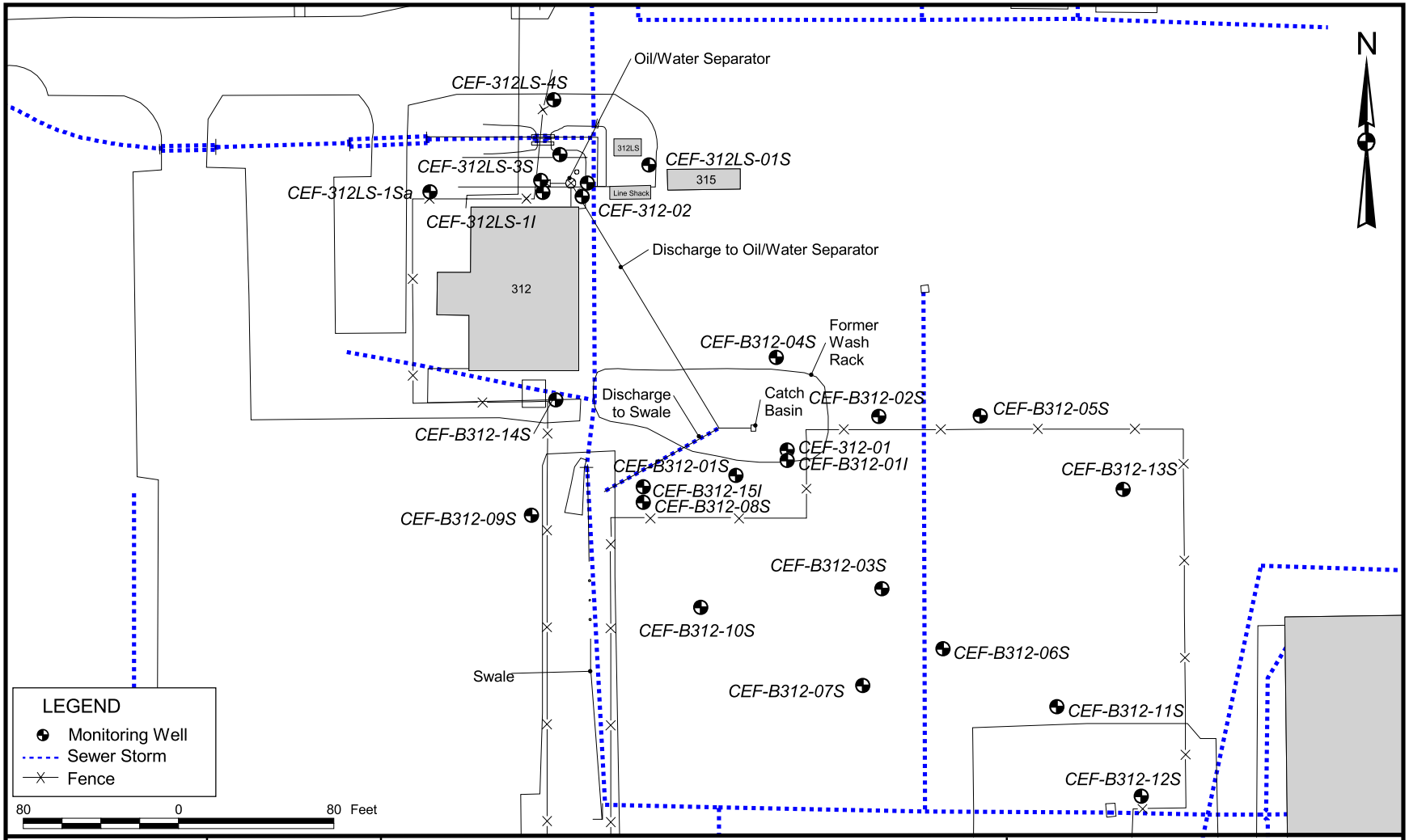

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MJJ	25Jun03
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RFD	____
COST/SCHEDULE-AREA	
SCALE	
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SITE LOCATION MAP

OPERABLE UNIT 9, SITE 58

NAVAL AIR STATION CECIL FIELD

JACKSONVILLE, FLORIDA

CONTRACT NUMBER	
4187	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO.	REV
FIGURE 1-2	0

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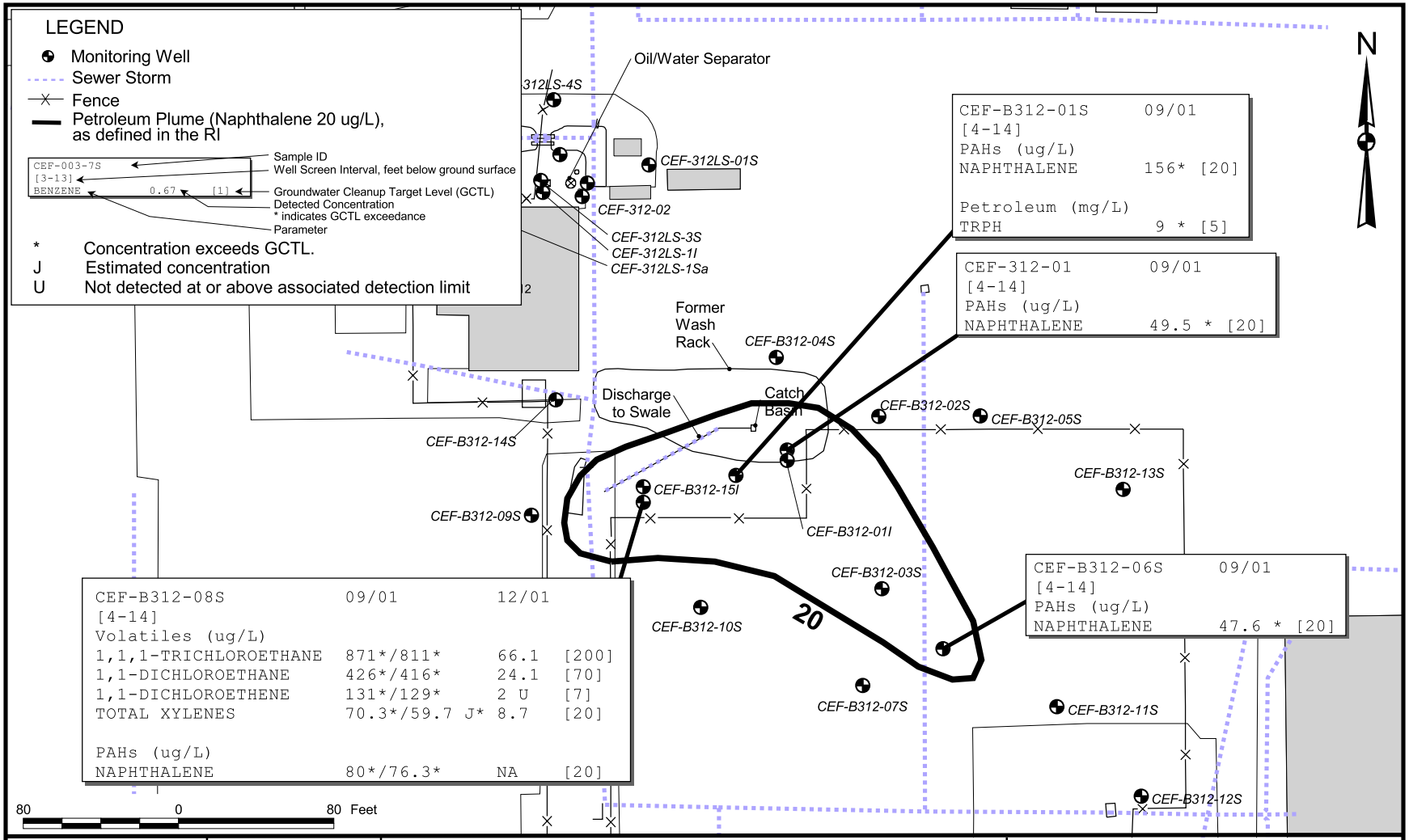

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SCALE	AS NOTED

NAVFAC

GROUNDWATER GCTL EXCEEDANCES PLUME BASED ON RI ANALYTICAL DATA

OPERABLE UNIT 9, SITE 58

NAVAL AIR STATION CECIL FIELD

JACKSONVILLE, FLORIDA

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4187	
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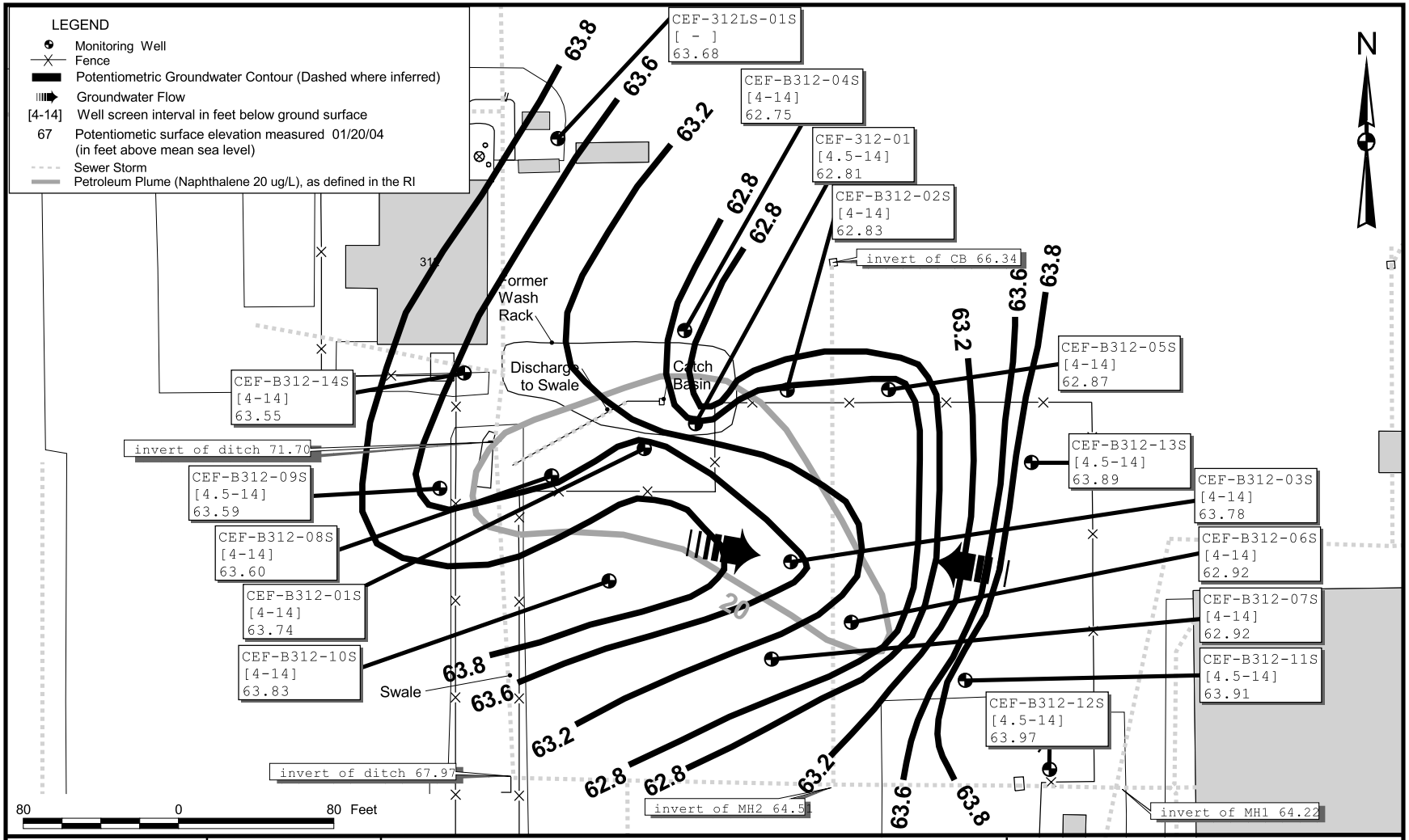

DRAWN BY MJJ	DATE 25Jun03	POTENTIOMETRIC SURFACE MAP OPERABLE UNIT 9, SITE 58 NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4187
CHECKED BY RFD	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1-4 / REV 0

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2.0 SITE CHEMICALS OF CONCERN

The RI (TtNUS, 2002) and the ROD (TtNUS, 2004) identified the following COCs for OU 9, Site 58 based on the PRE:

- Xylenes
- 1,1,1-TCA
- 1,1-DCA
- 1,1-DCE
- Naphthalene
- TRPH

Table 2-1 presents the frequencies of detection and ranges of concentrations for these COCs based on data from the RI for Site 58.

TABLE 2-1

SUMMARY OF CHEMICALS OF CONCERN IN GROUNDWATER
REMEDIAL INVESTIGATION DATA
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CHEMICAL OF CONCERN	FREQUENCY OF DETECTION	RANGE OF DETECTIONS	LOCATION OF MAXIMUM DETECTION
VOLATILE ORGANIC COMPOUNDS (ug/L)			
1,1-Dichloroethane	10 / 18	1.0 - 421	CEF-B312-08S
1,1-Dichloroethene	2 / 18	1.6 - 130	CEF-B312-08S
1,1,1-Trichloroethane	1 / 18	841	CEF-B312-08S
Xylenes	4 / 18	0.6 - 65	CEF-B312-08S
POLYNUCLEAR AROMATIC HYDROCARBONS (ug/L)			
Naphthalene	9 / 18	1.3 - 156	CEF-B312-01S
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (mg/L)			
TRPH	9 / 18	587 - 9,000	CEF-B312-01S

3.0 ANALYTICAL RESULTS AND EVALUATION

Long-term monitoring was performed in accordance with the Groundwater Remedial Design Work Plan for Long-Term Monitoring (TtNUS, 2003) and was conducted in general accordance with TtNUS standard operating procedures, United States Environmental Protection Agency (U.S. EPA) Region IV Environmental Investigations and Standard Operating Procedures (EISOPQAM) (U.S. EPA, 1996), and the FDEP Groundwater Sampling Standard Operating Procedure FS 2200 (FDEP, 2002). The rationale for the locations of the long-term monitoring wells and analyses performed is provided in Table 3-1. The frequencies of detection and ranges of detected concentrations for COCs are provided in Table 3-2. Table 3-3 provides a summary of the COC analytical results for the OU 9, Site 58 long-term monitoring wells. Table 3-4 presents a summary of the natural attenuation indicator parameter analytical results for these wells.

Figures 3-1 through 3-3 are tag maps of Year 1 COC data for the VOCs, PAHs, and TRPH compounds, respectively, at Site 58. Figures 3-4 through 3-9 present Year 1 natural attenuation indicator parameter results. Laboratory analytical data from Year 1 quarterly sampling are presented in Appendix B.

3.1 CONTAMINANTS OF CONCERN

Groundwater monitoring conducted during the RI (TtNUS, 2002) identified naphthalene and TRPH as COCs at Site 58. Several other VOCs and PAHs were detected but at concentrations less than GCTLs. The ROD for Site 58 indicated the monitoring program would include the COCs as well as the VOCs and PAHs that were detected at concentrations less than the GCTLs. The plume is not discharging to a surface water body or any other receptor and is not expected to discharge in the near future. The Work Plan for Long-Term Monitoring identified 11 monitoring wells for quarterly sampling in the first year, semi-annual sampling for 2 years, and annual sampling thereafter.

Four quarterly groundwater sampling events were conducted since April 2003 during Year 1 from April 2003 to January 2004. Monitoring wells within, upgradient of, and downgradient of the plume were sampled and analyzed for VOCs, PAHs, TRPH, and natural attenuation parameters. The analytical results from the quarterly sampling events were presented and discussed with the Navy and regulators during scheduled meetings.

The concentrations of contaminants have generally decreased in most wells since the RI. Vinyl chloride was detected at concentrations greater than its GCTL in monitoring wells CEF-B312-11S and CEF-B312-12S, and naphthalene was detected at concentrations greater than its GCTL in monitoring wells CEF-312-01 and CEF-B312-01S. The VOC, PAH, and TRPH exceedances detected during Year

1 groundwater monitoring are presented on Figures 3-1, 3-2, and 3-3, respectively, and Table 3-2 shows the maximum concentrations of COCs for each sampling event.

COC concentrations have decreased to less than GCTLs, with the exception of vinyl chloride and naphthalene. The maximum detected concentration of vinyl chloride is approximately 9 times greater than the U. S. EPA Maximum Contaminant Level and the FDEP GCTL. The maximum detected concentration of naphthalene is approximately 23 times greater than the FDEP GCTL.

COCs were not detected in monitoring wells upgradient of the groundwater plume (CEF-312LS-1Sa and CEF-B312-09S) except naphthalene at 0.7 µg/L in CEF-312LS-1Sa during the quarterly sampling events. COCs were not detected in the intermediate monitoring wells in the source area of the groundwater plume (CEF-B312-01I and CEF-312-15I) during the quarterly sampling events also.

By the end of Year 1, the concentrations of the COCs in the source area shallow wells (CEF-B312-01S, CEF-B312-06S, and CEF-B312-08S) had generally decreased and concentrations of most of the COCs were less than FDEP GCTLs. One source area shallow monitoring well (CEF-312-01) showed an increasing trend in the concentrations of the COCs; however, the VOC COCs detected were less than FDEP GCTLs. VOCs were not detected or were detected at low concentrations in two monitoring wells (CEF-B312-06S and CEF-B312-08S). TRPH was analyzed in one source area shallow well (CEF-0B312-06S), and the concentration was less than the FDEP GCTL.

Naphthalene and 1- and 2-methylnaphthalene concentrations decreased in two of the four source area shallow wells (CEF-B312-06S and CEF-B312-08S), and these concentrations were less than FDEP GCTLs. However, naphthalene concentrations still exceeded the FDEP GCTL in the other two source area shallow wells (CEF-B312-01S and CEF-312-01) with concentrations of 80.2 and 458 µg/L. There is a decreasing trend in naphthalene concentrations in monitoring well CEF-B312-01S and a possible increasing trend in naphthalene concentrations in monitoring well CEF-312-01.

The concentrations of COCs in downgradient and sidegradient shallow wells (CEF-B312-07S and CEF-B312-11S) were non-detect or relatively low. The TRPH concentrations in these wells were unchanged and below the FDEP GCTL. Naphthalene concentrations in monitoring well CEF-B312-11S increased between the first and second sampling event and decreased to less than the FDEP GCTL in the fourth sampling event.

Concentrations of 1,1-DCE in the sentinel well (CEF-B312-12S) remained approximately the same and less than the GCTL during the four sampling events. However, concentrations of vinyl chloride increased, exceeding the FDEP GCTL in the third and fourth sampling events. Naphthalene concentrations

fluctuated at low concentrations (from non-detected to 4.7ug/L) and less than the GCTL in this sentinel well during the four sampling events. TRPH concentrations in this well remained less than the FDEP GCTL.

3.2 NATURAL ATTENUATION PARAMETERS

Fixed-base laboratory analyses and field analytical tests to determine natural attenuation parameters were performed on the groundwater samples during each sampling event. Fixed-base analytical parameters included alkalinity, chloride, dissolved iron, methane, ethane, and ethene, nitrate, nitrite, orthophosphate, sulfate, dissolved sulfide, and total organic carbon (TOC). Field analytical tests included pH, specific conductance, temperature, turbidity, dissolved oxygen (DO), hydrogen sulfide, sulfide (S^{2-}), carbon dioxide, ferrous iron, oxidation-reduction potential (ORP), and alkalinity. Natural attenuation indicator parameter results are presented in Table 3-4 and on Figures 3-4 through 3-9.

3.2.1 Natural Attenuation Overview

The following provides a general overview of the processes involved in biodegradation natural attenuation and of the parameters collected to evaluate natural attenuation at Site 58. Section 3.2.2 provides a site-specific evaluation of the results of natural attenuation sampling at Site 58.

DO is utilized as an electron acceptor during microbial aerobic respiration to mineralize hydrocarbons such as benzene, toluene, ethylbenzene, and xylenes (BTEX), which act as electron donors, into carbon dioxide and water providing microorganisms with carbon and energy. Aerobic respiration, or oxygen reduction, is generally the most efficient process by which BTEX constituents are degraded. For chlorinated hydrocarbons, anaerobic degradation pathways are generally more efficient than aerobic pathways.

At DO concentrations greater than approximately 0.5 to 1 mg/L (aerobic conditions), microorganisms can breakdown natural or anthropogenic sources of carbon, including BTEX, through aerobic respiration. DO decreases as oxygen in the aquifer is consumed by these reactions, and anaerobic microbes become more successful than aerobic microbes. At DO concentrations less than 0.5 mg/L and with nitrate concentrations decreasing and nitrite concentrations increasing in the aquifer, reducing conditions favorable to reductive chlorination will exist. As the supply of nitrate in the aquifer is utilized, microbes begin to degrade hydrocarbons via iron reduction. As bio-available iron becomes depleted, microbes begin degradation of hydrocarbons via sulfate reduction. Following sulfate reduction, degradation via methanogenesis is the dominant process. In the degradation of fuel hydrocarbons, the contaminant is the carbon source and electron donor for the microbes during these reactions.

These same processes are involved in biodegradation of chlorinated compounds via reductive dechlorination. The microbial breakdown of anthropogenic organic carbon (or co-located BTEX constituents) via nitrate, iron, or sulfate reduction or methanogenesis releases hydrogen, and the hydrogen reacts with the chlorinated compounds (electron acceptors) by replacing a chlorine. Many factors, including the natural geochemical makeup of the aquifer and complex oxidation-reduction conditions, affect whether and to what degree each process can occur.

Dissolved Oxygen

In aquifers that typically exhibit anaerobic conditions, DO concentrations less than 1.0 to 0.5 mg/L in contaminated areas suggest that indigenous anaerobic bacterial populations are established and actively degrading natural organic carbon or anthropogenic carbon sources (e.g., petroleum hydrocarbons) in these areas. As stated above, anaerobic biodegradation is more efficient at reducing concentrations of chlorinated contaminants compared to BTEX constituents.

Nitrate and Nitrite

During nitrate reduction, nitrate is an electron acceptor that anaerobically degrades the hydrocarbons, causing a reduced condition and generating nitrite and carbon dioxide. However, nitrate may compete with chlorinated hydrocarbons as electron acceptors if present at moderate concentrations (greater than 1 mg/L). Therefore, in order for reductive dechlorination to occur, nitrate concentrations should be between approximately 0.5 mg/L and 1.0 mg/L.

Ferrous Iron

Under anaerobic conditions, ferric iron (iron III) can be used as an electron acceptor. Ferric iron available to microorganisms cannot be measured because it is insoluble; however, soluble ferrous iron, a product of iron reduction, can be used as an indicator. Increasing concentrations of ferrous iron along the flow path within the plume area indicate iron-reducing conditions favorable to anaerobic biodegradation.

Sulfate, Sulfide, and Hydrogen Sulfide

Sulfate reduction occurs after the ferric iron electron acceptors have been exhausted. During sulfate reduction, anaerobic bacteria can use sulfate as an electron acceptor to degrade hydrocarbons. However, the chlorinated solvents themselves can be used as electron acceptors during reductive dechlorination, and sulfate may compete as an electron acceptor if present at moderate concentrations (greater than 20 mg/L). Therefore, in order for reductive dechlorination to occur, sulfate should be present but less than approximately 20.0 mg/L in the plume. The process of sulfate reduction results in the generation of hydrogen sulfide/sulfide. A decreasing trend in sulfate concentrations coupled with an

increasing trend in hydrogen sulfide and sulfide concentrations in the direction of groundwater flow is a strong positive indicator of a sulfate-reducing environment.

Methane, Ethene, and Ethane

During methanogenesis (an anaerobic biodegradation process), some types of bacteria utilize carbon dioxide as an electron acceptor, generating methane as a by-product of fermentation. Methane in groundwater is indicative of strong reducing conditions. The presence of methane above background concentrations in areas of contaminated groundwater is a key indicator of biodegradation of hydrocarbons. Ethene and ethane are by-products of the reductive dechlorination of chlorinated ethenes. The presence of ethene and ethane in areas of contaminated groundwater is a key indicator of biodegradation of the chlorinated ethenes.

Oxidation-Reduction Potential

ORP of groundwater is a measure of the relative tendency of the groundwater solution to accept or donate electrons as well as the amount of energy released during electron transfers within the solution. ORP depends upon and influences the rates and types of biodegradation processes; therefore, the measurement of ORP can provide evidence of the types of biodegradation processes that are active in a particular plume or even within different portions of the same plume. In general, reductive dechlorination is possible at ORP levels of less than 50 millivolts, and reductive pathways are likely at ORP levels of less than -100 millivolts. However, great care must be taken during the evaluation of ORP data because most natural waters usually have mixed potentials that cannot be related to a single electron couple. ORP should only be used as a qualitative indicator of the overall oxidation-reduction state of an aquifer.

Total Organic Carbon

Because chlorinated hydrocarbons are used as electron acceptors during reductive dechlorination, there needs to be a sufficient supply of organic carbon as the primary substrate for microbial growth. Such a supply can come from native organic carbon in the aquifer or anthropogenic sources such as BTEX. Organic carbon concentrations greater than 20 mg/L in the aquifer indicate a sufficient supply of carbon to act as the primary substrate. TOC is a measure of the natural and anthropogenic carbon present in the aquifer.

Carbon Dioxide and Alkalinity

Carbon dioxide is both produced and utilized during the biodegradation of hydrocarbons. Carbon dioxide is produced during aerobic respiration and during anaerobic processes of denitrification, iron reduction, and sulfate reduction. Carbon dioxide is utilized during the anaerobic process of methanogenesis as an

electron acceptor in the generation of methane as a by-product of fermentation. Carbon dioxide concentrations approximately two times greater than concentrations in the background wells are an indication that biodegradation processes (except methanogenesis) are occurring.

Alkalinity is a measure of the aquifer's buffering (neutralizing) capacity of acids in water and is expressed as calcium carbonate in mg/L. Alkalinity can give a general indication of the amount of carbon dioxide generated in a plume. Source area and downgradient alkalinity concentrations greater than approximately two times background concentrations suggest carbon dioxide generation associated with biodegradation processes.

Chloride

Chloride is released into groundwater during dechlorination of a solvent plume. Therefore, an increase in chloride ion concentrations in the downgradient direction provides direct evidence that dechlorination is occurring.

3.2.2 Natural Attenuation Evaluation

TOC concentrations in the upgradient well were less than 20 mg/L (ranged from 3.2 to 7.5 mg/L), indicating a minimal supply of natural organic carbon is present in the aquifer to act as the primary substrate for reductive dechlorination. This lack of natural organic carbon as an energy source could limit the biodegradation potential at the site; however, there is a source of anthropogenic carbon in the form of toluene, ethylbenzene, xylene, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, and TRPH available at the site in the source area. In areas where anaerobic conditions exist in the aquifer, it is possible that these compounds are being used as the carbon source to drive the reductive dechlorination process.

This natural attenuation discussion addresses the upgradient area, shallow and intermediate source area, mid-plume area, and downgradient area. Each area of the plume is briefly described in terms of select natural attenuation parameters and contaminant concentrations. All comparisons are made to the upgradient area as defined by wells CEF-312LS-1Sa and CEF-B312-09S. This discussion supplements Section 3.1, which discusses contaminant concentration trends over time, a primary line of evidence in determining if monitored natural attenuation is occurring.

Upgradient Monitoring Wells

Upgradient geochemical and COC characteristics based on Year 1 data from wells CEF-312LS-1Sa and CEF-B312-09S are as follows:

- Concentrations of COCs were less than detection limits.
- Low concentrations of TOC (1.8 to 7.5 mg/L).
- DO concentrations from 0.6 mg/L to 3 mg/L.
- Low concentrations of ferrous iron (less than 0.1 mg/L).
- Dissolved iron concentrations are less than 130 mg/L.
- Sulfate from not detected to 40 mg/L.
- Two detections of sulfide.
- Low concentrations of dissolved methane (less than 28 µg/L).
- No detections of ethene or ethane.
- Concentrations of dissolved carbon dioxide ranging from 22 to greater than 100 mg/L.
- Low alkalinity (10 to 111 mg/L).
- ORP measurements from 5 to 376 mV.

These values indicate that the upgradient aquifer is generally aerobic.

Shallow Source Area Monitoring Wells

Geochemical and COC characteristics of the source area based on Year 1 data from wells CEF-312-01, CEF-B312-01S, and CEF-B312-08S are as follows:

- Concentrations of most COCs have decreased to less than FDEP GCTLs. In general, most of the COCs have decreased in concentration over time (see Table 3-3). Some of these monitoring wells continued to have naphthalene concentrations greater than the FDEP GCTL. TRPH concentrations are less than the FDEP GCTL.
- DO concentrations typically less than or equal to 1 mg/L.
- Ferrous iron concentrations of 0.02 to 6 mg/L.
- Dissolved iron concentrations from 2,190 to 13,200 mg/L.
- No sulfate detected.
- Hydrogen sulfide and field sulfide (S^{2-}) detected in each quarterly event.
- Dissolved methane concentrations from 144 to 4,197 µg/L.
- One detection of ethane and no detections of ethene.
- Dissolved carbon dioxide concentrations increased to approximately 10 to 120 mg/L.
- Alkalinity concentrations from 10 to 287 mg/L.
- ORP readings from -166 to 117 mV.

The trends of these concentrations, compared to the upgradient well, are indicative of anaerobic biological activity.

Intermediate Source Area Monitoring Wells

Geochemical and COC characteristics of the source area at wells CEF-312-01I and CEF-B312-15I are as follows:

- No COCs were detected.
- DO concentrations from 0.8 to 2 mg/L.
- Ferrous iron concentrations less than 1 mg/L.
- Dissolved iron concentrations less than 68 mg/L.
- No sulfate detected.
- Low concentrations of S^{2-}.
- Dissolved methane concentrations less than 7.1 µg/L.
- One detection of ethene and no detections of ethane.
- Dissolved carbon dioxide concentrations increased to approximately 10 to 70 mg/L.
- Alkalinity concentrations from 9 to 254 mg/L.
- ORP readings from 104 to 495 mV.

The trends of these concentrations, compared to the upgradient well, are not indicative of anaerobic biological activity.

Mid-Plume Area

Geochemical and COC characteristics of the mid-plume area at well CEF-B312-06S are as follows:

- COC concentrations were less than FDEP GCTLs and in the source area wells. Naphthalene concentrations have been in the range of 16.5 to 59.4 µg/L with a general decreasing trend. TRPH concentrations have been in the range of 1.87 to 2.82 mg/L with a general decreasing trend.
- DO concentrations less than 1 mg/L.
- Concentrations of ferrous iron from 2.8 to 5.9 mg/L.
- Dissolved iron concentrations from 5,770 to 10,100 mg/L.
- No sulfate detected.
- Hydrogen sulfide, S^{2-}, and dissolved sulfide detected during each quarterly event.
- Dissolved methane concentrations from 801 to 1,995 µg/L.
- No detections of ethene or ethane.

- Dissolved carbon dioxide concentrations from 10 to 260 mg/L.
- Alkalinity concentrations ranged from 30 to 190 mg/L.
- ORP readings from -54 to 126 mV.

The trends, compared to the source and upgradient wells, indicate anaerobic biological activity.

Downgradient Area

Geochemical and COC characteristics of downgradient wells CEF-B312-07S, CEF-B312-11S, and CEF-B312-12S are as follows:

- Two compounds were detected at concentrations greater than the GCTLs. Vinyl chloride concentrations have been in the range of less than 1 to 8.6 µg/L. Naphthalene concentrations have been in the range of 1.4 to 21.8 µg/L with a general decreasing trend. TRPH concentrations have been less than the FDEP GCTL.

- DO concentrations from 0.3 to 1.5 mg/L.

- Ferrous iron concentrations from 0.06 to 4 mg/L.

- Dissolved iron concentrations from 990 to 5,350 mg/L.

- No sulfate detected.

- S^{2-} was detected during each quarterly event, and hydrogen sulfide was detected in one of the wells at each quarterly event.

- Methane concentrations from 34.6 to 1,359 µg/L.

- No detections of ethene or ethane.

- Dissolved carbon dioxide concentrations from 10 to 140 mg/L.

- Alkalinity concentrations ranged from 9 to 265 mg/L.

- ORP readings from -76 to 189 mV.

These values are similar to the upgradient values, but the presence of contaminants indicates one well is within the plume. The concentrations of some of these geochemical parameters indicate anaerobic biological activity is occurring and the plume is returning to upgradient conditions.

Conclusions

COC concentrations have been variable but have generally been decreasing during Year 1. Geochemical parameters trends are consistent with anaerobic biological activity. DO concentrations are usually less than 1 mg/L, which indicates conditions favorable for anaerobic biological activity are present. The concentrations of alkalinity, carbon dioxide, ferrous iron, sulfides, and methane increase at the source and then gradually decrease downgradient. The methane concentrations are high in most of the source area and downgradient wells, indicating that dechlorination is occurring; however, these conditions may result in the accumulation of vinyl chloride, which has been observed in the downgradient wells. Similarly, the ORP measurements decrease at the source (an indication of reductive conditions), then gradually increase.

TABLE 3-1

RATIONALE FOR LONG-TERM MONITORING WELLS
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Well ID	Surficial Aquifer Depth Interval	Total Depth in feet bgs	Analysis				WL	Rationale and Comments
			VOCs	PAHs	TRPH	NA		
CEF-312-01	S	15	●	●		●	●	Within Naphthalene Plume; previous highest naphthalene concentration
CEF-312LS-01S	S	16					●	Water level only
CEF-312LS-1Sa	S	16	●	●		●	●	Upgradient
CEF-B312-01I	I	35	●	●	●	●	●	Vertical migration
CEF-B312-01S	S	14	●	●		●	●	Source area; highest TRPH and naphthalene
CEF-B312-02S	S	14					●	Water level only
CEF-B312-03S	S	14					●	Water level only
CEF-B312-04S	S	14					●	Water level only
CEF-B312-05S	S	14					●	Water level only
CEF-B312-06S	S	14	●	●	●	●	●	Downplume in Naphthalene Plume
CEF-B312-07S	S	14	●	●		●	●	Down/sidegradient
CEF-B312-08S	S	14	●	●		●	●	Within Naphthalene Plume; previous high VOCs
CEF-B312-09S	S	15	●	●		●	●	Sidegradient
CEF-B312-10S	S	15					●	Water level only
CEF-B312-11S	S	15	●	●	●	●	●	Downgradient
CEF-B312-12S	S	15	●	●	●	●	●	Sentinel well
CEF-B312-13S	S	15					●	Water level only
CEF-B312-14S	S	15					●	Water level only
CEF-B312-15I	I	41	●	●		●	●	Vertical migration at CEF-B312-08S; previous high VOCs

NOTES:
S - Shallow zone of surfical aquifer.
I - Intermediate zone of surfical aquifer.
NA - Natural attenuation parameters.
VOCs - Volatile organic compound (VOCs) by Method 8260B.
PAHs - Polynuclear aromatic hydrocarbon (PAHs) by Method 8310.
TRPH - Total recoverable petroleum hydrocarbons (TRPH) by Florida Petroleum Range Organics (PRO) Method.
WL - Water level only.
bgs - Below ground surface.

TABLE 3-2

FREQUENCY OF DETECTION FOR CHEMICALS OF CONCERN IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Parameter	First Quarter - Year 1 April 2003				Second Quarter - Year 1 August 2003			
	Frequency of Detection	Range of Detections	Location of Maximum Detection	Average of Detections	Frequency of Detection	Range of Detections	Location of Maximum Detection	Average of Detections
Volatile Organic (ug/L)								
1,1-Dichloroethane	6 / 11	0.25 - 19.6	CEF-B312-08S	7.2	5 / 11	0.25 - 5.3	CEF-B312-11S	2.9
1,1-Dichloroethene	2 / 11	0.25 - 1.6	CEF-B312-11S CEF-B312-12S	1.6	2 / 11	0.25 - 1.2	CEF-B312-11S	1.1
1,1,1-Trichloroethane	1 / 11	14.5	CEF-B312-08S	14.5	1 / 11	5.9	CEF-B312-08S	5.9
Xylene (total)	3 / 11	0.5 - 20.5	CEF-B312-08S	11.5	3 / 11	0.5 - 32.6	CEF-B312-08S	12.8
Vinyl chloride	2 / 11	0.25 - 1.6	CEF-B312-11S CEF-B312-12S	1.6	1 / 11	1.1	CEF-B312-11S	1.1
Polynuclear Aromatic Hydrocarbons (ug/L)								
Naphthalene	7 / 11	0.13 - 480	CEF-B312-01S	109	5 / 11	0.25 - 409.5	CEF-B312-01S	120.7
Total Recoverable Petroleum Hydrocarbons (mg/L)								
TRPH	3 / 4	0.085 - 2.82	CEF-B312-06S	2.10	2 / 3	0.09 - 2.26	CEF-B312-06S	1.91

TABLE 3-2

FREQUENCY OF DETECTION FOR CHEMICALS OF CONCERN IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Parameter	Third Quarter - Year 1 October 2003				Fourth Quarter - Year 1 January 2004			
	Frequency of Detection	Range of Detections	Location of Maximum Detection	Average of Detections	Frequency of Detection	Range of Detections	Location of Maximum Detection	Average of Detections
Volatile Organic (ug/L)								
1,1-Dichloroethane	6 / 11	0.25 - 12.9	CEF-B312-12S	5.2	5 / 11	0.25 - 17.5	CEF-B312-12S	5.7
1,1-Dichloroethene	2 / 11	0.25 - 7.3	CEF-B312-12S	4.3	1 / 11	4.5	CEF-B312-12S	4.5
1,1,1-Trichloroethane	1 / 11	1.8	CEF-B312-08S	1.8	0 / 11			
Xylene (total)	4 / 11	0.5 - 30.3	CEF-B312-08S	10.9	1 / 11	10.4	CEF-312-01	10.4
Vinyl chloride	2 / 11	0.25 - 2.7	CEF-B312-12S	1.8	1 / 11	8.6	CEF-B312-12S	8.6
Polynuclear Aromatic Hydrocarbons (ug/L)								
Naphthalene	6 / 11	0.255 - 432	CEF-B312-01S	93	8 / 11	0.265 - 458	CEF-312-01	72
Total Recoverable Petroleum Hydrocarbons (mg/L)								
TRPH	3 / 3	0.193 - 1.915	CEF-B312-06S	1.206	3 / 4	0.09 - 1.87	CEF-B312-06S	0.90

TABLE 3-3

CHEMICALS OF CONCERN IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	FDEP GCTL	CEF-									
		312-01					312LS-01Sa				
		Sep-01	Apr-03	Aug-03	Dec-03 (1)	Jan-04	Sep-01	Apr-03	Aug-03	Oct-03	Jan-04
VOLATILE ORGANIC COMPOUNDS (ug/L)											
Acetone	700	50 U	5 U	5 U	5 U	**5.4**	50 U	5 U	5 U	5 U	5 U
Benzene	1	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	0.5 U	0.5 U
2-Butanone	4200	10 U	5 U	5 U	5 U	2.5 U	10 U	5 U	5 U	2.5 U	2.5 U
Chloroform	5.7	2 U	1 U	1 U	1 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
1,1-Dichloroethane	70	**9.1**	**1.9**	**1.6**	**1.5**	**6.5**	2 U	1 U	1 U	0.5 U	0.5 U
1,1-Dichloroethene	7	2 U	1 U	1 U	1 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
Ethylbenzene	30	**0.48 J**	1 U	1 U	1 U	**1.8**	2 U	1 U	1 U	0.5 U	0.5 U
4-Methyl-2-pentanone	560	10 U	5 U	5 U	5 U	2.5 U	10 U	5 U	5 U	2.5 U	2.5 U
Toluene	40	2 U	1 U	1 U	1 U	**2**	2 U	1 U	1 U	0.5 U	0.5 U
Trichloroethene	3	2 U	1 U	1 U	1 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
1,1,1-Trichloroethane	200	2 U	1 U	1 U	1 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
Vinyl chloride	1	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	0.5 U	0.5 U
Xylenes, total	20	**0.60 J**	3 U	3 U	3 U	**10.4**	6 U	3 U	3 U	1 U	1 U
SEMIVOLATILE ORGANIC COMPOUNDS (ug/L)											
1-Methylnaphthalene	20	2.2 U	**0.9 J**	2.1 U	2.2 U	**11.3**	2.2 U	2.2 U	2.2 U	0.53 U	0.54 U
2-Methylnaphthalene	20	2.2 U	**0.58 J**	2.1 U	2.2 U	**14.1**	2.2 U	2.2 U	2.2 U	0.53 U	0.54 U
Naphthalene	20	**49.5**	**27.5**	**7.7**	**2.5**	**458**	2.2 U	2.2 U	2.2 U	0.53 U	**0.72 J**
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH) (mg/L)											
TRPH	5	**1.36**	NA	NA	NA	NA	0.28 U	NA	NA	NA	NA

TABLE 3-3

CHEMICALS OF CONCERN IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	FDEP GCTL	CEF-											
		B312-01I						B312-01S					
		Sep-01	Apr-03		Aug-03	Dec-03 (1)	Jan-04	Sep-01	Apr-03	Aug-03		Oct-03	Jan-04
			Sample	Duplicate						Sample	Duplicate		
VOLATILE ORGANIC COMPOUNDS (ug/L)													
Acetone	700	50 U	5 U	5 U	5 U	5 U	5 U	122 J	531	10.7	10.7	6.7	5 U
Benzene	1	1 U	1 U	1 U	1 U	1 U	0.5 U	1 U	2 U	1 U	1 U	0.5 U	0.5 U
2-Butanone	4200	10 U	5 U	5 U	5 U	5 U	2.5 U	10 U	10 U	5 U	5 U	2.5 U	2.5 U
Chloroform	5.7	2 U	1 U	1 U	1 U	1 U	0.5 U	2 U	2 U	1 U	1 U	0.5 U	0.5 U
1,1-Dichloroethane	70	2 U	1 U	1 U	1 U	1 U	0.5 U	6.8	10.3	3.3	3.4	7.2	1.3
1,1-Dichloroethene	7	2 U	1 U	1 U	1 U	1 U	0.5 U	2 U	2 U	1 U	1 U	0.5 U	0.5 U
Ethylbenzene	30	2 U	1 U	1 U	1 U	1 U	0.5 U	2 U	2.2	0.78 J	0.77 J	1.9	0.5 U
4-Methyl-2-pentanone	560	10 U	5 U	5 U	5 U	5 U	2.5 U	36.9	57.4	11.8	12.1	66.1	2.5 U
Toluene	40	2 U	1 U	1 U	1 U	1 U	0.5 U	1.6 J	4.8	1.7	1.6	3.8	0.5 U
Trichloroethene	3	2 U	1 U	1 U	1 U	1 U	0.5 U	2 U	2 U	1 U	1 U	0.5 U	0.5 U
1,1,1-Trichloroethane	200	2 U	1 U	1 U	1 U	1 U	0.5 U	2 U	2 U	1 U	1 U	0.5 U	0.5 U
Vinyl chloride	1	1 U	1 U	1 U	1 U	1 U	0.5 U	1 U	2 U	1 U	1 U	0.5 U	0.5 U
Xylenes, total	20	6 U	3 U	3 U	3 U	3 U	1 U	4.1 J	12.6	4.6	4.8	10.9	1 U
SEMIVOLATILE ORGANIC COMPOUNDS (ug/L)													
1-Methylnaphthalene	20	2.2 U	2 U	2.1 U	2.1 U	2.2 U	0.54 U	16 U	22.7	14.7	16.4	19.9 J	6.7
2-Methylnaphthalene	20	2.2 U	2 U	2.1 U	2.1 U	2.2 U	0.54 U	16 U	26	19.5	21.1	29.5 J	10
Naphthalene	20	2.2 U	2 U	0.59 J	2.1 U	2.2 U	0.54 U	156	480	377	442	432	80.2
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH) (mg/L)													
TRPH	5	0.28 U	0.25 U	0.26 U	0.27 U	NA	0.18 U	9.00	NA	NA	NA	NA	NA

TABLE 3-3

CHEMICALS OF CONCERN IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	FDEP GCTL	CEF-										
		B312-06S						B312-07S				
		Sep-01	Apr-03	Aug-03	Oct-03		Jan-04	Sep-01	Apr-03	Aug-03	Oct-03	Jan-04
					Sample	Duplicate						
VOLATILE ORGANIC COMPOUNDS (ug/L)												
Acetone	700	50 U	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Benzene	1	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	0.5 U	0.5 U
2-Butanone	4200	10 U	5 U	5 U	2.5 U	2.5 U	2.5 U	10 U	5 U	5 U	2.5 U	2.5 U
Chloroform	5.7	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
1,1-Dichloroethane	70	1.0 J	1	0.94 J	1.3	1.3	0.63 J	2 U	1 U	1 U	0.5 U	0.5 U
1,1-Dichloroethene	7	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
Ethylbenzene	30	2 U	0.53 J	0.58 J	0.55 J	0.52 J	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
4-Methyl-2-pentanone	560	10 U	5 U	5 U	2.5 U	2.5 U	2.5 U	10 U	5 U	5 U	2.5 U	2.5 U
Toluene	40	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
Trichloroethene	3	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
1,1,1-Trichloroethane	200	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
Vinyl chloride	1	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	0.5 U	0.5 U
Xylenes, total	20	6 U	3 U	3 U	1 U	1.1 J	1 U	6 U	3 U	3 U	1 U	1 U
SEMIVOLATILE ORGANIC COMPOUNDS (ug/L)												
1-Methylnaphthalene	20	4.5	5.8	4.5	4.2	4.2	3.2	2 U	2 U	2.1 U	0.53 U	0.56 U
2-Methylnaphthalene	20	3.5	3.9	3.1	3.7	3.7	1.7 J	2 U	2 U	2.1 U	0.53 U	0.56 U
Naphthalene	20	47.6	59.4	39.6	39.6	39.8	16.5	2 U	2 U	2.1 U	0.53 U	1.4 J
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH) (mg/L)												
TRPH	5	2.89	2.82	2.26	1.93	1.9	1.87	0.25 U	NA	NA	NA	NA

TABLE 3-3

CHEMICALS OF CONCERN IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	FDEP GCTL	CEF-												
		B312-08S[2]							B312-09S					
		Sep-01		Dec-01	Apr-03	Jul-03	Oct-03	Jan-04	Sep-01	Apr-03	Aug-03	Oct-03	Jan-04	
		Sample	Duplicate										Sample	Duplicate
VOLATILE ORGANIC COMPOUNDS (ug/L)														
Acetone	700	500 U	500 U	50 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U
Benzene	1	10 U	10 U	1 U	1 U	1 U	0.5 U	0.5 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U
2-Butanone	4200	100 U	100 U	10 U	5 U	5 U	2.5 U	2.5 U	10 U	5 U	5 U	2.5 U	2.5 U	2.5 U
Chloroform	5.7	20 U	20 U	2 U	1 U	1 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	70	426	416	24.1	19.6	3.4	2	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	7	131	129	2 U	1 U	0.94 J	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	30	15.1 J	12.3 J	1.9 J	4	5.6	4	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone	560	100 U	100 U	10 U	5 U	5 U	2.5 U	2.5 U	10 U	5 U	5 U	2.5 U	2.5 U	2.5 U
Toluene	40	24.6	21.7	1.3 J	1.1	1	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U
Trichloroethene	3	20 U	20 U	2 U	1 U	1 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	200	871	811	66.1	14.5	5.9	1.8	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	1	10 U	10 U	1 U	1 U	1 U	0.5 U	0.5 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U
Xylenes, total	20	70.3	59.7 J	8.7	20.5	32.6	30.3	1 U	6 U	3 U	3 U	1 U	1 U	1 U
SEMIVOLATILE ORGANIC COMPOUNDS (ug/L)														
1-Methylnaphthalene	20	5.1	5.1	NA	6.8	11.9	4.9	1.1 J	2.2 U	2.2 U	2.1 U	0.51 U	0.54 U	0.52 U
2-Methylnaphthalene	20	4.7	4.6	NA	6.8	13.9	6.2	0.53 U	2.2 U	2.2 U	2.1 U	0.51 U	0.54 U	0.52 U
Naphthalene	20	80	76.3	NA	65.3	125	56.5	0.83 J	2.2 U	2.2 U	2.1 U	0.51 U	0.54 U	0.52 U
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH) (mg/L)														
TRPH	5	1.29	1.18	NA	NA	NA	NA	NA	0.28 U	NA	NA	NA	NA	NA

TABLE 3-3

CHEMICALS OF CONCERN IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	FDEP GCTL	CEF-									
		B312-11S					B312-12S				
		Sep-01	Apr-03	Aug-03	Oct-03	Jan-04	Sep-01	Apr-03	Jul-03	Oct-03	Jan-04
VOLATILE ORGANIC COMPOUNDS (ug/L)											
Acetone	700	50 U	6	5 U	5 U	5.8	50 U	5 U	5 U	5 U	5 U
Benzene	1	1 U	1 U	1 U	0.5 U	0.5 U	1 U	1 U	1 U	0.5 U	0.5 U
2-Butanone	4200	10 U	5 U	5 U	2.5 U	2.5 U	5.1 J	5 U	5 U	2.5 U	2.5 U
Chloroform	5.7	2 U	1 U	1 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
1,1-Dichloroethane	70	5.7	6.6	5.3	6.1	2.5	3.7	3.8	1 U	12.9	17.5
1,1-Dichloroethene	7	1.6 J	1.6	1.2	1.3	0.5 U	1.8 J	1.6	1 U	7.3	4.5
Ethylbenzene	30	1.1 J	0.51 J	0.53 J	0.59 J	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
4-Methyl-2-pentanone	560	10 U	5 U	5 U	2.5 U	2.5 U	10 U	5 U	5 U	2.5 U	2.5 U
Toluene	40	2 U	1 U	1 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
Trichloroethene	3	2 U	1 U	1 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
1,1,1-Trichloroethane	200	2 U	1 U	1 U	0.5 U	0.5 U	2 U	1 U	1 U	0.5 U	0.5 U
Vinyl chloride	1	1 U	1.6 / 1.0[3]	1.1	0.9 J	0.5 U	1 U	1.6 / 2.0[3]	1 U	2.7	8.6
Xylenes, total	20	3 J	1.4 J	1.1 J	1.6 J	1 U	6 U	3 U	3 U	1 U	1 U
SEMIVOLATILE ORGANIC COMPOUNDS (ug/L)											
1-Methylnaphthalene	20	3.5	2.4	3	2.7	2 J	2 U	2.2 U	2 U	0.5 U	0.59 J
2-Methylnaphthalene	20	2 U	1.9 J	2.5	2.7	2 J	2 U	2.2 U	2 U	0.5 U	0.65 J
Naphthalene	20	2 U	18.4	21.8	20.2	14	1.7 J	2.1 J	2 U	4.2	4.7
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH) (mg/L)											
TRPH	5	2.19	1.38	1.56	1.51	1.3	0.25 U	0.27 U	NA	0.193 J	0.33

TABLE 3-3

CHEMICALS OF CONCERN IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	FDEP GCTL	CEF-				
		B312-15I				
		Sep-01	Apr-03	Jul-03	Oct-03	Jan-04
VOLATILE ORGANIC COMPOUNDS (ug/L)						
Acetone	700	50 U	NA	5 U	5 U	5 U
Benzene	1	1 U	1 U	1 U	0.5 U	0.5 U
2-Butanone	4200	10 U	5 U	5 U	2.5 U	2.5 U
Chloroform	5.7	2 U	1 U	1 U	0.5 U	0.5 U
1,1-Dichloroethane	70	2 U	1 U	1 U	0.5 U	0.5 U
1,1-Dichloroethene	7	2 U	1 U	1 U	0.5 U	0.5 U
Ethylbenzene	30	2 U	1 U	1 U	0.5 U	0.5 U
4-Methyl-2-pentanone	560	10 U	5 U	5 U	2.5 U	2.5 U
Toluene	40	2 U	1 U	1 U	0.5 U	0.5 U
Trichloroethene	3	2 U	1 U	1 U	0.5 U	0.5 U
1,1,1-Trichloroethane	200	2 U	1 U	1 U	0.5 U	0.5 U
Vinyl chloride	1	1 U	1 U	1 U	0.5 U	0.5 U
Xylenes, total	20	6 U	3 U	3 U	1 U	1 U
SEMIVOLATILE ORGANIC COMPOUNDS (ug/L)						
1-Methylnaphthalene	20	2.2 U	2 U	2.1 U	0.52 U	0.55 U
2-Methylnaphthalene	20	2.2 U	2 U	2.1 U	0.52 U	0.55 U
Naphthalene	20	2.2 U	2 U	2.1 U	0.52 U	0.55 U
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (TRPH) (mg/L)						
TRPH	5	0.28 U	NA	NA	NA	NA

NA = Not analyzed.
Bolded values exceed method detection limits.
Shaded values exceed FDEP GCTLs.
FDEP GCTL = Florida Department of Environmental Protection Groundwater Cleanup Target Level, FAC 62-777, 1999.
(1) - Monitoring wells CEF-312-01 and CEF-312-01I were not accessible during the October 2003 sampling event and were sampled on December 14, 2003.
(2) - CEF-B312-08S was resampled in December 2001.
(3) - Resampled on June 25, 2003 per LTM Work Plan for sentinel well GCTL exceedance.
RI sampling was conducted in September/October 2001.
U = Not detected at the method detection limit as listed.
J = Estimated value

TABLE 3-4

SUMMARY OF NATURAL ATTENUATION INDICATOR PARAMETERS IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	UNITS	CEF-312-01				CEF-312LS-01Sa				
		Apr-03	Aug-03	Dec-03	Jan-04	Sep-01	Apr-03	Aug-03	Oct-03	Jan-04
Alkalinity	mg/L	115	98	123	287	29.2	97.5	95	111	40.5
Alkalinity, field	mg/L	60	50	12	<10	112	35	70	95	28
Carbon dioxide	mg/L	70	32	18	<10	112	>100	22	22	33
Chloride	mg/L	20 U	20 U	NA	20 U	20 U	20 U	20 U	20 U	20 U
Ferrous iron	mg/L	2.38	3.8	2.87	6	0.01	0.03	0	0.1	0.06
Dissolved oxygen	mg/L	1	1	0.3	1	2.0	2	1	0.6	1
Dissolved sulfide	mg/L	0.1 U	1 U	1 U	1 U	2 U	0.28	1 U	1 U	1 U
Hydrogen sulfide (H_2S)	mg/L	0	1	0.1	0.7	0	0	0	0	0
Field sulfide (S^{2-})	mg/L	0.13	0.02	0.13	0.27	0	0.05	0	0	0
Nitrate	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.14	0.1 U	0.5	0.36	0.93
Nitrite	mg/L	0.11	0.1 U	0.1 U	0.1 U	0.1 U	0.11	0.1 U	0.1 U	0.1 U
Orthophosphate	mg/L	20 U	0.1 U	0.1 U	0.1 U	0.1 U	20 U	0.1 U	0.1 U	0.13
pH	St. units	6.01	6.34	6.59	6.45	6.68	6.67	6.62	4.24	5.83
ORP	mV	19.1	117.5	-165.2	-11.8	66	77	78.1	5.1	258.4
Specific conductance	mS/cm	0.274	0.276	0.291	0.543	0.236	0.161	0.245	0.248	0.129
Sulfate	mg/L	1 U	20 U	20 U	20 U	20 U	1 U	20 U	20 U	20 U
Temperature	^{o}C	23.28	25.87	25.54	21.3	27.0	22.62	26.32	26.09	21.55
TOC	mg/L	16.5	12.5	15.1	29.1	25.6	6.2	5.6	7.5	3.2
Turbidity	NTU	1.2	1.3	1.1	0	0	1.6	0.97	1.1	4.61
Ethane	ug/L	1 U	1 U	1 U	0.67 J	1 U	1 U	1 U	0.6 U	0.6 U
Ethene	ug/L	1 U	1 U	1 U	0.8 U	1 U	1 U	1 U	0.8 U	0.8 U
Methane	ug/L	299	272	842	4197	0.5 U	0.5 U	0.5 U	3.6	0.32 J
Iron, filtered	ug/L	9020	7780	4690	12500	33.2 U	45 B	7.1 U	130 B	7.1 U

TABLE 3-4

SUMMARY OF NATURAL ATTENUATION INDICATOR PARAMETERS IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	UNITS	CEF-B312-01I				CEF-B312-01S				
		Apr-03	Aug-03	Dec-03	Jan-04	Sep-01	Apr-03	Aug-03	Oct-03	Jan-04
Alkalinity	mg/L	254	158	95.5	75	60.1	262	163	203	124
Alkalinity, field	mg/L	140	130	13	40	222	160	125	180	<10
Carbon dioxide	mg/L	<10	10	32	<10	<10	50	34	120	35
Chloride	mg/L	20 U	20 U	NA	20 U	20 U	20 U	20 U	20 U	20 U
Ferrous iron	mg/L	0.06	0.03	0.06	0	>3.3	1.42	0.02	4.2	2.99
Dissolved oxygen	mg/L	>1	1	2	2	0.1	0.4	4	2	0.1
Dissolved sulfide	mg/L	0.1	1 U	1 U	1 U	2 U	0.14	1 U	1 U	1 U
Hydrogen sulfide (H_2S)	mg/L	0	0	0	0	1.0	1	0.7	0.3	0.7
Field sulfide (S^{2-})	mg/L	0	0	0.02	0.03	0.48	0.13	0.33	0.26	0
Nitrate	mg/L	0.1 U	0.11	0.14	0.15	0.1 U	0.1 U	0.12	0.15	0.1
Nitrite	mg/L	0.22	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Orthophosphate	mg/L	20 U	0.13	0.1 U	0.29	0.1 UR	20 U	0.1 U	0.1 U	0.1 U
pH	St. units	9.53	8.13	6.73	6.45	6.10	7.56	6.39	6.59	6.49
ORP	mV	257.8	130	494.6	191.2	-143	-126	-149.8	-62.5	-70
Specific conductance	mS/cm	0.313	0.383	0.233	0.207	0.451	0.61	0.399	0.47	0.297
Sulfate	mg/L	1 U	20 U	20 U	20 U	24.3	1 U	20 U	20 U	20 U
Temperature	^{o}C	24.78	24.75	24.59	21.71	26.1	23.1	25.74	25.47	20.92
TOC	mg/L	2.2	1.4	2.2	1 U	NA	43.8	19.8	33.6	12.3
Turbidity	NTU	0.9	6.9	0	0	2.1	5.9	0	4.59	1.4
Ethane	ug/L	1 U	1 U	1 U	0.6 U	1 U	1 U	1 U	0.6 U	0.6 U
Ethene	ug/L	1 U	1 U	6.23	0.8 U	1 U	1 U	1 U	0.8 U	0.8 U
Methane	ug/L	0.46 J	0.5 U	1.74	0.3 U	1290	2920	1560	1867	508
Iron, filtered	ug/L	7.1 U	7.1 U	7.1 U	7.1 U	418	13200	11300	12400	7110

TABLE 3-4

SUMMARY OF NATURAL ATTENUATION INDICATOR PARAMETERS IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	UNITS	CEF-B312-06S				CEF-B312-07S			
		Apr-03	Aug-03	Oct-03	Jan-04	Apr-03	Aug-03	Oct-03	Jan-04
Alkalinity	mg/L	132	190	100	52.5	122	170	91	49
Alkalinity, field	mg/L	80	30	65	30	85	<10	90	25
Carbon dioxide	mg/L	260	<10	250	<10	130	45	60	140
Chloride	mg/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Ferrous iron	mg/L	4.6	2.8	>3.3	5.9	2.59	1.74	2.09	0.06
Dissolved oxygen	mg/L	1	0.3	0.6	1	0.3	0.3	1.5	0.5
Dissolved sulfide	mg/L	0.1 U	1.5	1.2	1.6	0.45	1 U	1 U	1 U
Hydrogen sulfide (H_2S)	mg/L	1	0.7	5	1	0	0	0	0
Field sulfide (S^{2-})	mg/L	>0.8	0.8	0	0.8	0.06	0.04	0.02	1.7
Nitrate	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.61	0.91	0.34
Nitrite	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.12	0.1 U	0.1 U	0.1 U
Orthophosphate	mg/L	20 U	0.3	0.1 U	0.1 U	21.4	0.1 U	0.1 U	0.1
pH	St. units	5.78	6.15	5.69	5.35	6.18	6.41	6	5.58
ORP	mV	-54.4	125.8	10.3	46.3	1.5	-64.4	63.2	148
Specific conductance	mS/cm	0.297	382	0.196	0.135	0.314	420	0.252	0.17
Sulfate	mg/L	1 U	20 U	20 U	20 U	1 U	20 U	21.3	20 U
Temperature	^{o}C	23.95	27.3	27.47	23.37	23.77	27.48	27.66	23.7
TOC	mg/L	23.2	23.6	33.4	17.4	9	10	7	5.1
Turbidity	NTU	1.6	1.39	1.21	245	0.3	0.41	1	6
Ethane	ug/L	1 U	1 U	0.6 U	0.6 U	1 U	1 U	0.6 U	0.6 U
Ethene	ug/L	1 U	1 U	0.8 U	0.8 U	1 U	1 U	0.8 U	0.8 U
Methane	ug/L	801	1020	880	1995	250	156	74.5	50.9
Iron, filtered	ug/L	7870	7450	10100	5770	3250	2230	1820	1590

TABLE 3-4

SUMMARY OF NATURAL ATTENUATION INDICATOR PARAMETERS IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	UNITS	CEF-B312-08S				CEF-B312-09S			
		Apr-03	Jul-03	Oct-03	Jan-04	Apr-03	Aug-03	Oct-03	Jan-04
Alkalinity	mg/L	143	139	137	139	11	10	18	44.5
Alkalinity, field	mg/L	130	<10	80	115	<10	20	15	<10
Carbon dioxide	mg/L	40	28	28	17	35	30	30	22
Chloride	mg/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Ferrous iron	mg/L	1.98	2.32	2.59	3.8	0	0	0	0.07
Dissolved oxygen	mg/L	>1	0.1	1	0.8	2	3	1	3
Dissolved sulfide	mg/L	1	1 U	1 U	1 U	15.9	1 U	1 U	1 U
Hydrogen sulfide (H_2S)	mg/L	0.1	1	0.2	0.3	0	0	0	0
Field sulfide (S^{2-})	mg/L	0.12	0.28	0.18	0.15	0	0	0	0
Nitrate	mg/L	0.1 U	0.62	0.68	0.1 U	0.1 U	14.6	16.1	11.1
Nitrite	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.15	0.1 U	0.1 U	0.1 U
Orthophosphate	mg/L	20 U	0.1 U	0.1 U	0.1 U	27.2	0.1 U	0.1 U	0.1 U
pH	St. units	6.67	6.56	NA	6.86	5.45	5.12	5.4	5.42
ORP	mV	-37.5	-166	6.1	-97.6	260	375.7	238	365.9
Specific conductance	mS/cm	0.306	0.32	0.257	0.341	0.185	208	0.25	0.224
Sulfate	mg/L	1 U	20 U	20 U	20 U	1 U	24.2	23.4	40
Temperature	^{o}C	21.48	24.42	25.11	22.29	25.8	28.23	27.04	22.41
TOC	mg/L	8.9	10.8	10.6	9	3.2	1.8	3.8	2.4
Turbidity	NTU	1.3	0.98	1.9	1.1	0	0.59	2.6	7.9
Ethane	ug/L	1 U	1 U	0.6 U	0.6 U	1 U	1 U	0.6 U	0.6 U
Ethene	ug/L	1 U	1 U	0.8 U	0.8 U	1 U	1 U	0.8 U	0.8 U
Methane	ug/L	390	1210	359	144	3.74	1.61	28	0.3 U
Iron, filtered	ug/L	2190	2830	2960	4670	109 B	7.1 U	46.8 B	7.1 U

TABLE 3-4

SUMMARY OF NATURAL ATTENUATION INDICATOR PARAMETERS IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	UNITS	CEF-B312-11S				CEF-B312-12S			
		Apr-03	Aug-03	Oct-03	Jan-04	Apr-03	Jul-03	Oct-03	Jan-04
Alkalinity	mg/L	105	156	81	67.5	265	26	5 U	9
Alkalinity, field	mg/L	50	40	55	50	<10	<10	<10	<10
Carbon dioxide	mg/L	70	<10	60	<10	50	35	<100	50
Chloride	mg/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Ferrous iron	mg/L	5.2	3	3.8	2.94	0.73	0.84	0.68	4
Dissolved oxygen	mg/L	0.4	1	1	1	1	0.3	0.6	1.5
Dissolved sulfide	mg/L	0.1 U	1 U	1 U	1.4	0.1 U	1 U	1 U	1 U
Hydrogen sulfide (H_2S)	mg/L	0.4	0.5	5	1	0	0	0	0.3
Field sulfide (S^{2-})	mg/L	0.57	0.71	0.48	0.43	0.08	0.03	0.11	0.1
Nitrate	mg/L	0.1 U	0.1	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrite	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.19	0.1 U	0.1 U	0.1 U
Orthophosphate	mg/L	20 U	0.1 U	0.1 U	0.12	21.6	0.1 U	0.1 U	0.1 U
pH	St. units	5.59	5.82	5.5	5.57	4.65	5.53	4.53	5.1
ORP	mV	-76	19.2	72.8	58.4	163	150.1	189.1	18.5
Specific conductance	mS/cm	0.13	380	0.218	0.197	0.049	91	0.074	0.077
Sulfate	mg/L	1 U	20 U	20 U	20 U	1 U	20 U	20 U	20 U
Temperature	^{o}C	24.95	28.66	28.21	23.9	25.4	26.38	25.72	21.47
TOC	mg/L	23.7	22.5	21.6	19.4	3.8	1.8	2.7	4.1
Turbidity	NTU	6.3	3.44	1.29	1.9	0	0	2.25	2.4
Ethane	ug/L	1 U	1 U	0.6 U	0.6 U	1 U	1 U	0.6 U	0.6 U
Ethene	ug/L	1 U	1 U	0.8 U	0.8 U	1 U	1 U	0.8 U	0.8 U
Methane	ug/L	880	922	1044	1359	35.6	34.6	63.6	234
Iron, filtered	ug/L	5350	3680	4910	4120	990	1030	1140	2770

TABLE 3-4

SUMMARY OF NATURAL ATTENUATION INDICATOR PARAMETERS IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

PARAMETER	UNITS	CEF-B312-15I			
		Apr-03	Jul-03	Oct-03	Jan-04
Alkalinity	mg/L	11	11.5	9.5	16.5
Alkalinity, field	mg/L	<10	<10	<10	13
Carbon dioxide	mg/L	70	50	50	25
Chloride	mg/L	20 U	20 U	20 U	20 U
Ferrous iron	mg/L	0.07	0.2	0.19	0.11
Dissolved oxygen	mg/L	1	0.8	1	1
Dissolved sulfide	mg/L	0.1 U	1 U	1 U	1 U
Hydrogen sulfide (H_2S)	mg/L	0	0	0	0
Field sulfide (S^{2-})	mg/L	0.03	0.04	0.04	0
Nitrate	mg/L	0.1 U	0.1 U	0.1 U	0.1 U
Nitrite	mg/L	0.1 U	0.1 U	0.1 U	0.1 U
Orthophosphate	mg/L	20 U	0.1 U	0.1 U	0.1 U
pH	St. units	5.38	5.21	-	5.87
ORP	mV	228.1	103.7	240.2	186
Specific conductance	mS/cm	0.079	0.08	0.058	96
Sulfate	mg/L	1 U	20 U	20 U	20 U
Temperature	^{o}C	23.58	24.05	24.02	23.15
TOC	mg/L	2.1	1.1	1.7	1.5
Turbidity	NTU	4.1	4.3	2.7	4
Ethane	ug/L	1 U	1 U	0.6 U	0.6 U
Ethene	ug/L	1 U	1 U	0.8 U	0.8 U
Methane	ug/L	2.33	3.95	7.11	2.61
Iron, filtered	ug/L	67.9 B	55.3 B	54.6 B	23.5 B

J = Estimated concentration.
U = Not detected at the detection limit.
NA = Not analyzed.
mS/Cm = microSiemens/centimeter.
NTU = Nephelometric turbidity units.
TOC = Total organic carbon.
ORP = Oxidation-reduction potential.
^{o}C = degrees Celcius.

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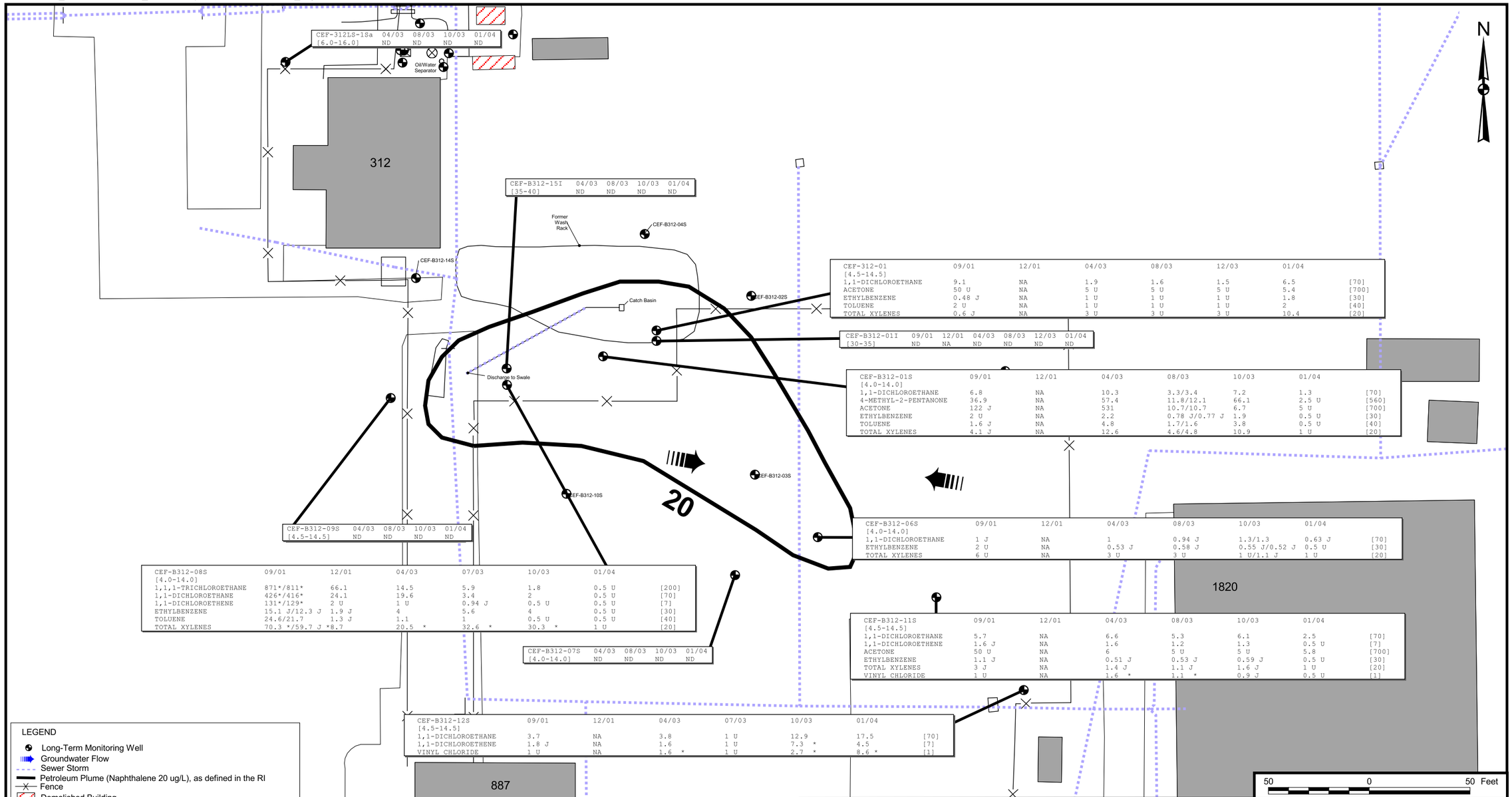

CEF-312LS-1Sa [6.0-16.0]	04/03	08/03	10/03	01/04
	ND	ND	ND	ND

CEF-B312-15I [35-40]	04/03	08/03	10/03	01/04
	ND	ND	ND	ND

CEF-312-01 [4.5-14.5]	09/01	12/01	04/03	08/03	12/03	01/04	
1,1-DICHLOROETHANE	9.1	NA	1.9	1.6	1.5	6.5	[70]
ACETONE	50 U	NA	5 U	5 U	5 U	5.4	[700]
ETHYLBENZENE	0.48 J	NA	1 U	1 U	1 U	1.8	[30]
TOLUENE	2 U	NA	1 U	1 U	1 U	2	[40]
TOTAL XYLENES	0.6 J	NA	3 U	3 U	3 U	10.4	[20]

CEF-B312-01I [30-35]	09/01	12/01	04/03	08/03	12/03	01/04
	ND	NA	ND	ND	ND	ND

CEF-B312-01S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04	
1,1-DICHLOROETHANE	6.8	NA	10.3	3.3/3.4	7.2	1.3	[70]
4-METHYL-2-PENTANONE	36.9	NA	57.4	11.8/12.1	66.1	2.5 U	[560]
ACETONE	122 J	NA	531	10.7/10.7	6.7	5 U	[700]
ETHYLBENZENE	2 U	NA	2.2	0.78 J/0.77 J	1.9	0.5 U	[30]
TOLUENE	1.6 J	NA	4.8	1.7/1.6	3.8	0.5 U	[40]
TOTAL XYLENES	4.1 J	NA	12.6	4.6/4.8	10.9	1 U	[20]

CEF-B312-09S [4.5-14.5]	04/03	08/03	10/03	01/04
	ND	ND	ND	ND

CEF-B312-06S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04	
1,1-DICHLOROETHANE	1 J	NA	1	0.94 J	1.3/1.3	0.63 J	[70]
ETHYLBENZENE	2 U	NA	0.53 J	0.58 J	0.55 J/0.52 J	0.5 U	[30]
TOTAL XYLENES	6 U	NA	3 U	3 U	1 U/1.1 J	1 U	[20]

CEF-B312-08S [4.0-14.0]	09/01	12/01	04/03	07/03	10/03	01/04	
1,1,1-TRICHLOROETHANE	871*/811*	66.1	14.5	5.9	1.8	0.5 U	[200]
1,1-DICHLOROETHANE	426*/416*	24.1	19.6	3.4	2	0.5 U	[70]
1,1-DICHLOROETHENE	131*/129*	2 U	1 U	0.94 J	0.5 U	0.5 U	[7]
ETHYLBENZENE	15.1 J/12.3 J	1.9 J	4	5.6	4	0.5 U	[30]
TOLUENE	24.6/21.7	1.3 J	1.1	1	0.5 U	0.5 U	[40]
TOTAL XYLENES	70.3 */59.7 J	*8.7	20.5 *	32.6 *	30.3 *	1 U	[20]

CEF-B312-07S [4.0-14.0]	04/03	08/03	10/03	01/04
	ND	ND	ND	ND

CEF-B312-11S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04	
1,1-DICHLOROETHANE	5.7	NA	6.6	5.3	6.1	2.5	[70]
1,1-DICHLOROETHENE	1.6 J	NA	1.6	1.2	1.3	0.5 U	[7]
ACETONE	50 U	NA	6	5 U	5 U	5.8	[700]
ETHYLBENZENE	1.1 J	NA	0.51 J	0.53 J	0.59 J	0.5 U	[30]
TOTAL XYLENES	3 J	NA	1.4 J	1.1 J	1.6 J	1 U	[20]
VINYL CHLORIDE	1 U	NA	1.6 *	1.1 *	0.9 J	0.5 U	[1]

CEF-B312-12S [4.5-14.5]	09/01	12/01	04/03	07/03	10/03	01/04	
1,1-DICHLOROETHANE	3.7	NA	3.8	1 U	12.9	17.5	[70]
1,1-DICHLOROETHENE	1.8 J	NA	1.6	1 U	7.3 *	4.5	[7]
VINYL CHLORIDE	1 U	NA	1.6 *	1 U	2.7 *	8.6 *	[1]

LEGEND

- Long-Term Monitoring Well
- Groundwater Flow
- Sewer Storm
- Petroleum Plume (Naphthalene 20 ug/L), as defined in the RI
- Fence
- Demolished Building

CEF-824A-21I [35-40] Volatiles (ug/L) BENZENE 1.6 * [1]

Sample ID
Well Screen Interval, feet below ground surface
Groundwater Cleanup Target Level (GCTL)
Detected Concentration
* indicates GCTL exceedance
Parameter

* Concentration exceeds GCTL.
J Estimated concentration
U Not detected at or above associated detection limit
NA Not analyzed
ND None detected

NOTES: 1) All results are in ug/L.
2) Duplicate sample results noted as sample/duplicate.
3) RI was conducted in 09/01.

DRAWN BY	DATE
MJJ	15Oct04
CHECKED BY	DATE
RFD	
COST/SCHED-AREA	
SCALE	AS NOTED

NAVFAC

VOLATILE ORGANIC COMPOUNDS
IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO. 4187	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 3-1	REV. 0

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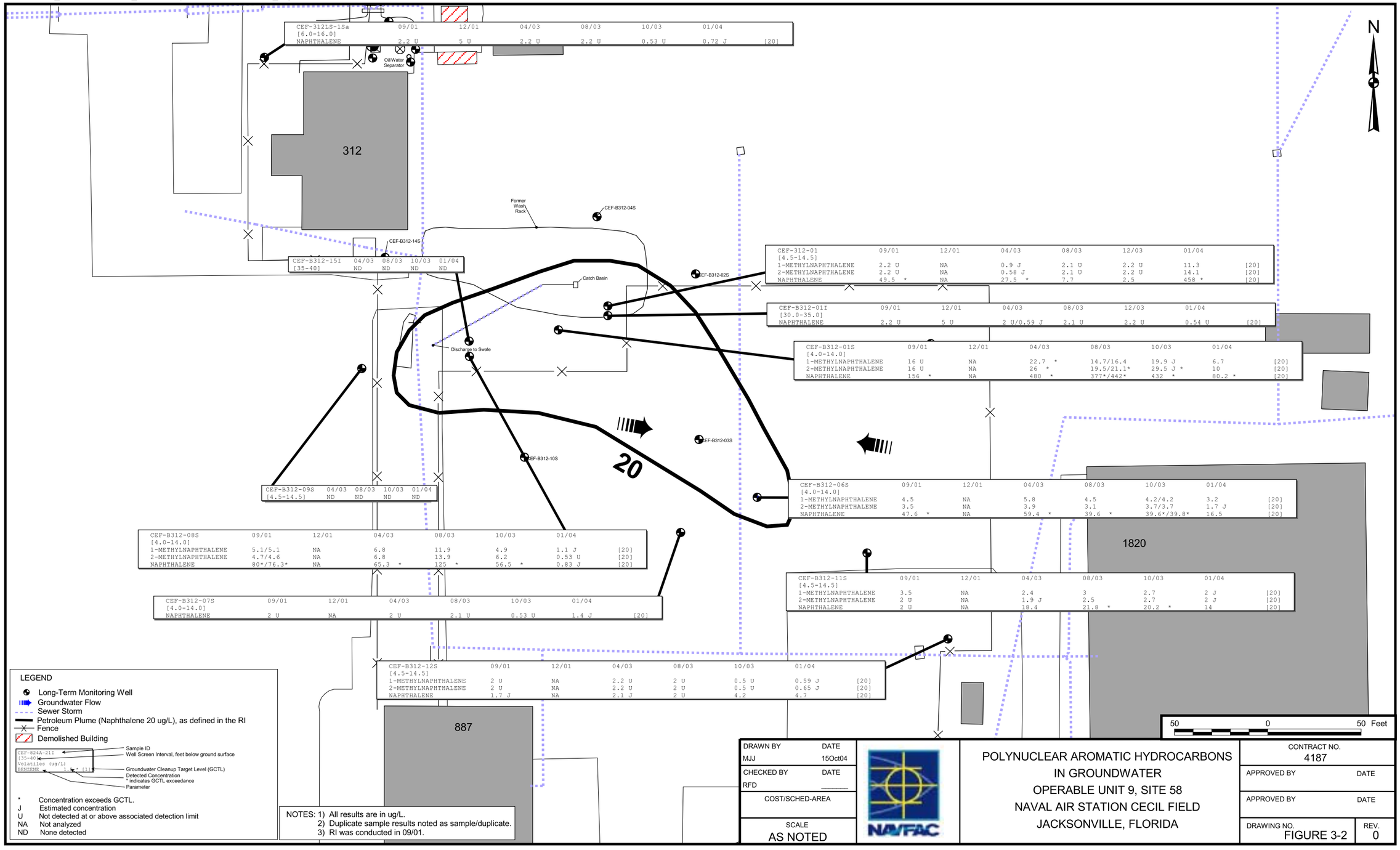

CEF-312LS-1Sa [6.0-16.0]	09/01	12/01	04/03	08/03	10/03	01/04	
NAPHTHALENE	2.2 U	5 U	2.2 U	2.2 U	0.53 U	0.72 J	[20]

CEF-B312-15I [35-40]	04/03	08/03	10/03	01/04
	ND	ND	ND	ND

CEF-312-01 [4.5-14.5]	09/01	12/01	04/03	08/03	12/03	01/04	
1-METHYLNAPHTHALENE	2.2 U	NA	0.9 J	2.1 U	2.2 U	11.3	[20]
2-METHYLNAPHTHALENE	2.2 U	NA	0.58 J	2.1 U	2.2 U	14.1	[20]
NAPHTHALENE	49.5 *	NA	27.5 *	7.7	2.5	458 *	[20]

CEF-B312-01I [30.0-35.0]	09/01	12/01	04/03	08/03	12/03	01/04	
NAPHTHALENE	2.2 U	5 U	2 U/0.59 J	2.1 U	2.2 U	0.54 U	[20]

CEF-B312-01S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04	
1-METHYLNAPHTHALENE	16 U	NA	22.7 *	14.7/16.4	19.9 J	6.7	[20]
2-METHYLNAPHTHALENE	16 U	NA	26 *	19.5/21.1*	29.5 J *	10	[20]
NAPHTHALENE	156 *	NA	480 *	377*/442*	432 *	80.2 *	[20]

CEF-B312-09S [4.5-14.5]	04/03	08/03	10/03	01/04
	ND	ND	ND	ND

CEF-B312-06S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04	
1-METHYLNAPHTHALENE	4.5	NA	5.8	4.5	4.2/4.2	3.2	[20]
2-METHYLNAPHTHALENE	3.5	NA	3.9	3.1	3.7/3.7	1.7 J	[20]
NAPHTHALENE	47.6 *	NA	59.4 *	39.6 *	39.6*/39.8*	16.5	[20]

CEF-B312-08S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04	
1-METHYLNAPHTHALENE	5.1/5.1	NA	6.8	11.9	4.9	1.1 J	[20]
2-METHYLNAPHTHALENE	4.7/4.6	NA	6.8	13.9	6.2	0.53 U	[20]
NAPHTHALENE	80*/76.3*	NA	65.3 *	125 *	56.5 *	0.83 J	[20]

CEF-B312-11S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04	
1-METHYLNAPHTHALENE	3.5	NA	2.4	3	2.7	2 J	[20]
2-METHYLNAPHTHALENE	2 U	NA	1.9 J	2.5	2.7	2 J	[20]
NAPHTHALENE	2 U	NA	18.4	21.8 *	20.2 *	14	[20]

CEF-B312-07S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04	
NAPHTHALENE	2 U	NA	2 U	2.1 U	0.53 U	1.4 J	[20]

CEF-B312-12S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04	
1-METHYLNAPHTHALENE	2 U	NA	2.2 U	2 U	0.5 U	0.59 J	[20]
2-METHYLNAPHTHALENE	2 U	NA	2.2 U	2 U	0.5 U	0.65 J	[20]
NAPHTHALENE	1.7 J	NA	2.1 J	2 U	4.2	4.7	[20]

LEGEND

- Long-Term Monitoring Well
- Groundwater Flow
- Sewer Storm
- Petroleum Plume (Naphthalene 20 ug/L), as defined in the RI
- Fence
- Demolished Building

CEF-824A-21I [35-40] Volatiles (ug/L) BENZENE 1.4 * [1]

Sample ID; Well Screen Interval, feet below ground surface; Groundwater Cleanup Target Level (GCTL); Detected Concentration; * indicates GCTL exceedance; Parameter

* Concentration exceeds GCTL.
J Estimated concentration
U Not detected at or above associated detection limit
NA Not analyzed
ND None detected

NOTES: 1) All results are in ug/L.
2) Duplicate sample results noted as sample/duplicate.
3) RI was conducted in 09/01.

DRAWN BY	DATE
MJJ	15Oct04
CHECKED BY	DATE
RFD	
COST/SCHED-AREA	
SCALE	AS NOTED

NAVFAC

POLYNUCLEAR AROMATIC HYDROCARBONS IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO. 4187
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-2
REV. 0

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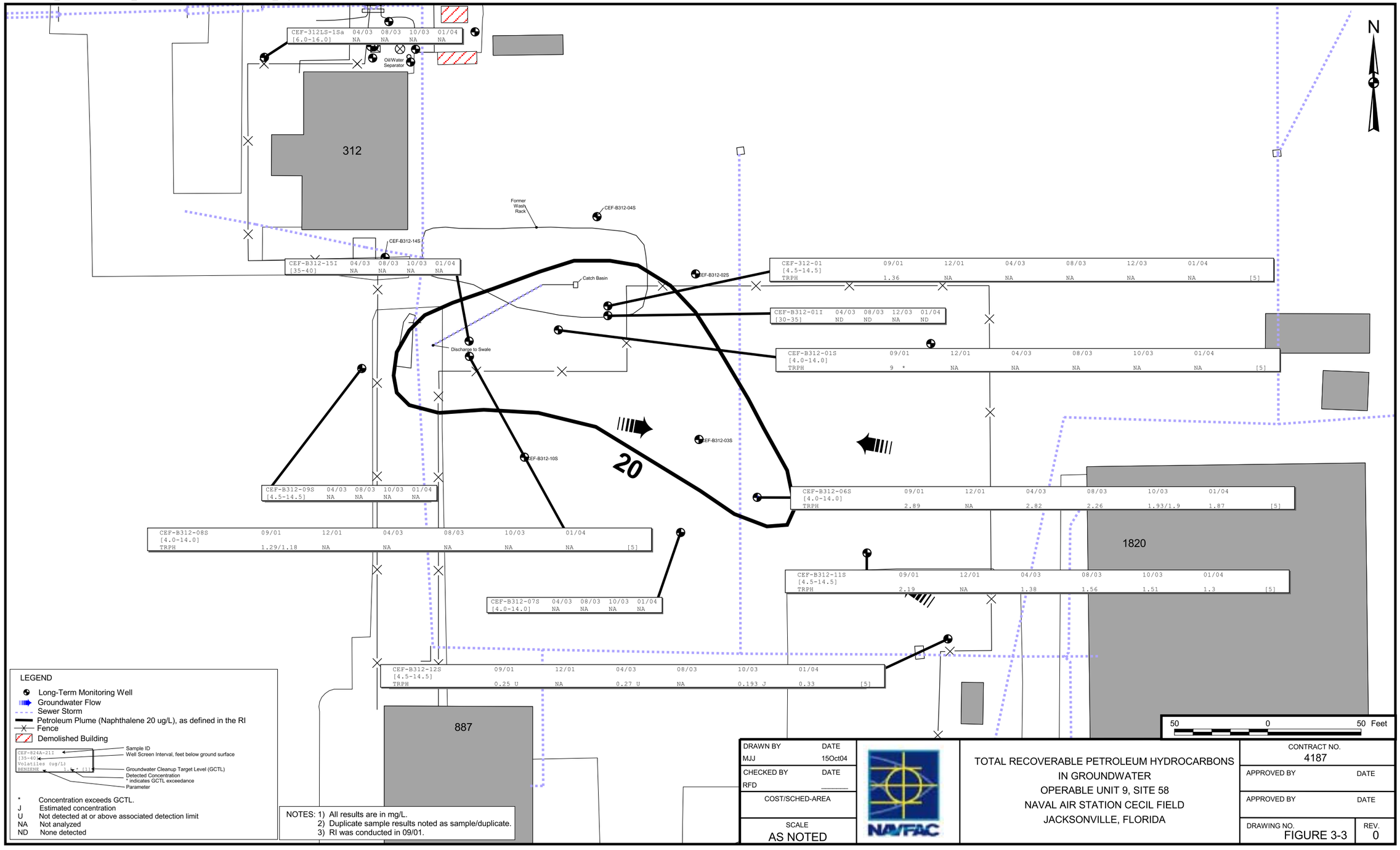

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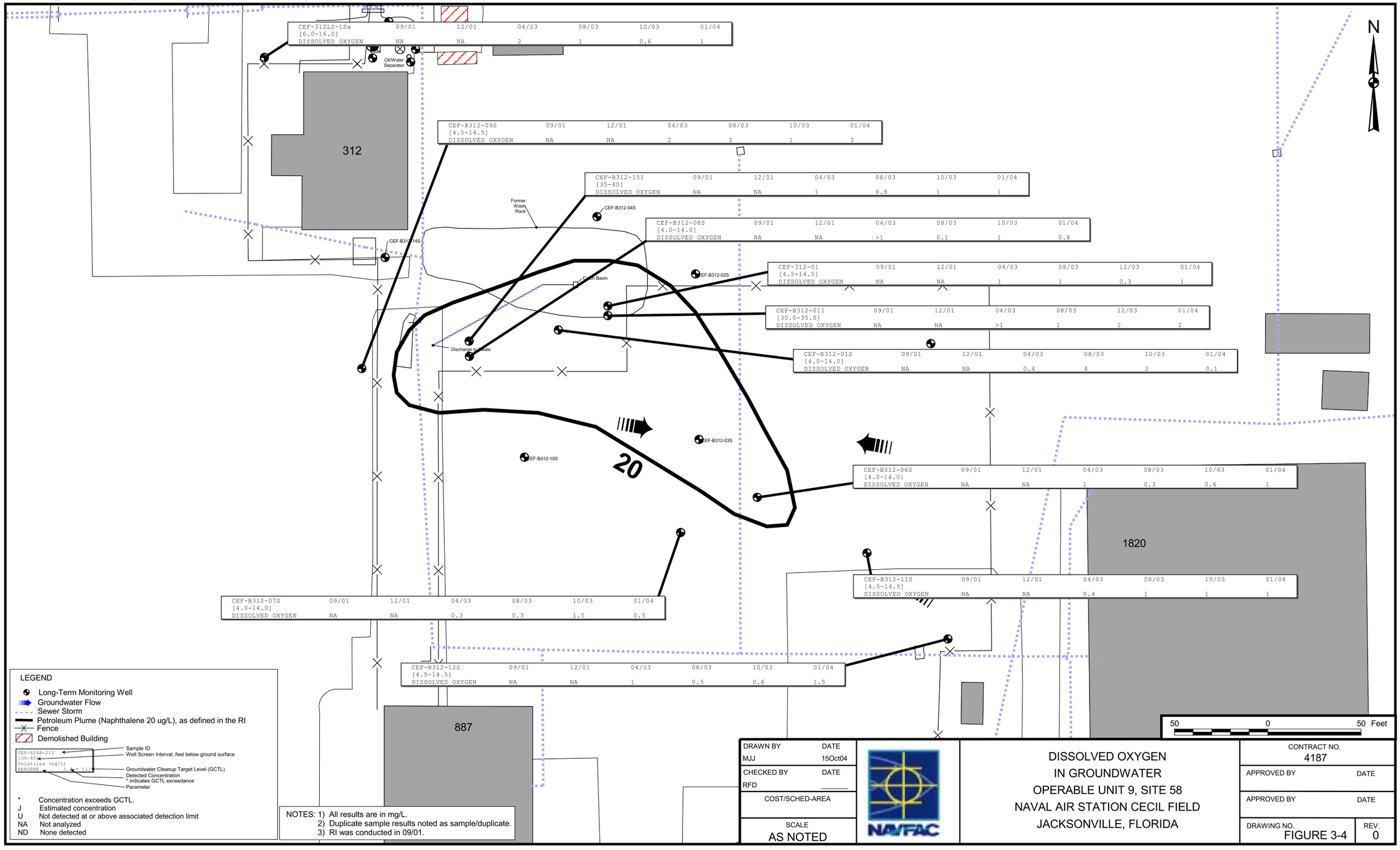

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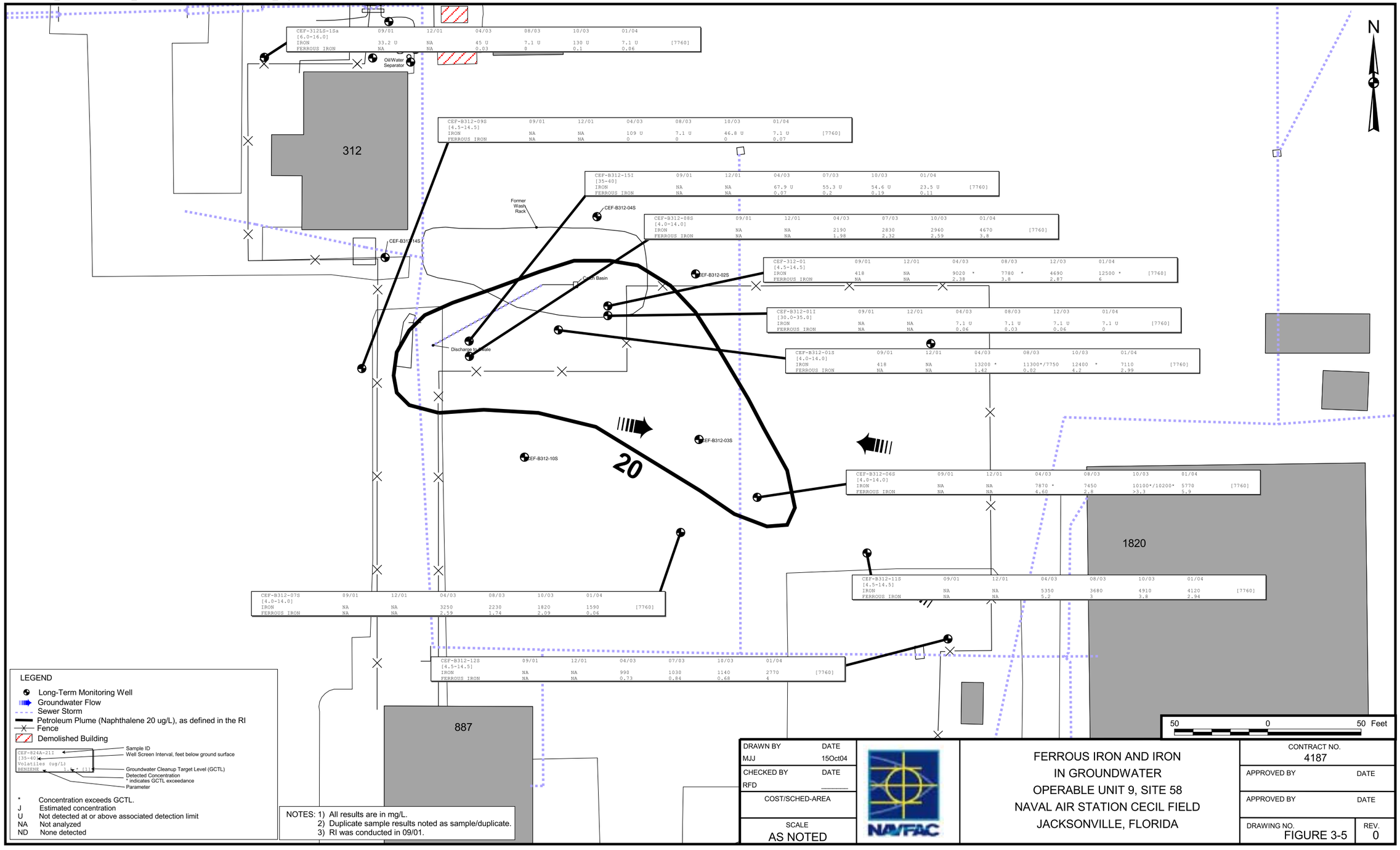

CEF-3121S-18a [6.0-16.0]	09/01	12/01	04/03	08/03	10/03	01/04	
IRON	33.2 U	NA	45 U	7.1 U	130 U	7.1 U	[7760]
FERROUS IRON	NA	NA	0.03	0	0.1	0.06	

CEF-B312-09S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04	
IRON	NA	NA	109 U	7.1 U	46.8 U	7.1 U	[7760]
FERROUS IRON	NA	NA	0	0	0	0.07	

CEF-B312-15I [35-40]	09/01	12/01	04/03	07/03	10/03	01/04	
IRON	NA	NA	67.9 U	55.3 U	54.6 U	23.5 U	[7760]
FERROUS IRON	NA	NA	0.07	0.2	0.19	0.11	

CEF-B312-08S [4.0-14.0]	09/01	12/01	04/03	07/03	10/03	01/04	
IRON	NA	NA	2190	2830	2960	4670	[7760]
FERROUS IRON	NA	NA	1.98	2.32	2.59	3.8	

CEF-312-01 [4.5-14.5]	09/01	12/01	04/03	08/03	12/03	01/04	
IRON	418	NA	9020 *	7780 *	4690	12500 *	[7760]
FERROUS IRON	NA	NA	2.38	3.8	2.87	6	

CEF-B312-01I [30.0-35.0]	09/01	12/01	04/03	08/03	12/03	01/04	
IRON	NA	NA	7.1 U	7.1 U	7.1 U	7.1 U	[7760]
FERROUS IRON	NA	NA	0.06	0.03	0.06	0	

CEF-B312-01S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04	
IRON	418	NA	13200 *	11300*/7750	12400 *	7110	[7760]
FERROUS IRON	NA	NA	1.42	0.02	4.2	2.99	

CEF-B312-06S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04	
IRON	NA	NA	7870 *	7450	10100*/10200*	5770	[7760]
FERROUS IRON	NA	NA	4.60	2.8	>3.3	5.9	

CEF-B312-11S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04	
IRON	NA	NA	5350	3680	4910	4120	[7760]
FERROUS IRON	NA	NA	5.2	3	3.8	2.94	

CEF-B312-07S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04	
IRON	NA	NA	3250	2230	1820	1590	[7760]
FERROUS IRON	NA	NA	2.59	1.74	2.09	0.06	

CEF-B312-12S [4.5-14.5]	09/01	12/01	04/03	07/03	10/03	01/04	
IRON	NA	NA	990	1030	1140	2770	[7760]
FERROUS IRON	NA	NA	0.73	0.84	0.68	4	

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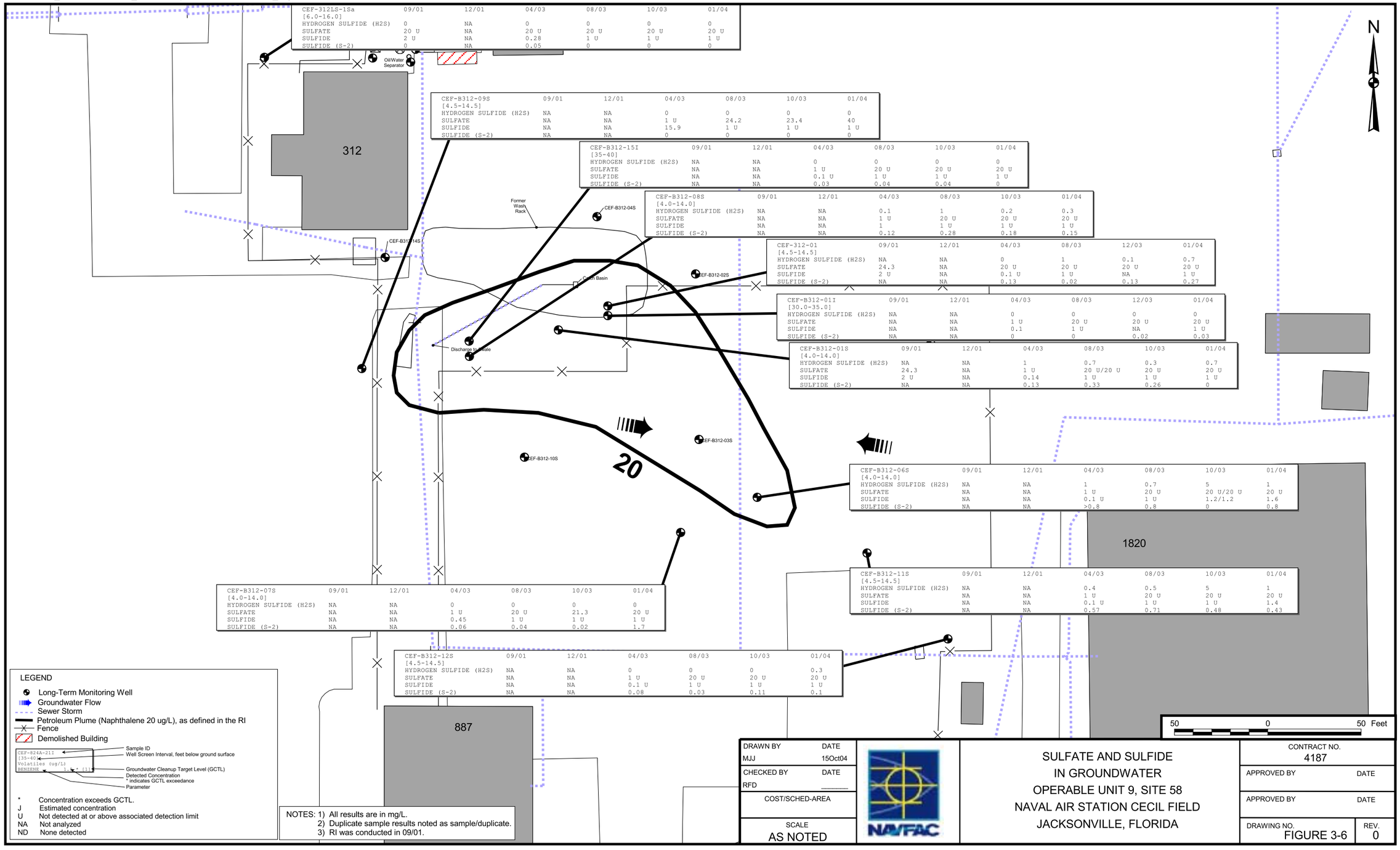

CEF-312LS-1Sa [6.0-16.0]	09/01	12/01	04/03	08/03	10/03	01/04
HYDROGEN SULFIDE (H2S)	0	NA	0	0	0	0
SULFATE	20 U	NA	20 U	20 U	20 U	20 U
SULFIDE	2 U	NA	0.28	1 U	1 U	1 U
SULFIDE (S-2)	0	NA	0.05	0	0	0

CEF-B312-09S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	0	0	0	0
SULFATE	NA	NA	1 U	24.2	23.4	40
SULFIDE	NA	NA	15.9	1 U	1 U	1 U
SULFIDE (S-2)	NA	NA	0	0	0	0

CEF-B312-15I [35-40]	09/01	12/01	04/03	08/03	10/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	0	0	0	0
SULFATE	NA	NA	1 U	20 U	20 U	20 U
SULFIDE	NA	NA	0.1 U	1 U	1 U	1 U
SULFIDE (S-2)	NA	NA	0.03	0.04	0.04	0

CEF-B312-08S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	0.1	1	0.2	0.3
SULFATE	NA	NA	1 U	20 U	20 U	20 U
SULFIDE	NA	NA	1	1 U	1 U	1 U
SULFIDE (S-2)	NA	NA	0.12	0.28	0.18	0.15

CEF-312-01 [4.5-14.5]	09/01	12/01	04/03	08/03	12/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	0	1	0.1	0.7
SULFATE	24.3	NA	20 U	20 U	20 U	20 U
SULFIDE	2 U	NA	0.1 U	1 U	NA	1 U
SULFIDE (S-2)	NA	NA	0.13	0.02	0.13	0.27

CEF-B312-11I [30.0-35.0]	09/01	12/01	04/03	08/03	12/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	0	0	0	0
SULFATE	NA	NA	1 U	20 U	20 U	20 U
SULFIDE	NA	NA	0.1	1 U	NA	1 U
SULFIDE (S-2)	NA	NA	0	0	0.02	0.03

CEF-B312-01S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	1	0.7	0.3	0.7
SULFATE	24.3	NA	1 U	20 U/20 U	20 U	20 U
SULFIDE	2 U	NA	0.14	1 U	1 U	1 U
SULFIDE (S-2)	NA	NA	0.13	0.33	0.26	0

CEF-B312-06S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	1	0.7	5	1
SULFATE	NA	NA	1 U	20 U	20 U/20 U	20 U
SULFIDE	NA	NA	0.1 U	1 U	1.2/1.2	1.6
SULFIDE (S-2)	NA	NA	>0.8	0.8	0	0.8

CEF-B312-11S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	0.4	0.5	5	1
SULFATE	NA	NA	1 U	20 U	20 U	20 U
SULFIDE	NA	NA	0.1 U	1 U	1 U	1.4
SULFIDE (S-2)	NA	NA	0.57	0.71	0.48	0.43

CEF-B312-07S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	0	0	0	0
SULFATE	NA	NA	1 U	20 U	21.3	20 U
SULFIDE	NA	NA	0.45	1 U	1 U	1 U
SULFIDE (S-2)	NA	NA	0.06	0.04	0.02	1.7

CEF-B312-12S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04
HYDROGEN SULFIDE (H2S)	NA	NA	0	0	0	0.3
SULFATE	NA	NA	1 U	20 U	20 U	20 U
SULFIDE	NA	NA	0.1 U	1 U	1 U	1 U
SULFIDE (S-2)	NA	NA	0.08	0.03	0.11	0.1

LEGEND

- Long-Term Monitoring Well
- Groundwater Flow
- Sewer Storm
- Petroleum Plume (Naphthalene 20 ug/L), as defined in the RI
- Fence
- Demolished Building

CEF-824A-21I [35-40] Volatiles (ug/L) BENZENE 1.0 * [1]

Sample ID
Well Screen Interval, feet below ground surface
Groundwater Cleanup Target Level (GCTL)
Detected Concentration
* indicates GCTL exceedance
Parameter

* Concentration exceeds GCTL.
J Estimated concentration
U Not detected at or above associated detection limit
NA Not analyzed
ND None detected

NOTES: 1) All results are in mg/L.
2) Duplicate sample results noted as sample/duplicate.
3) RI was conducted in 09/01.

DRAWN BY	DATE
MJJ	15Oct04
CHECKED BY	DATE
RFD	
COST/SCHED-AREA	
SCALE	AS NOTED

NAVFAC

SULFATE AND SULFIDE
IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO. 4187	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 3-6	REV. 0

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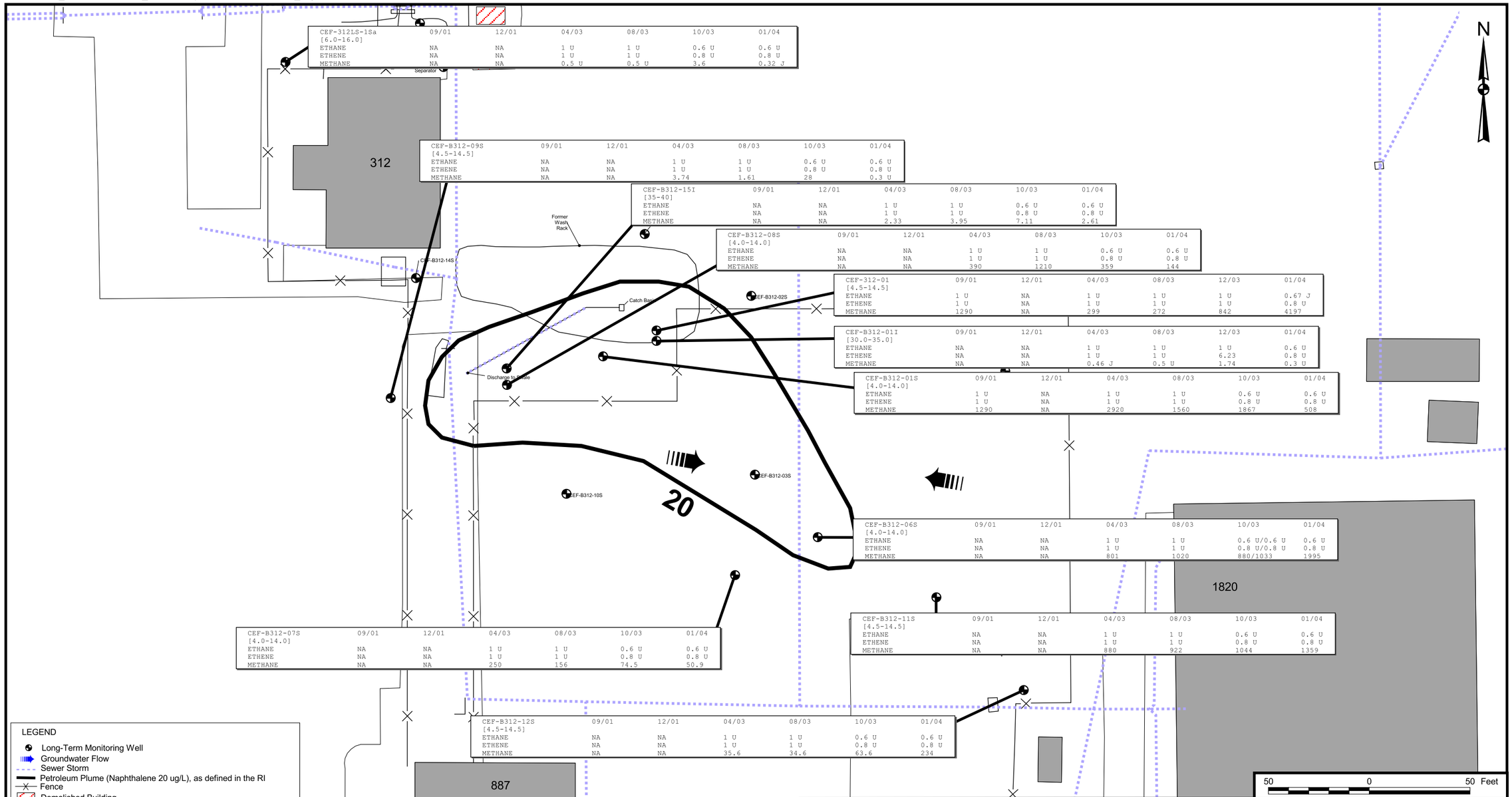

CEF-312LS-1Sa [6.0-16.0]	09/01	12/01	04/03	08/03	10/03	01/04
ETHANE	NA	NA	1 U	1 U	0.6 U	0.6 U
ETHENE	NA	NA	1 U	1 U	0.8 U	0.8 U
METHANE	NA	NA	0.5 U	0.5 U	3.6	0.32 J

CEF-B312-09S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04
ETHANE	NA	NA	1 U	1 U	0.6 U	0.6 U
ETHENE	NA	NA	1 U	1 U	0.8 U	0.8 U
METHANE	NA	NA	3.74	1.61	28	0.3 U

CEF-B312-15I [35-40]	09/01	12/01	04/03	08/03	10/03	01/04
ETHANE	NA	NA	1 U	1 U	0.6 U	0.6 U
ETHENE	NA	NA	1 U	1 U	0.8 U	0.8 U
METHANE	NA	NA	2.33	3.95	7.11	2.61

CEF-B312-08S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
ETHANE	NA	NA	1 U	1 U	0.6 U	0.6 U
ETHENE	NA	NA	1 U	1 U	0.8 U	0.8 U
METHANE	NA	NA	390	1210	359	144

CEF-312-01 [4.5-14.5]	09/01	12/01	04/03	08/03	12/03	01/04
ETHANE	1 U	NA	1 U	1 U	1 U	0.67 J
ETHENE	1 U	NA	1 U	1 U	1 U	0.8 U
METHANE	1290	NA	299	272	842	4197

CEF-B312-01I [30.0-35.0]	09/01	12/01	04/03	08/03	12/03	01/04
ETHANE	NA	NA	1 U	1 U	1 U	0.6 U
ETHENE	NA	NA	1 U	1 U	6.23	0.8 U
METHANE	NA	NA	0.46 J	0.5 U	1.74	0.3 U

CEF-B312-01S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
ETHANE	1 U	NA	1 U	1 U	0.6 U	0.6 U
ETHENE	1 U	NA	1 U	1 U	0.8 U	0.8 U
METHANE	1290	NA	2920	1560	1867	508

CEF-B312-06S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
ETHANE	NA	NA	1 U	1 U	0.6 U/0.6 U	0.6 U
ETHENE	NA	NA	1 U	1 U	0.8 U/0.8 U	0.8 U
METHANE	NA	NA	801	1020	880/1033	1995

CEF-B312-07S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
ETHANE	NA	NA	1 U	1 U	0.6 U	0.6 U
ETHENE	NA	NA	1 U	1 U	0.8 U	0.8 U
METHANE	NA	NA	250	156	74.5	50.9

CEF-B312-11S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04
ETHANE	NA	NA	1 U	1 U	0.6 U	0.6 U
ETHENE	NA	NA	1 U	1 U	0.8 U	0.8 U
METHANE	NA	NA	880	922	1044	1359

CEF-B312-12S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04
ETHANE	NA	NA	1 U	1 U	0.6 U	0.6 U
ETHENE	NA	NA	1 U	1 U	0.8 U	0.8 U
METHANE	NA	NA	35.6	34.6	63.6	234

LEGEND

- Long-Term Monitoring Well
- Groundwater Flow
- Sewer Storm
- Petroleum Plume (Naphthalene 20 ug/L), as defined in the RI
- Fence
- Demolished Building

CEF-824A-21I [35-40] Volatiles (ug/L) BENZENE 1.0 * [1]

Sample ID
Well Screen Interval, feet below ground surface
Groundwater Cleanup Target Level (GCTL)
Detected Concentration
* indicates GCTL exceedance
Parameter

* Concentration exceeds GCTL.
J Estimated concentration
U Not detected at or above associated detection limit
NA Not analyzed
ND None detected

NOTES: 1) All results are in ug/L.
2) Duplicate sample results noted as sample/duplicate.
3) RI was conducted in 09/01.

DRAWN BY	DATE
MJJ	15Oct04
CHECKED BY	DATE
RFD	
COST/SCHED-AREA	
SCALE	AS NOTED

NAVFAC

METHANE, ETHANE, AND ETHENE
IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO. 4187
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-7
REV. 0

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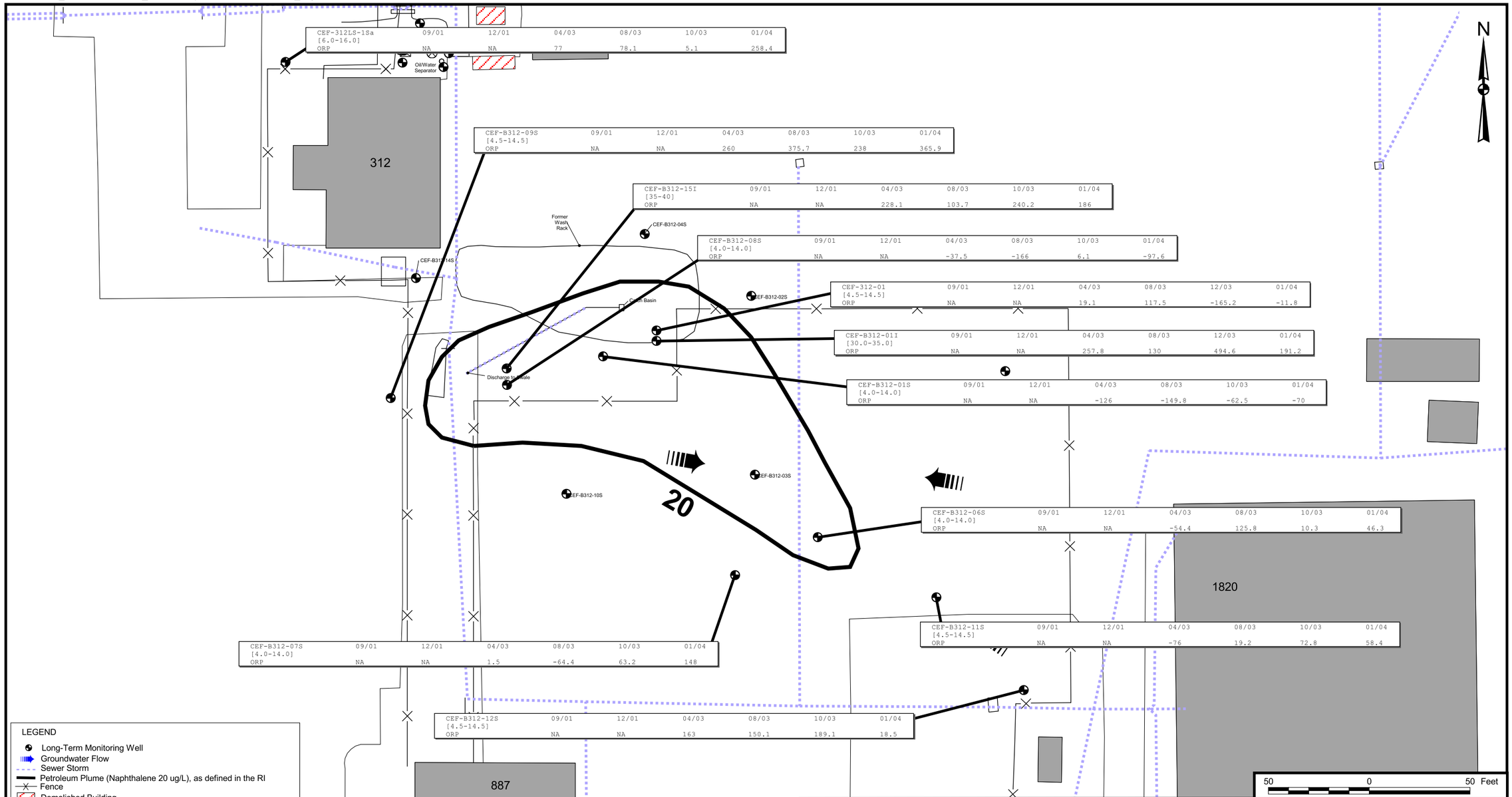

LEGEND

- Long-Term Monitoring Well
- Groundwater Flow
- Sewer Storm
- Petroleum Plume (Naphthalene 20 ug/L), as defined in the RI
- Fence
- Demolished Building

CEF-824A-21I [35-40] Volatiles (ug/L) BENZENE 1.* [1]

- Sample ID
- Well Screen Interval, feet below ground surface
- Groundwater Cleanup Target Level (GCTL)
- Detected Concentration
- * indicates GCTL exceedance
- Parameter

*	Concentration exceeds GCTL.
J	Estimated concentration
U	Not detected at or above associated detection limit
NA	Not analyzed
ND	None detected

NOTES:
1) All results are in mV.
2) Duplicate sample results noted as sample/duplicate.
3) RI was conducted in 09/01.

DRAWN BY MJJ	DATE 15Oct04
CHECKED BY RFD	DATE
COST/SCHED-AREA	
SCALE AS NOTED	

NAVFAC

OXIDATION-REDUCTION POTENTIAL
IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO. 4187	
APPROVED BY	DATE
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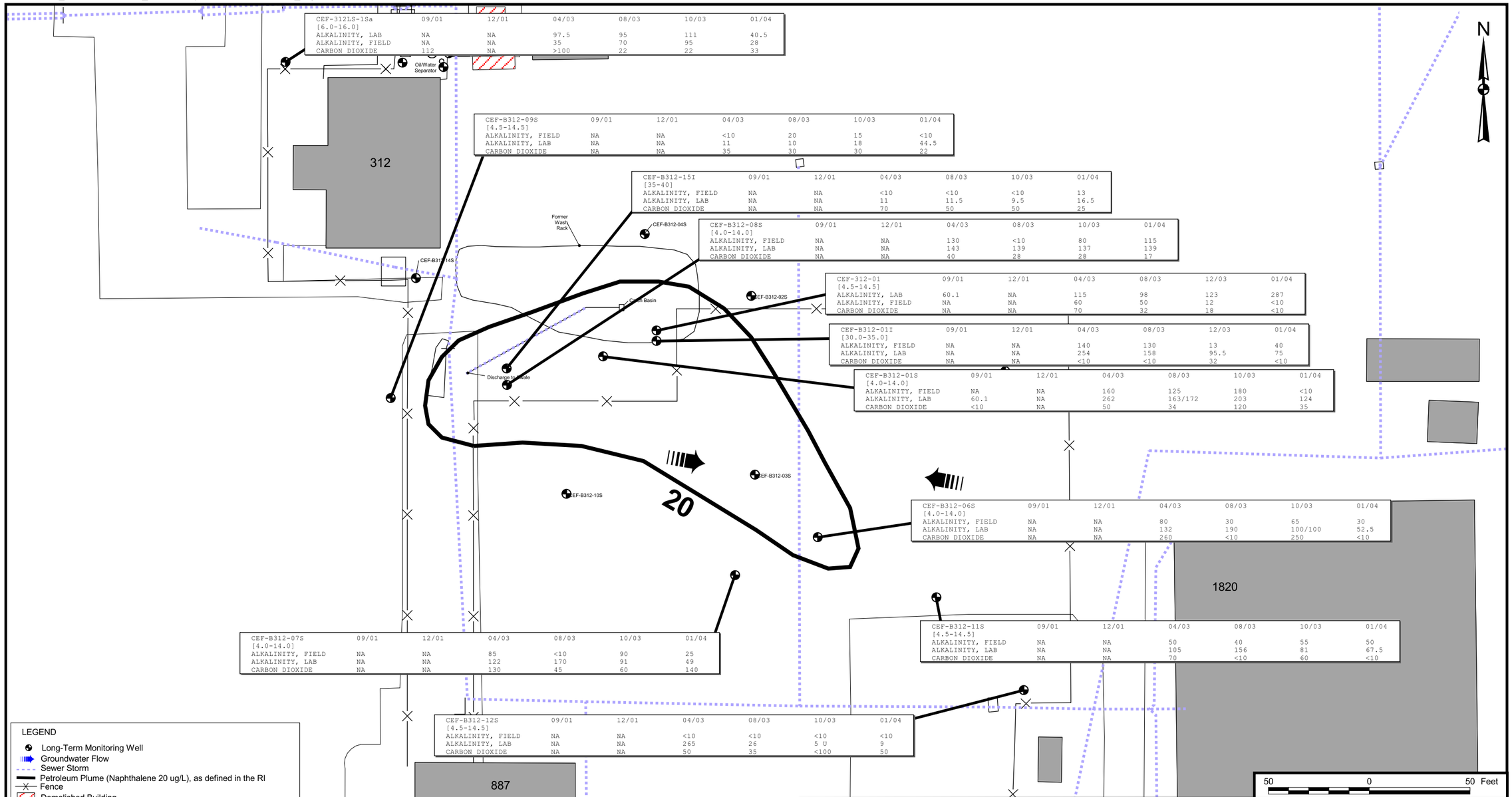


CEF-312LS-1Sa [6.0-16.0]	09/01	12/01	04/03	08/03	10/03	01/04
ALKALINITY, LAB	NA	NA	97.5	95	111	40.5
ALKALINITY, FIELD	NA	NA	35	70	95	28
CARBON DIOXIDE	112	NA	>100	22	22	33

CEF-B312-09S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04
ALKALINITY, FIELD	NA	NA	<10	20	15	<10
ALKALINITY, LAB	NA	NA	11	10	18	44.5
CARBON DIOXIDE	NA	NA	35	30	30	22

CEF-B312-15I [35-40]	09/01	12/01	04/03	08/03	10/03	01/04
ALKALINITY, FIELD	NA	NA	<10	<10	<10	13
ALKALINITY, LAB	NA	NA	11	11.5	9.5	16.5
CARBON DIOXIDE	NA	NA	70	50	50	25

CEF-B312-08S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
ALKALINITY, FIELD	NA	NA	130	<10	80	115
ALKALINITY, LAB	NA	NA	143	139	137	139
CARBON DIOXIDE	NA	NA	40	28	28	17

CEF-312-01 [4.5-14.5]	09/01	12/01	04/03	08/03	12/03	01/04
ALKALINITY, LAB	60.1	NA	115	98	123	287
ALKALINITY, FIELD	NA	NA	60	50	12	<10
CARBON DIOXIDE	NA	NA	70	32	18	<10

CEF-B312-01I [30.0-35.0]	09/01	12/01	04/03	08/03	12/03	01/04
ALKALINITY, FIELD	NA	NA	140	130	13	40
ALKALINITY, LAB	NA	NA	254	158	95.5	75
CARBON DIOXIDE	NA	NA	<10	<10	32	<10

CEF-B312-01S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
ALKALINITY, FIELD	NA	NA	160	125	180	<10
ALKALINITY, LAB	60.1	NA	262	163/172	203	124
CARBON DIOXIDE	<10	NA	50	34	120	35

CEF-B312-06S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
ALKALINITY, FIELD	NA	NA	80	30	65	30
ALKALINITY, LAB	NA	NA	132	190	100/100	52.5
CARBON DIOXIDE	NA	NA	260	<10	250	<10

CEF-B312-11S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04
ALKALINITY, FIELD	NA	NA	50	40	55	50
ALKALINITY, LAB	NA	NA	105	156	81	67.5
CARBON DIOXIDE	NA	NA	70	<10	60	<10

CEF-B312-07S [4.0-14.0]	09/01	12/01	04/03	08/03	10/03	01/04
ALKALINITY, FIELD	NA	NA	85	<10	90	25
ALKALINITY, LAB	NA	NA	122	170	91	49
CARBON DIOXIDE	NA	NA	130	45	60	140

CEF-B312-12S [4.5-14.5]	09/01	12/01	04/03	08/03	10/03	01/04
ALKALINITY, FIELD	NA	NA	<10	<10	<10	<10
ALKALINITY, LAB	NA	NA	265	26	5 U	9
CARBON DIOXIDE	NA	NA	50	35	<100	50

LEGEND

- Long-Term Monitoring Well
- Groundwater Flow
- Sewer Storm
- Petroleum Plume (Naphthalene 20 ug/L), as defined in the RI
- Fence
- Demolished Building

CEF-824A-21I [35-40] Volatiles (ug/L) BENZENE 1.4 * [1]

Sample ID
Well Screen Interval, feet below ground surface
Groundwater Cleanup Target Level (GCTL)
Detected Concentration
* indicates GCTL exceedance
Parameter

* Concentration exceeds GCTL.
J Estimated concentration
U Not detected at or above associated detection limit
NA Not analyzed
ND None detected

NOTES: 1) All results are in mg/L.
2) Duplicate sample results noted as sample/duplicate.
3) RI was conducted in 09/01.

DRAWN BY	DATE
MJJ	15Oct04
CHECKED BY	DATE
RFD	
COST/SCHED-AREA	
SCALE	AS NOTED

NAVFAC

ALKALINITY AND CARBON DIOXIDE
IN GROUNDWATER
OPERABLE UNIT 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO. 4187
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-9
REV. 0

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

The ROD identified the following Remedial Action Objectives (RAOs) for OU 9, Site 58:

- Prevent unacceptable risk from exposure to Site 58 groundwater with concentrations of VOCs, PAHs, and TRPH greater than the cleanup goals that are the federal Maximum Contaminant Levels and FDEP GCTLs.

- Restore groundwater contaminated concentrations at Sites 58 to less than cleanup goals that are the federal Maximum Contaminant Levels and FDEP GCTLs.

The selected remedy, as detailed in the ROD, includes the following:

- Implementation of LUCs
- Natural attenuation evaluation
- Long-term monitoring to evaluate the progress of remediation

The long-term monitoring program at OU 9, Site 58 is being conducted in accordance with the approved design (TtNUS, 2003). The long-term monitoring and natural attenuation evaluation began in April 2003.

Based on an evaluation of groundwater elevations, localized temporary dewatering and the storm sewers may be impacting results in plume area. The current well network adequately monitors contaminant trends and potential plume migration at Site 58, and sentinel well CEF-312-12S is a properly placed downgradient compliance well within the monitoring network.

The concentrations of contaminants have generally decreased in most wells since the RI. Concentrations have increased in one source area well and one downgradient well. The constituent concentrations have decreased to concentrations less than FDEP GCTLs, with the exceptions of vinyl chloride and naphthalene. COC concentrations have been variable, but have generally been decreasing.

Geochemical parameter trends are consistent with anaerobic biological activity. DO concentrations are usually less than 1 mg/L, which indicate conditions favorable for anaerobic biological activity. The concentrations of alkalinity, carbon dioxide, ferrous iron, sulfides, and methane increase at the source and then gradually decrease downgradient. Similarly, the ORP measurements decrease at the source, then gradually increase.

The ongoing geochemical conditions will promote biodegradation processes in the source area and downgradient plume. Natural attenuation processes are efficient for destroying petroleum hydrocarbon contaminants, as well as some lightly chlorinated solvents. However, the conditions may result in the accumulation of vinyl chloride in the downgradient area of the site.

4.2 RECOMMENDATIONS

Based on an evaluation of data collected during the first year of groundwater monitoring, TtNUS recommends continuing the long-term monitoring program on a semi-annual basis in accordance with the Groundwater Remedial Design Work Plan for Long-Term Monitoring. The groundwater samples should be analyzed for the same parameters as in Year 1.

The Navy and regulators also agreed that additional investigation of the groundwater is also recommended in the area of monitoring well CEF-B312-12S where vinyl chloride was detected about the GCTLs in three out of the four quarterly sampling events. The investigation will use direct push technology to install four microwells. These wells will be sampled and analyzed for VOCs and the results will be presented to the Navy and regulators and will be submitted in the Year 2 report.

REFERENCES

Florida Department of Environmental Protection (FDEP), 1999. Groundwater and Soil Cleanup Target Levels, FAC 62-777.

FDEP, 2002. FDEP Groundwater Sampling Standard Operating Procedure FS 2200.

TtNUS (Tetra Tech NUS, Inc), 2002. Remedial Investigation Report for Operable Unit 9, Sites 57 and 58, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, August.

TtNUS, 2003. Groundwater Remedial Design Work Plan for Long-Term Monitoring for Operable Unit 9, Sites 57 and 58, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, April.

TtNUS, 2004. Record of Decision, Operable Unit 9, Sites 57 and 58, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, January.

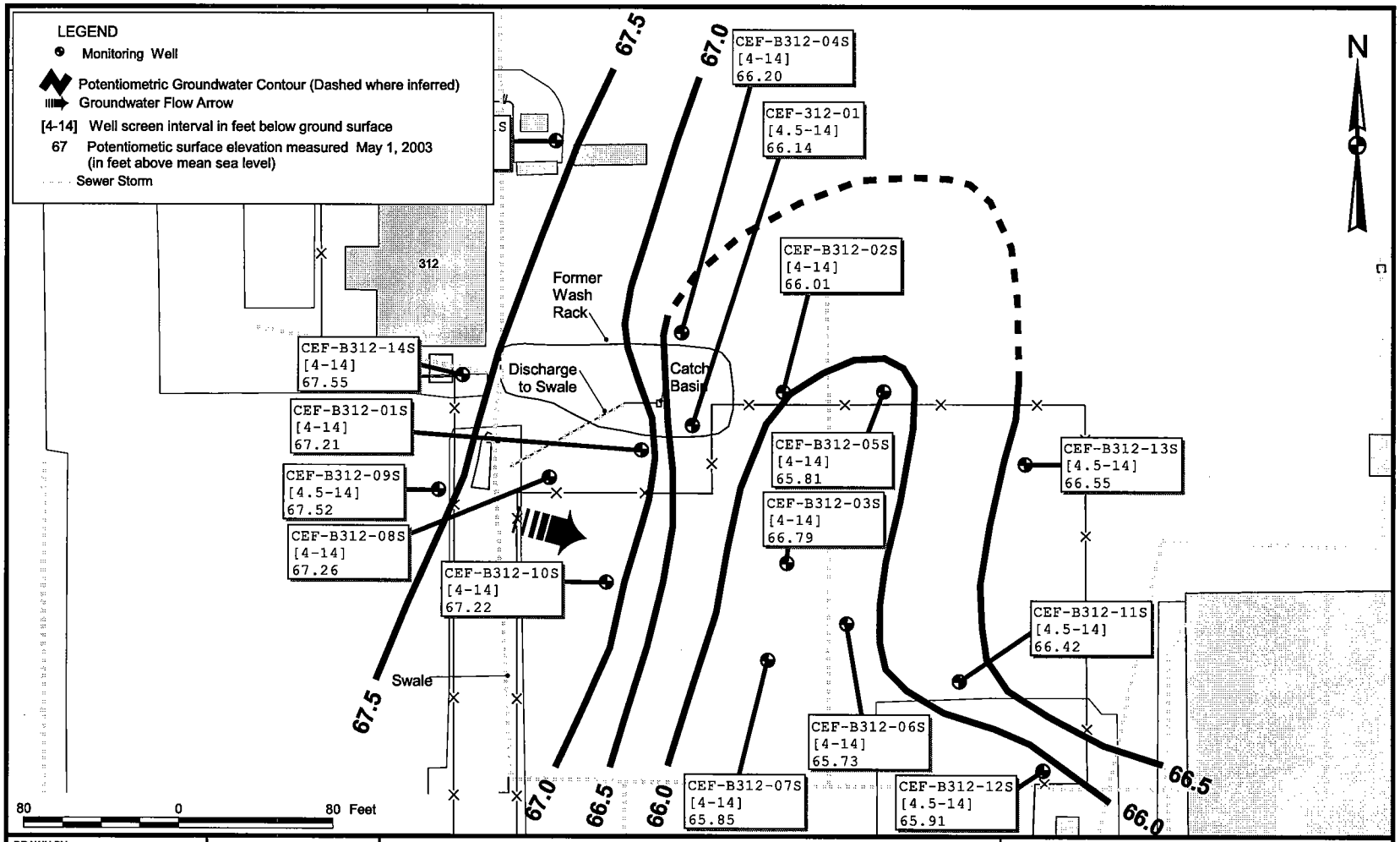
United States Department of the Navy, 1998. Technical Guidelines for Evaluating Monitored Natural Attenuation of Petroleum Hydrocarbon and Chlorinated Solvents in Ground Water at Naval and Marine Corps Facilities, September.

U.S. EPA (United States Environmental Protection Agency), 1996. Region 4 Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM), Athens, Georgia, May.

U.S. EPA, 1998. Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water. OSWER Publication EPA/600/R-98/128, September.

APPENDIX A

QUARTERLY POTENTIOMETRIC SURFACE ELEVATION MAPS



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MJJ	25Jun03
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	

POTENTIOMETRIC SURFACE
OU 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NUMBER 4187	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE	REV 0

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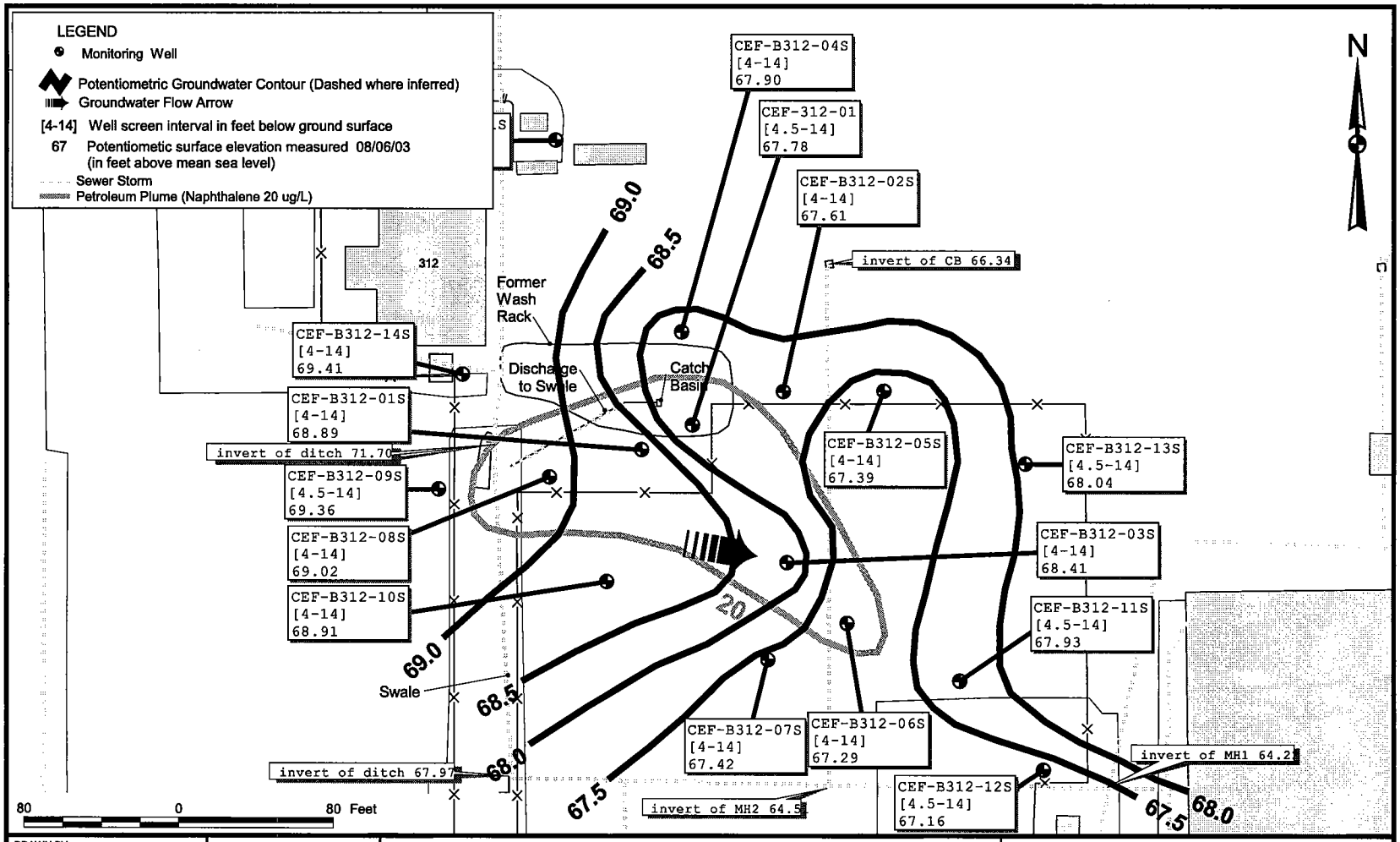

DRAWN BY	DATE
MJJ	25Jun03
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE	AS NOTED

POTENTIOMETRIC SURFACE
OU 9, SITE 58
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NUMBER	
4187	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE	REV 0

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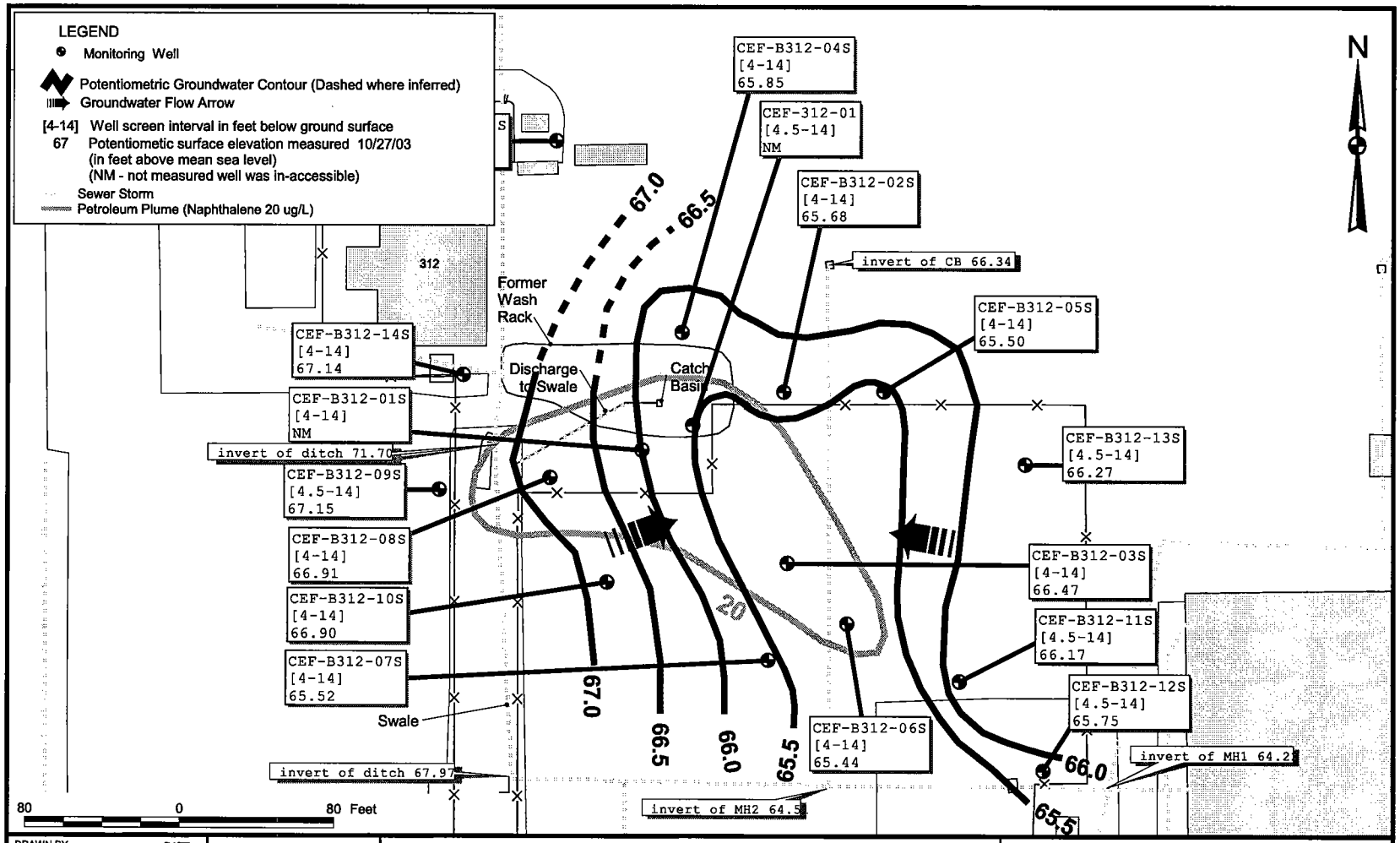

DRAWN BY MJJ	DATE 25Jun03	SHALLOW POTENTIOMETRIC SURFACE OU 9, SITE 58 NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4187
CHECKED BY	DATE		APPROVED BY — DATE —
COST/SCHEDULE-AREA			APPROVED BY — DATE —
SCALE AS NOTED			DRAWING NO. FIGURE / REV 0

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APPENDIX B

YEAR 1 ANALYTICAL LABORATORY RESULTS

Site 58

APRIL 2003

F17576– CTO 161
F17601– CTO 161

AUGUST 2003

F18839– CTO 161
F18870– CTO 161
F18933– CTO 161

OCTOBER 2003

F20293 – CTO 161
F20325 – CTO 161
F20948 – CTO 161

JANUARY 2004

F21729– CTO 078
F21746– CTO 161

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. SPERANZA** **DATE: AUGUST 27, 2003**

FROM: **SETH STAFFEN** **CC: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOA / OVG / PAH / TPH**
CTO 161 – NAS CECIL FIELD
SDG F17576

SAMPLES: 1/Aqueous/VOA/OVG/PAH/TPH

CEF-B312-11S-11

OVERVIEW

The sample set for CTO 161, SDG F17576, Naval Air Station (NAS) Cecil Field; Florida consists of one (1) aqueous environmental sample. The sample was analyzed for Target Compound List (TCL) volatile organic compounds and polynuclear aromatic hydrocarbons (PAH), organic volatile gases (OVG), and total petroleum hydrocarbons (TPH).

The sample was collected by Tetra Tech, NUS on April 30, 2003 and analyzed by Accutest Laboratories. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW 846 Method 8260B, 8310, RSK SOP-147-175, and Florida Pro analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
• Initial/continuing calibrations
* • Laboratory method/field quality control blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A.

The text of this report is formulated to address only gross noncompliances resulting in the rejection of data and the elimination of false positives.

VOA FRACTION

Despite the absence of acetone in the laboratory method blank, acetone is a common laboratory contaminant. Therefore, the presence of acetone in an environmental sample is a possible laboratory contaminant. The positive result was qualified as estimated, J.

OVG FRACTION

No gross noncompliances that would have resulted in the rejection of data were noted for this fraction.

PAH FRACTION

The continuing calibration percent difference (%D) exceeded the 15% quality control limit for anthracene on one detector on 5/3/03 at 1415. No qualification action was taken because the response on the other detector was complaint.

TPH FRACTION

No gross noncompliances that would have resulted in the rejection of data were noted for this fraction.

Additional Comments

The laboratory reported down to the method detection limit (MDL) in the VOA, OVG, PAH, and TPH fractions. Positive results reported between the MDL and reporting limit (RL) were qualified as estimated, J.

EXECUTIVE SUMMARY

Laboratory performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the NFESC guidelines "Navy IRCDQM" (September 1999). The text of this report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Seth Staffen

Environmental Scientist/Data Validator
Tetra Tech, NUS

Joseph A. Samchuck

Data Validation Quality Assurance Officer
Tetra Tech, NUS

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F17576 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-11S-11	nsample	CEF-B312-11S-11
samp_date	4/30/2003	samp_date	4/30/2003
lab_id	F17576-1	lab_id	F17576-1
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	6.6		
1,1-DICHLOROETHENE	1.6		
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	6	J	A
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.51	J	P
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	

Parameter	Result	Val Qual	Qual Code
TOTAL XYLENES	1.4	J	P
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	1.6		

PROJ_NO: 3965

SDG: F17576 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-11S-11
samp_date	4/30/2003
lab_id	F17576-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	2.4		
2-METHYLNAPHTHALENE	1.9	J	P
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.54	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	18.4		
PHENANTHRENE	1.1	U	
PYRENE	0.54	U	

PROJ_NO: 3965

SDG: F17576 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-11S-11
samp_date	4/30/2003
lab_id	F17576-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	880		

PROJ_NO: 3965

SDG: F17576 MEDIA: WATER DATA FRACTION: PET

nsample	CEF-B312-11S-11
samp_date	4/30/2003
lab_id	F17576-1
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.38		

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-11		
Lab Sample ID:	F17576-1	**Date Sampled:**	04/30/03
Matrix:	AQ - Ground Water	**Date Received:**	04/30/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B015684.D	1	05/13/03	KW	n/a	n/a	VB693
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	6.0	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	6.6	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	1.6	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.51	1.0	0.50	ug/l	J
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	**Methyl Tert Butyl Ether**	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-11		
Lab Sample ID:	F17576-1	**Date Sampled:**	04/30/03
Matrix:	AQ - Ground Water	**Date Received:**	04/30/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	1.6	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.4	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	93%		78-125%
2037-26-5	Toluene-D8	100%		87-113%
460-00-4	4-Bromofluorobenzene	89%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-11		
Lab Sample ID:	F17576-1	**Date Sampled:**	04/30/03
Matrix:	AQ - Ground Water	**Date Received:**	04/30/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE014938.D	1	05/03/03	SM	05/02/03	OP7491	GEE640
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	18.4	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	2.4	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	1.9	2.2	0.54	ug/l	J
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		32-142%
92-94-4	p-Terphenyl	67%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-11		
Lab Sample ID:	F17576-1	**Date Sampled:**	04/30/03
Matrix:	AQ - Ground Water	**Date Received:**	04/30/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010738.D	1	05/06/03	CV	n/a	n/a	GXY264
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	880	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-11		
Lab Sample ID:	F17576-1	**Date Sampled:**	04/30/03
Matrix:	AQ - Ground Water	**Date Received:**	04/30/03
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP29030.D	1	05/05/03	SM	05/02/03	OP7488	GOP981
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1.38	0.26	0.18	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		51-125%

ND = Not detected MDL - Method Detection Limit
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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. SPERANZA** **DATE:** **AUGUST 27, 2003**

FROM: **JACQUELINE J. RASPANTI** **COPIES:** **DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION –IRON AND MISCELLANEOUS PARAMETERS**
CTO- 161 NAS CECIL FIELD
SAMPLE DELIVERY GROUP (SDG) – F17576

SAMPLES: 1/Aqueous/

CEF-B312-11S-11

Overview

The sample set for CTO 161, NAS CECIL FIELD, SDG F17576, consists of one (1) aqueous environmental sample.

The sample was analyzed for alkalinity, chloride, nitrate, nitrite, orthophosphate, sulfate, total organic carbon, dissolved sulfide, and dissolved iron. Samples analyzed for dissolved iron and dissolved sulfide are appended with a suffix of –F. The sample was collected by Tetra Tech NUS on April 30, 2003 and analyzed by Accutest Laboratories Southeast, Inc. under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses were conducted using SW 846 method 6010B. Chloride, nitrate, nitrite, and sulfate analyses were conducted using EPA method 300. Orthophosphate analysis was conducted using EPA method 365.3. Total organic carbon analysis was conducted using EPA method 415.1. Analysis for alkalinity was conducted using EPA method 310.1. Sulfide analysis was conducted using EPA method 376.1.

Metals analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Results
* • Laboratory Blank Analyses
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminant was detected in the laboratory preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Iron	65.8 µg/L	329 µg/L

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive result reported for iron in this sample was not less than the action level.

Notes

The database contains results reported as nitrate and nitrite; however, the laboratory reported results for Nitrate as Nitrogen and Nitrite as Nitrogen. The database contains results reported as orthophosphate; however, the laboratory reported results for Orthophosphate as Phosphorous.

Executive Summary

Laboratory Performance: No quality control issues were noted for this SDG.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Review", July 2002 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Jacqueline J. Raspanti
Tetra Tech NUS
Jacqueline J. Raspanti
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F17576 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-11S-11-F
samp_date	4/30/2003
lab_id	F17576-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	5350		

PROJ_NO: 3965

SDG: F17576 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-11S-11	nsample	CEF-B312-11S-11-F
samp_date	4/30/2003	samp_date	4/30/2003
lab_id	F17576-1	lab_id	F17576-2
qc_type	NM	qc_type	NM
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	105		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	23.7		

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.2		

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-11F		
Lab Sample ID:	F17576-2	**Date Sampled:**	04/30/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	04/30/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	5350	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-11		
Lab Sample ID:	F17576-1	**Date Sampled:**	04/30/03
Matrix:	AQ - Ground Water	**Date Received:**	04/30/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	105	5.0	mg/l	1	05/01/03	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	05/01/03 13:36	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	05/01/03 13:36	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	05/01/03 13:36	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	05/01/03 10:40	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	05/01/03 13:36	LL	EPA 300/SW846 9056
Total Organic Carbon	23.7	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-11F		
Lab Sample ID:	F17576-2	**Date Sampled:**	04/30/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	04/30/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	1.2	1.0	mg/l	1	05/06/03	LL	EPA 376.1

RL = Reporting Limit

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. SPERANZA** **DATE: AUGUST 27, 2003**

FROM: **SETH C. STAFFEN** **CC: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOA / OVG / PAH / TPH**
CTO 161 – NAS CECIL FIELD
SDG F17601

SAMPLES: 11/Aqueous/VOA/OVG/PAH/TPH

CEF-312-01-11	CEF-312LS-1SA-11	CEF-B312-01I-11
CEF-B312-01S-11*	CEF-B312-06S-11*	CEF-B312-07S-11
CEF-B312-08S-11	CEF-B312-09S-11	CEF-B312-12S-11*
CEF-B312-15I-11	CEF-B312-DU01-11*	

OVERVIEW

The sample set for CTO 161, SDG F17601, Naval Air Station (NAS) Cecil Field; Florida consists of eleven (11) aqueous environmental samples. The samples were analyzed for Target Compound List (TCL) volatile organic compounds and polynuclear aromatic hydrocarbons (PAH), and organic volatile gases (OVG) . In addition, samples designated with an (*) were analyzed for total petroleum hydrocarbons (TPH). One field duplicate pair was included in this SDG: CEF-293-DU01-11 / CEF-B312-01I-11.

The samples were collected by Tetra Tech, NUS on April 30th and May 1st, 2003 and analyzed by Accutest Laboratories. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW 846 Method 8260B, 8310, RSK SOP-147-175, and Florida Pro analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

- Data Completeness
- * Holding Times
- Initial/continuing calibrations
- * Laboratory method/field quality control blank results
- * Field Duplicate Precision
- Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A.

The text of this report is formulated to address only gross noncompliances resulting in the rejection of data and the elimination of false positives.

VOA FRACTION

The continuing calibration percent differences (%Ds) exceeded the 25% quality control limit for 4-methyl-2-pentanone and 2-hexanone on 5/9/03 at 0910. No qualification action was taken because the noncompliance was less than 90% and the reported results were nondetects.

The continuing calibration percent difference (%D) exceeded the 25% quality control limit for carbon tetrachloride on 5/12/03 at 1005. No qualification action was taken because the noncompliance was less than 90% and the reported results were nondetects.

Sample CEF-B312-01S-11 was analyzed at a 2X dilution. The dilution caused elevated reporting limits.

OVG FRACTION

No gross noncompliances that would have resulted in the rejection of data were noted for this fraction.

The result for methane was reported from a 5X-dilution analysis in sample CEF-B312-01S-11.

PAH FRACTION

The continuing calibration percent difference (%D) exceeded the 15% quality control limit for anthracene on 5/7/03 at 1215. No qualification action was taken because the other detector was compliant.

The continuing calibration percent differences (%Ds) exceeded the 15% quality control limit for acenaphthylene, 2-methyl naphthalene, and acenaphthene on 5/8/03 at 1039 on one detector. The %Ds for naphthalene and anthracene exceeded the 15% quality control limit on the other detector. No qualification action was taken because the noncompliances were only on one detector.

The surrogate recoveries of o-terphenyl and p-terphenyl were zero for sample CEF-B312-01S-11. No qualification action was taken because the 0% recovery was due to dilution.

For sample CEF-B312-01S-11, the results for acenaphthene, acenaphthylene, chrysene, fluorene, and naphthalene were reported from a 20X dilution. The dilution caused elevated reporting limits.

For sample CEF-B312-06S-11, the results for acenaphthene, acenaphthylene, chrysene, fluorene, and naphthalene were reported from a 4X dilution. The dilution caused elevated reporting limits.

For sample CEF-B312-08S-11, the results for acenaphthene, fluorene, and naphthalene were reported from a 4X dilution. The dilution caused elevated reporting limits.

TPH FRACTION

No gross noncompliances that would have resulted in the rejection of data were noted for this fraction.

The result for TPH was reported from a 4X-dilution for sample CEF-B312-06S-11.

Additional Comments

The laboratory reported down to the method detection limit (MDL) in the VOA, OVG, PAH, and TPH fractions. Positive results reported between the MDL and reporting limit (RL) were qualified as estimated, J.

In the original data package, the client sample IDs were incorrectly labeled for several samples (i.e. sample CEF-B312-DU01-11 was used as the client ID for nine different samples (F17601-14 thru F17601-22). Also, sample CEF-312-01-11 (F17601-5) was labeled as CEF-B312-01-11 F in the VOA, PAH, and OVG fractions. The laboratory was contacted and corrected Forms were re-submitted.

EXECUTIVE SUMMARY

Laboratory performance: Incorrect field IDs were used by the laboratory.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the NFESC guidelines "Navy IRCDQM" (September 1999). The text of this report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Seth C. Staffen

Environmental Scientist/Data Validator
Tetra Tech, NUS

Joseph A. Samchuck

Data Validation Quality Assurance Officer
Tetra Tech, NUS

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-312-01-11	nsample	CEF-312-01-11	nsample	CEF-312LS-1SA-11
samp_date	4/30/2003	samp_date	4/30/2003	samp_date	5/1/2003
lab_id	F17601-5	lab_id	F17601-5	lab_id	F17601-19
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	1.9			
1,1-DICHLOROETHENE	0.5	U	U	
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	1	U	U	
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	0.5	U	U	
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	0.5	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	1	U	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	0.5	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHENE	0.5	U	U	
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	1	U	U	
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	0.5	U	U	
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	0.5	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-312LS-1SA-11
samp_date	5/1/2003
lab_id	F17601-19
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	1	U	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	0.5	U	U	

nsample	CEF-B312-01I-11
samp_date	4/30/2003
lab_id	F17601-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHENE	0.5	U	U	
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	1	U	U	
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	0.5	U	U	
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	0.5	U	U	

nsample	CEF-B312-01I-11
samp_date	4/30/2003
lab_id	F17601-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	1	U	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	0.5	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-01S-11
samp_date	5/1/2003
lab_id	F17601-15
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	1	U	U	
1,1,2,2-TETRACHLOROETHANE	0.6	U	U	
1,1,2-TRICHLOROETHANE	1	U	U	
1,1-DICHLOROETHANE	10.3			
1,1-DICHLOROETHENE	1	U	U	
1,2-DICHLOROETHANE	1	U	U	
1,2-DICHLOROPROPANE	1	U	U	
2-BUTANONE	5	U	U	
2-HEXANONE	5	U	U	
4-METHYL-2-PENTANONE	57.4			
ACETONE	531			
BENZENE	1	U	U	
BROMODICHLOROMETHANE	1	U	U	
BROMOFORM	1	U	U	
BROMOMETHANE	2	U	U	
CARBON DISULFIDE	2	U	U	
CARBON TETRACHLORIDE	1	U	U	
CHLOROBENZENE	1	U	U	
CHLORODIBROMOMETHANE	0.8	U	U	
CHLOROETHANE	2	U	U	
CHLOROFORM	1	U	U	
CHLOROMETHANE	2	U	U	
CIS-1,2-DICHLOROETHENE	1	U	U	
CIS-1,3-DICHLOROPROPENE	0.6	U	U	
ETHYLBENZENE	2.2			
METHYL TERT-BUTYL ETHER	1	U	U	
METHYLENE CHLORIDE	2	U	U	
STYRENE	1	U	U	
TETRACHLOROETHENE	1	U	U	
TOLUENE	4.8			

nsample	CEF-B312-01S-11
samp_date	5/1/2003
lab_id	F17601-15
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	12.6			
TRANS-1,2-DICHLOROETHENE	1	U	U	
TRANS-1,3-DICHLOROPROPENE	0.6	U	U	
TRICHLOROETHENE	1	U	U	
VINYL CHLORIDE	1	U	U	

nsample	CEF-B312-06S-11
samp_date	5/1/2003
lab_id	F17601-21
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	1			
1,1-DICHLOROETHENE	0.5	U	U	
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	1	U	U	
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	0.53	J	J	P
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	0.5	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-06S-11
samp_date	5/1/2003
lab_id	F17601-21
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	1	U	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	0.5	U	U	

nsample	CEF-B312-07S-11
samp_date	5/1/2003
lab_id	F17601-17
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHENE	0.5	U	U	
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	1	U	U	
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	0.5	U	U	
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	0.5	U	U	

nsample	CEF-B312-07S-11
samp_date	5/1/2003
lab_id	F17601-17
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	1	U	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	0.5	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-08S-11
samp_date	4/30/2003
lab_id	F17601-9
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	14.5			
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	19.6			
1,1-DICHLOROETHENE	0.5	U	U	
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	1	U	U	
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	4			
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	1.1			

nsample	CEF-B312-08S-11
samp_date	4/30/2003
lab_id	F17601-9
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	20.5			
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	0.5	U	U	

nsample	CEF-B312-09S-11
samp_date	4/30/2003
lab_id	F17601-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHENE	0.5	U	U	
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	1	U	U	
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	0.5	U	U	
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	0.5	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-09S-11
samp_date	4/30/2003
lab_id	F17601-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	1	U	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	0.5	U	U	

nsample	CEF-B312-12S-11
samp_date	4/30/2003
lab_id	F17601-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	3.8			
1,1-DICHLOROETHENE	1.6			
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	3			
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	0.5	U	U	
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	0.5	U	U	

nsample	CEF-B312-12S-11
samp_date	4/30/2003
lab_id	F17601-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	1	U	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	1.6			

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-15I-11
samp_date	4/30/2003
lab_id	F17601-11
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHENE	0.5	U	U	
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	1	U	U	
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	0.5	U	U	
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	0.5	U	U	

nsample	CEF-B312-15I-11
samp_date	4/30/2003
lab_id	F17601-11
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	1	U	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	0.5	U	U	

nsample	CEF-B312-DU01-11
samp_date	4/30/2003
lab_id	F17601-14
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	CEF-B312-01I-11

Parameter	Result	Lab Qual	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	U	
1,1,2-TRICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHANE	0.5	U	U	
1,1-DICHLOROETHENE	0.5	U	U	
1,2-DICHLOROETHANE	0.5	U	U	
1,2-DICHLOROPROPANE	0.5	U	U	
2-BUTANONE	2.5	U	U	
2-HEXANONE	2.5	U	U	
4-METHYL-2-PENTANONE	2.5	U	U	
ACETONE	5	U	U	
BENZENE	0.5	U	U	
BROMODICHLOROMETHANE	0.5	U	U	
BROMOFORM	0.5	U	U	
BROMOMETHANE	1	U	U	
CARBON DISULFIDE	1	U	U	
CARBON TETRACHLORIDE	0.5	U	U	
CHLOROBENZENE	0.5	U	U	
CHLORODIBROMOMETHANE	0.4	U	U	
CHLOROETHANE	1	U	U	
CHLOROFORM	0.5	U	U	
CHLOROMETHANE	1	U	U	
CIS-1,2-DICHLOROETHENE	0.5	U	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	U	
ETHYLBENZENE	0.5	U	U	
METHYL TERT-BUTYL ETHER	0.5	U	U	
METHYLENE CHLORIDE	1	U	U	
STYRENE	0.5	U	U	
TETRACHLOROETHENE	0.5	U	U	
TOLUENE	0.5	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-DU01-11
samp_date	4/30/2003
lab_id	F17601-14
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	CEF-B312-01I-11

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL XYLENES	1	U	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	U	
TRICHLOROETHENE	0.5	U	U	
VINYL CHLORIDE	0.5	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-312-01-11	nsample	CEF-312LS-1SA-11	nsample	CEF-B312-01I-11
samp_date	4/30/2003	samp_date	5/1/2003	samp_date	4/30/2003
lab_id	F17601-5	lab_id	F17601-19	lab_id	F17601-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	299			

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	0.3	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	0.46	J	J	P

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-01S-11
samp_date	5/1/2003
lab_id	F17601-15
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	2922			

nsample	CEF-B312-06S-11
samp_date	5/1/2003
lab_id	F17601-21
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	801			

nsample	CEF-B312-07S-11
samp_date	5/1/2003
lab_id	F17601-17
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	250			

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-08S-11	nsample	CEF-B312-09S-11	nsample	CEF-B312-12S-11
samp_date	4/30/2003	samp_date	4/30/2003	samp_date	4/30/2003
lab_id	F17601-9	lab_id	F17601-7	lab_id	F17601-1
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	390			

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	3.74			

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	35.6			

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-15I-11	nsample	CEF-B312-DU01-11
samp_date	4/30/2003	samp_date	4/30/2003
lab_id	F17601-11	lab_id	F17601-14
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	CEF-B312-01I-11

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	2.33			

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.91	J	J	P
METHANE	0.43	J	J	P

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-312-01-11	nsample	CEF-312LS-1SA-11	nsample	CEF-B312-01I-11
samp_date	4/30/2003	samp_date	5/1/2003	samp_date	4/30/2003
lab_id	F17601-5	lab_id	F17601-19	lab_id	F17601-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.9	J	J	P
2-METHYLNAPHTHALENE	0.58	J	J	P
ACENAPHTHENE	4.3	U	U	
ACENAPHTHYLENE	4.3	U	U	
ANTHRACENE	1.1	U	U	
BENZO(A)ANTHRACENE	0.11	U	U	
BENZO(A)PYRENE	0.11	U	U	
BENZO(B)FLUORANTHENE	0.11	U	U	
BENZO(G,H,I)PERYLENE	0.11	U	U	
BENZO(K)FLUORANTHENE	0.11	U	U	
CHRYSENE	1.1	U	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	U	
FLUORANTHENE	0.53	U	U	
FLUORENE	1.1	U	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	U	
NAPHTHALENE	27.5			
PHENANTHRENE	1.1	U	U	
PYRENE	0.53	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.55	U	U	
2-METHYLNAPHTHALENE	0.55	U	U	
ACENAPHTHENE	1.1	U	U	
ACENAPHTHYLENE	1.1	U	U	
ANTHRACENE	1.1	U	U	
BENZO(A)ANTHRACENE	0.11	U	U	
BENZO(A)PYRENE	0.11	U	U	
BENZO(B)FLUORANTHENE	0.11	U	U	
BENZO(G,H,I)PERYLENE	0.11	U	U	
BENZO(K)FLUORANTHENE	0.11	U	U	
CHRYSENE	1.1	U	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	U	
FLUORANTHENE	0.55	U	U	
FLUORENE	1.1	U	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	U	
NAPHTHALENE	0.55	U	U	
PHENANTHRENE	1.1	U	U	
PYRENE	0.55	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	2	U	U	
2-METHYLNAPHTHALENE	0.51	U	U	
ACENAPHTHENE	1	U	U	
ACENAPHTHYLENE	1	U	U	
ANTHRACENE	1	U	U	
BENZO(A)ANTHRACENE	0.1	U	U	
BENZO(A)PYRENE	0.1	U	U	
BENZO(B)FLUORANTHENE	0.1	U	U	
BENZO(G,H,I)PERYLENE	0.1	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	1	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.51	U	U	
FLUORENE	1	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.51	U	U	
PHENANTHRENE	1	U	U	
PYRENE	0.51	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-01S-11	nsample	CEF-B312-06S-11	nsample	CEF-B312-07S-11
samp_date	5/1/2003	samp_date	5/1/2003	samp_date	5/1/2003
lab_id	F17601-15	lab_id	F17601-21	lab_id	F17601-17
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	22.7			
2-METHYLNAPHTHALENE	26			
ACENAPHTHENE	20	U	U	
ACENAPHTHYLENE	20	U	U	
ANTHRACENE	1	U	U	
BENZO(A)ANTHRACENE	0.1	U	U	
BENZO(A)PYRENE	0.1	U	U	
BENZO(B)FLUORANTHENE	0.1	U	U	
BENZO(G,H,I)PERYLENE	0.1	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	20	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.51	U	U	
FLUORENE	20	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	480			
PHENANTHRENE	1	U	U	
PYRENE	0.51	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	5.8			
2-METHYLNAPHTHALENE	3.9			
ACENAPHTHENE	4.2	U	U	
ACENAPHTHYLENE	4.2	U	U	
ANTHRACENE	1	U	U	
BENZO(A)ANTHRACENE	0.1	U	U	
BENZO(A)PYRENE	0.1	U	U	
BENZO(B)FLUORANTHENE	0.1	U	U	
BENZO(G,H,I)PERYLENE	0.1	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	4.2	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.52	U	U	
FLUORENE	4.2	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	59.4			
PHENANTHRENE	1	U	U	
PYRENE	0.52	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.5	U	U	
2-METHYLNAPHTHALENE	0.5	U	U	
ACENAPHTHENE	4	U	U	
ACENAPHTHYLENE	1	U	U	
ANTHRACENE	1	U	U	
BENZO(A)ANTHRACENE	0.1	U	U	
BENZO(A)PYRENE	0.1	U	U	
BENZO(B)FLUORANTHENE	0.1	U	U	
BENZO(G,H,I)PERYLENE	0.1	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	1	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.5	U	U	
FLUORENE	1	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.5	U	U	
PHENANTHRENE	1	U	U	
PYRENE	0.5	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-08S-11	nsample	CEF-B312-09S-11	nsample	CEF-B312-12S-11
samp_date	4/30/2003	samp_date	4/30/2003	samp_date	4/30/2003
lab_id	F17601-9	lab_id	F17601-7	lab_id	F17601-1
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	6.8			
2-METHYLNAPHTHALENE	6.8			
ACENAPHTHENE	48	U	U	
ACENAPHTHYLENE	4	U	U	
ANTHRACENE	1	U	U	
BENZO(A)ANTHRACENE	0.1	U	U	
BENZO(A)PYRENE	0.1	U	U	
BENZO(B)FLUORANTHENE	0.1	U	U	
BENZO(G,H,I)PERYLENE	0.1	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	1	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.5	U	U	
FLUORENE	4	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	65.3			
PHENANTHRENE	2	U	U	
PYRENE	0.5	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.54	U	U	
2-METHYLNAPHTHALENE	0.54	U	U	
ACENAPHTHENE	1.1	U	U	
ACENAPHTHYLENE	1.1	U	U	
ANTHRACENE	1.1	U	U	
BENZO(A)ANTHRACENE	0.11	U	U	
BENZO(A)PYRENE	0.11	U	U	
BENZO(B)FLUORANTHENE	0.11	U	U	
BENZO(G,H,I)PERYLENE	0.11	U	U	
BENZO(K)FLUORANTHENE	0.11	U	U	
CHRYSENE	1.1	U	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	U	
FLUORANTHENE	0.54	U	U	
FLUORENE	1.1	U	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	U	
NAPHTHALENE	0.54	U	U	
PHENANTHRENE	1.1	U	U	
PYRENE	0.54	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.56	U	U	
2-METHYLNAPHTHALENE	0.56	U	U	
ACENAPHTHENE	1.1	U	U	
ACENAPHTHYLENE	1.1	U	U	
ANTHRACENE	1.1	U	U	
BENZO(A)ANTHRACENE	0.11	U	U	
BENZO(A)PYRENE	0.11	U	U	
BENZO(B)FLUORANTHENE	0.11	U	U	
BENZO(G,H,I)PERYLENE	0.11	U	U	
BENZO(K)FLUORANTHENE	0.11	U	U	
CHRYSENE	1.1	U	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	U	
FLUORANTHENE	0.56	U	U	
FLUORENE	1.1	U	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	U	
NAPHTHALENE	2.1	J	J	P
PHENANTHRENE	1.1	U	U	
PYRENE	0.56	U	U	

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SDG: F17601 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-15I-11	nsample	CEF-B312-DU01-11
samp_date	4/30/2003	samp_date	4/30/2003
lab_id	F17601-11	lab_id	F17601-14
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	CEF-B312-01I-11

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.51	U	U	
2-METHYLNAPHTHALENE	0.51	U	U	
ACENAPHTHENE	1	U	U	
ACENAPHTHYLENE	1	U	U	
ANTHRACENE	1	U	U	
BENZO(A)ANTHRACENE	0.1	U	U	
BENZO(A)PYRENE	0.1	U	U	
BENZO(B)FLUORANTHENE	0.1	U	U	
BENZO(G,H,I)PERYLENE	0.1	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	1	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.51	U	U	
FLUORENE	1	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.51	U	U	
PHENANTHRENE	1	U	U	
PYRENE	0.51	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.52	U	U	
2-METHYLNAPHTHALENE	0.52	U	U	
ACENAPHTHENE	1	U	U	
ACENAPHTHYLENE	1	U	U	
ANTHRACENE	1	U	U	
BENZO(A)ANTHRACENE	0.1	U	U	
BENZO(A)PYRENE	0.1	U	U	
BENZO(B)FLUORANTHENE	0.1	U	U	
BENZO(G,H,I)PERYLENE	0.1	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	1	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.52	U	U	
FLUORENE	1	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.59	J	J	P
PHENANTHRENE	1	U	U	
PYRENE	0.52	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: PET

nsample	CEF-B312-01I-11
samp_date	4/30/2003
lab_id	F17601-3
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.17	U	U	

nsample	CEF-B312-06S-11
samp_date	5/1/2003
lab_id	F17601-21
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	2.82			

nsample	CEF-B312-12S-11
samp_date	4/30/2003
lab_id	F17601-1
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.19	U	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: PET

nsample	CEF-B312-DU01-11
samp_date	4/30/2003
lab_id	F17601-14
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	CEF-B312-01I-11

Parameter	Result	Lab Qual	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.18	U	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-11		
Lab Sample ID:	F17601-5	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021487.D	1	05/09/03	JG	n/a	n/a	VG749
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	1.9	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-11		
Lab Sample ID:	F17601-5	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		86-115%
17060-07-0	1,2-Dichloroethane-D4	121%		78-125%
2037-26-5	Toluene-D8	95%		87-113%
460-00-4	4-Bromofluorobenzene	99%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312LS-15A-11		
Lab Sample ID:	F17601-19	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021502.D	1	05/12/03	JG	n/a	n/a	VG750
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312LS-15A-11		
Lab Sample ID:	F17601-19	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		86-115%
17060-07-0	1,2-Dichloroethane-D4	119%		78-125%
2037-26-5	Toluene-D8	89%		87-113%
460-00-4	4-Bromofluorobenzene	103%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-11		
Lab Sample ID:	F17601-3	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021486.D	1	05/09/03	JG	n/a	n/a	VG749
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-01I-11		
Lab Sample ID:	F17601-3	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		86-115%
17060-07-0	1,2-Dichloroethane-D4	118%		78-125%
2037-26-5	Toluene-D8	91%		87-113%
460-00-4	4-Bromofluorobenzene	104%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-11		
Lab Sample ID:	F17601-15	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021509.D	2	05/12/03	JG	n/a	n/a	VG750
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	531	10	10	ug/l	
71-43-2	Benzene	ND	2.0	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	2.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	10.3	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.80	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.60	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.60	ug/l	
100-41-4	Ethylbenzene	2.2	2.0	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
108-10-1	4-Methyl-2-pentanone	57.4	10	5.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	2.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.60	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	1.0	ug/l	
108-88-3	Toluene	4.8	2.0	1.0	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-01S-11		
Lab Sample ID:	F17601-15	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	1.0	ug/l	
1330-20-7	Xylene (total)	12.6	6.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		86-115%
17060-07-0	1,2-Dichloroethane-D4	120%		78-125%
2037-26-5	Toluene-D8	93%		87-113%
460-00-4	4-Bromofluorobenzene	99%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-11		
Lab Sample ID:	F17601-21	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021507.D	1	05/12/03	JG	n/a	n/a	VG750
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	1.0	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.53	1.0	0.50	ug/l	J
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-06S-11		
Lab Sample ID:	F17601-21	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		86-115%
17060-07-0	1,2-Dichloroethane-D4	119%		78-125%
2037-26-5	Toluene-D8	90%		87-113%
460-00-4	4-Bromofluorobenzene	101%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-11		
Lab Sample ID:	F17601-17	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021508.D	1	05/12/03	JG	n/a	n/a	VG750
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-07S-11		
Lab Sample ID:	F17601-17	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		86-115%
17060-07-0	1,2-Dichloroethane-D4	114%		78-125%
2037-26-5	Toluene-D8	88%		87-113%
460-00-4	4-Bromofluorobenzene	104%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-11		
Lab Sample ID:	F17601-9	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021500.D	1	05/12/03	JG	n/a	n/a	VG750
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	19.6	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	4.0	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	14.5	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	1.1	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-08S-11		
Lab Sample ID:	F17601-9	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	20.5	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		86-115%
17060-07-0	1,2-Dichloroethane-D4	122%		78-125%
2037-26-5	Toluene-D8	90%		87-113%
460-00-4	4-Bromofluorobenzene	102%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-11		
Lab Sample ID:	F17601-7	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021488.D	1	05/09/03	JG	n/a	n/a	VG749
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-09S-11		
Lab Sample ID:	F17601-7	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		86-115%
17060-07-0	1,2-Dichloroethane-D4	121%		78-125%
2037-26-5	Toluene-D8	90%		87-113%
460-00-4	4-Bromofluorobenzene	103%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-11		
Lab Sample ID:	F17601-1	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021485.D	1	05/09/03	JG	n/a	n/a	VG749
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	3.0	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	3.8	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	1.6	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-12S-11		
Lab Sample ID:	F17601-1	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	1.6	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		86-115%
17060-07-0	1,2-Dichloroethane-D4	118%		78-125%
2037-26-5	Toluene-D8	91%		87-113%
460-00-4	4-Bromofluorobenzene	101%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-11		
Lab Sample ID:	F17601-11	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021490.D	1	05/09/03	JG	n/a	n/a	VG749
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-15I-11		
Lab Sample ID:	F17601-11	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		86-115%
17060-07-0	1,2-Dichloroethane-D4	116%		78-125%
2037-26-5	Toluene-D8	89%		87-113%
460-00-4	4-Bromofluorobenzene	105%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-11		
Lab Sample ID:	F17601-14	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0021491.D	1	05/09/03	JG	n/a	n/a	VG749
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-DU01-11		
Lab Sample ID:	F17601-14	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		86-115%
17060-07-0	1,2-Dichloroethane-D4	118%		78-125%
2037-26-5	Toluene-D8	92%		87-113%
460-00-4	4-Bromofluorobenzene	104%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-11		
Lab Sample ID:	F17601-5	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010749.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	299	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312LS-15A-11		
Lab Sample ID:	F17601-19	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010758.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-11		
Lab Sample ID:	F17601-3	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010748.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.46	0.50	0.30	ug/l	J
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-01S-11		
Lab Sample ID:	F17601-15	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010756.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2	XY010761.D	5	05/07/03	CV	n/a	n/a	GXY265

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	2920 [a]	2.5	1.5	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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-B312-06S-11		
Lab Sample ID:	F17601-21	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010759.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	801	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-11		
Lab Sample ID:	F17601-17	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010757.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	250	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-11		
Lab Sample ID:	F17601-9	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010752.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	390	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-11		
Lab Sample ID:	F17601-7	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010751.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	3.74	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-11		
Lab Sample ID:	F17601-1	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010747.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	35.6	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-11		
Lab Sample ID:	F17601-11	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010753.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	2.33	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-11		
Lab Sample ID:	F17601-14	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY010755.D	1	05/07/03	CV	n/a	n/a	GXY265
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.43	0.50	0.30	ug/l	J
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	0.91	1.0	0.80	ug/l	J

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-11		
Lab Sample ID:	F17601-5	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE014993.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	4.3	ug/l	
208-96-8	Acenaphthylene	ND	4.3	4.3	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	27.5	2.1	0.53	ug/l	
90-12-0	1-Methylnaphthalene	0.90	2.1	0.53	ug/l	J
91-57-6	2-Methylnaphthalene	0.58	2.1	0.53	ug/l	J
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	107%		32-142%
92-94-4	p-Terphenyl	92%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312LS-15A-11		
Lab Sample ID:	F17601-19	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE015005.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.4	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.4	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.55	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.55	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.55	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.55	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.55	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	87%		32-142%
92-94-4	p-Terphenyl	100%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-11		
Lab Sample ID:	F17601-3	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE014992.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	83%		32-142%
92-94-4	p-Terphenyl	94%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-11		
Lab Sample ID:	F17601-15	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE015003.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2 [a]	EE015018.D	20	05/08/03	SM	05/06/03	OP7518	GEE643

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2	980 ml	1.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND [b]	82	20	ug/l	
208-96-8	Acenaphthylene	ND [b]	82	20	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND [b]	41	20	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND [b]	41	20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	480 [b]	41	10	ug/l	
90-12-0	1-Methylnaphthalene	22.7	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	26.0	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	104%	0% [c]	32-142%
92-94-4	p-Terphenyl	86%	0% [c]	30-128%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Result is from Run# 2
(c) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-11		
Lab Sample ID:	F17601-21	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE015007.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2 [a]	EE015019.D	4	05/08/03	SM	05/06/03	OP7518	GEE643

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND [b]	17	4.2	ug/l	
208-96-8	Acenaphthylene	ND [b]	17	4.2	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND [b]	8.3	4.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND [b]	8.3	4.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	59.4 [b]	8.3	2.1	ug/l	
90-12-0	1-Methylnaphthalene	5.8	2.1	0.52	ug/l	
91-57-6	2-Methylnaphthalene	3.9	2.1	0.52	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	97%	101%	32-142%
92-94-4	p-Terphenyl	74%	76%	30-128%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-11		
Lab Sample ID:	F17601-17	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE015004.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.50	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		32-142%
92-94-4	p-Terphenyl	87%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-11		
Lab Sample ID:	F17601-9	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE014995.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2 [a]	EE015016.D	4	05/08/03	SM	05/06/03	OP7518	GEE643

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene [b]	ND [c]	48	48	ug/l	
208-96-8	Acenaphthylene	ND [c]	16	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND [c]	8.0	4.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	65.3 [c]	8.0	2.0	ug/l	
90-12-0	1-Methylnaphthalene	6.8	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	6.8	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%	99%	32-142%
92-94-4	p-Terphenyl	100%	103%	30-128%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Elevated reporting limits due to matrix interference.
(c) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-11		
Lab Sample ID:	F17601-7	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE014994.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	87%		32-142%
92-94-4	p-Terphenyl	102%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-11		
Lab Sample ID:	F17601-1	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE014991.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.4	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.4	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.56	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	2.1	2.2	0.56	ug/l	J
90-12-0	1-Methylnaphthalene	ND	2.2	0.56	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.56	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.56	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	81%		32-142%
92-94-4	p-Terphenyl	95%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-11		
Lab Sample ID:	F17601-11	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE014996.D	1	05/07/03	SM	05/06/03	OP7518	GEE642
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		32-142%
92-94-4	p-Terphenyl	93%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-11		
Lab Sample ID:	F17601-14	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE015017.D	1	05/08/03	SM	05/06/03	OP7518	GEE643
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.1	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	0.59	2.1	0.52	ug/l	J
90-12-0	1-Methylnaphthalene	ND	2.1	0.52	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.52	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	88%		32-142%
92-94-4	p-Terphenyl	98%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-11		
Lab Sample ID:	F17601-3	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP29231.D	1	05/12/03	SM	05/07/03	OP7526	GOP988
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%		51-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-11		
Lab Sample ID:	F17601-21	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP29234.D	4	05/13/03	SM	05/07/03	OP7526	GOP988
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	2.82	1.0	0.71	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		51-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-11		
Lab Sample ID:	F17601-1	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP29230.D	1	05/12/03	SM	05/07/03	OP7526	GOP988
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.27	0.19	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	70%		51-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-11		
Lab Sample ID:	F17601-14	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP29233.D	1	05/13/03	SM	05/07/03	OP7526	GOP988
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.26	0.18	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	95%		51-125%

ND = Not detected MDL - Method Detection Limit
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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**JUNE 18, 2003**
FROM:	**ETHAN G. LEE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – IRON AND MISCELLANEOUS PARAMETERS**
NAS CECIL FIELD – CTO 161
SAMPLE DELIVERY GROUP (SDG) – F17601

SAMPLES: 11/AQUEOUS/

CEF-312-01-11	CEF-B312-01I-11	CEF-B312-01S-11
CEF-B312-06S-11	CEF-B312-07S-11	CEF-B312-08S-11
CEF-B312-09S-11	CEF-B312-12S-11	CEF-B312-15I-11
CEF-B312-DU01-11	CEF-312LS-1SA-11	

Overview

The sample set for NAS Cecil Field, CTO 161, SDG F17601, consists of eleven (11) aqueous environmental samples. One (1) field duplicate pair (CEF-B312-DU01-11 / CEF-B312-01I-11) is included in this SDG.

All samples were analyzed for dissolved iron, alkalinity, chloride, nitrate, nitrite, orthophosphate, sulfate, and total organic carbon (TOC), and dissolved sulfide. Samples analyzed for dissolved iron and sulfide were appended with the suffix "-F". The samples were collected by Tetra Tech NUS April 30 to May 1, 2003 and analyzed by Accutest Laboratories Southeast, Inc. Iron analyses were conducted using SW846 method 6010B. Alkalinity analyses were conducted using EPA method 310.1. Chloride, nitrate, nitrite, and sulfate analyses were conducted using EPA method 300. Orthophosphate analyses were conducted using EPA method 365.3. TOC analyses were conducted using EPA method 415.1. Dissolved sulfide analyses were conducted using EPA method 376.1.

Iron analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
• Field Duplicate Results
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Iron	70.1 ug/L	350.5 ug/L

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the action level for iron were qualified as nondetected (U) as a result of laboratory blank contamination.

Field Duplicate Results

Field duplicate imprecision (RPD >30%) was noted for alkalinity for field duplicate pair CEF-B312-DU01-11 / CEF-B312-01I-11. Positive results reported for alkalinity were qualified as estimated (J).

Notes

Sample CEF-312-01-11 was reported incorrectly by the laboratory as CEF-B312-01-11. The data reviewer amended the database for this sample.

Sample CEF-312LS-1SA-11 was reported incorrectly by the laboratory as CEF-B312LS-15A-11. The data reviewer amended the database for this sample.

Several sample IDs were reported by the laboratory as CEF-B312-DU01-11. This error was corrected and Sue Bell submitted the corrected Form 1s.

A dilution was performed for nitrate for sample CEF-B312-09S-11.

Executive Summary

Laboratory Performance: Iron was present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: Alkalinity was qualified due to field duplicate imprecision.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", July 2002 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Ethan G. Lee
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-312-01-11-F	nsample	CEF-312LS-1SA-11-F	nsample	CEF-B312-01I-11-F
samp_date	4/30/2003	samp_date	5/1/2003	samp_date	4/30/2003
lab_id	F17601-6	lab_id	F17601-20	lab_id	F17601-4
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	9020		

Parameter	Result	Val Qual	Qual Code
IRON	45.0	U	A

Parameter	Result	Val Qual	Qual Code
IRON	7.1	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-01S-11-F
samp_date	5/1/2003
lab_id	F17601-16
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	13200		

nsample	CEF-B312-06S-11-F
samp_date	5/1/2003
lab_id	F17601-22
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	7870		

nsample	CEF-B312-07S-11-F
samp_date	5/1/2003
lab_id	F17601-18
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	3250		

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-08S-11-F
samp_date	4/30/2003
lab_id	F17601-10
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	2190		

nsample	CEF-B312-09S-11-F
samp_date	4/30/2003
lab_id	F17601-8
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	109	U	A

nsample	CEF-B312-12S-11-F
samp_date	4/30/2003
lab_id	F17601-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	990		

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-15I-11-F	nsample	CEF-B312-DU01-11-F
samp_date	4/30/2003	samp_date	4/30/2003
lab_id	F17601-12	lab_id	F17601-13
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	CEF-B312-01I-11-F

Parameter	Result	Val Qual	Qual Code
IRON	67.9	U	A

Parameter	Result	Val Qual	Qual Code
IRON	8.8	U	A

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-312-01-11
samp_date	4/30/2003
lab_id	F17601-5
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	115	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.11		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	16.5		

nsample	CEF-312-01-11-F
samp_date	4/30/2003
lab_id	F17601-6
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-312LS-1SA-11
samp_date	5/1/2003
lab_id	F17601-19
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	97.5	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.28		
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.11		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	6.2		

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-312LS-1SA-11-F
samp_date	5/1/2003
lab_id	F17601-20
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-01I-11
samp_date	4/30/2003
lab_id	F17601-3
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	254	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1		
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.22		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	2.2		

nsample	CEF-B312-01I-11-F
samp_date	4/30/2003
lab_id	F17601-4
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-01S-11
samp_date	5/1/2003
lab_id	F17601-15
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	262	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.14		
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	43.8		

nsample	CEF-B312-01S-11-F
samp_date	5/1/2003
lab_id	F17601-16
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-06S-11
samp_date	5/1/2003
lab_id	F17601-21
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	132	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	23.2		

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-06S-11-F
samp_date	5/1/2003
lab_id	F17601-22
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.5		

nsample	CEF-B312-07S-11
samp_date	5/1/2003
lab_id	F17601-17
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	122	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.45		
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.12		
SULFATE	MG/L	21.4		
TOTAL ORGANIC CARBON	MG/L	9		

nsample	CEF-B312-07S-11-F
samp_date	5/1/2003
lab_id	F17601-18
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-08S-11
samp_date	4/30/2003
lab_id	F17601-9
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	143	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	1		
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	8.9		

nsample	CEF-B312-08S-11-F
samp_date	4/30/2003
lab_id	F17601-10
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-09S-11
samp_date	4/30/2003
lab_id	F17601-7
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	11	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	15.9		
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.15		
SULFATE	MG/L	27.2		
TOTAL ORGANIC CARBON	MG/L	3.2		

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-09S-11-F
samp_date	4/30/2003
lab_id	F17601-8
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-12S-11
samp_date	4/30/2003
lab_id	F17601-1
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	265	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.19		
SULFATE	MG/L	21.6		
TOTAL ORGANIC CARBON	MG/L	3.8		

nsample	CEF-B312-12S-11-F
samp_date	4/30/2003
lab_id	F17601-2
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-15I-11
samp_date	4/30/2003
lab_id	F17601-11
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	11	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	2.1		

nsample	CEF-B312-15I-11-F
samp_date	4/30/2003
lab_id	F17601-12
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-DU01-11
samp_date	4/30/2003
lab_id	F17601-14
qc_type	NM
Pct_Solids	0
DUP_OF:	CEF-B312-01I-11

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	153	J	G
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.11		
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.33		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	2		

PROJ_NO: 3965

SDG: F17601 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-DU01-11-F
samp_date	4/30/2003
lab_id	F17601-13
qc_type	NM
Pct_Solids	0
DUP_OF:	CEF-B312-01I-11-F

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-11F		
Lab Sample ID:	F17601-6	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	9020	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312LS-15A-11F		
Lab Sample ID:	F17601-20	Date Sampled:	05/01/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	45.0 B	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-11F		
Lab Sample ID:	F17601-4	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	7.1 U	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-11F		
Lab Sample ID:	F17601-16	Date Sampled:	05/01/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	13200	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-11F		
Lab Sample ID:	F17601-22	Date Sampled:	05/01/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	7870	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-11F		
Lab Sample ID:	F17601-18	Date Sampled:	05/01/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	3250	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-11F		
Lab Sample ID:	F17601-10	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	2190	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-11F		
Lab Sample ID:	F17601-8	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	109 B	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-11F		
Lab Sample ID:	F17601-2	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	990	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-11F		
Lab Sample ID:	F17601-12	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	67.9 B	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-11F		
Lab Sample ID:	F17601-13	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	8.8 B	300	7.1	ug/l	1	05/07/03	05/08/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-11		
Lab Sample ID:	F17601-5	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	115	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 11:23	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/02/03 11:23	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 11:23	LL	EPA 300/SW846 9056
Phosphate, Ortho	0.11	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	< 20	20	mg/l	1	05/02/03 11:23	LL	EPA 300/SW846 9056
Total Organic Carbon	16.5	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-11F		
Lab Sample ID:	F17601-6	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312LS-15A-11		
Lab Sample ID:	F17601-19	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	97.5	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 14:48	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.28	0.10	mg/l	1	05/02/03 14:48	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 14:48	LL	EPA 300/SW846 9056
Phosphate, Ortho	0.11	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	< 20	20	mg/l	1	05/02/03 14:48	LL	EPA 300/SW846 9056
Total Organic Carbon	6.2	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-~~B~~312LS-1~~6~~A-11F		
Lab Sample ID:	F17601-20	Date Sampled:	05/01/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-11		
Lab Sample ID:	F17601-3	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	254	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 11:07	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.10	0.10	mg/l	1	05/02/03 11:07	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 11:07	LL	EPA 300/SW846 9056
Phosphate, Ortho	0.22	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	< 20	20	mg/l	1	05/02/03 11:07	LL	EPA 300/SW846 9056
Total Organic Carbon	2.2	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-11F		
Lab Sample ID:	F17601-4	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-11		
Lab Sample ID:	F17601-15	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	262	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 13:14	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.14	0.10	mg/l	1	05/02/03 13:14	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 13:14	LL	EPA 300/SW846 9056
Phosphate, Ortho	< 0.10	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	< 20	20	mg/l	1	05/02/03 13:14	LL	EPA 300/SW846 9056
Total Organic Carbon	43.8	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-11F		
Lab Sample ID:	F17601-16	Date Sampled:	05/01/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-11		
Lab Sample ID:	F17601-21	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	132	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 15:03	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/02/03 15:03	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 15:03	LL	EPA 300/SW846 9056
Phosphate, Ortho	< 0.10	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	< 20	20	mg/l	1	05/02/03 15:03	LL	EPA 300/SW846 9056
Total Organic Carbon	23.2	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-11F		
Lab Sample ID:	F17601-22	Date Sampled:	05/01/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	1.5	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CEF-B312-07S-11		
Lab Sample ID:	F17601-17	Date Sampled:	05/01/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	122	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 13:30	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.45	0.10	mg/l	1	05/02/03 13:30	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 13:30	LL	EPA 300/SW846 9056
Phosphate, Ortho	0.12	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	21.4	20	mg/l	1	05/02/03 13:30	LL	EPA 300/SW846 9056
Total Organic Carbon	9.0	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-11F		
Lab Sample ID:	F17601-18	Date Sampled:	05/01/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-11		
Lab Sample ID:	F17601-9	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	143	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 11:55	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	1.0	0.10	mg/l	1	05/02/03 11:55	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 11:55	LL	EPA 300/SW846 9056
Phosphate, Ortho	< 0.10	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	< 20	20	mg/l	1	05/02/03 11:55	LL	EPA 300/SW846 9056
Total Organic Carbon	8.9	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-11F		
Lab Sample ID:	F17601-10	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-11		
Lab Sample ID:	F17601-7	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	11.0	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 11:39	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	15.9	1.0	mg/l	10	05/02/03 16:38	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 11:39	LL	EPA 300/SW846 9056
Phosphate, Ortho	0.15	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	27.2	20	mg/l	1	05/02/03 11:39	LL	EPA 300/SW846 9056
Total Organic Carbon	3.2	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-11F		
Lab Sample ID:	F17601-8	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-11		
Lab Sample ID:	F17601-1	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	265	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 10:51	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/02/03 10:51	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 10:51	LL	EPA 300/SW846 9056
Phosphate, Ortho	0.19	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	21.6	20	mg/l	1	05/02/03 10:51	LL	EPA 300/SW846 9056
Total Organic Carbon	3.8	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-11F		
Lab Sample ID:	F17601-2	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-11		
Lab Sample ID:	F17601-11	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	11.0	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 12:11	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/02/03 12:11	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 12:11	LL	EPA 300/SW846 9056
Phosphate, Ortho	< 0.10	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	< 20	20	mg/l	1	05/02/03 12:11	LL	EPA 300/SW846 9056
Total Organic Carbon	2.1	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-11F		
Lab Sample ID:	F17601-12	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-11		
Lab Sample ID:	F17601-14	Date Sampled:	04/30/03
Matrix:	AQ - Ground Water	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	153	5.0	mg/l	1	05/05/03	LL	EPA 310.1
Chloride	< 20	20	mg/l	1	05/02/03 12:27	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.11	0.10	mg/l	1	05/02/03 12:27	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	05/02/03 12:27	LL	EPA 300/SW846 9056
Phosphate, Ortho	0.33	0.10	mg/l	1	05/02/03 13:00	LL	EPA 365.3
Sulfate	< 20	20	mg/l	1	05/02/03 12:27	LL	EPA 300/SW846 9056
Total Organic Carbon	2.0	1.0	mg/l	1	05/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-11F		
Lab Sample ID:	F17601-13	Date Sampled:	04/30/03
Matrix:	AQ - Groundwater Filtered	Date Received:	05/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	< 1.0	1.0	mg/l	1	05/05/03	LL	EPA 376.1

RL = Reporting Limit

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**SEPTEMBER 21, 2003**
FROM:	**BERNARD F SPADA III**	**COPIES:**	**DV FILE**
SUBJECT:	**ORGANIC DATA VALIDATION- VOC/OVG/PAH/TPH CTO 161, NAS CECIL FIELD SDG F18839**		
SAMPLES:	3/Aqueous		

CEF-B312-08S-12 CEF-B312-12S-12 CEF-B312-15I-12

OVERVIEW

The sample set for CTO 161, NAS Cecil Field, SDG F18839 consists of three (3) environmental aqueous samples. The samples were analyzed for volatile organic compounds (VOC), methane, ethane, and ethene organic volatile gases (OVG), and polynuclear aromatic hydrocarbons (PAH).

The samples were collected by TetraTech NUS on July 31, 2003 and analyzed by Accutest Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8260B and 8310 and RSK-147/175 analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- Data completeness
- * Holding times
- * Initial and continuing calibration
- Laboratory method and field quality control blank results
- * Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

Volatiles

The following compound was detected in the method blank:

Compound	Maximum Concentration	Blank Action Level
Methylene Chloride	1.8 µg/L	18 µg/L

Sample aliquot and dilution factors were taken into consideration when applying the blank action levels. No qualifications were made on this basis because all results for methylene chloride were non-detected.

OVG

The result for methane in the EDD for sample CEF-B312-08S-12 did not match the Form I. The result from the Form I was entered into the database and used for validation. No qualifications were made on this basis.

PAH

No qualifications were assigned to this fraction.

Additional comments

Positive results below the reporting limit were qualified as estimated (J) due to uncertainty near the detection limit.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Methylene chloride was detected in the method blank.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the NFESC guidelines (September, 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Bernard F Spada III
Chemist/Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F18839 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-08S-12
samp_date	7/31/2003
lab_id	F18839-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	5.9		
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	3.4		
1,1-DICHLOROETHENE	0.94	J	P
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	5.6		
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	1		
TOTAL XYLENES	32.6		

nsample	CEF-B312-08S-12
samp_date	7/31/2003
lab_id	F18839-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-12S-12
samp_date	7/31/2003
lab_id	F18839-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

PROJ_NO: 3965

SDG: F18839 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-12S-12
samp_date	7/31/2003
lab_id	F18839-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-15I-12
samp_date	7/31/2003
lab_id	F18839-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	CEF-B312-15I-12
samp_date	7/31/2003
lab_id	F18839-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F18839 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-08S-12
samp_date	7/31/2003
lab_id	F18839-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	1210		

nsample	CEF-B312-12S-12
samp_date	7/31/2003
lab_id	F18839-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	34.6		

nsample	CEF-B312-15I-12
samp_date	7/31/2003
lab_id	F18839-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	3.95		

PROJ_NO: 3965

SDG: F18839 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-08S-12	nsample	CEF-B312-12S-12	nsample	CEF-B312-15I-12
samp_date	7/31/2003	samp_date	7/31/2003	samp_date	7/31/2003
lab_id	F18839-3	lab_id	F18839-5	lab_id	F18839-1
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	11.9		
2-METHYLNAPHTHALENE	13.9		
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.53	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	125		
PHENANTHRENE	1.1	U	
PYRENE	0.53	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.5	U	
2-METHYLNAPHTHALENE	0.5	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.5	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.5	U	
PHENANTHRENE	1	U	
PYRENE	0.5	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.52	U	
2-METHYLNAPHTHALENE	0.52	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.52	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.52	U	
PHENANTHRENE	1	U	
PYRENE	0.52	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-12		
Lab Sample ID:	F18839-3	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B016893.D	1	08/07/03	KW	n/a	n/a	VB748
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	3.4	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.94	1.0	0.50	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	5.6	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	5.9	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	1.0	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-12		
Lab Sample ID:	F18839-3	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	32.6	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		86-115%
17060-07-0	1,2-Dichloroethane-D4	104%		78-125%
2037-26-5	Toluene-D8	101%		87-113%
460-00-4	4-Bromofluorobenzene	102%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-12		
Lab Sample ID:	F18839-5	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B016875.D	1	08/06/03	KW	n/a	n/a	VB747
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-12		
Lab Sample ID:	F18839-5	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		86-115%
17060-07-0	1,2-Dichloroethane-D4	107%		78-125%
2037-26-5	Toluene-D8	99%		87-113%
460-00-4	4-Bromofluorobenzene	112%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-12		
Lab Sample ID:	F18839-1	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B016874.D	1	08/06/03	KW	n/a	n/a	VB747
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-12		
Lab Sample ID:	F18839-1	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		86-115%
17060-07-0	1,2-Dichloroethane-D4	109%		78-125%
2037-26-5	Toluene-D8	98%		87-113%
460-00-4	4-Bromofluorobenzene	112%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-12		
Lab Sample ID:	F18839-3	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011195.D	1	08/05/03	CV	n/a	n/a	GXY292
Run #2	XY011247.D	2	08/07/03	CV	n/a	n/a	GXY294

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1210 [a]	1.0	0.60	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-12		
Lab Sample ID:	F18839-5	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011196.D	1	08/05/03	CV	n/a	n/a	GXY292
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	34.6	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-12		
Lab Sample ID:	F18839-1	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011194.D	1	08/05/03	CV	n/a	n/a	GXY292
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	3.95	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-12		
Lab Sample ID:	F18839-3	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA016823.D	1	08/04/03	MRE	08/02/03	OP8121	GAA804
Run #2 [a]	EE017072.D	5	08/05/03	MRE	08/02/03	OP8121	GEE717

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2	950 ml	1.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	125 [b]	11	2.6	ug/l	
90-12-0	1-Methylnaphthalene	11.9	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	13.9	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%	105%	32-142%
92-94-4	p-Terphenyl	70%	79%	30-128%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-12		
Lab Sample ID:	F18839-5	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA016824.D	1	08/04/03	MRE	08/02/03	OP8121	GAA804
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.50	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	77%		32-142%
92-94-4	p-Terphenyl	79%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-12		
Lab Sample ID:	F18839-1	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA016822.D	1	08/04/03	MRE	08/02/03	OP8121	GAA804
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	ND	2.1	0.52	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.52	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.52	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	78%		32-142%
92-94-4	p-Terphenyl	72%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**SEPTEMBER 22, 2003**
FROM:	**BERNARD F SPADA III**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION- METALS/MISCELLANEOUS PARAMETERS**
CTO 161, NAS CECIL FIELD
SDG F18839

SAMPLES: 3/Aqueous

CEF-B312-08S-12 CEF-B312-12S-12 CEF-B312-15I-12

OVERVIEW

The sample set for CTO 161, NAS Cecil Field, SDG F18839 consists of three (3) environmental aqueous samples. The samples were analyzed for dissolved iron, alkalinity, chloride, nitrate, nitrite, orthophosphate, sulfate, sulfide, and total organic carbon (TOC). Alkalinity was analyzed by EPA Method 310.1. Chloride, nitrate, nitrite, and sulfate were analyzed by EPA Method 300.0. Orthophosphate was analyzed by EPA Method 365.3. TOC was analyzed by EPA Method 415.1. Sulfide was analyzed by EPA Method 376.1. The samples analyzed for dissolved iron were designated with an "-F" suffix.

The samples were collected by TetraTech NUS on July 31, 2003 and analyzed by Accutest Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Method 6010B, EPA Methods 310.1, 300.0, 365.3, 376.1, and 415.1 analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- Data completeness
- * Holding times
- * Initial and continuing calibration
- Laboratory method and field quality control blank results
- * Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

Metals

The following contaminant was detected in the laboratory continuing calibration blanks (CCB) at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Iron	14.6 µg/L	73 µg/L

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. The positive result less than the action level for iron was qualified "U" as a result of blank contamination.

Miscellaneous

No qualifications were assigned to this fraction.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Iron was detected in the laboratory blanks.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the NFESC guidelines (September, 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Bernard F Spada III

Tetra Tech NUS
Bernard F Spada III
Chemist/Data Validator

TetraTech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F18839 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-08S-12F
samp_date	7/31/2003
lab_id	F18839-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	2830		

nsample	CEF-B312-12S-12F
samp_date	7/31/2003
lab_id	F18839-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	1030		

nsample	CEF-B312-15I-12F
samp_date	7/31/2003
lab_id	F18839-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	55.3	U	A

PROJ_NO: 3965

SDG: F18839 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-08S-12
samp_date	7/31/2003
lab_id	F18839-3
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	139		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.62		
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	10.8		

nsample	CEF-B312-08S-12F
samp_date	7/31/2003
lab_id	F18839-4
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-12S-12
samp_date	7/31/2003
lab_id	F18839-5
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	26		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.1	U	
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	1.8		

PROJ_NO: 3965

SDG: F18839 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-12S-12F
samp_date	7/31/2003
lab_id	F18839-6
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-15I-12
samp_date	7/31/2003
lab_id	F18839-1
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	11.5		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.1	U	
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	1.1		

nsample	CEF-B312-15I-12F
samp_date	7/31/2003
lab_id	F18839-2
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-12F		
Lab Sample ID:	F18839-4	**Date Sampled:**	07/31/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	07/31/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	2830	300	7.1	ug/l	1	08/04/03	08/05/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-12F		
Lab Sample ID:	F18839-6	**Date Sampled:**	07/31/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	07/31/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	1030	300	7.1	ug/l	1	08/04/03	08/05/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-12F		
Lab Sample ID:	F18839-2	**Date Sampled:**	07/31/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	07/31/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	55.3 B	300	7.1	ug/l	1	08/04/03	08/05/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-12		
Lab Sample ID:	F18839-3	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	139	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/01/03 15:07	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.62	0.10	mg/l	1	08/01/03 15:07	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/01/03 15:07	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/01/03 11:30	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/01/03 15:07	LL	EPA 300/SW846 9056
Total Organic Carbon	10.8	1.0	mg/l	1	08/13/03	LL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-12F		
Lab Sample ID:	F18839-4	**Date Sampled:**	07/31/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	07/31/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/04/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-12		
Lab Sample ID:	F18839-5	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	26.0	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/01/03 15:21	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	08/01/03 15:21	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/01/03 15:21	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/01/03 11:30	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/01/03 15:21	LL	EPA 300/SW846 9056
Total Organic Carbon	1.8	1.0	mg/l	1	08/13/03	LL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-12F		
Lab Sample ID:	F18839-6	**Date Sampled:**	07/31/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	07/31/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/04/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-12		
Lab Sample ID:	F18839-1	**Date Sampled:**	07/31/03
Matrix:	AQ - Ground Water	**Date Received:**	07/31/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	11.5	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/01/03 14:54	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	08/01/03 14:54	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/01/03 14:54	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/01/03 11:30	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/01/03 14:54	LL	EPA 300/SW846 9056
Total Organic Carbon	1.1	1.0	mg/l	1	08/13/03	LL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-12F		
Lab Sample ID:	F18839-2	**Date Sampled:**	07/31/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	07/31/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/04/03	LL	EPA 376.1

RL = Reporting Limit

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. SPERANZA** **DATE: SEPTEMBER 15, 2003**

FROM: **D. SCHLOER** **CC: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC / OVG / PAH / TPH**
CTO 161, NAS CECIL FIELD
SDG: F18870

SAMPLES: 3 / Aqueous / VOC / OVG / PAH / TRPH

CEF-B312-01I-12 CEF-B31206S-12 CEF-B312-11S-12

4 Aqueous / VOC / OVG / PAH

CEF-B312-01-12 CEF-B312-01SA-12 CEF-B312-07S-12
CEF-B312-09S-12

Overview

The sample set for CTO 161; NAS Cecil Filed; SDG F18870 consists of seven (7) aqueous environmental samples. As listed above; all samples were analyzed for Volatile Organic Compounds (VOCs), the dissolved gases: methane ethane and ethene (OVG), and Polynuclear Aromatic Hydrocarbons (PAHs). In addition to VOCs, OVG and PAHs, three samples were analyzed for Total Recoverable Petroleum Hydrocarbons (TRPH). No field duplicate pairs were included in this SDG.

The samples were collected by Tetra Tech NUS on August 1st, 2003 and analyzed by Accutest Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using U.S. EPA Test Methods for Evaluating Solid Waste (SW-846) Method 8260B, 8310, RSK SOP – 147/175, and Florida-Pro analytical and reporting protocol.

The data contained in this SDG were validated with regard to the following parameters:

- Data completeness
- * Holding times
- * Initial and continuing calibration
- * Blank results
- * Blank Spike/Blank Spike Duplicate Results
- * Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

VOC

No data quality issues were noted.

OVG

No data quality issues were noted.

PAH

No data quality issues were noted.

TRPH

No data quality issues were noted.

Additional Comments

No field quality control samples (i.e. trip blanks) accompanied the samples submitted for laboratory analysis.

Positively detected and nondetected organic compounds were reported to the method detection limits (MDLs); positive results greater than the MDL but less than the method Reporting Limit (RL) were qualified as estimated (J) due to uncertainty near the detection limit.

As indicated on the Chain of Custody (COC) documentation, additional aliquots of sample CEF-B312-01-12 were collected and submitted for Matrix Spike/Matrix Spike Duplicate analysis. However, the laboratory did not use the indicated sample for the VOC and OVG chemical fractions. The laboratory used another sample (not of interest) for MS/MSD analysis for the VOC fraction, and sample CEF-B312-01I-12 for the OVG fraction MS/MSD analysis. Nevertheless, all target compound recoveries were acceptable and no sample matrix effects were observed for the OVG and PAH fractions. Sample matrix effects could not be assessed for the VOC fraction.

EXECUTIVE SUMMARY

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the NFESC guidelines entitled "Navy IRCDQM" (September, 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Douglas Schloer
Chemist/Data Validator

Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-312-01-12
samp_date	8/1/2003
lab_id	F18870-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	1.6		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	CEF-312-01-12
samp_date	8/1/2003
lab_id	F18870-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-01I-12
samp_date	8/1/2003
lab_id	F18870-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-01I-12
samp_date	8/1/2003
lab_id	F18870-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-01SA-12
samp_date	8/1/2003
lab_id	F18870-13
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	CEF-B312-01SA-12
samp_date	8/1/2003
lab_id	F18870-13
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-06S-12
samp_date	8/1/2003
lab_id	F18870-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.94	J	P
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.58	J	P
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	CEF-B312-06S-12
samp_date	8/1/2003
lab_id	F18870-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-07S-12
samp_date	8/1/2003
lab_id	F18870-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-07S-12
samp_date	8/1/2003
lab_id	F18870-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-09S-12
samp_date	8/1/2003
lab_id	F18870-9
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	CEF-B312-09S-12
samp_date	8/1/2003
lab_id	F18870-9
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-11S-12	nsample	CEF-B312-11S-12
samp_date	8/1/2003	samp_date	8/1/2003
lab_id	F18870-11	lab_id	F18870-11
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	5.3		
1,1-DICHLOROETHENE	1.2		
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.53	J	P
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1.1	J	P

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	1.1		

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-312-01-12
samp_date	8/1/2003
lab_id	F18870-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	272		

nsample	CEF-B312-01I-12
samp_date	8/1/2003
lab_id	F18870-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	0.3	U	

nsample	CEF-B312-01SA-12
samp_date	8/1/2003
lab_id	F18870-13
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	0.3	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-06S-12
samp_date	8/1/2003
lab_id	F18870-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	1022		

nsample	CEF-B312-07S-12
samp_date	8/1/2003
lab_id	F18870-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	156		

nsample	CEF-B312-09S-12
samp_date	8/1/2003
lab_id	F18870-9
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	1.61		

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-11S-12
samp_date	8/1/2003
lab_id	F18870-11
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	922		

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-312-01-12	nsample	CEF-B312-01I-12	nsample	CEF-B312-01SA-12
samp_date	8/1/2003	samp_date	8/1/2003	samp_date	8/1/2003
lab_id	F18870-5	lab_id	F18870-7	lab_id	F18870-13
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.53	U	
2-METHYLNAPHTHALENE	0.53	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.53	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	7.7		
PHENANTHRENE	1.1	U	
PYRENE	0.53	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.52	U	
2-METHYLNAPHTHALENE	0.52	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.52	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.52	U	
PHENANTHRENE	1	U	
PYRENE	0.52	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.54	U	
2-METHYLNAPHTHALENE	0.54	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.54	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.54	U	
PHENANTHRENE	1.1	U	
PYRENE	0.54	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-06S-12	nsample	CEF-B312-07S-12	nsample	CEF-B312-09S-12
samp_date	8/1/2003	samp_date	8/1/2003	samp_date	8/1/2003
lab_id	F18870-1	lab_id	F18870-3	lab_id	F18870-9
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	4.5		
2-METHYLNAPHTHALENE	3.1		
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.54	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	39.6		
PHENANTHRENE	1.1	U	
PYRENE	0.54	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.53	U	
2-METHYLNAPHTHALENE	0.53	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.53	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.53	U	
PHENANTHRENE	1.1	U	
PYRENE	0.53	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.52	U	
2-METHYLNAPHTHALENE	0.52	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.52	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.52	U	
PHENANTHRENE	1	U	
PYRENE	0.52	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-11S-12
samp_date	8/1/2003
lab_id	F18870-11
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	3		
2-METHYLNAPHTHALENE	2.5		
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	21.8		
PHENANTHRENE	1	U	
PYRENE	0.51	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: PET

nsample	CEF-B312-01I-12
samp_date	8/1/2003
lab_id	F18870-7
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.18	U	

nsample	CEF-B312-06S-12
samp_date	8/1/2003
lab_id	F18870-1
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	2.26		

nsample	CEF-B312-11S-12
samp_date	8/1/2003
lab_id	F18870-11
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.56		

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-12		
Lab Sample ID:	F18870-5	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0023198.D	1	08/06/03	JG	n/a	n/a	VG823
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	1.6	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-12		
Lab Sample ID:	F18870-5	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	103%		78-125%
2037-26-5	Toluene-D8	99%		87-113%
460-00-4	4-Bromofluorobenzene	102%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-12		
Lab Sample ID:	F18870-7	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0023199.D	1	08/07/03	JG	n/a	n/a	VG823
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-12		
Lab Sample ID:	F18870-7	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	103%		78-125%
2037-26-5	Toluene-D8	99%		87-113%
460-00-4	4-Bromofluorobenzene	102%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01SA-12		
Lab Sample ID:	F18870-13	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0023202.D	1	08/07/03	JG	n/a	n/a	VG823
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01SA-12		
Lab Sample ID:	F18870-13	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		86-115%
17060-07-0	1,2-Dichloroethane-D4	102%		78-125%
2037-26-5	Toluene-D8	100%		87-113%
460-00-4	4-Bromofluorobenzene	96%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-12		
Lab Sample ID:	F18870-1	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0023196.D	1	08/06/03	JG	n/a	n/a	VG823
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.94	1.0	0.50	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.58	1.0	0.50	ug/l	J
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-12		
Lab Sample ID:	F18870-1	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	106%		78-125%
2037-26-5	Toluene-D8	98%		87-113%
460-00-4	4-Bromofluorobenzene	96%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-12		
Lab Sample ID:	F18870-3	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0023197.D	1	08/06/03	JG	n/a	n/a	VG823
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-12		
Lab Sample ID:	F18870-3	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		86-115%
17060-07-0	1,2-Dichloroethane-D4	104%		78-125%
2037-26-5	Toluene-D8	100%		87-113%
460-00-4	4-Bromofluorobenzene	95%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-12		
Lab Sample ID:	F18870-9	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0023200.D	1	08/07/03	JG	n/a	n/a	VG823
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-12		
Lab Sample ID:	F18870-9	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	103%		78-125%
2037-26-5	Toluene-D8	102%		87-113%
460-00-4	4-Bromofluorobenzene	101%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-12		
Lab Sample ID:	F18870-11	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0023201.D	1	08/07/03	JG	n/a	n/a	VG823
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	5.3	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	1.2	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.53	1.0	0.50	ug/l	J
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-11S-12		
Lab Sample ID:	F18870-11	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	1.1	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.1	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	101%		78-125%
2037-26-5	Toluene-D8	97%		87-113%
460-00-4	4-Bromofluorobenzene	98%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-12		
Lab Sample ID:	F18870-5	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011238.D	1	08/07/03	CV	n/a	n/a	GXY294
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	272	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-12		
Lab Sample ID:	F18870-7	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011240.D	1	08/07/03	CV	n/a	n/a	GXY294
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01SA-12		
Lab Sample ID:	F18870-13	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011245.D	1	08/07/03	CV	n/a	n/a	GXY294
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-12		
Lab Sample ID:	F18870-1	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011236.D	1	08/07/03	CV	n/a	n/a	GXY294
Run #2	XY011246.D	2	08/07/03	CV	n/a	n/a	GXY294

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1020 [a]	1.0	0.60	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-12		
Lab Sample ID:	F18870-3	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011237.D	1	08/07/03	CV	n/a	n/a	GXY294
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	156	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-12		
Lab Sample ID:	F18870-9	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011242.D	1	08/07/03	CV	n/a	n/a	GXY294
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1.61	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-12		
Lab Sample ID:	F18870-11	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011244.D	1	08/07/03	CV	n/a	n/a	GXY294
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	922	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-12		
Lab Sample ID:	F18870-5	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA016855.D	1	08/05/03	MRE	08/05/03	OP8145	GAA805
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	7.7	2.1	0.53	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	84%		32-142%
92-94-4	p-Terphenyl	66%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-12		
Lab Sample ID:	F18870-7	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA016860.D	1	08/05/03	MRE	08/05/03	OP8145	GAA805
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.1	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	ND	2.1	0.52	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.52	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.52	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	83%		32-142%
92-94-4	p-Terphenyl	85%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01SA-12		
Lab Sample ID:	F18870-13	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA016863.D	1	08/06/03	MRE	08/05/03	OP8145	GAA805
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	74%		32-142%
92-94-4	p-Terphenyl	69%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-12		
Lab Sample ID:	F18870-1	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA016853.D	1	08/05/03	MRE	08/05/03	OP8145	GAA805
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	39.6	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	4.5	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	3.1	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	94%		32-142%
92-94-4	p-Terphenyl	67%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-12		
Lab Sample ID:	F18870-3	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA016854.D	1	08/05/03	MRE	08/05/03	OP8145	GAA805
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	ND	2.1	0.53	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%		32-142%
92-94-4	p-Terphenyl	67%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-12		
Lab Sample ID:	F18870-9	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA016861.D	1	08/05/03	MRE	08/05/03	OP8145	GAA805
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	ND	2.1	0.52	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.52	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.52	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	76%		32-142%
92-94-4	p-Terphenyl	77%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-12		
Lab Sample ID:	F18870-11	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA016862.D	1	08/06/03	MRE	08/05/03	OP8145	GAA805
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	21.8	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	3.0	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	2.5	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		32-142%
92-94-4	p-Terphenyl	64%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-12		
Lab Sample ID:	F18870-7	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP31007.D	1	08/07/03	ME	08/05/03	OP8140	GOP1042
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.27	0.18	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	93%		51-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-12		
Lab Sample ID:	F18870-1	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP31006.D	1	08/07/03	ME	08/05/03	OP8140	GOP1042
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	2.26	0.28	0.19	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	100%		51-125%

ND = Not detected MDL - Method Detection Limit
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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**SEPTEMBER 10, 2003**
FROM:	**ERIN M. FAUST**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – DISSOLVED IRON AND MISCELLANEOUS PARAMETERS**
CTO-161 NAS CECIL FIELD
SAMPLE DELIVERY GROUP (SDG) – F18870

SAMPLES: 7/Groundwater/

CEF-312-01-12	CEF-B312-01I-12	CEF-B312-01SA-12
CEF-B312-06S-12	CEF-B312-07S-12	CEF-B312-09S-12
CEF-B312-11S-12		

Overview

The sample set for CTO 161, NAS Cecil Field, SDG F18870, consists of seven (7) groundwater environmental samples.

The samples were analyzed for alkalinity, chloride, nitrate, nitrite, orthophosphate, sulfate, total organic carbon (TOC) and dissolved iron and sulfide. The samples analyzed for dissolved iron and sulfide were distinguished by placing the letter "F" at the end of the sample name. The samples were collected by TetraTech NUS on August 1, 2003 and analyzed by Accutest Laboratories Southeast, Inc. under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Analyses for chloride, nitrate, nitrite, and sulfate were conducted using EPA method 300.0. Analyses for alkalinity, orthophosphate, TOC and dissolved sulfide were conducted using EPA methods 310.1, 365.3, 415.1 and 376.1, respectively. Dissolved iron analyses were conducted using SW-846 method 6010B.

These data were evaluated based on the following parameters:

* • Data Completeness
• Holding Times
* • Calibration Recoveries
* • Laboratory Blank Analyses
* • Detection Limits

* - All quality control criteria were met for this parameter.

Holding Times

The 48-hour holding time for nitrate was exceeded by 3 days for sample CEF-B312-09S-12. The positive result reported for nitrate in this sample was qualified as estimated, "J".

Notes

The database contains results reported as nitrate and nitrite; however, the laboratory reported results for Nitrate as Nitrogen and Nitrite as Nitrogen. The database contains results reported as orthophosphate; however, the laboratory reported results for Orthophosphate as Phosphorus.

Sample CEF-B312-09S-12 was diluted 10 times for nitrate.

Executive Summary

Laboratory Performance: The holding time was exceeded for nitrate in sample CEF-B312-09S-12.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Erin M Faust

Tetra Tech NUS
Erin M. Faust
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-312-01-12F
samp_date	8/1/2003
lab_id	F18870-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	7780		

nsample	CEF-B312-01I-12F
samp_date	8/1/2003
lab_id	F18870-8
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	7.1	U	

nsample	CEF-B312-01SA-12F
samp_date	8/1/2003
lab_id	F18870-14
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	7.1	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-06S-12F	nsample	CEF-B312-07S-12F	nsample	CEF-B312-09S-12F
samp_date	8/1/2003	samp_date	8/1/2003	samp_date	8/1/2003
lab_id	F18870-2	lab_id	F18870-4	lab_id	F18870-10
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	7450		

Parameter	Result	Val Qual	Qual Code
IRON	2230		

Parameter	Result	Val Qual	Qual Code
IRON	7.1	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-11S-12F
samp_date	8/1/2003
lab_id	F18870-12
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	3680		

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-312-01-12	nsample	CEF-312-01-12F	nsample	CEF-B312-01I-12
samp_date	8/1/2003	samp_date	8/1/2003	samp_date	8/1/2003
lab_id	F18870-5	lab_id	F18870-6	lab_id	F18870-7
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	98		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.1	U	
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	12.5		

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	158		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.11		
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.13		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	1.4		

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-01I-12F
samp_date	8/1/2003
lab_id	F18870-8
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-01SA-12
samp_date	8/1/2003
lab_id	F18870-13
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	95		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.5		
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	5.6		

nsample	CEF-B312-01SA-12F
samp_date	8/1/2003
lab_id	F18870-14
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-06S-12	nsample	CEF-B312-06S-12F	nsample	CEF-B312-07S-12
samp_date	8/1/2003	samp_date	8/1/2003	samp_date	8/1/2003
lab_id	F18870-1	lab_id	F18870-2	lab_id	F18870-3
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	190		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.1	U	
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.3		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	23.6		

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.5		

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	170		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.61		
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	10		

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-07S-12F
samp_date	8/1/2003
lab_id	F18870-4
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-09S-12
samp_date	8/1/2003
lab_id	F18870-9
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	10		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	14.6	J	H
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	24.2		
TOTAL ORGANIC CARBON	MG/L	1.8		

nsample	CEF-B312-09S-12F
samp_date	8/1/2003
lab_id	F18870-10
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

PROJ_NO: 3965

SDG: F18870 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-11S-12	nsample	CEF-B312-11S-12F
samp_date	8/1/2003	samp_date	8/1/2003
lab_id	F18870-11	lab_id	F18870-12
qc_type	NM	qc_type	NM
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	156		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.1		
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	22.5		

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-12F		
Lab Sample ID:	F18870-6	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	7780	300	7.1	ug/l	1	08/12/03	08/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-12F		
Lab Sample ID:	F18870-8	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	7.1 U	300	7.1	ug/l	1	08/12/03	08/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01SA-12F		
Lab Sample ID:	F18870-14	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	7.1 U	300	7.1	ug/l	1	08/12/03	08/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-12F		
Lab Sample ID:	F18870-2	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	7450	300	7.1	ug/l	1	08/12/03	08/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-12F		
Lab Sample ID:	F18870-4	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	2230	300	7.1	ug/l	1	08/12/03	08/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-12F		
Lab Sample ID:	F18870-10	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	7.1 U	300	7.1	ug/l	1	08/12/03	08/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-12F		
Lab Sample ID:	F18870-12	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	3680	300	7.1	ug/l	1	08/12/03	08/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-12		
Lab Sample ID:	F18870-5	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	98.0	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/02/03 14:51	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	08/02/03 14:51	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/02/03 14:51	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/02/03	SJL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/02/03 14:51	LL	EPA 300/SW846 9056
Total Organic Carbon	12.5	1.0	mg/l	1	08/08/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-12F		
Lab Sample ID:	F18870-6	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/04/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-12		
Lab Sample ID:	F18870-7	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	158	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/02/03 15:33	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.11	0.10	mg/l	1	08/02/03 15:33	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/02/03 15:33	LL	EPA 300/SW846 9056
Phosphate, Ortho	0.13	0.10	mg/l	1	08/02/03	SJL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/02/03 15:33	LL	EPA 300/SW846 9056
Total Organic Carbon	1.4	1.0	mg/l	1	08/08/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-12F		
Lab Sample ID:	F18870-8	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/04/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01SA-12		
Lab Sample ID:	F18870-13	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	95.0	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/02/03 16:42	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.50	0.10	mg/l	1	08/02/03 16:42	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/02/03 16:42	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/02/03	SJL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/02/03 16:42	LL	EPA 300/SW846 9056
Total Organic Carbon	5.6	1.0	mg/l	1	08/08/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01SA-12F		
Lab Sample ID:	F18870-14	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/04/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-12		
Lab Sample ID:	F18870-1	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	190	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/02/03 15:05	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	08/02/03 15:05	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/02/03 15:05	LL	EPA 300/SW846 9056
Phosphate, Ortho	0.30	0.10	mg/l	1	08/02/03	SJL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/02/03 15:05	LL	EPA 300/SW846 9056
Total Organic Carbon	23.6	1.0	mg/l	1	08/08/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-12F		
Lab Sample ID:	F18870-2	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	1.5	1.0	mg/l	1	08/04/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-12		
Lab Sample ID:	F18870-3	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	170	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/02/03 15:19	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.61	0.10	mg/l	1	08/02/03 15:19	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/02/03 15:19	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/02/03	SJL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/02/03 15:19	LL	EPA 300/SW846 9056
Total Organic Carbon	10.0	1.0	mg/l	1	08/08/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-12F		
Lab Sample ID:	F18870-4	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/04/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-12		
Lab Sample ID:	F18870-9	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	10.0	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/02/03 15:47	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	14.6	1.0	mg/l	10	08/06/03 13:38	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/02/03 15:47	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/02/03	SJL	EPA 365.3
Sulfate	24.2	20	mg/l	1	08/02/03 15:47	LL	EPA 300/SW846 9056
Total Organic Carbon	1.8	1.0	mg/l	1	08/08/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-12F		
Lab Sample ID:	F18870-10	**Date Sampled:**	08/01/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/04/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-12		
Lab Sample ID:	F18870-11	**Date Sampled:**	08/01/03
Matrix:	AQ - Ground Water	**Date Received:**	08/02/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	156	5.0	mg/l	1	08/06/03	SL	EPA 310.1
Chloride	<20	20	mg/l	1	08/02/03 16:00	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.10	0.10	mg/l	1	08/02/03 16:00	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/02/03 16:00	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/02/03	SJL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/02/03 16:00	LL	EPA 300/SW846 9056
Total Organic Carbon	22.5	1.0	mg/l	1	08/08/03	SL	EPA 415.1

RL = Reporting Limit

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. SPERANZA** **DATE: OCTOBER 21, 2003**

FROM: **SETH C. STAFFEN** **CC: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOA / PAH / OVG**
CTO 161 – NAS CECIL FIELD
SDG F18933

SAMPLES: 2/Aqueous/VOA/OVG/PAH

CEF-B312-01S-12 CEF-B312-DU01-12

OVERVIEW

The sample set for CTO 161, SDG F18933, Naval Air Station (NAS) Cecil Field; Florida consists of two (2) aqueous environmental samples. The samples were analyzed for Target Compound List (TCL) volatile organic compounds, polynuclear aromatic hydrocarbons (PAH), and organic volatile gases (OVG). One field duplicate pair was included in this SDG: CEF-B312-01S-12 / CEF-B312-DU01-12.

The samples were collected by Tetra Tech, NUS on August 6, 2003 and analyzed by Accutest Laboratories. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW 846 Method 8260B, RSK SOP-175, and Florida Pro analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
* • Initial/continuing calibrations
* • Laboratory method/field quality control blank results
* • Field Duplicate Precision
• Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

The text of this report is formulated to address only gross noncompliances resulting in the rejection of data and the elimination of false positives.

VOA FRACTION

Despite the absence of acetone in the laboratory method blank, acetone is a common laboratory contaminant. Therefore, the presence of acetone in environmental samples is a possible laboratory contaminant. The positive results were qualified as estimated, J.

PAH FRACTION

The surrogate recoveries for o-terphenyl and p-terphenyl were zero for both samples. No qualification action was taken because the zero percent recovery was due to dilution.

The results for acenaphthene, acenaphthylene, and naphthalene were reported from the 20X-dilution analyses. This caused elevated reporting limits for acenaphthene and acenaphthylene in both samples.

OVG FRACTION

No gross noncompliances that would have resulted in the rejection of data were noted for this fraction.

The results for methane were reported from the 2X-dilution analyses in both samples.

Additional Comments

The laboratory reported down to the method detection limit (MDL) in the VOA, PAH, and OVG fractions. Positive results reported between the MDL and reporting limit (RL) were qualified as estimated, J.

EXECUTIVE SUMMARY

Laboratory performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the NFESC guidelines "Navy IRCDQM" (September 1999). The text of this report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Seth C. Staffen

Environmental Scientist/Data Validator
Tetra Tech, NUS

Joseph A. Samchuck

Data Validation Quality Assurance Officer
Tetra Tech, NUS

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F18933 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-01S-12
samp_date	8/6/2003
lab_id	F18933-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	3.3		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	11.8		
ACETONE	10.7	J	A
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.78	J	P
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	1.7		
TOTAL XYLENES	4.6		
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-01S-12
samp_date	8/6/2003
lab_id	F18933-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-DU01-12
samp_date	8/6/2003
lab_id	F18933-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	CEF-B312-01S-12

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	3.4		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	12.1		
ACETONE	10.7	J	A
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.77	J	P
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	1.6		
TOTAL XYLENES	4.8		
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

PROJ_NO: 3965

SDG: F18933 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-DU01-12
samp_date	8/6/2003
lab_id	F18933-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	CEF-B312-01S-12

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F18933 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-01S-12	nsample	CEF-B312-DU01-12
samp_date	8/6/2003	samp_date	8/6/2003
lab_id	F18933-1	lab_id	F18933-3
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	CEF-B312-01S-12

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	14.7			
2-METHYLNAPHTHALENE	19.5			
ACENAPHTHENE	21	U	U	
ACENAPHTHYLENE	21	U	U	
ANTHRACENE	1.1	U	U	
BENZO(A)ANTHRACENE	0.11	U	U	
BENZO(A)PYRENE	0.11	U	U	
BENZO(B)FLUORANTHENE	0.11	U	U	
BENZO(G,H,I)PERYLENE	0.11	U	U	
BENZO(K)FLUORANTHENE	0.11	U	U	
CHRYSENE	1.1	U	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	U	
FLUORANTHENE	0.53	U	U	
FLUORENE	2.1	U	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	U	
NAPHTHALENE	377			
PHENANTHRENE	1.1	U	U	
PYRENE	0.53	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	16.4			
2-METHYLNAPHTHALENE	21.1			
ACENAPHTHENE	21	U	U	
ACENAPHTHYLENE	21	U	U	
ANTHRACENE	1.1	U	U	
BENZO(A)ANTHRACENE	0.11	U	U	
BENZO(A)PYRENE	0.11	U	U	
BENZO(B)FLUORANTHENE	0.11	U	U	
BENZO(G,H,I)PERYLENE	0.11	U	U	
BENZO(K)FLUORANTHENE	0.11	U	U	
CHRYSENE	1.1	U	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	U	
FLUORANTHENE	0.53	U	U	
FLUORENE	1.1	U	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	U	
NAPHTHALENE	442			
PHENANTHRENE	1.1	U	U	
PYRENE	0.53	U	U	

PROJ_NO: 3965

SDG: F18933 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-01S-12	nsample	CEF-B312-DU01-12
samp_date	8/6/2003	samp_date	8/6/2003
lab_id	F18933-1	lab_id	F18933-3
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	CEF-B312-01S-12

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	1559			

Parameter	Result	Lab Qual	Val Qual	Qual Code
ETHANE	0.6	U	U	
ETHENE	0.8	U	U	
METHANE	1369			

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-12		
Lab Sample ID:	F18933-1	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0017637.D	1	08/12/03	KW	n/a	n/a	VC777
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	10.7	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	3.3	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.78	1.0	0.50	ug/l	J
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	11.8	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	**Methyl Tert Butyl Ether**	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	1.7	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-12		
Lab Sample ID:	F18933-1	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	4.6	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		86-115%
17060-07-0	1,2-Dichloroethane-D4	93%		78-125%
2037-26-5	Toluene-D8	103%		87-113%
460-00-4	4-Bromofluorobenzene	95%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-12		
Lab Sample ID:	F18933-3	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0017638.D	1	08/12/03	KW	n/a	n/a	VC777
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	10.7	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	3.4	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.77	1.0	0.50	ug/l	J
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	12.1	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	**Methyl Tert Butyl Ether**	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	1.6	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-12		
Lab Sample ID:	F18933-3	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	4.8	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		86-115%
17060-07-0	1,2-Dichloroethane-D4	98%		78-125%
2037-26-5	Toluene-D8	96%		87-113%
460-00-4	4-Bromofluorobenzene	95%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-12		
Lab Sample ID:	F18933-1	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE017149.D	1	08/09/03	MRE	08/08/03	OP8183	GEE720
Run #2 [a]	EE017164.D	20	08/11/03	MRE	08/08/03	OP8183	GEE721

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2	950 ml	1.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND [b]	84	21	ug/l	
208-96-8	Acenaphthylene	ND [b]	84	21	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	377 [b]	42	11	ug/l	
90-12-0	1-Methylnaphthalene	14.7	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	19.5	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	109%	0% [c]	32-142%
92-94-4	p-Terphenyl	75%	0% [c]	30-128%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Result is from Run# 2
(c) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-12		
Lab Sample ID:	F18933-3	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE017150.D	1	08/09/03	MRE	08/08/03	OP8183	GEE720
Run #2	EE017165.D	20	08/11/03	MRE	08/08/03	OP8183	GEE721

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2	950 ml	1.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND [b]	84	21	ug/l	
208-96-8	Acenaphthylene	ND [b]	84	21	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	442 [b]	42	11	ug/l	
90-12-0	1-Methylnaphthalene	16.4	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	21.1	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%	0% [c]	32-142%
92-94-4	p-Terphenyl	76%	0% [c]	30-128%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Result is from Run# 2
(c) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-12		
Lab Sample ID:	F18933-1	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011260.D	1	08/08/03	CV	n/a	n/a	GXY295
Run #2	XY011271.D	2	08/08/03	CV	n/a	n/a	GXY295

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1560 [a]	1.0	0.60	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-12		
Lab Sample ID:	F18933-3	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011261.D	1	08/08/03	CV	n/a	n/a	GXY295
Run #2	XY011272.D	2	08/08/03	CV	n/a	n/a	GXY295

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1370 [a]	1.0	0.60	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**SEPTEMBER 12, 2003**
FROM:	**ERIN M. FAUST**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – DISSOLVED IRON AND MISCELLANEOUS PARAMETERS**
CTO-161 NAS CECIL FIELD
SAMPLE DELIVERY GROUP (SDG) – F18933

SAMPLES: 2/Groundwater/

CEF-B312-01S-12 CEF-B312-DU01-12

Overview

The sample set for CTO 161, NAS Cecil Field, SDG F18933, consists of two (2) groundwater environmental samples. One (1) field duplicate pair (CEF-B312-01S-12 / CEF-B312-DU01-12) is included within this SDG.

The samples were analyzed for alkalinity, chloride, nitrate, nitrite, orthophosphate, sulfate, total organic carbon (TOC) and dissolved iron and sulfide. The samples analyzed for dissolved iron and sulfide were designated "-F". The samples were collected by TetraTech NUS on August 6, 2003 and analyzed by Accutest Laboratories Southeast, Inc. under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Analyses for chloride, nitrate, nitrite, and sulfate were conducted using EPA method 300.0. Analyses for alkalinity, orthophosphate, TOC and dissolved sulfide were conducted using EPA methods 310.1, 365.3, 415.1 and 376.1, respectively. Dissolved iron analyses were conducted using SW-846 method 6010B.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
• Field Duplicate Results
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Iron	17.9 µg/L	89.5 µg/L

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. No validation action was required because all reported results were greater than the action level.

Field Duplicate Results

Field duplicate imprecision was noted for iron. Positive results reported for iron were qualified as estimated, "J".

Notes

The database contains results reported as nitrate and nitrite; however, the laboratory reported results for Nitrate as Nitrogen and Nitrite as Nitrogen. The database contains results reported as orthophosphate; however, the laboratory reported results for Orthophosphate as Phosphorus.

Executive Summary

Laboratory Performance: Iron was present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: Field duplicate imprecision was noted for iron.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Erin M Faust

Tetra Tech NUS
Erin M. Faust
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

PROJ_NO: 3965

SDG: F18933 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-01S-12-F	nsample	CEF-B312-DU01-12-F
samp_date	8/6/2003	samp_date	8/6/2003
lab_id	F18933-2	lab_id	F18933-4
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	CEF-B312-01S-12-F

Parameter	Result	Val Qual	Qual Code
IRON	11300	J	G

Parameter	Result	Val Qual	Qual Code
IRON	7750	J	G

PROJ_NO: 3965

SDG: F18933 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-01S-12
samp_date	8/6/2003
lab_id	F18933-1
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	163		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.12		
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	19.8		

nsample	CEF-B312-01S-12-F
samp_date	8/6/2003
lab_id	F18933-2
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-DU01-12
samp_date	8/6/2003
lab_id	F18933-3
qc_type	NM
Pct_Solids	0
DUP_OF:	CEF-B312-01S-12

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	172		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.12		
NITRITE-N	MG/L	0.1	U	
ORTHOPHOSPHATE-P	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	19.4		

PROJ_NO: 3965

SDG: F18933 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-DU01-12-F
samp_date	8/6/2003
lab_id	F18933-4
qc_type	NM
Pct_Solids	0
DUP_OF:	CEF-B312-01S-12-F

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-12-F		
Lab Sample ID:	F18933-2	**Date Sampled:**	08/06/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/06/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	11300	300	7.1	ug/l	1	08/11/03	08/12/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-12-F		
Lab Sample ID:	F18933-4	**Date Sampled:**	08/06/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/06/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	7750	300	7.1	ug/l	1	08/11/03	08/12/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-12		
Lab Sample ID:	F18933-1	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	163	5.0	mg/l	1	08/08/03	LL	EPA 310.1
Chloride	<20	20	mg/l	1	08/07/03 11:03	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.12	0.10	mg/l	1	08/07/03 11:03	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/07/03 11:03	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/07/03 14:00	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/07/03 11:03	LL	EPA 300/SW846 9056
Total Organic Carbon	19.8	1.0	mg/l	1	08/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-12-F		
Lab Sample ID:	F18933-2	**Date Sampled:**	08/06/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/06/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/11/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-12		
Lab Sample ID:	F18933-3	**Date Sampled:**	08/06/03
Matrix:	AQ - Ground Water	**Date Received:**	08/06/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	172	5.0	mg/l	1	08/08/03	LL	EPA 310.1
Chloride	<20	20	mg/l	1	08/07/03 11:18	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.12	0.10	mg/l	1	08/07/03 11:18	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	08/07/03 11:18	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	08/07/03 14:00	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	08/07/03 11:18	LL	EPA 300/SW846 9056
Total Organic Carbon	19.4	1.0	mg/l	1	08/07/03	SL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-12-F		
Lab Sample ID:	F18933-4	**Date Sampled:**	08/06/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	08/06/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	08/11/03	LL	EPA 376.1

RL = Reporting Limit

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. SPERANZA** **DATE: DECEMBER 18, 2003**

FROM: **SETH C. STAFFEN** **CC: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOA / PAH / OVG / TPH**
CTO 161 – NAS CECIL FIELD
SDG F20293

SAMPLES: 3/Aqueous/VOA/PAH/OVG/TPH

CEF-B312-09S-13 CEF-B312-12S-13
CEF-B312-1SA-13

OVERVIEW

The sample set for CTO 161, SDG F20293, Naval Air Station (NAS) Cecil Field; Florida consists of three (3) aqueous environmental samples. The samples were analyzed for Target Compound List (TCL) volatile organic compounds, polynuclear aromatic hydrocarbons (PAH), and organic volatile gases (OVG). In addition, sample CEF-B312-12S-13 was analyzed for total petroleum hydrocarbons (TPH). No field duplicate pairs were included in this SDG.

The samples were collected by Tetra Tech, NUS on October 27th, 2003 and analyzed by Accutest Laboratories. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW 846 Method 8260B and 8310, RSK SOP-175, and Florida Pro analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
• Initial/continuing calibrations
* • Laboratory method blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

The text of this report is formulated to address only gross noncompliances resulting in the rejection of data and the elimination of false positives.

VOA FRACTION

The continuing calibration on 11/04/03 at 0951 contained a percent difference that exceeded the 25% quality control limit for bromoform. No qualification action was taken because the reported results were nondetects and the exceedance was less than 90%.

PAH FRACTION

No gross noncompliances that would have resulted in the rejection of data were noted for this fraction.

OVG FRACTION

No gross noncompliances that would have resulted in the rejection of data were noted for this fraction.

TPH FRACTION

No gross noncompliances that would have resulted in the rejection of data were noted for this fraction.

Additional Comments

The laboratory reported down to the method detection limit (MDL). Positive results reported between the MDL and reporting limit (RL) were qualified as estimated, J.

Despite not being requested, the laboratory reported results for methyl tert-butyl ether (MTBE) on the Form Is and EDD. The data reviewer deleted the results for MTBE from the EDD.

EXECUTIVE SUMMARY

Laboratory performance: Continuing calibration percent difference criterion was not met for bromoform.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the NFESC guidelines "Navy IRCDQM" (September 1999). The text of this report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Seth C. Staffen

Environmental Scientist/Data Validator
Tetra Tech, NUS

Joseph A. Samchuck

Data Validation Quality Assurance Officer
Tetra Tech, NUS

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F20293 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-09S-13
samp_date	10/27/2003
lab_id	F20293-1
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	

nsample	CEF-B312-09S-13
samp_date	10/27/2003
lab_id	F20293-1
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-12S-13
samp_date	10/27/2003
lab_id	F20293-5
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	12.9		
1,1-DICHLOROETHENE	7.3		
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	6.3		
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	

PROJ_NO: 3965

SDG: F20293 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-12S-13
samp_date	10/27/2003
lab_id	F20293-5
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	2.7		

nsample	CEF-B312-1SA-13
samp_date	10/27/2003
lab_id	F20293-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	

nsample	CEF-B312-1SA-13
samp_date	10/27/2003
lab_id	F20293-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,3-DICHLOROPROPENE	0.3	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F20293 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-09S-13	nsample	CEF-B312-12S-13	nsample	CEF-B312-1SA-13
samp_date	10/27/2003	samp_date	10/27/2003	samp_date	10/27/2003
lab_id	F20293-1	lab_id	F20293-5	lab_id	F20293-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.51	U	
2-METHYLNAPHTHALENE	0.51	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.51	U	
PHENANTHRENE	1	U	
PYRENE	0.51	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.5	U	
2-METHYLNAPHTHALENE	0.5	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.5	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	4.2		
PHENANTHRENE	1	U	
PYRENE	0.5	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.53	U	
2-METHYLNAPHTHALENE	0.53	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.53	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.53	U	
PHENANTHRENE	1.1	U	
PYRENE	0.53	U	

PROJ_NO: 3965

SDG: F20293 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-09S-13	nsample	CEF-B312-12S-13	nsample	CEF-B312-1SA-13
samp_date	10/27/2003	samp_date	10/27/2003	samp_date	10/27/2003
lab_id	F20293-1	lab_id	F20293-5	lab_id	F20293-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	28		

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	63.6		

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	3.6		

PROJ_NO: 3965

SDG: F20293 MEDIA: WATER DATA FRACTION: PET

nsample	CEF-B312-12S-13
samp_date	10/27/2003
lab_id	F20293-5
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.193	J	P

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-13		
Lab Sample ID:	F20293-1	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019203.D	1	11/04/03	KW	n/a	n/a	VC843
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	**Methyl Tert Butyl Ether**	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-13		
Lab Sample ID:	F20293-1	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		86-115%
17060-07-0	1,2-Dichloroethane-D4	103%		73-126%
2037-26-5	Toluene-D8	100%		86-112%
460-00-4	4-Bromofluorobenzene	97%		83-119%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-13		
Lab Sample ID:	F20293-5	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019205.D	1	11/04/03	KW	n/a	n/a	VC843
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	6.3	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	12.9	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	7.3	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	**Methyl Tert Butyl Ether**	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-12S-13		
Lab Sample ID:	F20293-5	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	2.7	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	99%		73-126%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	99%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-1SA-13		
Lab Sample ID:	F20293-3	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019204.D	1	11/04/03	KW	n/a	n/a	VC843
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	**Methyl Tert Butyl Ether**	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-1SA-13		
Lab Sample ID:	F20293-3	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		86-115%
17060-07-0	1,2-Dichloroethane-D4	101%		73-126%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	99%		83-119%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-13		
Lab Sample ID:	F20293-1	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA018325.D	1	11/10/03	MRE	11/03/03	OP8974	GAA877
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		32-142%
92-94-4	p-Terphenyl	86%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-13		
Lab Sample ID:	F20293-5	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA018327.D	1	11/10/03	MRE	11/03/03	OP8974	GAA877
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	4.2	2.0	0.50	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	84%		32-142%
92-94-4	p-Terphenyl	65%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-1SA-13		
Lab Sample ID:	F20293-3	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA018326.D	1	11/10/03	MRE	11/03/03	OP8974	GAA877
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	ND	2.1	0.53	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	84%		32-142%
92-94-4	p-Terphenyl	55%		30-128%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-13		
Lab Sample ID:	F20293-1	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011736.D	1	10/29/03	CV	n/a	n/a	GXY326
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	28.0	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-13		
Lab Sample ID:	F20293-5	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011740.D	1	10/29/03	CV	n/a	n/a	GXY326
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	63.6	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-1SA-13		
Lab Sample ID:	F20293-3	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011737.D	1	10/29/03	CV	n/a	n/a	GXY326
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	3.60	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-13		
Lab Sample ID:	F20293-5	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32912.D	1	11/01/03	SM	10/29/03	OP8939	GOP1098
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	0.193	0.26	0.18	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	61%		50-125%

ND = Not detected MDL - Method Detection Limit
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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**DECEMBER 18, 2003**
FROM:	**ETHAN G. LEE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – IRON AND MISCELLANEOUS PARAMETERS**
NAS CECIL FIELD – CTO 161
SAMPLE DELIVERY GROUP (SDG) – F20293

SAMPLES: 3/AQUEOUS/

CEF-B312-09S-13 CEF-B312-12S-13 CEF-B312-1SA-13

Overview

The sample set for NAS Cecil Field, CTO 161, SDG F20293, consists of three (3) aqueous environmental samples.

All samples were analyzed for dissolved iron, alkalinity, chloride, nitrate, nitrite, orthophosphate, sulfate, total organic carbon (TOC), and dissolved sulfide. Samples analyzed for dissolved iron and sulfide were appended with the suffix "-F". The samples were collected by Tetra Tech NUS on October 27, 2003 and analyzed by Accutest Laboratories Southeast, Inc. Iron analyses were conducted using SW846 method 6010B. Alkalinity analyses were conducted using EPA method 310.1. Chloride, nitrate, nitrite, and sulfate analyses were conducted using EPA method 300. Orthophosphate analyses were conducted using EPA method 365.3. TOC analyses were conducted using EPA method 415.1. Dissolved sulfide analyses were conducted using EPA method 376.1.

Iron analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
• Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Detection Limits

* - All quality control criteria were met for this parameter.

Holding Times

The 48-hour holding time limit for nitrate was exceeded by one day in sample CEF-B312-09S-13. The positive result reported for nitrate in this sample was qualified as estimated (J).

Laboratory Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Iron	57.3 ug/L	286.5 ug/L

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the action level for iron were qualified as nondetected (U) as a result of laboratory blank contamination.

Notes

A dilution was performed for nitrate in sample CEF-B312-09S-13.

Executive Summary

Laboratory Performance: Nitrate was qualified due to holding time exceedance in sample CEF-B312-09S-13. Iron was present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", July 2002 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Ethan G. Lee
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F20293 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-09S-13-F	nsample	CEF-B312-12S-13-F	nsample	CEF-B312-1SA-13-F
samp_date	10/27/2003	samp_date	10/27/2003	samp_date	10/27/2003
lab_id	F20293-2	lab_id	F20293-6	lab_id	F20293-4
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	46.8	U	A

Parameter	Result	Val Qual	Qual Code
IRON	1140		

Parameter	Result	Val Qual	Qual Code
IRON	130	U	A

PROJ_NO: 3965

SDG: F20293 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-09S-13
samp_date	10/27/2003
lab_id	F20293-1
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	18		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	16.1	J	H
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	23.4		
TOTAL ORGANIC CARBON	MG/L	3.8		

nsample	CEF-B312-09S-13-F
samp_date	10/27/2003
lab_id	F20293-2
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-12S-13
samp_date	10/27/2003
lab_id	F20293-5
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	5	U	
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	2.7		

PROJ_NO: 3965

SDG: F20293 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-12S-13-F
samp_date	10/27/2003
lab_id	F20293-6
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-1SA-13
samp_date	10/27/2003
lab_id	F20293-3
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	111		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.36		
NITRITE	MG/L	0.1	U	
ORTHOPHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	7.5		

nsample	CEF-B312-1SA-13-F
samp_date	10/27/2003
lab_id	F20293-4
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-13F		
Lab Sample ID:	F20293-2	**Date Sampled:**	10/27/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/28/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	46.8 B	300	7.1	ug/l	1	10/30/03	10/30/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-13F		
Lab Sample ID:	F20293-6	**Date Sampled:**	10/27/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/28/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	1140	300	7.1	ug/l	1	10/30/03	10/30/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-1SA-13F		
Lab Sample ID:	F20293-4	**Date Sampled:**	10/27/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/28/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	130 B	300	7.1	ug/l	1	10/30/03	10/30/03 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-13		
Lab Sample ID:	F20293-1	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	18.0	5.0	mg/l	1	11/05/03	LE	EPA 310.1
Chloride	<20	20	mg/l	1	10/29/03 11:12	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	16.1	1.0	mg/l	10	10/30/03 06:41	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/29/03 11:12	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/29/03	SJL	EPA 365.3
Sulfate	23.4	20	mg/l	1	10/29/03 11:12	LL	EPA 300/SW846 9056
Total Organic Carbon	3.8	1.0	mg/l	1	11/13/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-13F		
Lab Sample ID:	F20293-2	**Date Sampled:**	10/27/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/28/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-13		
Lab Sample ID:	F20293-5	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	<5.0	5.0	mg/l	1	11/05/03	LE	EPA 310.1
Chloride	<20	20	mg/l	1	10/29/03 11:41	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	10/29/03 11:41	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/29/03 11:41	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/29/03	SJL	EPA 365.3
Sulfate	<20	20	mg/l	1	10/29/03 11:41	LL	EPA 300/SW846 9056
Total Organic Carbon	2.7	1.0	mg/l	1	11/13/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-13F		
Lab Sample ID:	F20293-6	**Date Sampled:**	10/27/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/28/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-1SA-13		
Lab Sample ID:	F20293-3	**Date Sampled:**	10/27/03
Matrix:	AQ - Ground Water	**Date Received:**	10/28/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	111	5.0	mg/l	1	11/05/03	LE	EPA 310.1
Chloride	<20	20	mg/l	1	10/29/03 11:27	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.36	0.10	mg/l	1	10/29/03 11:27	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/29/03 11:27	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/29/03	SJL	EPA 365.3
Sulfate	<20	20	mg/l	1	10/29/03 11:27	LL	EPA 300/SW846 9056
Total Organic Carbon	7.5	1.0	mg/l	1	11/13/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-1SA-13F		
Lab Sample ID:	F20293-4	**Date Sampled:**	10/27/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/28/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. SPERANZA** **DATE: DECEMBER 23, 2003**

FROM: **SETH C. STAFFEN** **CC: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOA / PAH / OVG / TPH**
CTO 161 – NAS CECIL FIELD
SDG F20325

SAMPLES: 8/Aqueous/VOA/PAH/OVG/TPH

CEF-B312-01S-13	CEF-B312-06S-13 *	CEF-B312-07S-13
CEF-B312-08S-13	CEF-B312-11S-13*	CEF-B312-15I-13
CEF-B312-DU01-13*		

OVERVIEW

The sample set for CTO 161, SDG F20325, Naval Air Station (NAS) Cecil Field; Florida consists of eight (8) aqueous environmental samples. The samples were analyzed for Target Compound List (TCL) volatile organic compounds, polynuclear aromatic hydrocarbons (PAH), and organic volatile gases (OVG). In addition, the three samples designated with an asterisk (*) were analyzed for total petroleum hydrocarbons. One field duplicate pair was included in this SDG: CEF-B312-06S-12 / CEF-B312-DU01-13.

The samples were collected by Tetra Tech, NUS on October 28th, 2003 and analyzed by Accutest Laboratories. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW 846 Methods 8260B and 8310, RSK SOP-175, and Florida Pro analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
* • Initial/continuing calibrations
* • Laboratory method/field quality control blank results
* • Field Duplicate Precision
• Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

The text of this report is formulated to address only gross noncompliances resulting in the rejection of data and the elimination of false positives.

VOA FRACTION

Despite the absence of acetone in the laboratory method blank, acetone is a common laboratory contaminant. Therefore, the presence of acetone in environmental samples is a possible laboratory contaminant. The positive results were qualified as estimated, J.

The continuing calibrations on 11/04/03 at 0951 and 11/5/03 at 1035 contained a percent difference that exceeded the 25% quality control limit for bromoform. No qualification action was taken because the reported results were nondetects and the exceedances were less than 90%.

PAH FRACTION

The results for acenaphthene, acenaphthylene, fluorene, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, and phenanthrene were reported from the 20X-dilution analysis for sample CEF-B312-01S-13. The dilution caused elevated reporting limits.

The result for naphthalene was reported from the 2X dilution analysis for sample CEF-B312-08S-13.

OVG FRACTION

The continuing calibrations on 10/30/03 at 1112 and 0309 contained a percent difference that exceeded the 15% quality control limit for methane, ethane, and ethene. No qualification action was taken because the exceedances were less than 90%.

The continuing calibration on 10/31/03 at 2003 contained a percent difference that exceeded the 15% quality control limit for methane. No qualification action was taken because the exceedances were less than 90%.

The results for methane were reported from the 2X-dilution analysis for samples CEF-B312-01S-13 and CEF-B312-11S-13.

TPH FRACTION

No gross noncompliances that would have resulted in the rejection of data were noted for this fraction.

Additional Comments

The laboratory reported down to the method detection limit (MDL). Positive results reported between the MDL and reporting limit (RL) were qualified as estimated, J.

EXECUTIVE SUMMARY

Laboratory performance: Continuing calibration percent difference criteria were not met for bromoform, methane, ethane, and ethene.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (October 1999) and the NFESC guidelines "Navy IRCDQM" (September 1999). The text of this report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Seth C. Staffen

for

Environmental Scientist/Data Validator
Tetra Tech, NUS

Joseph A. Samchuck

Data Validation Quality Assurance Officer
Tetra Tech, NUS

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-01S-13
samp_date	10/28/2003
lab_id	F20325-7
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	7.2		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	66.1		
ACETONE	6.7	J	A
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1.3		
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	1.9		
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	3.8		
TOTAL XYLENES	10.9		
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-01S-13
samp_date	10/28/2003
lab_id	F20325-7
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-06S-13
samp_date	10/28/2003
lab_id	F20325-5
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	1.3		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.55	J	P
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-06S-13
samp_date	10/28/2003
lab_id	F20325-5
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-07S-13
samp_date	10/28/2003
lab_id	F20325-9
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-07S-13
samp_date	10/28/2003
lab_id	F20325-9
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-08S-13
samp_date	10/28/2003
lab_id	F20325-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	1.8		
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	2		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	4		
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	30.3		
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-08S-13
samp_date	10/28/2003
lab_id	F20325-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-11S-13
samp_date	10/28/2003
lab_id	F20325-11
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	6.1		
1,1-DICHLOROETHENE	1.3		
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.59	J	P
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1.6	J	P
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-11S-13	nsample	CEF-B312-15I-13	nsample	CEF-B312-15I-13
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-11	lab_id	F20325-1	lab_id	F20325-1
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.9	J	P

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-DU01-13	nsample	CEF-B312-DU01-13
samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-13	lab_id	F20325-13
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids		Pct_Solids	
DUP_OF:	CEF-B312-06S-13	DUP_OF:	CEF-B312-06S-13

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	1.3		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.52	J	P
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1.1	J	P
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-01S-13	nsample	CEF-B312-06S-13	nsample	CEF-B312-07S-13
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-7	lab_id	F20325-5	lab_id	F20325-9
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	19.9	J	P
2-METHYLNAPHTHALENE	29.5	J	P
ACENAPHTHENE	20	U	
ACENAPHTHYLENE	20	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.5	U	
FLUORENE	20	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	432		
PHENANTHRENE	20	U	
PYRENE	0.5	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	4.2		
2-METHYLNAPHTHALENE	3.7		
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.53	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	39.6		
PHENANTHRENE	1.1	U	
PYRENE	0.53	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.53	U	
2-METHYLNAPHTHALENE	0.53	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.53	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.53	U	
PHENANTHRENE	1.1	U	
PYRENE	0.53	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-08S-13	nsample	CEF-B312-11S-13	nsample	CEF-B312-15I-13
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-3	lab_id	F20325-11	lab_id	F20325-1
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	4.9		
2-METHYLNAPHTHALENE	6.2		
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.54	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	56.5		
PHENANTHRENE	1.1	U	
PYRENE	0.54	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	2.7		
2-METHYLNAPHTHALENE	2.7		
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	20.2		
PHENANTHRENE	1	U	
PYRENE	0.51	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.52	U	
2-METHYLNAPHTHALENE	0.52	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.52	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.52	U	
PHENANTHRENE	1	U	
PYRENE	0.52	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-DU01-13
samp_date	10/28/2003
lab_id	F20325-13
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	CEF-B312-06S-13

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	4.2		
2-METHYLNAPHTHALENE	3.7		
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.54	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	39.8		
PHENANTHRENE	1.1	U	
PYRENE	0.54	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-01S-13	nsample	CEF-B312-06S-13	nsample	CEF-B312-07S-13
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-7	lab_id	F20325-5	lab_id	F20325-9
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	1870		

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	880		

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	74.5		

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-08S-13
samp_date	10/28/2003
lab_id	F20325-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	359		

nsample	CEF-B312-11S-13
samp_date	10/28/2003
lab_id	F20325-11
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	1040		

nsample	CEF-B312-15I-13
samp_date	10/28/2003
lab_id	F20325-1
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	7.11		

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-DU01-13
samp_date	10/28/2003
lab_id	F20325-13
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	CEF-B312-06S-13

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	1030		

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: PET

nsample	CEF-B312-06S-13	nsample	CEF-B312-11S-13	nsample	CEF-B312-DU01-13
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-5	lab_id	F20325-11	lab_id	F20325-13
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/L	units	MG/L	units	MG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	CEF-B312-06S-13

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.93		

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.51		

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.9		

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-13		
Lab Sample ID:	F20325-7	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019228.D	1	11/05/03	KW	n/a	n/a	VC844
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	6.7	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.3	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	7.2	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	1.9	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	66.1	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	3.8	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-13		
Lab Sample ID:	F20325-7	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	10.9	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		86-115%
17060-07-0	1,2-Dichloroethane-D4	96%		73-126%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-13		
Lab Sample ID:	F20325-5	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019230.D	1	11/05/03	KW	n/a	n/a	VC844
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	1.3	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.55	1.0	0.50	ug/l	J
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-B312-06S-13		
Lab Sample ID:	F20325-5	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		86-115%
17060-07-0	1,2-Dichloroethane-D4	104%		73-126%
2037-26-5	Toluene-D8	100%		86-112%
460-00-4	4-Bromofluorobenzene	99%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-13		
Lab Sample ID:	F20325-9	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019209.D	1	11/04/03	KW	n/a	n/a	VC843
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-13		
Lab Sample ID:	F20325-9	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		86-115%
17060-07-0	1,2-Dichloroethane-D4	97%		73-126%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-13		
Lab Sample ID:	F20325-3	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019226.D	1	11/05/03	KW	n/a	n/a	VC844
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	2.0	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	4.0	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	1.8	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-13		
Lab Sample ID:	F20325-3	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	30.3	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		86-115%
17060-07-0	1,2-Dichloroethane-D4	88%		73-126%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-13		
Lab Sample ID:	F20325-11	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019210.D	1	11/04/03	KW	n/a	n/a	VC843
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	6.1	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	1.3	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.59	1.0	0.50	ug/l	J
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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 [illegible]

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-13		
Lab Sample ID:	F20325-11	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	0.90	1.0	0.50	ug/l	J
1330-20-7	Xylene (total)	1.6	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		86-115%
17060-07-0	1,2-Dichloroethane-D4	95%		73-126%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-13		
Lab Sample ID:	F20325-1	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019208.D	1	11/04/03	KW	n/a	n/a	VC843
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-15I-13		
Lab Sample ID:	F20325-1	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		86-115%
17060-07-0	1,2-Dichloroethane-D4	98%		73-126%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	103%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-13		
Lab Sample ID:	F20325-13	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0019229.D	1	11/05/03	KW	n/a	n/a	VC844
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	1.3	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.52	1.0	0.50	ug/l	J
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-13		
Lab Sample ID:	F20325-13	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.1	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		86-115%
17060-07-0	1,2-Dichloroethane-D4	104%		73-126%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	99%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-13		
Lab Sample ID:	F20325-7	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE019227.D	1	11/10/03	MRE	11/04/03	OP8984	GEE800
Run #2 [a]	EE019254.D	20	11/11/03	MRE	11/04/03	OP8984	GEE801

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND [b]	80	20	ug/l	
208-96-8	Acenaphthylene	ND [b]	80	20	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND [b]	40	20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	432 [b]	40	10	ug/l	
90-12-0	1-Methylnaphthalene	19.9 [b]	40	10	ug/l	J
91-57-6	2-Methylnaphthalene	29.5 [b]	40	10	ug/l	J
85-01-8	Phenanthrene	ND [b]	40	20	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	105%	0% [c]	32-142%
92-94-4	p-Terphenyl	65%	0% [c]	30-128%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Result is from Run# 2
(c) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-13		
Lab Sample ID:	F20325-5	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE019226.D	1	11/10/03	MRE	11/04/03	OP8984	GEE800
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	39.6	2.1	0.53	ug/l	
90-12-0	1-Methylnaphthalene	4.2	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	3.7	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	79%		32-142%
92-94-4	p-Terphenyl	34%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-13		
Lab Sample ID:	F20325-9	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE019228.D	1	11/10/03	MRE	11/04/03	OP8984	GEE800
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	ND	2.1	0.53	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	88%		32-142%
92-94-4	p-Terphenyl	73%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-13		
Lab Sample ID:	F20325-3	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE019169.D	1	11/06/03	MRE	11/03/03	OP8976	GEE798
Run #2 [a]	EE019184.D	2	11/07/03	MRE	11/03/03	OP8976	GEE799

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2	930 ml	1.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	56.5 [b]	4.3	1.1	ug/l	
90-12-0	1-Methylnaphthalene	4.9	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	6.2	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	71%	72%	32-142%
92-94-4	p-Terphenyl	52%	53%	30-128%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-13		
Lab Sample ID:	F20325-11	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE019230.D	1	11/10/03	MRE	11/04/03	OP8984	GEE800
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	20.2	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	2.7	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	2.7	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	68%		32-142%
92-94-4	p-Terphenyl	46%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-13		
Lab Sample ID:	F20325-1	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE019167.D	1	11/06/03	MRE	11/03/03	OP8976	GEE798
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.1	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	ND	2.1	0.52	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.52	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.52	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	64%		32-142%
92-94-4	p-Terphenyl	65%		30-128%

ND = Not detected MDL - Method Detection Limit
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 the compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-13		
Lab Sample ID:	F20325-13	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE019231.D	1	11/10/03	MRE	11/04/03	OP8984	GEE800
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	39.8	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	4.2	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	3.7	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	83%		32-142%
92-94-4	p-Terphenyl	38%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-13		
Lab Sample ID:	F20325-7	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011752.D	1	10/30/03	CV	n/a	n/a	GXY327
Run #2	XY011765.D	2	10/31/03	CV	n/a	n/a	GXY328

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1870 [a]	1.0	0.60	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-13		
Lab Sample ID:	F20325-5	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011753.D	1	10/30/03	CV	n/a	n/a	GXY327
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	880	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-13		
Lab Sample ID:	F20325-9	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011756.D	1	10/30/03	CV	n/a	n/a	GXY327
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	74.5	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-13		
Lab Sample ID:	F20325-3	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011751.D	1	10/30/03	CV	n/a	n/a	GXY327
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	359	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-13		
Lab Sample ID:	F20325-11	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011757.D	1	10/30/03	CV	n/a	n/a	GXY327
Run #2	XY011766.D	2	10/31/03	CV	n/a	n/a	GXY328

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1040 [a]	1.0	0.60	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-13		
Lab Sample ID:	F20325-1	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011750.D	1	10/30/03	CV	n/a	n/a	GXY327
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	7.11	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-13		
Lab Sample ID:	F20325-13	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY011758.D	1	10/30/03	CV	n/a	n/a	GXY327
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1030	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-13		
Lab Sample ID:	F20325-5	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32936.D	1	11/03/03	SM	10/31/03	OP8954	GOP1100
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1.93	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	67%		50-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-13		
Lab Sample ID:	F20325-11	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32937.D	1	11/03/03	SM	10/31/03	OP8954	GOP1100
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1.51	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	68%		50-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-13		
Lab Sample ID:	F20325-13	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32938.D	1	11/03/03	SM	10/31/03	OP8954	GOP1100
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1.90	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	70%		50-125%

ND = Not detected MDL - Method Detection Limit
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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**DECEMBER 19, 2003**
FROM:	**ETHAN G. LEE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – IRON AND MISCELLANEOUS PARAMETERS**
NAS CECIL FIELD – CTO 161
SAMPLE DELIVERY GROUP (SDG) – F20325

SAMPLES: 7/AQUEOUS/

CEF-B312-01S-13	CEF-B312-06S-13	CEF-B312-07S-13
CEF-B312-08S-13	CEF-B312-11S-13	CEF-B312-15I-13
CEF-B312-DU01-13		

Overview

The sample set for NAS Cecil Field, CTO 161, SDG F20325, consists of seven (7) aqueous environmental samples. One (1) field duplicate pair (CEF-B312-DU01-13 / CEF-B312-06S-13) was included in this SDG.

All samples were analyzed for dissolved iron, alkalinity, chloride, nitrate, nitrite, orthophosphate, sulfate, total organic carbon (TOC), and dissolved sulfide. Samples analyzed for dissolved iron and dissolved sulfide were appended with the suffix "-F". The samples were collected by Tetra Tech NUS on October 28, 2003 and analyzed by Accutest Laboratories Southeast, Inc. Iron analyses were conducted using SW846 method 6010B. Alkalinity analyses were conducted using EPA method 310.1. Chloride, nitrate, nitrite, and sulfate analyses were conducted using EPA method 300. Orthophosphate analyses were conducted using EPA method 365.3. TOC analyses were conducted using EPA method 415.1. Dissolved sulfide analyses were conducted using EPA method 376.1.

Iron analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
• Field Duplicate Analyses
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Iron	30.6 ug/L	153 ug/L

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. The positive result less than the action level for iron was qualified as nondetected (U) as a result of laboratory blank contamination.

Field Duplicate Analyses

Field duplicate imprecision (RPD >30%) was noted for TOC for field duplicate pair CEF-B312-DU01-13 / CEF-B312-06S-13. Positive results reported for TOC were qualified as estimated (J).

Executive Summary

Laboratory Performance: Iron was present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: TOC was qualified due to field duplicate imprecision.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", July 2002 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Ethan G. Lee
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-01S-13-F	nsample	CEF-B312-06S-13-F	nsample	CEF-B312-07S-13-F
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-8	lab_id	F20325-6	lab_id	F20325-10
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	12400		

Parameter	Result	Val Qual	Qual Code
IRON	10100		

Parameter	Result	Val Qual	Qual Code
IRON	1820		

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-08S-13-F	nsample	CEF-B312-11S-13-F	nsample	CEF-B312-15I-13-F
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-4	lab_id	F20325-12	lab_id	F20325-2
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	2960		

Parameter	Result	Val Qual	Qual Code
IRON	4910		

Parameter	Result	Val Qual	Qual Code
IRON	54.6	U	A

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-DU01-13-F
samp_date	10/28/2003
lab_id	F20325-14
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	CEF-B312-06S-13-F

Parameter	Result	Val Qual	Qual Code
IRON	10200		

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-01S-13	nsample	CEF-B312-01S-13-F	nsample	CEF-B312-06S-13
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-7	lab_id	F20325-8	lab_id	F20325-5
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	203		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.15		
NITRITE	MG/L	0.1	U	
PHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	33.6	J	G

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	100		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
PHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	33.4	J	G

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-06S-13-F	nsample	CEF-B312-07S-13	nsample	CEF-B312-07S-13-F
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-6	lab_id	F20325-9	lab_id	F20325-10
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.2		

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	91		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.91		
NITRITE	MG/L	0.1	U	
PHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	21.3		
TOTAL ORGANIC CARBON	MG/L	7	J	G

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-08S-13	nsample	CEF-B312-08S-13-F	nsample	CEF-B312-11S-13
samp_date	10/28/2003	samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-3	lab_id	F20325-4	lab_id	F20325-11
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	137		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.68		
NITRITE	MG/L	0.1	U	
PHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	10.6	J	G

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	81		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
PHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	21.6	J	G

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-11S-13-F
samp_date	10/28/2003
lab_id	F20325-12
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

nsample	CEF-B312-15I-13
samp_date	10/28/2003
lab_id	F20325-1
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	9.5		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
PHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	1.7	J	G

nsample	CEF-B312-15I-13-F
samp_date	10/28/2003
lab_id	F20325-2
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1	U	

PROJ_NO: 3965

SDG: F20325 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-DU01-13	nsample	CEF-B312-DU01-13-F
samp_date	10/28/2003	samp_date	10/28/2003
lab_id	F20325-13	lab_id	F20325-14
qc_type	NM	qc_type	NM
Pct_Solids		Pct_Solids	
DUP_OF:	CEF-B312-06S-13	DUP_OF:	CEF-B312-06S-13-F

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	100		
CHLORIDE	MG/L	20	U	
NITRATE	MG/L	0.1	U	
NITRITE	MG/L	0.1	U	
PHOSPHATE	MG/L	0.1	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	21	J	G

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.2		

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-13F		
Lab Sample ID:	F20325-8	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	12400	300	7.1	ug/l	1	11/04/03	11/04/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-13F		
Lab Sample ID:	F20325-6	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	10100	300	7.1	ug/l	1	11/04/03	11/04/03	DM	SW846 6010B	SW846 3010A

00635

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-13F		
Lab Sample ID:	F20325-10	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	1820	300	7.1	ug/l	1	11/04/03	11/04/03 DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-13F		
Lab Sample ID:	F20325-4	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	2960	300	7.1	ug/l	1	11/04/03	11/04/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-13F		
Lab Sample ID:	F20325-12	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	4910	300	7.1	ug/l	1	11/04/03	11/04/03	DM	SW846 6010B	SW846 3010A

00638

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-13F		
Lab Sample ID:	F20325-2	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	54.6 B	300	7.1	ug/l	1	11/04/03	11/04/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-13F		
Lab Sample ID:	F20325-14	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	10200	300	7.1	ug/l	1	11/04/03	11/04/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-13		
Lab Sample ID:	F20325-7	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	203	5.0	mg/l	1	11/06/03	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	10/30/03 02:42	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.15	0.10	mg/l	1	10/30/03 02:42	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/30/03 02:42	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/30/03 08:30	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	10/30/03 02:42	LL	EPA 300/SW846 9056
Total Organic Carbon	33.6	1.0	mg/l	1	11/13/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-13F		
Lab Sample ID:	F20325-8	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-13		
Lab Sample ID:	F20325-5	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	100	5.0	mg/l	1	11/06/03	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	10/30/03 02:28	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	10/30/03 02:28	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/30/03 02:28	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/30/03 08:30	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	10/30/03 02:28	LL	EPA 300/SW846 9056
Total Organic Carbon	33.4	1.0	mg/l	1	11/13/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-13F		
Lab Sample ID:	F20325-6	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	1.2	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-13		
Lab Sample ID:	F20325-9	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	91.0	5.0	mg/l	1	11/06/03	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	10/30/03 03:27	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.91	0.10	mg/l	1	10/30/03 03:27	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/30/03 03:27	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/30/03 08:30	LL	EPA 365.3
Sulfate	21.3	20	mg/l	1	10/30/03 03:27	LL	EPA 300/SW846 9056
Total Organic Carbon	7.0	1.0	mg/l	1	11/14/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-13F		
Lab Sample ID:	F20325-10	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-13		
Lab Sample ID:	F20325-3	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	137	5.0	mg/l	1	11/06/03	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	10/30/03 02:13	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	0.68	0.10	mg/l	1	10/30/03 02:13	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/30/03 02:13	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/30/03 08:30	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	10/30/03 02:13	LL	EPA 300/SW846 9056
Total Organic Carbon	10.6	1.0	mg/l	1	11/13/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-13F		
Lab Sample ID:	F20325-4	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-13		
Lab Sample ID:	F20325-11	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	81.0	5.0	mg/l	1	11/06/03	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	10/30/03 03:42	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	10/30/03 03:42	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/30/03 03:42	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/30/03 08:30	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	10/30/03 03:42	LL	EPA 300/SW846 9056
Total Organic Carbon	21.6	1.0	mg/l	1	11/14/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-13F		
Lab Sample ID:	F20325-12	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-13		
Lab Sample ID:	F20325-1	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	9.5	5.0	mg/l	1	11/06/03	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	10/30/03 01:58	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	10/30/03 01:58	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/30/03 01:58	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/30/03 08:30	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	10/30/03 01:58	LL	EPA 300/SW846 9056
Total Organic Carbon	1.7	1.0	mg/l	1	11/13/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-13F		
Lab Sample ID:	F20325-2	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-13		
Lab Sample ID:	F20325-13	**Date Sampled:**	10/28/03
Matrix:	AQ - Ground Water	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	100	5.0	mg/l	1	11/06/03	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	10/30/03 03:57	LL	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	10/30/03 03:57	LL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	10/30/03 03:57	LL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	10/30/03 08:30	LL	EPA 365.3
Sulfate	<20	20	mg/l	1	10/30/03 03:57	LL	EPA 300/SW846 9056
Total Organic Carbon	21.0	1.0	mg/l	1	11/14/03	LE	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-13F		
Lab Sample ID:	F20325-14	**Date Sampled:**	10/28/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/29/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	1.2	1.0	mg/l	1	10/30/03	LL	EPA 376.1

RL = Reporting Limit

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. SPERANZA** **DATE: JANUARY 15, 2004**

FROM: **D. SCHLOER** **CC: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – VOC / DISSOLVED GASES / PAH**
CTO 161, NAS CECIL FIELD
SDG: F20948 and F21188

SAMPLES: 2 / Aqueous / VOC / PAH / Dissolved Gases

CEF-312-01-13 CEF-B312-01I-13

2 / Aqueous / VOC

CEF-324-TMW-10D CEF-324-TMW-2D

Overview

The sample set for CTO 161; NAS Cecil Filed; SDGs F20948 and F21188 consists of four (4) aqueous environmental samples. As detailed above, all of the samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs), and two samples were analyzed for Polynuclear Aromatic Hydrocarbons (PAHs) and the dissolved gases: methane ethane and ethene. No field duplicate pairs were included in this SDG.

The samples were collected by Tetra Tech NUS on December 4th, 8th and 16th, 2003 and analyzed by Accutest Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using U.S. EPA Test Methods for Evaluating Solid Waste (SW-846) Method 8260B, 8310 and RSK SOP – 147/175.

The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • Initial and continuing calibration
* • Blank results
* • Blank Spike/Blank Spike Duplicate Results
  • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

VOC

Due to the presence of trichloroethene, samples CEF-234-TMW-2D and CEF-234-TMW-10D were analyzed and reported at a 5X dilution factor. The laboratory did not provide sample results for undiluted analysis. This accounts for the elevated detection limits for these samples.

As noted in the laboratory case narrative, sample CEF-B312-01I-13 was not analyzed for Total Petroleum Hydrocarbon (TPH) as indicated on the Chain of Custody (COC) documentation. Correspondence between TtNUS personnel, the laboratory and the project manager indicates that the issue was the result of laboratory oversight. No action was required.

OVG

A calibration verification percent Difference (%D) exceeded the 25% quality control limit for methane on instrument GCXY, on 11/17/03, at 14:28. No data validation action was taken, since the data review is limited in nature.

Additional Comments

No field quality control samples (i.e. trip blanks) accompanied the samples submitted for laboratory analysis.

Nondetected organic compounds were reported at the method detection limit (MDL); positive results greater than the MDL but less than the method Reporting Limit (RL) were qualified as estimated (J) due to uncertainty near the detection limit.

The laboratory used a sample not of interest for the MS/MSD analysis of the VOC and dissolved gases fractions; therefore, sample matrix effects were not assessed for these analytical fractions.

EXECUTIVE SUMMARY

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the NFESC guidelines entitled "Navy IRCDQM" (September, 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Douglas Schloer
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F20948 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-312-01-13	nsample	CEF-312-01-13	nsample	CEF-B312-01I-13
samp_date	12/4/2003	samp_date	12/4/2003	samp_date	12/4/2003
lab_id	F20948-1	lab_id	F20948-1	lab_id	F20948-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	1.5		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

PROJ_NO: 3965

SDG: F20948 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-01I-13
samp_date	12/4/2003
lab_id	F20948-3
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F20948 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-312-01-13	nsample	CEF-B312-01I-13
samp_date	12/4/2003	samp_date	12/4/2003
lab_id	F20948-1	lab_id	F20948-3
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.55	U	
2-METHYLNAPHTHALENE	0.55	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.55	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	2.5		
PHENANTHRENE	1.1	U	
PYRENE	0.55	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.54	U	
2-METHYLNAPHTHALENE	0.54	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.54	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.54	U	
PHENANTHRENE	1.1	U	
PYRENE	0.54	U	

PROJ_NO: 3965

SDG: F20948 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-312-01-13	nsample	CEF-B312-01I-13
samp_date	12/4/2003	samp_date	12/4/2003
lab_id	F20948-1	lab_id	F20948-3
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	842		

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	6.23		
METHANE	1.74		

PROJ_NO: 3965

SDG: F21188 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-324-TMW-10D
samp_date	12/16/2003
lab_id	F21188-2
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	2.5	U	
1,1,2,2-TETRACHLOROETHANE	1.5	U	
1,1,2-TRICHLOROETHANE	2.5	U	
1,1-DICHLOROETHANE	2.5	U	
1,1-DICHLOROETHENE	2.5	U	
1,2-DICHLOROETHANE	2.5	U	
1,2-DICHLOROPROPANE	2.5	U	
2-BUTANONE	13	U	
2-HEXANONE	13	U	
4-METHYL-2-PENTANONE	13	U	
ACETONE	25	U	
BENZENE	2.5	U	
BROMODICHLOROMETHANE	2.5	U	
BROMOFORM	2.5	U	
BROMOMETHANE	5	U	
CARBON DISULFIDE	5	U	
CARBON TETRACHLORIDE	2.5	U	
CHLOROBENZENE	2.5	U	
CHLORODIBROMOMETHANE	2	U	
CHLOROETHANE	5	U	
CHLOROFORM	2.5	U	
CHLOROMETHANE	5	U	
CIS-1,2-DICHLOROETHENE	2.5	U	
CIS-1,3-DICHLOROPROPENE	1.5	U	
ETHYLBENZENE	2.5	U	
METHYLENE CHLORIDE	5	U	
STYRENE	2.5	U	
TETRACHLOROETHENE	2.5	U	
TOLUENE	2.5	U	
TOTAL XYLENES	5	U	
TRANS-1,2-DICHLOROETHENE	2.5	U	
TRANS-1,3-DICHLOROPROPENE	1.5	U	

nsample	CEF-324-TMW-10D
samp_date	12/16/2003
lab_id	F21188-2
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	295		
VINYL CHLORIDE	2.5	U	

nsample	CEF-324-TMW-2D
samp_date	12/16/2003
lab_id	F21188-1
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	2.5	U	
1,1,2,2-TETRACHLOROETHANE	1.5	U	
1,1,2-TRICHLOROETHANE	2.5	U	
1,1-DICHLOROETHANE	2.5	U	
1,1-DICHLOROETHENE	2.5	U	
1,2-DICHLOROETHANE	2.5	U	
1,2-DICHLOROPROPANE	2.5	U	
2-BUTANONE	13	U	
2-HEXANONE	13	U	
4-METHYL-2-PENTANONE	13	U	
ACETONE	25	U	
BENZENE	2.5	U	
BROMODICHLOROMETHANE	2.5	U	
BROMOFORM	2.5	U	
BROMOMETHANE	5	U	
CARBON DISULFIDE	5	U	
CARBON TETRACHLORIDE	2.5	U	
CHLOROBENZENE	2.5	U	
CHLORODIBROMOMETHANE	2	U	
CHLOROETHANE	5	U	
CHLOROFORM	2.5	U	
CHLOROMETHANE	5	U	
CIS-1,2-DICHLOROETHENE	3.3	J	P
CIS-1,3-DICHLOROPROPENE	1.5	U	
ETHYLBENZENE	2.5	U	
METHYLENE CHLORIDE	5	U	
STYRENE	2.5	U	
TETRACHLOROETHENE	2.5	U	
TOLUENE	2.5	U	
TOTAL XYLENES	5	U	
TRANS-1,2-DICHLOROETHENE	2.5	U	
TRANS-1,3-DICHLOROPROPENE	1.5	U	

PROJ_NO: 3965

SDG: F21188 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-324-TMW-2D
samp_date	12/16/2003
lab_id	F21188-1
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	399		
VINYL CHLORIDE	2.5	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-13		
Lab Sample ID:	F20948-1	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B018871.D	1	12/08/03	KW	n/a	n/a	VB827
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	1.5	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-13		
Lab Sample ID:	F20948-1	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		86-115%
17060-07-0	1,2-Dichloroethane-D4	96%		73-126%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-13		
Lab Sample ID:	F20948-3	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B018872.D	1	12/08/03	KW	n/a	n/a	VB827
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-13		
Lab Sample ID:	F20948-3	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		86-115%
17060-07-0	1,2-Dichloroethane-D4	96%		73-126%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	99%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-324-TMW-10D		
Lab Sample ID:	F21188-2	**Date Sampled:**	12/16/03
Matrix:	AQ - Ground Water	**Date Received:**	12/17/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0025723.D	5	12/18/03	JG	n/a	n/a	VG937
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	25	ug/l	
71-43-2	Benzene	ND	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.5	ug/l	
75-00-3	Chloroethane	ND	5.0	5.0	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
75-15-0	Carbon disulfide	ND	5.0	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.5	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	2.5	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	2.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	2.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	2.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
100-41-4	Ethylbenzene	ND	5.0	2.5	ug/l	
591-78-6	2-Hexanone	ND	25	13	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	25	13	ug/l	
74-83-9	Methyl bromide	ND	5.0	5.0	ug/l	
74-87-3	Methyl chloride	ND	5.0	5.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	25	13	ug/l	
100-42-5	Styrene	ND	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.5	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.5	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	2.5	ug/l	
108-88-3	Toluene	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethylene	295	5.0	2.5	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-324-TMW-10D		
Lab Sample ID:	F21188-2	**Date Sampled:**	12/16/03
Matrix:	AQ - Ground Water	**Date Received:**	12/17/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	5.0	2.5	ug/l	
1330-20-7	Xylene (total)	ND	15	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		86-115%
17060-07-0	1,2-Dichloroethane-D4	102%		73-126%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	99%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-324-TMW-2D		
Lab Sample ID:	F21188-1	**Date Sampled:**	12/16/03
Matrix:	AQ - Ground Water	**Date Received:**	12/17/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0025722.D	5	12/18/03	JG	n/a	n/a	VG937
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	25	ug/l	
71-43-2	Benzene	ND	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.5	ug/l	
75-00-3	Chloroethane	ND	5.0	5.0	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
75-15-0	Carbon disulfide	ND	5.0	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.5	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	2.5	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	2.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	3.3	5.0	2.5	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	2.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
100-41-4	Ethylbenzene	ND	5.0	2.5	ug/l	
591-78-6	2-Hexanone	ND	25	13	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	25	13	ug/l	
74-83-9	Methyl bromide	ND	5.0	5.0	ug/l	
74-87-3	Methyl chloride	ND	5.0	5.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	25	13	ug/l	
100-42-5	Styrene	ND	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.5	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.5	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	2.5	ug/l	
108-88-3	Toluene	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethylene	399	5.0	2.5	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-324-TMW-2D		
Lab Sample ID:	F21188-1	**Date Sampled:**	12/16/03
Matrix:	AQ - Ground Water	**Date Received:**	12/17/03
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	5.0	2.5	ug/l	
1330-20-7	Xylene (total)	ND	15	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		86-115%
17060-07-0	1,2-Dichloroethane-D4	99%		73-126%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	97%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-13		
Lab Sample ID:	F20948-1	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA018745.D	1	12/09/03	MRE	12/06/03	OP9241	GAA896
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.4	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.4	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.55	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	2.5	2.2	0.55	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.55	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.55	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.55	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		36-114%
92-94-4	p-Terphenyl	64%		31-121%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-13		
Lab Sample ID:	F20948-3	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA018746.D	1	12/09/03	MRE	12/06/03	OP9241	GAA896
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	68%		36-114%
92-94-4	p-Terphenyl	79%		31-121%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-13		
Lab Sample ID:	F20948-1	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012172.D	1	12/10/03	CV	n/a	n/a	GXY346
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	842	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-13		
Lab Sample ID:	F20948-3	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-CTO-161		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012173.D	1	12/10/03	CV	n/a	n/a	GXY346
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1.74	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	6.23	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**JANUARY 14, 2004**
FROM:	**JACQUELINE J. RASPANTI**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION –IRON AND MISCELLANEOUS PARAMETERS**
CTO- 161 NAS CECIL FIELD
SAMPLE DELIVERY GROUP (SDG) – F20948

SAMPLES: 2/Aqueous/

CEF-312-01-13 CEF-B312-01I-13

The sample set for CTO 161, NAS CECIL FIELD, SDG F20948, consists of two (2) aqueous environmental samples.

All samples were analyzed for alkalinity, nitrate, nitrite, orthophosphate, sulfate, total organic carbon, dissolved sulfide, and dissolved iron. Samples analyzed for dissolved iron and dissolved sulfide are appended with a suffix of F. The samples were collected by Tetra Tech NUS on December 4, 2003 and analyzed by Accutest Laboratories Southeast, Inc. under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses were conducted using SW846 method 6010B. Nitrate, nitrite, and sulfate analyses were conducted using EPA method 300. Orthophosphate analyses were conducted using EPA method 365.3. Total organic carbon analyses were conducted using EPA method 415.1. Analyses for alkalinity were conducted using EPA method 310.1. Sulfide analyses were conducted using EPA method 376.1.

Metals analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Results
* • Laboratory Blank Analyses
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses:

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Iron[1]	34.1 µg/L	170.5 µg/L
Sulfide[1]	5.8 mg/L	29 mg/L

[1]Maximum concentration present in aqueous preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. Iron and sulfide were not qualified for blank contamination because the results reported for iron and sulfide were either greater than the action level, or they were nondetects.

Executive Summary

Laboratory Performance: Iron and sulfide were present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Review" (July 2002), and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Jacqueline J. Raspanti

Tetra Tech NUS
Jacqueline J. Raspanti
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F20948 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-312-01-13F	nsample	CEF-B312-01I-13F
samp_date	12/4/2003	samp_date	12/4/2003
lab_id	F20948-2	lab_id	F20948-4
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	4690		

Parameter	Result	Val Qual	Qual Code
IRON	7.1	U	

PROJ_NO: 3965

SDG: F20948 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-312-01-13
samp_date	12/4/2003
lab_id	F20948-1
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	123		
NITRATE-N	MG/L	0.10	U	
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	15.1		

nsample	CEF-312-01-13F
samp_date	12/4/2003
lab_id	F20948-2
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.0	U	

nsample	CEF-B312-01I-13
samp_date	12/4/2003
lab_id	F20948-3
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	95.5		
NITRATE-N	MG/L	0.14		
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	2.2		

PROJ_NO: 3965

SDG: F20948 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-01I-13F
samp_date	12/4/2003
lab_id	F20948-4
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.0	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-13F		
Lab Sample ID:	F20948-2	**Date Sampled:**	12/04/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/05/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	4690	300	7.1	ug/l	1	12/10/03	12/10/03 SL	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3598
(2) Prep QC Batch: MP6111

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-13F		
Lab Sample ID:	F20948-4	**Date Sampled:**	12/04/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/05/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	7.1 U	300	7.1	ug/l	1	12/10/03	12/10/03 SL	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3598
(2) Prep QC Batch: MP6111

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-13		
Lab Sample ID:	F20948-1	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	123	5.0	mg/l	1	12/10/03	MCR	EPA 310.1
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	12/05/03 15:17	SJL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	12/05/03 15:17	SJL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	12/05/03 13:00	SL	EPA 365.3
Sulfate	<20	20	mg/l	1	12/05/03 15:17	SJL	EPA 300/SW846 9056
Total Organic Carbon	15.1	1.0	mg/l	1	12/20/03	SJL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-312-01-13F		
Lab Sample ID:	F20948-2	**Date Sampled:**	12/04/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/05/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	12/11/03	SJL	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-13		
Lab Sample ID:	F20948-3	**Date Sampled:**	12/04/03
Matrix:	AQ - Ground Water	**Date Received:**	12/05/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	95.5	5.0	mg/l	1	12/10/03	MCR	EPA 310.1
Nitrogen, Nitrate	0.14	0.10	mg/l	1	12/05/03 15:31	SJL	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	12/05/03 15:31	SJL	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	12/05/03 13:00	SL	EPA 365.3
Sulfate	<20	20	mg/l	1	12/05/03 15:31	SJL	EPA 300/SW846 9056
Total Organic Carbon	2.2	1.0	mg/l	1	12/20/03	SJL	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-13F		
Lab Sample ID:	F20948-4	**Date Sampled:**	12/04/03
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/05/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-161		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	12/11/03	SJL	EPA 376.1

RL = Reporting Limit

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**FEBRUARY 20, 2004**
FROM:	**EDWARD SEDLMYER**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOA/OVG/PAH**
CTO 078, NAS CECIL FIELD
SDG F21729

SAMPLES: 3/Aqueous

CEF-B312-08S-14 CEF-B312-15I-14 CEF-B312-01S-14

OVERVIEW

The sample set for CTO 078 NAS Cecil Field, SDG F21729 consists of three (3) aqueous environmental samples. All samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), dissolved organic gases (OVG), and polynuclear aromatic hydrocarbons (PAHs).

The samples were collected by TetraTech NUS on January 20, 2004 and analyzed by Accutest Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8260B, 8310, and Modified RSK SOP – 147/175 analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • Initial/continuing calibrations
* • Laboratory method blank results
* • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

The text of this report is formatted to address only gross non-compliances resulting in the rejection of data and the elimination of false positives.

Volatiles

No qualification of the data was necessary.

Dissolved Gases

No qualification of the data was necessary.

PAHs

Sample CEF-B312-01S-14 was analyzed at a 4X dilution due to a high concentration of naphthalene. The naphthalene result was taken from the diluted analysis and transposed to the original analysis on the Form I and EDD.

The MS/MSD associated with this SDG had recoveries above the quality control criteria for acenaphthylene. No action was taken on this basis because the spiked sample was not a TTNUS sample.

EXECUTIVE SUMMARY

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Edward Sedlmyer
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 0039

SDG: F21729 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-01S-14	nsample	CEF-B312-01S-14	nsample	CEF-B312-08S-14
samp_date	1/20/2004	samp_date	1/20/2004	samp_date	1/20/2004
lab_id	F21729-5	lab_id	F21729-5	lab_id	F21729-1
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	1.3		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

PROJ_NO: 0039

SDG: F21729 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-08S-14
samp_date	1/20/2004
lab_id	F21729-1
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-15I-14
samp_date	1/20/2004
lab_id	F21729-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-15I-14
samp_date	1/20/2004
lab_id	F21729-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 0039

SDG: F21729 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-01S-14	nsample	CEF-B312-08S-14	nsample	CEF-B312-15I-14
samp_date	1/20/2004	samp_date	1/20/2004	samp_date	1/20/2004
lab_id	F21729-5	lab_id	F21729-1	lab_id	F21729-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	508		

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	144		

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	2.61		

PROJ_NO: 0039

SDG: F21729 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-01S-14	nsample	CEF-B312-08S-14	nsample	CEF-B312-15I-14
samp_date	1/20/2004	samp_date	1/20/2004	samp_date	1/20/2004
lab_id	F21729-5	lab_id	F21729-1	lab_id	F21729-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	6.7		
2-METHYLNAPHTHALENE	10		
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.53	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	80.2		
PHENANTHRENE	1.1	U	
PYRENE	0.53	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	1.1	J	P
2-METHYLNAPHTHALENE	0.53	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.53	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.83	J	P
PHENANTHRENE	1.1	U	
PYRENE	0.53	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.55	U	
2-METHYLNAPHTHALENE	0.55	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.55	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.55	U	
PHENANTHRENE	1.1	U	
PYRENE	0.55	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-14		
Lab Sample ID:	F21729-5	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019673.D	1	01/29/04	KW	n/a	n/a	VB861
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	1.3	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-01S-14		
Lab Sample ID:	F21729-5	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		86-115%
17060-07-0	1,2-Dichloroethane-D4	88%		73-126%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	83%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-14		
Lab Sample ID:	F21729-1	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019671.D	1	01/29/04	KW	n/a	n/a	VB861
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-08S-14		
Lab Sample ID:	F21729-1	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		86-115%
17060-07-0	1,2-Dichloroethane-D4	88%		73-126%
2037-26-5	Toluene-D8	94%		86-112%
460-00-4	4-Bromofluorobenzene	89%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-14		
Lab Sample ID:	F21729-3	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019672.D	1	01/29/04	KW	n/a	n/a	VB861
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-14		
Lab Sample ID:	F21729-3	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		86-115%
17060-07-0	1,2-Dichloroethane-D4	88%		73-126%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	92%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-14		
Lab Sample ID:	F21729-5	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012495.D	1	01/22/04	CV	n/a	n/a	GXY363
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	508	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-14		
Lab Sample ID:	F21729-1	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012493.D	1	01/22/04	CV	n/a	n/a	GXY363
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	144	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-14		
Lab Sample ID:	F21729-3	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012494.D	1	01/22/04	CV	n/a	n/a	GXY363
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	2.61	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-14		
Lab Sample ID:	F21729-5	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE020701.D	1	01/27/04	MRE	01/22/04	OP9612	GEE852
Run #2 [a]	EE020698.D	4	01/27/04	MRE	01/22/04	OP9612	GEE852

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2	950 ml	1.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	80.2 [b]	8.4	2.1	ug/l	
90-12-0	1-Methylnaphthalene	6.7	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	10	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%	97%	36-114%
92-94-4	p-Terphenyl	68%	64%	31-121%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-14		
Lab Sample ID:	F21729-1	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE020676.D	1	01/26/04	MRE	01/22/04	OP9612	GEE851
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	0.83	2.1	0.53	ug/l	J
90-12-0	1-Methylnaphthalene	1.1	2.1	0.53	ug/l	J
91-57-6	2-Methylnaphthalene	ND	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	76%		36-114%
92-94-4	p-Terphenyl	62%		31-121%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-14		
Lab Sample ID:	F21729-3	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE020678.D	1	01/26/04	MRE	01/22/04	OP9612	GEE851
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.4	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.4	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.55	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.55	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.55	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.55	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.55	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	66%		36-114%
92-94-4	p-Terphenyl	85%		31-121%

ND = Not detected MDL - Method Detection Limit
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

C-107

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**FEBRUARY 23, 2004**
FROM:	**JACQUELINE J. RASPANTI**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION –IRON AND MISCELLANEOUS PARAMETERS**
CTO- 078 NAS CECIL FIELD
SAMPLE DELIVERY GROUP (SDG) – F21729

SAMPLES: 3/Aqueous/

CEF-B312-01S-14 CEF-B312-08S-14 CEF-B312-15I-14

The sample set for CTO 078, NAS CECIL FIELD, SDG F21729, consists of three (3) aqueous environmental samples.

All samples were analyzed for alkalinity, chloride, nitrate, nitrite, orthophosphate, sulfate, total organic carbon, dissolved iron, and dissolved sulfide. Samples analyzed for dissolved iron and dissolved sulfide are appended with a suffix of F. The samples were collected by Tetra Tech NUS on January 20, 2004 and analyzed by Accutest Laboratories Southeast, Inc. under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses were conducted using SW846 method 6010B. Chloride, nitrate, nitrite, and sulfate analyses were conducted using EPA method 300. Orthophosphate analyses were conducted using EPA method 365.3. Total organic carbon analyses were conducted using EPA method 415.1. Analyses for alkalinity were conducted using EPA method 310.1. Sulfide analyses were conducted using EPA method 376.1.

Metals analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Results
  • Laboratory Blank Analyses
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses:

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Iron	51.3 µg/L	256.5 µg/L

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. The positive result reported for iron in sample CEF-B312-15I-14 which was less than the action level was qualified as non-detected (U) as a result of blank contamination.

Executive Summary

Laboratory Performance: Iron was qualified due to laboratory blank contamination.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Review" (July 2002), and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Jacqueline J. Raspanti

Tetra Tech NUS
Jacqueline J. Raspanti
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 0039

SDG: F21729 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-01S-14F	nsample	CEF-B312-08S-14F	nsample	CEF-B312-15I-14F
samp_date	1/20/2004	samp_date	1/20/2004	samp_date	1/20/2004
lab_id	F21729-6	lab_id	F21729-2	lab_id	F21729-4
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	7110		

Parameter	Result	Val Qual	Qual Code
IRON	4670		

Parameter	Result	Val Qual	Qual Code
IRON	23.5	U	A

PROJ_NO: 0039

SDG: F21729 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-01S-14	nsample	CEF-B312-01S-14F	nsample	CEF-B312-08S-14
samp_date	1/20/2004	samp_date	1/20/2004	samp_date	1/20/2004
lab_id	F21729-5	lab_id	F21729-6	lab_id	F21729-1
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	124		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.10		
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	12.3		

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.0	U	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	139		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.10	U	
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	9.0		

PROJ_NO: 0039

SDG: F21729 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-08S-14F	nsample	CEF-B312-15I-14	nsample	CEF-B312-15I-14F
samp_date	1/20/2004	samp_date	1/20/2004	samp_date	1/20/2004
lab_id	F21729-2	lab_id	F21729-3	lab_id	F21729-4
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.0	U	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	16.5		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.10	U	
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	1.5		

Parameter	units	Result	Val Qual	Qual Code
SULFIDE	MG/L	1.0	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-14F		
Lab Sample ID:	F21729-6	**Date Sampled:**	01/20/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	7110	300	7.1	ug/l	1	02/04/04	02/05/04	DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3669
(2) Prep QC Batch: MP6307

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-14F		
Lab Sample ID:	F21729-2	**Date Sampled:**	01/20/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	4670	300	7.1	ug/l	1	02/04/04	02/05/04	DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3669
(2) Prep QC Batch: MP6307

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-14F		
Lab Sample ID:	F21729-4	**Date Sampled:**	01/20/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	23.5 B	300	7.1	ug/l	1	02/04/04	02/05/04	DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3669
(2) Prep QC Batch: MP6307

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-14		
Lab Sample ID:	F21729-5	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	124	5.0	mg/l	1	01/27/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/21/04 23:32	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	0.10	0.10	mg/l	1	01/21/04 23:32	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/21/04 23:32	MP	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	01/21/04 12:45	LM	EPA 365.3
Sulfate	<20	20	mg/l	1	01/21/04 23:32	MP	EPA 300/SW846 9056
Total Organic Carbon	12.3	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01S-14F		
Lab Sample ID:	F21729-6	**Date Sampled:**	01/20/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

0489

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-14		
Lab Sample ID:	F21729-1	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	139	5.0	mg/l	1	01/27/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/21/04 23:05	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	01/21/04 23:05	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/21/04 23:05	MP	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	01/21/04 12:45	LM	EPA 365.3
Sulfate	<20	20	mg/l	1	01/21/04 23:05	MP	EPA 300/SW846 9056
Total Organic Carbon	9.0	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-08S-14F		
Lab Sample ID:	F21729-2	**Date Sampled:**	01/20/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-14		
Lab Sample ID:	F21729-3	**Date Sampled:**	01/20/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	16.5	5.0	mg/l	1	01/27/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/21/04 23:18	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	01/21/04 23:18	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/21/04 23:18	MP	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	01/21/04 12:45	LM	EPA 365.3
Sulfate	<20	20	mg/l	1	01/21/04 23:18	MP	EPA 300/SW846 9056
Total Organic Carbon	1.5	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-15I-14F		
Lab Sample ID:	F21729-4	**Date Sampled:**	01/20/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**MARCH 19, 2004**
FROM:	**EDWARD SEDLMYER**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOA/OVG/PAH/TPH**
CTO 161, NAS CECIL FIELD
SDG F21746

SAMPLES: 10/Aqueous

CEF-B312-09S-14	*CEF-B312-01I-14	CEF-312-01-14
CEF-B312-12S-14	*CEF-B312-12S-14	CEF-312LS-01SA-14
*CEF-B312-11S-14	CEF-B312-07S-14	*CEF-B312-06S-14
CEF-B312-DU01-14		

OVERVIEW

The sample set for CTO 161 NAS Cecil Field, SDG F21746 consists of ten (10) aqueous environmental samples. All samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), dissolved organic gases (OVG), and polynuclear aromatic hydrocarbons (PAHs). Sample denoted with an asterisk were analyzed for total petroleum hydrocarbons. One (1) field duplicate pair was included in this SDG: CEF-B312-DU01-14 / CEF-B312-09S-14.

The samples were collected by TetraTech NUS on January 21, 2004 and analyzed by Accutest Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8260B, 8310, Modified RSK SOP – 147/175, and Modified 8015 (Florida-PRO) analysis and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- Data completeness
- * Holding times
- * Initial/continuing calibrations
- * Laboratory method blank results
- * Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

The text of this report is formatted to address only gross non-compliances resulting in the rejection of data and the elimination of false positives.

Volatiles

The matrix spike duplicate associated with this SDG had recoveries above the quality control criteria for 1,1,2-trichloroethane. No action was taken on this basis because the spiked sample was not a TTNUS sample.

The calibration verification %D exceeded 25% but was less than 90% for bromomethane on instrument "MSVOA4", on 2/2/04, at 10:39. No action was taken on this basis.

Dissolved Gases

Samples CEF-B312-01-14 (5X), CEF-B312-06S-14 (2X), and CEF-B312-11S-14 (2X) required dilutions due to high concentrations of methane. The diluted methane results were transposed to the undiluted analysis on the Form I and the EDD. No qualification of the data was necessary.

PAHs

Sample CEF-312-01-14 was analyzed at a 20X dilution due to a high concentration of naphthalene. The naphthalene result was taken from the diluted analysis and transposed to the undiluted analysis on the Form I and EDD. No qualification of the data was necessary.

The MS/MSD associated with this SDG had recoveries above the quality control criteria for acenaphthylene. No action was taken on this basis because the spiked sample was not a TTNUS sample.

Additional Comments

The laboratory reported incorrect field ID's for CEF-312-01-14 and CEF-312LS-01SA-14. The Form I's and EDD were amended by the data reviewer.

EXECUTIVE SUMMARY

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS

Edward Sedlmyer
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-312-01-14
samp_date	1/21/2004
lab_id	F21746-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	6.5		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5.4		
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	1.8		
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	2		
TOTAL XYLENES	10.4		
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-312-01-14
samp_date	1/21/2004
lab_id	F21746-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-312LS-01SA-14
samp_date	1/21/2004
lab_id	F21746-5
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-312LS-01SA-14
samp_date	1/21/2004
lab_id	F21746-5
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-01I-14
samp_date	1/21/2004
lab_id	F21746-2
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-01I-14
samp_date	1/21/2004
lab_id	F21746-2
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-06S-14
samp_date	1/21/2004
lab_id	F21746-8
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.63	J	P
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-06S-14
samp_date	1/21/2004
lab_id	F21746-8
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-07S-14
samp_date	1/21/2004
lab_id	F21746-7
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-07S-14
samp_date	1/21/2004
lab_id	F21746-7
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-09S-14
samp_date	1/21/2004
lab_id	F21746-1
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-09S-14
samp_date	1/21/2004
lab_id	F21746-1
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-11S-14
samp_date	1/21/2004
lab_id	F21746-6
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	2.5		
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5.8		
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-11S-14
samp_date	1/21/2004
lab_id	F21746-6
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	CEF-B312-12S-14
samp_date	1/21/2004
lab_id	F21746-4A
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	17.5		
1,1-DICHLOROETHENE	4.5		
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	11.5		
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: OV

nsample	CEF-B312-12S-14
samp_date	1/21/2004
lab_id	F21746-4A
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	8.6		

nsample	CEF-B312-DU01-14
samp_date	1/21/2004
lab_id	F21746-9
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	CEF-B312-09S-14

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.3	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
2-BUTANONE	2.5	U	
2-HEXANONE	2.5	U	
4-METHYL-2-PENTANONE	2.5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.4	U	
CHLOROETHANE	1	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.3	U	
ETHYLBENZENE	0.5	U	
METHYLENE CHLORIDE	1	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.3	U	

nsample	CEF-B312-DU01-14
samp_date	1/21/2004
lab_id	F21746-9
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	CEF-B312-09S-14

Parameter	Result	Val Qual	Qual Code
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-312-01-14
samp_date	1/21/2004
lab_id	F21746-3
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.67	J	P
ETHENE	0.8	U	
METHANE	4200		

nsample	CEF-312LS-01SA-14
samp_date	1/21/2004
lab_id	F21746-5
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	0.32	J	P

nsample	CEF-B312-01I-14
samp_date	1/21/2004
lab_id	F21746-2
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	0.3	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-06S-14
samp_date	1/21/2004
lab_id	F21746-8
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	2000		

nsample	CEF-B312-07S-14
samp_date	1/21/2004
lab_id	F21746-7
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	50.9		

nsample	CEF-B312-09S-14
samp_date	1/21/2004
lab_id	F21746-1
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	0.3	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: OVG

nsample	CEF-B312-11S-14
samp_date	1/21/2004
lab_id	F21746-6
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	1360		

nsample	CEF-B312-12S-14
samp_date	1/21/2004
lab_id	F21746-4A
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	234		

nsample	CEF-B312-DU01-14
samp_date	1/21/2004
lab_id	F21746-9
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	CEF-B312-09S-14

Parameter	Result	Val Qual	Qual Code
ETHANE	0.6	U	
ETHENE	0.8	U	
METHANE	0.3	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-312-01-14	nsample	CEF-312LS-01SA-14	nsample	CEF-B312-01I-14
samp_date	1/21/2004	samp_date	1/21/2004	samp_date	1/21/2004
lab_id	F21746-3	lab_id	F21746-5	lab_id	F21746-2
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	11.3		
2-METHYLNAPHTHALENE	14.1		
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	458		
PHENANTHRENE	1	U	
PYRENE	0.51	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.54	U	
2-METHYLNAPHTHALENE	0.54	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.54	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.72	J	P
PHENANTHRENE	1.1	U	
PYRENE	0.54	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.54	U	
2-METHYLNAPHTHALENE	0.54	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.54	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.54	U	
PHENANTHRENE	1.1	U	
PYRENE	0.54	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-06S-14	nsample	CEF-B312-07S-14	nsample	CEF-B312-09S-14
samp_date	1/21/2004	samp_date	1/21/2004	samp_date	1/21/2004
lab_id	F21746-8	lab_id	F21746-7	lab_id	F21746-1
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	3.2		
2-METHYLNAPHTHALENE	1.7	J	P
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.52	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	16.5		
PHENANTHRENE	1	U	
PYRENE	0.52	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.56	U	
2-METHYLNAPHTHALENE	0.56	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.56	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	1.4	J	P
PHENANTHRENE	1.1	U	
PYRENE	0.56	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.54	U	
2-METHYLNAPHTHALENE	0.54	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.54	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.54	U	
PHENANTHRENE	1.1	U	
PYRENE	0.54	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: PAH

nsample	CEF-B312-11S-14	nsample	CEF-B312-12S-14	nsample	CEF-B312-DU01-14
samp_date	1/21/2004	samp_date	1/21/2004	samp_date	1/21/2004
lab_id	F21746-6	lab_id	F21746-4	lab_id	F21746-9
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	CEF-B312-09S-14

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	2	J	P
2-METHYLNAPHTHALENE	2	J	P
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.52	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	14		
PHENANTHRENE	1	U	
PYRENE	0.52	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.59	J	P
2-METHYLNAPHTHALENE	0.65	J	P
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.52	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	4.7		
PHENANTHRENE	1	U	
PYRENE	0.52	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.52	U	
2-METHYLNAPHTHALENE	0.52	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	U	
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.52	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.52	U	
PHENANTHRENE	1	U	
PYRENE	0.52	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: PET

nsample	CEF-B312-01I-14
samp_date	1/21/2004
lab_id	F21746-2
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.18	U	

nsample	CEF-B312-06S-14
samp_date	1/21/2004
lab_id	F21746-8
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.87		

nsample	CEF-B312-11S-14
samp_date	1/21/2004
lab_id	F21746-6
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.3		

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: PET

nsample	CEF-B312-12S-14
samp_date	1/21/2004
lab_id	F21746-4
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.33		

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

3-16-04 JAS

Client Sample ID:	CEF-~~B~~312-01-14		
Lab Sample ID:	F21746-3	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0020876.D	1	02/03/04	KW	n/a	n/a	VC906
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	5.4	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	6.5	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	1.8	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	2.0	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

4-16-04 JM

Client Sample ID:	CEF-B12-01-14		
Lab Sample ID:	F21746-3	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	10.4	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		86-115%
17060-07-0	1,2-Dichloroethane-D4	100%		73-126%
2037-26-5	Toluene-D8	107%		86-112%
460-00-4	4-Bromofluorobenzene	92%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-14		
Lab Sample ID:	F21746-2	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019733.D	1	02/02/04	KW	n/a	n/a	VB863
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-01I-14		
Lab Sample ID:	F21746-2	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	90%		73-126%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	90%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

3-15-04 JAL

Client Sample ID:	CEF-~~K~~312-01SA-14		
Lab Sample ID:	F21746-5	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019736.D	1	02/02/04	KW	n/a	n/a	VB863
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

3-18-04 JAH

Report of Analysis

Client Sample ID:	CEF-~~B~~312-01SA-14		
Lab Sample ID:	F21746-5	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	91%		73-126%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	91%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-14		
Lab Sample ID:	F21746-8	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019739.D	1	02/02/04	KW	n/a	n/a	VB863
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.63	1.0	0.50	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-06S-14		
Lab Sample ID:	F21746-8	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	89%		73-126%
2037-26-5	Toluene-D8	94%		86-112%
460-00-4	4-Bromofluorobenzene	90%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-14		
Lab Sample ID:	F21746-7	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019738.D	1	02/02/04	KW	n/a	n/a	VB863
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-07S-14		
Lab Sample ID:	F21746-7	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	90%		73-126%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	90%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-14		
Lab Sample ID:	F21746-1	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019732.D	1	02/02/04	KW	n/a	n/a	VB863
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-09S-14		
Lab Sample ID:	F21746-1	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	91%		73-126%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	90%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-14		
Lab Sample ID:	F21746-6	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019737.D	1	02/02/04	KW	n/a	n/a	VB863
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	5.8	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	2.5	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-11S-14		
Lab Sample ID:	F21746-6	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		86-115%
17060-07-0	1,2-Dichloroethane-D4	91%		73-126%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	87%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-14		
Lab Sample ID:	F21746-4A	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/22/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0020877.D	1	02/03/04	KW	n/a	n/a	VC906
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	11.5	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	17.5	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	4.5	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-12S-14		
Lab Sample ID:	F21746-4A	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/22/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	8.6	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		86-115%
17060-07-0	1,2-Dichloroethane-D4	103%		73-126%
2037-26-5	Toluene-D8	107%		86-112%
460-00-4	4-Bromofluorobenzene	102%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DUO1-14		
Lab Sample ID:	F21746-9	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B019740.D	1	02/02/04	KW	n/a	n/a	VB863
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
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-B312-DUO1-14		
Lab Sample ID:	F21746-9	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	90%		73-126%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	92%		83-119%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

3-18-04 JAd

Client Sample ID:	CEF-B312-01-14		
Lab Sample ID:	F21746-3	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE020896.D	1	02/04/04	MRE	01/26/04	OP9635	GEE859
Run #2 [a]	EE020919.D	20	02/04/04	MRE	01/26/04	OP9635	GEE859

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2	980 ml	1.0 ml

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.1	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	458 [b]	41	10	ug/l	
90-12-0	1-Methylnaphthalene	11.3	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	14.1	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	64%	0% [c]	36-114%
92-94-4	p-Terphenyl	53%	0% [c]	31-121%

(a) All hits confirmed by spectral match using a diode array detector.
(b) Result is from Run# 2
(c) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-14		
Lab Sample ID:	F21746-2	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE020895.D	1	02/04/04	MRE	01/26/04	OP9635	GEE859
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	87%		36-114%
92-94-4	p-Terphenyl	88%		31-121%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

3-18-04 JAS

Client Sample ID:	CEF-~~N~~312-01SA-14 (LS)		
Lab Sample ID:	F21746-5	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE020898.D	1	02/04/04	MRE	01/26/04	OP9635	GEE859
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	0.72	2.2	0.54	ug/l	J
90-12-0	1-Methylnaphthalene	ND	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		36-114%
92-94-4	p-Terphenyl	68%		31-121%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-14		
Lab Sample ID:	F21746-8	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE020904.D	1	02/04/04	MRE	01/26/04	OP9635	GEE859
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	16.5	2.1	0.52	ug/l	
90-12-0	1-Methylnaphthalene	3.2	2.1	0.52	ug/l	
91-57-6	2-Methylnaphthalene	1.7	2.1	0.52	ug/l	J
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		36-114%
92-94-4	p-Terphenyl	44%		31-121%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-14		
Lab Sample ID:	F21746-7	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE020901.D	1	02/04/04	MRE	01/26/04	OP9635	GEE859
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.4	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.4	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.56	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	1.4	2.2	0.56	ug/l	J
90-12-0	1-Methylnaphthalene	ND	2.2	0.56	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.56	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.56	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	91%		36-114%
92-94-4	p-Terphenyl	65%		31-121%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-14		
Lab Sample ID:	F21746-1	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE020894.D	1	02/04/04	MRE	01/26/04	OP9635	GEE859
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	79%		36-114%
92-94-4	p-Terphenyl	80%		31-121%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-14		
Lab Sample ID:	F21746-6	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE020899.D	1	02/04/04	MRE	01/26/04	OP9635	GEE859
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.1	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	14.0	2.1	0.52	ug/l	
90-12-0	1-Methylnaphthalene	2.0	2.1	0.52	ug/l	J
91-57-6	2-Methylnaphthalene	2.0	2.1	0.52	ug/l	J
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	75%		36-114%
92-94-4	p-Terphenyl	43%		31-121%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-14		
Lab Sample ID:	F21746-4	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EE020920.D	1	02/04/04	MRE	01/26/04	OP9635	GEE859
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	4.7	2.1	0.52	ug/l	
90-12-0	1-Methylnaphthalene	0.59	2.1	0.52	ug/l	J
91-57-6	2-Methylnaphthalene	0.65	2.1	0.52	ug/l	J
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		36-114%
92-94-4	p-Terphenyl	63%		31-121%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DUO1-14		
Lab Sample ID:	F21746-9	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	EPA 8310 SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE020905.D	1	02/04/04	MRE	01/26/04	OP9635	GEE859
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.1	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	ND	2.1	0.52	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.52	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.52	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	87%		36-114%
92-94-4	p-Terphenyl	86%		31-121%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-14		
Lab Sample ID:	F21746-2	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP34833.D	1	01/26/04	SM	01/23/04	OP9620	GOP1150
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.26	0.18	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	77%		50-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-14		
Lab Sample ID:	F21746-8	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP34836.D	1	01/26/04	SM	01/23/04	OP9620	GOP1150
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1.87	0.26	0.18	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		50-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-14		
Lab Sample ID:	F21746-6	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP34835.D	1	01/26/04	SM	01/23/04	OP9620	GOP1150
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1.30	0.26	0.18	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	84%		50-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-14		
Lab Sample ID:	F21746-4	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	FLORIDA-PRO SW846 3510C	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP34834.D	1	01/26/04	SM	01/23/04	OP9620	GOP1150
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	0.330	0.26	0.18	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	81%		50-125%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

3-18-04 JAd

Client Sample ID:	CEF-B312-01-14		
Lab Sample ID:	F21746-3	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012524.D	1	01/26/04	CV	n/a	n/a	GXY365
Run #2	XY012544.D	5	01/26/04	CV	n/a	n/a	GXY365

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	4200 [a]	2.5	1.5	ug/l	
74-84-0	Ethane	0.67	1.0	0.60	ug/l	J
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-14		
Lab Sample ID:	F21746-2	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012523.D	1	01/26/04	CV	n/a	n/a	GXY365
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

3-18-04 JAI

Client Sample ID:	CEF-~~R~~312-01SA-14 (15)		
Lab Sample ID:	F21746-5	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012527.D	1	01/26/04	CV	n/a	n/a	GXY365
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.32	0.50	0.30	ug/l	J
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-14		
Lab Sample ID:	F21746-8	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012532.D	1	01/26/04	CV	n/a	n/a	GXY365
Run #2	XY012546.D	2	01/26/04	CV	n/a	n/a	GXY365

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	2000 [a]	1.0	0.60	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-14		
Lab Sample ID:	F21746-7	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012529.D	1	01/26/04	CV	n/a	n/a	GXY365
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	50.9	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-14		
Lab Sample ID:	F21746-1	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012522.D	1	01/26/04	CV	n/a	n/a	GXY365
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-14		
Lab Sample ID:	F21746-6	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012528.D	1	01/26/04	CV	n/a	n/a	GXY365
Run #2	XY012545.D	2	01/26/04	CV	n/a	n/a	GXY365

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1360 [a]	1.0	0.60	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-14		
Lab Sample ID:	F21746-4A	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/22/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012525.D	1	01/26/04	CV	n/a	n/a	GXY365
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	234	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DUO1-14		
Lab Sample ID:	F21746-9	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
Method:	RSKSOP-147/175	**Percent Solids:**	n/a
Project:	NAS Cecil Field-Site 58		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012533.D	1	01/26/04	CV	n/a	n/a	GXY365
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	ug/l	

ND = Not detected MDL - Method Detection Limit
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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. SPERANZA**	**DATE:**	**FEBRUARY 23, 2004**
FROM:	**JACQUELINE J. RASPANTI**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION –IRON AND MISCELLANEOUS PARAMETERS**
CTO- 161 NAS CECIL FIELD
SAMPLE DELIVERY GROUP (SDG) – F21746

SAMPLES: 9/Aqueous/

CEF-312-01-14	CEF-B312-01I-14	CEF-312LS-01SA-14
CEF-B312-06S-14	CEF-B312-07S-14	CEF-B312-09S-14
CEF-B312-11S-14	CEF-B312-12S-14	CEF-B312-DU01-14

The sample set for CTO 161, NAS CECIL FIELD, SDG F21746, consists of nine (9) aqueous environmental samples. One (1) field duplicate pair (CEF-B312-DU01-14 / CEF-B312-09S-14) is included within this SDG.

All samples were analyzed for alkalinity, chloride, nitrate, nitrite, orthophosphate, sulfate, total organic carbon, dissolved iron, and dissolved sulfide. Samples analyzed for dissolved iron and dissolved sulfide are appended with a suffix of F. The samples were collected by Tetra Tech NUS on January 21, 2004 and analyzed by Accutest Laboratories Southeast, Inc. under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses were conducted using SW846 method 6010B. Chloride, nitrate, nitrite, and sulfate analyses were conducted using EPA method 300. Orthophosphate analyses were conducted using EPA method 365.3. Total organic carbon analyses were conducted using EPA method 415.1. Analyses for alkalinity were conducted using EPA method 310.1. Sulfide analyses were conducted using EPA method 376.1.

Metals analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Results
* • Laboratory Blank Analyses
* • Field Duplicate Results
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses:

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Iron	25.0 µg/L	125 µg/L
Alkalinity[1]	1.5 mg/L	7.5 mg/L

[1]Maximum concentration present in aqueous preparation blank.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. Iron and alkalinity were not qualified for blank contamination because the results reported for iron and alkalinity were either greater than the action level, or they were non-detects.

Notes

The laboratory received a total organic carbon bottle with no sample identification number, and had sample CEF-B312-11S-14 missing. By process of elimination, the laboratory concluded that the bottle with no identification number belonged with sample CEF-B312-11S-14.

The laboratory incorrectly reported samples CEF-312-01-14 and CEF-312LS-01SA-14 as CEF-B312-01-14 and CEF-B312-01SA-14. The data reviewer corrected the Form 1's and the database.

Executive Summary

Laboratory Performance: Iron and alkalinity were present in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Review" (July 2002), and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Jacqueline J. Raspanti

Tetra Tech NUS
Jacqueline J. Raspanti
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-312-01-14F	nsample	CEF-312LS-01SA-14F	nsample	CEF-B312-01I-14F
samp_date	1/21/2004	samp_date	1/21/2004	samp_date	1/21/2004
lab_id	F21746-12	lab_id	F21746-14	lab_id	F21746-11
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	12500		

Parameter	Result	Val Qual	Qual Code
IRON	7.1	U	

Parameter	Result	Val Qual	Qual Code
IRON	7.1	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-06S-14F
samp_date	1/21/2004
lab_id	F21746-17
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	5770		

nsample	CEF-B312-07S-14F
samp_date	1/21/2004
lab_id	F21746-16
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	1590		

nsample	CEF-B312-09S-14F
samp_date	1/21/2004
lab_id	F21746-10
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	7.1	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: MF

nsample	CEF-B312-11S-14F
samp_date	1/21/2004
lab_id	F21746-15
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	4120		

nsample	CEF-B312-12S-14F
samp_date	1/21/2004
lab_id	F21746-13
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
IRON	2770		

nsample	CEF-B312-DU01-14F
samp_date	1/21/2004
lab_id	F21746-18
qc_type	NM
units	UG/L
Pct_Solids	
DUP_OF:	CEF-B312-09S-14F

Parameter	Result	Val Qual	Qual Code
IRON	7.1	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-312-01-14	nsample	CEF-312LS-01SA-14	nsample	CEF-B312-01I-14
samp_date	1/21/2004	samp_date	1/21/2004	samp_date	1/21/2004
lab_id	F21746-3	lab_id	F21746-5	lab_id	F21746-2
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	287		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.10	U	
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	29.1		

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	40.5		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.93		
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.13		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	3.2		

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	75.0		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.15		
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.29		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	1.0	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-06S-14
samp_date	1/21/2004
lab_id	F21746-8
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	52.5		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.10	U	
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	17.4		

nsample	CEF-B312-07S-14
samp_date	1/21/2004
lab_id	F21746-7
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	49.0		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.34		
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	5.1		

nsample	CEF-B312-09S-14
samp_date	1/21/2004
lab_id	F21746-1
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	44.5		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	11.1		
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10	U	
SULFATE	MG/L	40.0		
TOTAL ORGANIC CARBON	MG/L	2.4		

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: MISC

nsample	CEF-B312-11S-14
samp_date	1/21/2004
lab_id	F21746-6
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	67.5		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.10	U	
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.12		
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	19.4		

nsample	CEF-B312-12S-14
samp_date	1/21/2004
lab_id	F21746-4
qc_type	NM
Pct_Solids	
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	9.0		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	0.10	U	
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.10	U	
SULFATE	MG/L	20	U	
TOTAL ORGANIC CARBON	MG/L	4.1		

nsample	CEF-B312-DU01-14
samp_date	1/21/2004
lab_id	F21746-9
qc_type	NM
Pct_Solids	
DUP_OF:	CEF-B312-09S-14

Parameter	units	Result	Val Qual	Qual Code
ALKALINITY	MG/L	35.0		
CHLORIDE	MG/L	20	U	
NITRATE-N	MG/L	12.7		
NITRITE-N	MG/L	0.10	U	
ORTHOPHOSPHATE	MG/L	0.15		
SULFATE	MG/L	39.4		
TOTAL ORGANIC CARBON	MG/L	2.4		

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: MISCF

nsample	CEF-312-01-14F	nsample	CEF-312LS-01SA-14F	nsample	CEF-B312-01I-14F
samp_date	1/21/2004	samp_date	1/21/2004	samp_date	1/21/2004
lab_id	F21746-12	lab_id	F21746-14	lab_id	F21746-11
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/L	units	MG/L	units	MG/L
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
SULFIDE	1.0	U	

Parameter	Result	Val Qual	Qual Code
SULFIDE	1.0	U	

Parameter	Result	Val Qual	Qual Code
SULFIDE	1.0	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: MISCF

nsample	CEF-B312-06S-14F
samp_date	1/21/2004
lab_id	F21746-17
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
SULFIDE	1.6		

nsample	CEF-B312-07S-14F
samp_date	1/21/2004
lab_id	F21746-16
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
SULFIDE	1.0	U	

nsample	CEF-B312-09S-14F
samp_date	1/21/2004
lab_id	F21746-10
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
SULFIDE	1.0	U	

PROJ_NO: 3965

SDG: F21746 MEDIA: WATER DATA FRACTION: MISCF

nsample	CEF-B312-11S-14F
samp_date	1/21/2004
lab_id	F21746-15
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
SULFIDE	1.4		

nsample	CEF-B312-12S-14F
samp_date	1/21/2004
lab_id	F21746-13
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
SULFIDE	1.0	U	

nsample	CEF-B312-DU01-14F
samp_date	1/21/2004
lab_id	F21746-18
qc_type	NM
units	MG/L
Pct_Solids	
DUP_OF:	CEF-B312-09S-14F

Parameter	Result	Val Qual	Qual Code
SULFIDE	1	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	~~CEF-B312-01-14F~~ CEF-312-01-14F		
Lab Sample ID:	F21746-12	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	12500	300	7.1	ug/l	1	01/30/04	02/02/04 DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3662
(2) Prep QC Batch: MP6280

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-14F		
Lab Sample ID:	F21746-11	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	7.1 U	300	7.1	ug/l	1	01/30/04	02/02/04	DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3662
(2) Prep QC Batch: MP6280

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	~~CEF-B312-01SA-14F~~ CEF-312LS-01SA-14F		
Lab Sample ID:	F21746-14	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	7.1 U	300	7.1	ug/l	1	01/30/04	02/02/04 DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3662
(2) Prep QC Batch: MP6280

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-14F		
Lab Sample ID:	F21746-17	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	5770	300	7.1	ug/l	1	01/30/04	02/02/04	DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3662
(2) Prep QC Batch: MP6281

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-14F		
Lab Sample ID:	F21746-16	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	1590	300	7.1	ug/l	1	01/30/04	02/02/04	DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3662
(2) Prep QC Batch: MP6281

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-14F		
Lab Sample ID:	F21746-10	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron	7.1 U	300	7.1	ug/l	1	01/30/04	02/02/04	DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3662
(2) Prep QC Batch: MP6280

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-14F		
Lab Sample ID:	F21746-15	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	4120	300	7.1	ug/l	1	01/30/04	02/02/04	DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3662
(2) Prep QC Batch: MP6280

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-14F		
Lab Sample ID:	F21746-13	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Iron	2770	300	7.1	ug/l	1	01/30/04	02/02/04	DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3662
(2) Prep QC Batch: MP6280

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-14F		
Lab Sample ID:	F21746-18	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Iron	7.1 U	300	7.1	ug/l	1	01/30/04	02/02/04 DM	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA3662
(2) Prep QC Batch: MP6281

RL = Reporting Limit
IDL = Instrument Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	~~CEF-B312-01-14~~ CEF-312-01-14		
Lab Sample ID:	F21746-3	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	287	5.0	mg/l	1	01/23/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/22/04 12:45	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	01/22/04 12:45	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/22/04 12:45	MP	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	01/23/04 09:20	MP	EPA 365.3
Sulfate	<20	20	mg/l	1	01/22/04 12:45	MP	EPA 300/SW846 9056
Total Organic Carbon	29.1	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	~~CEF-B312-01-14F~~ CEF-312-01-14F		
Lab Sample ID:	F21746-12	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-14		
Lab Sample ID:	F21746-2	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	75.0	5.0	mg/l	1	01/23/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/22/04 12:32	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	0.15	0.10	mg/l	1	01/22/04 12:32	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/22/04 12:32	MP	EPA 300/SW846 9056
Phosphate, Ortho	0.29	0.10	mg/l	1	01/23/04 09:20	MP	EPA 365.3
Sulfate	<20	20	mg/l	1	01/22/04 12:32	MP	EPA 300/SW846 9056
Total Organic Carbon	<1.0	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-01I-14F		
Lab Sample ID:	F21746-11	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	~~CEF-B312-01SA-14~~ CEF-312LS-01SA-14		
Lab Sample ID:	F21746-5	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	40.5	5.0	mg/l	1	01/23/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/22/04 13:12	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	0.93	0.10	mg/l	1	01/22/04 13:12	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/22/04 13:12	MP	EPA 300/SW846 9056
Phosphate, Ortho	0.13	0.10	mg/l	1	01/23/04 09:20	MP	EPA 365.3
Sulfate	<20	20	mg/l	1	01/22/04 13:12	MP	EPA 300/SW846 9056
Total Organic Carbon	3.2	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	~~CEF-B312-01SA-14F~~ CEF-312LS-01SA-14F		
Lab Sample ID:	F21746-14	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-14		
Lab Sample ID:	F21746-8	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	52.5	5.0	mg/l	1	01/23/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/22/04 13:51	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	01/22/04 13:51	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/22/04 13:51	MP	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	01/23/04 09:20	MP	EPA 365.3
Sulfate	<20	20	mg/l	1	01/22/04 13:51	MP	EPA 300/SW846 9056
Total Organic Carbon	17.4	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-06S-14F		
Lab Sample ID:	F21746-17	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	1.6	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-14		
Lab Sample ID:	F21746-7	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	49.0	5.0	mg/l	1	01/23/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/22/04 13:38	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	0.34	0.10	mg/l	1	01/22/04 13:38	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/22/04 13:38	MP	EPA 300/SW846 9056
Phosphate, Ortho	0.10	0.10	mg/l	1	01/23/04 09:20	MP	EPA 365.3
Sulfate	<20	20	mg/l	1	01/22/04 13:38	MP	EPA 300/SW846 9056
Total Organic Carbon	5.1	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-07S-14F		
Lab Sample ID:	F21746-16	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-14		
Lab Sample ID:	F21746-1	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	44.5	5.0	mg/l	1	01/23/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/22/04 12:19	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	11.1	0.50	mg/l	5	01/22/04 15:09	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/22/04 12:19	MP	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	01/23/04 09:20	MP	EPA 365.3
Sulfate	40.0	20	mg/l	1	01/22/04 12:19	MP	EPA 300/SW846 9056
Total Organic Carbon	2.4	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-09S-14F		
Lab Sample ID:	F21746-10	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-14		
Lab Sample ID:	F21746-6	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	67.5	5.0	mg/l	1	01/23/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/22/04 13:25	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	01/22/04 13:25	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/22/04 13:25	MP	EPA 300/SW846 9056
Phosphate, Ortho	0.12	0.10	mg/l	1	01/23/04 09:20	MP	EPA 365.3
Sulfate	<20	20	mg/l	1	01/22/04 13:25	MP	EPA 300/SW846 9056
Total Organic Carbon	19.4	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-11S-14F		
Lab Sample ID:	F21746-15	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	1.4	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-14		
Lab Sample ID:	F21746-4	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	9.0	5.0	mg/l	1	01/23/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/22/04 12:58	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	01/22/04 12:58	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/22/04 12:58	MP	EPA 300/SW846 9056
Phosphate, Ortho	<0.10	0.10	mg/l	1	01/23/04 09:20	MP	EPA 365.3
Sulfate	<20	20	mg/l	1	01/22/04 12:58	MP	EPA 300/SW846 9056
Total Organic Carbon	4.1	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-12S-14F		
Lab Sample ID:	F21746-13	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DUO1-14		
Lab Sample ID:	F21746-9	**Date Sampled:**	01/21/04
Matrix:	AQ - Ground Water	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	35.0	5.0	mg/l	1	01/23/04	MCR	EPA 310.1
Chloride	<20	20	mg/l	1	01/22/04 14:30	MP	EPA 300/SW846 9056
Nitrogen, Nitrate	12.7	0.50	mg/l	5	01/22/04 15:49	MP	EPA 300/SW846 9056
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	01/22/04 14:30	MP	EPA 300/SW846 9056
Phosphate, Ortho	0.15	0.10	mg/l	1	01/23/04 09:20	MP	EPA 365.3
Sulfate	39.4	20	mg/l	1	01/22/04 14:30	MP	EPA 300/SW846 9056
Total Organic Carbon	2.4	1.0	mg/l	1	01/26/04	SM	EPA 415.1

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-B312-DU01-14F		
Lab Sample ID:	F21746-18	**Date Sampled:**	01/21/04
Matrix:	AQ - Groundwater Filtered	**Date Received:**	01/21/04
		Percent Solids:	n/a
Project:	NAS Cecil Field-Site 58		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sulfide	<1.0	1.0	mg/l	1	01/26/04	LM	EPA 376.1

RL = Reporting Limit