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LIMITED SCOPE SITE ASSESSMENT REPORT FOR JP-5 PIPELINE VALVE BOX 2 WITH TRANSMITTAL NAS CECIL FIELD FL
10/1/2003
TETRA TECH

Rev. 0
10/23/03

Limited Scope Site Assessment Report for JP-5 Pipeline Valve Box 2

Naval Air Station Cecil Field
Jacksonville, Florida

Southern Division
Naval Facilities Engineering Command
Contract Number N62467-94-D-0888
Contract Task Order 248

October 2003

TETRA TECH NUS, INC.

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October 23, 2003

Project Number N4248

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

Reference: CLEAN III Contract Number N62467-94-D-0888
Contract Task Order Number 0248

Subject: Draft-Final Limited Scope Site Assessment Report
JP-5 Pipeline Valve Box 2
Naval Air Station Cecil Field, Jacksonville, Florida

Dear Mr. Magwood:

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

Sincerely,

Paul E. Calligan

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

PC/mwd

Enclosures (1)

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

Rev. 0
10/23/03

LIMITED SCOPE SITE ASSESSMENT REPORT FOR JP-5 PIPELINE VALVE BOX 2

NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

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

Submitted by:
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661 Andersen Drive
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Pittsburgh, Pennsylvania 15220

CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0248

OCTOBER 2003

PREPARED UNDER THE SUPERVISION OF:

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The Limited Scope Site Assessment contained in this report was prepared using sound hydrogeologic principles and judgment. This assessment is based on the geologic investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of any additional information on the assessment described in this report. This Limited Scope Site Assessment Report was developed for JP-5 Valve Box 2 at the Naval Air Station Cecil Field, Jacksonville, Florida, and should not be construed to apply to any other site.

Mervin Dale
Florida Professional Geologist
P.G. Number 0001917
October 23, 2003

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ACRONYMS

ABB-ES	ABB Environmental Services
bls	Below Land Surface
btoc	Below Top of Casing
COCs	Contaminants of Concern
CompQAP	Comprehensive Quality Assurance Plan
EDB	Ethylene Dibromide
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
ft	Feet or Foot
GCTLs	Groundwater Cleanup Target Levels
GIR	General Information Report
HSAs	Hollow Stem Augers
ID	Inside Diameter
KAG	Kerosene Analytical Group
LSSA	Limited Scope Site Assessment
LSSAR	Limited Scope Site Assessment Report
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter
msl	Mean Sea Level
MTBE	Methyl Turt-Butyl Ether
NAS	Naval Air Station
Navy	United States Navy
NFA	No Further Action
NI	Not Installed
NM	Not Measured
PAHs	Polynuclear Aromatic Hydrocarbons
PVC	Polyvinyl Chloride
SCTLs	Soil Cleanup Target Levels
SOUTHNAVFACENGCOM	Southern Division, Naval Facilities Engineering Command
SRR	Source Removal Report
TRPH	Total Recoverable Petroleum Hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
USEPA	United States Environmental Protection Agency
VB2	JP-5 Pipeline Valve Box 2
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has completed a Limited Scope Site Assessment (LSSA) at JP-5 Pipeline Valve Box 2 (VB2) at Naval Air Station (NAS) Cecil Field, Jacksonville, Florida for the Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) under the United States Navy (Navy) Comprehensive Long-Term Environmental Action Navy Program Contract Number N62467-94-D-0888. The investigation was conducted in accordance with requirements of Chapter 62-770, Florida Administrative Code (FAC). This Limited Scope Site Assessment Report (LSSAR) provides a summary of previous investigations and describes the field investigation and subsequent findings for the current site assessment.

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

ES.1 GEOLOGY AND HYDROGEOLOGY

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

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

ES.2 NATURE AND EXTENT OF CONTAMINATION

The scope of this investigation was focused on the groundwater. Previous investigations adequately delineated the extent of soil contamination, and subsequent source removals in and around the site removed any soil that exceeded the Florida Department of Environmental Protection's (FDEP) Soil Cleanup Target Levels (SCTLs). No surface water and associated sediments are present at the site, and therefore, did not need to be evaluated.

The concentrations of all contaminants of concern (COCs) were below the groundwater cleanup target levels (GCTLs) specified in Chapter 62-770, FAC, in all of the wells sampled during this assessment. No other organics were detected at concentrations greater than GCTLs.

ES.3 CONCLUSIONS

The following conclusions are made in this LSSAR:

- Soil contamination was addressed by previous investigations and source removal actions.
- No petroleum contaminated soil remains on site.
- Concentrations of COCs in groundwater are below GCTLs.
- No free product was detected in the monitoring wells at the site.

ES.4 RECOMMENDATIONS

Based on the results of this and previous investigations, a No Further Action (NFA) status is recommended for the site.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

TtNUS was authorized by SOUTHNAVFACENGCOM to conduct a LSSA at VB2 at NAS Cecil Field in Jacksonville, Florida. The following paragraphs provide available background information for the site.

This LSSA is intended to evaluate the extent of petroleum hydrocarbons in the groundwater in accordance with the requirements of Chapter 62-770, FAC. This LSSAR provides a characterization of site conditions.

1.2 SITE DESCRIPTION, LAND USE, AND HISTORY

1.2.1 Site Description

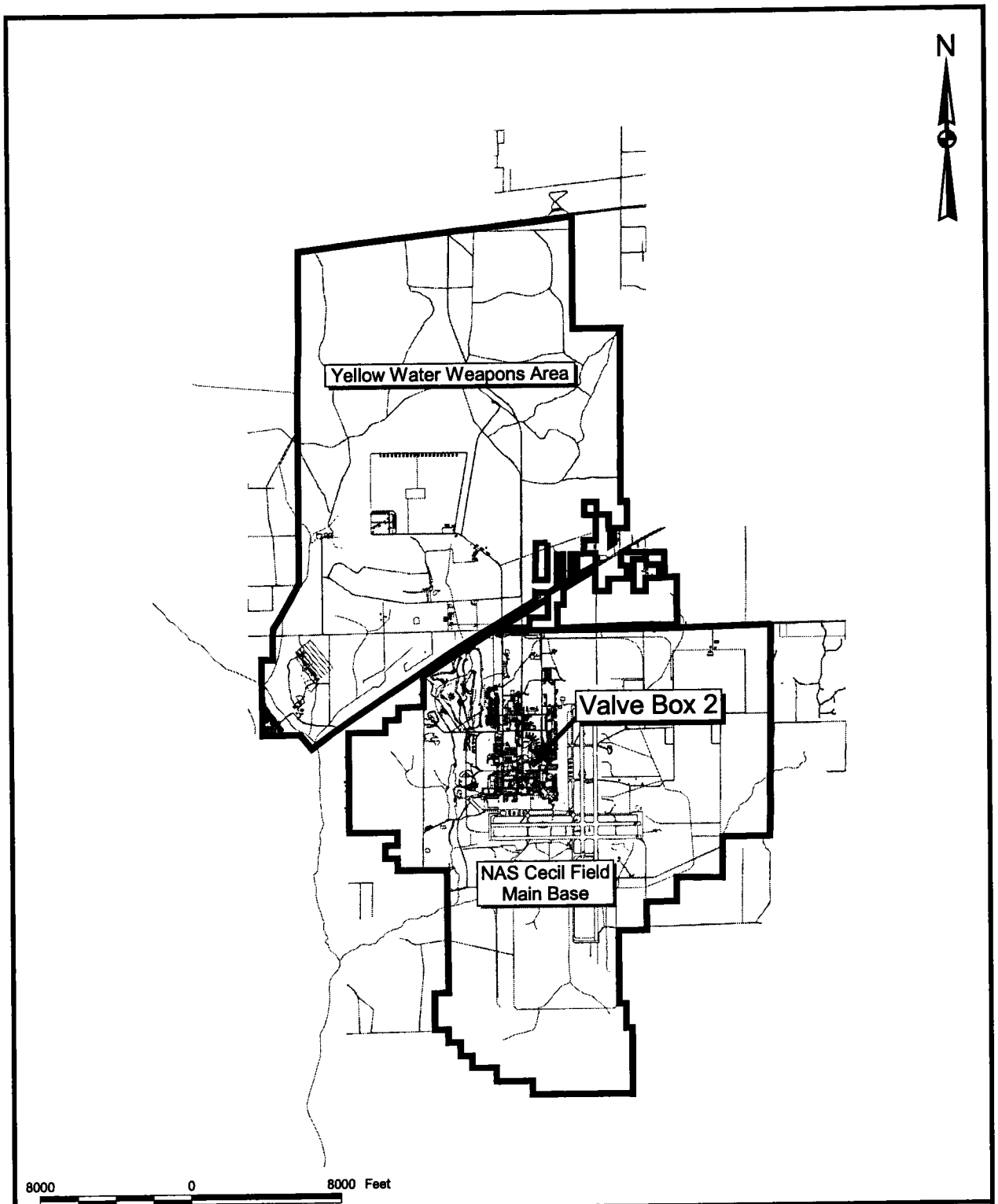
A general location map for the site is provided as Figure 1-1 and shows the site in the main base area of NAS Cecil Field. The United States Geological Survey topographic map from the Fiftone, Florida quadrangle, provided as Figure 1-2, indicates the topography of the site to be relatively flat at approximately 79 to 80 ft above mean sea level (msl). The figure also indicates the nearest surface water body is a branch of Rowell Creek approximately 2000 ft southwest of the site.

1.2.2 Land Use

The site is located on a grassy area adjacent to Aviation Avenue and directly west of Building 826. A land use map is presented as Figure 1-3. The buildings shown west of Aviation Avenue (Buildings 90 and 91) have been demolished and removed. Buildings 249 and 216, located south of the site, are currently vacant and are pending demolition. Building 824 is being utilized by Logistic Services International, Inc., an avionics contractor, and Building 826 is occupied by Information Spectrum, Inc., a technical support operation for the Naval Aviation Depot. A site plan is presented as Figure 1-4.

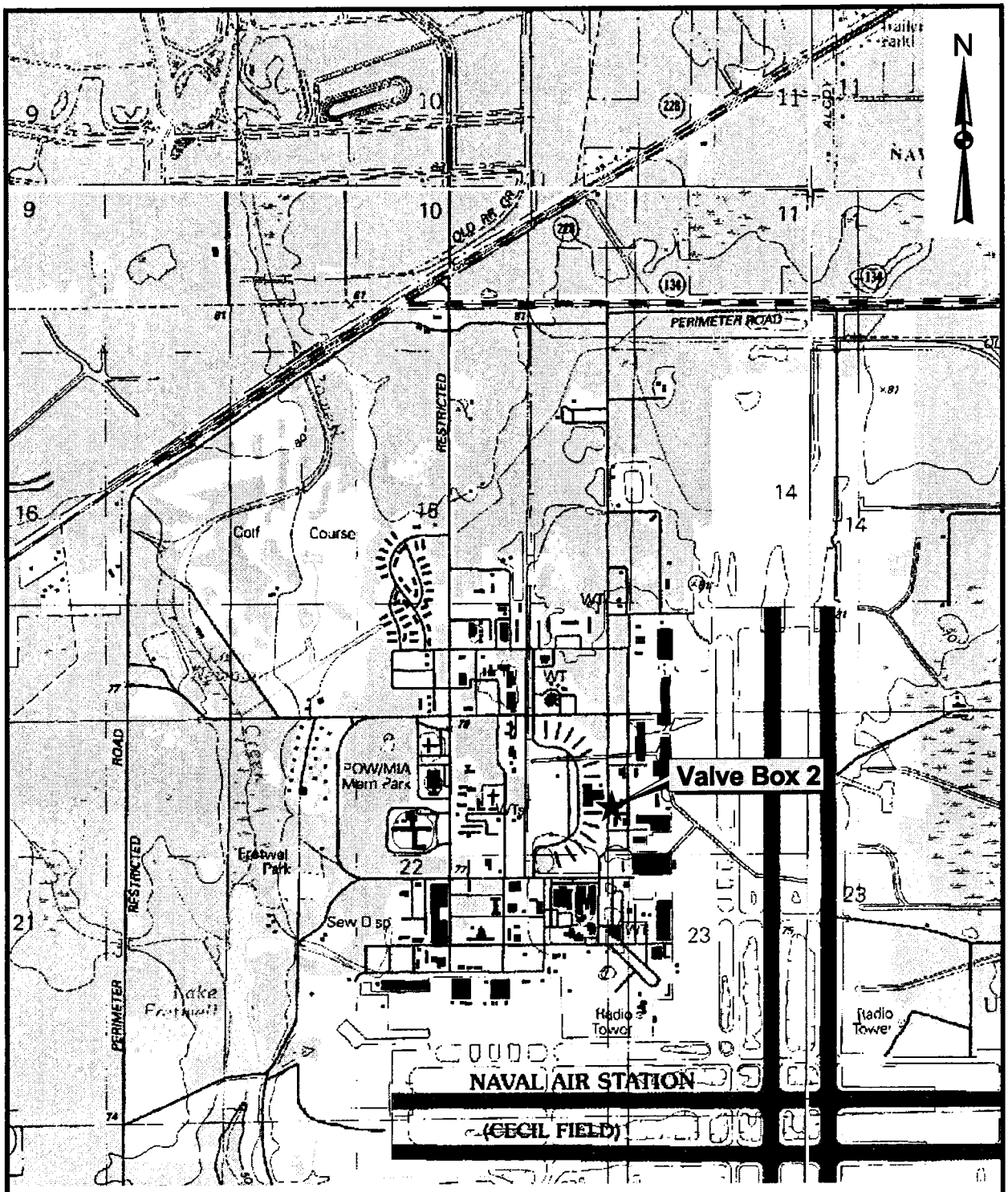
Historically, according to ABB Environmental Services (ABB-ES) (ABB-ES, 1994), the buildings on site and immediately adjacent to the site were used by the Navy as follows:

- Building 90 – Bachelor Enlisted Quarters.
- Building 91 – Mess Hall.
- Building 216/249 – Fire Pump/Air Compressor Building for Hangar 67.



DRAWN BY MJJ	DATE 16Apr02	GENERAL LOCATION MAP VALVE BOX 2 SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4248
CHECKED BY	DATE		APPROVED BY / DATE
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1-1 / REV 1

P:\GIS\NAS_CecilField\valvebox2.apr 03Jul02 MJJ 01_Site Location Map Layout



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

DRAWN BY MJJ	DATE 03Jul03	TOPOGRAPHIC MAP VALVE BOX 2 SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4248
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1-2 REV 1

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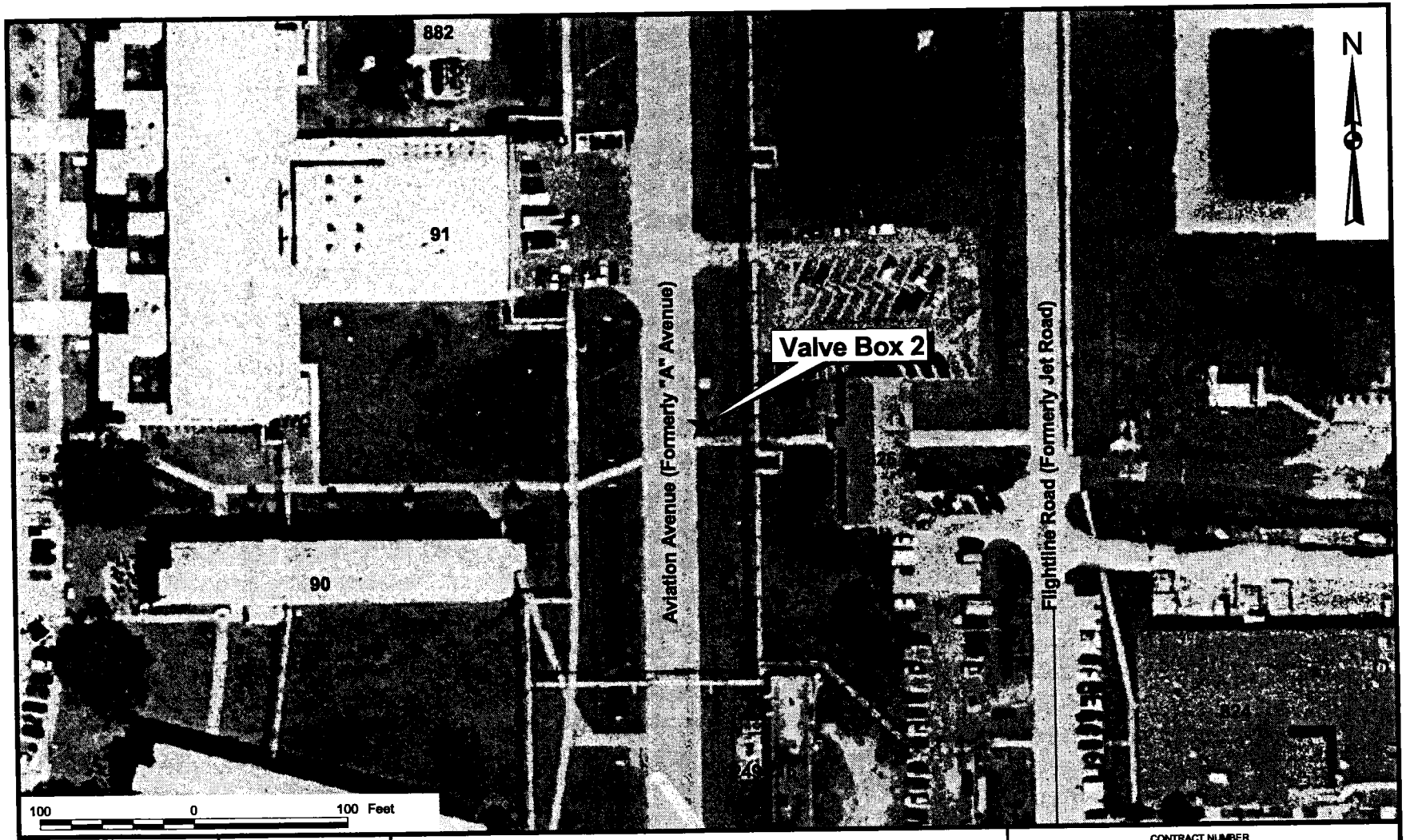
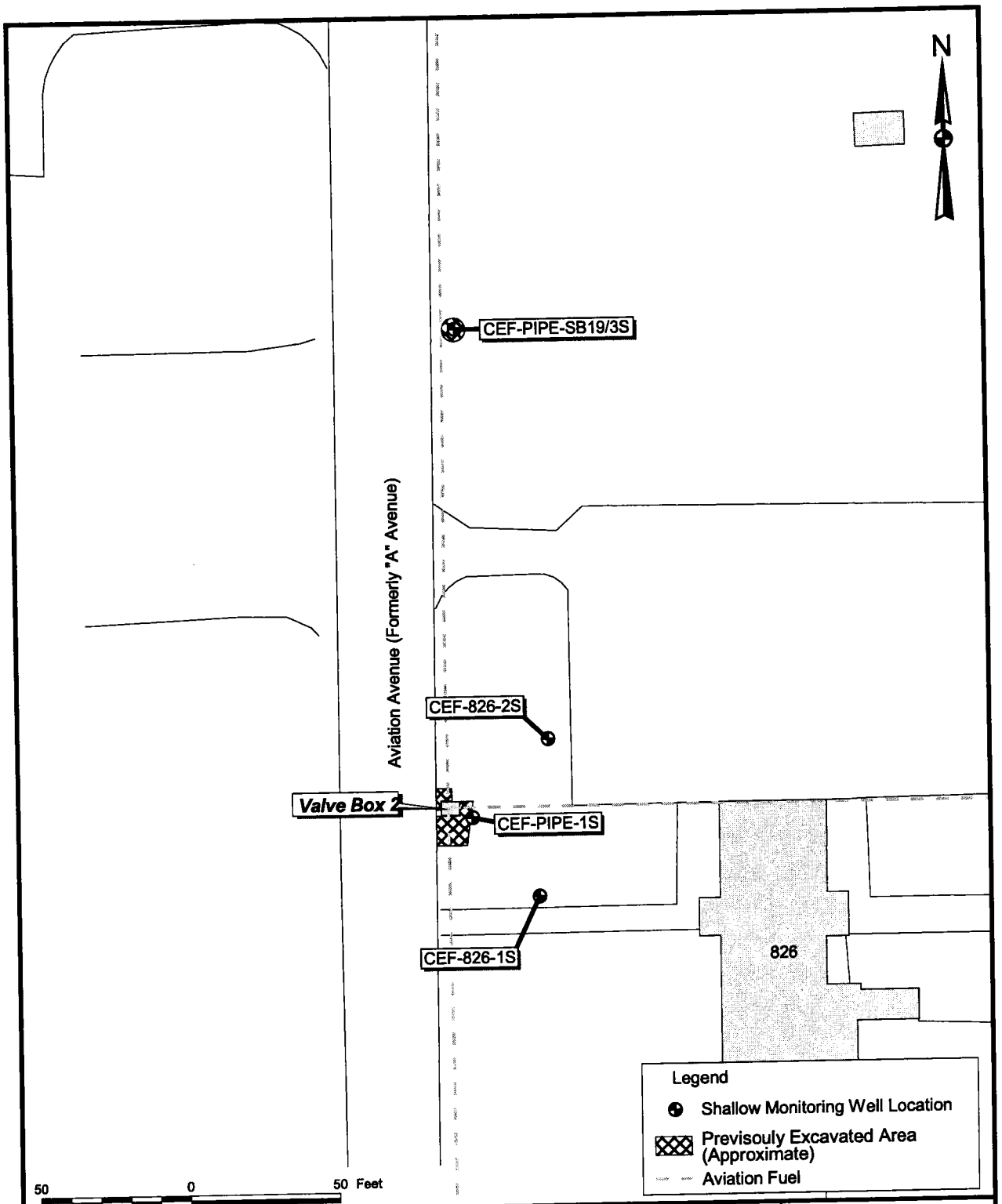


DRAWN BY: MJJ	DATE: 03Jul03	LAND USE MAP VALVE BOX 2 SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER: 4248
CHECKED BY: —	DATE: —		APPROVED BY: — DATE: —
COST/SCHEDULE-AREA			APPROVED BY: — DATE: —
SCALE: AS NOTED			DRAWING NO.: FIGURE 1-3 / REV: 0

P:\GIS\NAS_CecilField\valvebox2.apr 03Jul02 MJJ 10_LandUseLayout



DRAWN BY MJJ	DATE 08Jul03	SITE PLAN VALVE BOX 2 SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4248
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1-4 REV 1

P:\GIS\NAS_CecilField\valvebox2.apr 03Jul02 MJJ 06_Site Plan Layout

- Building 824 – Avionics Shop and Aircraft Ground Support Shop.
- Building 826 – Administrative Office and Snack Bar.

A review of building records in the Environmental Baseline survey (ABB-ES, 1994) also indicated each building was classified "7/Gray," which indicates that additional evaluation of the building was required.

1.2.3 History

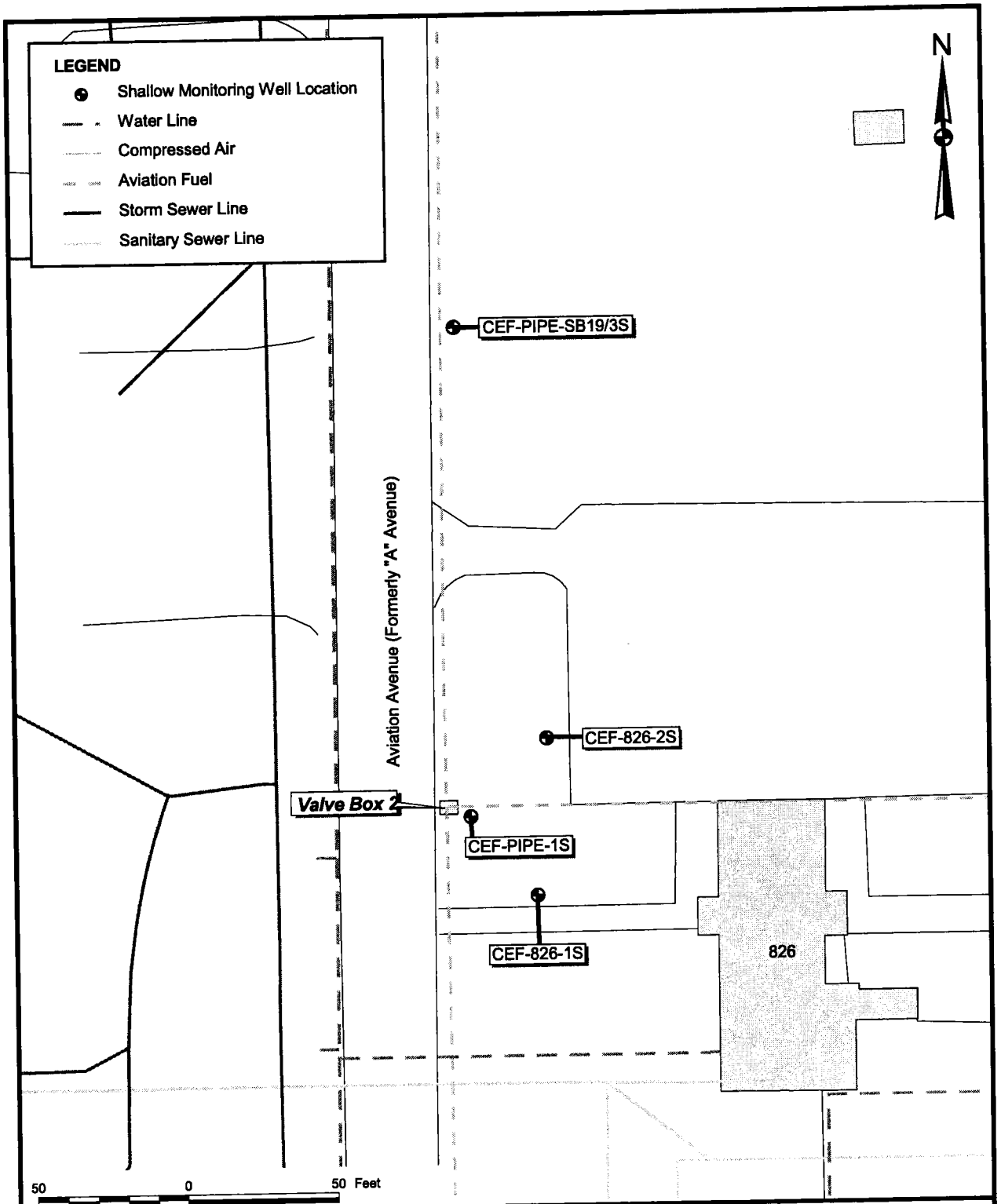
The JP-5 Pipeline (as shown in Figure 1-4) was installed during the 1950's and was used to transport fuel from NAS Jacksonville to the North Fuel Farm, South Fuel Farm, Jet Engine Test Cell, and Day Tanks 1 and 2. Soil contamination was reported in two separate locations adjacent to the site and the underground pipeline that runs parallel to Aviation Avenue located on the eastern side of the street. Known utilities in the area of the site, including the pipeline, are shown on Figure 1-5.

1.3 PREVIOUS INVESTIGATIONS

The following list outlines the series of previous investigations and related reports in chronological order:

- A Source Removal Report (SRR) dated November 2000 was submitted to the FDEP. The report documented the removal of contaminated soil from November 8 to November 11, 1999. The soil was removed from an area located around VB2 approximately 150 ft due west of the former Day Tank 1 (termed 'Southern Excavation') and at another isolated area around monitoring well CEF-PIPE-3S, located 300 ft north of the valve box (termed 'Northern Excavation'). The report stated that petroleum-contaminated soil had been delineated and removed, and petroleum-impacted groundwater was not detected in the Northern Excavation. The report indicated that no excessively contaminated soil exists at the Northern Excavation. The SRR indicated that excessively contaminated soil was delineated and removed at the Southern Excavation. In addition, elevated concentrations of COCs were detected in the groundwater at the Southern Excavation. A copy of the November 2000 SRR is provided in Appendix A.

- A response letter to the November 2000 SRR from the FDEP dated May 30, 2001, concurred with the report that no further investigation was required at the Northern Excavation. However, due to the fact that excessively contaminated soil and petroleum-impacted groundwater were detected in the Southern Excavation, the FDEP recommended the initiation of a site assessment in accordance with Chapter 62-770, FAC. A copy of the letter is included in Appendix B.



DRAWN BY MJJ	DATE 08Jul03	SITE UTILITIES MAP VALVE BOX 2 SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4248
CHECKED BY	DATE		APPROVED BY / DATE
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1-5 / REV 1

P:\GIS\NAS_CecilField\valvebox2.apr 24July03 JAL Valve Box 2-Utilities

- A second SRR dated November 2001 was submitted to the FDEP. The report specifically addressed the removal of the remaining contaminated soils in the Southern Excavation identified during the November 1999 source removal event. The report stated that excessively contaminated soil had been removed from the site. The SRR also indicated that groundwater samples did not signify the presence of kerosene analytical group (KAG) constituents above GCTLs. An NFA status was recommended for the site. A copy of the November 2001 SRR is provided in Appendix C.

- The FDEP responded to the November 2001 SRR via electronic mail dated December 18, 2001. The letter provided several reasons why the department was not confident that groundwater contamination did not exist at the site. Resampling of the groundwater was recommended. In addition, the letter requested that a Site Assessment Report resolving the comments made on both SRRs be submitted. A copy of the letter is included in Appendix B.

- The FDEP's comments to both SRRs were addressed in two letters both dated May 31, 2002. Those letters are included in Appendix D. Future site activities were discussed at the monthly NAS Cecil Field Base Closure Team meetings.

- On August 13, 2002, the FDEP approved the revisions to the SRRs and reiterated that further assessment of the Southern Excavation in accordance with Chapter 62-770, FAC, be conducted. A copy of the approval letter is provided in Appendix B.

1.4 SITE PHYSICAL CHARACTERISTICS

The General Information Report (GIR) prepared by ABB-ES (ABB-ES, 1998) provides information on the regional physiography, geology, and hydrogeology at NAS Cecil Field.

The closest surface water body to this site appears to be a branch of Rowell Creek, which is approximately 2000 ft southwest of the site. Preferential pathways for contaminants are shown by the site utilities map (see Figure 1-5).

1.5 WATER WELL INFORMATION

The GIR (ABB-ES, 1998) indicates there are four potable wells within a 0.5-mile radius of the site. The GIR also indicates those wells are Floridan Aquifer wells and provides a map of their locations.

2.0 FIELD INVESTIGATION

2.1 QUALITY ASSURANCE

The field procedures and sampling activities described in this LSSAR were performed in general accordance with the TtNUS Comprehensive Quality Assurance Plan (CompQAP) Number 980038, which includes the FDEP's Standard Operating Procedures for laboratory operations and sample collection activities (DEP-QA-001/92) and the Base-wide Generic Work Plan Volumes I and II (TtNUS, 1998) for NAS Cecil Field. Soil and groundwater samples collected during the investigation for analyses by a fixed-base laboratory were shipped on ice and under chain of custody to Accutest Laboratory, Orlando, Florida. The CompQAP number for the Accutest facility is 940304. The samples were analyzed for constituents of the gasoline analytical group and KAG specified in Chapter 62-770, FAC.

2.2 SOIL AND SEDIMENT ASSESSMENT

A soil assessment was not conducted at site as the previous investigations and remedial actions performed appear to have removed any soil contamination associated with the site. Source removal activities conducted in November 1999 removed a total of 48.23 tons of petroleum-contaminated soil from the site. An additional source removal was conducted at the Southern Location on August 1, 2001. The purpose of this removal was to excavate the remaining soils that were found to exceed SCTLs during the November 1999 investigation. A total of 7.16 tons of petroleum-contaminated soil was excavated and disposed of during this activity. The soil removal activities are covered in the SRRs dated November 2000 and November 2001 (see Appendices A and C). The reports were approved by the FDEP in a letter dated August 13, 2002 (see Appendix B).

2.3 GROUNDWATER ASSESSMENT

2.3.1 Groundwater Flow

The elevation of each top of well casing was surveyed on April 11, 2003. A reference point was marked on the top of each monitoring well casing on the north side. The elevations of the reference points were surveyed to the nearest 0.01-ft by TtNUS personnel. Table 1 of Appendix D provides the relative survey data and calculations that were made to assign elevations to the top of casing of the three site wells and an additional well north of the site that was used as a benchmark. The northernmost well, CEF-PIPE-3S, was assigned an arbitrary elevation of 75.00 ft above msl based on local topographic map data. Figure 1-4 indicates the location of monitoring well CEF-PIPE-3S relative to the site wells.

Synoptic groundwater level measurements were collected on two separate dates to determine the depth to water in the surficial aquifer and relative groundwater flow direction. The referenced measuring point for each well was marked on the north side of the top of the polyvinyl chloride (PVC) well casing. Water level measurements were noted with the time and recorded to the nearest 0.01 ft. This data, included in Appendix E, was used to generate the water table flow maps in this report. The depth-to-water measurements were collected on April 11 and June 3, 2003. An oil-water interface probe was used during the first groundwater measurement event and no free product was encountered at that time.

The groundwater elevation was calculated by subtracting the depth to water from the top of casing elevation. Water table elevation data are provided on Table 2-1.

2.3.2 Monitoring Well Locations

Prior to installing the monitoring wells, groundwater flow direction was evaluated at nearby sites to aid in determining the placement of the new monitoring wells. Based on groundwater flow direction, Site 16, located approximately 500 to 1000 ft north of the site was determined to be in an east to southeast direction. Using this information, monitoring well locations were selected to provide spatial coverage around the area of the release (see Figure 1-4).

2.3.3 Monitoring Well Installation

The monitoring well borings were drilled with a truck mounted drill rig and 4.25-inch inside diameter (ID) hollow stem augers (HSAs). Each well was constructed of a 2-inch ID, flush-threaded schedule 40 PVC riser and 0.010-inch slot well screen with a 6-inch point cap. Prior to well installations, underground utilities were cleared by the appropriate utility departments and also investigated at each boring location by advancing the boring with a post hole digger from 0 to 4 ft below land surface (bls). The wells were installed to approximately 14.0 ft bls with a 10-ft screen section. The monitoring wells were designed so that the screened interval bracketed the water table. The annulus around each well was filled to approximately 2 ft above the top of the screen with US Standard Sieve size 20/30 silica sand, followed by 1.5 ft of 30/65 fine sand seal. The remainder of the annulus was grouted to the surface. Each well was secured with a locking, watertight cap within an 8-inch diameter steel manhole. The manhole was set in a 24-inch square concrete apron finished slightly above grade. Monitoring well construction details are summarized on Table 2-2, and Appendix F contains a copy of the monitoring well construction sheets and the certificates of conformance for each newly installed monitoring well. The soil cuttings and other solid wastes from this drilling activity were containerized and properly disposed.

TABLE 2-1
Groundwater Elevation Data

Limited Scope Site Assessment Report
JP-5 Pipeline Valve Box 2
Naval Air Station Cecil Field
Jacksonville, Florida

Monitoring Well Identification CEF-826-	Well Depth (ft, btoc)	Top-of-Casing Elevation (ft, msl)	April 11, 2003		June 3, 2003	
			Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)
1S	14.25	75.43	5.88	69.55	6.88	68.55
2S	14.60	75.20	3.30	71.90	3.24	71.96
PIPE-1S	13.80	75.02	3.88	71.14	5.07	69.95
PIPE-3S	7.28	75.00	2.07	72.93	2.79	72.21

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

TABLE 2-2
Monitoring Well Construction Details

Limited Scope Site Assessment Report
JP-5 Pipeline Valve Box 2
Naval Air Station Cecil Field
Jacksonville, Florida

Well Number	Date Installed	Drilling Method	Total Well Depth (ft)	Screened Interval (ft bls)	Well Diameter (inches)	Lithology of Screened Interval
CEF-826-1S	1/22/2003	HSA	14.50	4.00-14.00	2	Sand, clayey to non-clayey
CEF-826-2S	1/22/2003	HSA	14.50	4.00-14.00	2	Sand, clayey to non-clayey

2.3.4 Monitoring Well Development

Each well was developed using a submersible pump. During well development, field measurements of pH, temperature, and specific conductance were monitored from the water generated. The wells were developed under supervision of a geologist for approximately one hour or until the field measurements stabilized and the development water cleared. Water quality stabilization was determined by comparison of the last three measurements using the following criteria: temperature ±1 degree Celsius, pH ±0.1 standard unit, and specific conductance ±10 percent. The development water was containerized and properly disposed.

2.3.5 Groundwater Sampling of Monitoring Wells

Groundwater samples were collected from site monitoring wells to evaluate groundwater quality in the shallow surficial aquifer in the vicinity of the former excavation. The groundwater samples were collected using the low flow quiescent purging and sampling method. New Teflon® tubing was installed in each well for groundwater sampling. Prior to sampling approximately three to five well volumes were removed from each well using a peristaltic pump and Teflon® tubing. Temperature, pH, specific conductance, dissolved oxygen concentration, and sample turbidity were monitored while the wells were purged. The field measurements and well purge volumes were recorded during well purging and at the time of sample collection. Groundwater sample log sheets are provided in Appendix G.

Groundwater samples were collected from each monitoring well and analyzed for the following KAG compounds: select volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260B, polynuclear aromatic hydrocarbons (PAHs) using USEPA Method 8310, ethylene dibromide (EDB) using USEPA Method 504.1, total recoverable petroleum hydrocarbons (TRPH) using Florida Petroleum Range Organics, and total lead using USEPA Method 6010B. The groundwater samples were placed on ice and shipped to Accutest Laboratory in Orlando, Florida for analyses.

3.0 SITE ASSESSMENT RESULTS

3.1 PERMANENT MONITORING WELL ANALYTICAL RESULTS

Groundwater samples were collected on January 28, 2003, from monitoring wells CEF-826-1S and CEF-826-2S and on January 30, 2003, from monitoring well CEF-PIPE-GW-1S. The samples were analyzed for the following COCs as described in Section 2.3.5: select VOCs, PAHs, EDB, TRPH, and total lead. None of the COCs exceeded the respective GCTLs as defined in Table 1 of Chapter 62-777, FAC.

TRPH and total lead were detected in CEF-PIPE-1S at concentrations of 1.63 milligrams per liter (mg/L) and at 4 micrograms per liter (µg/L), respectively. Total lead was also reported in samples from wells CEF-826-1S and CEF-826-2S at concentrations of 1.9 µg/L and 1.2 µg/L, respectively. These detected concentrations are below the GCTLs for TRPH (5 mg/L) and total lead (15 µg/L). The results are provided on Table 3-1 and presented on Figure 3-1. The laboratory analytical reports can be found in Appendices H and I.

3.2 GROUNDWATER FLOW DIRECTION

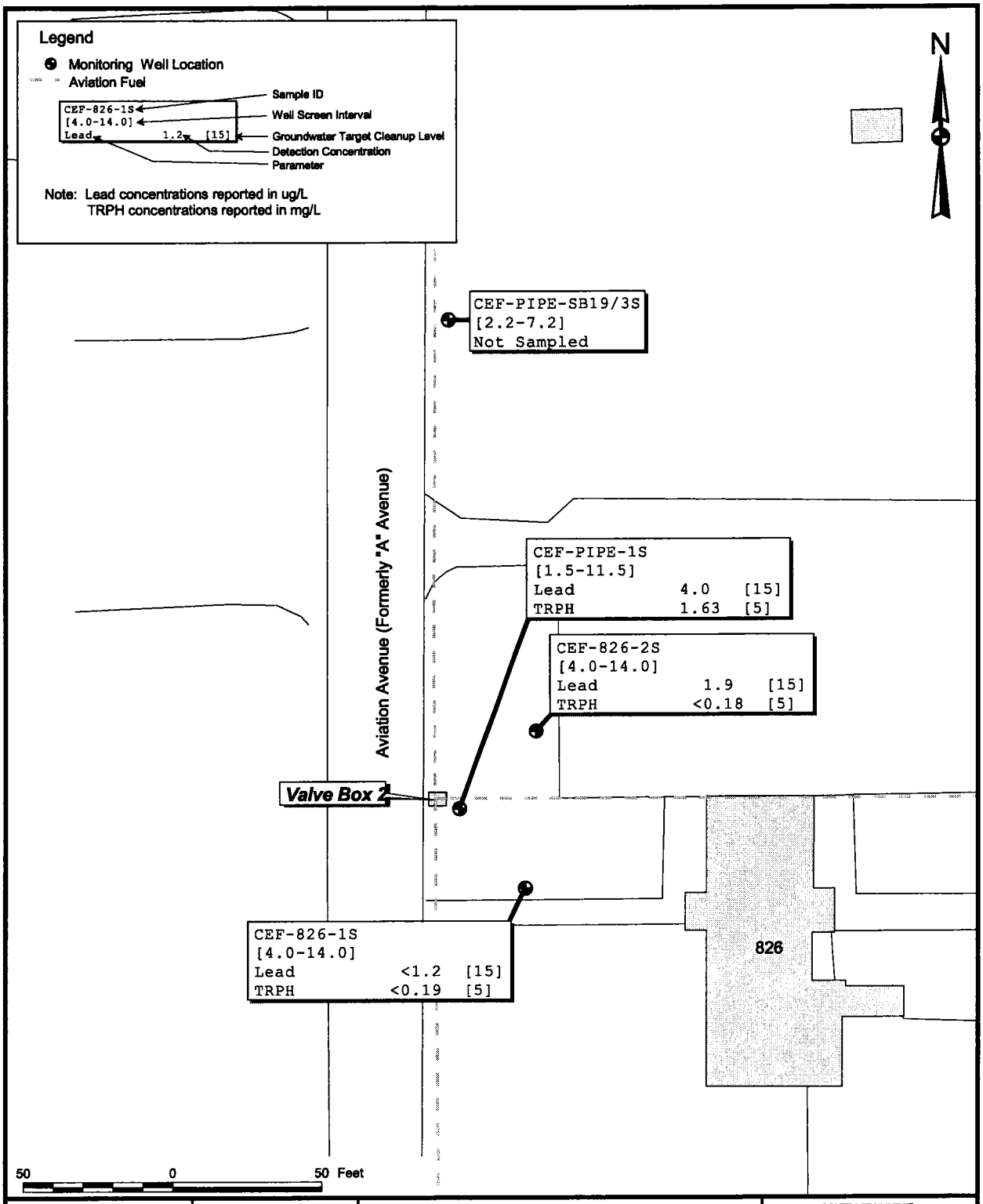
Groundwater levels were measured on April 11 and June 3, 2003. Groundwater elevation measurements were calculated for each event from the field data (see Table 2-1) and plotted on Figure 3-2 and Figure 3-3, respectively. Those figures indicate groundwater flow to the south-southeast and south-southwest, respectively.

TABLE 3-1
Summary of Groundwater Analytical Results

Limited Scope Site Assessment Report
JP-5 Pipeline Valve Box 2
Naval Air Station Cecil Field
Jacksonville, Florida

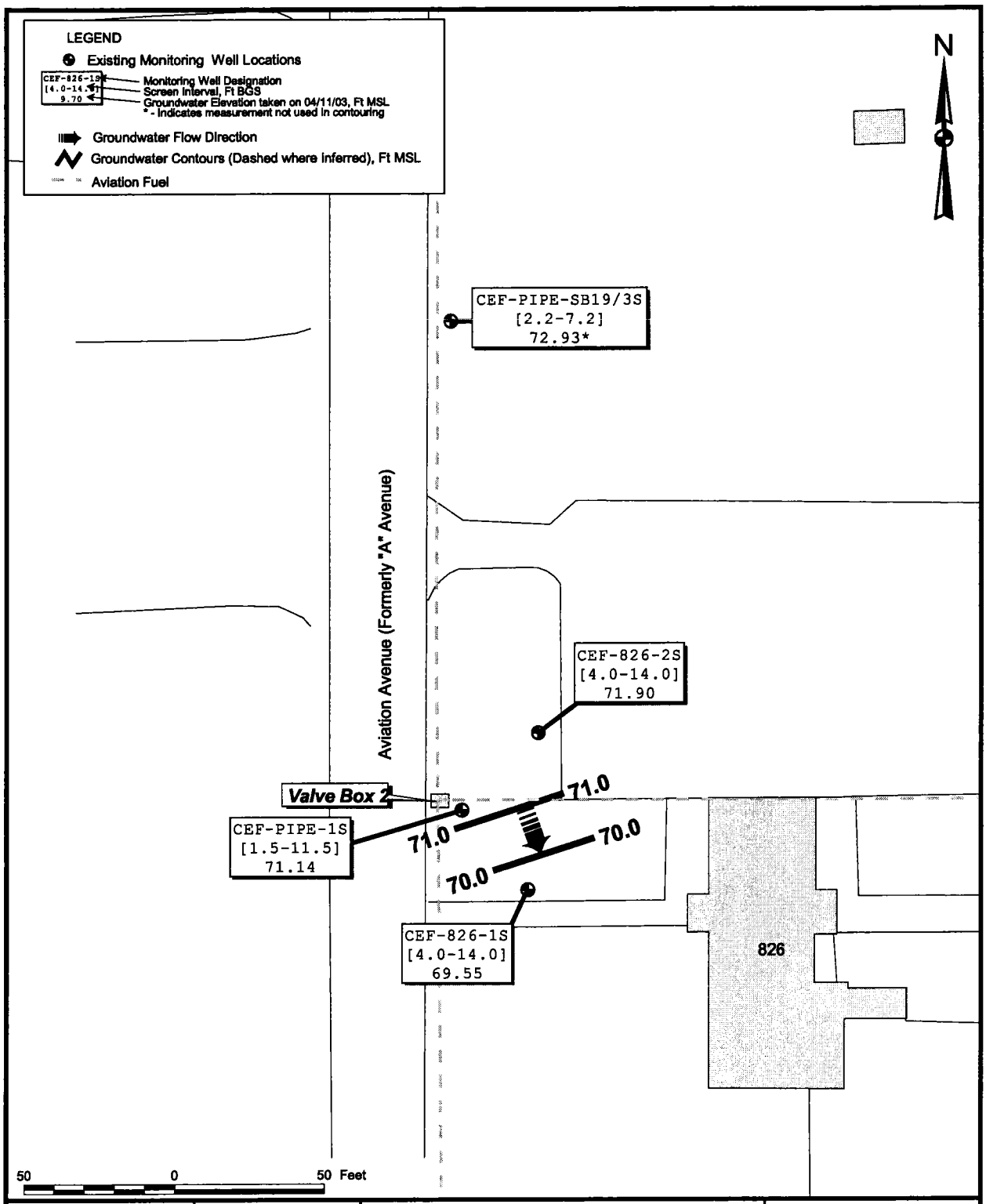
Well Identification	**GCTL**	**CEF-826-**		
Sample Identification		GW1S01	GW2S01	PIPEGW1S01
Date Collected		1/28/2003	1/28/2003	1/30/2003
PAHs (µg/L)				
Acenaphthene	20	<4.6	<4.2	<4.2
Acenaphthylene	210	<4.6	<4.2	<4.2
Anthracene	2,100	<2.3	<2.1	<2.1
Benzo(a)anthracene	0.2	<0.23	<0.21	<0.21
Benzo(a)pyrene	0.2	<0.23	<0.21	<0.21
Benzo(b)fluoranthene	0.2	<0.23	<0.21	<0.21
Benzo(ghi)perylene	210	<0.23	<0.21	<0.21
Benzo(k)fluoranthene	0.5	<0.23	<0.21	<0.21
Chrysene	4.8	<2.3	<2.1	<2.1
Dibenzo(a,h)anthracene	0.2	<0.23	<0.21	<0.21
Fluoranthene	280	<2.3	<2.1	<2.1
Fluorene	280	<2.3	<2.1	<2.1
Indeno(1,2,3)pyrene	0.2	<0.23	<0.21	<0.21
Naphthalene	20	<2.3	<2.1	<2.1
1-Methylnaphthalene	20	<2.3	<2.1	<2.1
2-Methylnaphthalene	20	<2.3	<2.1	<2.1
Phenanthrene	120	<2.3	<2.1	<2.1
Pyrene	210	<2.3	<2.1	<2.1
Volatile Organic Aromatics (µg/L)				
Benzene	1	<1.0	<1.0	<1.0
Ethylbenzene	30	<1.0	<1.0	<1.0
Toluene	40	<1.0	<1.0	<1.0
Total Xylenes	20	<3.0	<3.0	<3.0
Other Organics				
EDB (µg/L)	0.02	<0.019	<0.019	<0.019
1,2-Dichloroethane (µg/L)	3	<1.0	<1.0	<1.0
MTBE (µg/L)	50	<1.0	<1.0	<1.0
TRPH (mg/L)	5	<0.28	<0.26	1.63
Lead (µg/L)	15	1.2 U	1.9 B	4.0 B

Notes:
GCTLs as defined by Chapter 62-777, FAC.
< = less than
U = indicates a result less than the detedction limit
MTBE = mertyl turt-butyl ether
B = indicates a result greater than or equal to the instrument detection limit, but less than the reporting limit.
Positive detections are shaded.



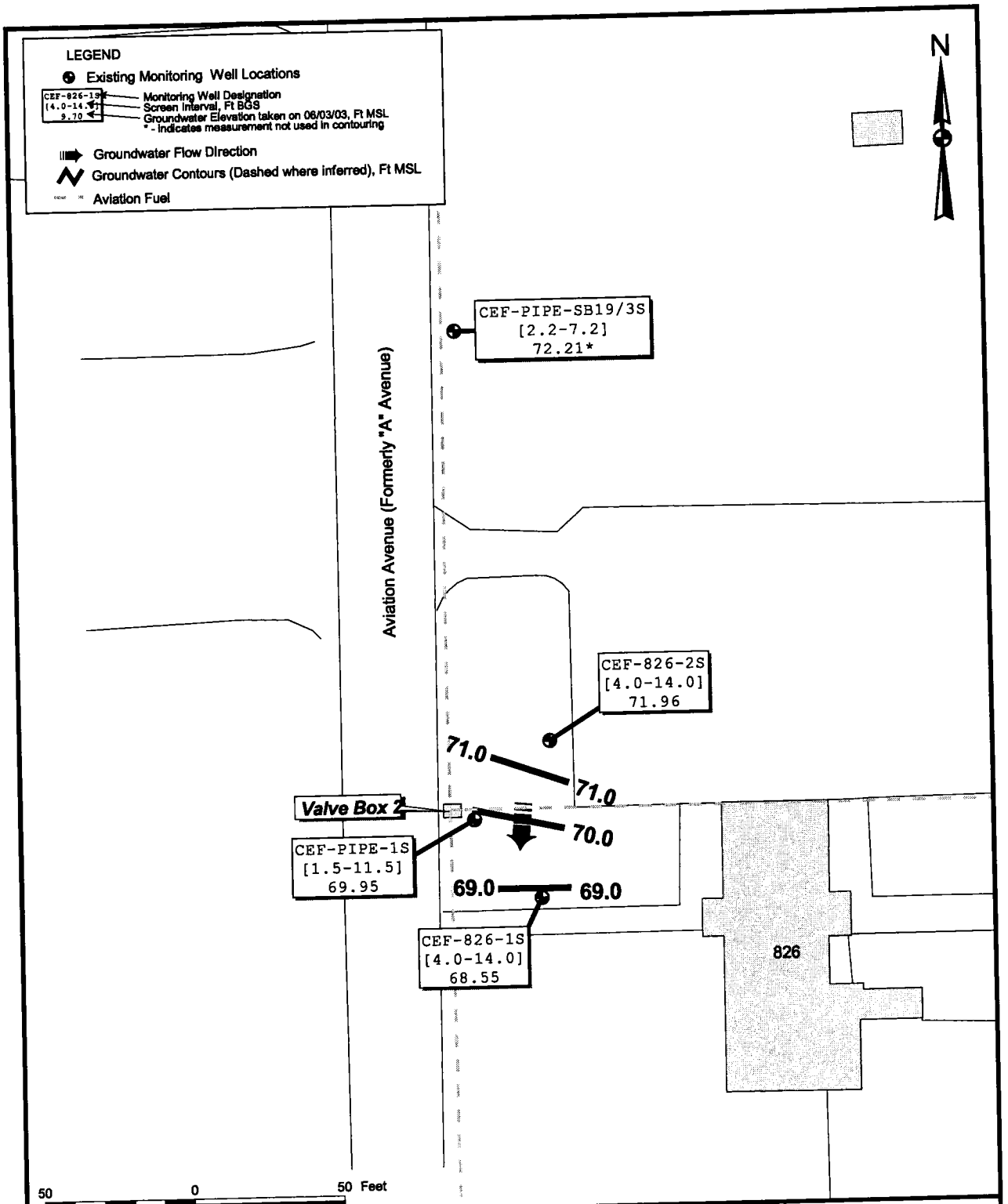
DRAWN BY MJJ	DATE 08Jul03	GROUNDWATER CONCENTRATION MAP VALVE BOX 2 SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4248
CHECKED BY	DATE		APPROVED BY / DATE
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3-1 / REV 1

P:\GIS\NAS_CecilField\valvebox2.apr 22Aug03 MJJ 06_GroundwaterResultsLayout



DRAWN BY MJJ	DATE 08Jul03	GROUNDWATER FLOW MAP (04/11/03)	CONTRACT NUMBER 4248
CHECKED BY	DATE	VALVE BOX 2	APPROVED BY / DATE
COST/SCHEDULE-AREA		SITE ASSESSMENT REPORT	APPROVED BY / DATE
SCALE AS NOTED		NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	DRAWING NO. FIGURE 3-2 / REV 1

P:\GIS\NAS_CecilField\valvebox2.apr 22Aug03 MJJ 03_Potentiometric Layout



DRAWN BY MJJ	DATE 08Jul03	GROUNDWATER FLOW MAP (06/03/03) VALVE BOX 2 SITE ASSESSMENT REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4248
CHECKED BY	DATE		APPROVED BY / DATE
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3-3 / REV 1

P:\GIS\NAS_CecilField\valvebox2.apr 22Aug03 MJJ 04_Potentiometric Layout

4.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions based on the data collected during the LLSA performed by TtNUS at the VB2 site are summarized as follows:

- Contaminated soil has been previously excavated and removed from the site in two separate events. The previous soil investigations and associated source removal activities are described in two separate SRRs submitted in November 2000 and November 2001 and approved by the FDEP in August 2002.

- The direction of groundwater flow ranges from south-southwest to south-southeast.

- Concentrations of COCs in site groundwater are all below GCTLs.

- No free product is present at the site.

Based upon the hydrogeological and chemical data presented in this LSSAR and supported by the criteria cited in Chapter 62-770, FAC, TtNUS recommends a NFA Order be issued for this site.

REFERENCES

ABB-ES (ABB Environmental Services), 1992. Contamination Assessment Report, Day Tank 1, Facility 293, NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. July.

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

ABB-ES, 1997. Remedial Action Plan, Day Tank 1, Facility 293, NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. January.

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

TtNUS (Tetra Tech NUS, Inc.), 1998. Comprehensive Quality Assurance Plan Number 980038.

APPENDIX A

NOVEMBER 2000 SOURCE REMOVAL REPORT

CH2M HILL
Constructors, Inc.

CH2M HILL
115 Perimeter Center Place NE
Suite 700
Atlanta, GA
30346-1278
Tel 770.604.9095
Fax 770.604.9183

November 16, 2000

Mr. Nick Ugolini
Southern Division, Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, SC 29419-9010

RE: Contract No. N62467-98-D-0995
Contract Task Order 0002 – Naval Air Station (NAS) Cecil Field – Jacksonville, Florida
Source Removal Report for the Contaminated Soil Removal at JP-5 Pipeline

Dear Mr. Ugolini:

CH2M HILL Constructors, Inc. (CCI) is pleased to provide one copy of the enclosed Source Removal Report for the Contaminated Soil Removal at JP-5 Pipeline at NAS Cecil Field in Jacksonville, Florida.

If you have any questions or comments regarding the enclosed, please do not hesitate to contact me at (904) 777-4812.

Sincerely,

CH2M HILL Constructors, Inc.

Samuel M. Ross
Project Manager

cc: Jimmy Jones, SoDiv (w/o)
Larry Blackburn, ROICC
Mike Deliz, FDEP
Mark Speranza, TetraTech NUS (2 copies)
Paul Calligan, TetraTech NUS
CCI Project File No. 149152

Source Removal Report
Contaminated Soil Removal at JP-5 Pipeline

Naval Air Station Cecil Field
Jacksonville, Florida

Contract No. N62467-98-D-0995
Contract Task Order No. 0002

Submitted to:

U.S. Naval Facilities
Engineering Command
Southern Division

Prepared by:

CH2MHILL
Constructors, Inc.
115 Perimeter Center Place, N.E.
Suite 700
Atlanta, GA 30346

November 2000

Source Removal Report
Contaminated Soil Removal at JP-5 Pipeline

Contract No. N62467-98-D-0995
Contract Task Order No. 0002

Naval Air Station Cecil Field
Jacksonville, Florida

Submitted to:

U.S. Naval Facilities
Engineering Command
Southern Division

Prepared by:

CH2MHILL
Constructors, Inc.

November 2000

Prepared/Approved By:

Samuel M. Ross, Project Manager — Date: 11/10/00

Approved By:

R. Scott Newman, Program Manager — Date: 16 Nov 2000

Client Acceptance:

U.S. Navy Responsible Authority — Date: 1-3-01

Distribution List

	Copies
Southern Division, Naval Facilities Engineering Command	1
NAS Cecil Field	1
City of Jacksonville, RESD	1
CH2M HILL Constructors, Inc.	2
CH2M HILL	1

Certification of Technical Data Conformity (November 2000)

The contractor, CH2M HILL Constructors, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0002 are complete and accurate and comply with all requirements of this contract.

Date:_____

Name and Title of Certifying Official:

_____
Sam Ross
Project Manager

CH2MHILL
Constructors, Inc.

Certification of Completion

CH2M HILL Constructors, Inc., attests that, to the best of its knowledge and belief, the removal of contaminated soil at the JP-5 Pipeline, delivered under Contract No. N62467-98-D-0995, Naval Air Station Cecil Field, Jacksonville, Florida, Contract Task Order (CTO) No. 0002, has been completed, inspected, and tested, and is in compliance with the contract.

_____ _____

Project QC Manager Date

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B Copies of Soil Manifests
C Certificate of Recycle
D Clean Fill Certification
E Analytical Laboratory Reports for Confirmatory Soil Samples
F Well Construction Logs
G Analytical Laboratory Reports for Confirmatory Groundwater Sample

Acronyms

bls	below land surface
CCI	CH2M HILL Constructors Inc.
CTO	Contract Task Order
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FID	flame ionization detector
FL-PRO	Florida Petroleum Residual Organic
GC	Groundwater Criteria (per FAC Chapter 62-770 and 62-777)
HLA	Harding Lawson Associates
KAG	Kerosene Analytical Group
NADSC	Natural Attenuation Default Source Concentrations (per FAC Chapter 62-770 and 62-777)
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
OVA	Organic Vapor Analyzer
PAHs	Polynuclear Aromatic Hydrocarbons
ppm	parts per million
SCTLs	soil cleanup target levels per Chapter 62-770 and 62-777 F.A.C.
TRPH	total recoverable petroleum hydrocarbons
UST	underground storage tank
VOCs	volatile organic compounds

Source Removal Report Requirements – *Checklist*

Per FAC 62-770.300(3) the Source Removal Report shall contain the following information in detail, as applicable:

Site Name: JP-5 Pipeline **Date(s) of Source Removal: 11/8/99 - 11/11/99**

Required Information	Response
1. Volume of product that was discharged, if known	*Unknown*
2. Volume of free product and the volume of groundwater recovered	*None*
3. Volume of contaminated soil excavated and treated or properly disposed	*48.23 tons of soil excavated and disposed of offsite Refer to section 2.3.2 for details*
4. Disposal or recycling methods for free product and contaminated soil	*Contaminated soils recycled at Soil Safe Technologies, St. Mary's, Georgia*
5. Disposal methods for other contaminated media	*No other contaminated media*
6. Scaled site map (including a graphical representation of the scale used) showing location(s) of free product recovered and the area of soil removed or treated and the approximate locations of all samples taken	*See Figure 2-1*
7. Table summarizing free product thickness in each monitoring well or piezometer and the dates the measurements were made	*Monitoring wells were not measured for free product prior to excavation*
8. Type of field screening instrument or method used	*OVA/FID*
9. Dimensions of the excavation(s) and location(s), integrity, capacities and last known contents of storage tanks, integral piping, dispensers, or appurtenances removed	*Excavation areas: (see Figure 2-1)* *North: 5 feet long by 5 feet wide by 6 feet deep* *South: 17 feet long by 13 feet wide by 6 feet deep* *No fuel piping was removed at the direction of the Navy*
10. Dimensions of the excavation(s) and location(s) and capacities of replacement underground storage tanks	*Not Applicable. This was not a UST site.*
11. Table indicating the identification, depth and field soil screening results of each sample collected	*See Table 2-2*
12. Depth to groundwater at the time of each excavation, measurement locations and method used to obtain that information	*Depth to groundwater approximately 5 feet bls. Noted by well installation on 10/15/99 (See Section 2.2.1)*
13. Type of petroleum or petroleum products discharged	*JP-5 Jet Fuel*
14. Documentation confirming the proper treatment or proper disposal of the free product or contaminated soil, including disposal manifests for free product, a copy of the treatment or acceptance of the contaminated soil and results of analyses, if performed	*See Table 2-1 and Appendix C*
15. For land farmed soil, a copy of the pre-treatment and post-treatment analytical results	*Not Applicable. Soil disposed of offsite*

1.0 Introduction

CH2M HILL Constructors, Inc. (CCI) was contracted by the Southern Division Naval Facilities Engineering Command (Southern Division, NAVFAC) to perform the excavation of petroleum-contaminated soil associated with the JP-5 pipeline running parallel with "A" Avenue at Naval Air Station (NAS) Cecil Field in Jacksonville, Florida and prepare a Source Removal Report. The source removal was conducted in accordance with the Florida Department of Environmental Protection (FDEP) Petroleum Contamination Site Cleanup rule 62-770, Florida Administrative Code (FAC).

The scope of services for excavation of petroleum-contaminated soils at the JP-5 pipeline is described in detail in the NAS Cecil Field Basewide Work Plan, Revision 01 (CCI, 1998a) and the Work Plan Addendum No. 1, Revision 01 (CCI, 1998b). This work was authorized under the Remedial Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0002.

1.1 Site Background

The site contained soil contamination in two locations adjacent to the underground pipeline running parallel to "A" Avenue on the eastern side of the street. The pipeline was installed during the 1950s and was used to convey fuel from NAS Jacksonville to the North Tank Fuel Farm, the South Tank Fuel Farm, the Jet Engine Test Cell, Day Tanks 1 and 2. The contaminated soil associated with this source removal was specifically located around a valve box located approximately 150 feet due west from the former Day Tank 1, and at another isolated area around monitoring well CEF-PIPE-3S, located 300 feet north of the valve box.

1.2 Project Objectives

The primary objective of the soil excavation that was performed was to remove petroleum-contaminated soils that exceeded the Soil Cleanup Target Levels (SCTLs) outlined in FAC 62-770 and 62-777. FDEP allows the use of organic vapor analyzer (OVA) headspace analysis as a screening tool in evaluating whether soil samples exceed the SCTLs. Soils exhibiting a volatile organic compound (VOC) concentration of greater than 50 parts per million (ppm) were considered to be excessively contaminated and were expected to contain constituents exceeding the SCTLs. Soils were excavated until VOC concentrations of less than 50 ppm were achieved, then confirmatory sampling for the Kerosene Analytical Group (KAG) was performed. No OVA concentrations above 50 ppm were noted in soil samples collected above the water table from the northern excavation, therefore a minimal (5 feet by 5 feet) area was excavated prior to confirmatory sample collection. The KAG analyses for soils includes VOCs by Environmental Protection Agency (EPA) Method 8021, polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8310, and total recoverable petroleum hydrocarbons (TRPH) by the Florida Petroleum Residual Organic (FL-PRO) method.

2.0 Source Removal Activities

A source removal was conducted at two locations along the JP-5 pipeline during the period of November 8 to November 11, 1999. A combined total of 48.23 tons of petroleum-contaminated soil was excavated from the two locations and disposed offsite. No free product was found during the excavation activities. Photographs showing the site during and after the source removal are presented in Appendix A.

2.1 Site Preparation

In preparation for excavation, all utilities were marked out by the base maintenance contractor and Sunshine State One Call of Florida. A bank of concrete-encased electrical lines on the southern boundary of the south excavation was the only active utility encountered during the excavation. The location of the electrical lines is depicted on Figure 2-2 in Section 2.2.1.2.

2.2 Soil Excavation and Disposal

2.2.1 Soil Excavation

2.2.1.1 Northern Excavation

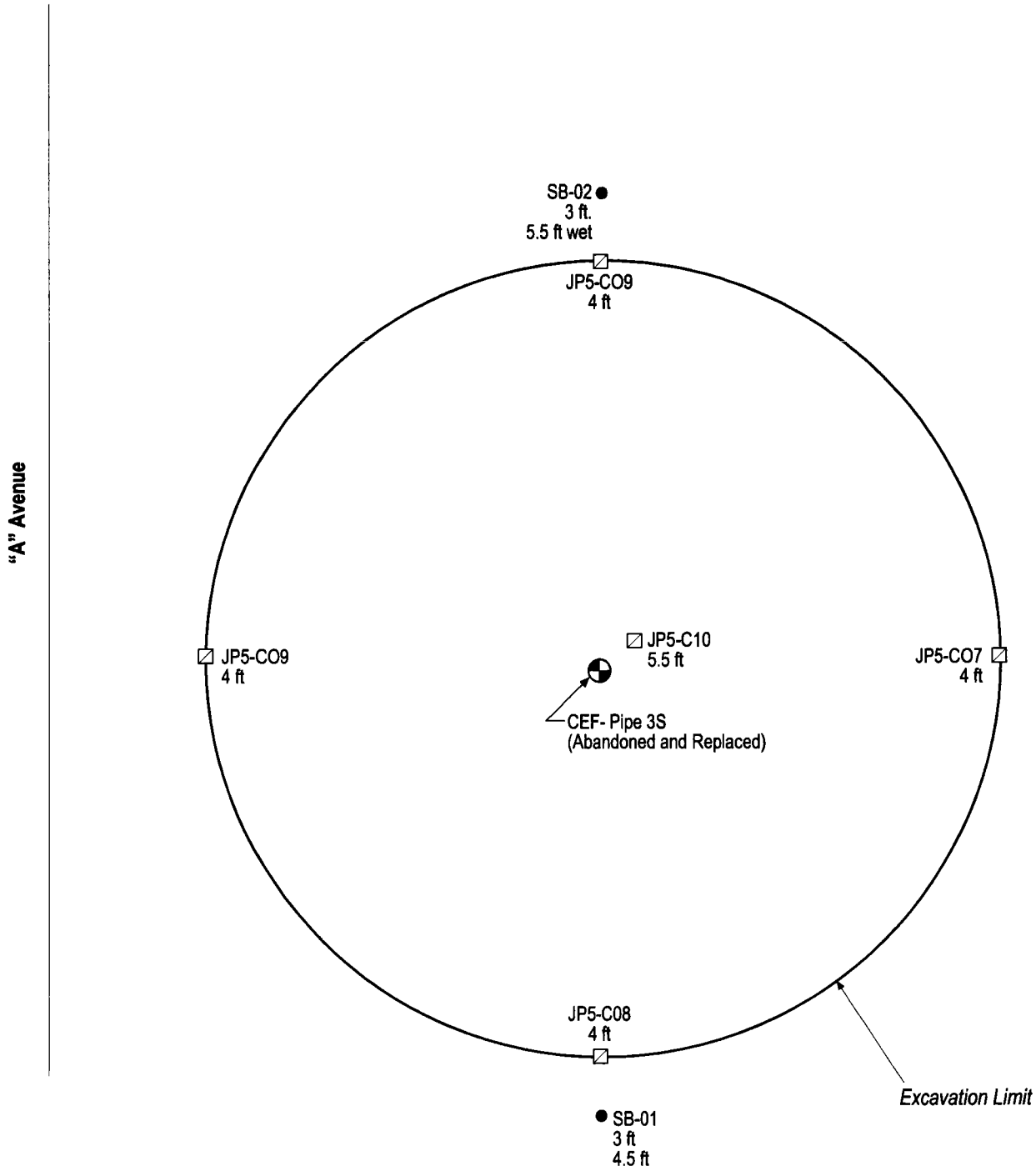
Soils were excavated based on the limits of the excessively contaminated soil delineated prior to the excavation with soil borings. The soil boring headspace results are tabulated in Table 2-2 in Section 2.3.1. The soil was excavated to 1 foot below the water table, to a depth of approximately 6 feet below land surface (bls). The depth to groundwater was determined by visual inspection during the excavation.

The soil was excavated using a backhoe and was stockpiled on visqueen prior to being loaded into trucks for offsite disposal. The excavation area was circular in shape, and was approximately 5 feet in diameter by 6 feet deep, corresponding to approximately 4 cubic yards of soil. The excavation area is shown on Figure 2-1.

Monitoring well CEF-PIPE-3S was abandoned and partially removed during source removal activities. This well was installed to a total depth of 14 feet bls and was screened from 4 to 14 feet. The well was removed because it was located within the zone of soil that was to be excavated. The well was replaced subsequent to source removal activities as described in Section 2.3.3.

2.2.1.2 Southern Excavation

Soil was excavated south and east of the valve box based upon the limits of excessively contaminated soil that was delineated using soil borings. The soil was excavated to 1 foot below the water table, to a depth of approximately 6 feet bls. The depth to groundwater was determined by visual inspection during the excavation.



LEGEND

Monitoring Well Location

JP5-C08 Confirmation Sample Location and Designation

SB-01 Soil Boring Location and Designation

N Scale: 1"= 1'

Figure 2-1
JP-5 Pipeline Contaminated Soil Removal
Northern Excavation
NAS Cecil Field, Jacksonville, Florida

CH2MHILL

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The soil was excavated using a backhoe and was stockpiled on visqueen prior to being loaded into trucks. The excavation area was approximately 17 feet long, 13 feet wide, and 6 feet deep (average), corresponding to approximately 35 cubic yards of soil after subtracting the volume occupied by the valve box. The excavation area is shown on Figure 2-2.

Monitoring well CEF-PIPE-1S was abandoned and partially removed during source removal activities. This well was installed to a total depth of 14 feet bls and was screened from 4 to 14 feet. The well was removed because it was located within the zone of soil that was to be excavated. It was replaced subsequent to source removal activities as described in Section 2.3.3.

2.2.2 Soil Transportation and Disposal

The petroleum-contaminated soil was transported offsite by truck to the Soil Safe Technologies, Inc., soil treatment facility in St. Marys, Georgia. A summary of the manifests is presented in Table 2-1 and copies of the manifests are presented in Appendix B. Soil Safe Technologies, Inc. provided a soil Certificate of Recycle (Appendix C) for 25,560.4 tons of petroleum-contaminated soil generated from several source removal excavations at NAS Cecil Field. This amount includes soil shipments documented on Manifests 6110001 through 6111141. The 48.23 tons of soil excavated during the JP-5 soil excavation, documented on Manifests 6111137 through 6111139, were included in the amount that is accounted for by the Certificate of Recycle in Appendix C.

TABLE 2-1
Summary of Manifest for Soil Disposal

Date	Truck #	Company	Manifest #	Weight (pounds)	Tare (pounds)	Net (pounds)	Net (tons)
11/10/99	768	Pritchett	6111137	74,940	34,580	40,360	20.18
11/10/99	396	Pritchett	6111138	74,260	29,920	44,340	22.17
11/11/99	396	Pritchett	6111139	73,120	61,360[1]	11,760	5.88

[1] Represents weight when already partially loaded with petroleum-contaminated soil from another site at the time TARE weight was recorded

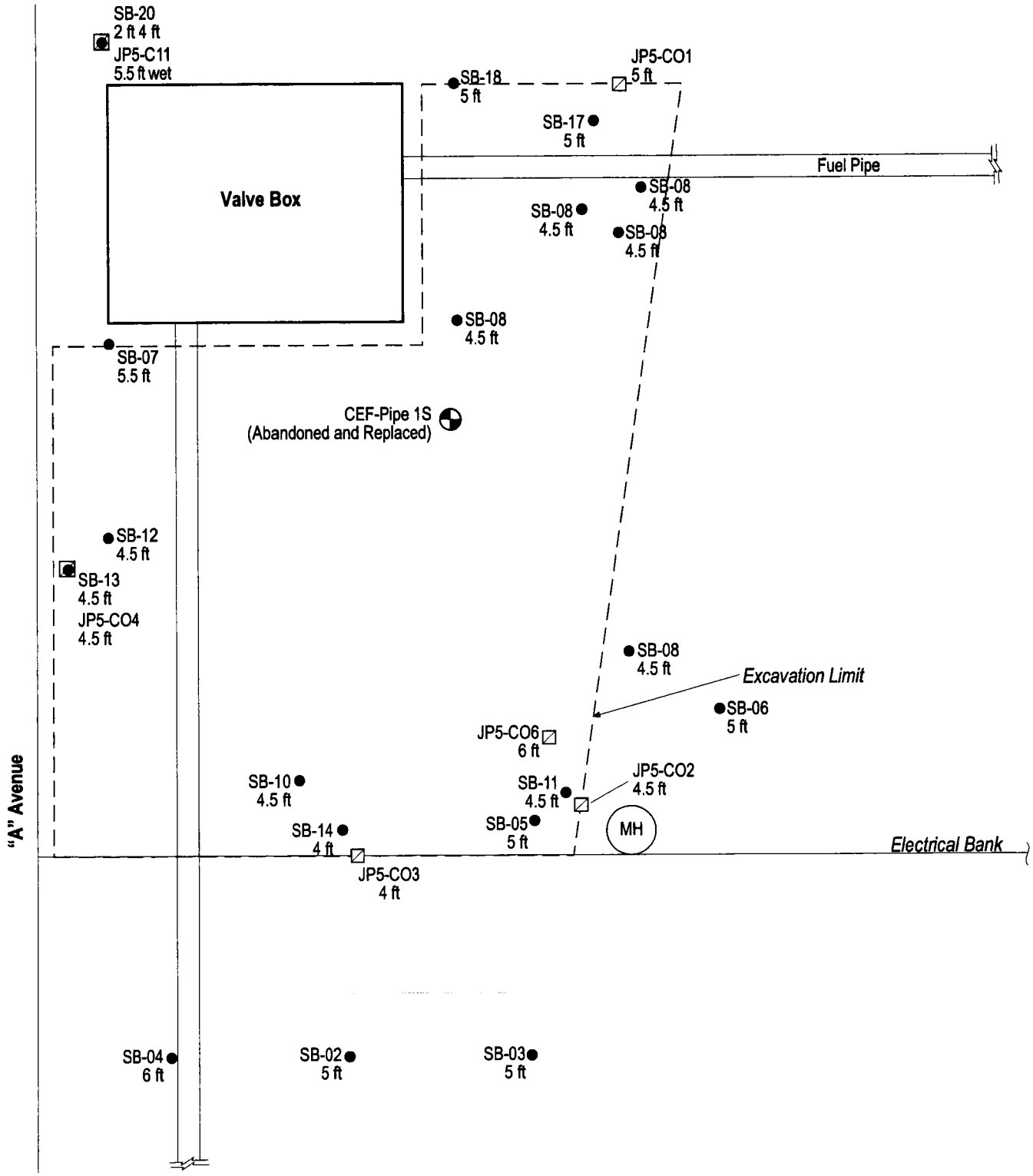
2.2.3 Backfilling and Site Restoration

The material used to backfill the excavation was a combination of excavated soil and clean fill brought in from a borrow pit operated by the Marietta Sand Corporation. A copy of the letter certifying that the material was clean fill is presented in Appendix D.

The backfilled area was leveled to match the existing grade and seeded with a mixture of rye and bahia grass.

2.3 Sampling And Analysis

Soil samples were collected from the walls of both of the excavations at depths of 4 to 5 feet bls and from the floor. The sampling locations are shown on Figures 2-1 and 2-2.



LEGEND

- Monitoring Well
- Confirmation Sample Location
- Soil Boring Location
- (MH) Manhole

N Scale: 1"= 3'

Figure 2-2
JP-5 Pipeline Contaminated Soil Removal
Southern Excavation
NAS Cecil Field, Jacksonville, Florida

CH2MHILL

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2.3.1 Headspace Analysis

Soil samples collected from soil borings advanced prior to the excavation were screened using an OVA equipped with a flame ionization detector (FID) in accordance with the procedures outlined in 62-770.200(8) FAC. A methane filter was used to subtract methane. See Section 1.2 for details of the screening methodology. The results of the headspace analyses are shown in Tables 2-2 and 2-3.

TABLE 2-2
Summary of Headspace Screening Results
JP-5 Pipeline Northern Excavation

Sample Location (see Figure 2-1)	Depth (feet bls)	FID Unfiltered (ppm)	FID with Filter (ppm)	FID Net (ppm)
SB-01	3	0	--	0
SB-01	4.5	15	10	5
SB-02	3	0	--	0
SB-02	5.5	220	90	130

TABLE 2-3
Summary of Headspace Screening Results
JP-5 Pipeline Southern Excavation

Sample Location (see Figure 2-2)	Depth (feet bls)	FID Unfiltered (ppm)	FID with Filter (ppm)	FID Net (ppm)
SB-1	5	32	10	22
SB-2	5	8	--	8
SB-3	5.5	55	20	35
SB-4	5	150	120	30
SB-5	5	0	--	0
SB-6	5.5	0	--	0
SB-7	4.5	>1,000	900	>100
SB-8	4.5	550	280	270
SB-9	4.5	15	6	9
SB-10	4.5	320	140	180
SB-11	4.5	8	--	8
SB-12	4.5	340	110	230
SB-13	4.5	90	30	60
SB-14	4	8	--	8
SB-15	4.5	160	100	60
SB-16	5	70	36	34
SB-17	5	100	46	54
SB-18	5	10	--	10
SB-19	7.5	65	7	58
SB-20	2	0	--	0
SB-20	4	15	6	9
SB-20	5.5	180	95	85

2.3.2 Laboratory Analyses of Soil Samples

A total of five soil samples were collected from the northern excavation and a total of six soil samples were collected from the southern excavation for KAG analyses. The sample locations are shown on Figures 2-1 and 2-2, respectively. The analytical results are summarized in Tables 2-4 and 2-5 and are described in Section 3.0. Analytical laboratory reports are provided in Appendix E.

TABLE 2-4
Summary of KAG Analyses for Soil

Sample Location	North Wall	East Wall	South Wall	West Wall	Bottom	SCTL (Leachability)
Depth (feet)	4	4	4	4	5.5	--
Sample ID	JP5 C-06	JP5 C-07	JP5 C-08	JP5 C-09	JP5 C-10	--
Site	JP5	JP5	JP5	JP5	JP5	--
Date	11/10/99	11/10/99	11/10/99	11/10/99	11/10/99	--
TRPH	ND	ND	ND	ND	ND	340
Benzo (b) Fluoranthene	0.012	ND	ND	ND	ND	3.2
Fluoranthene	0.088	ND	ND	ND	ND	32000
Phenanthrene	0.06	ND	ND	ND	ND	1200
Pyrene	0.08	ND	ND	ND	ND	250
Naphthalene	0.14	ND	ND	ND	ND	880
1 Methylnaphthalene	0.77	ND	ND	ND	ND	2.2
2 Methylnaphthalene	0.48	ND	ND	ND	ND	6.1
Ethylbenzene	0.0005	ND	ND	ND	0.0003	0.5
Toluene	0.0014	0.0009	0.0008	0.001	0.0013	0.2
Xylenes	0.0018	0.0008	0.0005	0.0007	0.0015	0.2

TABLE 2-5
Summary of KAG Analyses for Soil

Sample Location	Northeast Corner	Southeast Corner	South Wall	West Wall	Bottom	Northwest Corner	SCTL (Leachability)
Depth (feet)	5	4.5	4	4.5	6	5.5	--
Sample ID	JP5 C-01	JP5 C-02	JP5 C-03	JP5 C-04	JP5 C-05	JP5 C-11	--
Site	JP5	JP5	JP5	JP5	JP5	JP5	--
Date	11/10/99	11/10/99	11/10/99	11/10/99	11/10/99	11/10/99	--
TRPH	ND	6	30	5	ND	810	340
Anthracene	ND	ND	ND	ND	ND	0.33	2.1
Benzo (a) Anthracene	ND	ND	ND	ND	ND	0.14	27
Benzo (a) Pyrene	ND	ND	0.012	ND	ND	0.039	2500
Benzo (b) Fluoranthene	ND	ND	0.014	ND	ND	0.078	3.2
Benzo (k) Fluoranthene	ND	ND	ND	ND	ND	0.016	8
Chrysene	ND	ND	ND	ND	ND	0.11	10
Fluoranthene	ND	ND	0.017	ND	0.017	1.2	32000
Fluorene	ND	ND	ND	ND	ND	0.3	25
Indeno (123cd) Pyrene	ND	ND	0.021	ND	ND	0.026	30
Phenanthrene	ND	ND	ND	ND	ND	0.73	1200
Pyrene	ND	ND	ND	ND	ND	1.5	250
Naphthalene	ND	ND	ND	0.098	ND	0.4	880
1 Methylnaphthalene	ND	ND	ND	0.04	0.087	8.3	2.2
2 Methylaphthalene	ND	ND	ND	ND	0.068	5.1	6.1
Benzene	ND	ND	ND	ND	ND	0.039	0.6
Ethylbenzene	ND	0.0004	0.004	0.0004	0.0004	0.1	0.5
Toluene	0.0013	0.0018	0.009	0.0014	0.0018	<0.430	0.2
Xylenes	0.001	0.0017	0.016	0.0017	0.002	0.71	0.2

All values reported in milligrams per kilogram (mg/kg).
ND= Not Detected above reported detection limit.

2.3.3 Replacement Monitoring Well Installation, Sampling and Laboratory Analyses of Groundwater Samples

Two monitoring wells, CEF-PIPE-1S and CEF-PIPE-3S, were replaced subsequent to the source removal on November 16, 1999. The wells were screened from 4 to 14 feet bls. The well locations are shown on Figures 2-1 and 2-2. Well construction logs are provided in Appendix F.

One groundwater sample was collected from each of the replacement wells for KAG analysis as specified in FAC 62-770 for a UST removal. The analytical results are summarized in Table 2-6, and are discussed in Section 3.0. The analytical laboratory report is provided in Appendix G.

TABLE 2-6
Summary of KAG Analyses for Groundwater

Sample Location	CEF-PIPE-3S (North)	CEF-PIPE-1S (South)	GC	NADSC
Screened Interval (feet)	4 – 14	4 – 14	--	--
Site	South	North	--	--
Date	11/18/99	11/18/99	--	--
TRPH	170	2100	5000	50000
Anthracene	ND	1	2100	21000
Fluoranthene	ND	5	280	2800
Phenanthrene	ND	6	210	2100
Naphthalene	ND	38	20	200
1 Methylnaphthalene	ND	120	20	200
2 Methylnaphthalene	ND	100	20	200
Benzene	0.5	ND	1	100
Ethylbenzene	ND	1	30	300
Toluene	ND	ND	40	400
Xylenes	ND	ND	20	200

All values reported in milligrams per kilogram (mg/kg).
ND= Not Detected above reported detection limit.

3.0 Conclusions

3.1 Northern Excavation

During the source removal 5.88 tons of petroleum-contaminated soil were removed from the location shown in Figure 2-1 and transported to Soil Safe Technologies, Inc. soil treatment facility in St. Mary's, Georgia. The horizontal and vertical limits of the excavation had headspace VOC concentrations, as measured with an OVA with FID, of less than 50 ppm. The five confirmatory soil samples that were collected subsequent to the excavation were below SCTLs for all KAG parameters, confirming that the horizontal limits of the soil contamination had been removed. One groundwater sample that was collected for KAG analyses from a temporary well installed in the center of the excavation exhibited no KAG constituents above the Groundwater Criteria per FAC 62-777. No free product was encountered during the excavation.

No Further Action Status, per 62-770.680 FAC, is recommended for this site because the following criteria have been met:

- Based on visual inspection, free product is not present at the site.
- Excessively contaminated soil is not present at the site, as demonstrated by OVA screening performed during the tank removal and analytical results from confirmatory soil samples collected from the excavation.
- Contaminated soil is not present in the unsaturated zone at the site, as demonstrated by analytical results from confirmatory soil samples collected from the excavation.
- Based on analytical results from a confirmatory groundwater sample collected from beneath the excavation, contaminated groundwater is not present at the site.

3.2 Southern Excavation

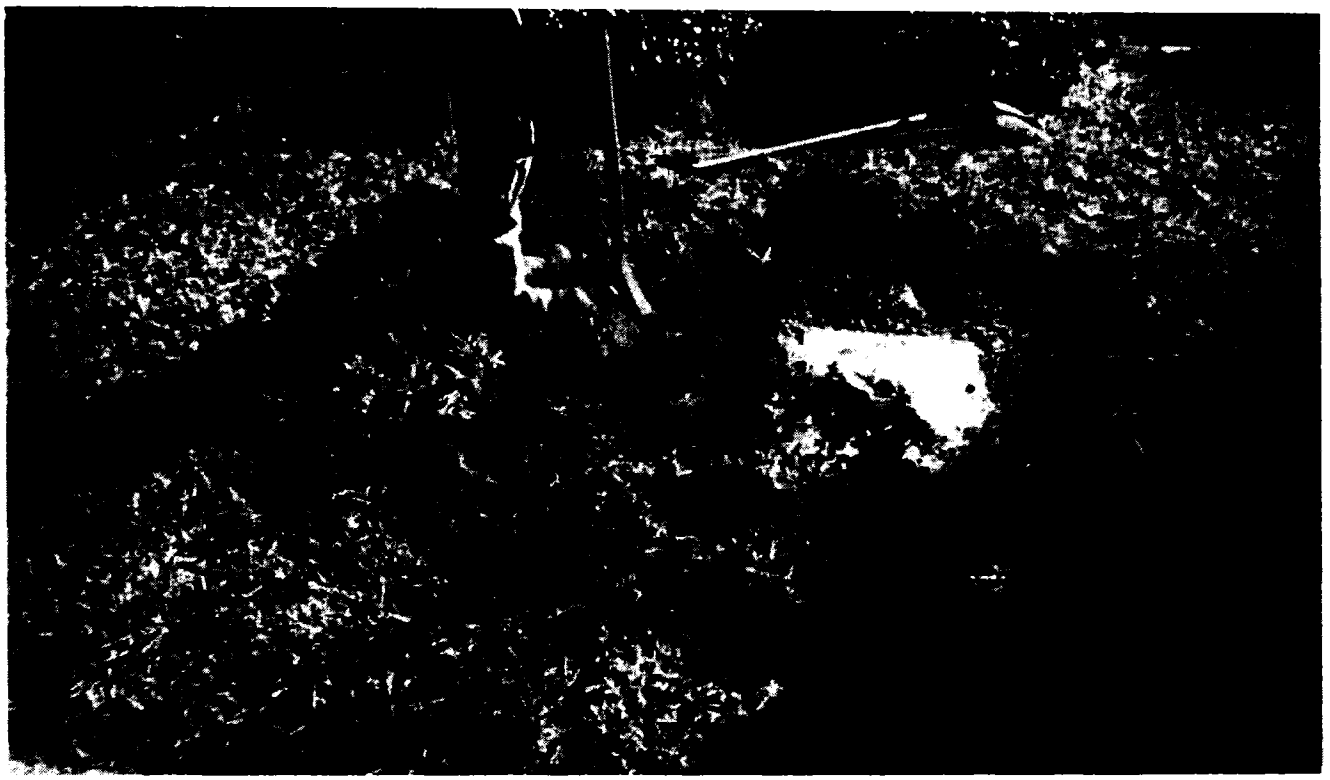
A total of 42.35 tons of petroleum-contaminated soils identified during the source removal were removed from the location shown on Figure 2-2 and transported to Soil Safe Technologies, Inc. soil treatment facility in St. Mary's, Georgia. The soil was excavated to the water table, to a depth of approximately 6 feet bls. The horizontal limits of the excavation had net headspace results (OVA with FID) of less than 50 ppm, except where samples were collected from below the water table (5.5 feet bls and deeper), or a permanent structure was encountered. The five confirmatory soil samples that were collected at each wall and from the floor of the excavation were below SCTLs for all KAG parameters, confirming that the horizontal limits of soil contamination were reached. One soil sample collected from a boring that was advanced outside of the excavation limits adjacent to the northwest corner of the vault contained TPH, 1-methylnaphthalene and xylenes above the SCTLs, but was documented to have been collected below the water table at 5.5 feet. One groundwater sample that was collected for KAG analyses from the replacement well installed within the limits of the excavation exhibited no KAG constituents above the

NADSC, but naphthalene, 1-methylnaphthalene and 2-methylnaphthalene were found above the Groundwater Criteria as shown on Table 2-6. No free product was encountered during the excavation.

Because of elevated contaminant concentrations detected in the groundwater beneath the excavation area, it is recommended that a Natural Attenuation Monitoring Plan be prepared for the site in accordance with FAC 62-770.

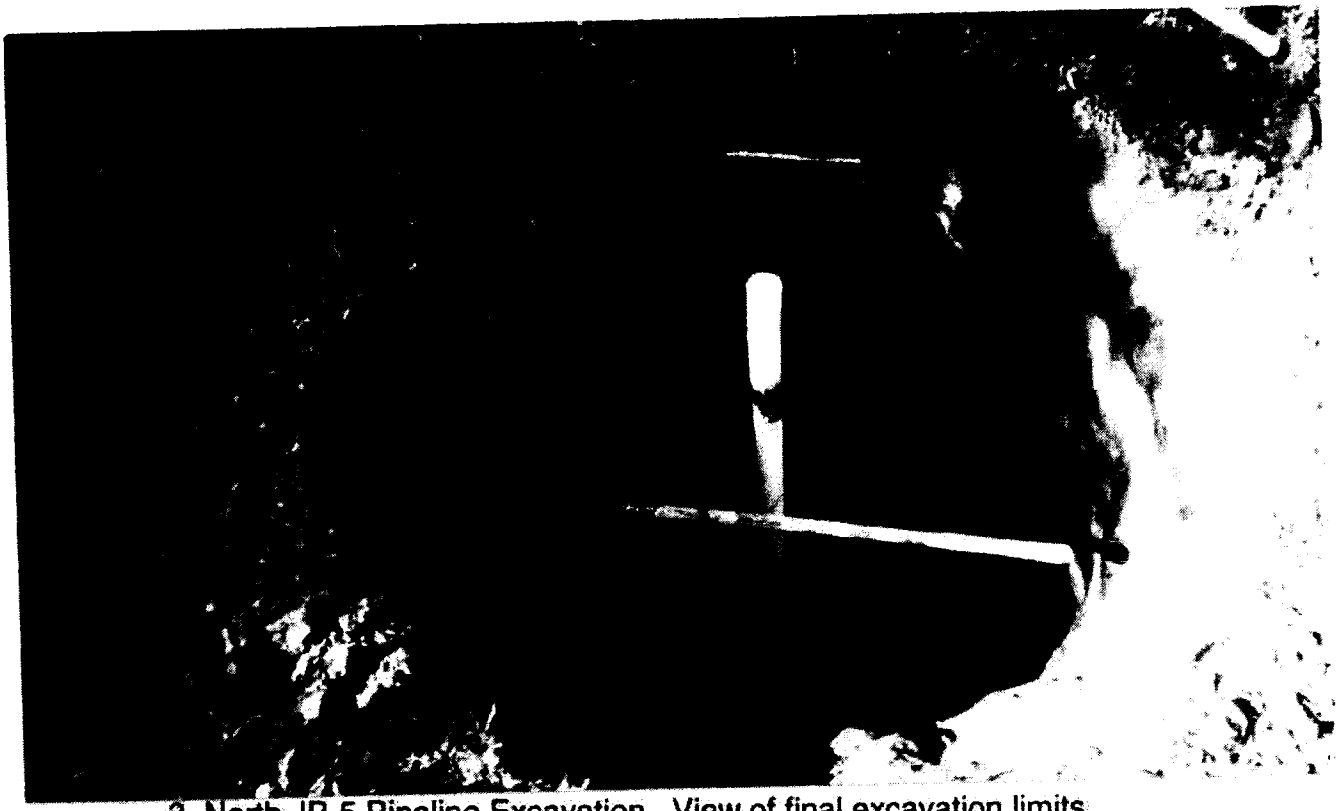
Appendix A

Photographs



1. North JP-5 Pipeline Excavation. Site conditions prior to the initiation soil excavation activities, looking northeast.

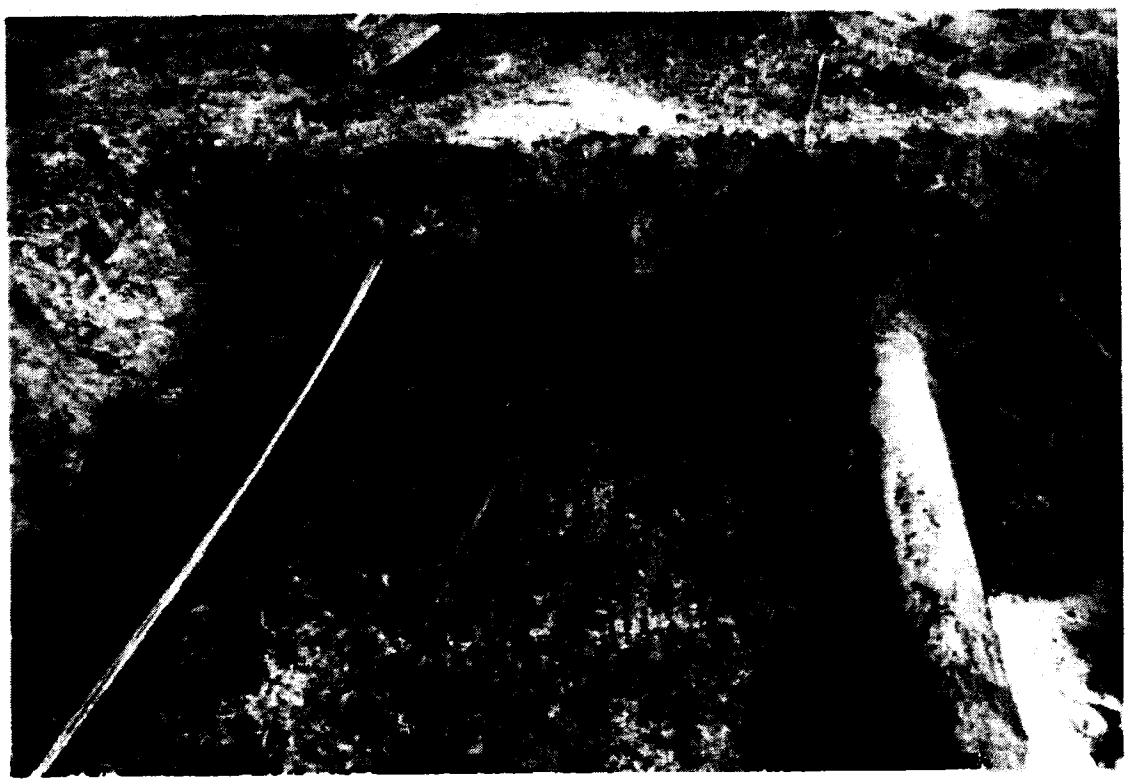
2. North JP-5 Pipeline Excavation. View of excavation in progress, looking north.



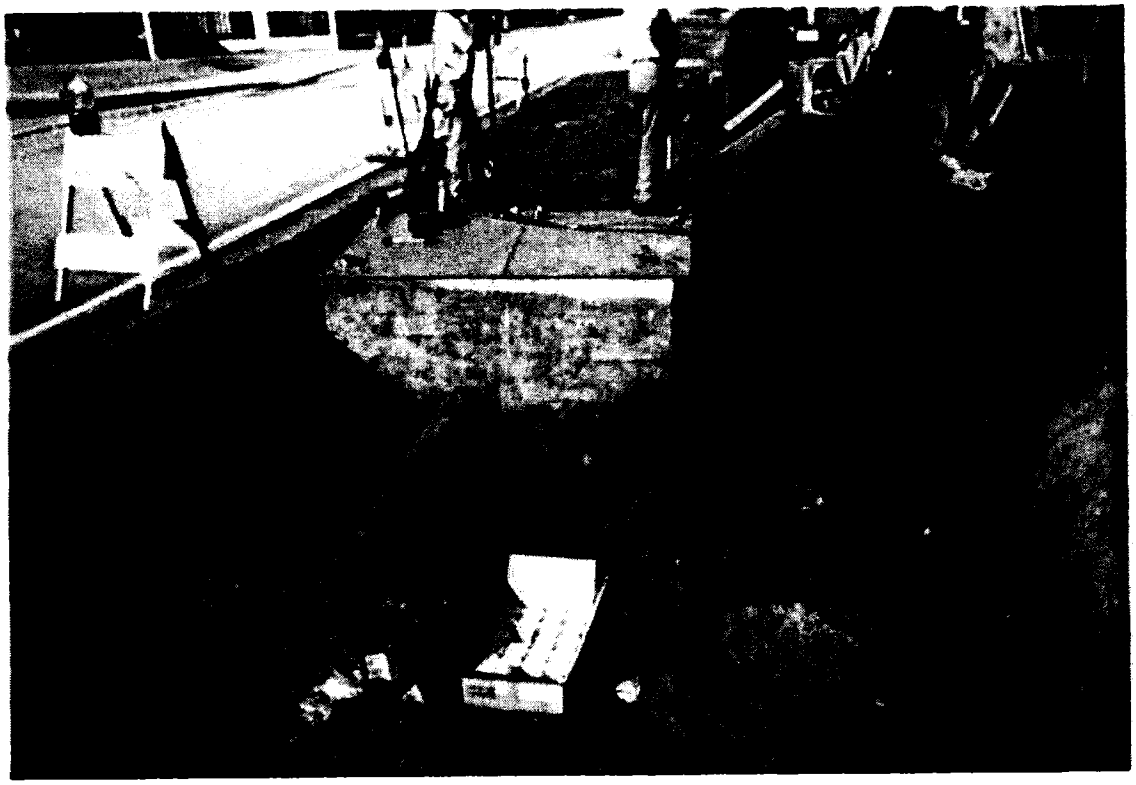
3. North JP-5 Pipeline Excavation. View of final excavation limits.

4. North JP-5 Pipeline Excavation. View of site subsequent to site restoration and monitoring well replacement, looking north.

5. South JP-5 Pipeline Excavation. View of site conditions prior to the initiation of soil excavation activities, looking south. Utility markings are for inactive data transfer lines and inactive fuel piping.



6. South JP-5 Pipeline Excavation. View of exposed inactive JP-5 fuel piping, inactive data transfer lines, and active electrical conduit (on far end of the excavation) during removal activities, looking south.



7. South JP-5 Excavation. View of final horizontal excavation limits, looking north.

8. South JP-5 Pipeline Excavation. JP-5 Pipeline location subsequent to site restoration and monitoring well replacement.

Appendix B

Copies of Soil Manifests

JP-5 JOUR

SOIL SAFE TECHNOLOGIES INCORPORATED
NON-HAZARDOUS MATERIALS MANIFEST

PROJECT NUMBER: 0611S

MANIFEST NUMBER: 0611S- 1107

GENERATOR/SHIPPING INFORMATION

GENERATOR: U.S. Navy
CONTRACTOR: R E A Remedial Solutions
2815 St Cloud Oaks Dr
Valrico, FL 33594

CONTACT: Kevin Simmons PH: 813-657-0747

SHIPPING ADDRESS: Cecil Field Jacksonville, FL

MATERIALS DESCRIPTION

Non-Hazardous petroleum contaminated soil. Not RCRA/CERCLA/D.O.T regulated.

GROSS WEIGHT: 74,940 TARE WEIGHT: 54,520 NET WEIGHT 20.18
(Seal indicates weights obtained from certified scales)

I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL DOES NOT CONTAIN ANY FREE LIQUID AS DESCRIBED BY 40 CFR PART 260.10 OR ANY APPLICABLE STATE LAW, IS NOT A HAZARDOUS OR REGULATED WASTE AS DEFINED BY 40 CFR PART 261 OR ANY APPLICABLE STATE LAW, HAS BEEN PROPERLY DESCRIBED, CLASSIFIED AND PACKAGED AND IS IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO APPLICABLE REGULATIONS

GENERATOR OR AUTHORIZED AGENT (PRINT) SIGNATURE DATE

TRANSPORTER INFORMATION

TRANSPORTER: Pritchett Trucking
Hwy 121
Lake Butler, FL 32054

TRUCK NUMBER: 768 LOAD DATE: 11/10/99

Phone: 904-496-2630

I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL WAS PICKED UP AT THE GENERATOR LOCATION LISTED ABOVE

DRIVER SIGNATURE:

DESTINATION/RECEIVING INFORMATION

CISCO TRAVEL PLAZA II / SOIL SAFE TECHNOLOGIES
MOBILE PROCESSING CENTER EPA ID GA 0001119940
ST. MARY'S RD @ I-95 EXIT ONE
ST. MARY'S, GA

I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL HAS BEEN ACCEPTED FOR RECYCLING AND TO THE BEST OF MY KNOWLEDGE THE FOREGOING IS TRUE AND ACCURATE

AGENT NAME/PHONE NUMBER:

PAUL M. LIWCZYK 912-882-8900

SIGNATURE OF AGENT OR DESIGNATED REPRESENTATIVE / RECEIPT DATE

SOIL SAFE TECHNOLOGIES INCORPORATED
NON-HAZARDOUS MATERIALS MANIFEST

PROJECT NUMBER: 0611S MANIFEST NUMBER:0611S- 1138

GENERATOR/SHIPPING INFORMATION

GENERATOR: U.S. Navy
CONTRACTOR: K E A Remedial Solutions
2815 St Cloud Oaks Dr
Valrico FL 33594

CONTACT: Kevin Simmons PH 813-657-0747

SHIPPING ADDRESS: Cecil Field Jacksonville, FL

MATERIALS DESCRIPTION

Non-Hazardous petroleum contaminated soil. Not RCRA/CERCLA/D.O.T. regulated.

GROSS WEIGHT: 74,260 TARE WEIGHT: 70,920 NET WEIGHT: 22.17T
(Seal indicates weights obtained from certified scales)

I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL DOES NOT CONTAIN ANY FREE LIQUID AS DESCRIBED BY 40 CFR PART 260.10 OR ANY APPLICABLE STATE LAW, IS NOT A HAZARDOUS OR REGULATED WASTE AS DEFINED BY 40 CFR PART 261 OR ANY APPLICABLE STATE LAW, HAS BEEN PROPERLY DESCRIBED, CLASSIFIED AND PACKAGED, AND IS IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO APPLICABLE REGULATIONS

GENERATOR OR AUTHORIZED AGENT (PRINT) SIGNATURE DATE

TRANSPORTER INFORMATION

TRANSPORTER: Pritchett Trucking
Hwy 121
Lake Butler, FL 32054

TRUCK NUMBER: 396 LOAD DATE: 11/10/98

Phone: 904-496-2630

I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL WAS PICKED UP AT THE GENERATOR LOCATION LISTED ABOVE

DRIVER SIGNATURE:

DESTINATION/RECEIVING INFORMATION

CISCO TRAVEL PLAZA II / SOIL SAFE TECHNOLOGIES
MOBILE PROCESSING CENTER EPA ID GA 0001119940
ST. MARY'S RD @ I-95 EXIT ONE
ST. MARY'S, GA

I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL HAS BEEN ACCEPTED FOR RECYCLING AND TO THE BEST OF MY KNOWLEDGE THE FOREGOING IS TRUE AND ACCURATE.

AGENT NAME/PHONE NUMBER:

SIGNATURE OF AGENT OR DESIGNATED REPRESENTATIVE / RECEIPT DATE

Form M-1 (Revised 01/29/97)

JP-5 - 5.88
860 - 13.25

SOIL SAFE TECHNOLOGIES INCORPORATED
NON-HAZARDOUS MATERIALS MANIFEST

PROJECT NUMBER: 0611S

MANIFEST NUMBER.0611S

11

GENERATOR/SHIPPING INFORMATION

GENERATOR: U.S. Navy
CONTRACTOR: R E A Remedial Solutions
2915 St Cloud Oaks Dr
Valrico, FL 33594

CONTACT Kevin Simmons PH 813-657-9747

SHIPPING ADDRESS: Cecil Field Jacksonville, FL

MATERIALS DESCRIPTION

Non-Hazardous petroleum contaminated soil. Not RCRA/CERCLA/D.O.T. regulated.

GROSS WEIGHT 73,120 TARE WEIGHT 29,920 NET WEIGHT 21.60 T
(Red indicates weights obtained from certified scales)

I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL DOES NOT CONTAIN ANY FREE LIQUID AS DESCRIBED BY 40 CFR PART 264.10 OR ANY APPLICABLE STATE LAW, IS NOT A HAZARDOUS OR REGULATED WASTE AS DEFINED BY 40 CFR PART 261 OR ANY APPLICABLE STATE LAW, HAS BEEN PROPERLY DESCRIBED, CLASSIFIED AND PACKAGED, AND IS IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO APPLICABLE REGULATIONS.

DAVID J. KOWALSKI
GENERATOR OR AUTHORIZED AGENT (PRINT) SIGNATURE DATE

TRANSPORTER INFORMATION

TRANSPORTER: Pritchett Trucking
Hwy 121
Lake Butler, FL 32054

TRUCK NUMBER: 396 LOAD DATE: X 11/11/99

Phone: 904-496-2630

I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL WAS PICKED UP AT THE GENERATOR LOCATION LISTED ABOVE

DRIVER SIGNATURE: X

DESTINATION/RECEIVING INFORMATION

CISCO TRAVEL PLAZA II / SOIL SAFE TECHNOLOGIES
MOBILE PROCESSING CENTER EPA ID GA 0001119940
ST. MARY'S RD @ I-95 EXIT ONE
ST. MARY'S, GA

I HEREBY CERTIFY THAT THE ABOVE NAMED MATERIAL HAS BEEN ACCEPTED FOR RECYCLING AND TO THE BEST OF MY KNOWLEDGE THE FOREGOING IS TRUE AND ACCURATE.

AGENT NAME/PHONE NUMBER:

SIGNATURE OF AGENT OR DESIGNATED REPRESENTATIVE / RECEIPT DATE

DALE M. LEWCZYK 912-926-6900

Appendix C

Certificate of Recycle

Soil Safe Technologies Incorporated

Certificate of Recycle

Soil Safe Technologies Incorporated accepted 25,560.4 tons of non-hazardous recyclable petroleum contaminated soil generated by the Department of the Navy from Cecil Field, Jacksonville, Florida under approval number 4-0611.

This material was contracted by and between Soil Safe Technologies Incorporated and Task Environmental, Inc. contractor, representing the generator. It was accepted for recycling based upon analytical information provided by a certified laboratory and also written certification by the generator verifying non-hazardous status.

This material was transported under manifest numbers 611001 through 6111141.

Soil Safe Technologies Incorporated accepts full responsibility for this material to include safe handling, storage and processing. We certify that this material has been recycled into an environmentally benign product for paving or other construction purposes.

Paul M. Lewczyk
Director of Operations

Friday, July 28, 2000

Appendix D

Clean Fill Certification

MARIETTA SAND CORPORATION

377 Agmac Avenue
Jacksonville, Florida 32254
(904) 781-7304

Pritchett Trucking
PO Box 311
Lake Butler, FL 32054

August 25, 1999

Attention: Mr. Bobby Lord

Please find attached, testing data on fill dirt pit located on Stratton Road in Jacksonville, Duval County, Florida. As you will notice these results are dated June, 1996. Please be advised that the material from this pit is clean and will meet The Navy specifications. Approximately 330 loads of this material was recently sent to Cecil Field for the Fuel Tank Farm. by another contractor and material was accepted.

If you have any questions or concerns, please contact me at the above listed number.

Respectfully,

Susan Henricks

Susan Henricks
Marietta Sand Corporation

Ellis & Associates Inc.
5109 STEPP AVENUE
JACKSONVILLE, FL 32216-6053
(904)733-0960 OFFICE
(904)448-5534 FAX NUMBER

PROJECT NO: 962-2093
REPORT NO: 6
LAB NO: 0-099
DATE: 06/17/96

- - - - - Continued from previous page - - - - -

SIEVE SIZE	PERCENT PASSING
No. 10	100
No. 20	99.8
No. 40	99.6
No. 60	97.6
No. 80	44.6
No. 100	28.3
No. 140	9.3
No. 140	6.3

SAMPLED BY: Client

INSPECTED BY: R. Kelley

Respectfully submitted,
ELLIS & ASSOCIATES, INC.

John E. Ellis, II, P.E.
6/17/96

DISTRIBUTION: JEE/dfh
2cc:Client

Appendix E
Analytical Laboratory Reports for

Confirmatory Soil Samples

JP-5

Committed To *Your* Success

Severn Trent Laboratories
11 East Olive Road
Pensacola FL 32514

Tel: (850) 474-1001
Fax: (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

Client:	TASK ENVIRONMENTAL TAMPA, FLORIDA
Project Name:	CECIL FIELD
Project Number:	N/S
Project Location:	JACKSONVILLE, FL
Accession Number:	911293
Project Manager:	SUSAN TOBIN
Sampled By:	JOE SEECH

SEVERN TRENT LABORATORIES, INC. – PENSACOLA, FLORIDA
STATE CERTIFICATIONS

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)

State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)

Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)

Florida, Radioactive Materials License No. G0733-1

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)

New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)

State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster)

New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)

North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)

North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)

Tennessee Division of Underground Storage Tanks Approved Laboratory

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastew... Reciprocity with FL)

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Accession:	911293
Client:	TASK ENVIRONMENTAL
Project Number:	N/S
Project Name:	CECIL FIELD
Project Location:	JACKSONVILLE, FL
Department:	SEMI-VOLATILE FUELS

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 001 Sample Date/Time: 09-NOV-99
Client Sample Id: JPS-C01 Received Date: 10-NOV-99

Batch: FLS189 Extraction Date: 18-NOV-99
Blank: A Dry Weight %: 84 Analysis Date: 20-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	ND	3.0	
ORTHO TER PHENYL	%REC/SURR	62	62-109	
NONATRIACONTANE	%REC/SURR	79	60-118	
ANALYST	INITIALS	KA		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 002
Client Sample Id: JPS-CO2

Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: FLS189
Blank: A

Dry Weight %: 94

Extraction Date: 18-NOV-99
Analysis Date: 20-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	6	2.7	
ORTHO TER PHENYL	%REC/SURR	73	62-109	
NONATRIACONTANE	%REC/SURR	100	60-118	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 003
Client Sample Id: JPS-C03

Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: FLS189
Blank: A

Dry Weight %: 80

Extraction Date: 18-NOV-99
Analysis Date: 20-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	30	3.1	
ORTHO TER PHENYL	%REC/SURR	63	62-109	
NONATRIACONTANE	%REC/SURR	112	60-118	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 004
Client Sample Id: JPS-CO4

Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: FLS189
Blank: A

Dry Weight %: 91

Extraction Date: 18-NOV-99
Analysis Date: 20-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	5.0	2.7	M
ORTHO TER PHENYL	%REC/SURR	61	62-109	
NONATRIACONTANE	%REC/SURR	74	60-118	
ANALYST	INITIALS	KA		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 005 Sample Date/Time: 09-NOV-99
Client Sample Id: JPS-CO5 Received Date: 10-NOV-99

Batch: FLS189 Extraction Date: 18-NOV-99
Blank: A Dry Weight %: 78 Analysis Date: 20-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	ND	3.2	R6
ORTHO TER PHENYL	%REC/SURR	61	62-109	
NONATRIACONTANE	%REC/SURR	72	60-118	
ANALYST	INITIALS	KA		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 006
Client Sample Id: JPS-C104

Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: FLS189
Blank: A

Dry Weight %: 86

Extraction Date: 18-NOV-99
Analysis Date: 20-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	3	2.9	
ORTHO TER PHENYL	%REC/SURR	70	62-109	
NONATRIACONTANE	%REC/SURR	90	60-118	
ANALYST	INITIALS	KA		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: WATER
QC Level: IIMS

Lab Id: 007 Sample Date/Time: 09-NOV-99
Client Sample Id: JPS EQ BLANK Received Date: 10-NOV-99

Batch: FLW157 Extraction Date: 10-NOV-99
Blank: A Dry Weight %: N/A Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	R6
ORTHO TER PHENYL	%REC/SURR	81	82-142	
NONATRIACONTANE	%REC/SURR	83	42-193	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"Method Report Summary"

Accession Number: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Client Sample Id:	Parameter:	Unit:	Result:
JPS-CO2	TOTAL PETROLEUM HYDROCARBON	MG/KG	6
JPS-CO3	TOTAL PETROLEUM HYDROCARBON	MG/KG	30
JPS-CO4	TOTAL PETROLEUM HYDROCARBON	MG/KG	5.0
JPS-C104	TOTAL PETROLEUM HYDROCARBON	MG/KG	3

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: POLYNUCLEAR AROMATICS BY 8310

Accession:	911293
Client:	TASK ENVIRONMENTAL
Project Number:	N/S
Project Name:	CECIL FIELD
Project Location:	JACKSONVILLE, FL
Department:	SEMI-VOLATILE FUELS

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 001 Sample Date/Time: 09-NOV-99
Client Sample Id: JPS-CO1 Received Date: 10-NOV-99

Batch: PAS123 Extraction Date: 16-NOV-99
Blank: A Dry Weight %: 84 Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	12	
ACENAPHTHYLENE	UG/KG	ND	12	
ANTHRACENE	UG/KG	ND	12	
BENZO(a)ANTHRACENE	UG/KG	ND	12	
BENZO(a)PYRENE	UG/KG	ND	12	
BENZO(b)FLUORANTHENE	UG/KG	ND	12	
BENZO(g,h,i)PERYLENE	UG/KG	ND	12	
BENZO(k)FLUORANTHENE	UG/KG	ND	12	
CHRYSENE	UG/KG	ND	12	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	12	
FLUORANTHENE	UG/KG	ND	12	
FLUORENE	UG/KG	ND	12	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	12	
NAPHTHALENE	UG/KG	ND	12	
PHENANTHRENE	UG/KG	ND	12	
PYRENE	UG/KG	ND	12	
1-METHYLNAPHTHALENE	UG/KG	ND	12	
2-METHYLNAPHTHALENE	UG/KG	ND	12	
2-CHLOROANTHRACENE	%REC/SURR	86	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 002
Client Sample Id: JPS-CO2
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: PAS123
Blank: A
Dry Weight %: 94
Extraction Date: 16-NOV-99
Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	11	
ACENAPHTHYLENE	UG/KG	ND	11	
ANTHRACENE	UG/KG	ND	11	
BENZO(a)ANTHRACENE	UG/KG	ND	11	
BENZO(a)PYRENE	UG/KG	ND	11	
BENZO(b)FLUORANTHENE	UG/KG	ND	11	
BENZO(g,h,i)PERYLENE	UG/KG	ND	11	
BENZO(k)FLUORANTHENE	UG/KG	ND	11	
CHRYSENE	UG/KG	ND	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	11	
FLUORANTHENE	UG/KG	ND	11	
FLUORENE	UG/KG	ND	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	11	
NAPHTHALENE	UG/KG	ND	11	
PHENANTHRENE	UG/KG	ND	11	
PYRENE	UG/KG	ND	11	
1-METHYLNAPHTHALENE	UG/KG	ND	11	
2-METHYLNAPHTHALENE	UG/KG	ND	11	
2-CHLOROANTHRACENE	%REC/SURR	66	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 003
Client Sample Id: JPS-CO3
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: PAS123
Blank: A
Dry Weight %: 80
Extraction Date: 16-NOV-99
Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	13	
ACENAPHTHYLENE	UG/KG	ND	13	
ANTHRACENE	UG/KG	ND	13	
BENZO(a)ANTHRACENE	UG/KG	ND	13	
BENZO(a)PYRENE	UG/KG	12	13	I
BENZO(b)FLUORANTHENE	UG/KG	14	13	
BENZO(g,h,i)PERYLENE	UG/KG	ND	13	
BENZO(k)FLUORANTHENE	UG/KG	ND	13	
CHRYSENE	UG/KG	ND	13	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	13	
FLUORANTHENE	UG/KG	17	13	
FLUORENE	UG/KG	ND	13	
INDENO(1,2,3-cd)PYRENE	UG/KG	21	13	
NAPHTHALENE	UG/KG	ND	13	
PHENANTHRENE	UG/KG	ND	13	
PYRENE	UG/KG	ND	13	
1-METHYLNAPHTHALENE	UG/KG	ND	13	
2-METHYLNAPHTHALENE	UG/KG	ND	13	
2-CHLOROANTHRACENE	%REC/SURR	71	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 004
Client Sample Id: JPS-CO4
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: PAS123
Blank: A
Dry Weight %: 91
Extraction Date: 16-NOV-99
Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	11	
ACENAPHTHYLENE	UG/KG	ND	11	
ANTHRACENE	UG/KG	ND	11	
BENZO(a)ANTHRACENE	UG/KG	ND	11	
BENZO(a)PYRENE	UG/KG	ND	11	
BENZO(b)FLUORANTHENE	UG/KG	ND	11	
BENZO(g,h,i)PERYLENE	UG/KG	ND	11	
BENZO(k)FLUORANTHENE	UG/KG	ND	11	
CHRYSENE	UG/KG	ND	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	11	
FLUORANTHENE	UG/KG	ND	11	
FLUORENE	UG/KG	ND	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	11	
NAPHTHALENE	UG/KG	98	11	
PHENANTHRENE	UG/KG	ND	11	
PYRENE	UG/KG	ND	11	
1-METHYLNAPHTHALENE	UG/KG	40	11	
2-METHYLNAPHTHALENE	UG/KG	ND	11	
2-CHLOROANTHRACENE	%REC/SURR	84	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 005
Client Sample Id: JPS-CO5
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: PAS123
Blank: A
Dry Weight %: 78
Extraction Date: 16-NOV-99
Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	13	
ACENAPHTHYLENE	UG/KG	ND	13	
ANTHRACENE	UG/KG	ND	13	
BENZO(a)ANTHRACENE	UG/KG	ND	13	
BENZO(a)PYRENE	UG/KG	ND	13	
BENZO(b)FLUORANTHENE	UG/KG	ND	13	
BENZO(g,h,i)PERYLENE	UG/KG	ND	13	
BENZO(k)FLUORANTHENE	UG/KG	ND	13	
CHRYSENE	UG/KG	ND	13	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	13	
FLUORANTHENE	UG/KG	17	13	
FLUORENE	UG/KG	ND	13	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	13	
NAPHTHALENE	UG/KG	ND	13	
PHENANTHRENE	UG/KG	ND	13	
PYRENE	UG/KG	ND	13	
1-METHYLNAPHTHALENE	UG/KG	87	13	
2-METHYLNAPHTHALENE	UG/KG	68	13	
2-CHLOROANTHRACENE	%REC/SURR	80	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 006 Sample Date/Time: 09-NOV-99
Client Sample Id: JPS-C104 Received Date: 10-NOV-99

Batch: PAS123 Extraction Date: 16-NOV-99
Blank: A Dry Weight %: 86 Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	12	
ACENAPHTHYLENE	UG/KG	ND	12	
ANTHRACENE	UG/KG	ND	12	
BENZO(a)ANTHRACENE	UG/KG	ND	12	
BENZO(a)PYRENE	UG/KG	ND	12	
BENZO(b)FLUORANTHENE	UG/KG	ND	12	
BENZO(g,h,i)PERYLENE	UG/KG	ND	12	
BENZO(k)FLUORANTHENE	UG/KG	ND	12	
CHRYSENE	UG/KG	ND	12	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	12	
FLUORANTHENE	UG/KG	ND	12	
FLUORENE	UG/KG	ND	12	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	12	
NAPHTHALENE	UG/KG	ND	12	
PHENANTHRENE	UG/KG	ND	12	
PYRENE	UG/KG	ND	12	
1-METHYLNAPHTHALENE	UG/KG	ND	12	
2-METHYLNAPHTHALENE	UG/KG	ND	12	
2-CHLOROANTHRACENE	%REC/SURR	83	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: WATER
QC Level: IIMS

Lab Id: 007
Client Sample Id: JPS EQ BLANK
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: PAW315
Blank: A
Dry Weight %: N/A
Extraction Date: 11-NOV-99
Analysis Date: 12-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	63	28-138	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 011
Client Sample Id: LCS
Sample Date/Time:
Received Date: 10-NOV-99

Batch: PAS123
Blank: A
Dry Weight %: N/A
Extraction Date: 16-NOV-99
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	223.1	10	
ACENAPHTHYLENE	UG/KG	266.4	10	
ANTHRACENE	UG/KG	4734	10	
BENZO(a)ANTHRACENE	UG/KG	336.1	10	
BENZO(a)PYRENE	UG/KG	323.5	10	
BENZO(b)FLUORANTHENE	UG/KG	333.6	10	
BENZO(g,h,i)PERYLENE	UG/KG	463.5	10	
BENZO(k)FLUORANTHENE	UG/KG	327.5	10	
CHRYSENE	UG/KG	338.9	10	
DIBENZO(a,h)ANTHRACENE	UG/KG	406.2	10	
FLUORANTHENE	UG/KG	331.3	10	
FLUORENE	UG/KG	294.1	10	
INDENO(1,2,3-cd)PYRENE	UG/KG	316.1	10	
NAPHTHALENE	UG/KG	352.2	10	
PHENANTHRENE	UG/KG	318.8	10	
PYRENE	UG/KG	305.8	10	
1-METHYLNAPHTHALENE	UG/KG	295.8	10	
2-METHYLNAPHTHALENE	UG/KG	269.1	10	
2-CHLOROANTHRACENE	%REC/SURR	102	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 012
Client Sample Id: METHOD BLANK
Sample Date/Time:
Received Date: 10-NOV-99

Batch: PAS123
Blank: A
Dry Weight %: N/A
Extraction Date: 16-NOV-99
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	10	
ACENAPHTHYLENE	UG/KG	ND	10	
ANTHRACENE	UG/KG	ND	10	
BENZO(a)ANTHRACENE	UG/KG	ND	10	
BENZO(a)PYRENE	UG/KG	ND	10	
BENZO(b)FLUORANTHENE	UG/KG	ND	10	
BENZO(g,h,i)PERYLENE	UG/KG	ND	10	
BENZO(k)FLUORANTHENE	UG/KG	ND	10	
CHRYSENE	UG/KG	ND	10	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	10	
FLUORANTHENE	UG/KG	ND	10	
FLUORENE	UG/KG	ND	10	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	10	
NAPHTHALENE	UG/KG	ND	10	
PHENANTHRENE	UG/KG	ND	10	
PYRENE	UG/KG	ND	10	
1-METHYLNAPHTHALENE	UG/KG	ND	10	
2-METHYLNAPHTHALENE	UG/KG	ND	10	
2-CHLOROANTHRACENE	%REC/SURR	93	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 015
Client Sample Id: JPS-CO4 (MS)
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: PAS123
Blank: A
Dry Weight %: 91
Extraction Date: 16-NOV-99
Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	152.2	11	
ACENAPHTHYLENE	UG/KG	180.9	11	
ANTHRACENE	UG/KG	417.6	11	
BENZO(a)ANTHRACENE	UG/KG	311.4	11	
BENZO(a)PYRENE	UG/KG	307.7	11	
BENZO(b)FLUORANTHENE	UG/KG	304.0	11	
BENZO(g,h,i)PERYLENE	UG/KG	406.6	11	
BENZO(k)FLUORANTHENE	UG/KG	293.0	11	
CHRYSENE	UG/KG	391.9	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	373.6	11	
FLUORANTHENE	UG/KG	296.7	11	
FLUORENE	UG/KG	252.7	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	285.7	11	
NAPHTHALENE	UG/KG	318.7	11	
PHENANTHRENE	UG/KG	282.1	11	
PYRENE	UG/KG	282.1	11	
1-METHYLNAPHTHALENE	UG/KG	241.8	11	
2-METHYLNAPHTHALENE	UG/KG	216.1	11	
2-CHLOROANTHRACENE	%REC/SURR	105	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 016
Client Sample Id: JPS-CO4 (MSD)
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: PAS123
Blank: A
Dry Weight %: 91
Extraction Date: 16-NOV-99
Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	150.5	11	
ACENAPHTHYLENE	UG/KG	168.5	11	
ANTHRACENE	UG/KG	373.6	11	
BENZO(a)ANTHRACENE	UG/KG	289.4	11	
BENZO(a)PYRENE	UG/KG	282.1	11	
BENZO(b)FLUORANTHENE	UG/KG	282.1	11	
BENZO(g,h,i)PERYLENE	UG/KG	373.6	11	
BENZO(k)FLUORANTHENE	UG/KG	284.7	11	
CHRYSENE	UG/KG	362.6	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	348.0	11	
FLUORANTHENE	UG/KG	282.1	11	
FLUORENE	UG/KG	230.8	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	260.1	11	
NAPHTHALENE	UG/KG	333.3	11	
PHENANTHRENE	UG/KG	260.1	11	
PYRENE	UG/KG	267.4	11	
1-METHYLNAPHTHALENE	UG/KG	234.4	11	
2-METHYLNAPHTHALENE	UG/KG	201.5	11	
2-CHLOROANTHRACENE	%REC/SURR	77	17-160	
ANALYST	INITIALS	SB		

Comments:

"Method Report Summary"

Accession Number: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
JPS-CO3	BENZO(a)PYRENE	UG/KG	12
	BENZO(b)FLUORANTHENE	UG/KG	14
	FLUORANTHENE	UG/KG	17
	INDENO(1,2,3-cd)PYRENE	UG/KG	21
JPS-CO4	NAPHTHALENE	UG/KG	98
	1-METHYLNAPHTHALENE	UG/KG	40
JPS-CO5	FLUORANTHENE	UG/KG	17
	1-METHYLNAPHTHALENE	UG/KG	87
	2-METHYLNAPHTHALENE	UG/KG	68
LCS	ACENAPHTHENE	UG/KG	223.1
	ACENAPHTHYLENE	UG/KG	266.4
	ANTHRACENE	UG/KG	4734
	BENZO(a)ANTHRACENE	UG/KG	336.1
	BENZO(a)PYRENE	UG/KG	323.5
	BENZO(b)FLUORANTHENE	UG/KG	333.6
	BENZO(g,h,i)PERYLENE	UG/KG	463.5
	BENZO(k)FLUORANTHENE	UG/KG	327.5
	CHRYSENE	UG/KG	338.9
	DIBENZO(a,h)ANTHRACENE	UG/KG	406.2
	FLUORANTHENE	UG/KG	331.3
	FLUORENE	UG/KG	294.1
	INDENO(1,2,3-cd)PYRENE	UG/KG	316.1
	NAPHTHALENE	UG/KG	352.2
	PHENANTHRENE	UG/KG	318.8
	PYRENE	UG/KG	305.8
	1-METHYLNAPHTHALENE	UG/KG	295.8
	2-METHYLNAPHTHALENE	UG/KG	269.1
JPS-CO4 (MS)	ACENAPHTHENE	UG/KG	152.2
	ACENAPHTHYLENE	UG/KG	180.9
	ANTHRACENE	UG/KG	417.6
	BENZO(a)ANTHRACENE	UG/KG	311.4
	BENZO(a)PYRENE	UG/KG	307.7
	BENZO(b)FLUORANTHENE	UG/KG	304.0
	BENZO(g,h,i)PERYLENE	UG/KG	406.6
	BENZO(k)FLUORANTHENE	UG/KG	293.0
	CHRYSENE	UG/KG	391.9
	DIBENZO(a,h)ANTHRACENE	UG/KG	373.6
	FLUORANTHENE	UG/KG	296.7
	FLUORENE	UG/KG	252.7
	INDENO(1,2,3-cd)PYRENE	UG/KG	285.7
	NAPHTHALENE	UG/KG	318.7
	PHENANTHRENE	UG/KG	282.1
	PYRENE	UG/KG	282.1
	1-METHYLNAPHTHALENE	UG/KG	241.8

"Method Report Summary"

Accession Number: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
JPS-CO4 (MSD)	2-METHYLNAPHTHALENE	UG/KG	216.1
	ACENAPHTHENE	UG/KG	150.5
	ACENAPHTHYLENE	UG/KG	168.5
	ANTHRACENE	UG/KG	373.6
	BENZO(a)ANTHRACENE	UG/KG	289.4
	BENZO(a)PYRENE	UG/KG	282.1
	BENZO(b)FLUORANTHENE	UG/KG	282.1
	BENZO(g,h,i)PERYLENE	UG/KG	373.6
	BENZO(k)FLUORANTHENE	UG/KG	284.7
	CHRYSENE	UG/KG	362.6
	DIBENZO(a,h)ANTHRACENE	UG/KG	348.0
	FLUORANTHENE	UG/KG	282.1
	FLUORENE	UG/KG	230.8
	INDENO(1,2,3-cd)PYRENE	UG/KG	260.1
	NAPHTHALENE	UG/KG	333.3
	PHENANTHRENE	UG/KG	260.1
	PYRENE	UG/KG	267.4
	1-METHYLNAPHTHALENE	UG/KG	234.4
	2-METHYLNAPHTHALENE	UG/KG	201.5

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Analysis Report

Analysis: BETX + MTBE (5035/8021B)

Accession:	911293
Client:	TASK ENVIRONMENTAL
Project Number:	N/S
Project Name:	CECIL FIELD
Project Location:	JACKSONVILLE, FL
Department:	GC/VOA

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"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 001
Client Sample Id: JPS-C01

Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: LUS114
Blank: A Dry Weight %: 84

Extraction Date: N/A
Analysis Date: 15-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	ND	1	
METHYL T-BUTYL ETHER	UG/KG	ND	6	
TOLUENE	UG/KG	1.3	6	I
XYLENES	UG/KG	1.0	2	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	107	70-130	
ANALYST	INITIALS	DT		

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 002
Client Sample Id: JPS-CO2

Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: LUS114
Blank: A

Dry Weight %: 94

Extraction Date: N/A
Analysis Date: 15-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	0.4	1	I
METHYL T-BUTYL ETHER	UG/KG	ND	5	
TOLUENE	UG/KG	1.8	5	I
XYLENES	UG/[redacted]		[redacted]	I
BROMOFLUOROBENZENE (PID)	%RE[redacted]		[redacted]0-130	
ANALYST	INI[redacted]			

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession:	911293
Client:	TASK ENVIRONMENTAL
Project Number:	N/S
Project Name:	CECIL FIELD
Project Location:	JACKSONVILLE, FL
Test:	BETX + MTBE (5035/8021B)
Analysis Method:	8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method:	5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix:	SOIL
QC Level:	IIMSRAW

Lab Id: 003
Client Sample Id: JPS-CO3
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: LUS114
Blank: A
Dry Weight %: 80
Extraction Date: N/A
Analysis Date: 15-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	4	1	
METHYL T-BUTYL ETHER	UG/KG	ND	6	
TOLUENE	UG/KG	9	6	
XYLENES	UG/KG	16	3	
BROMOFLUOROBENZENE (PID)	%REC/SURR	96	70-130	
ANALYST	INITIALS	DT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 004
Client Sample Id: JPS-CO4
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: LUS115
Blank: A
Dry Weight %: 91
Extraction Date: N/A
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	0.4	1	I
METHYL T-BUTYL ETHER	UG/KG	ND	7	
TOLUENE	UG/KG	1.4	7	I
XYLENES	UG/KG	1.7	3	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	102	70-130	
ANALYST	INITIALS	DT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 005
Client Sample Id: JPS-C05
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: LUS114
Blank: A
Dry Weight %: 78
Extraction Date: N/A
Analysis Date: 15-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	2	
ETHYL BENZENE	UG/KG	0.4	2	I
METHYL T-BUTYL ETHER	UG/KG	ND	8	
TOLUENE	UG/KG	1.8	8	I
XYLENES	UG/KG	2.0	3	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	102	70-130	
ANALYST	INITIALS	DT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 006
Client Sample Id: JPS-C104
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: LUS115
Blank: A
Dry Weight %: 86
Extraction Date: N/A
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	0.1	1	I
ETHYL BENZENE	UG/KG	0.4	1	I
METHYL T-BUTYL ETHER	UG/KG	ND	6	
TOLUENE	UG/KG	1.2	6	I
XYLENES	UG/KG	1.6	2	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	101	70-130	
ANALYST	INITIALS	DT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 007
Client Sample Id: JPS EQ BLANK
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: LUS114
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	0.2	1	I
ETHYL BENZENE	UG/L	ND	1	
METHYL T-BUTYL ETHER	UG/L	2.4	5	I
TOLUENE	UG/L	110	5	
XYLENES (TOTAL)	UG/L	0.9	2	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	107	70-130	
ANALYST	INITIALS	DT		

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 008
Client Sample Id: TRIP BLANK
Sample Date/Time:
Received Date: 10-NOV-99

Batch: LUS114
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	1	Y1
ETHYL BENZENE	UG/L	ND	1	
METHYL T-BUTYL ETHER	UG/L	1.2	5	I
TOLUENE	UG/L	110	5	
XYLENES (TOTAL)	UG/L	0.9	2	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	107	70-130	
ANALYST	INITIALS	DT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 011
Client Sample Id: LCS

Sample Date/Time:
Received Date: 10-NOV-99

Batch: LUS114
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 15-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	48	1	
ETHYL BENZENE	UG/KG	56	1	
METHYL T-BUTYL ETHER	UG/KG	92	5	
TOLUENE	UG/KG	49	5	
XYLENES	UG/KG	160	2	
BROMOFLUOROBENZENE (PID)	%REC/SURR	101	70-130	
ANALYST	INITIALS	SK		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 012
Client Sample Id: METHOD BLANK
Sample Date/Time:
Received Date: 10-NOV-99

Batch: LUS114
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 15-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	ND	1	
METHYL T-BUTYL ETHER	UG/KG	ND	5	
TOLUENE	UG/KG	ND	5	
XYLENES	UG/KG	ND	2	
BROMOFLUOROBENZENE (PID)	%REC/SURR	104	70-130	
ANALYST	INITIALS	SK		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 013
Client Sample Id: METHOD BLANK 2
Sample Date/Time:
Received Date: 10-NOV-99

Batch: LUS115
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	ND	1	
METHYL T-BUTYL ETHER	UG/KG	ND	5	
TOLUENE	UG/KG	ND	5	
XYLENES	UG/KG	ND	2	
BROMOFLUOROBENZENE (PID)	%REC/SURR	103	70-130	
ANALYST	INITIALS	SK		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 014
Client Sample Id: LCS 2
Sample Date/Time: 09-NOV-99
Received Date: 10-NOV-99

Batch: LUS115
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	45	1	
ETHYL BENZENE	UG/KG	55	1	
METHYL T-BUTYL ETHER	UG/KG	83	5	
TOLUENE	UG/KG	47	5	
XYLENES	UG/KG	150	2	
BROMOFLUOROBENZENE (PID)	%REC/SURR	102	70-130	
ANALYST	INITIALS	SK		

Comments:

"Method Report Summary"

Accession Number: 911293
Client: TASK ENVIRONMENTAL
Project Number: N/S
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)

Client Sample Id:	Parameter:	Unit:	Result:
JPS-CO1	TOLUENE	UG/KG	1.3
	XYLENES	UG/KG	1.0
JPS-CO2	ETHYL BENZENE	UG/KG	0.4
	TOLUENE	UG/KG	1.8
	XYLENES	UG/KG	1.7
JPS-CO3	ETHYL BENZENE	UG/KG	4
	TOLUENE	UG/KG	9
	XYLENES	UG/KG	16
JPS-CO4	ETHYL BENZENE	UG/KG	0.4
	TOLUENE	UG/KG	1.4
	XYLENES	UG/KG	1.7
JPS-CO5	ETHYL BENZENE	UG/KG	0.4
	TOLUENE	UG/KG	1.8
	XYLENES	UG/KG	2.0
JPS-C104	BENZENE	UG/KG	0.1
	ETHYL BENZENE	UG/KG	0.4
	TOLUENE	UG/KG	1.2
	XYLENES	UG/KG	1.6
JPS EQ BLANK	BENZENE	UG/L	0.2
	METHYL T-BUTYL ETHER	UG/L	2.4
	TOLUENE	UG/L	110
	XYLENES (TOTAL)	UG/L	0.9
TRIP BLANK	METHYL T-BUTYL ETHER	UG/L	1.2
	TOLUENE	UG/L	110
	XYLENES (TOTAL)	UG/L	0.9
LCS	BENZENE	UG/KG	48
	ETHYL BENZENE	UG/KG	56
	METHYL T-BUTYL ETHER	UG/KG	92
	TOLUENE	UG/KG	49
	XYLENES	UG/KG	160
LCS 2	BENZENE	UG/KG	45
	ETHYL BENZENE	UG/KG	55
	METHYL T-BUTYL ETHER	UG/KG	83
	TOLUENE	UG/KG	47
	XYLENES	UG/KG	150

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Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

J4	(For positive results)	Temperature limits exceeded (<2°C or > 6°C)
J5	(TICs)	The reported value is quantitated as a TIC; therefore, it is estimated
J6	(For positive results)	LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL)
J7	(For positive results)	The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation.
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation	
R1	(For nondetects)	Temperature limits exceeded (<2°C or > 6°C)
R2	Improper preservation, no preservative present in sample upon receipt	
R3	Improper preservation, incorrect preservative present in sample upon receipt	
R4	Holding time exceeded	
R10	Holding time exceeded, non-reportable for NDPES compliance monitoring	
R5	Collection requirements not met, improper container used for sample	
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects	
R7	Internal standard area outside –50% to +100% of initial calibration midpoint standard.	
R8	Initial calibration or any calibration verification exceeds acceptance criteria.	
R9	Improper preservation, sample not filtered in the field.	
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria	
F	< laboratory or AFCEE RL and > laboratory MDL	
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL	
U2	≤ Laboratory MDL (value for result will be the MDL, never below the MDL)	
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL	
B (AFCEE description)	The analyte was found in the associated blank, as well as in the sample	
B1	Analyte was detected in the associated method blank.	
@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)	
+	Elevated reporting limit due to dilution into calibration range	
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)	
** (Organics)	Compounds flagged are not within the five point initial calibration curve. They are searched for qualitatively or as TICs.	
#	Elevated reporting limit due to insufficient sample size	
D	Diluted out	
M	A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks)	
S	Incorrect sample amount was submitted to the laboratory for analysis	
T	Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound.	
TIC	Samples are searched for qualitatively as Tentatively Identified Compounds.	
E	Compound concentration exceeds the upper calibration range of the instrument.	
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.	

ND = Not Detected at or above the STL-Pensacola reporting limit (RL)
IDL = Laboratory Instrument Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

N/S = Not Submitted
N/A = Not Applicable
MDL = Laboratory Method Detection Limit

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt
Y (FL description)	The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate
Q	Sample held beyond the accepted holding time
I	The reported value is < Laboratory RL and > laboratory MDL
U1	The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected
T	The reported value is < Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank
J1	Surrogate recovery outside acceptance limits. Not enough sample available to reextract and/or reanalyze.
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers.

Severn Trent Laboratories
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CHAIN OF CUSTODY

LAB ACCESSION # C911293

PART 1 - Bottle Shipment Information

CLIENT:

CLIENT PROJECT NUMBER:

QUANTITY OF SAMPLE CONTAINERS SHIPPED	PRESERVATIVE							PLASTIC CONTAINERS							GLASS CONTAINERS									NOTES
	H_2SO_4	HNO3	HCL	Zn Acetate	$Na_2S_2O_3$	Unpreserved	NaOH	8 oz.	16 oz.	32 oz.	½ gallon	1 gallon	Whirl-pak	100-ML Cup	120 ml (A)	1 liter (A)	1 liter (C)	40 ml Vial	4 oz. wm	8 oz. wm	16 oz. wm	32 oz. wm	D.I. Trip Blank	

Relinquished By:	Time	Date	Received By:	Time	Date

PART 2 - Sample/Project Information

SAMPLE MATRIX CODES

DW DRINKING WATER
WW WASTEWATER
GW GROUNDWATER
AI AIR
SO SOIL
OI OIL
SW SURFACE WATER
SL SLUDGE
ST STORMWATER

PARAMETERS AND PRESERVATIVES REQUESTED

SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME	MATRIX	8021	8310	FL PKG	TOTAL # OF BOTTLES
JPS-C01	11/9/99		Soil	✓	✓	✓	4
JPS-C02	↓		↓	✓	✓	✓	4
JPS-C03				✓	✓	✓	4
JPS-C04				✓	✓	✓	4
JPS-C05				✓	✓	✓	4
JPS Eq Blk				✓	✓	✓	4
JPS Trip Blk	↓		↓	✓			2

Total Number of Bottles/Containers:

Relinquished By	Date	Time	Received By	Date	Time
	11/9/99	1645	[illegible]	11-10-99	0926

Client	Tait Environmental		Purchase Order Number
Address	501 J. Blvd		Project Number
City	TAMPA	State FL / Zip 33605	Project Name Cecil Field JPS
Phone Number	813 254-8731	Fax Number (813) 254-8481	Project Location Jacksonville, FL
Project Manager	Joe Jeed		Sampled By Joe Jeed

TURNAROUND TIMES	check below	SPECIAL INSTRUCTIONS
Standard - 14-21 days	✓	
RUSH (must be approved in advance)		
<- 48 hours - 2x standard price		
3-7 days - 1.5x standard price		
TCLP - 1 week rush 1.5x standard price		
QC Level none I II III IV (circle one)		Copies of report needed _____

FORM # 12694

WHITE — LAB CANARY — REPORT PINK — CLIENT

JP-5

Committed To *Your* Success

Severn Trent Laboratories
11 East Olive Road
Pensacola FL 32514

Tel: (850) 474-1001
Fax: (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

Client:	TASK ENVIRONMENTAL TAMPA, FLORIDA
Project Name:	CECIL FIELD
Project Number:	E0105
Project Location:	JACKSONVILLE, FL
Accession Number:	911336
Project Manager:	SUSAN TOBIN
Sampled By:	JOE SCECH

SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA
STATE CERTIFICATIONS

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)

State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)

Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)

Florida, Radioactive Materials License No. G0733-1

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)

New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)

State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster)

New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)

North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)

North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)

Tennessee Division of Underground Storage Tanks Approved Laboratory

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Waste by Reciprocity with FL)

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704

TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Accession:	911336
Client:	TASK ENVIRONMENTAL
Project Number:	E0105
Project Name:	CECIL FIELD
Project Location:	JACKSONVILLE, FL
Department:	SEMI-VOLATILE FUELS

ERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Date 01-Dec-99

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 001
Client Sample Id: JPSC-06
Sample Date/Time: 10-NOV-99 1105
Received Date: 11-NOV-99

Batch: FLS189
Blank: A
Dry Weight %: 89
Extraction Date: 18-NOV-99
Analysis Date: 19-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	ND	2.8	
ORTHO TER PHENYL	%REC/SURR	62	62-109	
NONATRIACONTANE	%REC/SURR	61	60-118	
ANALYST	INITIALS	KA		

Comments:

TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Date 01-Dec-99

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 002
Client Sample Id: JPSC-07
Sample Date/Time: 10-NOV-99 1107
Received Date: 11-NOV-99
Batch: FLS189
Blank: A
Dry Weight %: 94
Extraction Date: 18-NOV-99
Analysis Date: 19-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	ND	2.7	
ORTHO TER PHENYL	%REC/SURR	63	62-109	
NONATRIACONTANE	%REC/SURR	77	60-118	
ANALYST	INITIALS	KA		

Comments:

TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 003
Client Sample Id: JPSC-08
Sample Date/Time: 10-NOV-99 1109
Received Date: 11-NOV-99
Batch: FLS189
Blank: A
Dry Weight %: 92
Extraction Date: 18-NOV-99
Analysis Date: 19-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	ND	2.7	R6
ORTHO TER PHENYL	%REC/SURR	47	62-109	
NONATRIACONTANE	%REC/SURR	44	60-118	
ANALYST	INITIALS	KA		

Comments:

ʀENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-10(

"FINAL REPORT FORMAT - SINGLE"

Date 01-Dec-99

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 004
Client Sample Id: JPSC-09

Sample Date/Time: 10-NOV-99 1110
Received Date: 11-NOV-99

Batch: FLS189
Blank: A

Dry Weight %: 92

Extraction Date: 18-NOV-99
Analysis Date: 20-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	ND	2.7	
ORTHO TER PHENYL	%REC/SURR	62	62-109	
NONATRIACONTANE	%REC/SURR	72	60-118	
ANALYST	INITIALS	KA		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 005
Client Sample Id: JPSC-10

Sample Date/Time: 10-NOV-99 1113
Received Date: 11-NOV-99

Batch: FLS189
Blank: A Dry Weight %: 88

Extraction Date: 18-NOV-99
Analysis Date: 20-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	ND	2.8	R6
ORTHO TER PHENYL	%REC/SURR	45	62-109	
NONATRIACONTANE	%REC/SURR	53	60-118	
ANALYST	INITIALS	KA		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 006
Client Sample Id: JPSC-11

Sample Date/Time: 10-NOV-99 1205
Received Date: 11-NOV-99

Batch: FLS189
Blank: A Dry Weight %: 85

Extraction Date: 18-NOV-99
Analysis Date: 22-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	810	59	
ORTHO TER PHENYL	%REC/SURR	D	62-109	
NONATRIACONTANE	%REC/SURR	D	60-118	
ANALYST	INITIALS	KA		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 008
Client Sample Id: JPSC-06 (MS)
Sample Date/Time: 10-NOV-99 1105
Received Date: 11-NOV-99

Batch: FLS189
Blank: A
Dry Weight %: 89
Extraction Date: 18-NOV-99
Analysis Date: 19-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	120	2.8	
ORTHO TER PHENYL	%REC/SURR	73	62-109	
NONATRIACONTANE	%REC/SURR	97	60-118	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 009
Client Sample Id: JPSC-06 (MSD)

Sample Date/Time: 10-NOV-99 1105
Received Date: 11-NOV-99

Batch: FLS189
Blank: A

Dry Weight %: 89

Extraction Date: 18-NOV-99
Analysis Date: 19-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	130	2.8	
ORTHO TER PHENYL	%REC/SURR	80	62-109	
NONATRIACONTANE	%REC/SURR	106	60-118	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 012
Client Sample Id: METHOD BLANK

Sample Date/Time:
Received Date: 11-NOV-99

Batch: FLS189
Blank: A

Dry Weight %: N/A

Extraction Date: 18-NOV-99
Analysis Date: 19-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	MG/KG	ND	2.5	
ORTHO TER PHENYL	%REC/SURR	81	62-109	
NONATRIACONTANE	%REC/SURR	93	60-118	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"Method Report Summary"

Accession Number: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Client Sample Id:	Parameter:	Unit:	Result:
JPSC-11	TOTAL PETROLEUM HYDROCARBON	MG/KG	810
JPSC-06 (MS)	TOTAL PETROLEUM HYDROCARBON	MG/KG	120
JPSC-06 (MSD)	TOTAL PETROLEUM HYDROCARBON	MG/KG	130
LCS	TOTAL PETROLEUM HYDROCARBON	MG/KG	84

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: POLYNUCLEAR AROMATICS BY 8310

Accession:	911336
Client:	TASK ENVIRONMENTAL
Project Number:	E0105
Project Name:	CECIL FIELD
Project Location:	JACKSONVILLE, FL
Department:	SEMI-VOLATILE FUELS

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 001
Client Sample Id: JPSC-06
Sample Date/Time: 10-NOV-99 1105
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: 89
Extraction Date: 15-NOV-99
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	11	
ACENAPHTHYLENE	UG/KG	ND	11	
ANTHRACENE	UG/KG	ND	11	
BENZO(a)ANTHRACENE	UG/KG	ND	11	
BENZO(a)PYRENE	UG/KG	ND	11	
BENZO(b)FLUORANTHENE	UG/KG	12	11	
BENZO(g,h,i)PERYLENE	UG/KG	ND	11	
BENZO(k)FLUORANTHENE	UG/KG	ND	11	
CHRYSENE	UG/KG	ND	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	11	
FLUORANTHENE	UG/KG	88	11	
FLUORENE	UG/KG	ND	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	11	
NAPHTHALENE	UG/KG	140	11	
PHENANTHRENE	UG/KG	60	11	
PYRENE	UG/KG	80	11	
1-METHYLNAPHTHALENE	UG/KG	770	11	
2-METHYLNAPHTHALENE	UG/KG	480	11	
2-CHLOROANTHRACENE	%REC/SURR	69	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 002
Client Sample Id: JPSC-07
Sample Date/Time: 10-NOV-99 1107
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: 94
Extraction Date: 15-NOV-99
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	11	
ACENAPHTHYLENE	UG/KG	ND	11	
ANTHRACENE	UG/KG	ND	11	
BENZO(a)ANTHRACENE	UG/KG	ND	11	
BENZO(a)PYRENE	UG/KG	ND	11	
BENZO(b)FLUORANTHENE	UG/KG	ND	11	
BENZO(g,h,i)PERYLENE	UG/KG	ND	11	
BENZO(k)FLUORANTHENE	UG/KG	ND	11	
CHRYSENE	UG/KG	ND	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	11	
FLUORANTHENE	UG/KG	ND	11	
FLUORENE	UG/KG	ND	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	11	
NAPHTHALENE	UG/KG	ND	11	
PHENANTHRENE	UG/KG	ND	11	
PYRENE	UG/KG	ND	11	
1-METHYLNAPHTHALENE	UG/KG	ND	11	
2-METHYLNAPHTHALENE	UG/KG	ND	11	
2-CHLOROANTHRACENE	%REC/SURR	94	17-160	
ANALYST	INITIALS	SB		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 003
Client Sample Id: JPSC-08
Sample Date/Time: 10-NOV-99 1109
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: 92
Extraction Date: 15-NOV-99
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	11	
ACENAPHTHYLENE	UG/KG	ND	11	
ANTHRACENE	UG/KG	ND	11	
BENZO(a)ANTHRACENE	UG/KG	ND	11	
BENZO(a)PYRENE	UG/KG	ND	11	
BENZO(b)FLUORANTHENE	UG/KG	ND	11	
BENZO(g,h,i)PERYLENE	UG/KG	ND	11	
BENZO(k)FLUORANTHENE	UG/KG	ND	11	
CHRYSENE	UG/KG	ND	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	11	
FLUORANTHENE	UG/KG	ND	11	
FLUORENE	UG/KG	ND	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	11	
NAPHTHALENE	UG/KG	ND	11	
PHENANTHRENE	UG/KG	ND	11	
PYRENE	UG/KG	ND	11	
1-METHYLNAPHTHALENE	UG/KG	ND	11	
2-METHYLNAPHTHALENE	UG/KG	ND	11	
2-CHLOROANTHRACENE	UG/KG	ND	11	
ANALYST	%REC/SURR	82	17-160	
	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 004
Client Sample Id: JPSC-09
Sample Date/Time: 10-NOV-99 1110
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: 92
Extraction Date: 15-NOV-99
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	11	
ACENAPHTHYLENE	UG/KG	ND	11	
ANTHRACENE	UG/KG	ND	11	
BENZO(a)ANTHRACENE	UG/KG	ND	11	
BENZO(a)PYRENE	UG/KG	ND	11	
BENZO(b)FLUORANTHENE	UG/KG	ND	11	
BENZO(g,h,i)PERYLENE	UG/KG	ND	11	
BENZO(k)FLUORANTHENE	UG/KG	ND	11	
CHRYSENE	UG/KG	ND	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	11	
FLUORANTHENE	UG/KG	ND	11	
FLUORENE	UG/KG	ND	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	11	
NAPHTHALENE	UG/KG	ND	11	
PHENANTHRENE	UG/KG	ND	11	
PYRENE	UG/KG	ND	11	
1-METHYLNAPHTHALENE	UG/KG	ND	11	
2-METHYLNAPHTHALENE	UG/KG	ND	11	
2-CHLOROANTHRACENE	UG/KG	ND	11	
ANALYST	%REC/SURR	63	17-160	
	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 005
Client Sample Id: JPSC-10
Sample Date/Time: 10-NOV-99 1113
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: 88
Extraction Date: 15-NOV-99
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	11	
ACENAPHTHYLENE	UG/KG	ND	11	
ANTHRACENE	UG/KG	ND	11	
BENZO(a)ANTHRACENE	UG/KG	ND	11	
BENZO(a)PYRENE	UG/KG	ND	11	
BENZO(b)FLUORANTHENE	UG/KG	ND	11	
BENZO(g,h,i)PERYLENE	UG/KG	ND	11	
BENZO(k)FLUORANTHENE	UG/KG	ND	11	
CHRYSENE	UG/KG	ND	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	11	
FLUORANTHENE	UG/KG	ND	11	
FLUORENE	UG/KG	ND	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	11	
NAPHTHALENE	UG/KG	ND	11	
PHENANTHRENE	UG/KG	ND	11	
PYRENE	UG/KG	ND	11	
1-METHYLNAPHTHALENE	UG/KG	ND	11	
2-METHYLNAPHTHALENE	UG/KG	ND	11	
2-CHLOROANTHRACENE	UG/KG	ND	11	
ANALYST	%REC/SURR	76	17-160	
	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 006
Client Sample Id: JPSC-11
Sample Date/Time: 10-NOV-99 1205
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: 85
Extraction Date: 15-NOV-99
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	12	
ACENAPHTHYLENE	UG/KG	ND	12	
ANTHRACENE	UG/KG	330	12	
BENZO(a)ANTHRACENE	UG/KG	140	12	
BENZO(a)PYRENE	UG/KG	39	12	
BENZO(b)FLUORANTHENE	UG/KG	78	12	
BENZO(g,h,i)PERYLENE	UG/KG	ND	12	
BENZO(k)FLUORANTHENE	UG/KG	16	12	
CHRYSENE	UG/KG	110	12	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	12	
FLUORANTHENE	UG/KG	1200	12	
FLUORENE	UG/KG	300	12	
INDENO(1,2,3-cd)PYRENE	UG/KG	26	12	
NAPHTHALENE	UG/KG	400	12	
PHENANTHRENE	UG/KG	730	12	
PYRENE	UG/KG	1500	12	
1-METHYLNAPHTHALENE	UG/KG	8300	12	
2-METHYLNAPHTHALENE	UG/KG	5100	12	
2-CHLOROANTHRACENE	%REC/SURR	160	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 010
Client Sample Id: JPSC-07 (MS)
Sample Date/Time: 10-NOV-99 1107
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: 94
Extraction Date: 15-NOV-99
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	104.4	11	
ACENAPHTHYLENE	UG/KG	79.9	11	
ANTHRACENE	UG/KG	298.3	11	
BENZO(a)ANTHRACENE	UG/KG	233.0	11	
BENZO(a)PYRENE	UG/KG	228.1	11	
BENZO(b)FLUORANTHENE	UG/KG	232.7	11	
BENZO(g,h,i)PERYLENE	UG/KG	290.6	11	
BENZO(k)FLUORANTHENE	UG/KG	225.2	11	
CHRYSENE	UG/KG	233.5	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	257.1	11	
FLUORANTHENE	UG/KG	232.2	11	
FLUORENE	UG/KG	175.2	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	219.3	11	
NAPHTHALENE	UG/KG	233.1	11	
PHENANTHRENE	UG/KG	209.8	11	
PYRENE	UG/KG	211.7	11	
1-METHYLNAPHTHALENE	UG/KG	153.6	11	
2-METHYLNAPHTHALENE	UG/KG	121.6	11	
2-CHLOROANTHRACENE	%REC/SURR	58	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 011
Client Sample Id: JPSC-07 (MSD)
Sample Date/Time: 10-NOV-99 1107
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: 94
Extraction Date: 15-NOV-99
Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	178.2	11	
ACENAPHTHYLENE	UG/KG	161.2	11	
ANTHRACENE	UG/KG	387.5	11	
BENZO(a)ANTHRACENE	UG/KG	280.1	11	
BENZO(a)PYRENE	UG/KG	272.1	11	
BENZO(b)FLUORANTHENE	UG/KG	275.3	11	
BENZO(g,h,i)PERYLENE	UG/KG	354.7	11	
BENZO(k)FLUORANTHENE	UG/KG	268.5	11	
CHRYSENE	UG/KG	279.8	11	
DIBENZO(a,h)ANTHRACENE	UG/KG	319.3	11	
FLUORANTHENE	UG/KG	281.2	11	
FLUORENE	UG/KG	246.9	11	
INDENO(1,2,3-cd)PYRENE	UG/KG	257.3	11	
NAPHTHALENE	UG/KG	300.5	11	
PHENANTHRENE	UG/KG	268.2	11	
PYRENE	UG/KG	256.4	11	
1-METHYLNAPHTHALENE	UG/KG	227.4	11	
2-METHYLNAPHTHALENE	UG/KG	198.5	11	
2-CHLOROANTHRACENE	%REC/SURR	71	17-160	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 012
Client Sample Id: METHOD BLANK
Sample Date/Time:
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: N/A
Extraction Date: 15-NOV-99
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	ND	10	
ACENAPHTHYLENE	UG/KG	ND	10	
ANTHRACENE	UG/KG	ND	10	
BENZO(a)ANTHRACENE	UG/KG	ND	10	
BENZO(a)PYRENE	UG/KG	ND	10	
BENZO(b)FLUORANTHENE	UG/KG	ND	10	
BENZO(g,h,i)PERYLENE	UG/KG	ND	10	
BENZO(k)FLUORANTHENE	UG/KG	ND	10	
CHRYSENE	UG/KG	ND	10	
DIBENZO(a,h)ANTHRACENE	UG/KG	ND	10	
FLUORANTHENE	UG/KG	ND	10	
FLUORENE	UG/KG	ND	10	
INDENO(1,2,3-cd)PYRENE	UG/KG	ND	10	
NAPHTHALENE	UG/KG	ND	10	
PHENANTHRENE	UG/KG	ND	10	
PYRENE	UG/KG	ND	10	
1-METHYLNAPHTHALENE	UG/KG	ND	10	
2-METHYLNAPHTHALENE	UG/KG	ND	10	
2-CHLOROANTHRACENE	%REC/SURR	68	17-160	
ANALYST	INITIALS	SB		

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3550B/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: SOIL
QC Level: IIMS

Lab Id: 013
Client Sample Id: LCS
Sample Date/Time:
Received Date: 11-NOV-99

Batch: PAS122
Blank: A
Dry Weight %: N/A
Extraction Date: 15-NOV-99
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/KG	196.9	10	
ACENAPHTHYLENE	UG/KG	179.6	10	
ANTHRACENE	UG/KG	409.0	10	
BENZO(a)ANTHRACENE	UG/KG	285.7	10	
BENZO(a)PYRENE	UG/KG	289.7	10	
BENZO(b)FLUORANTHENE	UG/KG	281.0	10	
BENZO(g,h,i)PERYLENE	UG/KG	377.3	10	
BENZO(k)FLUORANTHENE	UG/KG	276.0	10	
CHRYSENE	UG/KG	284.2	10	
DIBENZO(a,h)ANTHRACENE	UG/KG	337.4	10	
FLUORANTHENE	UG/KG	278.7	10	
FLUORENE	UG/KG	245.5	10	
INDENO(1,2,3-cd)PYRENE	UG/KG	268.6	10	
NAPHTHALENE	UG/KG	293.5	10	
PHENANTHRENE	UG/KG	265.0	10	
PYRENE	UG/KG	255.8	10	
1-METHYLNAPHTHALENE	UG/KG	240.6	10	
2-METHYLNAPHTHALENE	UG/KG	230.1	10	
2-CHLOROANTHRACENE	%REC/SURR	88	17-160	
ANALYST	INITIALS	SB		

Comments:

"Method Report Summary"

Accession Number: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
JPSC-06	BENZO(b) FLUORANTHENE	UG/KG	12
	FLUORANTHENE	UG/KG	88
	NAPHTHALENE	UG/KG	140
	PHENANTHRENE	UG/KG	60
	PYRENE	UG/KG	80
	1-METHYLNAPHTHALENE	UG/KG	770
	2-METHYLNAPHTHALENE	UG/KG	480
JPSC-11	ANTHRACENE	UG/KG	330
	BENZO(a) ANTHRACENE	UG/KG	140
	BENZO(a) PYRENE	UG/KG	39
	BENZO(b) FLUORANTHENE	UG/KG	78
	BENZO(k) FLUORANTHENE	UG/KG	16
	CHRYSENE	UG/KG	110
	FLUORANTHENE	UG/KG	1200
	FLUORENE	UG/KG	300
	INDENO(1,2,3-cd) PYRENE	UG/KG	26
	NAPHTHALENE	UG/KG	400
	PHENANTHRENE	UG/KG	730
	PYRENE	UG/KG	1500
	1-METHYLNAPHTHALENE	UG/KG	8300
	2-METHYLNAPHTHALENE	UG/KG	5100
JPSC-07 (MS)	ACENAPHTHENE	UG/KG	104.4
	ACENAPHTHYLENE	UG/KG	79.9
	ANTHRACENE	UG/KG	298.3
	BENZO(a) ANTHRACENE	UG/KG	233.0
	BENZO(a) PYRENE	UG/KG	228.1
	BENZO(b) FLUORANTHENE	UG/KG	232.7
	BENZO(g,h,i) PERYLENE	UG/KG	290.6
	BENZO(k) FLUORANTHENE	UG/KG	225.2
	CHRYSENE	UG/KG	233.5
	DIBENZO(a,h) ANTHRACENE	UG/KG	257.1
	FLUORANTHENE	UG/KG	232.2
	FLUORENE	UG/KG	175.2
	INDENO(1,2,3-cd) PYRENE	UG/KG	219.3
	NAPHTHALENE	UG/KG	233.1
	PHENANTHRENE	UG/KG	209.8
	PYRENE	UG/KG	211.7
	1-METHYLNAPHTHALENE	UG/KG	153.6
	2-METHYLNAPHTHALENE	UG/KG	121.6
JPSC-07 (MSD)	ACENAPHTHENE	UG/KG	178.2
	ACENAPHTHYLENE	UG/KG	161.2
	ANTHRACENE	UG/KG	387.5
	BENZO(a) ANTHRACENE	UG/KG	280.1
	BENZO(a) PYRENE	UG/KG	272.1

"Method Report Summary"

Accession Number: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
	BENZO(b)FLUORANTHENE	UG/KG	275.3
	BENZO(g,h,i)PERYLENE	UG/KG	354.7
	BENZO(k)FLUORANTHENE	UG/KG	268.5
	CHRYSENE	UG/KG	279.8
	DIBENZO(a,h)ANTHRACENE	UG/KG	319.3
	FLUORANTHENE	UG/KG	281.2
	FLUORENE	UG/KG	246.9
	INDENO(1,2,3-cd)PYRENE	UG/KG	257.3
	NAPHTHALENE	UG/KG	300.5
	PHENANTHRENE	UG/KG	268.2
	PYRENE	UG/KG	256.4
	1-METHYLNAPHTHALENE	UG/KG	227.4
	2-METHYLNAPHTHALENE	UG/KG	198.5
LCS	ACENAPHTHENE	UG/KG	196.9
	ACENAPHTHYLENE	UG/KG	179.6
	ANTHRACENE	UG/KG	409.0
	BENZO(a)ANTHRACENE	UG/KG	285.7
	BENZO(a)PYRENE	UG/KG	289.7
	BENZO(b)FLUORANTHENE	UG/KG	281.0
	BENZO(g,h,i)PERYLENE	UG/KG	377.3
	BENZO(k)FLUORANTHENE	UG/KG	276.0
	CHRYSENE	UG/KG	284.2
	DIBENZO(a,h)ANTHRACENE	UG/KG	337.4
	FLUORANTHENE	UG/KG	278.7
	FLUORENE	UG/KG	245.5
	INDENO(1,2,3-cd)PYRENE	UG/KG	268.6
	NAPHTHALENE	UG/KG	293.5
	PHENANTHRENE	UG/KG	265.0
	PYRENE	UG/KG	255.8
	1-METHYLNAPHTHALENE	UG/KG	240.6
	2-METHYLNAPHTHALENE	UG/KG	230.1

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Analysis Report

Analysis: BETX + MTBE (5035/8021B)

Accession:	911336
Client:	TASK ENVIRONMENTAL
Project Number:	E0105
Project Name:	CECIL FIELD
Project Location:	JACKSONVILLE, FL
Department:	GC/VOA

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 001
Client Sample Id: JPSC-06
Sample Date/Time: 10-NOV-99 1105
Received Date: 11-NOV-99

Batch: LUS115
Blank: A
Dry Weight %: 89
Extraction Date: N/A
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	0.5	1	I
METHYL T-BUTYL ETHER	UG/KG	ND	7	
TOLUENE	UG/KG	1.4	7	I
XYLENES	UG/KG	1.8	3	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	97	70-130	
ANALYST	INITIALS	DT		

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession:	911336
Client:	TASK ENVIRONMENTAL
Project Number:	E0105
Project Name:	CECIL FIELD
Project Location:	JACKSONVILLE, FL
Test:	BETX + MTBE (5035/8021B)
Analysis Method:	8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method:	5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix:	SOIL
QC Level:	IIMSRAW

Lab Id: 002
Client Sample Id: JPSC-07

Sample Date/Time: 10-NOV-99 1107
Received Date: 11-NOV-99

Batch: LUS115
Blank: A

Dry Weight %: 94

Extraction Date: N/A
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	ND	1	
METHYL T-BUTYL ETHER	UG/KG	ND	6	
TOLUENE	UG/KG	0.9	6	I
XYLENES	UG/KG	0.8	2	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	100	70-130	
ANALYST	INITIALS	DT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 004
Client Sample Id: JPSC-09
Sample Date/Time: 10-NOV-99 1110
Received Date: 11-NOV-99

Batch: LUS115
Blank: A
Dry Weight %: 92
Extraction Date: N/A
Analysis Date: 16-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	ND	1	
METHYL T-BUTYL ETHER	UG/KG	ND	7	
TOLUENE	UG/KG	1.0	7	I
XYLENES	UG/KG	0.7	3	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	100	70-130	
ANALYST	INITIALS	DT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 005
Client Sample Id: JPSC-10

Sample Date/Time: 10-NOV-99 1113
Received Date: 11-NOV-99

Batch: LUS115
Blank: B

Dry Weight %: 88

Extraction Date: N/A
Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	ND	1	
ETHYL BENZENE	UG/KG	0.3	1	I
METHYL T-BUTYL ETHER	UG/KG	ND	7	
TOLUENE	UG/KG	1.3	7	I
XYLENES	UG/KG	1.5	3	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	100	70-130	
ANALYST	INITIALS	DT		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5035Mod/5030BMod, SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: SOIL
QC Level: IIMSRAW

Lab Id: 006
Client Sample Id: JPSC-11
Sample Date/Time: 10-NOV-99 1205
Received Date: 11-NOV-99

Batch: EXT061
Blank: A
Dry Weight %: 85
Extraction Date: 17-NOV-99
Analysis Date: 18-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/KG	39	85	I
ETHYL BENZENE	UG/KG	100	85	
METHYL T-BUTYL ETHER	UG/KG	ND	430	
TOLUENE	UG/KG	ND	430	
XYLENES	UG/KG	710	170	
TRIFLUOROTOLUENE (PID)	%REC/SURR	94	70-130	
ANALYST	INITIALS	WEM		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 007
Client Sample Id: TRIP BLANK
Sample Date/Time:
Received Date: 11-NOV-99

Batch: LUS115
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 17-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	1	
ETHYL BENZENE	UG/L	ND	1	
METHYL T-BUTYL ETHER	UG/L	ND	5	
TOLUENE	UG/L	1.5	5	I
XYLENES (TOTAL)	UG/L	0.3	2	I
BROMOFLUOROBENZENE (PID)	%REC/SURR	108	70-130	
ANALYST	INITIALS	DT		

Comments:

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"Method Report Summary"

Accession Number: 911336
Client: TASK ENVIRONMENTAL
Project Number: E0105
Project Name: CECIL FIELD
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (5035/8021B)

Client Sample Id:	Parameter:	Unit:	Result:
JPSC-06	ETHYL BENZENE	UG/KG	0.5
	TOLUENE	UG/KG	1.4
	XYLENES	UG/KG	1.8
JPSC-07	TOLUENE	UG/KG	0.9
	XYLENES	UG/KG	0.8
JPSC-08	TOLUENE	UG/KG	0.8
	XYLENES	UG/KG	0.5
JPSC-09	TOLUENE	UG/KG	1.0
	XYLENES	UG/KG	0.7
JPSC-10	ETHYL BENZENE	UG/KG	0.3
	TOLUENE	UG/KG	1.3
	XYLENES	UG/KG	1.5
JPSC-11	BENZENE	UG/KG	39
	ETHYL BENZENE	UG/KG	100
	XYLENES	UG/KG	710
TRIP BLANK	TOLUENE	UG/L	1.5
	XYLENES (TOTAL)	UG/L	0.3

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Severn Trent Laboratories, Inc.
Pensacola, FL 32514
Tel: (850) 474-1001
Fax: (850) 478-2671

Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

J4	(For positive results)	Temperature limits exceeded (<2°C or > 6°C)
J5	(TICs)	The reported value is quantitated as a TIC; therefore, it is estimated
J6	(For positive results)	LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL)
J7	(For positive results)	The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation.
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation	
R1	(For nondetects)	Temperature limits exceeded (<2°C or > 6°C)
R2	Improper preservation, no preservative present in sample upon receipt	
R3	Improper preservation, incorrect preservative present in sample upon receipt	
R4	Holding time exceeded	
R10	Holding time exceeded, non-reportable for NDPES compliance monitoring	
R5	Collection requirements not met, improper container used for sample	
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects	
R7	Internal standard area outside –50% to +100% of initial calibration midpoint standard.	
R8	Initial calibration or any calibration verification exceeds acceptance criteria.	
R9	Improper preservation, sample not filtered in the field.	
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria	
F	< laboratory or AFCEE RL and > laboratory MDL	
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL	
U2	≤ Laboratory MDL (value for result will be the MDL, never below the MDL)	
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL	
B (AFCEE description)	The analyte was found in the associated blank, as well as in the sample	
B1	Analyte was detected in the associated method blank.	
@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)	
+	Elevated reporting limit due to dilution into calibration range	
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)	
** (Organics)	Compounds flagged are not within the five point initial calibration curve. They are searched for qualitatively or as TICs.	
#	Elevated reporting limit due to insufficient sample size	
D	Diluted out	
M	A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks)	
S	Incorrect sample amount was submitted to the laboratory for analysis	
T	Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound.	
TIC	Samples are searched for qualitatively as Tentatively Identified Compounds.	
E	Compound concentration exceeds the upper calibration range of the instrument.	
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.	

ND = Not Detected at or above the STL-Pensacola reporting limit (RL)
IDL = Laboratory Instrument Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

N/S = Not Submitted
N/A = Not Applicable
MDL = Laboratory Method Detection Limit

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt
Y (FL description)	The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate
Q	Sample held beyond the accepted holding time
I	The reported value is < Laboratory RL and > laboratory MDL
U1	The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected
T	The reported value is < Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank
J1	Surrogate recovery outside acceptance limits. Not enough sample available to reextract and/or reanalyze.
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers.

RCA B99-7683

CHAIN OF CUSTODY

Severn Trent Laboratories
11 East Olive Road • Pensacola, FL 32514
Tel: (850) 474-1001 • Fax: (850) 474-4789

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LAB ACCESSION # 911336

PART 1 - Bottle Shipment Information

CLIENT: TASK ENV.

CLIENT PROJECT NUMBER:

QUANTITY OF SAMPLE CONTAINERS SHIPPED	PRESERVATIVE							PLASTIC CONTAINERS							GLASS CONTAINERS								D.I. Trip Blank	NOTES
	H_2SO_4	HNO3	HCL	Zn Acetate	$Na_2S_2O_3$	Unpreserved	NaOH	8 oz.	16 oz.	32 oz.	½ gallon	1 gallon	Whirl-pak	100-ML Cup	120 ml (A)	1 liter (A)	1 liter (C)	40 ml Vial	4 oz. wm	8 oz. wm	16 oz. wm	32 oz. wm		
12						X													X					

Relinquished By: [signature] Time 1700 Date 11-8-99 Received By: Time Date

PART 2 - Sample/Project Information

SAMPLE MATRIX CODES

DW DRINKING WATER
WW WASTEWATER
GW GROUNDWATER
AI AIR
SO SOIL
OI OIL
SW SURFACE WATER
SL SLUDGE
ST STORMWATER

PARAMETERS AND PRESERVATIVES REQUESTED

SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME	MATRIX	BTEX	8310	FL PRO	TOTAL # OF BOTTLES
JPSC-06	11/10/99	1105	Soil	✓	✓	✓	4
JPSC-07	↓	1107	Soil	✓	✓	✓	4
JPSC-08		1109	Soil	✓	✓	✓	4
JPSC-09		1110	Soil	✓	✓	✓	4
JPSC-10		1113	Soil	✓	✓	✓	4
JPSC-11	↓	1200	Soil	✓	✓	✓	4
TCP Blank			Water	✓			2

Total Number of Bottles/Containers:

Relinquished By	Date	Time	Received By	Date	Time
[signature]	11/11/99	1610	[signature]	11-11-99	0845

Client	TASK Environmental		Purchase Order Number
Address	501 S. Blvd		Project Number E0105
City	Tampa	State FL / Zip 33606	Project Name Cecil Field
Phone Number	(813) 254-8838	Fax Number (813) 254-8484	Project Location JPS Jacksonville, FL
Project Manager	Joe Seed		Sampled By Joe Seed

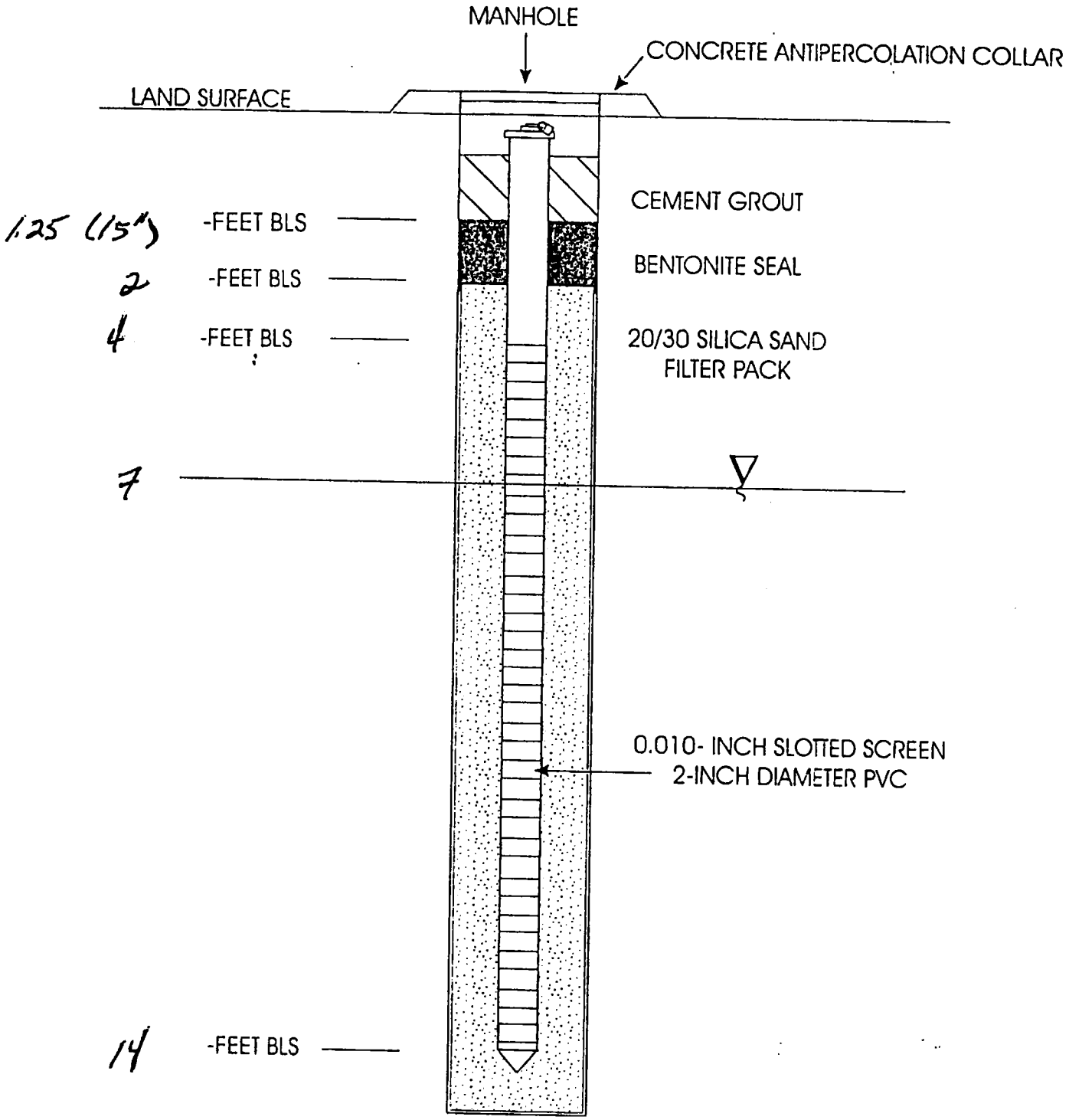
TURNAROUND TIMES	check below	SPECIAL INSTRUCTIONS
Standard - 14-21 days	✓	
RUSH (must be approved in advance)		
<- 48 hours - 2x standard price		
3-7 days - 1.5x standard price		
TCLP - 1 week rush 1.5x standard price		
QC Level none I II (III) IV (circle one)		Copies of report needed 3

FORM # 12694

WHITE — LAB CANARY — REPORT PINK — CLIENT

Appendix F

Well Construction Logs



CEF-PIPE-3S

MONITOR WELL _____ CONSTRUCTION DIAGRAM

CECIL FIELD

11/16/99

1

TASK ENVIRONMENTAL, INC.
MONITOR WELL CONSTRUCTION LOG

Cecil Field
PROJECT

CEF-PIPE-35
WELL IDENTIFICATION

11/16/99
DATE

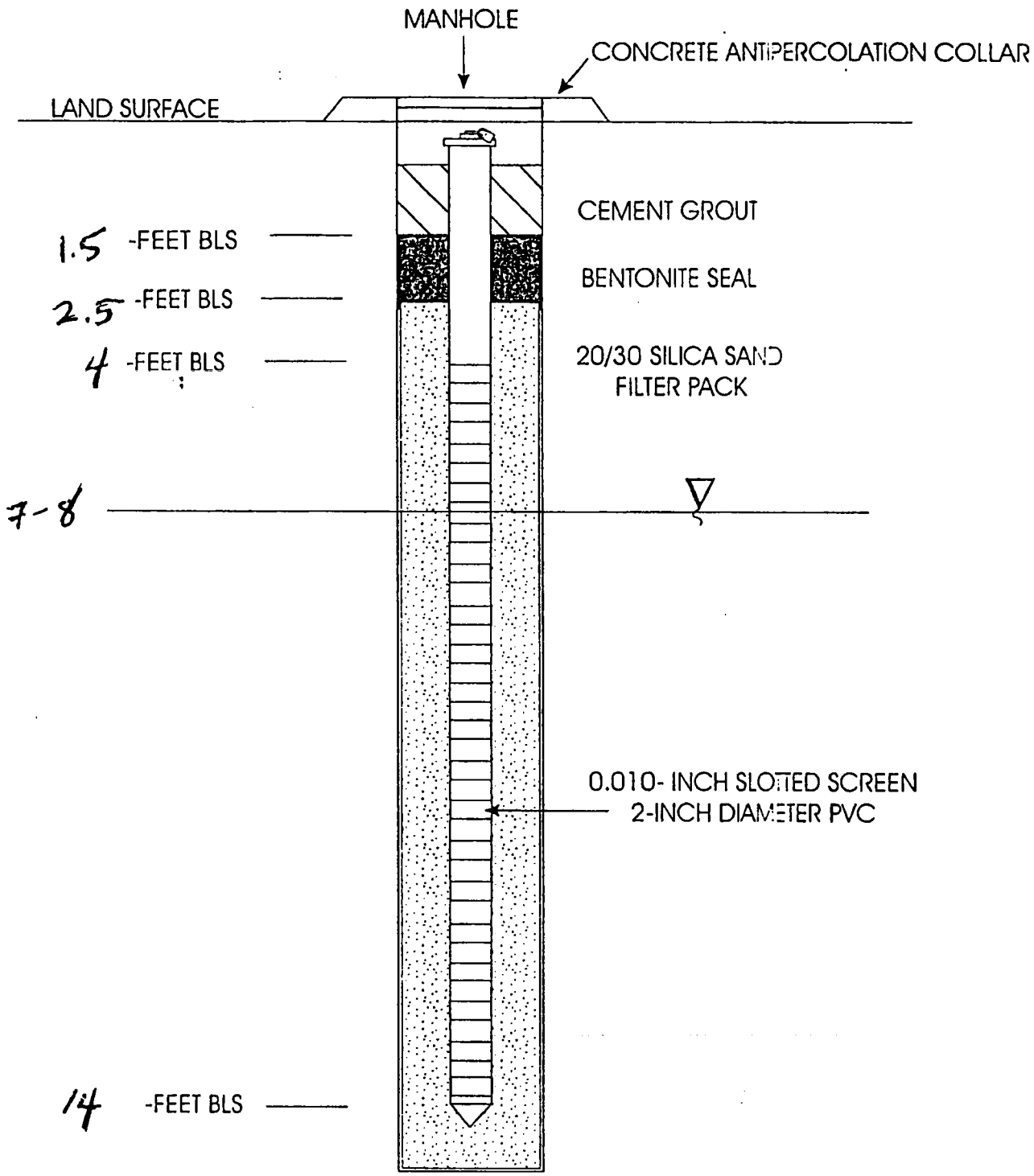
Diversified
~~Environmental Drilling Services, Inc.~~
DRILLER

Hollow Stem Auger Method
DRILLING METHOD

Donna M. Cline
LOGGER

DEPTH - FEET BLS	FORMATION DESCRIPTION	COMMENTS
0 - 2 2 - 10	dark brown sandy soil - topsoil fine sand - dk brown, plastic	
10-14	sand, tan-brown, medium grain.	Sulfur odor
	per Sum - we did not drum the well cuttings.	
	Supplies 5 bags of sand ~~(125'~~ 0.75' bentonite) 1.0' cement grout 2 bags concrete	

11/16/99 Develop 1605 to 1635 ~ 35 gallons



MONITOR WELL CEF-PIPE-1S CONSTRUCTION DIAGRAM

CECIL FIELD

11/16/99

TASK ENVIRONMENTAL, INC.
MONITOR WELL CONSTRUCTION LOG

Cecil Field
PROJECT

CEF-PIPE-1S
WELL IDENTIFICATION

11/10/99
DATE

Diversified
~~Environmental Drilling Services, Inc.~~
DRILLER

Hollow Stem Auger Method
DRILLING METHOD

Donna M. Cline
LOGGER

DEPTH - FEET BLS	FORMATION DESCRIPTION	COMMENTS
0-4	sandy, tan (fill material) gw	
4-8'	lt brown sandy soil fine, plastic gw @ 7 ft depth	petroleum odor
8-14	sandy soil, dk brown, reddish color, silty, fine plastic	petroleum odor and sheen observed on wet soil
	Supplies:	
	5 bags sand 1' bentonite seal 1' cement grout	
	2 bags concrete	

11/10/99 Develop 1510 to 1535 ~ 25 gallons

Appendix G

Analytical Laboratory Reports for Confirmatory Groundwater Sample

Committed To *Your* Success

Severn Trent Laboratories
11 East Olive Road
Pensacola FL 32514

Tel: (850) 474-1001
Fax: (850) 478-2671

SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

Client:	TASK ENVIRONMENTAL TAMPA, FLORIDA
Project Name:	CECIL FIELD, TANK REMOVAL
Project Number:	E0150
Project Location:	JACKSONVILLE, FL
Accession Number:	911612
Project Manager:	SUSAN TOBIN
Sampled By:	J. SEECH, D. CLINE

SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA
STATE CERTIFICATIONS

.abama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)

State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)

Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)

Florida, Radioactive Materials License No. G0733-1

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)

State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida)

New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)

State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewate and Hazardous Waster)

New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)

North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)

North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)

Tennessee Division of Underground Storage Tanks Approved Laboratory

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by ciprocity with FL)

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: POLYNUCLEAR AROMATICS BY 8310

Accession:	911612
Client:	TASK ENVIRONMENTAL
Project Number:	E0150
Project Name:	CECIL FIELD, TANK REMOVAL
Project Location:	JACKSONVILLE, FL
Department:	SEMI-VOLATILE FUELS

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: GROUNDWATER
QC Level: IXX

Lab Id: 002
Client Sample Id: CEF-PIPE-3S
Sample Date/Time: 18-NOV-99 1000
Received Date: 19-NOV-99

Batch: PAW323
Blank: A
Dry Weight %: N/A
Extraction Date: 23-NOV-99
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	UG/L	ND	1	
ANALYST	%REC/SURR	59	28-138	
	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: GROUNDWATER
QC Level: IXX

Lab Id: 003
Client Sample Id: CEF-PIPE-1S
Sample Date/Time: 18-NOV-99 1055
Received Date: 19-NOV-99

Batch: PAW323
Blank: A
Dry Weight %: N/A
Extraction Date: 23-NOV-99
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	1	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	5	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	38	1	
PHENANTHRENE	UG/L	6	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	120	1	
2-METHYLNAPHTHALENE	UG/L	100	1	
2-CHLOROANTHRACENE	%REC/SURR	100	28-138	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: WATER
QC Level: IXX

Lab Id: 005
Client Sample Id: CEF-PIPE-EB-11-18
Sample Date/Time: 18-NOV-99 1050
Received Date: 19-NOV-99

Batch: PAW323
Blank: A
Dry Weight %: N/A
Extraction Date: 23-NOV-99
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	95	28-138	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: WATER
QC Level: IXX

Lab Id: 007
Client Sample Id: BLANK
Sample Date/Time: N/S
Received Date: 19-NOV-99

Batch: PAW323
Blank: A
Dry Weight %: N/A
Extraction Date: 23-NOV-99
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	76	28-138	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: WATER
QC Level: IXX

Lab Id: 008
Client Sample Id: LCS
Sample Date/Time: N/S
Received Date: 19-NOV-99

Batch: PAW323
Blank: A
Dry Weight %: N/A
Extraction Date: 23-NOV-99
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	6.1	1	
ACENAPHTHYLENE	UG/L	6.0	1	
ANTHRACENE	UG/L	13.2	1	
BENZO(a)ANTHRACENE	UG/L	10.1	1	
BENZO(a)PYRENE	UG/L	10.5	1	
BENZO(b)FLUORANTHENE	UG/L	10.0	1	
BENZO(g,h,i)PERYLENE	UG/L	13.7	1	
BENZO(k)FLUORANTHENE	UG/L	9.8	1	
CHRYSENE	UG/L	10.1	1	
DIBENZO(a,h)ANTHRACENE	UG/L	12.2	1	
FLUORANTHENE	UG/L	10.0	1	
FLUORENE	UG/L	7.9	1	
INDENO(1,2,3-cd)PYRENE	UG/L	9.5	1	
NAPHTHALENE	UG/L	8.5	1	
PHENANTHRENE	UG/L	8.7	1	
PYRENE	UG/L	9.0	1	
1-METHYLNAPHTHALENE	UG/L	7.6	1	
2-METHYLNAPHTHALENE	UG/L	7.2	1	
2-CHLOROANTHRACENE	%REC/SURR	99	28-138	
ANALYST	INITIALS	SB		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: POLYNUCLEAR AROMATICS BY 8310
Analysis Method: 8310/SW-846, 3rd Ed, Sep 1986.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: WATER
QC Level: IXX

Lab Id: 009
Client Sample Id: LCS DUPE
Sample Date/Time: N/S
Received Date: 19-NOV-99

Batch: PAW323
Blank: A
Dry Weight %: N/A
Extraction Date: 23-NOV-99
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	6.3	1	
ACENAPHTHYLENE	UG/L	6.1	1	
ANTHRACENE	UG/L	13.4	1	
BENZO(a)ANTHRACENE	UG/L	10.0	1	
BENZO(a)PYRENE	UG/L	10.2	1	
BENZO(b)FLUORANTHENE	UG/L	9.8	1	
BENZO(g,h,i)PERYLENE	UG/L	12.3	1	
BENZO(k)FLUORANTHENE	UG/L	9.6	1	
CHRYSENE	UG/L	10.0	1	
DIBENZO(a,h)ANTHRACENE	UG/L	10.4	1	
FLUORANTHENE	UG/L	9.7	1	
FLUORENE	UG/L	8.0	1	
INDENO(1,2,3-cd)PYRENE	UG/L	9.0	1	
NAPHTHALENE	UG/L	8.8	1	
PHENANTHRENE	UG/L	8.7	1	
PYRENE	UG/L	8.9	1	
1-METHYLNAPHTHALENE	UG/L	7.7	1	
2-METHYLNAPHTHALENE	UG/L	8.2	1	
2-CHLOROANTHRACENE	%REC/SURR	107	28-138	
ANALYST	INITIALS	SB		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: FLPRO\PETRO. HYDROCARBON RANGE C8-C40

Accession:	911612
Client:	TASK ENVIRONMENTAL
Project Number:	E0150
Project Name:	CECIL FIELD, TANK REMOVAL
Project Location:	JACKSONVILLE, FL
Department:	SEMI-VOLATILE FUELS

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: GROUNDWATER
QC Level: IX

Lab Id: 002
Client Sample Id: CEF-PIPE-3S
Sample Date/Time: 18-NOV-99 1000
Received Date: 19-NOV-99

Batch: FLW170
Blank: A
Dry Weight %: N/A
Extraction Date: 24-NOV-99
Analysis Date: 29-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	170	100	J6
ORTHO TER PHENYL	%REC/SURR	61	82-142	
NONATRIACONTANE	%REC/SURR	71	42-193	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: GROUNDWATER
QC Level: IX

Lab Id: 003
Client Sample Id: CEF-PIPE-1S
Sample Date/Time: 18-NOV-99 1055
Received Date: 19-NOV-99
Batch: FLW170
Blank: A
Dry Weight %: N/A
Extraction Date: 24-NOV-99
Analysis Date: 29-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	2100	100	J6
ORTHO TER PHENYL	%REC/SURR	51	82-142	
NONATRIACONTANE	%REC/SURR	69	42-193	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: GROUNDWATER
QC Level: IX

Lab Id: 004
Client Sample Id: CEF-PIPE-101S
Sample Date/Time: 18-NOV-99 1055
Received Date: 19-NOV-99

Batch: FLW170
Blank: A
Dry Weight %: N/A
Extraction Date: 24-NOV-99
Analysis Date: 30-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	2600	100	J6
ORTHO TER PHENYL	%REC/SURR	57	82-142	
NONATRIACONTANE	%REC/SURR	72	42-193	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	911612
Client:	TASK ENVIRONMENTAL
Project Number:	E0150
Project Name:	CECIL FIELD, TANK REMOVAL
Project Location:	JACKSONVILLE, FL
Test:	FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method:	FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method:	3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix:	WATER
QC Level:	IX

Lab Id: 005
Client Sample Id: CEF-PIPE-EB-11-18

Sample Date/Time: 18-NOV-99 1050
Received Date: 19-NOV-99

Batch: FLW170
Blank: A

Dry Weight %: N/A

Extraction Date: 24-NOV-99
Analysis Date: 30-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	R6
ORTHO TER PHENYL	%REC/SURR	29	82-142	
NONATRIACONTANE	%REC/SURR	40	42-193	
ANALYST	INITIALS	KA		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: WATER
QC Level: IX

Lab Id: 007
Client Sample Id: BLANK
Sample Date/Time: N/S
Received Date: 19-NOV-99

Batch: FLW170
Blank: A
Dry Weight %: N/A
Extraction Date: 24-NOV-99
Analysis Date: 29-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	ND	100	R6
ORTHO TER PHENYL	%REC/SURR	70	82-142	
NONATRIACONTANE	%REC/SURR	80	42-193	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: WATER
QC Level: IX

Lab Id: 008
Client Sample Id: LCS
Sample Date/Time: N/S
Received Date: 19-NOV-99
Batch: FLW170
Blank: A
Dry Weight %: N/A
Extraction Date: 24-NOV-99
Analysis Date: 29-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	2200	100	J6
ORTHO TER PHENYL	%REC/SURR	60	82-142	
NONATRIACONTANE	%REC/SURR	39	42-193	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: FLPRO\PETRO. HYDROCARBON RANGE C8-C40
Analysis Method: FL DEP Method for Determination of Petroleum Range Organics (PRO), 1995.
Extraction Method: 3510C/SW-846, 3rd Ed, 3rd Update, Dec 1996.
Matrix: WATER
QC Level: IX

Lab Id: 009
Client Sample Id: LCS DUPE
Sample Date/Time: N/S
Received Date: 19-NOV-99

Batch: FLW170
Blank: A
Dry Weight %: N/A
Extraction Date: 24-NOV-99
Analysis Date: 29-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	2800	100	J6
ORTHO TER PHENYL	%REC/SURR	78	82-142	
NONATRIACONTANE	%REC/SURR	46	42-193	
ANALYST	INITIALS	KA		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: BETX + MTBE (8021B)

Accession:	911612
Client:	TASK ENVIRONMENTAL
Project Number:	E0150
Project Name:	CECIL FIELD, TANK REMOVAL
Project Location:	JACKSONVILLE, FL
Department:	GC/VOA

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: GROUNDWATER
QC Level: IIMSRAW

Lab Id: 002
Client Sample Id: CEF-PIPE-3S
Sample Date/Time: 18-NOV-99 1000
Received Date: 19-NOV-99

Batch: ROW112
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 26-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	0.5	1	I
ETHYL BENZENE	UG/L	ND	1	
METHYL T-BUTYL ETHER	UG/L	ND	5	
TOLUENE	UG/L	ND	5	
XYLENES (TOTAL)	UG/L	ND	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	112	84-115	
ANALYST	INITIALS	WEM		

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession:	911612
Client:	TASK ENVIRONMENTAL
Project Number:	E0150
Project Name:	CECIL FIELD, TANK REMOVAL
Project Location:	JACKSONVILLE, FL
Test:	BETX + MTBE (8021B)
Analysis Method:	8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method:	5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix:	GROUNDWATER
QC Level:	IIMSRAW

Lab Id: 003
Client Sample Id: CEF-PIPE-1S

Sample Date/Time: 18-NOV-99 1055
Received Date: 19-NOV-99

Batch: ROW112
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 26-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	1	
ETHYL BENZENE	UG/L	1	1	
METHYL T-BUTYL ETHER	UG/L	ND	5	
TOLUENE	UG/L	ND	5	
XYLENES (TOTAL)	UG/L	ND	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	114	84-115	
ANALYST	INITIALS	WEM		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: GROUNDWATER
QC Level: IIMSRAW

Lab Id: 004
Client Sample Id: CEF-PIPE-101S
Sample Date/Time: 18-NOV-99 1055
Received Date: 19-NOV-99

Batch: ROW112
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 26-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	1	
ETHYL BENZENE	UG/L	1	1	
METHYL T-BUTYL ETHER	UG/L	ND	5	
TOLUENE	UG/L	ND	5	
XYLENES (TOTAL)	UG/L	ND	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	113	84-115	
ANALYST	INITIALS	WEM		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	911612
Client:	TASK ENVIRONMENTAL
Project Number:	E0150
Project Name:	CECIL FIELD, TANK REMOVAL
Project Location:	JACKSONVILLE, FL
Test:	BETX + MTBE (8021B)
Analysis Method:	8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method:	5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix:	WATER
QC Level:	IIMSRAW

Lab Id: 005
Client Sample Id: CEF-PIPE-EB-11-18

Sample Date/Time: 18-NOV-99 1050
Received Date: 19-NOV-99

Batch: ROW112
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 26-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	1	
ETHYL BENZENE	UG/L	ND	1	
METHYL T-BUTYL ETHER	UG/L	ND	5	
TOLUENE	UG/L	25	5	
XYLENES (TOTAL)	UG/L	ND	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	113	84-115	
ANALYST	INITIALS	WEM		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 006
Client Sample Id: TRIP BLANK
Sample Date/Time: N/S
Received Date: 19-NOV-99

Batch: ROW111
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	1	
ETHYL BENZENE	UG/L	ND	1	
METHYL T-BUTYL ETHER	UG/L	ND	5	
TOLUENE	UG/L	ND	5	
XYLENES (TOTAL)	UG/L	ND	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	106	84-115	
ANALYST	INITIALS	WEM		

Comments:

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"FINAL REPORT FORMAT - SINGLE"

Accession:	911612
Client:	TASK ENVIRONMENTAL
Project Number:	E0150
Project Name:	CECIL FIELD, TANK REMOVAL
Project Location:	JACKSONVILLE, FL
Test:	BETX + MTBE (8021B)
Analysis Method:	8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method:	5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix:	WATER
QC Level:	IIMSRAW

Lab Id: 007
Client Sample Id: BLANK
Sample Date/Time: N/S
Received Date: 19-NOV-99

Batch: ROW111
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	1	
ETHYL BENZENE	UG/L	ND	1	
METHYL T-BUTYL ETHER	UG/L	ND	5	
TOLUENE	UG/L	ND	5	
XYLENES (TOTAL)	UG/L	ND	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	111	84-115	
ANALYST	INITIALS	SK		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 008
Client Sample Id: LCS
Sample Date/Time: N/S
Received Date: 19-NOV-99

Batch: ROW111
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	57	1	
ETHYL BENZENE	UG/L	59	1	
METHYL T-BUTYL ETHER	UG/L	104	5	
TOLUENE	UG/L	57	5	
XYLENES (TOTAL)	UG/L	170	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	107	84-115	
ANALYST	INITIALS	SK		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 010
Client Sample Id: BLANK #2
Sample Date/Time:
Received Date: 19-DEC-99

Batch: ROW112
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 26-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	1	
ETHYL BENZENE	UG/L	ND	1	
METHYL T-BUTYL ETHER	UG/L	ND	5	
TOLUENE	UG/L	ND	5	
XYLENES (TOTAL)	UG/L	ND	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	109	84-115	
ANALYST	INITIALS	SK		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 011
Client Sample Id: LCS #2
Sample Date/Time:
Received Date: 19-DEC-99

Batch: ROW112
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 26-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	57	1	
ETHYL BENZENE	UG/L	56	1	
METHYL T-BUTYL ETHER	UG/L	89	5	
TOLUENE	UG/L	55	5	
XYLENES (TOTAL)	UG/L	160	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	106	84-115	
ANALYST	INITIALS	SK		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 012
Client Sample Id: 8260-TEMP-01-MS
Sample Date/Time:
Received Date: 19-DEC-99
Batch: ROW111
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	56	1	
ETHYL BENZENE	UG/L	58	1	
METHYL T-BUTYL ETHER	UG/L	86	5	
TOLUENE	UG/L	56	5	
XYLENES (TOTAL)	UG/L	170	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	110	84-115	
ANALYST	INITIALS	SK		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 013
Client Sample Id: 8260-TEMP-01-MSD
Sample Date/Time:
Received Date: 19-DEC-99

Batch: ROW111
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 24-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	55	1	
ETHYL BENZENE	UG/L	58	1	
METHYL T-BUTYL ETHER	UG/L	88	5	
TOLUENE	UG/L	56	5	
XYLENES (TOTAL)	UG/L	170	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	108	84-115	
ANALYST	INITIALS	SK		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 014
Client Sample Id: CEF-PIPE-1S-MS
Sample Date/Time:
Received Date: 19-DEC-99

Batch: ROW112
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 26-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	59	1	
ETHYL BENZENE	UG/L	61	1	
METHYL T-BUTYL ETHER	UG/L	100	5	
TOLUENE	UG/L	59	5	
XYLENES (TOTAL)	UG/L	170	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	109	84-115	
ANALYST	INITIALS	SK		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)
Analysis Method: 8021BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Extraction Method: 5030BMod/SW-846, 3rd Edition, Update III, Dec. 1996
Matrix: WATER
QC Level: IIMSRAW

Lab Id: 015
Client Sample Id: CEF-PIPE-1S-MSD

Sample Date/Time:
Received Date: 19-DEC-99

Batch: ROW112
Blank: A

Dry Weight %: N/A

Extraction Date: N/A
Analysis Date: 26-NOV-99

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	57	1	
ETHYL BENZENE	UG/L	57	1	
METHYL T-BUTYL ETHER	UG/L	100	5	
TOLUENE	UG/L	55	5	
XYLENES (TOTAL)	UG/L	160	2	
TRIFLUOROTOLUENE (PID)	%REC/SURR	107	84-115	
ANALYST	INITIALS	SK		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"Method Report Summary"

Accession Number: 911612
Client: TASK ENVIRONMENTAL
Project Number: E0150
Project Name: CECIL FIELD, TANK REMOVAL
Project Location: JACKSONVILLE, FL
Test: BETX + MTBE (8021B)

Client Sample Id:	Parameter:	Unit:	Result:
860-TEMP-01	TOLUENE	UG/L	0.4
CEF-PIPE-3S	BENZENE	UG/L	0.5
CEF-PIPE-1S	ETHYL BENZENE	UG/L	1
CEF-PIPE-101S	ETHYL BENZENE	UG/L	1
CEF-PIPE-EB-11-18	TOLUENE	UG/L	25
LCS	BENZENE	UG/L	57
	ETHYL BENZENE	UG/L	59
	METHYL T-BUTYL ETHER	UG/L	104
	TOLUENE	UG/L	57
LCS #2	XYLENES (TOTAL)	UG/L	170
	BENZENE	UG/L	57
	ETHYL BENZENE	UG/L	56
	METHYL T-BUTYL ETHER	UG/L	89
	TOLUENE	UG/L	55
8260-TEMP-01-MS	XYLENES (TOTAL)	UG/L	160
	BENZENE	UG/L	56
	ETHYL BENZENE	UG/L	58
	METHYL T-BUTYL ETHER	UG/L	86
	TOLUENE	UG/L	56
8260-TEMP-01-MSD	XYLENES (TOTAL)	UG/L	170
	BENZENE	UG/L	55
	ETHYL BENZENE	UG/L	58
	METHYL T-BUTYL ETHER	UG/L	88
	TOLUENE	UG/L	56
CEF-PIPE-1S-MS	XYLENES (TOTAL)	UG/L	170
	BENZENE	UG/L	59
	ETHYL BENZENE	UG/L	61
	METHYL T-BUTYL ETHER	UG/L	100
	TOLUENE	UG/L	59
CEF-PIPE-1S-MSD	XYLENES (TOTAL)	UG/L	170
	BENZENE	UG/L	57
	ETHYL BENZENE	UG/L	57
	METHYL T-BUTYL ETHER	UG/L	100
	TOLUENE	UG/L	55
	XYLENES (TOTAL)	UG/L	160

Committed to Your Success

Severn Trent Laboratories, Inc.
Pensacola, FL 32514
Tel: (850) 474-1001
Fax: (850) 478-2671

Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

J4	(For positive results)	Temperature limits exceeded (<2°C or > 6°C)
J5	(TICs)	The reported value is quantitated as a TIC; therefore, it is estimated
J6	(For positive results)	LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL)
J7	(For positive results)	The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation.
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation	
R1	(For nondetects)	Temperature limits exceeded (<2°C or > 6°C)
R2	Improper preservation, no preservative present in sample upon receipt	
R3	Improper preservation, incorrect preservative present in sample upon receipt	
R4	Holding time exceeded	
R10	Holding time exceeded, non-reportable for NDPES compliance monitoring	
R5	Collection requirements not met, improper container used for sample	
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects	
R7	Internal standard area outside –50% to +100% of initial calibration midpoint standard.	
R8	Initial calibration or any calibration verification exceeds acceptance criteria.	
R9	Improper preservation, sample not filtered in the field.	
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria	
F	< laboratory or AFCEE RL and > laboratory MDL	
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL	
U2	≤ Laboratory MDL (value for result will be the MDL, never below the MDL)	
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL	
B (AFCEE description)	The analyte was found in the associated blank, as well as in the sample	
B1	Analyte was detected in the associated method blank.	
@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)	
+	Elevated reporting limit due to dilution into calibration range	
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)	
** (Organics)	Compounds flagged are not within the five point initial calibration curve. They are searched for qualitatively or as TICs.	
#	Elevated reporting limit due to insufficient sample size	
D	Diluted out	
M	A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks)	
S	Incorrect sample amount was submitted to the laboratory for analysis	
T	Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound.	
TIC	Samples are searched for qualitatively as Tentatively Identified Compounds.	
E	Compound concentration exceeds the upper calibration range of the instrument.	
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.	

ND = Not Detected at or above the STL-Pensacola reporting limit (RL)
IDL = Laboratory Instrument Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

N/S = Not Submitted
N/A = Not Applicable
MDL = Laboratory Method Detection Limit

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt
Y (FL description)	The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate
Q	Sample held beyond the accepted holding time
I	The reported value is < Laboratory RL and > laboratory MDL
U1	The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected
T	The reported value is < Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank
J1	Surrogate recovery outside acceptance limits. Not enough sample available to reextract and/or reanalyze.
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers.

KCH B99-7777

CHAIN OF CUSTODY

Severn Trent Laboratories
11 East Olive Road • Pensacola, FL 32514
Committed To Your Success Tel: (850) 474-1001 • Fax: (850) 474-4789

PART 1 - Bottle Shipment Information

LAB ACCESSION # 911612

CLIENT: TASK ENV. CLIENT PROJECT NUMBER: E0150

QUANTITY OF SAMPLE CONTAINERS SHIPPED	PRESERVATIVE: H_2SO_4	HNO3	HCL	Zn Acetate	$Na_2S_2O_3$	Unpreserved	NaOH	PLASTIC CONTAINERS: 8 oz.	16 oz.	32 oz.	½ gallon	1 gallon	Whirl-pak	100-ML Cup	GLASS CONTAINERS: 120 ml (A)	1 liter (A)	1 liter (C)	40 ml Vial	4 oz. wm	8 oz. wm	16 oz. wm	32 oz. wm	D.I. Trip Blank	NOTES
9						X																		
9			X													X								
9																								
9																								
2			X					X										X						

Relinquished By: [signature] Time 1426 Date 11-15-99 Received By: Time Date

PART 2 - Sample/Project Information

SAMPLE MATRIX CODES
DW DRINKING WATER; WW WASTEWATER; GW GROUNDWATER; AI AIR; SO SOIL; OI OIL; SW SURFACE WATER; SL SLUDGE; ST STORMWATER

PARAMETERS AND PRESERVATIVES REQUESTED

SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME	MATRIX	8021/BTEX	MTBE	8310	FL PRO		TOTAL # OF BOTTLES
860-TEMP-01	111899	0905	GW	X		X	X	1	4
CEF-PIPE-35	111899	1000	GW	X		X	X	2	4
CEF-PIPE-15	111899	1055	GW	X		X	X	3	4
CEF-PIPE-1015	111899	1055	GW	X		X	X	4	4
CEF-PIPE-EB-11-18	111899	1050	EB	X		X	X	5	4
TRIP BLANK	111899	—	TB	X				6	2

Total Number of Bottles/Containers: 22

Relinquished By	Date	Time	Received By	Date	Time
[signature] / TASK	111899	1120	FEDEX	111899	
			[signature]	11/19/99	0910

Client	TASK ENVIRONMENTAL, INC.		Purchase Order Number
Address	501 SOUTH BLVD		Project Number E0150
City TAMPA	State FL	Zip 33606	Project Name CECIL FIELD
Phone Number (813) 254 8838	Fax Number (813) 254 8484		Project Location JACKSONVILLE FL
Project Manager SUSAN TOBIN			Sampled By J. BEECH, D. CLINE

TURNAROUND TIMES	check below
Standard - 14-21 days	X
RUSH (must be approved in advance)	
48 hours - 2x standard price	
7 days - 1.5x standard price	
TCLP - 1 week rush 1.5x standard price	

SPECIAL INSTRUCTIONS: 8021 - BTEX + MTBE X

QC Level none I II (III) IV (circle one)

Copies of report needed 3

FORM # 12694

WHITE — LAB CANARY — REPORT PINK — CLIENT

APPENDIX B

FDEP LETTERS REGARDING SOURCE REMOVAL REPORTS

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

May 30, 2001

Mr. Nick Ugolini
Code 1843 (UST RPM)
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, South Carolina 29419-9010

RE: Source Removal Report, Contaminated Soil Removal at JP-5 Pipeline, Naval Air Station Cecil Field, Jacksonville, Florida

Dear Mr. Ugolini:

I have completed the review of the Source Removal Report, Contaminated Soil Removal at JP-5 Pipeline, Naval Air Station Cecil Field, dated November 2000 (received November 17, 2000), prepared and submitted by CH2M Hill Constructors, Inc. As soil and groundwater contamination were not detected at concentrations exceeding soil and groundwater cleanup target levels at the Northern Excavation, you are not required to conduct further site assessment in accordance with Chapter 62-770, Florida Administrative Code (F.A.C.). However, as contaminated soil and groundwater were detected at the Southern Excavation, site assessment in accordance with Chapter 62-770, F.A.C., must be conducted. I have the following additional comments concerning the report:

(1) On figure 2-1, soil boring JP5-C09 is identified in two locations. One of these locations should be JP5-C06. Please adjust the figure accordingly.

(2) On figure 2-2, soil boring SB-08 is located in five locations, while the locations of SB-01, SB-09, SB-15, SB16 and SB-19 are not shown. Please adjust the figure accordingly.

(3) Many of the SCTL (Leachability) numbers in Tables 2-4 and 2-5 are incorrect. Please revise these numbers.

(4) In Table 2-6, all values for groundwater contaminant concentrations should be in µg/L, not mg/kg.

(5) In Section 3.2, please add benzene to the list of contaminants detected in soil sample JP5-C11 at a concentration exceeding its SCTL (leachability).

(6) I cannot concur that a Natural Attenuation Monitoring Plan be prepared for the Southern Excavation area. The nature and extent of soil and groundwater contamination should be fully assessed and a Site Assessment Report (SAR) be submitted for this site. If contaminant concentrations are below the Department's Natural Attenuation Default Concentrations and are not migrating, a Natural Attenuation Monitoring Plan may be proposed in the SAR.

If I can be of any further assistance with this matter, please contact me at (850) 488-3693.

Sincerely,

David P. Grabka
Remedial Project Manager

cc: Scott Glass, Southern Division
Debbie Vaughn-Wright, USEPA Region 4
Mark Speranza, TetraTech NUS, Pittsburgh
Sam Ross, CH2M Hill Constructors, Inc.
Mike Fitzsimmons, FDEP Northeast District

TJB ____ JJC ____ ESN ____

December 18, 2001
OFFICIAL CORRESPONDENCE

Commanding Officer
attn: Mr. Nick Ugolini, Code ES242
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, SC 29419-9010

Dear Mr. Ugolini,

I have reviewed the Source Removal Report, Contaminated Soil Removal at JP-5 Pipeline Valve Box 2, Naval Air Station Cecil Field, dated November 2001 (received November 6, 2001). The report requests No Further Action for the site. I have the following comments that need to be addressed prior to No Further Action being approved for this site:

1. The Department reviewed a previous Source Removal Report (November 2000) for this site. The report received several comments that have not been resolved to date. The comments mainly addressed certain mistakes in figures and tables in the report. Please provide corrected figures and tables so that it can be verified that the original soil excavation removed all soils exceeding soil cleanup target levels from the southern side of the valve box. The Department also requested that a Site Assessment be conducted at the site in accordance with Chapter 62-770, Florida Administrative Code.

2. In Section 1.1 on page 1-1, it says that Figure 1-1 shows the limits of the original excavation and the location of the soil samples. Figure 1-1 is the Site Location Map. There is no figure showing the original excavation limits with the locations of soil samples taken during the original excavation.

3. Although the latest groundwater sample from well CEF-Pipe-1S did not contain contaminants that exceed groundwater cleanup target levels (GCTLs) except for methylene chloride, I do not feel confident that groundwater contamination can be ruled out at the site for the following reasons:

(a) Because methylene chloride and tetrachloroethene were detected in the trip blank and methylene chloride was detected in the laboratory blank, they are assumed to be laboratory contaminants. While methylene chloride is a common laboratory contaminant, the presence of PCE does not inspire confidence in the rest of the results.
(b) Concentrations of naphthalene, 1-methylnaphthalene, 2-methylnaphthalene and tetrachloroethene were detected in groundwater but at concentrations below GCTLs during the latest round of sampling. During the prior sampling event, naphthalene, 1-methylnaphthalene and 2-methylnaphthalene exceeded GCTLs.
(c) Lead was not analyzed for.
(d) A groundwater sampling log was not included with the report to verify that the well was properly purged prior to sample collection.

4. For the reasons stated above, I request that groundwater be resampled and analyzed for the complete gasoline and kerosene analytical group, including lead. Groundwater collected for the lead analysis should be collected using quiescent sampling technique to minimize turbidity.

5. Please submit a Site Assessment Report resolving the comments I have made on the Source Removal Reports. Based upon the information contained in that report, the Department will re-

evaluate the site to determine if further actions are necessary or the site can be considered remediated.

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

Sincerely,

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

August 13, 2002
OFFICIAL CORRESPONDENCE

Commanding Officer
attn: Mr. Wayne Hansel, Code ES245
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, SC 29419-9010

Dear Mr. Hansel:

I have completed my review of the revised pages for the Source Removal Report, Contaminated Soil Removal at JP-5 Pipeline, Naval Air Station Cecil Field, November 2000, dated May 31, 2002 (received June 5, 2002), prepared and submitted by CH2M Hill Constructors, Inc. The revised pages adequately address my comments of May 30, 2001. As stated in that letter, further assessment of the Southern Excavation in accordance with Chapter 62-770, F.A.C., must be conducted.

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

Sincerely,

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

APPENDIX C

NOVEMBER 2001 SOURCE REMOVAL REPORT

Source Removal Report
Contaminated Soil Removal at JP-5 Pipeline Valve Box 2

Former NAS Cecil Field
Jacksonville, Florida

Contract No. N62467-98-D-0995
Contract Task Order No. 0029

Submitted to:

U.S. Naval Facilities Engineering Command Southern Division

Prepared by:

CH2MHILL
Constructors, Inc.
115 Perimeter Center Place, N.E.
Suite 700
Atlanta, GA 30346

November 2001

Source Removal Report
Contaminated Soil Removal at JP-5 Pipeline
Valve Box 2

Contract No. N62467-98-D-0995
Contract Task Order No. 0002

Former NAS Cecil Field
Jacksonville, Florida

Submitted to:

U.S. Naval Facilities
Engineering Command
Southern Division

Prepared by:

CH2MHILL
Constructors, Inc.

November 2001

Prepared/Approved By:

Samuel M. Ross, Project Manager — Date

Approved By:

R. Scott Newman, Program Manager — Date

Client Acceptance:

U.S. Navy Responsible Authority — Date

Distribution List

	Copies
Southern Division, Naval Facilities Engineering Command	1
NAS Cecil Field	1
Florida Department of Environmental Protection	1
CH2M HILL Constructors, Inc.	1

Certification of Technical Data Conformity (October 2001)

The contractor, CH2M HILL Constructors, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0029 is complete and accurate and complies with all requirements of this contract.

Date:_____

Name and Title of Certifying Official:

_____

Samuel M. Ross
Project Manager

CH2MHILL
Constructors, Inc.

Certification of Completion

CH2M HILL Constructors, Inc., attests that, to the best of its knowledge and belief, the removal of contaminated soil at the JP-5 Pipeline, Valve Box 2, delivered under Contract No. N62467-98-D-0995, Naval Air Station Cecil Field, Jacksonville, Florida, Contract Task Order (CTO) No. 0029, has been completed, inspected, and tested, and is in compliance with the contract.

_____ _____

Project QC Manager Date

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A Photographs
B Copies of Soil Manifest
C Certificate of Disposal
D Waste Profile
E Clean Fill Certification
F Analytical Laboratory Reports for Confirmatory Soil Samples
G Analytical Laboratory Reports for Confirmatory Groundwater Sample

Acronyms

bls	below land surface
CCI	CH2M HILL Constructors Inc.
CTO	Contract Task Order
EPA	U.S. Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FID	flame ionization detector
FL-PRO	Florida Petroleum Residual Organic
GCTLs	groundwater cleanup target levels (per Chapter 62-770 and 62-777 FAC)
HLA	Harding Lawson Associates
KAG	Kerosene Analytical Group
µg/L	micrograms per liter
mg/kg	micrograms per kilogram
NA	not analyzed
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
ND	not detected
NL	not listed
OVA	organic vapor analyzer
PAHs	polynuclear aromatic hydrocarbons
ppm	parts per million
SCTLs	soil cleanup target levels (per Chapter 62-770 and 62-777 FAC)
TPH	total petroleum hydrocarbon
TRPH	total recoverable petroleum hydrocarbon
VOC	volatile organic compound

Source Removal Report Requirements – *Checklist*

Per Chapter 62-770.300(3) FAC the Source Removal Report shall contain the following information in detail, as applicable:

Site Name: JP-5 Pipeline (Valve Box 2) **Date of source removal: 08/01/01**

Required Information	Response
1. Volume of product that was discharged, if known	*Unknown*
2. Volume of free product and the volume of groundwater recovered	*None*
3. Volume of contaminated soil excavated and treated or properly disposed	*7.16 tons of soil excavated and disposed of offsite Refer to Section 2.3.2 for details*
4. Disposal or recycling methods for free product and contaminated soil	*Contaminated soils Disposed of at Broadhurst Landfill, Screven, Georgia*
5. Disposal methods for other contaminated media	*No other contaminated media*
6. Scaled site map (including a graphical representation of the scale used) showing location(s) of free product recovered and the area of soil removed or treated and the approximate locations of all samples taken	*See Figure 2-1*
7. Table summarizing free product thickness in each monitoring well or piezometer and the dates the measurements were made	*No free product found in Monitoring well CEF-Pipe-1S.*
8. Type of field screening instrument or method used	*OVA/FID*
9. Dimensions of the excavation(s) and location(s), integrity, capacities and last known contents of storage tanks, integral piping, dispensers, or appurtenances removed	*Excavation areas: (see Figure 2-1)* *5 feet long by 5 feet wide by 5 feet deep. JP 5 was previously transported in the pipeline.* *No fuel piping was removed at the direction of the Navy.*
10. Dimensions of the excavation(s) and location(s) and capacities of replacement underground storage tanks	*Not Applicable. This was not an underground storage tank site.*
11. Table indicating the identification, depth and field soil screening results of each sample collected	*See Table 2-2*
12. Depth to groundwater at the time of each excavation, measurement locations and method used to obtain that information	*Depth to groundwater approximately 4 feet bls. Noted in well CEF-Pipe-1S (See Section 2.2.1)*
13. Type of petroleum or petroleum products discharged	*JP-5 Jet Fuel*
14. Documentation confirming the proper treatment or proper disposal of the free product or contaminated soil, including disposal manifests for free product, a copy of the treatment or acceptance of the contaminated soil and results of analyses, if performed	*See Table 2-1 and Appendix C*
15. For land farmed soil, a copy of the pre-treatment and post-treatment analytical results	*Not Applicable. Soil disposed of offsite.*

1.0 Introduction

CH2M HILL Constructors, Inc. (CCI) was contracted by the Southern Division Naval Facilities Engineering Command (NAVFAC) to perform a source removal at the JP-5 pipeline at Former Naval Air Station (NAS) Cecil Field in Jacksonville, Florida. The source removal was conducted in accordance with the Florida Department of Environmental Protection (FDEP) Petroleum Contamination Site Cleanup Chapter 62-770, Florida Administrative Code (FAC).

The scope of services for the source removal is described in detail in the NAS Cecil Field Basewide Work Plan, Revision 01 (CCI, 1998). A Work Plan Addendum was not prepared for the scope of work based upon Technical Direction from the Naval Facilities Engineering Command, Southern Division. This work was authorized under the Remedial Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0029.

1.1 Site Background

The site contained soil contamination adjacent to the underground pipeline running parallel to "A" Avenue on the eastern side of the street. The pipeline was installed during the 1950s and was used to convey fuel from NAS Jacksonville to the North Tank Fuel Farm, the South Tank Fuel Farm, the Jet Engine Test Cell, and Day Tanks 1 and 2. The contaminated soil associated with this source removal was specifically located to the immediate east and north of a valve box, located approximately 150 feet due west from former Day Tank 1, as shown in Figure 1-1.

A source removal was previously conducted on the south and east of the valve box during the period of November 8 to November 11, 1999. A total of 42.35 tons of petroleum contaminated soil were excavated from the location and disposed of offsite. Five confirmatory soil samples that were collected at each wall and from the floor of the excavation during the source removal exhibited concentrations that were below soil cleanup target levels (SCTLs) per Chapter 62-777 FAC for all applicable parameters. One soil sample that was collected from a boring that was advanced outside of the excavation limits, adjacent to the northwest corner of the valve box, contained total petroleum hydrocarbon (TPH), 1-methylnaphthalene and xylenes above the SCTLs. (CCI, 2000). Figure 1-1 shows the limits of the original excavation and the locations of the soil samples.

1.2 Project Objectives

The primary objective of this source removal was to remove soils, identified during the November 1999 source removal, that exceeded the SCTLs outlined in Chapters 62-770 and 62-777 FAC. FDEP allows the use of organic vapor analyzer (OVA) headspace analysis as a screening tool in evaluating whether soil samples exceed the SCTLs. In this procedure, two clean 16-ounce, wide mouth glass jars are half-filled with the soil sample to be tested, each jar is then sealed with aluminum foil, and allowed to equilibrate at ambient temperatures for a period of 5 to 10 minutes. The organic vapor concentration in the headspace of each jar

is then analyzed using the OVA/flame ionization detector (FID). One jar was analyzed without a carbon filter and the other jar with a carbon filter in order to detect and correct for the presence of naturally occurring organic vapors (i.e., methane). The corrected reading is reported in parts per million (ppm), and represents the concentration of organic vapor from the soil sample resulting from the presence of volatile petroleum hydrocarbon compounds in the sample. Soil exhibiting a volatile organic compound (VOC) concentration of greater than 50 ppm was considered to be excessively contaminated and was expected to contain constituents exceeding the SCTLs.

Soil was excavated until VOC concentrations of less than 50 ppm were achieved, and then a confirmatory sample for the Kerosene Analytical Group (KAG) was obtained. No OVA concentrations above 50 ppm were noted in soil samples collected from this excavation, therefore a minimal (5 feet by 5 feet) area was excavated prior to confirmatory sample collection. The KAG analyses for soils includes volatile organic compounds (VOCs) by Environmental Protection Agency (EPA) Method 8021, polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270C, and total recoverable petroleum hydrocarbons (TRPH) by the Florida Petroleum Residual Organic (FL-PRO) method.

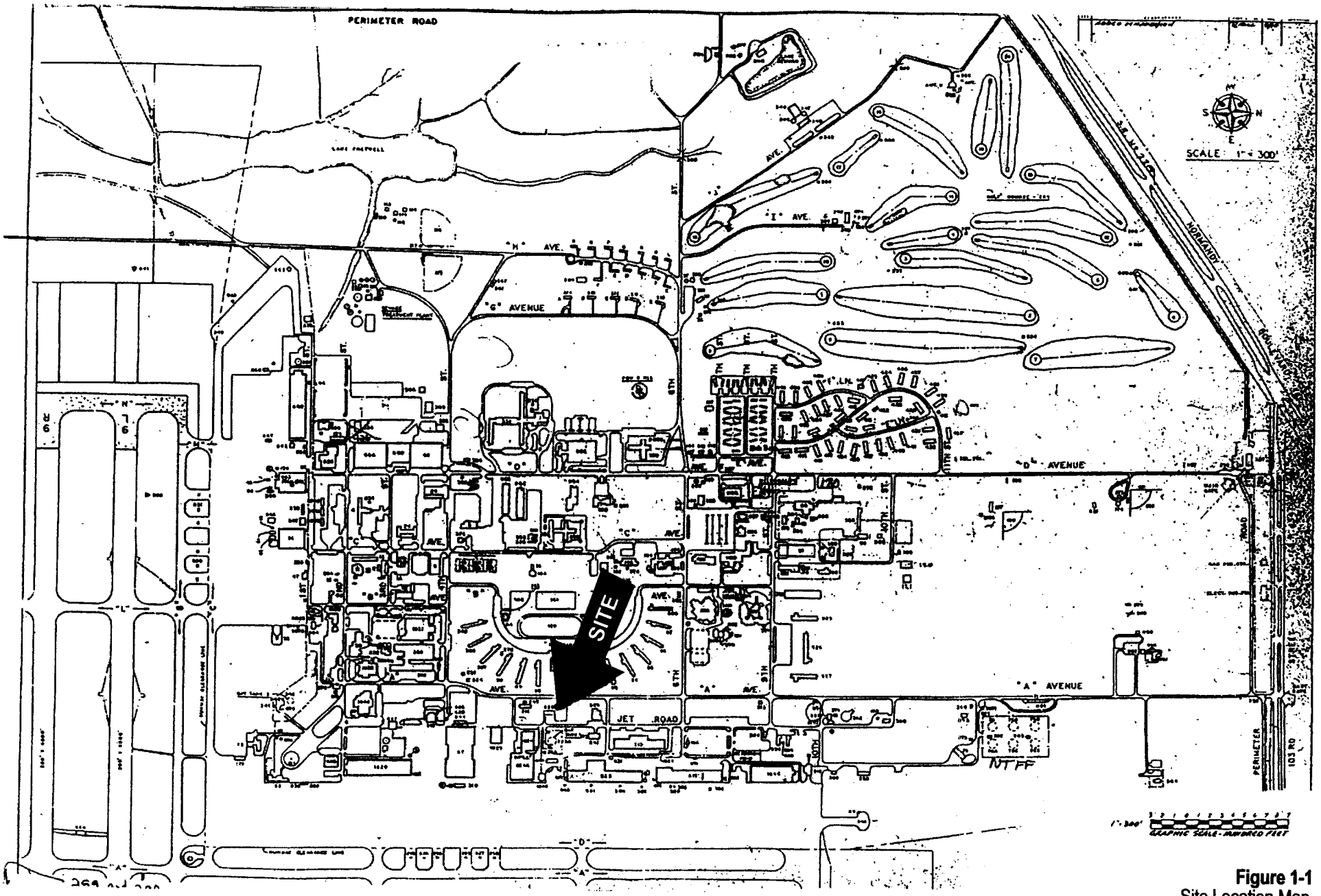

Figure 1-1
Site Location Map
JP-5 Pipeline
NAS Cecil Field
Jacksonville, Florida

CH2MHILL

A102001004ATL\Cecil 101.FH8

2.0 Source Removal Activities

A source removal was conducted at the valve box located along the JP-5 pipeline on August 1, 2001. A total of 7.16 tons of petroleum contaminated soil was excavated and disposed offsite. No free product was found during the excavation activities. Photographs showing the site during and after the source removal are presented in Appendix A.

2.1 Site Preparation

In preparation for excavation, all utilities were previously marked out by the Base maintenance contractor and Sunshine State One Call of Florida. The only utility that was encountered was the abandoned 8-inch JP-5 pipeline and an abandoned communication cable.

2.2 Soil Excavation and Disposal

2.2.1 Soil Excavation

Soils excavation was initiated at the location that exhibited soil concentrations above SCTLs during the November 1999 source removal. The soil was excavated using a backhoe and was direct loaded into trucks for offsite disposal. The final excavation limits extended to approximately 5 feet by 5 feet by 5 feet deep. A total of 7.16 tons of contaminated soil was removed. The excavation area is shown on Figure 2-1.

2.2.2 Soil Transportation and Disposal

The petroleum contaminated soil was transported offsite by truck to the Broadhurst Landfill in Jesup, Georgia. A manifest summary is presented in Table 2-1, a copy of the manifest is presented in Appendix B, a Certificate of Disposal is presented in Appendix C, and the Waste Profile is provided in Appendix D. The certificate of disposal accounts for 21.3 tons of petroleum contaminated soil disposed; 7.16 tons were associated with this source removal and 14.14 tons were associated with the source removal at Building 190.

TABLE 2-1
Summary of Manifest for Soil Disposal

Date	Truck Number	Company	Manifest #	Weight (pounds)	Tare (pounds)	Net (pounds)	Net (tons)
08/01/01	0004	Beaver Bulk	8912	42,000	27,680	14,320	7.16

2.2.3 Backfilling and Site Restoration

The material used to backfill the excavation was taken from Coxwell's Crystal Springs Pit and delivered by Spencer Contracting. A copy of the analytical report confirming that the material was clean fill is presented in Appendix E. The backfilled area was leveled to match the existing grade and seeded with a mixture of rye and bahia grass.

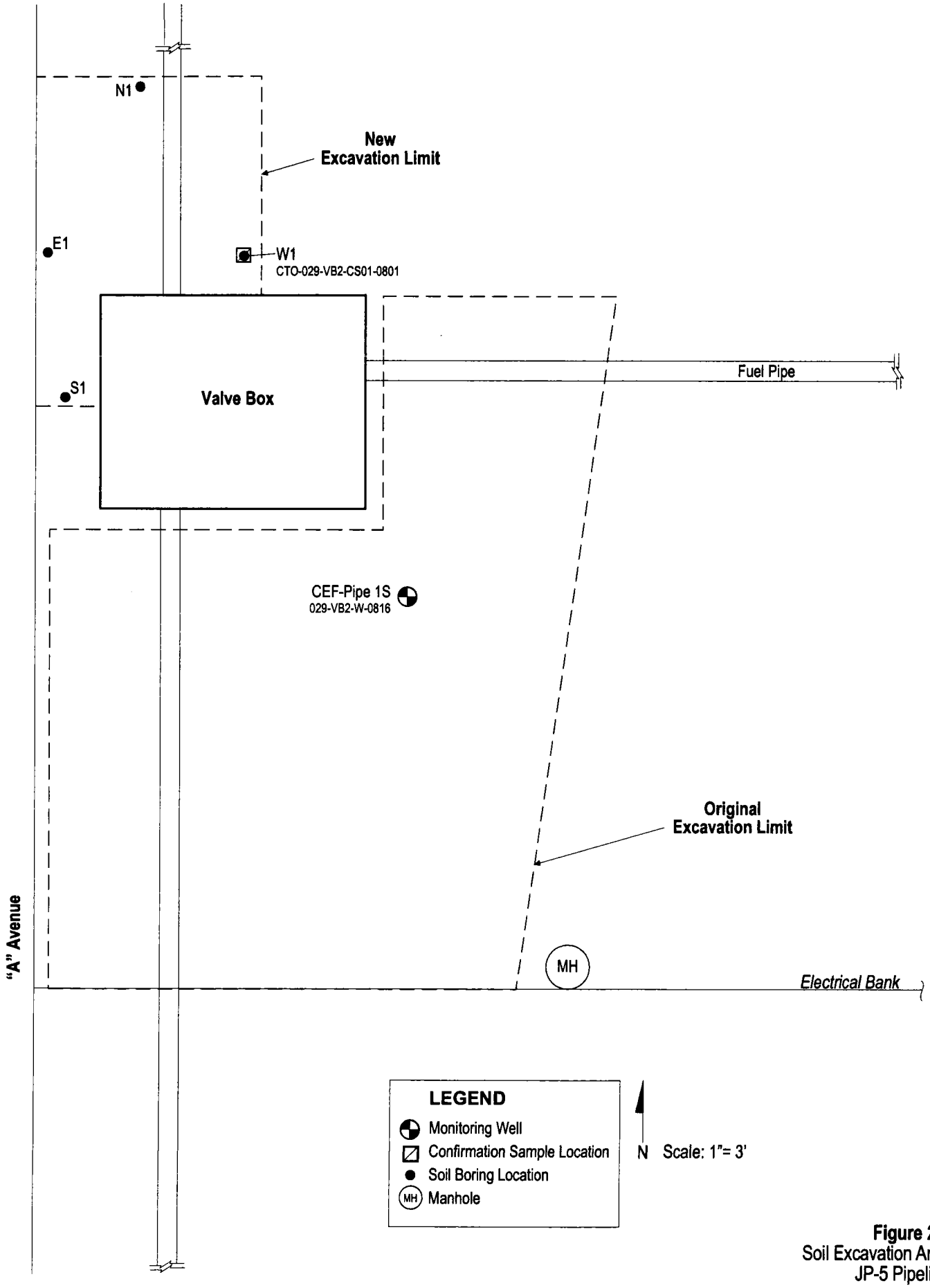

Figure 2-1
Soil Excavation Area
JP-5 Pipeline
NAS Cecil Field
Jacksonville, Florida

CH2MHILL

A102001004ATL\Cecil 100.FH8

2.3 Sampling and Analysis

2.3.1 Headspace Analysis

During the excavation of the contaminated soil, soil samples were collected and screened using an OVA equipped with an FID in accordance with the procedures outlined in Chapter 62-770.200(8) FAC. A methane filter was used to subtract methane as described in Section 1.2. The soil sample locations are shown on Figure 2-1. The results of the headspace analyses are listed in Table 2-2.

TABLE 2-2
Summary of Headspace Screening Results
JP-5 Pipeline (Valve Box 2)

Sample Location*	Depth (feet bls)	FID Unfiltered (ppm)	FID with Filter (ppm)	FID Net (ppm)
N-1	4	0	--	0
W-1	4	4.18	2.09	2.09
E-1	4	0	--	0
S-1	4	0	--	0

*see Figure 2-1
bls – below land surface
ppm – parts per million

2.3.2 Laboratory Analyses of Soil Samples

One soil sample was collected for laboratory analyses from the west wall of the excavation; this sample yielded the highest OVA reading during the source removal. The sample was collected using a stainless steel hand tools and Encore brand samplers; placed into pre-cleaned, laboratory supplied sample containers; appropriately labeled; sealed in zip-lock type bags; and placed on wet ice for transport. The sample was delivered to an approved laboratory for analysis by the following methods:

- EPA Method 8021 - VOCs
- EPA Method 8270C- Extractable Organic Compounds
- FL-PRO - TPH

The results of the laboratory analysis indicated no contaminant concentrations above the SCTLs per Chapter 62-777 FAC. The sample location is shown on Figures 2-1. The analytical results are summarized in Table 2-3, and a copy of the analytical laboratory report is provided in Appendix F.

2.3.3 Collection and Laboratory Analyses of Groundwater Samples

One groundwater sample was collected from adjacent well CEF-PIPE-1S using a Teflon bailer. Sample containers, which had been provided by the designated laboratory, were appropriately labeled, preserved, sealed in zip-lock type bags, placed on wet ice, and delivered under standard chain of custody procedures to an approved laboratory for analyses, as follows:

- EPA Method 8260B - VOCs
- EPA Method 8270 - PAHs
- FL-PRO - TRPH

The results from the laboratory analyses indicated no concentrations of petroleum contaminants above the applicable groundwater cleanup target levels (GCTLs) as specified in Chapter 62-777, FAC, Table I. Methylene chloride was detected at a concentration that exceeded its GCTL in the sample; however, it was also present in the laboratory blank and the trip blank. The results of the laboratory analysis are summarized in Table 2-4 and copies of the analytical laboratory report are provided in Appendix G. The location of monitoring well CEF-PIPE-1S is shown on Figure 2-1.

TABLE 2-3
Summary of KAG Analyses for Soil

Sample Location	Depth	Sample ID	Date	TRPH	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) Anthracene	Benzo (a) Pyrene	Benzo (b) Fluoranthene	Benzo (ghi) Perylene	Benzo (k) Fluoranthene	Chrysene	Dibenzo (ah) Anthracene	Fluoranthene	Fluorene	Indeno (123cd) Pyrene	Phenanthrene	Pyrene	Naphthalene	1- Methylnaphthalene	2- Methylnaphthalene	Benzene	Ethylbenzene	Toluene	Xylenes	MTBE
Valve Box 2	4'	01-CTO-029-VB#2-VS01-0801	08/01/01	13.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003	ND	ND	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
*FDEP Soil Cleanup Target Levels (Leachability)				340	2.1	27	2500	3.2	8.0	10.0	32000	25	77	30	1200	160	28	250	880	1.7	2.2	6.1	0.007	0.6	0.5	0.2	0.2
*FDEP Soil Cleanup Target Levels (Direct Exposure Residential)				340	1900	1100	18000	1.4	0.1	1.4	2300	15	140	0.1	2900	2200	1.5	2000	2200	40	68	80	1.1	1100	380	5900	3200

Values are reported in milligrams per kilogram (mg/kg)
ND = Not Detected
*Soil Cleanup Target Levels as specified in Chapter 62-777 FAC
* Please see Appendix F for detection limits.

TABLE 2-4
Summary of KAG Analyses for Groundwater

Sample Location	Sample ID	Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) Anthracene	Benzo (a) Pyrene	Benzo (b) Fluoranthene	Benzo (ghi) Perylene	Benzo (k) Fluoranthene	Chrysene	Dibenzo (ah) Anthracene	Fluoranthene	Fluorene	Isopropyl Benzene	Indeno (123cd) Pyrene	n-propylbenzene	Phenanthrene	Styrene	Pyrene	Naphthalene	4-Isopropyltoluene	1,2,4-Trimethylbenzene	1,2,5-Trimethylbenzene	1- Methylnaphthalene	2- Methylnaphthalene	Benzene	Ethylbenzene	Xylenes	Toluene	Methylene Chlorida
Valve Box 2	002-271UST-W-0915-00	9/15/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	6.9	NA	NA	NA	8.01	9.38	ND	ND	ND	ND	16.5
Groundwater Criteria			20	210	2100	0.2	0.2	0.2	210	0.5	4.8	0.2	280	280	0.8	0.2	NL	210	100	210	20	NL	10	10	20	20	1	30	20	40	5
Natural Attenuation Default Source			200	2100	21,000	20	20	20	2100	50	480	20	2800	2800	8.0	20	NL	2100	1000	2100	200	NL	100	100	200	200	100	300	200	400	500

ND = Not Detected
NA = Not Analyzed
NL = Not Listed
Values reported in micrograms per liter (µg/L)
1) As specified in Chapter 62-777 FAC
Please see Appendix G for detection limits.

3.0 Conclusions

A total of 7.16 tons of petroleum-contaminated soil were removed from the location shown on Figure 2-1 and transported to Broadhurst Landfill in Jesup, Georgia for disposal. The horizontal and vertical limits of the excavation exhibited headspace VOC concentrations, as measured with an OVA/FID, of less than 50 ppm. The confirmatory soil sample that was collected subsequent to the excavation was below SCTLs for all KAG parameters, confirming that the horizontal limits of the soil contamination had been removed. The groundwater sample that was collected for KAG analyses from a monitoring well located approximately 10 feet from the excavation (CEF-PIPE-1S) exhibited no KAG constituents above the GCTL per Chapter 62-777 FAC, except methylene chloride, which was also present in the laboratory blank and trip blank. No free product was encountered during the excavation.

No Further Action Status, per Chapter 62-770.680 FAC, is recommended for this site because the following criteria have been met:

- Based on visual inspection, free product is not present at the site.
- Excessively contaminated soil has been removed from the site, as demonstrated by OVA screening performed during the excavation and analytical results from confirmatory soil samples collected from the excavation.
- Contaminated soil is not present in the unsaturated zone at the site, as demonstrated by analytical results from confirmatory soil samples collected from the excavation.
- Analytical results from a confirmatory groundwater sample showed no detections of KAG constituents at concentrations above their respective GCTLs.

4.0 References

CH2M HILL Constructors, Inc. November 1998. Base-wide Work Plan Revision 01. NAS Cecil Field Jacksonville, Florida. Prepared for Southern Division Naval Facilities Engineering Command.

CH2M HILL Constructors, Inc. November 2000. Source Removal, Contaminated Soil Removal at JP-5 Pipeline Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for Southern Division Naval Facilities Engineering Command.

Florida Department of Environmental Protection. August 1999. Contaminant Target Levels Rule, Soil, Groundwater and Surface Water Target Cleanup Levels, Chapter 62-777 Florida Administrative Code.

Appendix A

Photographs

1. Valve Box 2 excavation. Site conditions prior to the initiation soil excavation activities, looking West.

2. Valve Box 2 Excavation. View of excavation in progress, looking East.

3.Valve Box Excavation. View of area after backfilling Looking West.

REPUBLIC
Waste Services Division

Manifest Number: 8912

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US NAVY US EPA ID#: FL 5170022474

Billing Address: 6219 Authority Road Jacksonville, FL 32215

Site Address: Valve Box #2 (6102 Aviation Av.)

County of Origin: Duval Phone: (904) 777-1812

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
Contaminated Soil	6.71		Ton	Dump Truck
			7.16	

Special Handling Instructions

Valve Box #2

- 6102 Aviation Av

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

D.J. KRUZICKI D.J. Kruzicki

Generator Authorized Agent Name Signature Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk DOT#: 0234452

Address: P.O. Box 417, Live Oak, FL Truck Number: 0004

Adam DeRocco Adam DeRocco 8-1-01

Name of Authorized Agent Signature Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc. Phone Number: 912-530-7060

Address: 4600 Broadhurst Rd. W., Jesup, Georgia 31545

I hereby acknowledge receipt of the above described materials.

Bill Cochran [illegible] 8.1.01

Name of Authorized Agent Signature Date Received

Broadhurst Environmental
4800 Broadhurst Rd W
Screven GA 31560
Phone (912) 530-7050

Ticket: 152336
Date/Time In: 1 August 2001 3:06 pm
Vehicle: CCI
Origin: Duval Co., FL
Reference: 0004**8912
Contract: 20183

000128
CCI /CH2M HILL CONSTRUCTORS, INC.
115 PERIMETER CENTER PLACE NE, SUITE 700 Inbound -

ATLANTA, GA 30346

00 Gross Weight 42,000.00 LB
Tare Weight 27,680.00 LB
Net Weight 14,320.00 LB 7.16 TN

Quantity	Unit	Description	Rate	Total
7.16	TN	Contaminated Soil	$25.00	$179.00

Net Amount: $179.00
Tendered: $0.00
Change:

I certify that I have not disposed of any liquid or hazardous waste. I will not exceed the posted speed limit of 15 mph.

Weighmaster: Earlene

Driver

Appendix C

Certificate of Disposal

Southland
Waste
Systems, Inc.

CERTIFICATE OF DISPOSAL

This letter is to certify that all wastes received from CH2Mhill, Inc. on behalf of CCI/US Navy on the following dates were landfilled in accordance with all state and federal regulations.

Manifest Number	Tonnage	Dates
8911 & 8912	21.3	8/01/01

Disposal Method was D-81 (Subtitle D Landfill)

BROADHURST ENVIRONMENTAL, INC.

Butch Puntay — 9/6/01
Date

8619 WESTERN WAY • JACKSONVILLE, FL 32256 • P.O. BOX 56110 (32241)
SERVICE (904) 731-1232 • SALES (904) 731-1732 • ADMINISTRATIVE / BILLING (904) 731-2456

Appendix D

Waste Profile

REPUBLIC SERVICES, INC.

App. #_____

Special Waste Acceptance Application

A. GENERATOR INFORMATION

1. Generator Name: U.S. NAVY
2. Site Location: VALVE BOX #2
3. City: JACKSONVILLE
   State: FL Zip: 32221
4. Phone: (904) 777-4812
5. Fax: (904) 777-4262
6. Contact: PAUL MALEWICKI
7. Title: Project Engineer

B. CUSTOMER INFORMATION

1. Customer Name: CCI / J. A. Jones
2. Address: 6219 Authority AV
3. City: JACKSONVILLE
   State: FL Zip: 32224
4. Phone: (904) 777-4812
5. Fax: (904) 777-4262
6. Contact: Colleen Kurtz
7. Title: P.M.

C. WASTE STREAM INFORMATION

1. Common Name of Waste: Petroleum Contaminated Soil
2. Detailed Description of Process Generating Waste and Material Description: Leaking Underground Petroleum Piping
3. Industrial Generator [ ]Yes [X]No If yes, please list the SIC Code_____
4. Municipal Generator [ ]Yes [X]No
5. Physical State at 70° [X]Solid [ ]Semisolid [ ]Liquid [ ]Powder [ ]Combination
6. Odor: [ ]None [X]Mild [ ]Semisolid (describe)_____
7. Color: Brown
8. Flash Point: 7200
9. Viscosity: 1
10. Reactive [ ]Yes [X]No With: _____
11. pH Range: 6.5-7.5
12. Free Liquid: [ ]Yes [X]No
13. Water Content: 72 % by Water
14. Is the analytical attached derived from testing a representative sample in accordance with 40 CFR 261.35? [X] N/A [ ] Yes [ ] No
15. Does the waste contain radioactive or U.S. D.O.T. hazardous material materials? [ ] Yes [X] No

D. SUPPLEMENTAL INFORMATION

[ ] None [ ] MSDS [ ] Analytical Data [ ] Memo/Letter [X] Process Knowledge No. of Pages_____

E. SHIPPING INFORMATION

1. Packaging: [X] Bulk Solids [ ] Bulk Liquids [ ] Drum [ ] Roll-off [ ] Dump Truck [ ] Tank Truck
2. Estimated Volume: 8 [X] Tons [ ] Cubic yards [ ] Gallons [ ] Other _____
3. Shipping Frequency: 1 Time Designated Landfill: Broadhurst

F. GENERATOR / CUSTOMER CERTIFICATION

I hereby certify that all information submitted and all attached documents contain true and accurate descriptions of this waste. No [illegible] and all known or suspected hazards have been disclosed. I further certify that the waste is not designated a Hazardous Waste defined by the USEPA in 40 CFR 261, nor does it contain PCB's regulated under TSCA 40 CFR 761.

I, DAVID J. KRUZICKI (Name, Please Print), am employed by U.S. NAVY (Company Name), and am authorized to sign this request for:

U.S. NAVY (Company Name), [signature] (Signature), 8/4/01 (Date).

Form SW01 (99)

Appendix E

Analytical Laboratory Data for Clean Fill

ASI ANALYTICAL SERVICES, INC.
Environmental Monitoring & Laboratory Analysis
110 Technology Parkway Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

FAXED 8-30-00 JB

Laboratory Report

Report Number: 124935

Project: Coxwell Pit

Prepared For:

Tim-Prep Inc.
540 West Mill Street
Baldwin, FL 32234

Attention: Mr. Michael Stokes

August 8, 2000

P.O. No. 7353

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Shari Harper
Project Manager

Kathryn Smith
Quality Assurance

Analytical Services Inc., Norcross Laboratory maintains the following certifications, approvals, and accreditations: Georgia Laboratory Certification No.'s: 812/351/1301; Alabama Laboratory I.D. No.: 41090; Arkansas Certification; California Laboratory Certification No.:2290; Connecticut Laboratory I.D. No.: PH-0250; Florida Certification No.'s: 87403/E87315 and Florida QA Plan No.: 910158G; National Sanitation F tion International Certification No.: 04180; North Carolina Certification No.: 381; North Dakota Certification No.: R-116; Oklahoma Laboratory I.D. 9 outh Carolina Laboratory I.D. No.: 98011; Tennessee Laboratory I.D. No.: 02994; United States Army Corps of Engineers-MRD Certification; USDA Soil import License No.: S-36027; and Virginia Laboratory I.D. No.: 00028. All analysis performed by or under the supervision of a Georgia Drinking Water or Wastewater Certified Analyst. Analyst certification numbers available upon request.

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ASI ANALYTICAL SERVICES, INC.
Environmental Monitoring & Laboratory Analysis
110 Technology Parkway Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Tim-Prep Inc.
540 West Mill Street
Baldwin, FL 32234

Attention: Mr. Michael Stokes
Report No. **124935**

P.O. No. 7353
August 8, 2000

Sample Description

Tim-Prep Inc.
Soil, grab. Coxwell Pit, North\South\East\West Areas, 07/20/2000, received 07/21/2000

Analytical Method	Analyte	Result	Detection Limit	Units
	General Chemistry			
EPA 9045	pH (laboratory)	5.34E	-	
	Target Analyte List - Metals			
	Metals			
EPA 6010	Total Aluminum (Al)	2900	10	mg/kg
EPA 6010	Total Antimony (Sb)	BDL	5.0	mg/kg
EPA 7060	Total Arsenic (As)	BDL	3.0	mg/kg
EPA 6010	Total Barium (Ba)	BDL	1.0	mg/kg
EPA 6010	Total Beryllium (Be)	BDL	1.0	mg/kg
EPA 6010	Total Cadmium (Cd)	BDL	1.0	mg/kg
EPA 6010	Total Calcium (Ca)	300	5.0	mg/kg
EPA 6010	Total Chromium (Cr)	3.1	1.0	mg/kg
EPA 6010	Total Cobalt (Co)	BDL	4.0	mg/kg
EPA 6010	Total Copper (Cu)	3.1	2.0	mg/kg
EPA 6010	Total Iron (Fe)	78	10	mg/kg
EPA 6010	Total Lead (Pb)	BDL	5.0	mg/kg
EPA 6010	Total Magnesium (Mg)	14	5.0	mg/kg
EPA 6010	Total Manganese (Mn)	BDL	4.0	mg/kg
EPA 7471	Total Mercury (Hg)	BDL	0.25	mg/kg
EPA 6010	Total Nickel (Ni)	BDL	2.0	mg/kg
EPA 6010	Total Potassium (K)	24	20	mg/kg
EPA 7740	Total Selenium (Se)	BDL	4.0	mg/kg
EPA 6010	Total Silver (Ag)	BDL	1.0	mg/kg
EPA 6010	Total Sodium (Na)	280	5.0	mg/kg
EPA 7841	Total Thallium (Tl)	BDL	5.0	mg/kg

BDL - Below Detection Limit
E - Estimated concentration

Sample Description

Tim-Prep Inc.

Soil, grab, Coxwell Pit, North\South\East\West Areas, 07/20/2000, received 07/21/2000

Analytical Method	Analyte	Result	Detection Limit	Units
EPA 6010	Total Vanadium (V)	BDL	2.0	mg/kg
EPA 6010	Total Zinc (Zn)	12	2.0	mg/kg
	Target Compound List			
	Volatile Organics			
EPA 8260B	Acetone	BDL	10	ug/kg
EPA 8260B	Benzene	BDL	10	ug/kg
EPA 8260B	Bromodichloromethane	BDL	10	ug/kg
EPA 8260B	Bromoform	BDL	10	ug/kg
EPA 8260B	Bromomethane	BDL	10	ug/kg
EPA 8260B	2-Butanone	BDL	10	ug/kg
EPA 8260B	Carbon disulfide	BDL	10	ug/kg
EPA 8260B	Carbon tetrachloride	BDL	10	ug/kg
EPA 8260B	Chlorobenzene	BDL	10	ug/kg
EPA 8260B	Chloroethane	BDL	10	ug/kg
EPA 8260B	Chloroform	BDL	10	ug/kg
EPA 8260B	Chloromethane	BDL	10	ug/kg
EPA 8260B	Dibromochloromethane	BDL	10	ug/kg
EPA 8260B	1,1-Dichloroethane	BDL	10	ug/kg
EPA 8260B	1,2-Dichloroethane	BDL	10	ug/kg
EPA 8260B	1,1-Dichloroethene	BDL	10	ug/kg
EPA 8260B	1,2-Dichloroethene (total)	BDL	10	ug/kg
EPA 8260B	1,2-Dichloropropane	BDL	10	ug/kg
EPA 8260B	cis-1,3-Dichloropropene	BDL	10	ug/kg
EPA 8260B	trans-1,3-Dichloropropene	BDL	10	ug/kg
EPA 8260B	Ethylbenzene	BDL	10	ug/kg
EPA 8260B	2-Hexanone	BDL	10	ug/kg
EPA 8260B	4-Methyl-2-pentanone	BDL	10	ug/kg
EPA 8260B	Methylene chloride	BDL	10	ug/kg
EPA 8260B	Styrene	BDL	10	ug/kg
EPA 8260B	1,1,2,2-Tetrachloroethane	BDL	10	ug/kg
EPA 8260B	Tetrachloroethene	BDL	10	ug/kg
EPA 8260B	Toluene	BDL	10	ug/kg
EPA 8260B	1,1,1-Trichloroethane	BDL	10	ug/kg
EPA 8260B	1,1,2-Trichloroethane	BDL	10	ug/kg
EPA 8260B	Trichloroethene	BDL	10	ug/kg
EPA 8260B	Vinyl chloride	BDL	10	ug/kg
EPA 8260B	Xylenes	BDL	10	ug/kg
	Pesticides			

BDL - Below Detection Limit
E - Estimated concentration

August 8, 2000

Sample Description

Tim-Prep Inc.

Soil, grab, Coxwell Pit, North\South\East\West Areas, 07/20/2000, received 07/21/2000

Analytical Method	Analyte	Result	Detection Limit	Units
EPA 8081A	Aldrin	BDL	3.3	ug/kg
EPA 8081A	BHC-alpha	BDL	3.3	ug/kg
EPA 8081A	BHC-beta	BDL	3.3	ug/kg
EPA 8081A	BHC-delta	BDL	3.3	ug/kg
EPA 8081A	BHC-gamma (Lindane)	BDL	3.3	ug/kg
EPA 8081A	Chlordane-alpha	BDL	3.3	ug/kg
EPA 8081A	Chlordane-gamma	BDL	3.3	ug/kg
EPA 8081A	4,4'-DDD	BDL	3.3	ug/kg
EPA 8081A	4,4'-DDE	BDL	3.3	ug/kg
EPA 8081A	4,4'-DDT	BDL	3.3	ug/kg
EPA 8081A	Dieldrin	BDL	3.3	ug/kg
EPA 8081A	Endosulfan I	BDL	3.3	ug/kg
EPA 8081A	Endosulfan II	BDL	3.3	ug/kg
EPA 8081A	Endosulfan sulfate	BDL	3.3	ug/kg
EPA 8081A	Endrin	BDL	3.3	ug/kg
EPA 8081A	Endrin aldehyde	BDL	3.3	ug/kg
EPA 8081A	Endrin ketone	BDL	3.3	ug/kg
EPA 8081A	Heptachlor	BDL	3.3	ug/kg
EPA 8081A	Heptachlor epoxide	BDL	3.3	ug/kg
EPA 8081A	Methoxychlor	BDL	3.3	ug/kg
EPA 8081A	Toxaphene	BDL	9.9	ug/kg
		BDL	66	ug/kg
	PCB's			
EPA 8082	PCB 1016	BDL	33	ug/kg
EPA 8082	PCB 1221	BDL	33	ug/kg
EPA 8082	PCB 1232	BDL	33	ug/kg
EPA 8082	PCB 1242	BDL	33	ug/kg
EPA 8082	PCB 1248	BDL	33	ug/kg
EPA 8082	PCB 1254	BDL	33	ug/kg
EPA 8082	PCB 1260	BDL	33	ug/kg
	Chlorinated Herbicides			
EPA 8151A	2,4-D	BDL	170	ug/kg
EPA 8151A	2,4-DB	BDL	30	ug/kg
EPA 8151A	2,4,5-T	BDL	4.0	ug/kg
EPA 8151A	2,4,5-TP (Silvex)	BDL	330	ug/kg
EPA 8151A	Dalapon	BDL	150	ug/kg
EPA 8151A	Dicamba	BDL	26	ug/kg
EPA 8151A	Dichloroprop	BDL	35	ug/kg
EPA 8151A	Dinoseb	BDL	130	ug/kg

BDL - Below Detection Limit
E - Estimated concentration

Sample Description

Tim-Prep Inc.

Soil, grab, Coxwell Pit, North\South\East\West Areas, 07/20/2000, received 07/21/2000

Analytical Method	Analyte	Result	Detection Limit	Units
EPA 8151A	MCPA	BDL	5000	ug/kg
EPA 8151A	MCPP	BDL	3800	ug/kg

BDL - Below Detection Limit
E - Estimated concentration

V SE

CHAIN OF CUSTODY RECORD

ASI ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
110 TECHNOLOGY PARKWAY NORCROSS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

PAGE: 1 OF 1

CLIENT NAME: Tim-Bren Inc.

CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 540 [illegible] St. 904-266-4784 Baldwin FL. 32234 904-266-[illegible]

ATTENTION: Mike Stokes

CC:

REQUESTED COMPLETION DATE: ASAP

PO #: 7353

PROJECT NAME/STATE: Coxwell Pit

PROJECT #:

DATE	TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# OF CONTAINERS	ANALYSIS REQUESTED	LAB ID NUMBER
7-20-00	[illegible]	S		✓	North Area	1		
7-20-00	[illegible]	S		✓	South Area	1		
7-20-00	[illegible]	S		✓	East Area	1		
7-20-00	[illegible]	S		✓	West Area	1		

FOR LAB USE ONLY

LAB #: 124935

QUOTE #:

*MATRIX CODES:

DW -	DRINKING WATER	S -	SOIL
WW -	WASTEWATER	SL -	SLUDGE
GW -	GROUNDWATER	SD -	SOLID
SW -	SURFACE WATER	A -	AIR
ST -	STORM WATER	O -	OIL
L -	LIQUID	P -	PRODUCT

REMARKS/ADDITIONAL INFORMATION

Composite @ ASI [illegible]

SAMPLED BY AND TITLE: Joe [illegible]

DATE/TIME: 7/20 [illegible]

RELINQUISHED BY:

DATE/TIME:

COC/CUSTODY SEAL: ✓

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

ICE: NO

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

pH: N/A

RECEIVED BY LAB:

DATE/TIME:

SAMPLE SHIPPED VIA: UPS FED-EX COURIER CLIENT OTHER:

TEMPERATURE:

ENTERED INTO LIMS:

COC REVIEWED:

AIR BILL #:

COOLER #:

SAMPLE CONDITION:

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : TASK Environmental
ADDRESS: 501 South Blvd.
Tampa, FL 33606

REPORT # : JAX14577
DATE SUBMITTED: December 4, 2000
DATE REPORTED : December 7, 2000

ATTENTION: Mr. Chris Cherniak

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: 149152

NTFF Removal

12/04/00

#1 - CFNT-WC-CLEANFILL @ 10:00

PROJECT MANAGER Scott D. Martin

Scott D. Martin

ENCO LABORATORIES
REPORT # : JAX14577
DATE REPORTED: December 7, 2000
REFERENCE : 149152
PROJECT NAME : NTFF Removal

RESULTS OF ANALYSIS

EPA METHOD 8270 - TCL Semivolatiles	CFNT-WC-CLEANFILL	LAB BLANK	Units
Acenaphthene	360 U	330 U	µg/Kg
Acenaphthylene	360 U	330 U	µg/Kg
Anthracene	360 U	330 U	µg/Kg
Benzo(a)anthracene	360 U	330 U	µg/Kg
Benzo(b)fluoranthene	360 U	330 U	µg/Kg
Benzo(k)fluoranthene	360 U	330 U	µg/Kg
Benzo(g,h,i)perylene	360 U	330 U	µg/Kg
Benzo(a)pyrene	360 U	330 U	µg/Kg
Benzylbutyl phthalate	360 U	330 U	µg/Kg
Bis(2-chloroethoxy)methane	360 U	330 U	µg/Kg
Bis(2-chloroethyl)ether	360 U	330 U	µg/Kg
Bis(2-chloroisopropyl)ether	360 U	330 U	µg/Kg
Bis(2-ethylhexyl)phthalate	360 U	330 U	µg/Kg
4-Bromophenylphenyl ether	360 U	330 U	µg/Kg
Chloronaphthalene	360 U	330 U	µg/Kg
rbazole	360 U	330 U	µg/Kg
4-Chlorophenyl phenyl ether	360 U	330 U	µg/Kg
Chrysene	360 U	330 U	µg/Kg
Dibenzo(a,h)anthracene	360 U	330 U	µg/Kg
1,2-Dichlorobenzene	360 U	330 U	µg/Kg
1,3-Dichlorobenzene	360 U	330 U	µg/Kg
1,4-Dichlorobenzene	360 U	330 U	µg/Kg
3,3'-Dichlorobenzidine	710 U	660 U	µg/Kg

U = Compound was analyzed for but not detected to the level shown.

4

RESULTS OF ANALYSIS

EPA METHOD 8270 (cont.) - TCL Semivolatiles	CFNT-WC-CLEANFILL	LAB BLANK	Units
Diethyl phthalate	360 U	330 U	µg/Kg
Dimethyl phthalate	360 U	330 U	µg/Kg
Di-n-butyl phthalate	360 U	330 U	µg/Kg
Di-n-octyl phthalate	360 U	330 U	µg/Kg
2,4-Dinitrotoluene	360 U	330 U	µg/Kg
2,6-Dinitrotoluene	360 U	330 U	µg/Kg
Fluoranthene	360 U	330 U	µg/Kg
Fluorene	360 U	330 U	µg/Kg
Hexachlorobenzene	360 U	330 U	µg/Kg
Hexachlorobutadiene	360 U	330 U	µg/Kg
Hexachlorocyclopentadiene	360 U	330 U	µg/Kg
Hexachloroethane	360 U	330 U	µg/Kg
Indeno(1,2,3-cd)pyrene	360 U	330 U	µg/Kg
Isophorone	360 U	330 U	µg/Kg
ethylnaphthalene	360 U	330 U	µg/Kg
hthalene	360 U	330 U	µg/Kg
Nitrobenzene	360 U	330 U	µg/Kg
N-Nitrosodi-n-propylamine	360 U	330 U	µg/Kg
N-Nitrosodiphenylamine	360 U	330 U	µg/Kg
Phenanthrene	360 U	330 U	µg/Kg
Pyrene	360 U	330 U	µg/Kg
1,2,4-Trichlorobenzene	360 U	330 U	µg/Kg
4-Chloroaniline	360 U	330 U	µg/Kg
2-Nitroaniline	360 U	330 U	µg/Kg

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8270 (cont.) - TCL Semivolatiles	CFNT-WC-CLEANFILL	LAB BLANK	Units
3-Nitroaniline	360 U	330 U	µg/Kg
4-Nitroaniline	360 U	330 U	µg/Kg
Dibenzofuran	360 U	330 U	µg/Kg
4-Chloro-3-methylphenol	360 U	330 U	µg/Kg
2-Chlorophenol	360 U	330 U	µg/Kg
2,4-Dichlorophenol	360 U	330 U	µg/Kg
2,4-Dimethylphenol	360 U	330 U	µg/Kg
2,4-Dinitrophenol	1800 U	1600 U	µg/Kg
2-Methyl-4,6-dinitrophenol	1100 U	990 U	µg/Kg
2-Nitrophenol	360 U	330 U	µg/Kg
4-Nitrophenol	360 U	330 U	µg/Kg
Pentachlorophenol	360 U	330 U	µg/Kg
Phenol	360 U	330 U	µg/Kg
2,4,6-Trichlorophenol	360 U	330 U	µg/Kg
2-Methylphenol	360 U	330 U	µg/Kg
& 4-Methylphenol	360 U	330 U	µg/Kg
2,4,5-Trichlorophenol	360 U	330 U	µg/Kg
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Nitrobenzene -D5	46	41	30-106
2-Fluorobiphenyl	61	57	38-107
Terphenyl -D14	75	72	29-131
Phenol -D5	40	42	12-87
2-Fluorophenol	38	42	19-115
2,4,6-Tribromophenol	43	39	35-126
Date Prepared	12/06/00	12/06/00	
Date Analyzed	12/06/00	12/06/00	

U - Compound was analyzed for but not detected to the level shown.

6

ENCO LABORATORIES
REPORT # : JAX14577
DATE REPORTED: December 7, 2000
REFERENCE : 149152
PROJECT NAME : NTFF Removal

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	CFNT-WC-CLEANFILL	LAB BLANK	Units
Percent Solids	SM2540G	93	NA	%
Date Analyzed		12/06/00		

EPA METHOD FLPRO - PETROL. RESIDUAL ORG.	CFNT-WC-CLEANFILL	LAB BLANK	Units
Hydrocarbons (C8-C40)	7.1 U	6.6 U	mg/Kg
Surrogate:	% RECOV	% RECOV	LIMITS
o-Terphenyl	86	109	51-148
Date Prepared	12/05/00	12/05/00	
Date Analyzed	12/06/00	12/06/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JAX14577
DATE REPORTED: December 7, 2000
REFERENCE : 149152
PROJECT NAME : NTFF Removal

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 8270				
Phenol	45/ 44/ 42	30-135	2	38
2-Chlorophenol	56/ 56/ 50	46-133	<1	38
1,4-Dichlorobenzene	57/ 54/ 49	31-123	5	33
N-Nitrosodi-N-Propylamine	44/ 43/ 41	26-112	2	29
1,2,4-Trichlorobenzene	65/ 60/ 46	37-131	8	20
4-Chloro-3-methylphenol	64/ 58/ 45	46-133	10	38
Acenaphthene	68/ 63/ 53	39-135	8	29
4-Nitrophenol	67/ 65/ 57	10-97	3	68
2,4-Dinitrotoluene	75/ 74/ 57	39-137	1	32
Pentachlorophenol	60/ 60/ 39	10-133	<1	41
Pyrene	79/ 76/ 53	39-160	4	37
PETROL. RESIDUAL ORG.				
Hydrocarbons (C8-C40)	76/ 89/ 83	62-204	16	25

Environmental Conservation Laboratories Comprehensive QA Plan #910190

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

1 Perimeter Center Place, Suite 700
anta, GA 30346-1278
' No (770) 604-9182 ; F 70) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
149152 page 1 of 1

OJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORT/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No., and Fax No.):
A.S. Cecil Field TFF Removal	149152	ENCO Laboratories, Inc. Wendy Wolfe	Chris Chernlak, TASK Environmental	P.O. Box 150866, Jacksonville, FL 32215 Phone 777-5580 Local Fax # 777-8188
OJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORT/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No., and Fax No.):
ffalte Clean Fill	0002		Bill Canelos, CCI/JAJES	6219 Authority Road, Jacksonville, FL 32221 phone (904) 777-4812 fax 904-777-4262
OJECT CONTACT:	PROJECT TEL NO AND FAX NO:	PH (813) 247-2805 FAX (813)-248-1537	FAX AND MAIL REPORT/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No., and Fax No.):
hris Chernlak	phone (904) 777-5580	(904) 296-3007		

ANALYSES REQUIRED (Include Method Numbers)

EM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	TCL, 8270, Bioassay	TRPH by FL PRO								SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	CFNT-WC-Cleanfill	Tim Prep Source Pit	S	12/04/00	10:00	III/A	3 day	X	X								composite	OVA < 10 ppm	
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

MPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
hris Chernlak, TASK Environmental	Transported to ENCO Labs by TASK Environmental	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
nted Name and Signature: hris Chernlak, TASK Environmental	12/4/00	15:35	Printed Name and Signature:		
nted Name and Signature:	12/4/00	15:35	Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] C Project File; [ ] Copy 2 - PMO

Form C Rev 9/00

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

005-BF01-
S-0221-01

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2100508-001

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 0221-24

Level: (low/med) LOW Date Received: 02/21/01

% Moisture: 0 decanted: (Y/N) N Date Extracted: 02/21/00

Concentrated Extract Volume: 1(ml) Date Analyzed: 02/21/01

Injection Volume: _____(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	3.6	U
91-57-6	2-Methylnaphthalene	3.6	U
208-96-8	Acenaphthylene	3.6	U
83-32-9	Acenaphthene	3.6	U
86-73-7	Fluorene	3.6	U
85-01-8	Phenanthrene	3.6	U
120-12-7	Anthracene	3.6	U
206-44-0	Fluoranthene	3.6	U
129-00-0	Pyrene	3.6	U
56-55-3	Benz(a)anthracene	3.6	U
218-01-9	Chrysene	3.6	U
205-99-2	Benzo(b)fluoranthene	3.6	U
207-08-9	Benzo(k)fluoranthene	3.6	U
50-32-8	Benzo(a)pyrene	3.6	U
193-39-5	Indeno(1,2,3-cd)pyrene	3.6	U
53-70-3	Dibenz(a,h)anthracene	3.6	U
191-24-2	Benzo(g,h,i)perylene	3.6	U
90-12-0	1-Methylnaphthalene	3.6	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

005-DUP01
-S-0221-01

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2100508-002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 0221-25

Level: (low/med) LOW Date Received: 02/21/01

% Moisture: 0 decanted: (Y/N) N Date Extracted: 02/21/00

Concentrated Extract Volume: 1(ml) Date Analyzed: 02/22/01

Injection Volume: _____(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	3.6	U
91-57-6	2-Methylnaphthalene	3.6	U
208-96-8	Acenaphthylene	3.6	U
83-32-9	Acenaphthene	3.6	U
86-73-7	Fluorene	3.6	U
85-01-8	Phenanthrene	3.6	U
120-12-7	Anthracene	3.6	U
206-44-0	Fluoranthene	3.6	U
129-00-0	Pyrene	3.6	U
56-55-3	Benz(a)anthracene	3.6	U
218-01-9	Chrysene	3.6	U
205-99-2	Benzo(b)fluoranthene	3.6	U
207-08-9	Benzo(k)fluoranthene	3.6	U
50-32-8	Benzo(a)pyrene	3.6	U
193-39-5	Indeno(1,2,3-cd)pyrene	3.6	U
53-70-3	Dibenz(a,h)anthracene	3.6	U
191-24-2	Benzo(g,h,i)perylene	3.6	U
90-12-0	1-Methylnaphthalene	3.6	U

:112M Hill C ructors, Inc.
15 Perimeter Center ite 700
lanta, GA 30346-1278
el No (770) 604-9182 , Fax No (770) 604-9282

CHA..-OF-CUSTODY RECORD

NUMBER
148799-16

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
AS Cecil Field	148799	Columbia Analytical Labs, Inc. Tom Kissinger	Jennifer Zimmerman, CCI/J.A. Jones	6219 Authority Avenue, Jacksonville, FL 32215 PH: 904 777-4812 Fax: 904-777-4262
ROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.)
)Miste Backfill Analysis	CTO 005	2612	Jeff Wilmoth, CCI	15 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561 FAX:604-9282
ROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	PH (904) 739-2277 FAX (904)-739-2011	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
ill Canelos	PH (904) 777-4812 FAX (904) 777-4262			

ANALYSES REQUIRED (Include Method Numbers)

TEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	8270-SIM/8 SemiVola										SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	005-BF01-S-0221-01	Coxwell's Crystal Springs Pit	soil	02/21/01	11:00	III/C	3 Day	x										grab	DL spec provided by J Wilmoth	
2	005-DUP01-S-0221-01	Coxwell's Crystal Springs Pit	soil	02/21/01	11:00	III/C	3 Day	x										grab	DL spec provided by J Wilmoth	
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
ill Canelos, CCI/JAJES	sampler transport samples to Columbia Analytical Labs	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
nted Name and Signature: ill Canelos, CCI/JAJES W/ Canelos	2/21/01	12:10	Printed Name and Signature: M J Rosson	2/21/01	1210
nted Name and Signature:			Printed Name and Signature:		

Distribution [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC001, Rev 02/00

Appendix F

Analytical Laboratory Reports for Confirmatory Soil Samples

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9262

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 154282-19

PROJECT NAME	PROJECT NUMBER	LAB NAME AND CONTACT	FAX AND MAIL REPORT/BILL TO: RECIPIENT 1 (Phone and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field Bldg 190	154282	Kemron Environmental Svcs	Jennifer Zimmerman / I.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 777-4812 FAX: (904) 777-4262
PROJECT TRACKING/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORT/BILL TO: RECIPIENT 2 (Phone and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
Bldg 190 / VB 02	0029		Jeff Wilmoth / CH2M Hill Constructors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770) 604-9182 Ext 561 FAX: 604-9262
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORT/BILL TO: RECIPIENT 3 (Phone and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Paul Malewicki	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: 770-449-8800 Fax: 770-449-5477		

ANALYSIS REQUIRED (include Method Number)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (use codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (use codes on back)	TAT (calendar days)	Pesticides by 8081/8260	PAHs by 8310/8270C	TRPH by FL-PRO								SAMPLE TYPE (use codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	01-CTO-029-C002-0001	Confirmatory	S	08/01/01	11:20	III B	14	x	x	x										
2	01-CTO-029-VB02-C001-0001	Confirmatory	S	08/01/01	11:50	III B	14	x	x	x										
3	01-CTO-029-W-C001-0001	Confirmatory	W	08/01/01	2:45	III B	14	x	x	x										
4	01-CTO-029-Blank	Equip Blank	W	08/01/01	2:45	III B	14	x	x	x										
5	01-CTO-029-Trip Blank	Trip Blank	W	08/01/01	2:50	III B	14	x												
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				
16																				
17																				

SAMPLERS (SIGNATURE AND COMPANY): (please print)
Scott Sloan / Paul Malewicki
I.A. Jones Environmental Services

COURIER AND AIRBILL NUMBER:

SAMPLE TEMPERATURE AND CONDITION UPON RECEIPT:
Ice Sealed Sample intact Cooler Temp 2

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: P. Malewicki	8/1/01	17:30	Printed Name and Signature: Federal Express 9285 3216 4361	8/1/01	17:30
Printed Name and Signature: Brenda Gregory / Brenda Gregory	8/2/01	1211	Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Reports) [ ] Copy 1 - Project File [ ] Copy 2 - PMO

Form CC2M, Rev 08/99

Product: 827-PAHL - Polynuclear Aromatics - Low Level

Lab Sample ID: L0108067-02
Client Sample ID: 01-CT0-029-VB#2-CS01-0801
Site/Work ID: NAS CECIL FIELD
Matrix: Soil

Dil. Type: N/A
COC Info: 154282/
Date Collected: 08/01/01

Sample Weight: N/A
Extract Volume: N/A
% Solid: 85

TCLP Extract Date: N/A
Extract Date: 08/02/01
Analysis Date: 08/03/01 Time: 18:17

Instrument: HPMS7
Analyst: MDC
Lab File ID: 7M13594

Method: 8270C\3545
Run ID: R174087
Batch : WG102287

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
53-70-3	Dibenzo(a,h)anthracene	ug/kg		ND	5.9	1
191-24-2	Benzo(g,h,i)perylene	ug/kg		ND	5.9	1
90-12-0	1-Methylnaphthalene	ug/kg		ND	5.88	1
91-57-6	2-Methylnaphthalene	ug/kg		ND	5.88	1

SURROGATES- In Percent Recovery:

Nitrobenzene-d5	43.2	(23 - 120%)
2-Fluorobiphenyl	40.8	(30 - 115%)
p-Terphenyl-d14	46.8	(18 - 137%)

Product: 802-BTME1 - Volatile Organics (BETX)

Lab Sample ID: L0108067-02
Client Sample ID: 01-CT0-029-VB#2-CS01-0801
Site/Work ID: NAS CECIL FIELD
Matrix: Soil

Dil. Type: N/A
COC Info: 154282/
Date Collected: 08/01/01

Sample Weight: N/A
Extract Volume: N/A
% Solid: 85

TCLP Extract Date: N/A
Extract Date: N/A
Analysis Date: 08/03/01 Time: 03:24

Instrument: HP11
Analyst: CBN
Lab File ID: 11G10588

Method: 8021B
Run ID: R173029
Batch : WG102187

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
71-43-2	Benzene	ug/kg		ND	1.1	.95
100-41-4	Ethylbenzene	ug/kg		ND	1.1	.95
1634-04-4	Methyl tert-butyl ether	ug/kg		ND	1.1	.95
108-88-3	Toluene	ug/kg		ND	1.1	.95
1330-20-7	Xylenes, Total	ug/kg		ND		.95

SURROGATES- In Percent Recovery:

a,a,a-Trifluorotoluene	102	(34 - 175%)

RL = Reporting Limit

Login #L0108067
August 9, 2001 04:42 pm

KEMRON ENVIRONMENTAL SERVICES

Product: FLA-PRO - TRPH-Florida PRO

Lab Sample ID: L0108067-02
Client Sample ID: 01-CT0-029-VB#2-CS01-0801
Site/Work ID: NAS CECIL FIELD
Matrix: Soil

TCLP Extract Date: N/A
Extract Date: 08/02/01
Analysis Date: 08/06/01 Time: 11:18

Dil. Type: N/A
COC Info: 154282/

Date Collected: 08/01/01

Instrument: HP2
Analyst: HV
Lab File ID: 2G14186

Sample Weight: N/A
Extract Volume: N/A

% Solid: 85

Method: 8015 MOD\3550B
Run ID: R174072
Batch : WG102223

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
	TRPH-Florida PRO	ug/kg	13000		11000	.95
	SURROGATES- In Percent Recovery:					
	o-Terphenyl		93.8	(47 - 142%)		

Product: 827-PAHL - Polynuclear Aromatics - Low Level

Lab Sample ID: L0108067-02
Client Sample ID: 01-CT0-029-VB#2-CS01-0801
Site/Work ID: NAS CECIL FIELD
Matrix: Soil

TCLP Extract Date: N/A
Extract Date: 08/02/01
Analysis Date: 08/03/01 Time: 18:17

Dil. Type: N/A
COC Info: 154282/

Date Collected: 08/01/01

Instrument: HPMS7
Analyst: MDC
Lab File ID: 7M13594

Sample Weight: N/A
Extract Volume: N/A

% Solid: 85

Method: 8270C\3545
Run ID: R174087
Batch : WG102287

CAS #	Compound	Units	Result	Qualifiers	RL	Dilution
91-20-3	Naphthalene	ug/kg		ND	5.9	1
208-96-8	Acenaphthylene	ug/kg		ND	5.9	1
83-32-9	Acenaphthene	ug/kg		ND	5.9	1
86-73-7	Fluorene	ug/kg		ND	5.9	1
85-01-8	Phenanthrene	ug/kg	5.3	J	5.9	1
120-12-7	Anthracene	ug/kg		ND	5.9	1
206-44-0	Fluoranthene	ug/kg	3.6	J	5.9	1
129-00-0	Pyrene	ug/kg		ND	5.9	1
56-55-3	Benzo(a)anthracene	ug/kg		ND	5.9	1
218-01-9	Chrysene	ug/kg		ND	5.9	1
205-99-2	Benzo(b)fluoranthene	ug/kg		ND	5.9	1
207-08-9	Benzo(k)fluoranthene	ug/kg		ND	5.9	1
50-32-8	Benzo(a)pyrene	ug/kg		ND	5.9	1
193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg		ND	5.9	1

RL = Reporting Limit

Appendix G

Analytical Laboratory Reports for Confirmatory Groundwater Sample

GPL LABORATORIES, LLLP

Summary of Analytical Results

Client ID 029-VB2-W-0816
GPL ID: 108127-003-01-1/3
Matrix: Water
Date Collected: 08/16/01
Date Received: 08/17/01

Prep Method: SW5030B
Prep Date: 08/21/01
Prep Time: 06:58
Prep Batch 13582

Analytical Method: SW8260B_TCL
Date Analyzed: 08/21/01
Time Analyzed 12:41
Analysis Batch 11148

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1,1,1-Trichloroethane	BQL	5	ug/L	U	1
1,1,2,2-Tetrachloroethane	BQL	5	ug/L	U	1
1,1,2-Trichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethene	BQL	5	ug/L	U	1
1,2-Dichloroethane	BQL	5	ug/L	U	1
1,2-Dichloropropane	BQL	5	ug/L	U	1
2-Butanone	BQL	10	ug/L	U	1
2-Hexanone	BQL	10	ug/L	U	1
4-Methyl-2-Pentanone	BQL	10	ug/L	U	1
Acetone	BQL	10	ug/L	U	1
Benzene	BQL	5	ug/L	U	1
Bromodichloromethane	BQL	5	ug/L	U	1
Bromoform	BQL	5	ug/L	U	1
Bromomethane	BQL	10	ug/L	U	1
Carbon Disulfide	BQL	5	ug/L	U	1
Carbon Tetrachloride	BQL	5	ug/L	U	1
Chlorobenzene	BQL	5	ug/L	U	1
Chloroethane	BQL	10	ug/L	U	1
Chloroform	BQL	5	ug/L	U	1
Chloromethane	BQL	10	ug/L	U	1
Dibromochloromethane	BQL	5	ug/L	U	1
Ethylbenzene	BQL	5	ug/L	U	1
MTBE	BQL	5	ug/L	U	1
* Methylene Chloride	16.8	10	ug/L	B	1
Styrene	BQL	5	ug/L	U	1
Tetrachloroethene	2.27	5	ug/L	J	1
Toluene	BQL	5	ug/L	U	1
Trichloroethene	BQL	5	ug/L	U	1
Vinyl Chloride	BQL	10	ug/L	U	1
cis-1,2-Dichloroethene	BQL	5	ug/L	U	1
cis-1,3-Dichloropropene	BQL	5	ug/L	U	1
m,p-Xylenes	BQL	5	ug/L	U	1
o-Xylene	BQL	5	ug/L	U	1
trans-1,2-dichloroethene	BQL	5	ug/L	U	1
trans-1,3-dichloropropene	BQL	5	ug/L	U	1

GPL LABORATORIES, LLLP

Summary of Analytical Results

Client ID 029-VB2-W-0816
GPL ID: 108127-003-04-1/1
Matrix: Water
Date Collected: 08/16/01
Date Received: 08/17/01

Prep Method:
Prep Date:
Prep Time:
Prep Batch 13569

Analytical Method: SW8270CPAH
Date Analyzed: 08/29/01
Time Analyzed 17:04
Analysis Batch 11507

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1-Methylnaphthalene	8.01	11.1	ug/L	J	1
2-Methylnaphthalene	9.38	11.1	ug/L	J	1
Acenaphthene	BQL	11.1	ug/L	U	1
Acenaphthylene	BQL	11.1	ug/L	U	1
Anthracene	BQL	11.1	ug/L	U	1
Benzo(a)anthracene	BQL	11.1	ug/L	U	1
Benzo(a)pyrene	BQL	11.1	ug/L	U	1
Benzo(b)fluoranthene	BQL	11.1	ug/L	U	1
Benzo(g,h,i)perylene	BQL	11.1	ug/L	U	1
Benzo(k)fluoranthene	BQL	11.1	ug/L	U	1
Chrysene	BQL	11.1	ug/L	U	1
Dibenz(a,h)Anthracene	BQL	11.1	ug/L	U	1
Fluoranthene	BQL	11.1	ug/L	U	1
Fluorene	BQL	11.1	ug/L	U	1
Indeno(1,2,3-c,d)Pyrene	BQL	11.1	ug/L	U	1
Naphthalene	6.91	11.1	ug/L	J	1
Phenanthrene	BQL	11.1	ug/L	U	1
Pyrene	BQL	11.1	ug/L	U	1

Summary of Analytical Results

Client ID 029-TB1-0809
GPL ID: 108080-003-01-1/2
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method: SW5030B
Prep Date: 08/16/01
Prep Time: 09:52
Prep Batch 13439

Analytical Method: SW8260B_TCL
Date Analyzed: 08/16/01
Time Analyzed 13:55
Analysis Batch 11005

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1,1,1-Trichloroethane	BQL	5	ug/L	U	1
1,1,2,2-Tetrachloroethane	BQL	5	ug/L	U	1
1,1,2-Trichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethene	BQL	5	ug/L	U	1
1,2-Dichloroethane	BQL	5	ug/L	U	1
1,2-Dichloropropane	BQL	5	ug/L	U	1
2-Butanone	BQL	10	ug/L	U	1
2-Hexanone	BQL	10	ug/L	U	1
4-Methyl-2-Pentanone	BQL	10	ug/L	U	1
Acetone	BQL	10	ug/L	U	1
Benzene	BQL	5	ug/L	U	1
Bromodichloromethane	BQL	5	ug/L	U	1
Bromoform	BQL	5	ug/L	U	1
Bromomethane	BQL	10	ug/L	U	1
Carbon Disulfide	BQL	5	ug/L	U	1
Carbon Tetrachloride	BQL	5	ug/L	U	1
Chlorobenzene	BQL	5	ug/L	U	1
Chloroethane	BQL	10	ug/L	U	1
Chloroform	BQL	5	ug/L	U	1
Chloromethane	BQL	10	ug/L	U	1
Dibromochloromethane	BQL	5	ug/L	U	1
Ethylbenzene	BQL	5	ug/L	U	1
Methylene Chloride	4.72	10	ug/L	JB	1
Styrene	BQL	5	ug/L	U	1
Tetrachloroethene	1.17	5	ug/L	J	1
Toluene	BQL	5	ug/L	U	1
Trichloroethene	BQL	5	ug/L	U	1
Vinyl Chloride	BQL	10	ug/L	U	1
cis-1,2-Dichloroethene	BQL	5	ug/L	U	1
cis-1,3-Dichloropropene	BQL	5	ug/L	U	1
m,p-Xylenes	BQL	5	ug/L	U	1
o-Xylene	BQL	5	ug/L	U	1
trans-1,2-dichloroethene	BQL	5	ug/L	U	1
trans-1,3-dichloropropene	BQL	5	ug/L	U	1

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
154282-22

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	154282	GPL Laboratories, LLLP	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER: 3273	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
CTO 029 Confirmation Samples	0029		Jeff Wilmoth / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: 301-926-6802 Fax: 301-840-1209		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	VOL 8260B/5035	PAH 8270C/6010	TRPH FL-PRO									SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	029-VB2-W-0816	Water Sample	W	08/16/01	2:00	III C	14	X	X	X									Grab	Valve Box Well	
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Dave Keul / Paul Malewicki J.A. Jones Environmental Services		

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
P. Malewicki	8/9/01		Federal Express	8/9/01	
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
				8/21/01	13:25

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC-701, Rev 02/00

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108427

CH2M Hill Constructors, Inc.
115 Perimeter Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 154282-21

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	154282	GPL Laboratories, LLLP Laura Petrick	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER: 3273	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
CTO 029 Confirmation Samples	0029		Jeff Wilmoth / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: 301-926-6802 Fax: 301-840-1209		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	VOL 8260B/5035	PAH 8270C/8010	TRPH FL-PRO									SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	029-858-S-0816	Confirmation Sample	S	08/16/01	11:35	III C	14	X	X	X									Grab	Tank Closure	
2	Trip Blank	Trip Blank	W					X													
3	Temp Blank	Temp Blank	W																		
4																					
5																					
6																					
7																					
8																					
9																					
10																					

SAMPLER(S) AND COMPANY: (please print)
Dave Keul / Paul Malewicki
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: P. Malewicki	8/16/01		Printed Name and Signature: Federal Express 828532163321	8/16/01	
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:	8/16	13:25

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [✓] Copy 2 - PMO

Form CC1001, Rev 02/00

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108127

ADDENDUM 108127

TPH Florida PRO

GPL Laboratories, LLLP

SUBCONTRACT DATA

GPL Laboratories, LLLP

ACCURA ANALYTICAL LABORATORY
6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

Case Narrative

AAL Project #: 28658

Client Project: CH2MHILL – Cecil Field CTO-0029 / 108127

CTO Manager: Laura Petrik

The following items were noted concerning this project:

1. The following samples were received at Accura Analytical Laboratory on 8/21/01 at 1020:

Client Sample ID	Laboratory Sample ID
029-858-S-0816	AC18997
029-VB2-W-0816	AC18998

2. The sample cooler temperature was noted to be 2^{0}C upon receipt at the laboratory.

3. The soil sample results are reported on a wet weight basis.

4. The samples were preserved upon receipt for the FLA-PRO analysis.

5. The following surrogates were outside the method specified limits, as indicated by the "Z" qualifier:

FLA-PRO	
C(39) -	029-858-S-0816 029-VB2-W-0816 Method Blank (Soil) Method Blank (Water) Laboratory Control Sample (Water) Matrix Spike (Soil) Laboratory Control Sample (Soil) Matrix Spike Duplicate (Soil)
o-Terphenyl -	029-VB2-W-0816 Laboratory Control Sample (Water) Laboratory Control Sample Duplicate (Water)

The recoveries were within in-house limits established in the laboratory; therefore the data was accepted.

4. Batch QC for the Water FLA-PRO analysis consists of a laboratory control sample and a laboratory control sample duplicate due to limited sample volume. Note that the laboratory control sample and laboratory control sample duplicate recoveries are reported as matrix spike/matrix spike duplicate recoveries on the QC spreadsheet.

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ACCURA ANALYTICAL LABORATORY
6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800
Case Narrative

5. The laboratory control sample and laboratory control sample duplicate recoveries were outside the project specified limits for the following analysis:

   FLA-PRO

   The recoveries were within in-house limits established at the laboratory; therefore the data was accepted.

Approved for Quality Assurance Release By:

Camden Robinson
Quality Assurance Officer

9/12/01
Date

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A2LA Accredited-ID: 120261 •Certificate #-1365.1•Exp 7/31/02 Effective 8/14/00•Scope:
Testing Technologies
Potable & Non-potable Water-Solid/Hazardous Waste

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6017 Financial Drive, Norcross, Georgia 30071, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID #: AC18997

Client: GPL Laboratories, LLLP

Client Contact: LAURA PETRIK

Client Project Number: 108127

Client Project Name: CH2MHILL - CECIL FIELD CTO-0029

Client Sample ID: 029-858-S-0816

Accura Project #: 28658

Date Sampled: 8/16/01

Date Received: 8/21/01

Date Reported: 9/6/01

Sample Matrix: SOIL

ANALYSIS: Petroleum Range Organics (PRO)

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/29/01 Method Ref: FL-PRO Result Units: mg/Kg

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	16		30

ANALYSIS: X_PRO Sample Surrogates (Soil)

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/29/01 Method Ref: FL-PRO Result Units: %

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
C(39) (Range 60-118)	58	Z	
o-Terphenyl (Range 62-109)	79		

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LABORATORY REPORT

Accura Sample ID #: AC18998

Client: GPL Laboratories, LLLP

Client Contact: LAURA PETRIK

Client Project Number: 108127

Client Project Name: CH2MHILL - CECIL FIELD CTO-0029

Client Sample ID: 029-VB2-W-0816

Accura Project #: 28658

Date Sampled: 8/16/01

Date Received: 8/21/01

Date Reported: 9/6/01

Sample Matrix: WATER

ANALYSIS: Petroleum Range Organics (PRO)

Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/23/01 Date Analyzed: 8/28/01 Result Units: mg/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	1.3		1.0

ANALYSIS: X PRO Sample Surrogates (Water)

Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/23/01 Date Analyzed: 8/28/01 Result Units: %

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
C(39) (Range 42-193)	19	Z	
o-Terphenyl (Range 82-142)	68	Z	

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LABORATORY REPORT

Accura Sample ID #: AC18999

Client: GPL Laboratories, LLLP

Client Contact: LAURA PETRIK

Client Project Number: 108127

Client Project Name: CH2MHILL - CECIL FIELD CTO-0029

Client Sample ID: METHOD BLANK-1

Accura Project #: 28658

Date Sampled: 8/21/01

Date Received: 8/21/01

Date Reported: 9/6/01

Sample Matrix: SOIL

ANALYSIS: Petroleum Range Organics (PRO)

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/28/01 Method Ref: FL-PRO

Result Units: mg/Kg

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	<RL		30

ANALYSIS: X_PRO OC Surrogates (Soil)

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/28/01 Method Ref: FL-PRO

Result Units: %

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
C(39) (Range 60-118)	7	Z	
o-Terphenyl (Range 62-109)	72		

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6017 Financial Drive, Norcross, Georgia 30071, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID #: AC19000

Accura Project #: 28658

Client: GPL Laboratories, LLLP

Client Contact: LAURA PETRIK

Client Project Number: 108127

Client Project Name: CH2MHILL - CECIL FIELD CTO-0029

Client Sample ID: METHOD BLANK-2

Date Sampled: 8/21/01

Date Received: 8/21/01

Date Reported: 9/6/01

Sample Matrix: WATER

ANALYSIS: Petroleum Range Organics (PRO)

Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/23/01 Date Analyzed: 8/28/01 Result Units: mg/L

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

ANALYSIS: X PRO QC Surrogates (Water)

Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/23/01 Date Analyzed: 8/28/01 Result Units: %

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
C(39) (Range 42-193)	40	Z	
o-Terphenyl (Range 82-142)	86		

Chain of Custody Form for
Subcontracted Analyses

AAL # 28658
98 2nd

GPL Laboratories, LLLP
202 Perry Parkway
Gaithersburg, MD 20877
(301) 926-6802
(301) 840-1209 (Fax)

GP W.O. No. : 108127

GP P.O. No. : 108127

Samples Transferred To: ACCURA ADM.

Attn: MARTIN VAN LEER

Phone :

GP Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
108127-001-05-1/1	029-858-S-0816 AC1899	16-AUG-01	11:35	SOLID	tractable TPH Analysis by Florida PRO Meth	FL_PRO	8 OZ CL_GLASS	COOL
108127-003-05-1/1	029-VB2-W-0816 98	16-AUG-01	14:00	WATER	tractable TPH Analysis by Florida PRO Meth	FL_PRO	32 OZ G. A. N/M	COOL

Carrier : FEDEX

Airbill No.:

Report Due On : CONTACT L. PERK

Send Report Attn : LAURA PERK

Condition Upon Receipt :

Perform Q.C. on Sample : —

Comments : CONTACT L. PERK W/ QUESTIONS CHAM-HILL-CEDAR FIELD CD-3224

Samples Relinquished By : [signature] Date : 8/20/01 Time: 1630

Samples Received By : [signature] Date : 08 21 01 Time : ~~12:00~~ 10:20

RELINQUISHED BY FEDEX 08 21 01 / 10:20

QC PACKAGE

GPL Laboratories, LLLP

VOLATILE QC

GPL Laboratories, LLLP

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GPL LABORATORIES, LLLP Contract: CECIL_FIELD_CTO_

Lab Code: GPLL Case No.: N/A SAS No.: N/A SDG No.: N/A

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	SMC4 #	TOT OUT
01	BLK13582	97	94	90	88	0
02	BKS13582	101	96	96	96	0
03	TRIP BLANK	97	98	94	97	0
04	029-VB2-W-0816	96	111	102	113	0

			QC LIMITS
SMC1	=	1,2-Dichloroethane-d4	(77-133)
SMC2	=	Toluene-d8	(74-128)
SMC3	=	4-Bromofluorobenzene	(81-125)
SMC4	=	1,2-Dichlorobenzene-d4	(76-134)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GPL LABORATORIES, LLLP Contract: CECIL_FIELD_CTO_

Lab Code: GPLL Case No.: N/A SAS No.: N/A SDG No.: N/A

Level: (low/med) LOW

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	SMC4 #	TOT OUT
01	029-858-S-0816	99	100	93	100	0

			QC LIMITS
SMC1	=	1,2-Dichloroethane-d4	(72-129)
SMC2	=	Toluene-d8	(68-122)
SMC3	=	4-Bromofluorobenzene	(71-122)
SMC4	=	1,2-Dichlorobenzene-d4	(68-138)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: GPL LABORATORIES, LLLP Contract: DLZ

Lab Code: GPLL Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix Spike - EPA Sample No.: CBPSS-008-0002-S Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	30	0.0	52	173*	39 - 147
Benzene	30	0.0	37	123	36 - 150
Trichloroethene	30	0.0	39	130	33 - 150
Toluene	30	0.0	51	170*	34 - 151
Chlorobenzene	30	0.0	38	127	33 - 143

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	30	67	223*	25*	25	39 - 147
Benzene	30	47	157*	24	25	36 - 150
Trichloroethene	30	51	170*	27*	25	33 - 150
Toluene	30	68	227*	29*	25	34 - 151
Chlorobenzene	30	49	163*	25	25	33 - 143

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 3 out of 5 outside limits

Spike Recovery: 7 out of 10 outside limits

COMMENTS: Shared with 108099

LAB CONTROL STANDARD RECOVERY

Lab Name: GPL LABORATORIES, LLLP
Case No.: N/A
Lab Code: GPLL
Lab File ID: F28246.D Matrix: SOIL

Contract: CECIL_FIELD
Client ID No. : BKS13582
Lab Sample ID: BKS0821
Date Analyzed: 8/21/01

COMPOUND	LCS ADDED (ugKg)	CONCENTRATION FOUND (ug/Kg)	PERCENT RECOVERY #	INTERNAL LABORATORY LIMITS
Vinyl Chloride	50	44	88	29-148
1,1-Dichloroethene	50	53	106	40-150
Chloroform	50	54	108	61-146
1,1,1-Trichloroethane	50	60	120	59-155
Carbon Tetrachloride	50	61	122	61-152
Benzene	50	51	102	59-153
1,2-Dichloroethane	50	50	100	63-151
Trichloroethene	50	52	104	55-145
Bromodichloromethane	50	54	108	65-151
Dibromochloromethane	50	52	104	52-155
Bromoform	50	50	100	36-150

* Value outside internal laboratory limits

Comments: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BLK13582

Lab Name: GPL LABORATORIES, LLLP Contract: CECIL_FIE

Lab Code: GPLL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID: F28242.D Lab Sample ID: BLK0821

Date Analyzed: 08/21/01 Time Analyzed: 08:33

GC Column: RTX VO ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: HP#F

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	BKS13582	BKS0821	F28246.D	10:56
02	TRIP BLANK	108127-002-01-1/3	F28248.D	12:06
03	029-VB2-W-0816	108127-003-01-1/1	F28249.D	12:41
04	029-858-S-0816	108127-001-01-1/3	F28250.D	13:16

COMMENTS

5A-8260

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: GPL LABORATORIES, LLLP Contract: _____

Lab Code: GPLL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID: F28041.D BFB Injection Date: 07/31/01

Instrument ID: HP#F BFB Injection Time: 08:00

GC Column: RTX VOA ID: 0.53 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.8
75	30.0 - 60.0% of mass 95	48.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.5 (0.7)1
174	>50% of mass 95	81.1
175	5.0 - 9.0% of mass 174	5.9 (7.2)1
176	95.0 - 101.0% of mass 174	81.0 (99.9)1
177	5.0 - 9.0% of mass 176	5.6 (6.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005	ICV005	F28044.D	07/31/01	09:25
02	VSTD050	ICV050	F28045.D	07/31/01	09:59
03	VSTD100	ICV100	F28048.D	07/31/01	11:42
04	VSTD200	ICV200	F28049.D	07/31/01	12:17
05	VSTD020	ICV020	F28050.D	07/31/01	12:52

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: GPLL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#F Calibration Date(s): 07/31/01 07/31/01

Heated Purge (Y/N): Y Calibration Times: 09:25 12:52

GC Column: RTX VOA ID: 0.53 (mm)

LAB FILE ID: RRF5 = F28044.D RRF20 = F28050.D

RRF50 = F28045.D RRF100 = F28048.D RRF200 = F28049.D

COMPOUND		RRF5	RRF20	RRF50	RRF100	RRF200	$\overline{RRF}$	% RSD	
Chloromethane	*	0.185	0.174	0.173	0.207	0.164	0.180	9.1	*
Vinyl chloride	*	0.187	0.193	0.192	0.225	0.198	0.199	7.5	*
Bromomethane		0.275	0.273	0.279	0.292	0.244	0.273	6.4	
Chloroethane		0.165	0.155	0.157	0.163	0.142	0.157	5.7	
1,1-Dichloroethene		0.333	0.310	0.322	0.344	0.289	0.320	6.6	
Methylene chloride		0.473	0.333	0.304	0.318	0.272	0.340	22.9	
Trans-1,2-dichloroethene		0.329	0.318	0.332	0.364	0.318	0.332	5.7	
1,1-Dichloroethane	*	0.602	0.578	0.590	0.671	0.570	0.602	6.7	*
Acetone		0.084	0.086	0.076	0.090	0.076	0.083	7.7	
Carbon disulfide		0.708	0.723	0.748	0.815	0.721	0.743	5.8	
Cis-1,2-dichloroethene		0.276	0.273	0.278	0.314	0.269	0.282	6.4	
Chloroform	*	0.768	0.712	0.760	0.874	0.745	0.772	7.9	*
1,1,1-Trichloroethane		0.613	0.552	0.576	0.547	0.546	0.567	5.0	
Carbon tetrachloride		0.522	0.511	0.538	0.517	0.507	0.519	2.3	
2-Butanone		0.022	0.024	0.024	0.030	0.029	0.026	13.7	
Benzene		0.722	0.677	0.669	0.666	0.660	0.679	3.7	
1,2-Dichloroethane		0.417	0.364	0.378	0.420	0.398	0.395	6.1	
Trichloroethene		0.558	0.484	0.485	0.476	0.449	0.490	8.3	
1,2-Dichloropropane	*	0.286	0.272	0.272	0.276	0.289	0.279	2.8	*
Bromodichloromethane		0.592	0.571	0.594	0.624	0.648	0.606	5.0	
Cis-1,3-dichloropropene		0.414	0.431	0.446	0.485	0.505	0.456	8.3	
Toluene	*	0.592	0.568	0.556	0.622	0.554	0.578	4.9	*
Trans-1,3-dichloropropene		0.330	0.356	0.378	0.444	0.451	0.392	13.7	
1,1,2-Trichloroethane		0.271	0.254	0.262	0.308	0.294	0.278	8.2	
4-Methyl-2-pentanone		0.329	0.301	0.308	0.353	0.319	0.322	6.3	
2-Hexanone		0.244	0.245	0.233	0.261	0.230	0.243	5.1	
Tetrachloroethene		1.046	1.088	1.113	0.975	0.867	1.018	9.7	
MTBE		0.527	0.672	0.540	0.535	0.535	0.562	11.0	
Dibromochloromethane		0.706	0.777	0.833	0.873	0.895	0.817	9.3	
Chlorobenzene	*	1.038	1.074	1.036	1.052	0.986	1.037	3.1	*
Ethylbenzene	*	1.430	1.525	1.515	1.523	1.394	1.477	4.1	*
m,p-xylene		0.562	0.605	0.578	0.589	0.524	0.572	5.4	
O-xylene		0.551	0.593	0.561	0.574	0.513	0.558	5.4	
Styrene		0.951	1.012	0.980	1.016	0.920	0.976	4.2	
Bromoform	*	0.648	0.762	0.821	0.943	0.871	0.809	13.8	*
1,1,2,2-Tetrachloroethane	*	0.627	0.620	0.625	0.719	0.663	0.651	6.4	*
1,2-Dichloroethane-d4		0.396	0.310	0.337	0.386	0.346	0.355	10.0	
Toluene-d8		0.976	0.845	0.858	0.969	0.853	0.900	7.3	
4-Bromofluorobenzene		1.140	0.949	0.920	0.958	0.877	0.969	10.4	

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: GPLL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#F Calibration Date(s): 07/31/01 07/31/01

Heated Purge (Y/N): Y Calibration Times: 09:25 12:52

GC Column: RTX VOA ID: 0.53 (mm)

LAB FILE ID: RRF5 = F28044.D RRF20 = F28050.D

RRF50 = F28045.D RRF100 = F28048.D RRF200 = F28049.D

COMPOUND	RRF5	RRF20	RRF50	RRF100	RRF200	$\overline{RRF}$	% RSD
1,2-Dichlorobenzene-d4	0.861	0.686	0.649	0.682	0.578	0.691	15.1

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

FORM VI VOA

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: GPLL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#F Calibration Date: 08/21/01 Time: 07:58

Lab File ID: F28241.D Init. Calib. Date(s): 07/31/01 07/31/01

Heated Purge: (Y/N) Y Init. Calib. Times: 09:25 12:52

GC Column: RTX VOA ID: 0.53 (mm)

COMPOUND	RRF	RRF50	MIN RRF	% D	MAX % D
Chloromethane	0.180	0.146	0.100	19.0	
Vinyl chloride	0.199	0.170	0.100	14.5	20.0
Bromomethane	0.273	0.241		11.5	
Chloroethane	0.157	0.151		3.8	
1,1-Dichloroethene	0.320	0.313		2.2	
Methylene chloride	0.340	0.308		9.5	
Trans-1,2-dichloroethene	0.332	0.322		3.2	
1,1-Dichloroethane	0.602	0.595	0.100	1.1	
Acetone	0.083	0.100		-21.4	
Carbon disulfide	0.743	0.660		11.2	
Cis-1,2-dichloroethene	0.282	0.281		0.5	
Chloroform	0.772	0.753	0.100	2.4	20.0
1,1,1-Trichloroethane	0.567	0.611		-7.9	
Carbon tetrachloride	0.519	0.566		-9.0	
2-Butanone	0.026	0.023		10.7	
Benzene	0.679	0.664		2.2	
1,2-Dichloroethane	0.395	0.373		5.8	
Trichloroethene	0.490	0.491		-0.1	
1,2-Dichloropropane	0.279	0.280	0.100	-0.4	20.0
Bromodichloromethane	0.606	0.616		-1.7	
Cis-1,3-dichloropropene	0.456	0.444		2.6	
Toluene	0.578	0.530	0.100	8.3	20.0
Trans-1,3-dichloropropene	0.392	0.368		6.1	
1,1,2-Trichloroethane	0.278	0.265		4.5	
4-Methyl-2-pentanone	0.322	0.307		4.8	
2-Hexanone	0.243	0.209		14.0	
Tetrachloroethene	1.018	0.898		11.8	
MTBE	0.562	0.576		-2.6	
Dibromochloromethane	0.817	0.782		4.3	
Chlorobenzene	1.037	0.941	0.300	9.2	
Ethylbenzene	1.477	1.325	0.100	10.3	20.0
m,p-xylene	0.572	0.524		8.4	
O-xylene	0.558	0.509		8.9	
Styrene	0.976	0.868		11.1	
Bromoform	0.809	0.769	0.100	4.9	
1,1,2,2-Tetrachloroethane	0.651	0.597	0.300	8.2	
1,2-Dichloroethane-d4	0.355	0.354		0.4	
Toluene-d8	0.900	0.859		4.5	
4-Bromofluorobenzene	0.969	0.929		4.1	

All other compounds must meet a minimum RRF of 0.010.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: GPL LABORATORIES, LLLP Contract:

Lab Code: GPLL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#F Calibration Date: 08/21/01 Time: 07:58

Lab File ID: F28241.D Init. Calib. Date(s): 07/31/01 07/31/01

Heated Purge: (Y/N) Y Init. Calib. Times: 09:25 12:52

GC Column: RTX VOA ID: 0.53 (mm)

COMPOUND	RRF	RRF50	MIN RRF	% D	MAX % D
1,2-Dichlorobenzene-d4	0.691	0.655		5.3	

All other compounds must meet a minimum RRF of 0.010.

FORM VII VOA

Summary of Analytical Results

Client ID: BLK13582
GPL ID: BLK0821
Matrix: Water

Prep Method: SW5030B
Prep Date: 08/21/01
Prep Time: 06:58

Analytical Method: SW8260B_TCL
Date Analyzed: 08/21/01
Time Analyzed: 08:33

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1,1,1-Trichloroethane	BQL	5	ug/L	U	1
1,1,2,2-Tetrachloroethane	BQL	5	ug/L	U	1
1,1,2-Trichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethene	BQL	5	ug/L	U	1
1,2-Dichloroethane	BQL	5	ug/L	U	1
1,2-Dichloropropane	BQL	5	ug/L	U	1
2-Butanone	BQL	10	ug/L	U	1
2-Hexanone	BQL	10	ug/L	U	1
4-Methyl-2-Pentanone	BQL	10	ug/L	U	1
Acetone	BQL	10	ug/L	U	1
Benzene	BQL	5	ug/L	U	1
Bromodichloromethane	BQL	5	ug/L	U	1
Bromoform	BQL	5	ug/L	U	1
Bromomethane	BQL	10	ug/L	U	1
Carbon Disulfide	BQL	5	ug/L	U	1
Carbon Tetrachloride	BQL	5	ug/L	U	1
Chlorobenzene	BQL	5	ug/L	U	1
Chloroethane	BQL	10	ug/L	U	1
Chloroform	BQL	5	ug/L	U	1
Chloromethane	BQL	10	ug/L	U	1
Dibromochloromethane	BQL	5	ug/L	U	1
Ethylbenzene	BQL	5	ug/L	U	1
MTBE	BQL	5	ug/L	U	1
Methylene Chloride	4.3	10	ug/L	JB	1
Styrene	BQL	5	ug/L	U	1
Tetrachloroethene	BQL	5	ug/L	U	1
Toluene	BQL	5	ug/L	U	1
Trichloroethene	BQL	5	ug/L	U	1
Vinyl Chloride	BQL	10	ug/L	U	1
cis-1,2-Dichloroethene	BQL	5	ug/L	U	1
cis-1,3-Dichloropropene	BQL	5	ug/L	U	1
m,p-Xylenes	BQL	5	ug/L	U	1
o-Xylene	BQL	5	ug/L	U	1
trans-1,2-dichloroethene	BQL	5	ug/L	U	1
trans-1,3-dichloropropene	BQL	5	ug/L	U	1

SEMIVOLATILE QC

GPL Laboratories, LLLP

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIELD

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	TOT OUT
01	BLK13569	74	62	86	0
02	BKS13569	76	69	86	0
03	BSD13569	75	68	85	0
04	029VB2W0816	63	61	69	0

				QC LIMITS
S1	(NBZ)	=	Nitrobenzene-d5	(20-137)
S2	(FBP)	=	2-Fluorobiphenyl	(23-110)
S3	(TPH)	=	Terphenyl-d14	(20-138)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIELD

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Level: (low/med) LOW

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	TOT OUT
01	BLK13604	80	65	84	0
02	BKS13604	84	77	86	0
03	029190CS03S081	65	53	71	0
04	029190CS05S081	67	56	74	0
05	029858S0816	62	55	78	0
06	029858S0816MS	71	67	86	0
07	029858S0816MS	71	65	83	0
08	029190CS04S081	66	54	77	0

				QC LIMITS
S1	(NBZ)	=	Nitrobenzene-d5	(26-150)
S2	(FBP)	=	2-Fluorobiphenyl	(41-128)
S3	(TPH)	=	Terphenyl-d14	(52-110)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix Spike - EPA Sample No.: BLK13569

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Naphthalene	100	0.0	82	82	20- 116
2-Methylnaphthalene	100	0.0	83	83	25- 118
Acenaphthylene	100	0.0	92	92	22- 113
Acenaphthene	100	0.0	88	88	20- 116
Fluorene	100	0.0	84	84	20- 111
Phenanthrene	100	0.0	91	91	22- 119
Anthracene	100	0.0	88	88	23- 116
Fluoranthene	100	0.0	91	91	23- 115
Pyrene	100	0.0	98	98	20- 135
Benzo[a]anthracene	100	0.0	99	99	24- 119
Chrysene	100	0.0	95	95	24- 118
Benzo[b]fluoranthene	100	0.0	94	94	20- 150
Benzo[k]fluoranthene	100	0.0	97	97	20- 121
Benzo[a]pyrene	100	0.0	94	94	22- 117
Indeno[1,2,3-cd]pyrene	100	0.0	97	97	20- 112
Dibenz[a,h]anthracene	100	0.0	95	95	20- 113
Benzo[g,h,i]perylene	100	0.0	96	96	20- 130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	100	83	83	1	40	20- 116
2-Methylnaphthalene	100	83	83	0	40	25- 118
Acenaphthylene	100	93	93	1	40	22- 113
Acenaphthene	100	90	90	2	40	20- 116
Fluorene	100	85	85	1	40	20- 111
Phenanthrene	100	94	94	3	40	22- 119
Anthracene	100	90	90	2	40	23- 116
Fluoranthene	100	93	93	2	40	23- 115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 17 outside limits

Spike Recovery: 0 out of 34 outside limits

COMMENTS:

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix Spike - EPA Sample No.: BLK13569

Pyrene	100	93	93	5	40	20- 135
Benzo[a]anthracene	100	99	99	0	40	24- 119
Chrysene	100	95	95	0	40	24- 118
Benzo[b]fluoranthene	100	92	92	2	40	20- 150
Benzo[k]fluoranthene	100	99	99	2	40	20- 121
Benzo[a]pyrene	100	93	93	1	40	22- 117
Indeno[1,2,3-cd]pyrene	100	93	93	4	40	20- 112
Dibenz[a,h]anthracene	100	92	92	3	40	20- 113
Benzo[g,h,i]perylene	100	93	93	3	40	20- 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 0 outside limits

COMMENTS:

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix Spike - EPA Sample No.: 029858S0816 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Naphthalene	3700	0.0	2700	73	48 - 116
2-Methylnaphthalene	3700	0.0	2500	68	51 - 131
Acenaphthylene	3700	0.0	3300	89	35 - 143
Acenaphthene	3700	0.0	3100	84	46 - 135
Fluorene	3700	0.0	2900	78	27 - 150
Phenanthrene	3700	0.0	3000	81	20 - 150
Anthracene	3700	0.0	2800	76	41 - 124
Fluoranthene	3700	0.0	2800	76	73 - 152
Pyrene	3700	0.0	3400	92	24 - 144
Benzo[a]anthracene	3700	0.0	3300	89	20 - 150
Chrysene	3700	0.0	3100	84	40 - 123
Benzo[b]fluoranthene	3700	0.0	3300	89	40 - 150
Benzo[k]fluoranthene	3700	0.0	3500	95	41 - 124
Benzo[a]pyrene	3700	0.0	3200	86	34 - 123
Indeno[1,2,3-cd]pyrene	3700	0.0	2600	70	32 - 124
Dibenz[a,h]anthracene	3700	0.0	2600	70	21 - 121
Benzo[g,h,i]perylene	3700	0.0	2300	62	18 - 123

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	3700	2600	70	4	40	48 - 116
2-Methylnaphthalene	3700	2400	65	5	40	51 - 131
Acenaphthylene	3700	3200	86	3	40	35 - 143
Acenaphthene	3700	3000	81	4	40	46 - 135
Fluorene	3700	2700	73	7	40	27 - 150
Phenanthrene	3700	2900	78	4	40	20 - 150
Anthracene	3700	2700	73	4	40	41 - 124
Fluoranthene	3700	2700	73	4	40	73 - 152

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 17 outside limits

Spike Recovery: 0 out of 34 outside limits

COMMENTS:

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix Spike - EPA Sample No.: 029858S0816 Level: (low/med) LOW

Pyrene	3700	3300	89	3	40	24 - 144
Benzo[a]anthracene	3700	3200	86	3	40	20 - 150
Chrysene	3700	3100	84	0	40	40 - 123
Benzo[b]fluoranthene	3700	3200	86	3	40	40 - 150
Benzo[k]fluoranthene	3700	3300	89	7	40	41 - 124
Benzo[a]pyrene	3700	3200	86	0	40	34 - 123
Indeno[1,2,3-cd]pyrene	3700	2500	68	3	40	32 - 124
Dibenz[a,h]anthracene	3700	2600	70	0	40	21 - 121
Benzo[g,h,i]perylene	3700	2200	59	5	40	18 - 123

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 0 outside limits

COMMENTS:

3F
SOIL LABORATORY CONTROL SPIKE RECOVERY

Lab Name: GPL LABORATORIES

Contract: CH2M_CECILFIELD

Lab Code: GPLL

SDG#: N/A

EPA Sample No.: BKS13604

GPL ID: BKS13604

Date Extracted: 8/21/2001

Work Order#: 108127

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONC. (ug/Kg)	LCS % REC	QC LIMITS LOWER	UPPER
Naphthalene	3300	2800	85	51	103
2-Methylnaphthalene	3300	2700	82	56	110
Acenaphthylene	3300	3600	109 *	45	108
Acenaphthene	3300	3200	97	45	104
Fluorene	3300	2800	85	46	107
Pentachlorophenol	3300	3300	100	27	142
Phenanthrene	3300	2900	88	53	103
Anthracene	3300	2800	85	55	103
Fluoranthene	3300	2900	88	49	109
Pyrene	3300	3300	100	56	106
Benzo[a]anthracene	3300	3400	103	53	108
Chrysene	3300	3300	100	50	106
Benzo[b]fluoranthene	3300	3400	103	46	112
Benzo[k]fluoranthene	3300	3500	106 *	49	104
Benzo[a]pyrene	3300	3400	103	48	113
Indeno[1,2,3-cd]pyrene	3300	3000	91	42	111
Dibenz[a,h]anthracene	3300	3100	94	21	134
Benzo[g,h,i]perylene	3300	2800	85	46	109

Spike Recovery: 2 out of 17 outside limits

COMMENTS:

8270PAH

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BLK13569

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILF

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID: C30673.D Lab Sample ID: BLK13569

Instrument ID: HP#C Date Extracted: 08/21/01

Matrix: (soil/water) WATER Date Analyzed: 08/29/01

Level: (low/med) LOW Time Analyzed: 14:09

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	Client Sample NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	BKS13569	BKS13569	C30674.D	08/29/01
02	BSD13569	BSD13569	C30675.D	08/29/01
03	029VB2W0816	108127-003-04-1/2	C30676.D	08/29/01

COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BLK13604

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILF

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID: C30774.D Lab Sample ID: BLK13604

Instrument ID: HP#C Date Extracted: 08/21/01

Matrix: (soil/water) SOIL Date Analyzed: 09/07/01

Level: (low/med) LOW Time Analyzed: 19:41

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	Client Sample NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	BKS13604	BKS13604	C30775.D	09/07/01
02	029190CS03S0816	108127-004-01-1/1	C30776.D	09/07/01
03	029190CS05S0816	108127-006-01-1/1	C30777.D	09/07/01
04	029858S0816	108127-001-04-1/1	C30778.D	09/07/01
05	029858S0816MS	108127-001-04-1/1MS	C30779.D	09/08/01
06	029858S0816MSD	108127-001-04-1/1MSD	C30780.D	09/08/01
07	029190CS04S0816	108127-005-01-1/1	C30781.D	09/08/01

COMMENTS:

5B-8270

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GPL_LABORATORIES Contract: CH2M_CEC

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID: C30640.D DFTPP Injection Date: 08/28/01

Instrument ID: HP#C DFTPP Injection Time: 12:10

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	48.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	54.0
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	40.0 - 60.0% of mass 198	42.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.8
275	10.0 - 30.0% of mass 198	21.9
365	Greater than 1.0% of mass 198	1.9
441	Present, but less than mass 443	8.8
442	40.0 - 110.0% of mass 198	59.1
443	17.0 - 23.0% of mass 442	12.5 (21.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	SSTD050	C30643.D	08/28/01	13:39
02	SSTD160	SSTD160	C30644.D	08/28/01	14:38
03	SSTD010	SSTD010	C30645.D	08/28/01	15:37
04	SSTD020	SSTD020	C30646.D	08/28/01	16:36
05	SSTD080	SSTD080	C30647.D	08/28/01	17:36
06	SSTD120	SSTD120	C30648.D	08/28/01	18:35

5B-8270

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GPL_LABORATORIES Contract: CH2M_CEC

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID: C30650.D DFTPP Injection Date: 08/28/01

Instrument ID: HP#C DFTPP Injection Time: 20:31

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	48.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	54.4
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	41.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	21.9
365	Greater than 1.0% of mass 198	2.0
441	Present, but less than mass 443	9.2
442	40.0 - 110.0% of mass 198	61.8
443	17.0 - 23.0% of mass 442	12.4 (20.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050 ADD	SSTD050 ADD	C30651.D	08/28/01	20:49
02	SSTD160 ADD	SSTD160 ADD	C30652.D	08/28/01	21:36
03	SSTD010 ADD	SSTD010 ADD	C30653.D	08/28/01	22:23
04	SSTD020 ADD	SSTD020 ADD	C30654.D	08/28/01	23:10
05	SSTD080 ADD	SSTD080 ADD	C30655.D	08/28/01	23:57
06	SSTD120 ADD	SSTD120 ADD	C30656.D	08/29/01	00:43

5B-8270

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GPL_LABORATORIES Contract: CH2M_CEC

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID: C30664.D DFTPP Injection Date: 08/29/01

Instrument ID: HP#C DFTPP Injection Time: 06:22

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	43.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	50.0
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	40.0 - 60.0% of mass 198	42.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.4
275	10.0 - 30.0% of mass 198	23.2
365	Greater than 1.0% of mass 198	2.2
441	Present, but less than mass 443	9.6
442	40.0 - 110.0% of mass 198	64.2
443	17.0 - 23.0% of mass 442	12.5 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	SSTD050	C30665.D	08/29/01	06:44
02	SSTD050 ADD	SSTD050 ADD	C30672.D	08/29/01	13:22
03	BLK13569	BLK13569	C30673.D	08/29/01	14:09
04	BKS13569	BKS13569	C30674.D	08/29/01	15:08
05	BSD13569	BSD13569	C30675.D	08/29/01	16:04
06	029VB2W0816	108127-003-04-1/2	C30676.D	08/29/01	17:04

5B-8270

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GPL_LABORATORIES Contract: CH2M_CEC

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID: C30771.D DFTPP Injection Date: 09/07/01

Instrument ID: HP#C DFTPP Injection Time: 17:39

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	56.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	58.4
70	Less than 2.0% of mass 69	0.9 (1.6)1
127	40.0 - 60.0% of mass 198	40.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	22.0
365	Greater than 1.0% of mass 198	1.9
441	Present, but less than mass 443	8.4
442	40.0 - 110.0% of mass 198	57.6
443	17.0 - 23.0% of mass 442	11.4 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	SSTD050	C30772.D	09/07/01	18:01
02	SSTD050 ADD	SSTD050 ADD	C30773.D	09/07/01	18:55
03	BLK13604	BLK13604	C30774.D	09/07/01	19:41
04	BKS13604	BKS13604	C30775.D	09/07/01	20:37
05	029190CS03S0816	108127-004-01-1/1	C30776.D	09/07/01	21:34
06	029190CS05S0816	108127-006-01-1/1	C30777.D	09/07/01	22:30
07	029858S0816	108127-001-04-1/1	C30778.D	09/07/01	23:26
08	029858S0816MS	108127-001-04-1/1MS	C30779.D	09/08/01	00:22
09	029858S0816MSD	108127-001-04-1/1MSD	C30780.D	09/08/01	01:18
10	029190CS04S0816	108127-005-01-1/1	C30781.D	09/08/01	02:14

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIELD

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID (Standard): C30665.D Date Analyzed: 08/29/01

Instrument ID: HP#C Time Analyzed: 06:44

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	1088713	12.41	3806054	14.78	2075221	18.07
UPPER LIMIT	2177426	12.91	7612108	15.28	4150442	18.57
LOWER LIMIT	544357	11.91	1903027	14.28	1037611	17.57
CLIENT SAMPLE ID						
01 BLK13569	1273547	12.40	4855000	14.77	2681692	18.06
02 BKS13569	1195139	12.41	4540754	14.77	2553664	18.07
03 BSD13569	1043168	12.41	3905803	14.77	2218671	18.06
04 029VB2W0816	1111582	12.40	4285837	14.76	2333266	18.05

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIELD

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID (Standard): C30665.D Date Analyzed: 08/29/01

Instrument ID: HP#C Time Analyzed: 06:44

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	3552868	20.88	3461716	27.47	2743682	35.71
	UPPER LIMIT	7105736	21.38	6923432	27.97	5487364	36.21
	LOWER LIMIT	1776434	20.38	1730858	26.97	1371841	35.21
	CLIENT SAMPLE ID						
01	BLK13569	4519233	20.87	4064821	27.43	3341598	35.68
02	BKS13569	4383952	20.87	3856074	27.47	3382886	35.69
03	BSD13569	3745313	20.87	3496314	27.46	3047368	35.69
04	029VB2W0816	3911487	20.86	3118556	27.42	2164466	35.66

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIELD

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID (Standard): C30772.D Date Analyzed: 09/07/01

Instrument ID: HP#C Time Analyzed: 18:01

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	1211149	12.05	5031338	14.40	2747823	17.67
UPPER LIMIT	2422298	12.55	10062676	14.90	5495646	18.17
LOWER LIMIT	605575	11.55	2515669	13.90	1373912	17.17
CLIENT SAMPLE ID						
01 BLK13604	1295712	12.05	5294400	14.39	2886813	17.66
02 BKS13604	1381238	12.05	5879614	14.40	2810164	17.67
03 029190CS03S0816	1341676	12.04	5331808	14.39	2965470	17.66
04 029190CS05S0816	1237324	12.04	5250061	14.39	2837526	17.66
05 029858S0816	1211047	12.05	5191223	14.39	2807749	17.66
06 029858S0816MS	1231357	12.05	5440176	14.40	2622561	17.67
07 029858S0816MSD	1269685	12.05	5494538	14.40	2724265	17.67
08 029190CS04S0816	1321463	12.05	5462517	14.40	3043748	17.67

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIELD

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Lab File ID (Standard): C30772.D Date Analyzed: 09/07/01

Instrument ID: HP#C Time Analyzed: 18:01

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	4836123	20.46	4531318	26.68	3488842	34.21
	UPPER LIMIT	9672246	20.96	9062636	27.18	6977684	34.71
	LOWER LIMIT	2418062	19.96	2265659	26.18	1744421	33.71
	CLIENT SAMPLE ID						
01	BLK13604	4876193	20.46	4116839	26.66	3081767	34.19
02	BKS13604	5620488	20.47	4676487	26.70	3922327	34.22
03	029190CS03S0816	4801275	20.46	4174143	26.65	3044225	34.19
04	029190CS05S0816	4544814	20.46	4132082	26.65	3112239	34.18
05	029858S0816	4571785	20.46	3850894	26.65	2817720	34.17
06	029858S0816MS	5061469	20.46	3935835	26.69	3175464	34.21
07	029858S0816MSD	5408367	20.47	4297637	26.69	3680620	34.22
08	029190CS04S0816	5183924	20.45	4310350	26.68	3218236	34.20

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#C Calibration Date(s): 08/28/01 08/28/01

Calibration Times: 13:39 18:35

LAB FILE ID: RRF10 = C30645.D RRF20 = C30646.D RRF160 = C30644.D

RRF50 = C30643.D RRF80 = C30647.D RRF120 = C30648.D

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
Naphthalene	1.166	1.112	0.947	0.948	0.864	0.775	0.969	15.2
2-Methylnaphthalene	0.773	0.744	0.657	0.641	0.612	0.568	0.666	11.8
Acenaphthylene	2.127	2.017	1.699	1.795	1.708	1.767	1.852	9.6
Acenaphthene *	1.405	1.309	1.204	1.200	1.169	1.153	1.240	7.9
Fluorene	1.515	1.407	1.293	1.293	1.220	1.177	1.317	9.4
Phenanthrene	1.193	1.149	1.014	0.986	0.947	0.877	1.028	11.8
Anthracene	1.188	1.143	1.004	1.001	0.958	0.882	1.029	11.2
Fluoranthene *	1.379	1.276	1.207	1.172	1.140	1.053	1.204	9.4
Pyrene	1.498	1.442	1.204	1.318	1.221	1.176	1.310	10.2
Benzo[a]anthracene	1.249	1.196	1.116	1.142	1.119	1.108	1.155	4.9
Chrysene	1.244	1.154	1.104	1.094	1.077	1.046	1.120	6.3
Benzo[b]fluoranthene	1.374	1.270	1.212	1.284	1.257	1.205	1.267	4.8
Benzo[k]fluoranthene	1.260	1.225	1.159	1.200	1.121	1.064	1.172	6.1
Benzo[a]pyrene *	1.146	1.098	1.049	1.069	1.047	1.029	1.073	4.0
Indeno[1,2,3-cd]pyrene	1.249	1.080	1.163	1.074	1.076	1.092	1.122	6.3
Dibenz[a,h]anthracene	1.023	0.889	0.969	0.886	0.889	0.903	0.926	6.1
Benzo[g,h,i]perylene	1.009	0.857	0.903	0.857	0.844	0.882	0.892	6.8
Nitrobenzene-d5	0.520	0.489	0.480	0.441	0.441	0.424	0.466	7.8
2-Fluorobiphenyl	1.561	1.496	1.359	1.336	1.299	1.289	1.390	8.1
Terphenyl-d14	1.128	1.084	0.908	0.983	0.907	0.852	0.977	11.2

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

FORM VI SV-1

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#C Calibration Date: 08/29/01 Time: 06:14

Lab File ID: C30665.D Init. Calib. Date(s): 08/28/01 08/28/01

Init. Calib. Times: 13:39 18:35

COMPOUND	RRF	RRF50	MIN RRF	% D	MAX % D
Naphthalene	0.969	0.977		-0.8	
2-Methylnaphthalene	0.666	0.649		2.5	
Acenaphthylene	1.852	1.656		10.6	
Acenaphthene	1.240	1.177	0.050	5.1	20.0
Fluorene	1.317	1.255		4.8	
Phenanthrene	1.028	1.028		-0.1	
Anthracene	1.029	1.033		-0.4	
Fluoranthene	1.204	1.243	0.050	-3.2	20.0
Pyrene	1.310	1.285		1.9	
Benzo[a]anthracene	1.155	1.109		4.0	
Chrysene	1.120	1.079		3.7	
Benzo[b]fluoranthene	1.267	1.292		-1.9	
Benzo[k]fluoranthene	1.172	1.217		-3.9	
Benzo[a]pyrene	1.073	1.064	0.050	0.8	20.0
Indeno[1,2,3-cd]pyrene	1.122	1.166		-3.9	
Dibenz[a,h]anthracene	0.926	0.968		-4.5	
Benzo[g,h,i]perylene	0.892	0.921		-3.2	
Nitrobenzene-d5	0.466	0.458		1.6	
2-Fluorobiphenyl	1.390	1.320		5.1	
Terphenyl-d14	0.977	0.973		0.4	

All other compounds must meet a minimum RRF of 0.010.

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#C Calibration Date: 09/07/01 Time: 18:01

Lab File ID: C30772.D Init. Calib. Date(s): 08/28/01 08/28/01

Init. Calib. Times: 13:39 18:35

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	% D	MAX % D
Naphthalene	0.969	0.928		4.2	
2-Methylnaphthalene	0.666	0.626		6.0	
Acenaphthylene	1.852	1.713		7.5	
Acenaphthene	1.240	1.192	0.050	3.9	20.0
Fluorene	1.317	1.285		2.5	
Phenanthrene	1.028	0.996		3.1	
Anthracene	1.029	0.986		4.3	
Fluoranthene	1.204	1.129	0.050	6.3	20.0
Pyrene	1.310	1.237		5.5	
Benzo[a]anthracene	1.155	1.085		6.1	
Chrysene	1.120	1.076		3.9	
Benzo[b]fluoranthene	1.267	1.271		-0.3	
Benzo[k]fluoranthene	1.172	1.248		-6.5	
Benzo[a]pyrene	1.073	1.039	0.050	3.2	20.0
Indeno[1,2,3-cd]pyrene	1.122	1.034		7.9	
Dibenz[a,h]anthracene	0.926	0.888		4.1	
Benzo[g,h,i]perylene	0.892	0.793		11.1	
Nitrobenzene-d5	0.466	0.446		4.2	
2-Fluorobiphenyl	1.390	1.249		10.1	
Terphenyl-d14	0.977	0.887		9.2	

All other compounds must meet a minimum RRF of 0.010.

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#C Calibration Date(s): 08/28/01 08/29/01

Calibration Times: 20:49 00:13

LAB FILE ID: RRF10 = C30653.D RRF20 = C30654.D RRF160 = C30652.D

RRF50 = C30651.D RRF80 = C30655.D RRF120 = C30656.D

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
1-Methylnaphthalene	0.767	0.654	0.647	0.554	0.494	0.486	0.600	18.2

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

FORM VI SV-1

8270PAH

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#C Calibration Date: 08/29/01 Time: 13:22

Lab File ID: C30672.D Init. Calib. Date(s): 08/28/01 08/29/01

Init. Calib. Times: 20:49 00:43

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	% D	MAX % D
1-Methylnaphthalene	0.600	0.659		-9.8	

All other compounds must meet a minimum RRF of 0.010.

FORM VII SV-1

8270PAH

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILFIE

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Instrument ID: HP#C Calibration Date: 09/07/01 Time: 18:55

Lab File ID: C30773.D Init. Calib. Date(s): 08/28/01 08/29/01

Init. Calib. Times: 20:49 00:43

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	% D	MAX % D
1-Methylnaphthalene	0.600	0.651		-8.5	

All other compounds must meet a minimum RRF of 0.010.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK13569

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILF

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix: (soil/water) WATER Lab Sample ID: BLK13569

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C30673.D

Level: (low/med) LOW Date Received:

% Moisture: decanted:(Y/N) N Date Extracted: 08/21/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 08/29/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
90-12-0	1-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo[a]anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLK13604

Lab Name: GPL_LABORATORIES Contract: CH2M_CECILF

Lab Code: GPL Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix: (soil/water) SOIL Lab Sample ID: BLK13604

Sample wt/vol: 30 (g/ml) G Lab File ID: C30774.D

Level: (low/med) LOW Date Received:

% Moisture: 0 decanted:(Y/N) N Date Extracted: 08/21/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/07/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	330	U
91-57-6	2-Methylnaphthalene	330	U
90-12-0	1-Methylnaphthalene	330	U
208-96-8	Acenaphthylene	330	U
83-32-9	Acenaphthene	330	U
86-73-7	Fluorene	330	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
56-55-3	Benzo[a]anthracene	330	U
218-01-9	Chrysene	330	U
205-99-2	Benzo[b]fluoranthene	330	U
207-08-9	Benzo[k]fluoranthene	330	U
50-32-8	Benzo[a]pyrene	330	U
193-39-5	Indeno[1,2,3-cd]pyrene	330	U
53-70-3	Dibenz[a,h]anthracene	330	U
191-24-2	Benzo[g,h,i]perylene	330	U

WET CHEMISTRY:
% SOLIDS SUMMARY

GPL Laboratories, LLLP

	Sample Id	Class	Method	S	Anal. Date	Tech	SEQ No.	Multipl	In	Prep	R	Chem	A	B	C	Calculate	Meth	C	Percen	Last QC Sample
1																				
2																				
3																				
4	108121-001-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CDC-T	0.98300	10.45170	9.46510	89.5804	1.0000	1		
5	108121-002-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CDC-T	0.97780	10.75530	9.51190	87.2830	1.0000	1		
6	108121-003-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CDC-T	0.97830	10.89460	9.45270	85.4593	1.0000	1		
7	108121-004-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CDC-T	0.97430	10.27960	8.88270	84.9881	1.0000	1		
8	108119-001-02-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	1G-W-R	0.99250	10.63750	9.41840	87.3603	1.0000	1		
9	108119-002-02-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	1F-W-R	0.98370	10.11160	8.81850	85.8335	1.0000	1		
10	108119-003-02-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	1E-W-R	0.98120	10.53980	8.54850	79.1675	1.0000	1		
11	108119-004-02-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	HG-W-	0.98540	10.04930	8.66530	84.7306	1.0000	1		
12	108119-005-02-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	79H-W-	0.98370	10.24750	8.41170	80.1831	1.0000	1		
13	108127-001-04-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	029-858	0.99370	10.52420	9.68270	91.1705	1.0000	1		
14	108127-004-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	029-190	0.98150	10.02150	8.17980	79.6272	1.0000	1		
15	108127-005-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	029-190	0.97940	10.63780	9.27710	85.9117	1.0000	1		
16	108127-005-01-	MD	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	029-190	0.98040	10.65840	9.22870	85.2273	1.0000	1		
17	108127-006-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	029-190	0.98550	10.83000	8.76340	79.0076	1.0000	1		
18	108115-001-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-13	0.99130	10.29530	9.20870	88.3212	1.0000	1		
19	108115-002-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-5-	0.98490	10.01520	9.03470	89.1421	1.0000	1		
20	108115-003-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.98010	10.66750	9.15490	84.3859	1.0000	1		
21	108115-004-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.97730	10.09170	9.02660	88.3141	1.0000	1		
22	108115-005-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.99070	10.70970	9.95990	92.2852	1.0000	1		
23	108115-006-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.99230	10.23770	9.29460	89.7993	1.0000	1		
24	108115-008-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.98750	10.57650	8.89370	82.4507	1.0000	1		
25	108115-009-01-	MD	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.97500	10.38270	9.04980	85.8318	1.0000	1		
26	108115-010-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.97200	10.46680	8.86160	83.0939	1.0000	1		
27	108115-011-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.98610	10.44710	9.12860	86.0638	1.0000	1		
28	108115-012-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.98830	10.44610	9.28350	87.7075	1.0000	1		
29	108115-013-01-	SMP	CLP_SOLIDS		08-21-01 15:40	1300-06	11144	000000	S	0	Y	CSA-9-	0.96610	10.65410	9.57920	88.9048	1.0000	1		
30	108118-001-03-	SMP	027		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4729	0.98940	10.16980	7.52950	71.2398	1.0000			
31	108118-002-03-	SMP	028		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4730	0.97530	10.35050	7.08710	65.1911	1.0000			
32	108118-003-03-	SMP	029		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4731	0.97850	10.24380	6.53040	59.9214	1.0000			
33	108118-004-03-	SMP	030		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4732	0.98320	10.12170	6.97140	65.5272	1.0000			
34	108118-005-03-	SMP	031		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4733	0.98920	10.31300	6.79610	62.2804	1.0000			
35	108118-006-03-	SMP	032		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4734	0.98660	10.12420	7.72130	73.7032	1.0000			
36	108118-007-03-	SMP	033		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4735	1.01120	10.68810	7.84810	70.6518	1.0000			
37	108118-008-03-	SMP	034		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4736	0.98300	10.16060	7.60880	72.1953	1.0000			
38	108118-009-03-	SMP	035		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4737	0.98060	10.45560	8.66290	81.0797	1.0000			
39	108118-010-04-	SMP	036		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4738	0.96890	10.09290	4.27800	36.2681	1.0000			
40	108118-010-04-	MD	036		08-21-01 15:40	1300-06	11144	000000	S		Y	DO4738	0.98500	10.12420	4.57820	39.3164	1.0000			

YB 08/23/01

001043

	Description	A	Sample Id	St	Method	Results	RL Raw	R	Raw	Multiplier	Reporti	Raw Unt	nFinal	Sort	spk	Flag	N	mdl	S
1																			
2																			
3																			
4	Percent Solids	AN	108115-001-0	SMP /	CLP_SOLI	88.3			88.3212	.00000000	PER	PER	88.3000	0	0.0000				
5	Percent Solids	AN	108115-002-0	SMP /	CLP_SOLI	89.1			89.1421	.00000000	PER	PER	89.1000	0	0.0000			1.0000	
6	Percent Solids	AN	108115-003-0	SMP /	CLP_SOLI	84.4			84.3859	.00000000	PER	PER	84.4000	0	0.0000			1.0000	
7	Percent Solids	AN	108115-004-0	SMP /	CLP_SOLI	88.3			88.3141	.00000000	PER	PER	88.3000	0	0.0000			1.0000	
8	Percent Solids	AN	108115-005-0	SMP /	CLP_SOLI	92.3			92.2852	.00000000	PER	PER	92.3000	0	0.0000			1.0000	
9	Percent Solids	AN	108115-006-0	SMP /	CLP_SOLI	89.8			89.7993	.00000000	PER	PER	89.8000	0	0.0000			1.0000	
10	Percent Solids	AN	108115-008-0	SMP /	CLP_SOLI	82.5			82.4507	.00000000	PER	PER	82.5000	0	0.0000			1.0000	
11	Percent Solids	AN	108115-009-0	MD /	CLP_SOLI	85.8			85.8318	.00000000	PER	PER	85.8000	0	0.0000			1.0000	
12	Percent Solids	AN	108115-010-0	SMP /	CLP_SOLI	83.1			83.0939	.00000000	PER	PER	83.1000	0	0.0000			1.0000	
13	Percent Solids	AN	108115-011-0	SMP /	CLP_SOLI	86.1			86.0638	.00000000	PER	PER	86.1000	0	0.0000			1.0000	
14	Percent Solids	AN	108115-012-0	SMP /	CLP_SOLI	87.7			87.7075	.00000000	PER	PER	87.7000	0	0.0000			1.0000	
15	Percent Solids	AN	108115-013-0	SMP /	CLP_SOLI	88.9			88.9048	.00000000	PER	PER	88.9000	0	0.0000			1.0000	
16	Percent Solids	AN	108118-001-0	SMP /	CLP_SOLI	71.2			71.2398	.00000000	PER	PER	71.2000	0	0.0000				
17	Percent Solids	AN	108118-002-0	SMP /	CLP_SOLI	65.2			65.1911	.00000000	PER	PER	65.2000	0	0.0000				
18	Percent Solids	AN	108118-003-0	SMP /	CLP_SOLI	59.9			59.9214	.00000000	PER	PER	59.9000	0	0.0000				
19	Percent Solids	AN	108118-004-0	SMP /	CLP_SOLI	65.5			65.5272	.00000000	PER	PER	65.5000	0	0.0000				
20	Percent Solids	AN	108118-005-0	SMP /	CLP_SOLI	62.3			62.2804	.00000000	PER	PER	62.3000	0	0.0000				
21	Percent Solids	AN	108118-006-0	SMP /	CLP_SOLI	73.7			73.7032	.00000000	PER	PER	73.7000	0	0.0000				
22	Percent Solids	AN	108118-007-0	SMP /	CLP_SOLI	70.7			70.6518	.00000000	PER	PER	70.7000	0	0.0000				
23	Percent Solids	AN	108118-008-0	SMP /	CLP_SOLI	72.2			72.1953	.00000000	PER	PER	72.2000	0	0.0000				
24	Percent Solids	AN	108118-009-0	SMP /	CLP_SOLI	81.1			81.0797	.00000000	PER	PER	81.1000	0	0.0000				
25	Percent Solids	AN	108118-010-0	SMP /	CLP_SOLI	36.3			36.2681	.00000000	PER	PER	36.3000	0	0.0000				
26	Percent Solids	AN	108118-010-0	MD /	CLP_SOLI	39.3			39.3164	.00000000	PER	PER	39.3000	0	0.0000				
27	Percent Solids	AN	108119-001-0	SMP /	CLP_SOLI	87.4			87.3603	.00000000	PER	PER	87.4000	0	0.0000			1.0000	
28	Percent Solids	AN	108119-002-0	SMP /	CLP_SOLI	85.8			85.8335	.00000000	PER	PER	85.8000	0	0.0000			1.0000	
29	Percent Solids	AN	108119-003-0	SMP /	CLP_SOLI	79.2			79.1675	.00000000	PER	PER	79.2000	0	0.0000			1.0000	
30	Percent Solids	AN	108119-004-0	SMP /	CLP_SOLI	84.7			84.7306	.00000000	PER	PER	84.7000	0	0.0000			1.0000	
31	Percent Solids	AN	108119-005-0	SMP /	CLP_SOLI	80.2			80.1831	.00000000	PER	PER	80.2000	0	0.0000			1.0000	
32	Percent Solids	AN	108121-001-0	SMP /	CLP_SOLI	89.6			89.5804	.00000000	PER	PER	89.6000	0	0.0000			1.0000	
33	Percent Solids	AN	108121-002-0	SMP /	CLP_SOLI	87.3			87.2830	.00000000	PER	PER	87.3000	0	0.0000			1.0000	
34	Percent Solids	AN	108121-003-0	SMP /	CLP_SOLI	85.5			85.4593	.00000000	PER	PER	85.5000	0	0.0000			1.0000	
35	Percent Solids	AN	108121-004-0	SMP /	CLP_SOLI	85			84.9881	.00000000	PER	PER	85.0000	0	0.0000			1.0000	
36	Percent Solids	AN	108127-001-0	SMP /	CLP_SOLI	91.2			91.1705	.00000000	PER	PER	91.2000	0	0.0000			1.0000	
37	Percent Solids	AN	108127-004-0	SMP /	CLP_SOLI	79.6			79.6272	.00000000	PER	PER	79.6000	0	0.0000			1.0000	
38	Percent Solids	AN	108127-005-0	SMP /	CLP_SOLI	85.9			85.9117	.00000000	PER	PER	85.9000	0	0.0000			1.0000	
39	Percent Solids	AN	108127-005-0	MD /	CLP_SOLI	85.2			85.2273	.00000000	PER	PER	85.2000	0	0.0000			1.0000	
40	Percent Solids	AN	108127-006-0	SMP /	CLP_SOLI	79			79.0076	.00000000	PER	PER	79.0000	0	0.0000			1.0000	

YB 08/23/01

001044

PERCENT SOLIDS DETERMINATION LOG

Analyst: RoS
Reviewed By / Date: YB 08/23/01

Method Title: %Solids
Method Reference: OLMO4.1 / ASTM D2216

(SOP # 11144)

Analytical Balance ID: Mettler AE 240
Drying Oven Temp Maintained at 103-105C:
Time In (Oven): 3:40pm Temp 105 Date: 8-21-1
Time Out (Oven): 8:50pm Temp 105 Date: 8-22-1
Dessicator Temp: 21 Dessicator % Humidity (<20%): 11%

W.O.#	Frac.	Client ID	Weight of Dish	Weight of wet Sample + Dish	Weight of dry Sample +Dish	DUP RPD <15%
108117	081	005-CSA-9-L41-SBD-2	0.9841	10.2864	9.1857	
	082	005-CSA-9-L41-SBD-3	0.9842	10.0528	8.7299	
	083	005-CSA-9-L41-SBD-4	0.9836	10.8666	9.6202	
	DUP	dup ↓	0.9852	10.9125	10.0000	0.9
	084	005-CSA-9-L41-SBA-	0.9822	10.2489	9.4541	
	085	005-SA-9-L41-SBD-5	0.9758	10.8289	9.7027	
108121	001	CDC-TCRA-(140)(6)-(2)	0.9830	10.4517	9.4651	
	002	CDC-TCRA-(160-120)(2)	0.9778	10.7553	9.5119	
	003	CDC-TCRA-(140-140)(2)	0.9783	10.8946	9.4527	
	004	CDC-TCRA-(160-140)(2)	0.9743	10.2796	8.8827	
108119	001	1G-W-Row-1	0.9925	10.6375	9.4184	
	002	1F-W-Row-1	0.9832	10.1116	8.8185	
	003	1E-W-Row-1	0.9812	10.5398	8.5485	
	004	H6-W-Row-1	0.9854	10.0493	8.6653	
	005	79H-W-Row-1	0.9837	10.2475	8.4117	
108127	001	029-858-S-0816	0.9937	10.5242	9.6827	
	004	029-190-CS03-S-0816	0.9815	10.0215	8.1798	
	005	029-190-CS04-S-0816	0.9794	10.6378	9.2771	
	DUP	dup ↓	0.9804	10.6584	9.2287	0.5
	006	029-190-CS05-S-0816	0.9855	10.8300	8.7634	
108115	001	CSA-13-L5-SB(2-3)	0.9913	10.2953	9.2087	
	002	CSA-5-L15-SB(2-3)	0.9849	10.0152	9.0347	
	003	CSA-9-L42-SB(5-6)	0.9801	10.6675	9.1549	
	004	CSA-9-L25-SB(4-5)	0.9773	10.0917	9.0266	
	005	CSA-9-L40-SBA-SB(4-5)	0.9907	10.7097	9.9599	
	006	CSA-9-L40-SBB(4-5)	0.9928	10.2377	9.2946	
	008	CSA-9-L41-SBA-(2-3)	0.9875	10.5765	8.8937	
	009	CSA-9-L41-SBB-(3-4.5)	0.9750	10.3527	9.0498	
	010	CSA-9-L41-SBB-(3.5-4.5)	0.9720	10.0468	8.8616	

Comments:

APPENDIX D

RESPONSE LETTERS TO FDEP COMMENTS

CCI NAVY RAC
CH2MHILL Constructors, Inc.
115 Perimeter Center Place, NE
Suite 700
Atlanta, GA
30346-1278
TEL 770.604.9095
FAX 770.604.9282

May 31, 2002

Mr. David Grabka
Remedial Project Manager
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Contract N62467-98-D-0995
Contract Task Order No. 0002
Response to May 30, 2001 FDEP Comments
Source Removal Report, Contaminated Soil Removal at JP-5 Pipeline, Naval Air Station Cecil Field, Jacksonville, Florida, November 2000

Dear Mr. Grabka:

Attached are revised pages for insertion into the above referenced document, in response to your letter dated May 30, 2001. Included are revised Figures 2-1 and 2-2, revised pages 2-6, 2-7, 3-1 and 3-2, and a copy of the FDEP comment letter for your reference. Please note that the intent of this submittal is to addresses the editorial comments concerning the report only. The FDEP comments concerning future site activities are currently being addressed at the monthly NAS Cecil Field BCT meetings.

Please contact me at (904) 777-4812, ext. 222 if you have any questions or need additional information.

Sincerely,

Samuel M. Ross

Samuel Ross, P.E.
Project Manager

Pc: Wayne Hansel, Southern Division

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

May 30, 2001

Mr. Nick Ugolini
Code 1843 (UST RPM)
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, South Carolina 29419-9010

RE: Source Removal Report, Contaminated Soil Removal at JP-5 Pipeline, Naval Air Station Cecil Field, Jacksonville, Florida

Dear Mr. Ugolini:

I have completed the review of the Source Removal Report, Contaminated Soil Removal at JP-5 Pipeline, Naval Air Station Cecil Field, dated November 2000 (received November 17, 2000), prepared and submitted by CH2M Hill Constructors, Inc. As soil and groundwater contamination were not detected at concentrations exceeding soil and groundwater cleanup target levels at the Northern Excavation, you are not required to conduct further site assessment in accordance with Chapter 62-770, Florida Administrative Code (F.A.C.). However, as contaminated soil and groundwater were detected at the Southern Excavation, site assessment in accordance with Chapter 62-770, F.A.C., must be conducted. I have the following additional comments concerning the report:

(1) On figure 2-1, soil boring JP5-C09 is identified in two locations. One of these locations should be JP5-C06. Please adjust the figure accordingly.

(2) On figure 2-2, soil boring SB-08 is located in five locations, while the locations of SB-01, SB-09, SB-15, SB16 and SB-19 are not shown. Please adjust the figure accordingly.

(3) Many of the SCTL (Leachability) numbers in Tables 2-4 and 2-5 are incorrect. Please revise these numbers.

(4) In Table 2-6, all values for groundwater contaminant concentrations should be in µg/L, not mg/kg.

(5) In Section 3.2, please add benzene to the list of contaminants detected in soil sample JP5-C11 at a concentration exceeding its SCTL (leachability).

(6) I cannot concur that a Natural Attenuation Monitoring Plan be prepared for the Southern Excavation area. The nature and extent of soil and groundwater contamination should be fully assessed and a Site Assessment Report (SAR) be submitted for this site. If contaminant concentrations are below the Department's Natural Attenuation Default Concentrations and are not migrating, a Natural Attenuation Monitoring Plan may be proposed in the SAR.

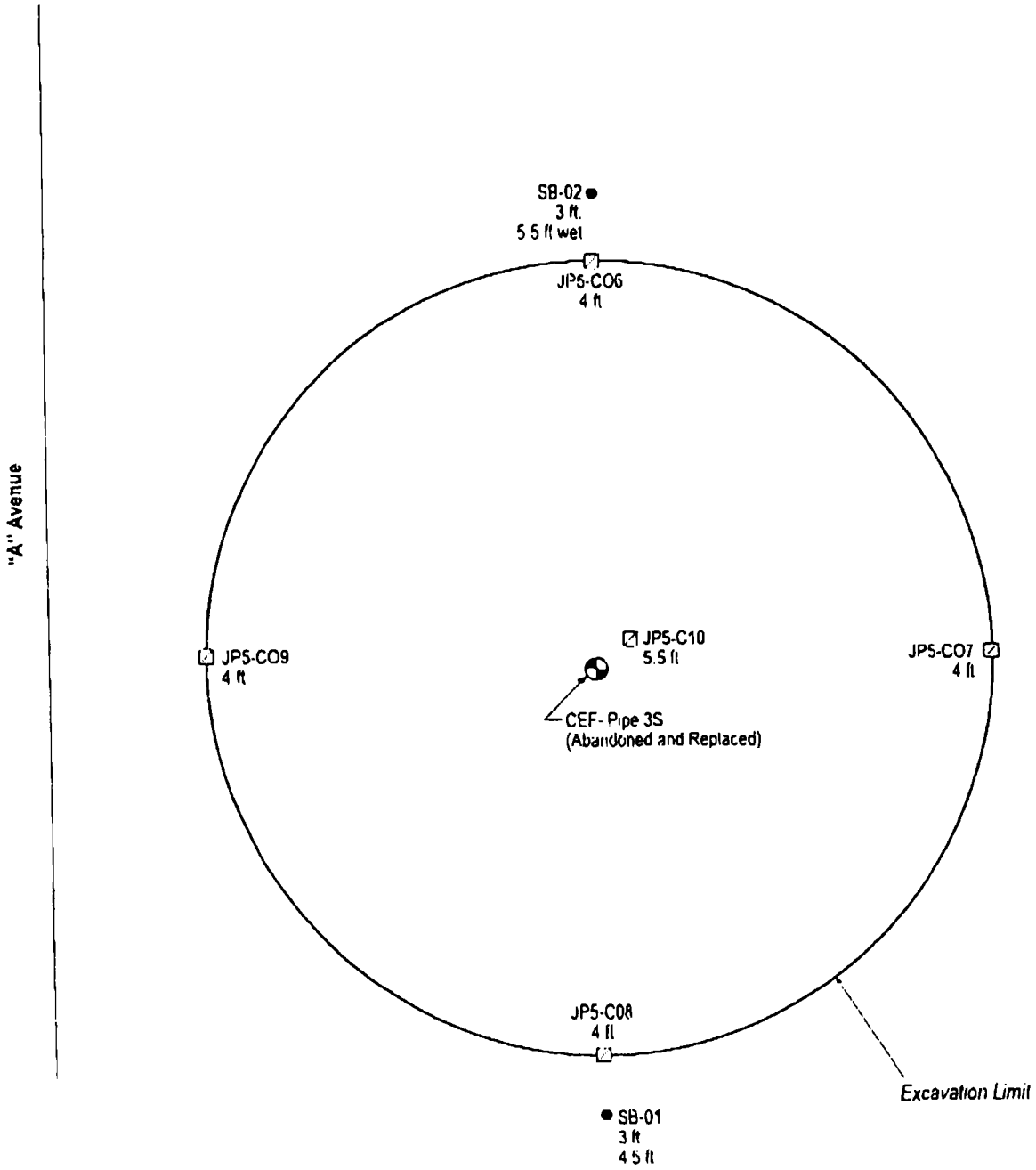
If I can be of any further assistance with this matter, please contact me at (850) 488-3693.

Sincerely,

David P. Grabka
Remedial Project Manager

cc: Scott Glass, Southern Division
Debbie Vaughn-Wright, USEPA Region 4
Mark Speranza, TetraTech NUS, Pittsburgh
Sam Ross, CH2M Hill Constructors, Inc.
Mike Fitzsimmons, FDEP Northeast District

TJB ____ JJC ____ ESN ____



LEGEND

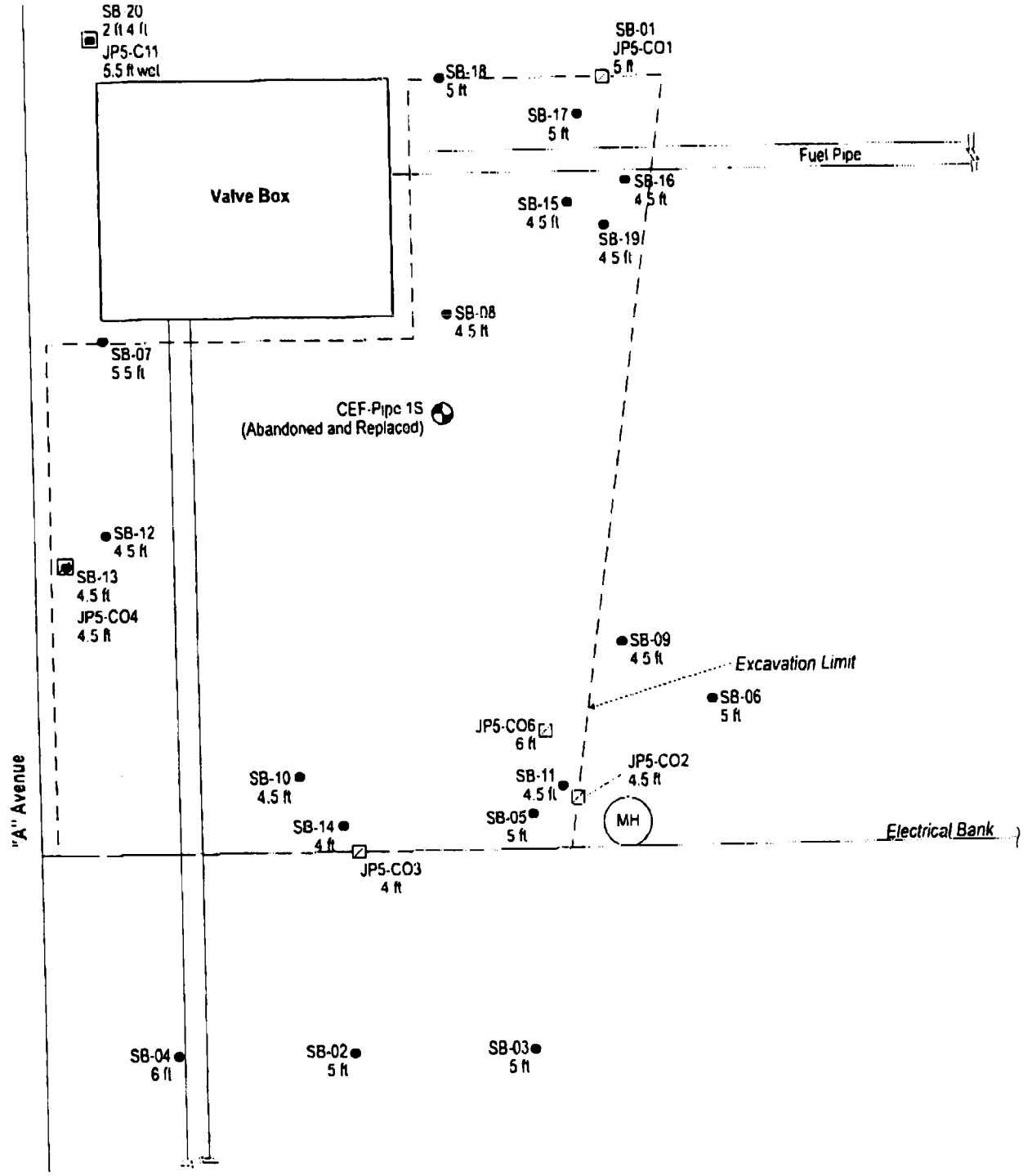
- Monitoring Well Location
- JP5-C08 Confirmation Sample Location and Designation
- SB-01 Soil Boring Location and Designation

N Scale: 1"= 1'

Figure 2-1
JP-5 Pipeline Contaminated Soil Removal
Northern Excavation
NAS Cecil Field, Jacksonville, Florida

CH2MHILL

A022000001ATL\ll 001.FH8



LEGEND

- Monitoring Well
- Confirmation Sample Location
- Soil Boring Location
- Manhole

N Scale: 1"= 3'

Figure 2-2
Original Soil Excavation Area
Southern Excavation
NAS Cecil Field, Jacksonville, Florida

CH2MHILL

A102001004A1L\Cecil 106 f H8

2.3.2 Laboratory Analyses of Soil Samples

A total of five soil samples were collected from the northern excavation and a total of six soil samples were collected from the southern excavation for KAG analyses. The sample locations are shown on Figures 2-1 and 2-2, respectively. The analytical results are summarized in Tables 2-4 and 2-5 and are described in Section 3.0. Analytical laboratory reports are provided in Appendix E.

TABLE 2-4
Summary of KAG Analyses for Soil

Sample Location	North Wall	East Wall	South Wall	West Wall	Bottom	SCTL (Leachability)
Depth (feet)	4	4	4	4	5.5	--
Sample ID	JP5 C-06	JP5 C-07	JP5 C-08	JP5 C-09	JP5 C-10	--
Site	JP5	JP5	JP5	JP5	JP5	--
Date	11/10/99	11/10/99	11/10/99	11/10/99	11/10/99	--
TRPH	ND	ND	ND	ND	ND	340
Benzo (b) Fluoranthene	0.012	ND	ND	ND	ND	10.0
Fluoranthene	0.088	ND	ND	ND	ND	1200
Phenanthrene	0.06	ND	ND	ND	ND	250
Pyrene	0.08	ND	ND	ND	ND	880
Naphthalene	0.14	ND	ND	ND	ND	1.7
1 Methylnaphthalene	0.77	ND	ND	ND	ND	2.2
2 Methylnaphthalene	0.48	ND	ND	ND	ND	6.1
Ethylbenzene	0.0005	ND	ND	ND	0.0003	0.6
Toluene	0.0014	0.0009	0.0008	0.001	0.0013	0.5
Xylenes	0.0018	0.0008	0.0005	0.0007	0.0015	0.2

All values reported in milligrams per kilogram (mg/kg).
ND= Not Detected above reported detection limit.

TABLE 2-5
Summary of KAG Analyses for Soil

Sample Location	Northeast Corner	Southeast Corner	South Wall	West Wall	Bottom	Northwest Corner	SCTL (Leachability)
Depth (feet)	5	4.5	4	4.5	6	5.5	--
Sample ID	JP5 C-01	JP5 C-02	JP5 C-03	JP5 C-04	JP5 C-05	JP5 C-11	--
Site	JP5	JP5	JP5	JP5	JP5	JP5	--
Date	11/10/99	11/10/99	11/10/99	11/10/99	11/10/99	11/10/99	--
TRPH	ND	6	30	5	ND	810	340
Anthracene	ND	ND	ND	ND	ND	0.33	2500
Benzo (a) Anthracene	ND	ND	ND	ND	ND	0.14	3.2
Benzo (a) Pyrene	ND	ND	0.012	ND	ND	0.039	8.0
Benzo (b) Fluoranthene	ND	ND	0.014	ND	ND	0.078	10.0
Benzo (k) Fluoranthene	ND	ND	ND	ND	ND	0.016	25
Chrysene	ND	ND	ND	ND	ND	0.11	77
Fluoranthene	ND	ND	0.017	ND	0.017	1.2	1200
Fluorene	ND	ND	ND	ND	ND	0.3	160
Indeno (123cd) Pyrene	ND	ND	0.021	ND	ND	0.026	28
Phenanthrene	ND	ND	ND	ND	ND	0.73	250
Pyrene	ND	ND	ND	ND	ND	1.5	880
Naphthalene	ND	ND	ND	0.098	ND	0.4	1.7
1 Methylnaphthalene	ND	ND	ND	0.04	0.087	8.3	2.2
2 Methylaphthalene	ND	ND	ND	ND	0.068	5.1	6.1
Benzene	ND	ND	ND	ND	ND	0.039	0.007
Ethylbenzene	ND	0.0004	0.004	0.0004	0.0004	0.1	0.6
Toluene	0.0013	0.0018	0.009	0.0014	0.0018	<0.430	0.5
Xylenes	0.001	0.0017	0.016	0.0017	0.002	0.71	0.2

All values reported in milligrams per kilogram (mg/kg).
ND= Not Detected above reported detection limit.

2.3.3 Replacement Monitoring Well Installation, Sampling and Laboratory Analyses of Groundwater Samples

Two monitoring wells, CEF-PIPE-1S and CEF-PIPE-3S, were replaced subsequent to the source removal on November 16, 1999. The wells were screened from 4 to 14 feet bls. The well locations are shown on Figures 2-1 and 2-2. Well construction logs are provided in Appendix F.

One groundwater sample was collected from each of the replacement wells for KAG analysis as specified in FAC 62-770 for a UST removal. The analytical results are summarized in Table 2-6, and are discussed in Section 3.0. The analytical laboratory report is provided in Appendix G.

TABLE 2-6
Summary of KAG Analyses for Groundwater

Sample Location	CEF-PIPE-3S (North)	CEF-PIPE-1S (South)	GC	NADSC
Screened Interval (feet)	4 – 14	4 – 14	--	–
Site	South	North	--	--
Date	11/18/99	11/18/99	--	--
TRPH	170	2100	5000	50000
Anthracene	ND	1	2100	21000
Fluoranthene	ND	5	280	2800
Phenanthrene	ND	6	210	2100
Naphthalene	ND	38	20	200
1 Methylnaphthalene	ND	120	20	200
2 Methylnaphthalene	ND	100	20	200
Benzene	0.5	ND	1	100
Ethylbenzene	ND	1	30	300
Toluene	ND	ND	40	400
Xylenes	ND	ND	20	200

All values reported in micrograms per liter (µg/L).
ND= Not Detected above reported detection limit.

3.0 Conclusions

3.1 Northern Excavation

During the source removal 5.88 tons of petroleum-contaminated soil were removed from the location shown in Figure 2-1 and transported to Soil Safe Technologies, Inc. soil treatment facility in St. Mary's, Georgia. The horizontal and vertical limits of the excavation had headspace VOC concentrations, as measured with an OVA with FID, of less than 50 ppm. The five confirmatory soil samples that were collected subsequent to the excavation were below SCTLs for all KAG parameters, confirming that the horizontal limits of the soil contamination had been removed. One groundwater sample that was collected for KAG analyses from a temporary well installed in the center of the excavation exhibited no KAG constituents above the Groundwater Criteria per FAC 62-777. No free product was encountered during the excavation.

No Further Action Status, per 62-770.680 FAC, is recommended for this site because the following criteria have been met:

- Based on visual inspection, free product is not present at the site.
- Excessively contaminated soil is not present at the site, as demonstrated by OVA screening performed during the tank removal and analytical results from confirmatory soil samples collected from the excavation.
- Contaminated soil is not present in the unsaturated zone at the site, as demonstrated by analytical results from confirmatory soil samples collected from the excavation.
- Based on analytical results from a confirmatory groundwater sample collected from beneath the excavation, contaminated groundwater is not present at the site.

3.2 Southern Excavation

A total of 42.35 tons of petroleum-contaminated soils identified during the source removal were removed from the location shown on Figure 2-2 and transported to Soil Safe Technologies, Inc. soil treatment facility in St. Mary's, Georgia. The soil was excavated to the water table, to a depth of approximately 6 feet bls. The horizontal limits of the excavation had net headspace results (OVA with FID) of less than 50 ppm, except where samples were collected from below the water table (5.5 feet bls and deeper), or a permanent structure was encountered. The five confirmatory soil samples that were collected at each wall and from the floor of the excavation were below SCTLs for all KAG parameters, confirming that the horizontal limits of soil contamination were reached. One soil sample collected from a boring that was advanced outside of the excavation limits adjacent to the northwest corner of the vault contained TPH, 1-methylnaphthalene, benzene, and xylenes above the SCTLs, but was documented to have been collected below the water table at 5.5 feet. One groundwater sample that was collected for KAG analyses from the replacement well installed within the limits of the excavation exhibited no KAG

replacement well installed within the limits of the excavation exhibited no KAG constituents above the NADSC, but naphthalene, 1-methylnaphthalene and 2-methylnaphthalene were found above the Groundwater Criteria as shown on Table 2-6. No free product was encountered during the excavation.

Because naphthalene, 1-methylnaphthalene and 2-methylnaphthalene were found in the groundwater under the NADSC concentrations by FAC 62-770 and 62-777, it is recommended that a Natural Attenuation Monitoring Plan be prepared for the site in accordance with FAC 62-770.

APPENDIX E

WATER LEVEL MEASUREMENT SHEETS AND RELATIVE SURVEY CONVERSION TABLE

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NAS Cecil Field
Project No.: N4248MW0050130
Location: Building 826
Personnel: MD ~~M. Dale and~~ P. Leverette
Weather Conditions:
Measuring Device: MD ~~[illegible]~~/Water Interface Probe Office Model
Tidally Influenced: Yes ___ No X
Remarks:

Well or Piezometer Number (CEF-)	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	PID (ppm) BK/BH
826-1S	4-11	1452		14.25	5.88			
826-2S	4-11	1455		14.6	3.3			
Pipe-1S	4-11	1450		13.8	3.88			
Pipe-3S	4-11	1457		7.27	~~[illegible]~~ 2.07			

ppm=parts per million; BK=background; and BH=borehole of the well.

* All measurements to the nearest 0.01 foot

CTO 248, 4.4

DN: 4248: 4.4.84

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NAS Cecil Field
Location: Building 826
Weather Conditions: Overcast, 85°F, light wind
Tidally Influenced: Yes ___ No X

Project No.: N4248MW0050130
Personnel: M. Dale and P. Leverette
Measuring Device: AD ~~Oil~~/Water Interface Probe
Remarks: Heron #3515

Well or Piezometer Number (CEF-)	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	PID (ppm) BK/BH
826-1S	6/2/03	1319	—	14.25	6.88	—		
826-2S		1323		14.6	3.24	—		
Pipe-1S		1321		13.8	5.07	—		N/A
Pipe-3S		1328		7.28	2.79	—		

ppm=parts per million; BK=background; and BH=borehole of the well.

* All measurements to the nearest 0.01 foot

(CTO 248.4.4)

TABLE 1 OF APPENDIX E
Relative Survey Conversion Table

Limited Scope Site Assessment Report
JP-5 Pipeline Valve Box 2
Naval Air Station Cecil Field
Jacksonville, Florida

Monitoring Well Identification or Benchmark	HI	+	-	Calculated Elevation (msl)	Assumed Elevation at benchmark (msl)
ARBITRARY ELEVATION	na	na	na	na	75.00
ASSIGN ELEVATION TO CEF-PIPE-3S	80.60	5.60	na	75.00	na
CEF-PIPE-1S (btoc)	80.60		5.58	75.02	na
CEF-826-1S (btoc)	80.60		5.18	75.43	na
CEF-826-2S (btoc)	80.60		5.40	75.20	na

Notes:
HI = height of instrument

APPENDIX F

MONITORING WELL CONSTRUCTION SHEETS AND CERTIFICATES OF CONFORMANCE

DN: 4248.4.4.11

Tetra Tech NUS, Inc.

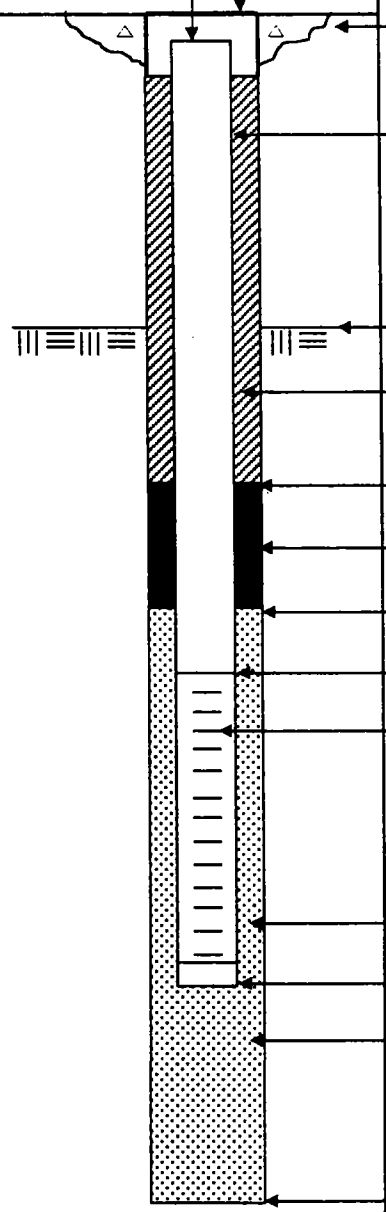
WELL No.: CEF-826-1S

MONITORING WELL SHEET

PROJECT:	NAS CECIL FIELD	DRILLING Co.:	TransAmerican	BORING No.:	826-1S
PROJECT No.:	~~0039~~ 4248	DRILLER:	L. Johnson	DATE COMPLETED:	1/22/03
SITE:	VALVE BOX 2	DRILLING METHOD:	H.S.A	NORTHING:	
GEOLOGIST:	M. DALE	DEV. METHOD:	submersible	EASTING:	

Ground Elevation =

Datum:



Not to Scale

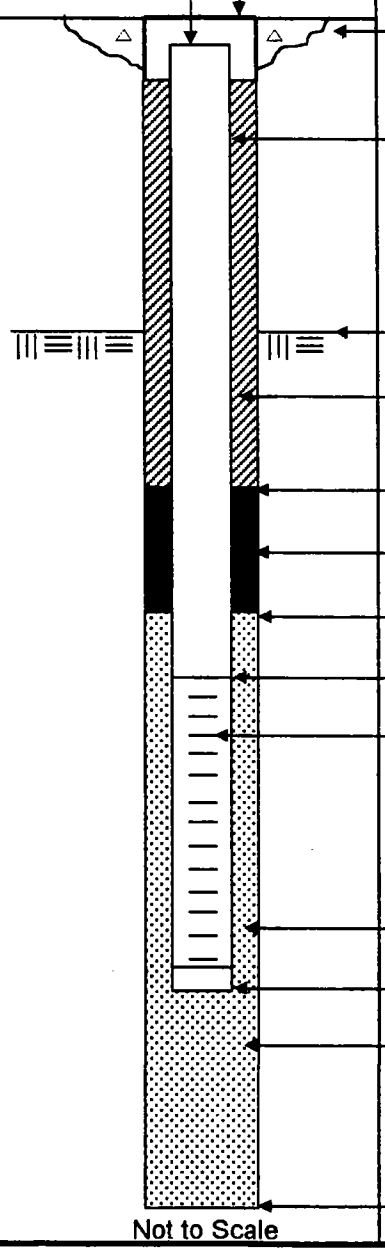
Elevation / Depth of Top of Riser:	1 ~ 2"
Elevation / Height of Top of Surface Casing:	1 ~ 1"
I.D. of Surface Casing:	8"
Type of Surface Casing:	Steel, flush mt. boltdown
Type of Surface Seal:	Concrete
I.D. of Riser:	2"
Type of Riser:	PVC
Borehole Diameter:	8"
Elevation / Depth Top of Rock:	N/A
Type of Backfill:	Portland Cement Type I
Elevation / Depth of Seal:	1.5'
Type of Seal:	30-65 sand
Elevation / Depth of Top of Filter Pack:	3'
Elevation / Depth of Top of Screen:	4'
Type of Screen:	PVC, Sch. 40
Slot Size x Length:	0.10
I.D. of Screen:	2"
Type of Filter Pack:	20-30 sand
Elevation / Depth of Bottom of Screen:	14.0'
Elevation / Depth of Bottom of Filter Pack:	14.5'
Type of Backfill Below Well:	20-30 sand
Elevation / Total Depth of Borehole:	14.5'

Tetra Tech NUS, Inc.

WELL No.: CEF-826-2S

MONITORING WELL SHEET

PROJECT:	NAS CECIL FIELD	DRILLING Co.:	TransAmerican	BORING No.:	826-2S
PROJECT No.:	~~0039~~ 4248	DRILLER:	L. Johnson	DATE COMPLETED:	1/22/03
SITE:	VALVE BOX 2	DRILLING METHOD:	H.S.A	NORTHING:	
GEOLOGIST:	M. DALE	DEV. METHOD:	submersible	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: 1~2"

Elevation / Height of Top of Surface Casing: 1~1"

I.D. of Surface Casing: 8"

Type of Surface Casing: flush mt. steel, boltdown

Type of Surface Seal: concrete

I.D. of Riser: 2"

Type of Riser: Sch. 40 PVC

Borehole Diameter: 8"

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: 1.5'

Type of Seal: 30-65 sand

Elevation / Depth of Top of Filter Pack: 3'

Elevation / Depth of Top of Screen: 4'

Type of Screen: PVC, Sch. 40

Slot Size x Length: 0.10

I.D. of Screen: 2"

Type of Filter Pack: 20-30 sand

Elevation / Depth of Bottom of Screen: 14.0'

Elevation / Depth of Bottom of Filter Pack: 14.5'

Type of Backfill Below Well: 20-30 Sand

Elevation / Total Depth of Borehole: 14.5'

MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE

Well Designation: CEF-826-1S
Site Name: VALVE BOX 2, NASCF
Date Installed: 1/22/02 03, MWA
Project Name: LIMITED SCOPE SITE INVESTIGATION

Site Geologist: MERVIN W. DALE
Drilling Company: TRANSAMERICAN
Driller: LEWIS JOHNSON
Project Number: N4248

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2x10' sch 40	Atlantic Drilling Supply / JAX	NO
Well Screen	Monoflex 2x10' sch 40	Atlantic Drilling Supply / JAX	
End Cap / well Point	Locking Cap / PVC	Atlantic Drilling supply / JAX	
Drilling Fluid	None		
Drilling Fluid Additives	None		
Backfill Material	None		
Annular Filter Pack	Standard sand 20-30	Standard sand / JAX	
Bentonite Seal	Standard sand 30-65	Standard sand / JAX	
Annular Grout	Portland Cement Quikreet	Florida Irrigation / JAX	
Surface Cement	Quikrete	Atlanta GA Quikrete Co.	
Protective Casing	Steel boltdown, 8" flush mt.	Toney Drilling Supply / ORLANDO	
Paint			
Rod Lubricant			
Compressor Oil			
Drum	55 Gallon	Duval Container 355-0711 / JAX	

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

Signature of Site Geologist: Mervin W. Dale

MONITORING WELL MATERIALS
CERTIFICATE OF CONFORMANCE

Well Designation: CEF-826-2S
Site Name: VALVE BOX 2, NASCF
Date Installed: 1/22/03
Project Name: LIMITED SCOPE SITE INVESTIGATION

Site Geologist: MERVIN WAYNE DALE
Drilling Company: TRANSAMERICAN
Driller: LEWIS JOHNSON
Project Number: N4248

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Monoflex 2x10' Sch 40	Atlantic Drilling Supply / JAX	NO
Well Screen	Monoflex 2x10' Sch 40	Atlantic Drilling Supply / JAX	
End Cap / Well Point	Locking Cap / PVC	Atlantic Drilling Supply / JAX	
Drilling Fluid	None		
Drilling Fluid Additives	None		
Backfill Material	None		
Annular Filter Pack	Standard Sand 20-30	Standard Sand / JAX	
Bentonite Seal	Standard Sand 30-65	Standard Sand / JAX	
Annular Grout	Portland Cement Quikreet	Florida Irrigation / JAX	
Surface Cement	Quikrete	Quikrete Co., Atlanta, GA	
Protective Casing	Steel Boltdown, 8" flush mt.	Toney Drilling Supply/ORLANDO	
Paint	None		
Rod Lubricant	None		
Compressor Oil	None		
Drum	55 Gallon	Duval Container 355-0711 / JAX	

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

Signature of Site Geologist: Mervin W. Dale

APPENDIX G

GROUNDWATER SAMPLE LOG SHEETS

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project Site Name: VALVE BOX 2 ~~North Fuel Farm~~, Cecil Field
Project No.: ~~3006.JG0050325~~ N4248MW0050130

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

Sample ID No.: CEF-~~076-GW-N~~ 826-GW-15-01
Sample Location: CEF-~~076-~~ 826-15
Sampled By: P Lewarre
C.O.C. No.: 2221
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Date: 1-28-03								
Time: 1725								
Method: Low Flow Peristaltic	LT TAN / ~~CLEAR~~	6.01	0.329	21.99	9	3.06	114.9	

PURGE DATA

	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Date: 1-28-03								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): 0								
Well Casing Diameter: 2 In.								
Well Casing Material: PVC								
Total Well Depth (TD): 14.25'	See Low Flow Purge Sheet							
Static Water Level (WL): 7.06'								
One Screen Volume(gal/L): 4.4								
Start Purge (hrs): 1615								
End Purge (hrs): 1720								
Total Purge Time (min): 65								
Total Vol. Purged (gal/L): 13								

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Collected
Select VOCs	SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE				
PAHs	SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene				
TRPH	FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB	504	None	3-40 ml vials	✓
Total Lead	SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

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

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: ~~North Fuel Farm~~ VALVE BOX 2 Cecil Field

PROJECT NUMBER: ~~3996.JG0050325~~ N4248 CTO 248

WELL ID.: CEF ~~076~~ 826 15

DATE: 1-28-03

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1615	7.06	400	–	–	–	–	–	–	START PURGE
1625	7.23	4.0 400	6.01	0.332	70	5.52	22.19	127.0	
1630	7.23	8.0 400	6.00	0.332	50	5.03	22.25	132.3	
1640	7.18	8.0 200	6.02	0.331	32	4.10	22.22	134.9	
1650	7.18	10.0 200	6.02	0.331	21	3.17	22.28	126.9	
1700	7.16	11.0 100	6.03	0.330	14	3.07	22.28	121.2	
1710	7.16	12.0 100	6.02	0.329	10	3.04	22.21	112.3	
1715	7.16	12.5 100	6.02	0.329	9	3.02	21.99	113.7	
1720	7.16	13.0 100	6.01	0.329	9	3.06	21.99	114.9	

SAMPLE TIME 1725

SIGNATURE(S): [signature]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: VALVE BOX 2 ~~North Fuel Farm~~, Cecil Field
Project No.: ~~3000.JG0050325~~ N4248MN00SD130

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

Sample ID No.: 826-GW-25-01 CEF-~~078-GW-N~~
Sample Location: CEF-~~078~~ 826-25
Sampled By: MCF
C.O.C. No.: 2221
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 1·28·03	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP	Other
Time: 1720								
Method: Low Flow Peristaltic	clear	5.19	0.322	19.9	4.3	4.30	19	

PURGE DATA

Date: 1·28·03	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: Low Flow Peristaltic	See Low Flow Purge Sheet							
Monitor Reading (ppm): 0.0								
Well Casing Diameter: 2 in.								
Well Casing Material: PVC								
Total Well Depth (TD): 14.6								
Static Water Level (WL): 6.81								
One Screen Volume(gal/L): 5.0								
Start Purge (hrs): 1610								
End Purge (hrs): 1716								
Total Purge Time (min): 66								
Total Vol. Purged (gal/L): 24								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	✓
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	✓
#Include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	✓
EDB 504	None	3-40 ml vials	✓
Total Lead SW846 6010B	HNO3	1 - 500 ml HDPE bottle	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD

Duplicate ID No.: None

Signature(s): MCF

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: ~~North Fuel Farm~~ VALVE BOX 2 Cecil Field

PROJECT NUMBER: ~~3996.JG0050325~~ N4248

WELL ID.: ~~OEF-076~~ CEF. 826-GW-25-01

DATE: 1-28-03

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments volume	Lamotte
1610	6.81	—	—	—	—	—	—	—	—	
1620	6.81	200	5.92	0.322	18.4	10.44	19.8	-1	2L	
1630	6.91	400	5.87	0.322	18.2	6.24	20.1	-26	6L	11
1640	6.91	400	5.78	0.322	20.6	6.21	20.2	-25	10L	10
1655	6.91	400	5.78	0.322	20.1	4.35	20.0	-13	16L	8
1700	6.91	400	5.78	0.322	16.4	4.30	19.9	7	18L	6
1705	6.91	400	5.79	0.322	14.4	4.30	19.8	18	20L	
1710	6.91	400	5.79	0.322	8.0	4.30	19.7	19	22L	
1713	6.91	400	5.79	0.322	6.0	4.30	19.8	19		
1716	6.91	400	5.79	0.322	4.3	4.30	19.9	19		
1720	Sampling	~~400~~	—	—	—	—	—	—	— 24L	

SIGNATURE(S): MG

PAGE 2 OF 2

DN 4248: 4.4: 61

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project Site Name: VALVE BOX 2 North Fuel Farm, Cecil Field
Project No.: ~~3996.JG0050325~~ 4248 CTD243

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

Sample ID No.: PIPE-GW-15-01 CEF-~~076-GW-N~~
Sample Location: CEF-~~070~~ PIPE-15
Sampled By: SRM/CG
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 1/30/03	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP mV	Other
Time: 1810								
Method: Low Flow Peristaltic	clear*	6.60	0.617	18.8	-1.2	0.77	-123	

PURGE DATA

Date: 1/30/03	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Method: Low Flow Peristaltic								
Monitor Reading (ppm): 0								
Well Casing Diameter: 2 in.								
Well Casing Material: PVC								
Total Well Depth (TD): 13.8'								
Static Water Level (WL): 5.75								
One Screen Volume(gal/L): ~~6.2~~ 4.7								
Start Purge (hrs): 1615								
End Purge (hrs): 1810								
Total Purge Time (min): 115								
Total Vol. Purged (gal/L): 17.8								

* with red particulates

13.80
- 5.75
8.05

See Low Flow Purge Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
Select VOCs SW846 8260B	HCl	3-40ml vials	yes
#VOHs+1,2 dichloroethane+BTEX+MTBE			
PAHs SW846 8310	None	2 - 1 liter glass ambers	yes
#include 1- and 2-methylnaphthalene			
TRPH FL-PRO	H2SO4	2 - 1 liter glass ambers	yes
EDB 504	None	3-40 ml vials	yes
Total Lead. SW846 6010B	HNO3	1 - 500 ml HDPE bottle	yes

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD	Duplicate ID No.: None	Signature(s): Scott R. McGuire

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: VALVE BOX 2 ~~North Fuel Farm~~ Cecil Field

PROJECT NUMBER: ~~3996.JG0050325~~ 4248 CTO248

WELL ID.: CEF ~~076~~ PIPE-15'

DATE: 1/30/03

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments	CUM. VOL.
1616	5.75		6.63	0.623	17.6	6.56	20.6	99		0
1620	7.06		6.19	0.618	4.8	3.05	20.2	106		.75
1625	6.95		6.19	0.617	4.1	0.86	20.0	0		1.25
1635	6.95		6.50	0.618	2.9	0.77	19.9	0		2.75
1645	6.98		6.55	0.620	3.5	0.80	19.9	0		4.25
1655	7.00		6.60	0.622	2.2	0.82	19.7	0		5.75
1705	7.00		6.60	0.624	1.6	0.83	19.7	0		7.25
1715	7.06		6.59	0.626	1.3	0.80	19.5	0		8.75
1725	7.05		6.59	0.627	1.0	0.80	19.5	0		10.25
1735	7.04		6.59	0.628	1.6	0.79	19.3	0		11.75
1745	7.00		6.59	0.628	1.4	0.77	19.2	0		13.25
1755	7.18	150	6.62	0.621	0.7	1.09	19.0	-125	red particulates	14.75
1803	7.13	150	6.59	0.621	-1.0	2.41	18.8	-121		
1810	7.13	150	6.60	0.617	-1.2	0.77	18.8	-123		

SIGNATURE(S): Scott R. McGuire

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24.7
13
14.1

APPENDIX H

LABORATORY ANALYTICAL REPORT (F16386)

Southeast ACCUTEST Laboratories

02/07/03

Technical Report for

Tetra Tech, NUS

NAS Cecil Field-CTO-248

N4248-WR309

Accutest Job Number: F16386

Report to:

Total number of pages in report: 90

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Southeast • 4405 Vineland Road • Suite C-15 • Orlando, FL 32811 • tel: 407-425-6700 • fax: 407-425-0707 • http://www.accutest.com

Sample Summary

Tetra Tech, NUS

Job No: F16386

NAS Cecil Field-CTO-248
Project No: N4248-WR309

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F16386-1	01/28/03	17:20 MD	01/30/03	AQ	Ground Water	CEF-826-GW-2S-01
F16386-2	01/28/03	17:25 MD	01/30/03	AQ	Ground Water	CEF-826-GW-1S-01
F16386-3	01/29/03	09:10 MD	01/30/03	AQ	Ground Water	CEF-WS-M18-27

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-826-GW-2S-01		
Lab Sample ID:	F16386-1	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0014293.D	1	02/01/03	KW	n/a	n/a	VC630
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	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	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	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	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	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	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	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	0.50	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	
75-01-4	Vinyl chloride	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-826-GW-2S-01		
Lab Sample ID:	F16386-1	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
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	110%		78-125%
2037-26-5	Toluene-D8	105%		87-113%
460-00-4	4-Bromofluorobenzene	108%		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-826-GW-2S-01		
Lab Sample ID:	F16386-1	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	EPA 504.1 EPA 504	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB24555.D	1	02/04/03	NJ	02/03/03	OP6858	GAB900
Run #2							

	Initial Volume	Final Volume
Run #1	37.0 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0095	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-826-GW-2S-01		
Lab Sample ID:	F16386-1	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE012959.D	1	02/03/03	SM	01/31/03	OP6850	GEE564
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	64%		32-142%
92-94-4	p-Terphenyl	58%		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-826-GW-2S-01		
Lab Sample ID:	F16386-1	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP27006.D	1	02/03/03	SKW	01/31/03	OP6852	GOP927
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	94%		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-826-GW-2S-01		
Lab Sample ID:	F16386-1	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Lead	1.9 B	5.0	1.2	ug/l	1	02/03/03	02/04/03	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-826-GW-1S-01		
Lab Sample ID:	F16386-2	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0014294.D	1	02/01/03	KW	n/a	n/a	VC630
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	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	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	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	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	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	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	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	0.50	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	
75-01-4	Vinyl chloride	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-826-GW-1S-01		
Lab Sample ID:	F16386-2	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
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	111%		78-125%
2037-26-5	Toluene-D8	105%		87-113%
460-00-4	4-Bromofluorobenzene	110%		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-826-GW-1S-01		
Lab Sample ID:	F16386-2	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	EPA 504.1 EPA 504	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB24556.D	1	02/04/03	NJ	02/03/03	OP6858	GAB900
Run #2							

	Initial Volume	Final Volume
Run #1	36.8 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0095	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-826-GW-1S-01		
Lab Sample ID:	F16386-2	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE012962.D	1	02/04/03	SM	01/31/03	OP6850	GEE564
Run #2							

	Initial Volume	Final Volume
Run #1	870 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.6	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.6	1.1	ug/l	
120-12-7	Anthracene	ND	2.3	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.23	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.23	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.23	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.23	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.23	0.11	ug/l	
218-01-9	Chrysene	ND	2.3	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.23	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.3	0.57	ug/l	
86-73-7	Fluorene	ND	2.3	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.23	0.11	ug/l	
91-20-3	Naphthalene	ND	2.3	0.57	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.3	0.57	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.3	0.57	ug/l	
85-01-8	Phenanthrene	ND	2.3	1.1	ug/l	
129-00-0	Pyrene	ND	2.3	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		32-142%
92-94-4	p-Terphenyl	42%		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-826-GW-1S-01		
Lab Sample ID:	F16386-2	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP27007.D	1	02/03/03	SKW	01/31/03	OP6852	GOP927
Run #2							

	Initial Volume	Final Volume
Run #1	880 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.28	0.19	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	97%		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-826-GW-1S-01		
Lab Sample ID:	F16386-2	Date Sampled:	01/28/03
Matrix:	AQ - Ground Water	Date Received:	01/30/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	02/03/03	02/04/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Blank Spike Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC630-BS	C0014287.D	1	02/01/03	KW	n/a	n/a	VC630

The QC reported here applies to the following samples: Method: SW846 8260B

F16386-1, F16386-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.5	94	76-123
75-27-4	Bromodichloromethane	25	22.2	89	72-122
75-25-2	Bromoform	25	19.9	80	59-124
108-90-7	Chlorobenzene	25	21.7	87	78-115
75-00-3	Chloroethane	25	27.2	109	65-141
67-66-3	Chloroform	25	22.2	89	74-123
110-75-8	2-Chloroethyl vinyl ether	125	113	90	24-148
56-23-5	Carbon tetrachloride	25	23.6	94	68-137
75-34-3	1,1-Dichloroethane	25	24.2	97	73-125
75-35-4	1,1-Dichloroethylene	25	25.5	102	64-136
107-06-2	1,2-Dichloroethane	25	21.7	87	66-118
78-87-5	1,2-Dichloropropane	25	24.9	100	75-129
124-48-1	Dibromochloromethane	25	20.6	82	72-117
156-59-2	cis-1,2-Dichloroethylene	25	22.9	92	79-127
10061-01-5	cis-1,3-Dichloropropene	25	21.8	87	71-117
541-73-1	m-Dichlorobenzene	25	20.8	83	74-117
95-50-1	o-Dichlorobenzene	25	20.6	82	73-115
106-46-7	p-Dichlorobenzene	25	20.5	82	74-117
156-60-5	trans-1,2-Dichloroethylene	25	25.2	101	67-125
10061-02-6	trans-1,3-Dichloropropene	25	22.0	88	65-113
100-41-4	Ethylbenzene	25	23.4	94	76-117
74-83-9	Methyl bromide	25	25.6	102	45-137
74-87-3	Methyl chloride	25	22.8	91	47-149
75-09-2	Methylene chloride	25	22.5	90	63-126
1634-04-4	Methyl Tert Butyl Ether	25	22.5	90	68-125
71-55-6	1,1,1-Trichloroethane	25	23.8	95	73-131
79-34-5	1,1,2,2-Tetrachloroethane	25	21.4	86	69-114
79-00-5	1,1,2-Trichloroethane	25	21.4	86	74-115
127-18-4	Tetrachloroethylene	25	22.0	88	75-124
108-88-3	Toluene	25	22.3	89	76-118
79-01-6	Trichloroethylene	25	22.9	92	75-122
75-01-4	Vinyl chloride	25	25.7	103	62-142
1330-20-7	Xylene (total)	75	69.2	92	78-120

Blank Spike Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC630-BS	C0014287.D	1	02/01/03	KW	n/a	n/a	VC630

The QC reported here applies to the following samples: Method: SW846 8260B

F16386-1, F16386-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	86-115%
17060-07-0	1,2-Dichloroethane-D4	105%	78-125%
2037-26-5	Toluene-D8	103%	87-113%
460-00-4	4-Bromofluorobenzene	102%	84-117%

Method Blank Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC630-MB	C0014288.D	1	02/01/03	KW	n/a	n/a	VC630

The QC reported here applies to the following samples: Method: SW846 8260B

F16386-1, F16386-2

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

Method Blank Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC630-MB	C0014288.D	1	02/01/03	KW	n/a	n/a	VC630

The QC reported here applies to the following samples: Method: SW846 8260B

F16386-1, F16386-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	86-115%
17060-07-0	1,2-Dichloroethane-D4	107%	78-125%
2037-26-5	Toluene-D8	104%	87-113%
460-00-4	4-Bromofluorobenzene	108%	84-117%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16387-8MS	C0014290.D	1	02/01/03	KW	n/a	n/a	VC630
F16387-8MSD	C0014291.D	1	02/01/03	KW	n/a	n/a	VC630
F16387-8	C0014289.D	1	02/01/03	KW	n/a	n/a	VC630

The QC reported here applies to the following samples: Method: SW846 8260B

F16386-1, F16386-2

CAS No.	Compound	F16387-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	9.9		25	33.9	96	33.3	94	2	71-127/8
75-27-4	Bromodichloromethane	ND		25	22.2	89	21.9	88	1	70-121/10
75-25-2	Bromoform	ND		25	20.1	80	20.3	81	1	50-124/18
108-90-7	Chlorobenzene	ND		25	22.2	89	22.1	88	0	77-113/6
75-00-3	Chloroethane	ND		25	29.9	120	29.3	117	2	57-155/19
67-66-3	Chloroform	0.86	J	25	23.6	91	23.6	91	0	72-125/11
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	10-158/37
56-23-5	Carbon tetrachloride	ND		25	24.1	96	24.1	96	0	61-140/13
75-34-3	1,1-Dichloroethane	ND		25	25.6	102	25.1	100	2	71-129/11
75-35-4	1,1-Dichloroethylene	ND		25	26.5	106	26.5	106	0	60-141
107-06-2	1,2-Dichloroethane	ND		25	23.2	93	22.6	90	3	64-121/5
78-87-5	1,2-Dichloropropane	ND		25	26.5	106	25.7	103	3	73-131/8
124-48-1	Dibromochloromethane	2.7		25	20.6	72	21.0	73	2	65-118/12
156-59-2	cis-1,2-Dichloroethylene	ND		25	22.4	90	22.5	90	0	75-131/12
10061-01-5	cis-1,3-Dichloropropene	ND		25	22.4	90	21.9	88	2	62-115/13
541-73-1	m-Dichlorobenzene	ND		25	21.6	86	21.3	85	1	72-115/7
95-50-1	o-Dichlorobenzene	ND		25	21.6	86	21.2	85	2	72-113/8
106-46-7	p-Dichlorobenzene	ND		25	21.2	85	21.3	85	0	72-116/7
156-60-5	trans-1,2-Dichloroethylene	ND		25	26.0	104	25.5	102	2	65-127/12
10061-02-6	trans-1,3-Dichloropropene	ND		25	22.9	92	22.7	91	1	51-115/13
100-41-4	Ethylbenzene	ND		25	24.2	97	24.0	96	1	72-119/7
74-83-9	Methyl bromide	ND		25	28.7	115	28.3	113	1	44-140/19
74-87-3	Methyl chloride	ND		25	26.2	105	25.2	101	4	43-148/23
75-09-2	Methylene chloride	ND		25	24.7	99	24.0	96	3	61-131/11
1634-04-4	Methyl Tert Butyl Ether	ND		25	23.2	93	23.2	93	0	65-125/12
71-55-6	1,1,1-Trichloroethane	ND		25	24.1	96	24.6	98	2	69-135/13
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	22.5	90	22.1	88	2	62-120/10
79-00-5	1,1,2-Trichloroethane	ND		25	22.8	91	23.0	92	1	71-117/10
127-18-4	Tetrachloroethylene	3.7		25	26.3	90	26.1	90	1	74-123/11
108-88-3	Toluene	ND		25	23.3	93	23.3	93	0	73-119/10
79-01-6	Trichloroethylene	2.0		25	24.6	90	24.6	90	0	71-124/9
75-01-4	Vinyl chloride	ND		25	30.0	120	29.7	119	1	53-149/22
1330-20-7	Xylene (total)	2.5	J	75	74.4	96	73.3	94	1	73-123/8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16387-8MS	C0014290.D	1	02/01/03	KW	n/a	n/a	VC630
F16387-8MSD	C0014291.D	1	02/01/03	KW	n/a	n/a	VC630
F16387-8	C0014289.D	1	02/01/03	KW	n/a	n/a	VC630

The QC reported here applies to the following samples: Method: SW846 8260B

F16386-1, F16386-2

CAS No.	Surrogate Recoveries	MS	MSD	F16387-8	Limits
1868-53-7	Dibromofluoromethane	99%	101%	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	106%	111%	109%	78-125%
2037-26-5	Toluene-D8	105%	103%	106%	87-113%
460-00-4	4-Bromofluorobenzene	105%	103%	108%	84-117%

Instrument Performance Check (BFB)

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample:	VC630-BFB	Injection Date:	02/01/03
Lab File ID:	C0014285.D	Injection Time:	10:48
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	18810	39.8		Pass
75	30.0 - 60.0% of mass 95	21406	45.3		Pass
95	Base peak, 100% relative abundance	47292	100.0		Pass
96	5.0 - 9.0% of mass 95	3256	6.9		Pass
173	Less than 2.0% of mass 174	86	0.18	(0.23) [a]	Pass
174	50.0 - 100.0% of mass 95	37055	78.4		Pass
175	5.0 - 9.0% of mass 174	2419	5.1	(6.5) [a]	Pass
176	95.0 - 101.0% of mass 174	35469	75.0	(95.7) [a]	Pass
177	5.0 - 9.0% of mass 176	2410	5.1	(6.8) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC630-CC629	C0014286.D	02/01/03	11:15	00:27	Continuing cal 40
VC630-BS	C0014287.D	02/01/03	11:42	00:54	Blank Spike
VC631-BS	C0014287.D	02/01/03	11:42	00:54	Blank Spike
VC630-MB	C0014288.D	02/01/03	12:08	01:20	Method Blank
VC631-MB	C0014288.D	02/01/03	12:08	01:20	Method Blank
F16387-8	C0014289.D	02/01/03	12:35	01:47	(used for QC only; not part of job F16386)
F16387-8MS	C0014290.D	02/01/03	13:02	02:14	Matrix Spike
F16387-8MSD	C0014291.D	02/01/03	13:28	02:40	Matrix Spike Duplicate
ZZZZZZ	C0014292.D	02/01/03	13:55	03:07	(unrelated sample)
F16386-1	C0014293.D	02/01/03	14:21	03:33	CEF-826-GW-2S-01
F16386-2	C0014294.D	02/01/03	14:48	04:00	CEF-826-GW-1S-01
ZZZZZZ	C0014295.D	02/01/03	15:15	04:27	(unrelated sample)
ZZZZZZ	C0014296.D	02/01/03	15:41	04:53	(unrelated sample)
F16373-1	C0014297.D	02/01/03	16:08	05:20	(used for QC only; not part of job F16386)
F16373-1MS	C0014298.D	02/01/03	16:34	05:46	Matrix Spike
F16373-1MSD	C0014299.D	02/01/03	17:01	06:13	Matrix Spike Duplicate
VC632-BS	C0014300.D	02/01/03	17:27	06:39	Blank Spike
OP6844-LB	C0014301.D	02/01/03	17:54	07:06	Leachate Blank
F16373-2	C0014302.D	02/01/03	18:20	07:32	(used for QC only; not part of job F16386)
F16373-2MS	C0014303.D	02/01/03	18:47	07:59	Matrix Spike
F16373-2MSD	C0014304.D	02/01/03	19:13	08:25	Matrix Spike Duplicate
ZZZZZZ	C0014305.D	02/01/03	19:42	08:54	(unrelated sample)
ZZZZZZ	C0014306.D	02/01/03	20:11	09:23	(unrelated sample)
ZZZZZZ	C0014307.D	02/01/03	20:40	09:52	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample:	VC630-BFB	Injection Date:	02/01/03
Lab File ID:	C0014285.D	Injection Time:	10:48
Instrument ID:	GCMSC		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	C0014308.D	02/01/03	21:08	10:20	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample:	VC629-BFB	Injection Date:	01/31/03
Lab File ID:	C0014258.D	Injection Time:	11:27
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16566	37.4		Pass
75	30.0 - 60.0% of mass 95	20002	45.1		Pass
95	Base peak, 100% relative abundance	44311	100.0		Pass
96	5.0 - 9.0% of mass 95	3000	6.8		Pass
173	Less than 2.0% of mass 174	207	0.47	(0.56) [a]	Pass
174	50.0 - 100.0% of mass 95	37216	84.0		Pass
175	5.0 - 9.0% of mass 174	2646	6.0	(7.1) [a]	Pass
176	95.0 - 101.0% of mass 174	36376	82.1	(97.7) [a]	Pass
177	5.0 - 9.0% of mass 176	2424	5.5	(6.7) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC629-IC629	C0014259.D	01/31/03	11:52	00:25	Initial cal 1
VC629-IC629	C0014260.D	01/31/03	12:19	00:52	Initial cal 5
VC629-IC629	C0014261.D	01/31/03	12:46	01:19	Initial cal 20
VC629-ICC629	C0014262.D	01/31/03	13:12	01:45	Initial cal 40
VC629-IC629	C0014263.D	01/31/03	13:39	02:12	Initial cal 70
VC629-IC629	C0014264.D	01/31/03	14:05	02:38	Initial cal 100
VC629-BS	C0014266.D	01/31/03	14:58	03:31	Blank Spike
VC629-MB	C0014267.D	01/31/03	15:25	03:58	Method Blank
ZZZZZZ	C0014270.D	01/31/03	16:47	05:20	(unrelated sample)
F16387-2	C0014271.D	01/31/03	17:13	05:46	(used for QC only; not part of job F16386)
F16387-2MS	C0014272.D	01/31/03	17:40	06:13	Matrix Spike
F16387-2MSD	C0014273.D	01/31/03	18:06	06:39	Matrix Spike Duplicate
ZZZZZZ	C0014274.D	01/31/03	18:33	07:06	(unrelated sample)
ZZZZZZ	C0014275.D	01/31/03	18:59	07:32	(unrelated sample)
ZZZZZZ	C0014276.D	01/31/03	19:26	07:59	(unrelated sample)
ZZZZZZ	C0014277.D	01/31/03	19:52	08:25	(unrelated sample)
ZZZZZZ	C0014278.D	01/31/03	20:19	08:52	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	VC630-CC629	Injection Date:	02/01/03
Lab File ID:	C0014286.D	Injection Time:	11:15
Instrument ID:	GCMSC	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	2333700	10.27	1948355	13.51	1066909	16.05	230468	7.50
Upper Limit [a]	4667400	10.77	3896710	14.01	2133818	16.55	460936	8.00
Lower Limit [b]	1166850	9.77	974178	13.01	533455	15.55	115234	7.00

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VC630-BS	2301358	10.27	1930832	13.51	1084065	16.05	226739	7.50
VC631-BS	2301358	10.27	1930832	13.51	1084065	16.05	226739	7.50
VC630-MB	2250806	10.28	1855201	13.51	979228	16.05	221456	7.50
VC631-MB	2250806	10.28	1855201	13.51	979228	16.05	221456	7.50
F16387-8	2129435	10.27	1744780	13.51	923819	16.05	212700	7.51
F16387-8MS	2157874	10.27	1788640	13.51	986152	16.05	214003	7.51
F16387-8MSD	2205087	10.28	1853567	13.51	1033155	16.05	221017	7.50
ZZZZZZ	2246264	10.28	1864283	13.51	980027	16.05	227466	7.51
F16386-1	2075172	10.27	1707912	13.51	893352	16.05	220901	7.50
F16386-2	1991244	10.28	1629149	13.51	840821	16.05	203686	7.51
ZZZZZZ	1837312	10.27	1505998	13.51	780873	16.05	186036	7.51
ZZZZZZ	1759359	10.27	1430083	13.51	745004	16.05	182280	7.50
F16373-1	1670584	10.27	1365636	13.51	703014	16.05	165124	7.50
F16373-1MS	1674826	10.27	1383478	13.51	783927	16.05	167096	7.50
F16373-1MSD	1684946	10.27	1421991	13.51	794400	16.05	178372	7.50
VC632-BS	1712490	10.27	1431984	13.51	802762	16.06	185486	7.50
OP6844-LB	1688064	10.27	1394883	13.51	721790	16.05	178679	7.50
F16373-2	1634447	10.27	1341327	13.51	677758	16.05	178410	7.50
F16373-2MS	1599625	10.27	1339988	13.51	757448	16.05	169996	7.50
F16373-2MSD	1644847	10.28	1377486	13.51	781368	16.05	177933	7.50
ZZZZZZ	1635564	10.27	1343800	13.51	692167	16.05	164582	7.50
ZZZZZZ	1534417	10.27	1270495	13.51	639280	16.05	160406	7.50
ZZZZZZ	1496249	10.27	1217578	13.51	623016	16.05	160141	7.50
ZZZZZZ	1467042	10.27	1197204	13.51	610503	16.05	145869	7.50

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
F16386-1	C0014293.D	100.0	110.0	105.0	108.0
F16386-2	C0014294.D	100.0	111.0	105.0	110.0
F16387-8MS	C0014290.D	99.0	106.0	105.0	105.0
F16387-8MSD	C0014291.D	101.0	111.0	103.0	103.0
VC630-BS	C0014287.D	100.0	105.0	103.0	102.0
VC630-MB	C0014288.D	100.0	107.0	104.0	108.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	86-115%
S2 = 1,2-Dichloroethane-D4	78-125%
S3 = Toluene-D8	87-113%
S4 = 4-Bromofluorobenzene	84-117%

Initial Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC629-ICC629
Lab FileID: C0014262.D

Response Factor Report MSVOA5

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 31 14:36:30 2003
Response via : Initial Calibration

Calibration Files
1 =C0014259.D 2 =C0014260.D 3 =C0014261.D
4 =C0014262.D 5 =C0014263.D 6 =C0014264.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	ISTD							
2)		Dichlorodifluoromet		0.225	0.235	0.230	0.232	0.232	0.231	1.69
3)	P	Chloromethane	0.707	0.618	0.624	0.605	0.613	0.614	0.630	6.03
4)	C	Vinyl Chloride		0.353	0.385	0.360	0.366	0.363	0.365	3.34
5)		Bromomethane	0.175	0.147	0.154	0.144	0.140	0.135	0.149	9.56
6)		Chloroethane	0.180	0.190	0.190	0.177	0.178	0.175	0.182	3.67
7)		Trichlorofluorometh		0.290	0.300	0.281	0.294	0.295	0.292	2.41
8)		Ethyl ether	0.615	0.762	0.769	0.750	0.728	0.692	0.719	8.07
9)	C	1,1-Dichloroethene		0.551	0.648	0.662	0.642	0.651	0.631	7.19
10)		Freon 113		0.223	0.254	0.261	0.250	0.255	0.249	5.97
11)		Acetone		0.165	0.160	0.158	0.154	0.148	0.157	3.99
12)		Iodomethane	0.429	0.445	0.458	0.451	0.454	0.454	0.448	2.38
13)		Methyl Acetate	0.351	0.447	0.448	0.444	0.446	0.420	0.426	9.00
14)		Carbon Disulfide		0.810	0.880	0.895	0.868	0.878	0.866	3.81
15)		Hexane	0.621	0.505	0.577	0.603	0.584	0.585	0.579	6.87
16)		Methylene Chloride		1.078	0.951	0.910	0.899	0.878	0.943	8.49
17)		trans-1,2-Dichloroe	0.580	0.596	0.619	0.626	0.624	0.620	0.611	3.05
18)		Acrylonitrile	0.169	0.175	0.180	0.175	0.167	0.174	0.173	2.74
19)		Methyl Tert Butyl E	0.653	0.789	0.789	0.767	0.778	0.758	0.756	6.85
20)	P	1,1-Dichloroethane	0.631	0.676	0.682	0.690	0.678	0.655	0.669	3.27
21)		Vinyl acetate	1.411	1.810	1.817	1.727	1.553	1.269	1.598	14.11
22)		Di-isopropyl ether	1.942	2.266	2.263	2.192	2.145	2.051	2.143	5.93
23)		ETBE	1.213	1.498	1.495	1.486	1.498	1.478	1.445	7.89
24)		2,2-Dichloropropane		0.251	0.259	0.259	0.243	0.240	0.250	3.44
25)		cis-1,2-Dichloroeth	0.261	0.303	0.299	0.292	0.291	0.285	0.288	5.21
26)		2-Butanone	0.248	0.280	0.286	0.279	0.277	0.267	0.273	4.92
27)		Bromochloromethane	0.117	0.149	0.146	0.142	0.140	0.138	0.139	8.09
28)	C	Chloroform	0.477	0.483	0.471	0.466	0.457	0.459	0.469	2.17
29)		Tetrahydrofuran	0.164	0.196	0.187	0.184	0.181	0.175	0.181	6.04
30)		1,1,1-Trichloroetha	0.311	0.331	0.355	0.367	0.360	0.364	0.348	6.41
31)		Cyclohexane		0.737	0.864	0.908	0.881	0.881	0.854	7.92
32)	S	Dibromofluoromethan	0.254	0.250	0.257	0.256	0.250	0.250	0.253	1.27
33)		1,1-Dichloropropene	0.283	0.319	0.355	0.361	0.352	0.350	0.337	8.89
34)		Carbon Tetrachlorid	0.267	0.275	0.313	0.326	0.329	0.335	0.307	9.56
35)	S	1,2-Dichloroethane-	0.348	0.350	0.357	0.338	0.337	0.330	0.343	2.84
36)		Benzene	1.142	1.146	1.136	1.128	1.084	1.037	1.112	3.90
37)		TAME	0.710	0.828	0.834	0.811	0.803	0.776	0.794	5.79
38)		1,2-Dichloroethane	0.620	0.575	0.561	0.550	0.551	0.536	0.566	5.27
39)		Trichloroethene	0.270	0.264	0.272	0.271	0.270	0.270	0.269	1.01
40)		Methylcyclohexane	0.308	0.356	0.390	0.406	0.390	0.384	0.372	9.54
41)	C	1,2-Dichloropropane	0.373	0.438	0.428	0.416	0.406	0.386	0.408	6.06
42)		Dibromomethane	0.144	0.171	0.174	0.166	0.166	0.165	0.164	6.51
43)		Bromodichloromethan	0.329	0.375	0.375	0.371	0.370	0.368	0.365	4.79
44)		2-Nitropropane	0.132	0.159	0.161	0.159	0.157	0.153	0.153	7.17
45)		2-Chloroethyl vinyl		0.238	0.241	0.237	0.225	0.210	0.230	5.47
46)		4-Methyl-2-pentanon	0.589	0.662	0.663	0.649	0.636	0.605	0.634	4.81

Initial Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC629-ICC629
Lab FileID: C0014262.D

47)		cis-1,3-Dichloropro	0.415	0.500	0.497	0.498	0.497	0.486	0.482	6.88
48)	I	Chlorobenzene-d5	----------ISTD----------							
49)	S	Toluene-d8	1.154	1.150	1.164	1.170	1.159	1.149	1.158	0.72
50)	C	Toluene	1.450	1.404	1.425	1.416	1.387	1.362	1.407	2.16
51)		trans-1,3-Dichlorop	0.446	0.518	0.538	0.529	0.537	0.520	0.515	6.75
52)		1,1,2-Trichloroetha	0.249	0.266	0.276	0.259	0.262	0.254	0.261	3.69
53)		Tetrachloroethene	0.338	0.317	0.353	0.352	0.348	0.347	0.343	4.02
54)		2-hexanone	0.512	0.532	0.547	0.539	0.525	0.495	0.525	3.63
55)		1,3-Dichloropropane	0.456	0.557	0.556	0.539	0.528	0.501	0.523	7.41
56)		Dibromochloromethan	0.284	0.341	0.338	0.331	0.338	0.336	0.328	6.63
57)		1,2-Dibromoethane	0.288	0.339	0.342	0.331	0.332	0.329	0.327	6.03
58)		1-Chlorohexane	0.368	0.393	0.432	0.444	0.439	0.431	0.418	7.29
59)	P	Chlorobenzene	0.924	1.017	1.010	0.985	0.990	0.963	0.981	3.48
60)		1,1,1,2-Tetrachloro	0.312	0.332	0.345	0.333	0.333	0.316	0.329	3.66
61)	C	Ethylbenzene	1.523	1.568	1.608	1.588	1.535	1.470	1.549	3.22
62)		m,p-Xylene	1.210	1.243	1.250	1.231	1.205	1.144	1.214	3.17
63)		o-Xylene	1.300	1.335	1.324	1.279	1.229	1.168	1.273	4.98
64)		Styrene	1.049	1.170	1.167	1.115	1.076	1.020	1.099	5.63
65)	P	Bromoform	0.201	0.221	0.233	0.236	0.241	0.243	0.229	6.95
66)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
67)		Isopropylbenzene	2.564	2.614	2.732	2.712	2.718	2.706	2.674	2.56
68)	S	4-Bromofluorobenzen	0.916	0.918	0.924	0.905	0.927	0.923	0.919	0.86
69)		Bromobenzene	0.721	0.757	0.751	0.705	0.717	0.683	0.722	3.84
70)	P	1,1,2,2-Tetrachloro	0.699	0.804	0.793	0.760	0.760	0.737	0.759	5.01
71)		trans-1,4-Dichloro-	0.346	0.242	0.309	0.336	0.365	0.371	0.328	14.52
72)		1,2,3-Trichloroprop	0.186	0.217	0.222	0.211	0.218	0.212	0.211	6.15
73)		n-Propylbenzene	3.130	3.130	3.320	3.285	3.189	3.063	3.186	3.11
74)		2-Chlorotoluene	2.313	2.291	2.318	2.220	2.158	2.066	2.228	4.52
75)		4-Chlorotoluene	2.077	2.217	2.223	2.146	2.153	2.115	2.155	2.64
76)		1,3,5-Trimethylbenz	2.298	2.358	2.383	2.321	2.259	2.154	2.295	3.57
77)		Benzyl chloride	1.043	1.243	1.397	1.386	1.398	1.367	1.306	10.83
78)		sec-Butylbenzene	2.623	2.587	2.808	2.816	2.780	2.763	2.729	3.63
79)		1,3-Dichlorobenzene	1.416	1.494	1.480	1.423	1.434	1.409	1.443	2.48
80)		4-Isopropyltoluene	2.058	2.139	2.284	2.237	2.227	2.197	2.190	3.67
81)		1,4-Dichlorobenzene	1.443	1.540	1.513	1.468	1.461	1.435	1.477	2.79
82)		tert-Butylbenzene	1.240	1.257	1.292	1.283	1.257	1.291	1.270	1.69
83)		n-Butylbenzene	2.018	1.935	2.098	2.069	2.035	2.003	2.026	2.79
84)		1,2-Dichlorobenzene	1.402	1.450	1.454	1.407	1.411	1.373	1.416	2.19
85)		1,2,4-Trimethylbenz	2.418	2.543	2.576	2.497	2.493	2.425	2.492	2.52
86)		1,2-Dibromo-3-Chlor		0.136	0.136	0.133	0.131	0.132	0.134	1.54
87)		1,2,4-Trichlorobenz	1.019	0.894	0.900	0.857	0.868	0.855	0.899	6.89
88)		Hexachlorobutadiene		0.266	0.301	0.286	0.284	0.295	0.286	4.67
89)		Naphthalene		2.165	2.243	2.154	2.204	2.174	2.188	1.64
90)		1,2,3-Trichlorobenz		0.788	0.803	0.768	0.779	0.770	0.782	1.83
91)	I	Tert Butyl alcohol-d1	----------ISTD----------							
92)		Acrolein	2.333	1.475	1.737	1.412	1.323		1.656	24.67

----- Linear regression ----- Coefficient = 0.9919
Response Ratio = 0.06407 + 1.30531 *A

93)		Tert-Butyl Alcohol	2.239	2.483	2.379	2.259	2.404	2.427	2.365	4.07
94)		1,4-Dioxane	0.158	0.170	0.163	0.158	0.169	0.173	0.165	4.02
95)		Cyclohexanone		1.057	0.978	0.874	0.944	0.964	0.963	6.83

(#) = Out of Range

826045.M Sat Feb 01 10:19:34 2003 RPT1

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC630-CC629
Lab FileID: C0014286.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\020103\C0014286.D
Acq On : 1 Feb 2003 11:15 am
Sample : CC629-40
Misc : ms2063,vc630,,,,,
MS Integration Params: RTEINT.P

Vial: 1
Operator: KarenW
Inst : MSVOA5
Multiplr: 1.00

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 31 14:36:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.001 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	101	0.00
2		Dichlorodifluoromethane	0.231	0.266	-15.2	116	0.00
3	P	Chloromethane	0.630	0.721	-14.4	120	0.00
4	C	Vinyl Chloride	0.365	0.437	-19.7	122	0.00
5		Bromomethane	0.149	0.171	-14.8	120	0.00
6		Chloroethane	0.182	0.226	-24.2#	128	0.00
7		Trichlorofluoromethane	0.292	0.340	-16.4	122	0.00
8		Ethyl ether	0.719	0.827	-15.0	111	0.00
9	C	1,1-Dichloroethene	0.631	0.724	-14.7	110	0.00
10		Freon 113	0.249	0.261	-4.8	100	0.00
11		Acetone	0.157	0.173	-10.2	111	0.00
12		Iodomethane	0.448	0.429	4.2	96	0.00
13		Methyl Acetate	0.426	0.503	-18.1	114	0.00
14		Carbon Disulfide	0.866	0.925	-6.8	104	0.00
15		Hexane	0.579	0.682	-17.8	114	0.00
16		Methylene Chloride	0.943	0.995	-5.5	110	0.00
17		trans-1,2-Dichloroethene	0.611	0.697	-14.1	112	0.00
18		Acrylonitrile	0.173	0.176	-1.7	101	0.00
19		Methyl Tert Butyl Ether	0.756	0.818	-8.2	107	0.00
20	P	1,1-Dichloroethane	0.669	0.757	-13.2	110	0.00
21		Vinyl acetate	1.598	1.951	-22.1#	114	0.00
22		Di-isopropyl ether	2.143	2.496	-16.5	114	0.00
23		ETBE	1.445	1.657	-14.7	112	0.00
24		2,2-Dichloropropane	0.250	0.253	-1.2	98	0.00
25		cis-1,2-Dichloroethene	0.288	0.297	-3.1	102	0.00
26		2-Butanone	0.273	0.310	-13.6	112	0.00
27		Bromochloromethane	0.139	0.135	2.9	96	0.00
28	C	Chloroform	0.469	0.486	-3.6	105	0.00
29		Tetrahydrofuran	0.181	0.205	-13.3	112	0.00
30		1,1,1-Trichloroethane	0.348	0.359	-3.2	98	0.00
31		Cyclohexane	0.854	1.010	-18.3	112	0.00
32	S	Dibromofluoromethane	0.253	0.254	-0.4	100	0.00
33		1,1-Dichloropropene	0.337	0.378	-12.2	105	0.00
34		Carbon Tetrachloride	0.307	0.325	-5.9	100	0.00
35	S	1,2-Dichloroethane-d4	0.343	0.354	-3.2	105	0.00
36		Benzene	1.112	1.192	-7.2	106	0.00
37		TAME	0.794	0.877	-10.5	109	0.00
38		1,2-Dichloroethane	0.566	0.585	-3.4	107	0.00
39		Trichloroethene	0.269	0.279	-3.7	104	0.00
40		Methylcyclohexane	0.372	0.421	-13.2	104	0.00
41	C	1,2-Dichloropropane	0.408	0.466	-14.2	113	0.00
42		Dibromomethane	0.164	0.166	-1.2	101	0.00

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC630-CC629
Lab FileID: C0014286.D

43		Bromodichloromethane	0.365	0.375	-2.7	102	0.00
44		2-Nitropropane	0.153	0.168	-9.8	106	0.00
45		2-Chloroethyl vinyl ether	0.230	0.249	-8.3	106	0.00
46		4-Methyl-2-pentanone	0.634	0.717	-13.1	111	0.00
47		cis-1,3-Dichloropropene	0.482	0.520	-7.9	105	0.00
48	I	Chlorobenzene-d5	1.000	1.000	0.0	99	0.00
49	S	Toluene-d8	1.158	1.185	-2.3	100	0.00
50	C	Toluene	1.407	1.456	-3.5	102	0.00
51		trans-1,3-Dichloropropene	0.515	0.558	-8.3	105	0.00
52		1,1,2-Trichloroethane	0.261	0.273	-4.6	104	0.00
53		Tetrachloroethene	0.343	0.337	1.7	95	0.00
54		2-hexanone	0.525	0.594	-13.1	109	0.00
55		1,3-Dichloropropane	0.523	0.564	-7.8	104	0.00
56		Dibromochloromethane	0.328	0.333	-1.5	100	0.00
57		1,2-Dibromoethane	0.327	0.327	0.0	98	0.00
58		1-Chlorohexane	0.418	0.447	-6.9	100	0.00
59	P	Chlorobenzene	0.981	0.994	-1.3	100	0.00
60		1,1,1,2-Tetrachloroethane	0.329	0.344	-4.6	102	0.00
61	C	Ethylbenzene	1.549	1.649	-6.5	103	0.00
62		m,p-Xylene	1.214	1.275	-5.0	103	0.00
63		o-Xylene	1.273	1.314	-3.2	102	0.00
64		Styrene	1.099	1.153	-4.9	103	0.00
65	P	Bromoform	0.229	0.229	0.0	96	0.00
66	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	95	0.00
67		Isopropylbenzene	2.674	2.858	-6.9	100	0.00
68	S	4-Bromofluorobenzene	0.919	0.959	-4.4	101	0.00
69		Bromobenzene	0.722	0.722	0.0	97	0.00
70	P	1,1,2,2-Tetrachloroethane	0.759	0.789	-4.0	99	0.00
71		trans-1,4-Dichloro-2-butene	0.328	0.441	-34.5#	125	0.00
72		1,2,3-Trichloropropane	0.211	0.219	-3.8	99	0.00
73		n-Propylbenzene	3.186	3.460	-8.6	100	0.00
74		2-Chlorotoluene	2.228	2.371	-6.4	101	0.00
75		4-Chlorotoluene	2.155	2.246	-4.2	99	0.00
76		1,3,5-Trimethylbenzene	2.295	2.440	-6.3	100	0.00
77		Benzyl chloride	1.306	1.503	-15.1	103	0.00
78		sec-Butylbenzene	2.729	2.877	-5.4	97	0.00
79		1,3-Dichlorobenzene	1.443	1.420	1.6	95	0.00
80		4-Isopropyltoluene	2.190	2.278	-4.0	97	0.00
81		1,4-Dichlorobenzene	1.477	1.467	0.7	95	0.00
82		tert-Butylbenzene	1.270	1.328	-4.6	98	0.00
83		n-Butylbenzene	2.026	2.161	-6.7	99	0.00
84		1,2-Dichlorobenzene	1.416	1.401	1.1	95	0.00
85		1,2,4-Trimethylbenzene	2.492	2.582	-3.6	98	0.00
86		1,2-Dibromo-3-Chloropropane	0.134	0.140	-4.5	100	0.00
87		1,2,4-Trichlorobenzene	0.899	0.854	5.0	95	0.00
88		Hexachlorobutadiene	0.286	0.282	1.4	94	0.00
89		Naphthalene	2.188	2.144	2.0	95	0.00
90		1,2,3-Trichlorobenzene	0.782	0.757	3.2	94	0.00
91	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	102	0.00
92		Acrolein	1.656	1.445	12.7	105	0.00
93		Tert-Butyl Alcohol	2.365	2.420	-2.3	110	0.00
94		1,4-Dioxane	0.165	0.149	9.7	96	-0.01
95		Cyclohexanone	0.963	0.879	8.7	103	0.00

Average % D = 7.9

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC630-CC629
Lab FileID: C0014286.D

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0014262.D 826045.M Mon Feb 03 09:08:08 2003 RPT1

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Blank Spike Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6858-BS	AB24532.D	1	02/03/03	NJ	02/03/03	OP6858	GAB900

The QC reported here applies to the following samples: Method: EPA 504.1

F16386-1, F16386-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.23	92	80-120

Blank Spike Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6858-BS2	AB24533.D	1	02/03/03	NJ	02/03/03	OP6858	GAB900

The QC reported here applies to the following samples: Method: EPA 504.1

F16386-1, F16386-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.23	92	80-120

Method Blank Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6858-MB	AB24534.D	1	02/03/03	NJ	02/03/03	OP6858	GAB900

The QC reported here applies to the following samples: Method: EPA 504.1

F16386-1, F16386-2

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6858-MS	AB24536.D	1	02/03/03	NJ	02/03/03	OP6858	GAB900
OP6858-MSD	AB24537.D	1	02/03/03	NJ	02/03/03	OP6858	GAB900
F16388-1	AB24535.D	1	02/03/03	NJ	02/03/03	OP6858	GAB900

The QC reported here applies to the following samples: Method: EPA 504.1

F16386-1, F16386-2

CAS No.	Compound	F16388-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		0.229	0.20	87	0.20	87	0	74-120/22

Initial Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAB900-ICC900
Lab FileID: AB24514.D

Response Factor Report ECD 1

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Mon Feb 03 16:21:32 2003

Calibration Files
.125 =AB24513.D 0.25 =AB24514.D 0.50 =AB24515.D
0.75 =AB24516.D 1.0 =AB24517.D

	Compound	.125	0.25	0.50	0.75	1.0	Avg	%RSD
1)	1,2-Dibromoethane	1.949	1.673	1.547	1.406	1.356	1.586 E4	15.00
2)	1,2-Dibromo-3-chlorop	2.082	1.978	1.820	1.823	1.801	1.901 E4	6.51

Signal #2 Calibration Files
.125 =AB24513.D 0.25 =AB24514.D 0.50 =AB24515.D
0.75 =AB24516.D 1.0 =AB24517.D

	Compound	.125	0.25	0.50	0.75	1.0	Avg	%RSD
1)	1,2-Dibromoethane	2.661	2.292	2.153	1.948	1.876	2.186 E4	14.30
2)	1,2-Dibromo-3-chlorop	5.055	4.597	4.315	4.012	3.892	4.374 E4	10.73

(#) = Out of Range

504_1.M Tue Feb 04 13:33:30 2003 RPT1

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAB900-CC900
Lab FileID: AB24552.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0203EDB\AB24552.D\ECD1B.CH Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0203EDB\AB24552.D\ECD2A.CH
Acq On : 4 Feb 2003 6:03 am Operator: nareshj
Sample : CC900-0.25 Inst : ECD 1
Misc : op6858,gab900,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Mon Feb 03 16:21:32 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.254	-1.6	96	0.01
2	1,2-Dibromo-3-chloropropane	0.250	0.255	-2.0	98	0.00

Signal #2

1	1,2-Dibromoethane	0.250	0.246	1.6	94	0.01
2	1,2-Dibromo-3-chloropropa	0.250	0.256	-2.4	97	0.00

Evaluate Continuing Calibration Report - Not Founds

Signal #1 : C:\HPCHEM\1\DATA\0203EDB\AB24552.D\ECD1B.CH Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0203EDB\AB24552.D\ECD2A.CH
Acq On : 4 Feb 2003 6:03 am Operator: nareshj
Sample : CC900-0.25 Inst : ECD 1
Misc : op6858,gab900,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Mon Feb 03 16:21:32 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AB24514.D 504_1.M Tue Feb 04 13:36:02 2003 RPT1

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAB900-ECC900
Lab FileID: AB24559.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0203EDB\AB24559.D\ECD1B.CH Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0203EDB\AB24559.D\ECD2A.CH
Acq On : 4 Feb 2003 8:58 am Operator: nareshj
Sample : ECC900-0.25 Inst : ECD 1
Misc : op6858,gab900,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Mon Feb 03 16:21:32 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.251	-0.4	95	0.00
2	1,2-Dibromo-3-chloropropane	0.250	0.281	-12.4	108	0.00

Signal #2

1	1,2-Dibromoethane	0.250	0.245	2.0	93	0.00
2	1,2-Dibromo-3-chloropropa	0.250	0.270	-8.0	103	0.00

Evaluate Continuing Calibration Report - Not Founds

Signal #1 : C:\HPCHEM\1\DATA\0203EDB\AB24559.D\ECD1B.CH Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0203EDB\AB24559.D\ECD2A.CH
Acq On : 4 Feb 2003 8:58 am Operator: nareshj
Sample : ECC900-0.25 Inst : ECD 1
Misc : op6858,gab900,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Mon Feb 03 16:21:32 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AB24514.D 504_1.M Tue Feb 04 13:36:03 2003 RPT1

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAB900-CC900
Lab FileID: AB24530.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\0203EDB\AB24530.D\ECD1B.CH  Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\0203EDB\AB24530.D\ECD2A.CH
Acq On    :  3 Feb 2003   8:56 pm                    Operator: nareshj
Sample    : CC900-0.50                               Inst    : ECD 1
Misc      : op6857,gab900,35.0,,,2,1,water           Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Mon Feb 03 16:21:32 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.500	0.470	6.0	96	0.00
2	1,2-Dibromo-3-chloropropane	0.500	0.462	7.6	97	0.00
Signal #2						
1	1,2-Dibromoethane	0.500	0.466	6.8	95	0.00
2	1,2-Dibromo-3-chloropropa	0.500	0.462	7.6	94	0.00

Evaluate Continuing Calibration Report - Not Founds

```
Signal #1 : C:\HPCHEM\1\DATA\0203EDB\AB24530.D\ECD1B.CH  Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\0203EDB\AB24530.D\ECD2A.CH
Acq On    :  3 Feb 2003   8:56 pm                    Operator: nareshj
Sample    : CC900-0.50                               Inst    : ECD 1
Misc      : op6857,gab900,35.0,,,2,1,water           Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Mon Feb 03 16:21:32 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
Signal #2					

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AB24515.D 504_1.M Tue Feb 04 13:36:22 2003 RPT1

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Blank Spike Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6850-BS	EE012942.D	1	02/03/03	SM	01/31/03	OP6850	GEE564

The QC reported here applies to the following samples: Method: EPA 8310

F16386-1, F16386-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	20	13.6	68	52-104
208-96-8	Acenaphthylene	20	13.3	67	51-103
120-12-7	Anthracene	20	14.5	73	60-112
56-55-3	Benzo(a)anthracene	10	7.6	76	64-111
50-32-8	Benzo(a)pyrene	10	7.5	75	56-118
205-99-2	Benzo(b)fluoranthene	10	8.1	81	63-117
191-24-2	Benzo(g,h,i)perylene	10	7.9	79	45-118
207-08-9	Benzo(k)fluoranthene	10	8.0	80	56-118
218-01-9	Chrysene	10	7.6	76	67-112
53-70-3	Dibenzo(a,h)anthracene	10	7.9	79	41-119
206-44-0	Fluoranthene	20	14.4	72	61-111
86-73-7	Fluorene	20	13.7	69	54-105
193-39-5	Indeno(1,2,3-cd)pyrene	10	7.9	79	46-118
91-20-3	Naphthalene	20	12.0	60	44-105
90-12-0	1-Methylnaphthalene	20	12.0	60	47-102
91-57-6	2-Methylnaphthalene	20	12.2	61	47-101
85-01-8	Phenanthrene	20	13.9	70	55-109
129-00-0	Pyrene	20	14.2	71	61-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	72%	32-142%
92-94-4	p-Terphenyl	75%	30-128%

Blank Spike Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6852-BS	OP27004.D	1	02/03/03	SKW	01/31/03	OP6852	GOP927

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F16386-1, F16386-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C8-C40)	0.85	0.740	87	59-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	91%	51-125%

Method Blank Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6850-MB	EE012943.D	1	02/03/03	SM	01/31/03	OP6850	GEE564

The QC reported here applies to the following samples: Method: EPA 8310

F16386-1, F16386-2

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	72%	32-142%
92-94-4	p-Terphenyl	75%	30-128%

Method Blank Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6850-MB	EE012966.D	1	02/04/03	SM	01/31/03	OP6850	GEE565

The QC reported here applies to the following samples: Method: EPA 8310

F16386-1, F16386-2

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	72%	32-142%
92-94-4	p-Terphenyl	75%	30-128%

Method Blank Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6852-MB	OP27005.D	1	02/03/03	SKW	01/31/03	OP6852	GOP927

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F16386-1, F16386-2

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

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

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6850-MS	EE012960.D	1	02/03/03	SM	01/31/03	OP6850	GEE564
OP6850-MSD	EE012961.D	1	02/03/03	SM	01/31/03	OP6850	GEE564
F16386-1	EE012959.D	1	02/03/03	SM	01/31/03	OP6850	GEE564

The QC reported here applies to the following samples: Method: EPA 8310

F16386-1, F16386-2

CAS No.	Compound	F16386-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		42.6	32.3	76	34.0	80	5	20-140/45
208-96-8	Acenaphthylene	ND		42.6	30.9	73	32.5	76	5	17-141/46
120-12-7	Anthracene	ND		42.6	34.0	80	35.9	84	5	48-123/23
56-55-3	Benzo(a)anthracene	ND		21.3	17.0	80	17.7	83	4	42-134/22
50-32-8	Benzo(a)pyrene	ND		21.3	17.1	80	17.7	83	3	55-119/23
205-99-2	Benzo(b)fluoranthene	ND		21.3	17.9	84	18.4	86	3	58-118/22
191-24-2	Benzo(g,h,i)perylene	ND		21.3	16.8	79	18.2	86	8	57-118/23
207-08-9	Benzo(k)fluoranthene	ND		21.3	17.9	84	18.1	85	1	58-120/22
218-01-9	Chrysene	ND		21.3	16.9	79	17.5	82	3	49-137/23
53-70-3	Dibenzo(a,h)anthracene	ND		21.3	17.6	83	18.2	86	3	57-120/23
206-44-0	Fluoranthene	ND		42.6	33.5	79	35.0	82	4	55-117/22
86-73-7	Fluorene	ND		42.6	31.9	75	33.8	79	6	25-135/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		21.3	17.8	84	18.7	88	5	57-118/22
91-20-3	Naphthalene	ND		42.6	28.3	67	29.7	70	5	18-129/45
90-12-0	1-Methylnaphthalene	ND		42.6	28.3	67	29.8	70	5	18-131/46
91-57-6	2-Methylnaphthalene	ND		42.6	28.7	67	30.2	71	5	12-135/48
85-01-8	Phenanthrene	ND		42.6	32.6	77	34.3	81	5	39-129/27
129-00-0	Pyrene	ND		42.6	33.0	78	34.4	81	4	57-116/21

CAS No.	Surrogate Recoveries	MS	MSD	F16386-1	Limits
84-15-1	o-Terphenyl	80%	82%	64%	32-142%
92-94-4	p-Terphenyl	78%	80%	58%	30-128%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6852-MS	OP27010.D	1	02/03/03	SKW	01/31/03	OP6852	GOP927
OP6852-MSD	OP27011.D	1	02/03/03	SKW	01/31/03	OP6852	GOP927
F16388-1	OP27008.D	1	02/03/03	SKW	01/31/03	OP6852	GOP927

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F16386-1, F16386-2

CAS No.	Compound	F16388-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C8-C40)	ND		1.85	1.59	86	1.73	94	8	38-133/23

CAS No.	Surrogate Recoveries	MS	MSD	F16388-1	Limits
84-15-1	o-Terphenyl	83%	86%	68%	51-125%

Semivolatile Surrogate Recovery Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Method: EPA 8310 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F16386-1	EE012959.D	64.0	58.0
F16386-2	EE012962.D	63.0	42.0
OP6850-BS	EE012942.D	72.0	75.0
OP6850-MB	EE012943.D	72.0	75.0
OP6850-MB	EE012966.D	72.0	75.0
OP6850-MS	EE012960.D	80.0	78.0
OP6850-MSD	EE012961.D	82.0	80.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	32-142%
S2 = p-Terphenyl	30-128%

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Method: FLORIDA-PRO Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F16386-1	OP27006.D	94.0
F16386-2	OP27007.D	97.0
OP6852-BS	OP27004.D	91.0
OP6852-MB	OP27005.D	95.0
OP6852-MS	OP27010.D	83.0
OP6852-MSD	OP27011.D	86.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	51-125%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	GOP927-CC894	Injection Date:	02/03/03
Lab File ID:	OP26998.D	Injection Time:	18:59
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.13

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
ZZZZZZ	OP26999.D	02/03/03	19:20	5.12
F16381-5	OP27000.D	02/03/03	19:40	5.13
OP6847-MS	OP27001.D	02/03/03	20:01	5.12
OP6847-MSD	OP27002.D	02/03/03	20:22	5.12
ZZZZZZ	OP27003.D	02/03/03	20:42	5.13
OP6852-BS	OP27004.D	02/03/03	21:03	5.12
OP6852-MB	OP27005.D	02/03/03	21:24	5.12
F16386-1	OP27006.D	02/03/03	21:44	5.12
F16386-2	OP27007.D	02/03/03	22:05	5.12
F16388-1	OP27008.D	02/03/03	22:25	5.13

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	GEE564-CC541	Injection Date:	02/03/03
Lab File ID:	EE012952.D	Injection Time:	20:01
Instrument ID:	GCEE	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	8.84	8.84	10.92	10.92

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
ZZZZZZ	EE012953.D	02/03/03	20:25	8.83		10.91	
ZZZZZZ	EE012954.D	02/03/03	20:49	8.84		10.92	
ZZZZZZ	EE012955.D	02/03/03	21:13	8.83		10.92	
ZZZZZZ	EE012956.D	02/03/03	21:37	8.83		10.92	
ZZZZZZ	EE012957.D	02/03/03	22:01	8.82		10.91	
ZZZZZZ	EE012958.D	02/03/03	22:26	8.83		10.92	
F16386-1	EE012959.D	02/03/03	22:50	8.84		10.92	
OP6850-MS	EE012960.D	02/03/03	23:14	8.84		10.93	
OP6850-MSD	EE012961.D	02/03/03	23:38	8.84		10.92	
F16386-2	EE012962.D	02/04/03	00:02	8.83		10.92	
GEE564-ECC541	EE012963.D	02/04/03	00:26	8.83	8.83	10.92	10.92

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	GEE564-CC541	Injection Date:	02/03/03
Lab File ID:	EE012941.D	Injection Time:	15:35
Instrument ID:	GCEE	Method:	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	8.85	10.92

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP6850-BS	EE012942.D	02/03/03	15:59	8.85	10.91
OP6850-MB	EE012943.D	02/03/03	16:23	8.85	10.91
ZZZZZZ	EE012944.D	02/03/03	16:47	8.84	10.91
ZZZZZZ	EE012945.D	02/03/03	17:11	8.81	10.91
ZZZZZZ	EE012946.D	02/03/03	17:36	8.84	10.91
ZZZZZZ	EE012947.D	02/03/03	18:00	8.83	10.91
ZZZZZZ	EE012948.D	02/03/03	18:24	8.84	10.92
ZZZZZZ	EE012949.D	02/03/03	18:48	8.84	10.92
ZZZZZZ	EE012950.D	02/03/03	19:12	8.83	10.92
ZZZZZZ	EE012951.D	02/03/03	19:36	8.84	10.92

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	GOP927-CC894	Injection Date:	02/03/03
Lab File ID:	OP27009.D	Injection Time:	22:46
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.12

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP6852-MS	OP27010.D	02/03/03	23:06	5.13
OP6852-MSD	OP27011.D	02/03/03	23:27	5.12
ZZZZZZ	OP27012.D	02/03/03	23:48	5.12
ZZZZZZ	OP27013.D	02/04/03	00:08	5.12
ZZZZZZ	OP27014.D	02/04/03	00:29	5.13
ZZZZZZ	OP27016.D	02/04/03	01:10	5.13
ZZZZZZ	OP27017.D	02/04/03	01:31	5.13
ZZZZZZ	OP27018.D	02/04/03	01:51	5.13
ZZZZZZ	OP27019.D	02/04/03	02:12	5.13

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	GEE565-CC541	Injection Date:	02/04/03
Lab File ID:	EE012965.D	Injection Time:	10:56
Instrument ID:	GCEE	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	8.84	8.84	10.91	10.91

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP6850-MB	EE012966.D	02/04/03	11:20	8.83		10.91	
ZZZZZZ	EE012967.D	02/04/03	11:45	8.83		10.91	
ZZZZZZ	EE012968.D	02/04/03	12:09	8.83		10.92	
ZZZZZZ	EE012969.D	02/04/03	12:33	8.82		10.91	
ZZZZZZ	EE012970.D	02/04/03	12:57	8.84		10.92	
ZZZZZZ	EE012971.D	02/04/03	13:21	8.83		10.92	
GEE565-ECC541	EE012972.D	02/04/03	13:45	8.84	8.84	10.91	10.91

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Initial Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE541-ICC541
Lab FileID: EE012442.D

Response Factor Report G1315A

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Initial Calibration

Calibration Files
L1 =EE012439.D L2 =EE012440.D L3 =EE012441.D
L4 =EE012442.D L5 =EE012443.D L6 =EE012444.D

		Compound	L1	L2	L3	L4	L5	L6	Avg		%RSD
1)		Naphthalene	8.860	8.020	7.867	7.379	7.251	7.288	7.777	E5	7.96
2)		Acenaphthylene	3.460	2.985	3.101	2.942	2.878	2.907	3.045	E5	7.14
3)		1-Methyl Naphthalen	7.371	6.555	6.511	6.115	6.008	6.060	6.437	E5	7.99
4)		2-Methyl Naphthalen	7.450	6.678	6.622	6.216	6.105	6.161	6.539	E5	7.77
5)		Acenaphthene	5.858	5.286	5.301	4.981	4.888	4.935	5.208	E5	7.01
6)		Fluorene	2.182	1.964	1.955	1.842	1.805	1.820	1.928	E6	7.35
7)		Phenanthrene	1.917	1.695	1.675	1.573	1.540	1.551	1.658	E6	8.60
8)	S	O-Terphenyl	7.042	6.655	6.628	6.270	6.150	6.209	6.492	E5	5.31
9)		Anthracene	2.532	2.291	2.173	2.084	1.961	1.932	2.162	E5	10.39
10)		Fluoranthene	1.603	1.493	1.449	1.374	1.343	1.356	1.437	E6	6.99
11)		Pyrene	2.568	2.377	2.292	2.169	2.100	2.092	2.267	E6	8.17
12)	S	P-Terphenyl	2.918	2.565	2.539	2.399	2.346	2.365	2.522	E6	8.50
13)		Benzo(a)Anthracene	4.645	4.234	4.147	3.890	3.804	3.835	4.093	E6	7.87
14)		Chrysene	6.320	5.804	5.701	5.299	5.146	5.127	5.566	E6	8.37
15)		Benzo(b)Fluoranthen	2.336	2.216	2.120	1.998	2.002	1.993	2.111	E6	6.71
16)		Benzo(k)Fluoranthen	1.361	1.323	1.280	1.237	1.168	1.182	1.259	E6	6.11
17)		Benzo(a) Pyrene	2.709	2.572	2.571	2.425	2.390	2.419	2.514	E6	4.94
18)		Dibenzo(a,h)anthrac	2.067	1.945	2.064	1.958	1.932	1.878	1.974	E6	3.85
19)		Benzo(g,h,i) Peryle	1.449	1.385	1.396	1.330	1.317	1.314	1.365	E6	3.96
20)		Indeno(1,2,3-cd)pyr	1.128	1.078	1.151	1.090	1.078	1.091	1.103	E6	2.71

Signal #2

1)		Naphthalene	5.288	4.682	4.568	4.283	4.290	4.309	4.570	E5	8.51
2)		Acenaphthylene	3.485	3.124	3.034	2.850	2.900	2.923	3.053	E5	7.67
3)		1-Methyl Naphthalen	3.243	2.821	2.801	2.635	2.651	2.671	2.804	E5	8.18
4)		2-Methyl Naphthalen	4.541	3.996	3.995	3.754	3.738	3.771	3.966	E5	7.71
5)		Acenaphthene	1.814	1.730	1.851	1.741	1.738	1.749	1.770	E5	2.80
6)		Fluorene	2.367	2.149	2.149	2.029	2.001	2.019	2.119	E6	6.51
7)		Phenanthrene	6.517	5.788	5.587	5.203	5.071	5.059	5.538	E6	10.16
8)	S	O-Terphenyl	1.161	1.167	1.161	1.093	1.079	1.089	1.125	E6	3.73
9)		Anthracene	1.429	1.294	1.169	0.995	0.868	0.775	1.088	E7	23.26

----- Quadratic regression ----- Coefficient = 0.9994
Response Ratio = 2824171.07000 + 12023621.84282 *A + -109952.33392 *A^2

10)		Fluoranthene	1.449	1.642	1.640	1.568	1.543	1.558	1.567	E6	4.54
11)		Pyrene	1.428	1.339	1.359	1.320	1.299	1.309	1.342	E6	3.52
12)	S	P-Terphenyl	1.416	1.256	1.220	1.177	1.154	1.165	1.232	E6	7.98
13)		Benzo(a)Anthracene	3.412	3.140	2.980	2.858	2.806	2.838	3.005	E6	7.78
14)		Chrysene	5.262	4.743	4.475	4.329	4.243	4.270	4.554	E6	8.63
15)		Benzo(b)Fluoranthen	2.155	2.009	1.973	1.849	1.854	1.835	1.946	E6	6.44
16)		Benzo(k)Fluoranthen	3.270	3.130	3.063	2.882	2.835	2.865	3.007	E6	5.81
17)		Benzo(a) Pyrene	2.259	2.080	2.072	1.951	1.917	1.933	2.035	E6	6.40
18)		Dibenzo(a,h)anthrac	5.645	5.352	5.319	4.994	4.883	4.898	5.182	E6	5.90
19)		Benzo(g,h,i) Peryle	2.440	2.271	2.277	2.165	2.140	2.171	2.244	E6	4.98
20)		Indeno(1,2,3-cd)pyr	1.599	1.498	1.549	1.449	1.442	1.460	1.499	E6	4.20

(#) = Out of Range

Initial Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE541-ICC541
Lab FileID: EE012442.D

8310_32.M Tue Jan 07 13:11:03 2003

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE564-CC541
Lab FileID: EE012952.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0203APAH\EE012952.D\DAD1B.CH Vial: 3
Signal #2 : E:\HPCHEM\1\DATA\0203APAH\EE012952.D\DAD1A.CH
Acq On : 03-Feb-2003, 20:01:01 Operator: SARAHM
Sample : CC541-20 Inst : G1315A
Misc : op6850,gee564,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.095	4.5	101	-0.03
2		Acenaphthylene	20.000	19.185	4.1	99	-0.02
3		1-Methyl Naphthalene	20.000	17.833	10.8	94	-0.01
4		2-Methyl Naphthalene	20.000	18.751	6.2	99	-0.01
5		Acenaphthene	20.000	20.091	-0.5	105	-0.01
6		Fluorene	20.000	19.527	2.4	102	0.00
7		Phenanthrene	20.000	19.210	3.9	101	0.00
8	S	O-Terphenyl	20.000	19.457	2.7	101	0.00
9		Anthracene	20.000	18.464	7.7	96	0.00
10		Fluoranthene	20.000	19.349	3.3	101	0.00
11		Pyrene	20.000	18.976	5.1	99	-0.01
12	S	P-Terphenyl	20.000	19.099	4.5	100	-0.01
13		Benzo(a)Anthracene	10.000	9.611	3.9	101	-0.01
14		Chrysene	10.000	9.475	5.3	100	-0.02
15		Benzo(b)Fluoranthene	10.000	10.066	-0.7	106	-0.02
16		Benzo(k)Fluoranthene	10.000	10.033	-0.3	102	-0.02
17		Benzo(a) Pyrene	10.000	9.687	3.1	100	-0.02
18		Dibenzo(a,h)anthracene	10.000	10.075	-0.7	102	-0.01
19		Benzo(g,h,i) Perylene	10.000	9.813	1.9	101	-0.01
20		Indeno(1,2,3-cd)pyrene	10.000	9.775	2.2	99	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.262	3.7	103	-0.02
2		Acenaphthylene	20.000	19.090	4.6	102	-0.02
3		1-Methyl Naphthalene	20.000	17.787	11.1	95	-0.01
4		2-Methyl Naphthalene	20.000	18.541	7.3	98	-0.01
5		Acenaphthene	20.000	22.679	-13.4	115	-0.01
6		Fluorene	20.000	19.527	2.4	102	0.00
7		Phenanthrene	20.000	19.245	3.8	102	0.00
8	S	O-Terphenyl	20.000	17.876	10.6	92	0.00
9		Anthracene	20.000	20.717	-3.6	103	0.00
10		Fluoranthene	20.000	20.482	-2.4	102	0.00
11		Pyrene	20.000	20.794	-4.0	106	-0.01
12	S	P-Terphenyl	20.000	19.568	2.2	102	-0.01
13		Benzo(a)Anthracene	10.000	9.700	3.0	102	-0.01
14		Chrysene	10.000	9.610	3.9	101	-0.02
15		Benzo(b)Fluoranthene	10.000	9.775	2.2	103	-0.02

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE564-CC541
Lab FileID: EE012952.D

16	Benzo(k)Fluoranthene	10.000	9.797	2.0	102	-0.02
17	Benzo(a) Pyrene	10.000	9.646	3.5	101	-0.02
18	Dibenzo(a,h)anthracene	10.000	9.827	1.7	102	-0.01
19	Benzo(g,h,i) Perylene	10.000	9.761	2.4	101	-0.01
20	Indeno(1,2,3-cd)pyrene	10.000	9.698	3.0	100	0.00

Average % D = 4.1

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE012442.D 8310_32.M Tue Feb 04 12:45:19 2003

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE564-ECC541
Lab FileID: EE012963.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0203APAH\EE012963.D\DAD1B.CH Vial: 3
Signal #2 : E:\HPCHEM\1\DATA\0203APAH\EE012963.D\DAD1A.CH
Acq On : 04-Feb-2003, 00:26:43 Operator: SARAHM
Sample : ECC541-20 Inst : G1315A
Misc : op6850,gee564,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.159	4.2	101	0.01
2		Acenaphthylene	20.000	19.523	2.4	101	0.00
3		1-Methyl Naphthalene	20.000	18.424	7.9	97	0.00
4		2-Methyl Naphthalene	20.000	18.886	5.6	99	0.00
5		Acenaphthene	20.000	19.915	0.4	104	0.00
6		Fluorene	20.000	19.424	2.9	102	0.00
7		Phenanthrene	20.000	19.293	3.5	102	0.00
8	S	O-Terphenyl	20.000	19.457	2.7	101	0.00
9		Anthracene	20.000	18.490	7.6	96	0.00
10		Fluoranthene	20.000	19.401	3.0	101	0.00
11		Pyrene	20.000	18.957	5.2	99	0.00
12	S	P-Terphenyl	20.000	19.148	4.3	101	0.00
13		Benzo(a)Anthracene	10.000	9.648	3.5	102	0.00
14		Chrysene	10.000	9.455	5.4	99	-0.01
15		Benzo(b)Fluoranthene	10.000	9.889	1.1	104	-0.01
16		Benzo(k)Fluoranthene	10.000	9.868	1.3	100	-0.01
17		Benzo(a) Pyrene	10.000	9.714	2.9	101	-0.01
18		Dibenzo(a,h)anthracene	10.000	10.119	-1.2	102	0.00
19		Benzo(g,h,i) Perylene	10.000	9.885	1.2	101	0.00
20		Indeno(1,2,3-cd)pyrene	10.000	10.103	-1.0	102	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.193	4.0	102	0.01
2		Acenaphthylene	20.000	19.247	3.8	103	0.00
3		1-Methyl Naphthalene	20.000	18.372	8.1	98	0.00
4		2-Methyl Naphthalene	20.000	18.883	5.6	100	0.00
5		Acenaphthene	20.000	21.752	-8.8	111	0.00
6		Fluorene	20.000	19.499	2.5	102	0.00
7		Phenanthrene	20.000	19.273	3.6	103	0.00
8	S	O-Terphenyl	20.000	18.589	7.1	96	0.00
9		Anthracene	20.000	20.598	-3.0	102	0.00
10		Fluoranthene	20.000	20.625	-3.1	103	0.00
11		Pyrene	20.000	20.745	-3.7	105	0.00
12	S	P-Terphenyl	20.000	19.597	2.0	103	0.00
13		Benzo(a)Anthracene	10.000	9.746	2.5	103	0.00
14		Chrysene	10.000	9.612	3.9	101	-0.01
15		Benzo(b)Fluoranthene	10.000	9.822	1.8	103	-0.01

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE564-ECC541
Lab FileID: EE012963.D

16	Benzo(k)Fluoranthene	10.000	9.821	1.8	102	-0.01
17	Benzo(a) Pyrene	10.000	9.686	3.1	101	-0.01
18	Dibenzo(a,h)anthracene	10.000	9.864	1.4	102	0.00
19	Benzo(g,h,i) Perylene	10.000	9.828	1.7	102	0.00
20	Indeno(1,2,3-cd)pyrene	10.000	9.813	1.9	102	0.00

Average % D = 3.5

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE012442.D 8310_32.M Tue Feb 04 12:45:21 2003

Initial Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GOP894-ICC894
Lab FileID: OP25896.D

Response Factor Report FID 2

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Tue Dec 03 15:25:44 2002
Response via : Initial Calibration

Calibration Files
1 =OP25894.D 2 =OP25895.D 3 =OP25896.D
4 =OP25897.D 5 =OP25898.D 6 =OP25899.D 7 =OP25900.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1)S O-TERPHENYL	3.601	3.702	3.759	3.751	3.803			3.723 E4	2.07
2)H TPH (C8-C40)	3.420	3.482	3.499	3.475	3.454	3.097	3.084	3.359 E4	5.51

Average % RSD = 3.8

(#) = Out of Range

FL_PRO_F.M Wed Dec 04 08:35:27 2002

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GOP927-CC894
Lab FileID: OP26998.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\0203PRO\OP26998.D          Vial: 14
Acq On    :  3 Feb 2003   6:59 pm                    Operator: stephw
Sample    : CC894-1020                               Inst    : FID 2
Misc      : op6847,gop927,1000,,,1,1,water           Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Mon Feb 03 15:10:24 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	61.400	-2.3	101	0.00
2 H	TPH (C8-C40)	1020.000	1078.413	-5.7	101	0.00

Average % D = 4.0

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP25896.D FL_PRO_F.M Wed Feb 05 09:07:27 2003

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GOP927-CC894
Lab FileID: OP27009.D

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0203PRO\OP27009.D
Acq On : 3 Feb 2003 10:46 pm
Sample : CC894-1020
Misc : op6852,gop927,940,,,1,1,water
IntFile : events.e

Vial: 14
Operator: stephw
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Feb 03 15:10:24 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	58.399	2.7	96	0.00
2 H	TPH (C8-C40)	1020.000	1023.340	-0.3	96	0.00

Average % D = 1.5

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP25896.D FL_PRO_F.M Wed Feb 05 09:07:27 2003

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE564-CC541
Lab FileID: EE012941.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0203APAH\EE012941.D\DAD1B.CH Vial: 2
Signal #2 : E:\HPCHEM\1\DATA\0203APAH\EE012941.D\DAD1A.CH
Acq On : 03-Feb-2003, 15:35:18 Operator: SARAHM
Sample : CC541-10 Inst : G1315A
Misc : op6850,gee564,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	9.700	3.0	96	0.00
2		Acenaphthylene	10.000	9.550	4.5	94	0.02
3		1-Methyl Naphthalene	10.000	9.320	6.8	92	0.02
4		2-Methyl Naphthalene	10.000	9.630	3.7	95	0.02
5		Acenaphthene	10.000	10.201	-2.0	100	0.02
6		Fluorene	10.000	9.988	0.1	98	0.02
7		Phenanthrene	10.000	9.889	1.1	98	0.01
8	S	O-Terphenyl	10.000	9.941	0.6	97	0.00
9		Anthracene	10.000	10.171	-1.7	101	0.00
10		Fluoranthene	10.000	9.978	0.2	99	0.00
11		Pyrene	10.000	9.844	1.6	97	0.00
12	S	P-Terphenyl	10.000	9.838	1.6	98	0.00
13		Benzo(a)Anthracene	5.000	4.962	0.8	98	-0.01
14		Chrysene	5.000	4.920	1.6	96	-0.01
15		Benzo(b)Fluoranthene	5.000	5.164	-3.3	103	-0.02
16		Benzo(k)Fluoranthene	5.000	5.132	-2.6	101	-0.02
17		Benzo(a) Pyrene	5.000	4.894	2.1	96	-0.02
18		Dibenzo(a,h)anthracene	5.000	5.141	-2.8	98	-0.02
19		Benzo(g,h,i) Perylene	5.000	5.003	-0.1	98	-0.02
20		Indeno(1,2,3-cd)pyrene	5.000	5.046	-0.9	97	-0.02

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	9.965	0.4	100	0.00
2		Acenaphthylene	10.000	9.786	2.1	98	0.02
3		1-Methyl Naphthalene	10.000	9.245	7.6	93	0.02
4		2-Methyl Naphthalene	10.000	9.557	4.4	95	0.02
5		Acenaphthene	10.000	11.063	-10.6	106	0.02
6		Fluorene	10.000	9.943	0.6	98	0.02
7		Phenanthrene	10.000	9.933	0.7	98	0.01
8	S	O-Terphenyl	10.000	9.376	6.2	91	0.00
9		Anthracene	10.000	10.322	-3.2	99	0.00
10		Fluoranthene	10.000	10.312	-3.1	99	0.00
11		Pyrene	10.000	10.167	-1.7	100	0.00
12	S	P-Terphenyl	10.000	9.878	1.2	100	0.00
13		Benzo(a)Anthracene	5.000	4.973	0.5	100	-0.01
14		Chrysene	5.000	4.944	1.1	101	-0.01
15		Benzo(b)Fluoranthene	5.000	5.024	-0.5	99	-0.02

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE564-CC541
Lab FileID: EE012941.D

16	Benzo(k)Fluoranthene	5.000	5.023	-0.5	99	-0.02
17	Benzo(a) Pyrene	5.000	4.902	2.0	96	-0.02
18	Dibenzo(a,h)anthracene	5.000	5.063	-1.3	99	-0.02
19	Benzo(g,h,i) Perylene	5.000	4.979	0.4	98	-0.02
20	Indeno(1,2,3-cd)pyrene	5.000	5.050	-1.0	98	-0.02

Average % D = 2.3

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE012441.D 8310_32.M Tue Feb 04 12:45:49 2003

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE565-CC541
Lab FileID: EE012965.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0204PAH\EE012965.D\DAD1B.CH Vial: 2
Signal #2 : E:\HPCHEM\1\DATA\0204PAH\EE012965.D\DAD1A.CH
Acq On : 04-Feb-2003, 10:56:45 Operator: SARAHM
Sample : CC541-10 Inst : G1315A
Misc : op6850,gee565,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	9.807	1.9	97	0.02
2		Acenaphthylene	10.000	9.524	4.8	94	0.02
3		1-Methyl Naphthalene	10.000	9.426	5.7	93	0.01
4		2-Methyl Naphthalene	10.000	9.670	3.3	95	0.00
5		Acenaphthene	10.000	10.261	-2.6	101	0.00
6		Fluorene	10.000	9.997	0.0	99	0.00
7		Phenanthrene	10.000	9.954	0.5	99	0.00
8	S	O-Terphenyl	10.000	10.028	-0.3	98	0.00
9		Anthracene	10.000	9.918	0.8	99	0.00
10		Fluoranthene	10.000	10.032	-0.3	99	0.00
11		Pyrene	10.000	9.838	1.6	97	-0.01
12	S	P-Terphenyl	10.000	9.889	1.1	98	-0.01
13		Benzo(a)Anthracene	5.000	4.988	0.2	98	-0.01
14		Chrysene	5.000	4.929	1.4	96	-0.01
15		Benzo(b)Fluoranthene	5.000	5.178	-3.6	103	-0.02
16		Benzo(k)Fluoranthene	5.000	5.154	-3.1	101	-0.01
17		Benzo(a) Pyrene	5.000	4.452	11.0	87	-0.01
18		Dibenzo(a,h)anthracene	5.000	5.180	-3.6	99	0.00
19		Benzo(g,h,i) Perylene	5.000	4.935	1.3	97	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.110	-2.2	98	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.052	-0.5	101	0.02
2		Acenaphthylene	10.000	9.818	1.8	99	0.02
3		1-Methyl Naphthalene	10.000	9.351	6.5	94	0.01
4		2-Methyl Naphthalene	10.000	9.632	3.7	96	0.00
5		Acenaphthene	10.000	11.133	-11.3	107	0.00
6		Fluorene	10.000	9.989	0.1	99	0.00
7		Phenanthrene	10.000	9.982	0.2	99	0.00
8	S	O-Terphenyl	10.000	9.482	5.2	92	0.00
9		Anthracene	10.000	10.269	-2.7	98	0.00
10		Fluoranthene	10.000	10.346	-3.5	99	0.00
11		Pyrene	10.000	10.150	-1.5	100	-0.01
12	S	P-Terphenyl	10.000	9.936	0.6	100	-0.01
13		Benzo(a)Anthracene	5.000	4.976	0.5	100	-0.01
14		Chrysene	5.000	4.901	2.0	100	-0.01
15		Benzo(b)Fluoranthene	5.000	5.047	-0.9	100	-0.02

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE565-CC541
Lab FileID: EE012965.D

16	Benzo(k)Fluoranthene	5.000	5.057	-1.1	99	-0.01
17	Benzo(a) Pyrene	5.000	4.449	11.0	87	-0.01
18	Dibenzo(a,h)anthracene	5.000	5.096	-1.9	99	0.00
19	Benzo(g,h,i) Perylene	5.000	4.926	1.5	97	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.124	-2.5	99	0.00

Average % D = 2.7

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE012441.D 8310_32.M Tue Feb 04 14:05:19 2003

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE565-ECC541
Lab FileID: EE012972.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0204PAH\EE012972.D\DAD1B.CH Vial: 3
Signal #2 : E:\HPCHEM\1\DATA\0204PAH\EE012972.D\DAD1A.CH
Acq On : 04-Feb-2003, 13:45:58 Operator: SARAHM
Sample : ECC541-20 Inst : G1315A
Misc : op6850,gee565,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.999	5.0	100	-0.02
2		Acenaphthylene	20.000	19.263	3.7	100	-0.01
3		1-Methyl Naphthalene	20.000	18.371	8.1	97	-0.01
4		2-Methyl Naphthalene	20.000	18.616	6.9	98	0.00
5		Acenaphthene	20.000	19.910	0.4	104	0.00
6		Fluorene	20.000	19.337	3.3	101	0.00
7		Phenanthrene	20.000	19.314	3.4	102	0.00
8	S	O-Terphenyl	20.000	19.301	3.5	100	0.00
9		Anthracene	20.000	17.894	10.5	93	0.00
10		Fluoranthene	20.000	19.312	3.4	101	-0.01
11		Pyrene	20.000	18.887	5.6	99	-0.01
12	S	P-Terphenyl	20.000	19.038	4.8	100	-0.01
13		Benzo(a)Anthracene	10.000	9.596	4.0	101	-0.02
14		Chrysene	10.000	9.426	5.7	99	-0.02
15		Benzo(b)Fluoranthene	10.000	9.837	1.6	104	-0.02
16		Benzo(k)Fluoranthene	10.000	9.803	2.0	100	-0.02
17		Benzo(a) Pyrene	10.000	9.352	6.5	97	-0.02
18		Dibenzo(a,h)anthracene	10.000	10.092	-0.9	102	-0.02
19		Benzo(g,h,i) Perylene	10.000	9.778	2.2	100	-0.02
20		Indeno(1,2,3-cd)pyrene	10.000	9.908	0.9	100	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.183	4.1	102	-0.01
2		Acenaphthylene	20.000	19.167	4.2	103	-0.01
3		1-Methyl Naphthalene	20.000	18.283	8.6	97	0.00
4		2-Methyl Naphthalene	20.000	18.738	6.3	99	0.00
5		Acenaphthene	20.000	21.565	-7.8	110	0.00
6		Fluorene	20.000	19.386	3.1	101	0.00
7		Phenanthrene	20.000	19.327	3.4	103	0.00
8	S	O-Terphenyl	20.000	18.245	8.8	94	0.00
9		Anthracene	20.000	20.721	-3.6	103	0.00
10		Fluoranthene	20.000	20.583	-2.9	103	-0.01
11		Pyrene	20.000	20.676	-3.4	105	-0.01
12	S	P-Terphenyl	20.000	19.491	2.5	102	-0.01
13		Benzo(a)Anthracene	10.000	9.701	3.0	102	-0.02
14		Chrysene	10.000	9.587	4.1	101	-0.02
15		Benzo(b)Fluoranthene	10.000	9.766	2.3	103	-0.02

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GEE565-ECC541
Lab FileID: EE012972.D

16	Benzo(k)Fluoranthene	10.000	9.792	2.1	102	-0.02
17	Benzo(a) Pyrene	10.000	9.313	6.9	97	-0.02
18	Dibenzo(a,h)anthracene	10.000	9.820	1.8	102	-0.02
19	Benzo(g,h,i) Perylene	10.000	9.714	2.9	101	-0.02
20	Indeno(1,2,3-cd)pyrene	10.000	9.798	2.0	101	0.00

Average % D = 4.2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE012442.D 8310_32.M Tue Feb 04 14:05:47 2003

Continuing Calibration Summary

Job Number: F16386
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GOP927-CC894
Lab FileID: OP27020.D

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0203PRO\OP27020.D
Acq On : 4 Feb 2003 2:32 am
Sample : CC894-1020
Misc : op6852,gop927,910,,,1,1,water
IntFile : events.e

Vial: 14
Operator: stephw
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Feb 03 15:10:24 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	62.466	-4.1	103	0.00
2 H	TPH (C8-C40)	1020.000	1082.451	-6.1	102	0.00

Average % D = 5.1

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP25896.D FL_PRO_F.M Wed Feb 05 09:07:28 2003

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC Date Analyzed: 02/04/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3163
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:43	MA3163-ICV1	1		
10:51	MA3163-ICB1	1		
10:54	MA3163-CRI1	1		
11:00	MA3163-ICSA1	1		
11:02	MA3163-ICSA2	1		
11:04	MA3163-ICSAB1	1		
11:17	MA3163-CCV1	1		
11:23	MA3163-CCB1	1		
11:27	MP5147-MB	1		
11:31	MP5147-B1	1		
11:38	F16384-1	1		(sample used for QC only; not part of login F16386)
11:41	MP5147-D1	1		
11:45	MP5147-SD1	5		
11:49	MP5147-S1	1		
11:53	MP5147-S2	1		
11:59	ZZZZZZ	1		
12:03	ZZZZZZ	1		
12:07	ZZZZZZ	1		
12:11	MA3163-CCV2	1		
12:18	MA3163-CCB2	1		
12:21	F16386-1	1		
12:25	F16386-2	1		
---------->	Last reportable sample/prep for job F16386			
12:29	ZZZZZZ	1		
12:33	ZZZZZZ	1		
12:37	ZZZZZZ	1		
12:41	ZZZZZZ	1		
12:45	ZZZZZZ	1		
12:49	ZZZZZZ	1		
12:53	ZZZZZZ	1		
12:57	ZZZZZZ	1		
13:00	MA3163-CCV3	1		
13:07	MA3163-CCB3	1		
------->	Last reportable CCB for job F16386			
13:11	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IRO20403.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/04/03
Run ID: MA3163

Methods: SW846 6010B

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:15	ZZZZZZ	1		
13:19	ZZZZZZ	1		
13:22	ZZZZZZ	1		
13:26	ZZZZZZ	1		
13:30	ZZZZZZ	1		
13:34	MP5146-MB1	1		
13:38	MP5146-B1	1		
13:44	F16379-1A	1		(sample used for QC only; not part of login F16386)
13:48	MP5146-D1	1		
13:52	MA3163-CCV4	1		
13:59	MA3163-CCB4	1		
14:03	MP5146-SD1	5		
14:06	MP5146-S1	1		
14:10	MP5146-S2	1		
14:17	ZZZZZZ	1		
14:21	ZZZZZZ	1		
14:25	ZZZZZZ	1		
14:28	ZZZZZZ	1		
14:32	ZZZZZZ	1		
14:36	ZZZZZZ	1		
14:40	ZZZZZZ	1		
14:44	MA3163-CCV5	1		
14:50	MA3163-CCB5	1		
14:54	ZZZZZZ	1		
14:58	ZZZZZZ	1		
15:02	ZZZZZZ	1		
15:06	ZZZZZZ	1		
15:15	MA3163-CRI2	1		
15:19	MA3163-CCV6	1		
15:26	MA3163-CCB6	1		
15:42	MP5150-MB1	1		
15:46	MP5150-B1	1		
15:52	F16433-1	1		(sample used for QC only; not part of login F16386)

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/04/03
Run ID: MA3163

Methods: SW846 6010B

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:56	MP5150-D1	1		
16:00	MP5150-SD1	5		
16:04	MP5150-S1	1		
16:08	MP5150-S2	1		
16:14	ZZZZZZ	1		
16:18	ZZZZZZ	1		
16:22	ZZZZZZ	1		
16:26	MA3163-CCV7	1		
16:32	MA3163-CCB7	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/04/03
Run ID: MA3163

Methods: SW846 6010B

Time	Sample Description	Istd#1
10:43	MA3163-ICV1	5223
10:51	MA3163-ICB1	4939 R
10:54	MA3163-CRI1	5084
11:00	MA3163-ICSA1	4767
11:02	MA3163-ICSA2	4767
11:04	MA3163-ICSAB1	4749
11:17	MA3163-CCV1	5055
11:23	MA3163-CCB1	5059
11:27	MP5147-MB	4959
11:31	MP5147-B1	5009
11:38	F16384-1	4995
11:41	MP5147-D1	4958
11:45	MP5147-SD1	5026
11:49	MP5147-S1	4950
11:53	MP5147-S2	5061
11:59	ZZZZZZ	5098
12:03	ZZZZZZ	5067
12:07	ZZZZZZ	7172 !
12:11	MA3163-CCV2	5134
12:18	MA3163-CCB2	5144
12:21	F16386-1	5085
12:25	F16386-2	5040
12:29	ZZZZZZ	5041
12:33	ZZZZZZ	5063
12:37	ZZZZZZ	5093
12:41	ZZZZZZ	5010
12:45	ZZZZZZ	4984
12:49	ZZZZZZ	5011
12:53	ZZZZZZ	5018
12:57	ZZZZZZ	5018
13:00	MA3163-CCV3	5055
13:07	MA3163-CCB3	5056
13:11	ZZZZZZ	5019
13:15	ZZZZZZ	5016

INTERNAL STANDARD SUMMARY

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/04/03
Run ID: MA3163

Methods: SW846 6010B

Time	Sample Description	Istd#1
13:19	ZZZZZZ	4871
13:22	ZZZZZZ	4962
13:26	ZZZZZZ	4428
13:30	ZZZZZZ	5072
13:34	MP5146-MB1	5028
13:38	MP5146-B1	5013
13:44	F16379-1A	4964
13:48	MP5146-D1	5023
13:52	MA3163-CCV4	5029
13:59	MA3163-CCB4	5085
14:03	MP5146-SD1	5068
14:06	MP5146-S1	4945
14:10	MP5146-S2	4895
14:17	ZZZZZZ	4854
14:21	ZZZZZZ	4882
14:25	ZZZZZZ	4865
14:28	ZZZZZZ	4879
14:32	ZZZZZZ	5004
14:36	ZZZZZZ	4972
14:40	ZZZZZZ	4826
14:44	MA3163-CCV5	5033
14:50	MA3163-CCB5	5064
14:54	ZZZZZZ	4863
14:58	ZZZZZZ	4930
15:02	ZZZZZZ	4853
15:06	ZZZZZZ	4782
15:15	MA3163-CRI2	5134
15:19	MA3163-CCV6	5048
15:26	MA3163-CCB6	5009
15:42	MP5150-MB1	4997
15:46	MP5150-B1	5029
15:52	F16433-1	5042
15:56	MP5150-D1	5067
16:00	MP5150-SD1	5150

INTERNAL STANDARD SUMMARY

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/04/03
Run ID: MA3163

Methods: SW846 6010B

Time	Sample Description	Istd#1
16:04	MP5150-S1	5049
16:08	MP5150-S2	5030
16:14	ZZZZZZ	4995
16:18	ZZZZZZ	5054
16:22	ZZZZZZ	5080
16:26	MA3163-CCV7	5139
16:32	MA3163-CCB7	5135

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC
QC Limits: result < RL

Date Analyzed: 02/04/03
Run ID: MA3163

Methods: SW846 6010B
Units: ug/l

Metal	RL	IDL	ICB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	6.6								
Antimony	5.0	1.5								
Arsenic	10	2.8	anr							
Barium	200	.49	anr							
Beryllium	5.0	.26								
Cadmium	5.0	.26	anr							
Calcium	1000	3.8								
Chromium	10	.43	anr							
Cobalt	50	.5								
Copper	25	.44	anr							
Iron	300	7.1	anr							
Lead	5.0	1.2	-0.24	<5.0	-0.71	<5.0	0.30	<5.0	0.020	<5.0
Magnesium	5000	9.9								
Manganese	15	.16	anr							
Molybdenum	50	.75								
Nickel	40	1.1	anr							
Potassium	5000	14								
Selenium	10	2	anr							
Silver	10	.55	anr							
Sodium	5000	150	anr							
Thallium	10	1.5								
Tin	50	2.2								
Vanadium	50	.47	anr							
Zinc	20	.59								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC
QC Limits: 90 to 110 % Recovery

Date Analyzed: 02/04/03
Run ID: MA3163

Methods: SW846 6010B
Units: ug/l

Metal	ICV True	ICV Results	% Rec	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper	anr								
Iron	anr								
Lead	2000	2000	100.0	2000	1910	95.5	2000	1950	97.5
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Thallium									
Tin									
Vanadium	anr								
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC Date Analyzed: 02/04/03 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3163 Units: ug/l

Metal	CCV True	CCV Results	% Rec
Aluminum			
Antimony			
Arsenic	anr		
Barium	anr		
Beryllium			
Cadmium	anr		
Calcium			
Chromium	anr		
Cobalt			
Copper	anr		
Iron	anr		
Lead	2000	1910	95.5
Magnesium			
Manganese	anr		
Molybdenum			
Nickel	anr		
Potassium			
Selenium	anr		
Silver	anr		
Sodium	anr		
Thallium			
Tin			
Vanadium	anr		
Zinc			

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC
QC Limits: 70 to 130 % Recovery

Date Analyzed: 02/04/03
Run ID: MA3163

Methods: SW846 6010B
Units: ug/l

Metal	CRI True	CRIA True	CRI Results	% Rec
Aluminum	400			
Antimony	10			
Arsenic	20		anr	
Barium	400		anr	
Beryllium	10			
Cadmium	10		anr	
Calcium	2000			
Chromium	20		anr	
Cobalt	100			
Copper	50		anr	
Iron	600		anr	
Lead	10		9.9	99.0
Magnesium	10000			
Manganese	30		anr	
Molybdenum	100			
Nickel	80		anr	
Potassium	10000			
Selenium	10		anr	
Silver	20		anr	
Sodium	10000		anr	
Thallium	20			
Tin	100			
Vanadium	100			
Zinc	40			

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020403.ASC
QC Limits: 80 to 120 % Recovery

Date Analyzed: 02/04/03
Run ID: MA3163

Methods: SW846 6010B
Units: ug/l

Metal	ICSA True	ICSAB True	ICSA Results	% Rec	ICSA Results	% Rec	ICSAB Results	% Rec
Aluminum	500000	500000			533000	106.6	538000	107.6
Antimony		1000			-0.050		1050	105.0
Arsenic		1000			4.5		1060	106.0
Barium		500			0.39		535	107.0
Beryllium		500			-2.8		487	97.4
Cadmium		1000			0.84		957	95.7
Calcium	500000	500000			448000	89.6	453000	90.6
Chromium		500			0.72		463	92.6
Cobalt		500			-1.1		463	92.6
Copper		500			-3.3		535	107.0
Iron	200000	200000			192000	96.0	195000	97.5
Lead		1000			0.49		957	95.7
Magnesium	500000	500000			519000	103.8	522000	104.4
Manganese		500			-2.3		490	98.0
Molybdenum		1000			-9.3		982	98.2
Nickel		1000			1.4		947	94.7
Potassium					-6.9		-370	
Selenium		1000			-4.8		1030	103.0
Silver		1000			-0.63		1050	105.0
Sodium					-32		303	
Thallium		1000			6.7		992	99.2
Tin		1000			-9.6		965	96.5
Vanadium		500			5.0		496	99.2
Zinc		1000			-5.5		877	87.7

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5147
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/03/03

Metal	RL	IDL	MB raw	final
Aluminum	200	6.6		
Antimony	5.0	1.5		
Arsenic	10	2.8	anr	
Barium	200	.49	anr	
Beryllium	5.0	.26		
Cadmium	5.0	.26	anr	
Calcium	1000	3.8		
Chromium	10	.43	anr	
Cobalt	50	.5		
Copper	25	.44		
Iron	300	7.1	anr	
Lead	5.0	1.2	-0.94	<5.0
Magnesium	5000	9.9		
Manganese	15	.16	anr	
Molybdenum	50	.75		
Nickel	40	1.1	anr	
Potassium	5000	14		
Selenium	10	2	anr	
Silver	10	.55	anr	
Sodium	5000	150	anr	
Thallium	10	1.5		
Tin	50	2.2		
Vanadium	50	.47	anr	
Zinc	20	.59		

Associated samples MP5147: F16386-1, F16386-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5147
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/03/03 02/03/03

Metal	F16384-1 Original	DUP	RPD	QC Limits	F16384-1 Original	MS	Spikelot MPFLICP	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	0.0	1.5	200.0(a)	0-10	0.0	975	1000	97.5	84-118
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Thallium									
Tin									
Vanadium	anr								
Zinc									

Associated samples MP5147: F16386-1, F16386-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5147
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/03/03

Metal	F16384-1 Original	MSD	Spikelot MPFLICP	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	anr					
Beryllium						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper						
Iron	anr					
Lead	0.0	994	1000	99.4	1.9	
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	anr					
Potassium						
Selenium	anr					
Silver	anr					
Sodium	anr					
Thallium						
Tin						
Vanadium	anr					
Zinc						

Associated samples MP5147: F16386-1, F16386-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5147
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/03/03

Metal	BSP Result	Spikelot MPFLICP	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron	anr			
Lead	990	1000	99.0	80-120
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Sodium	anr			
Thallium				
Tin				
Vanadium	anr			
Zinc				

Associated samples MP5147: F16386-1, F16386-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F16386
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5147
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/03/03

Metal	F16384-1 Original	SDL 1:5	RPD	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron	anr			
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Sodium	anr			
Thallium				
Tin				
Vanadium	anr			
Zinc				

Associated samples MP5147: F16386-1, F16386-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

TETRA TECH NUS, INC.

CHAIN OF CUSTODY | NUMBER 2221 | PAGE 1 OF 1

PROJECT NO: N3N4248, GD248
FACILITY: VALVEBOX 2 CECIL FIELD
SAMPLERS (SIGNATURE)
PROJECT MANAGER: DAVE CALLIGAN
PHONE NUMBER: 813 806 0202
FIELD OPERATIONS LEADER: MERVIN DAVE
PHONE NUMBER: 904 636 6125
CARRIER/WAYBILL NUMBER: COURIER
LABORATORY NAME AND CONTACT: ACCUTEST SUE BELL
ADDRESS: 4405 Vineland Rd C-15
CITY, STATE: ORLANDO, FL 32811

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G G G P
PRESERVATIVE USED: HCl None H_2SO_4 None HNO_3

	DATE YEAR 2003	TIME	SAMPLE ID (F16386)	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	SELECT VOCs *	PAHs SW846 8260B	TRPH SW846 8310 **	EDB EL-PRO	TOTAL LEAD SW846 6010B				COMMENTS
1	1/28	1720	CEF-826-GW-25'-01				GW	G	11	3	2	2	3	1				Cool to 4°c
2	1/28	1725	CEF-826-GW-15'-01				GW	G	11	3	2	2	3	1				

N3996-WR98

* Volts & 1,2-dichloroethane, BTEX, MTBE.

** Include 1- and 2-methylnaphthalene

1. RELINQUISHED BY: Marvin W. Dale	DATE 1/29/03	TIME 1145	1. RECEIVED BY: [signature]	DATE 1/29/03	TIME 11:45
2. RELINQUISHED BY: [signature]	DATE 1/30/03	TIME 7:25	2. RECEIVED BY: Muna Mohammed	DATE 1/30/03	TIME 725
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4402R

APPENDIX I

LABORATORY ANALYTICAL REPORT (F16417)

Southeast
ACCUTEST.
Laboratories

02/11/03

Technical Report for

Tetra Tech, NUS

NAS Cecil Field-CTO-248

#N3996-WR98 Valve Box 2

Accutest Job Number: F16417

Report to:

Total number of pages in report: 81

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Southeast • 4405 Vineland Road • Suite C-15 • Orlando, FL 32811 • tel: 407-425-6700 • fax: 407-425-0707 • http://www.accutest.com

Sample Summary

Tetra Tech, NUS

Job No: F16417

NAS Cecil Field-CTO-248
Project No: #N3996-WR98 Valve Box 2

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F16417-1	01/30/03	18:10	MD	02/01/03	AQ	Ground Water	CEF-PIPE-GW-1S-01

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-PIPE-GW-1S-01		
Lab Sample ID:	F16417-1	Date Sampled:	01/30/03
Matrix:	AQ - Ground Water	Date Received:	02/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0014366.D	1	02/04/03	KW	n/a	n/a	VC634
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
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	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	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	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	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	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	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	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	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	0.50	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	
75-01-4	Vinyl chloride	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-PIPE-GW-1S-01		
Lab Sample ID:	F16417-1	Date Sampled:	01/30/03
Matrix:	AQ - Ground Water	Date Received:	02/01/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
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	98%		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	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-PIPE-GW-1S-01		
Lab Sample ID:	F16417-1	Date Sampled:	01/30/03
Matrix:	AQ - Ground Water	Date Received:	02/01/03
Method:	EPA 504.1 EPA 504	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AB24523.D	1	02/03/03	NJ	02/03/03	OP6857	GAB900
Run #2							

	Initial Volume	Final Volume
Run #1	37.7 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0093	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-PIPE-GW-1S-01		
Lab Sample ID:	F16417-1	Date Sampled:	01/30/03
Matrix:	AQ - Ground Water	Date Received:	02/01/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA014235.D	1	02/07/03	SM	02/06/03	OP6886	GAA679
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	79%		32-142%
92-94-4	p-Terphenyl	81%		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-PIPE-GW-1S-01		
Lab Sample ID:	F16417-1	Date Sampled:	01/30/03
Matrix:	AQ - Ground Water	Date Received:	02/01/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP27066.D	1	02/06/03	SKW	02/05/03	OP6876	GOP928
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1.63	0.27	0.18	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		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-PIPE-GW-1S-01		
Lab Sample ID:	F16417-1	Date Sampled:	01/30/03
Matrix:	AQ - Ground Water	Date Received:	02/01/03
		Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-248		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Lead	4.0 B	5.0	1.2	ug/l	1	02/05/03	02/06/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

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

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Blank Spike Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC634-BS	C0014345.D	1	02/04/03	KW	n/a	n/a	VC634

The QC reported here applies to the following samples: Method: SW846 8260B

F16417-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.1	88	76-123
75-27-4	Bromodichloromethane	25	21.0	84	72-122
75-25-2	Bromoform	25	20.8	83	59-124
108-90-7	Chlorobenzene	25	21.8	87	78-115
75-00-3	Chloroethane	25	26.4	106	65-141
67-66-3	Chloroform	25	21.4	86	74-123
110-75-8	2-Chloroethyl vinyl ether	125	111	89	24-148
56-23-5	Carbon tetrachloride	25	25.2	101	68-137
75-34-3	1,1-Dichloroethane	25	23.7	95	73-125
75-35-4	1,1-Dichloroethylene	25	25.0	100	64-136
107-06-2	1,2-Dichloroethane	25	22.0	88	66-118
78-87-5	1,2-Dichloropropane	25	24.3	97	75-129
124-48-1	Dibromochloromethane	25	20.2	81	72-117
156-59-2	cis-1,2-Dichloroethylene	25	23.6	94	79-127
10061-01-5	cis-1,3-Dichloropropene	25	20.1	80	71-117
541-73-1	m-Dichlorobenzene	25	20.4	82	74-117
95-50-1	o-Dichlorobenzene	25	19.9	80	73-115
106-46-7	p-Dichlorobenzene	25	20.1	80	74-117
156-60-5	trans-1,2-Dichloroethylene	25	24.4	98	67-125
10061-02-6	trans-1,3-Dichloropropene	25	19.6	78	65-113
100-41-4	Ethylbenzene	25	23.7	95	76-117
74-83-9	Methyl bromide	25	25.8	103	45-137
74-87-3	Methyl chloride	25	20.7	83	47-149
75-09-2	Methylene chloride	25	20.9	84	63-126
1634-04-4	Methyl Tert Butyl Ether	25	20.6	82	68-125
71-55-6	1,1,1-Trichloroethane	25	25.3	101	73-131
79-34-5	1,1,2,2-Tetrachloroethane	25	18.1	72	69-114
79-00-5	1,1,2-Trichloroethane	25	20.6	82	74-115
127-18-4	Tetrachloroethylene	25	22.5	90	75-124
108-88-3	Toluene	25	22.5	90	76-118
79-01-6	Trichloroethylene	25	24.2	97	75-122
75-01-4	Vinyl chloride	25	25.0	100	62-142
1330-20-7	Xylene (total)	75	70.7	94	78-120

Blank Spike Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC634-BS	C0014345.D	1	02/04/03	KW	n/a	n/a	VC634

The QC reported here applies to the following samples: Method: SW846 8260B

F16417-1

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	106%	78-125%
2037-26-5	Toluene-D8	97%	87-113%
460-00-4	4-Bromofluorobenzene	95%	84-117%

Method Blank Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC634-MB	C0014346.D	1	02/04/03	KW	n/a	n/a	VC634

The QC reported here applies to the following samples: Method: SW846 8260B

F16417-1

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

Method Blank Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC634-MB	C0014346.D	1	02/04/03	KW	n/a	n/a	VC634

The QC reported here applies to the following samples: Method: SW846 8260B

F16417-1

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	105%	78-125%
2037-26-5	Toluene-D8	99%	87-113%
460-00-4	4-Bromofluorobenzene	98%	84-117%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16393-2MS	C0014353.D	5	02/04/03	KW	n/a	n/a	VC634
F16393-2MSD	C0014354.D	5	02/04/03	KW	n/a	n/a	VC634
F16393-2	C0014352.D	5	02/04/03	KW	n/a	n/a	VC634

The QC reported here applies to the following samples: Method: SW846 8260B

F16417-1

CAS No.	Compound	F16393-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		125	104	83	102	82	2	71-127/8
75-27-4	Bromodichloromethane	ND		125	99.7	80	99.6	80	0	70-121/10
75-25-2	Bromoform	ND		125	107	86	106	85	1	50-124/18
108-90-7	Chlorobenzene	ND		125	105	84	103	82	2	77-113/6
75-00-3	Chloroethane	ND		125	124	99	118	94	5	57-155/19
67-66-3	Chloroform	ND		125	101	81	99.6	80	1	72-125/11
110-75-8	2-Chloroethyl vinyl ether	ND		625	ND	0*	ND	0*	nc	10-158/37
56-23-5	Carbon tetrachloride	ND		125	121	97	119	95	2	61-140/13
75-34-3	1,1-Dichloroethane	ND		125	107	86	104	83	3	71-129/[illegible]
75-35-4	1,1-Dichloroethylene	ND		125	113	90	114	91	1	60-141
107-06-2	1,2-Dichloroethane	ND		125	104	83	101	81	3	64-121/9
78-87-5	1,2-Dichloropropane	ND		125	110	88	108	86	2	73-131/8
124-48-1	Dibromochloromethane	ND		125	96.7	77	98.0	78	1	65-118/12
156-59-2	cis-1,2-Dichloroethylene	ND		125	113	90	110	88	3	75-131/12
10061-01-5	cis-1,3-Dichloropropene	ND		125	94.7	76	94.0	75	1	62-115/13
541-73-1	m-Dichlorobenzene	ND		125	98.8	79	97.1	78	2	72-115/7
95-50-1	o-Dichlorobenzene	ND		125	96.5	77	96.8	77	0	72-113/8
106-46-7	p-Dichlorobenzene	ND		125	96.6	77	95.0	76	2	72-116/7
156-60-5	trans-1,2-Dichloroethylene	ND		125	109	87	107	86	2	65-127/12
10061-02-6	trans-1,3-Dichloropropene	ND		125	92.1	74	90.8	73	1	51-115/13
100-41-4	Ethylbenzene	53.4		125	109	44*	107	43*	2	72-119/7
74-83-9	Methyl bromide	ND		125	123	98	119	95	3	44-140/19
74-87-3	Methyl chloride	ND		125	96.3	77	90.4	72	6	43-148/23
75-09-2	Methylene chloride	9.3	J	125	105	77	103	75	2	61-131/11
1634-04-4	Methyl Tert Butyl Ether	ND		125	97.7	78	95.8	77	2	65-125/12
71-55-6	1,1,1-Trichloroethane	ND		125	123	98	121	97	2	69-135/13
79-34-5	1,1,2,2-Tetrachloroethane	ND		125	86.0	69	86.1	69	0	62-120/10
79-00-5	1,1,2-Trichloroethane	ND		125	95.4	76	95.4	76	0	71-117/10
127-18-4	Tetrachloroethylene	ND		125	112	90	111	89	1	74-123/11
108-88-3	Toluene	ND		125	105	84	104	83	1	73-119/10
79-01-6	Trichloroethylene	ND		125	111	89	113	90	2	71-124/9
75-01-4	Vinyl chloride	ND		125	117	94	114	91	3	53-149/22
1330-20-7	Xylene (total)	347		375	570	59*	556	56*	2	73-123/8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16393-2MS	C0014353.D	5	02/04/03	KW	n/a	n/a	VC634
F16393-2MSD	C0014354.D	5	02/04/03	KW	n/a	n/a	VC634
F16393-2	C0014352.D	5	02/04/03	KW	n/a	n/a	VC634

The QC reported here applies to the following samples: Method: SW846 8260B

F16417-1

CAS No.	Surrogate Recoveries	MS	MSD	F16393-2	Limits
1868-53-7	Dibromofluoromethane	102%	103%	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	105%	104%	102%	78-125%
2037-26-5	Toluene-D8	96%	95%	96%	87-113%
460-00-4	4-Bromofluorobenzene	93%	93%	94%	84-117%

Instrument Performance Check (BFB)

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample:	VC634-BFB	Injection Date:	02/04/03
Lab File ID:	C0014343.D	Injection Time:	09:42
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	26954	36.5		Pass
75	30.0 - 60.0% of mass 95	31962	43.3		Pass
95	Base peak, 100% relative abundance	73821	100.0		Pass
96	5.0 - 9.0% of mass 95	4882	6.6		Pass
173	Less than 2.0% of mass 174	141	0.19	(0.2) [a]	Pass
174	50.0 - 100.0% of mass 95	69061	93.6		Pass
175	5.0 - 9.0% of mass 174	4566	6.2	(6.6) [a]	Pass
176	95.0 - 101.0% of mass 174	66888	90.6	(96.9) [a]	Pass
177	5.0 - 9.0% of mass 176	4189	5.7	(6.3) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC634-CC629	C0014344.D	02/04/03	10:10	00:28	Continuing cal 40
VC634-BS	C0014345.D	02/04/03	11:04	01:22	Blank Spike
VC634-MB	C0014346.D	02/04/03	11:30	01:48	Method Blank
ZZZZZZ	C0014349.D	02/04/03	12:53	03:11	(unrelated sample)
ZZZZZZ	C0014350.D	02/04/03	13:19	03:37	(unrelated sample)
ZZZZZZ	C0014351.D	02/04/03	13:46	04:04	(unrelated sample)
F16393-2	C0014352.D	02/04/03	14:14	04:32	(used for QC only; not part of job F16417)
F16393-2MS	C0014353.D	02/04/03	14:41	04:59	Matrix Spike
F16393-2MSD	C0014354.D	02/04/03	15:07	05:25	Matrix Spike Duplicate
ZZZZZZ	C0014355.D	02/04/03	15:36	05:54	(unrelated sample)
ZZZZZZ	C0014356.D	02/04/03	16:05	06:23	(unrelated sample)
ZZZZZZ	C0014357.D	02/04/03	16:34	06:52	(unrelated sample)
ZZZZZZ	C0014358.D	02/04/03	17:02	07:20	(unrelated sample)
ZZZZZZ	C0014359.D	02/04/03	17:31	07:49	(unrelated sample)
ZZZZZZ	C0014360.D	02/04/03	18:00	08:18	(unrelated sample)
ZZZZZZ	C0014361.D	02/04/03	18:28	08:46	(unrelated sample)
ZZZZZZ	C0014362.D	02/04/03	18:55	09:13	(unrelated sample)
ZZZZZZ	C0014364.D	02/04/03	19:48	10:06	(unrelated sample)
ZZZZZZ	C0014365.D	02/04/03	20:14	10:32	(unrelated sample)
F16417-1	C0014366.D	02/04/03	20:41	10:59	CEF-PIPE-GW-1S-01
ZZZZZZ	C0014368.D	02/04/03	21:34	11:52	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample:	VC629-BFB	Injection Date:	01/31/03
Lab File ID:	C0014258.D	Injection Time:	11:27
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16566	37.4		Pass
75	30.0 - 60.0% of mass 95	20002	45.1		Pass
95	Base peak, 100% relative abundance	44311	100.0		Pass
96	5.0 - 9.0% of mass 95	3000	6.8		Pass
173	Less than 2.0% of mass 174	207	0.47	(0.56) [a]	Pass
174	50.0 - 100.0% of mass 95	37216	84.0		Pass
175	5.0 - 9.0% of mass 174	2646	6.0	(7.1) [a]	Pass
176	95.0 - 101.0% of mass 174	36376	82.1	(97.7) [a]	Pass
177	5.0 - 9.0% of mass 176	2424	5.5	(6.7) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC629-IC629	C0014259.D	01/31/03	11:52	00:25	Initial cal 1
VC629-IC629	C0014260.D	01/31/03	12:19	00:52	Initial cal 5
VC629-IC629	C0014261.D	01/31/03	12:46	01:19	Initial cal 20
VC629-ICC629	C0014262.D	01/31/03	13:12	01:45	Initial cal 40
VC629-IC629	C0014263.D	01/31/03	13:39	02:12	Initial cal 70
VC629-IC629	C0014264.D	01/31/03	14:05	02:38	Initial cal 100
VC629-BS	C0014266.D	01/31/03	14:58	03:31	Blank Spike
VC629-MB	C0014267.D	01/31/03	15:25	03:58	Method Blank
ZZZZZZ	C0014270.D	01/31/03	16:47	05:20	(unrelated sample)
F16387-2	C0014271.D	01/31/03	17:13	05:46	(used for QC only; not part of job F16417)
F16387-2MS	C0014272.D	01/31/03	17:40	06:13	Matrix Spike
F16387-2MSD	C0014273.D	01/31/03	18:06	06:39	Matrix Spike Duplicate
ZZZZZZ	C0014274.D	01/31/03	18:33	07:06	(unrelated sample)
ZZZZZZ	C0014275.D	01/31/03	18:59	07:32	(unrelated sample)
ZZZZZZ	C0014276.D	01/31/03	19:26	07:59	(unrelated sample)
ZZZZZZ	C0014277.D	01/31/03	19:52	08:25	(unrelated sample)
ZZZZZZ	C0014278.D	01/31/03	20:19	08:52	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	VC634-CC629	Injection Date:	02/04/03
Lab File ID:	C0014344.D	Injection Time:	10:10
Instrument ID:	GCMSC	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	1950825	10.27	1691994	13.51	1019428	16.05	162525	7.50
Upper Limit [a]	3901650	10.77	3383988	14.01	2038856	16.55	325050	8.00
Lower Limit [b]	975413	9.77	845997	13.01	509714	15.55	81263	7.00

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VC634-BS	1827352	10.28	1580756	13.51	936412	16.05	164790	7.51
VC634-MB	1757146	10.28	1493137	13.51	843712	16.05	160657	7.50
ZZZZZZ	1517436	10.27	1352597	13.51	810423	16.05	119190	7.50
ZZZZZZ	1798989	10.27	1579492	13.51	911656	16.05	161999	7.50
ZZZZZZ	1859241	10.28	1615621	13.51	934748	16.05	164613	7.50
F16393-2	1838204	10.27	1609630	13.51	943628	16.05	158160	7.50
F16393-2MS	1870557	10.27	1663327	13.51	995764	16.05	174376	7.50
F16393-2MSD	1883564	10.27	1672720	13.51	989684	16.05	176564	7.50
ZZZZZZ	1890509	10.27	1664064	13.51	976436	16.05	160354	7.50
ZZZZZZ	1867509	10.27	1652265	13.51	957365	16.05	152104	7.50
ZZZZZZ	1823597	10.27	1572906	13.51	906523	16.05	152135	7.50
ZZZZZZ	1785907	10.27	1543910	13.51	882793	16.05	148298	7.50
ZZZZZZ	1690740	10.27	1463819	13.51	857704	16.05	152302	7.50
ZZZZZZ	1677680	10.27	1434297	13.51	821374	16.05	144556	7.50
ZZZZZZ	1595451	10.27	1348494	13.51	768191	16.05	137635	7.50
ZZZZZZ	1467163	10.28	1269377	13.51	708241	16.05	136419	7.51
ZZZZZZ	1285884	10.28	1101139	13.51	612835	16.05	118652	7.50
ZZZZZZ	1244233	10.28	1060836	13.51	580700	16.05	115762	7.50
F16417-1	1216197	10.28	1038330	13.51	583680	16.05	110404	7.51
ZZZZZZ	1161654	10.27	997773	13.51	549477	16.05	99888	7.50

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
F16417-1	C0014366.D	98.0	107.0	99.0	96.0
F16393-2MS	C0014353.D	102.0	105.0	96.0	93.0
F16393-2MSD	C0014354.D	103.0	104.0	95.0	93.0
VC634-BS	C0014345.D	101.0	106.0	97.0	95.0
VC634-MB	C0014346.D	101.0	105.0	99.0	98.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	86-115%
S2 = 1,2-Dichloroethane-D4	78-125%
S3 = Toluene-D8	87-113%
S4 = 4-Bromofluorobenzene	84-117%

Initial Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC629-ICC629
Lab FileID: C0014262.D

Response Factor Report MSVOA5

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 31 14:36:30 2003
Response via : Initial Calibration

Calibration Files
1 =C0014259.D 2 =C0014260.D 3 =C0014261.D
4 =C0014262.D 5 =C0014263.D 6 =C0014264.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet		0.225	0.235	0.230	0.232	0.232	0.231	1.69
3)	P	Chloromethane	0.707	0.618	0.624	0.605	0.613	0.614	0.630	6.03
4)	C	Vinyl Chloride		0.353	0.385	0.360	0.366	0.363	0.365	3.34
5)		Bromomethane	0.175	0.147	0.154	0.144	0.140	0.135	0.149	9.56
6)		Chloroethane	0.180	0.190	0.190	0.177	0.178	0.175	0.182	3.67
7)		Trichlorofluorometh		0.290	0.300	0.281	0.294	0.295	0.292	2.41
8)		Ethyl ether	0.615	0.762	0.769	0.750	0.728	0.692	0.719	8.07
9)	C	1,1-Dichloroethene		0.551	0.648	0.662	0.642	0.651	0.631	7.19
10)		Freon 113		0.223	0.254	0.261	0.250	0.255	0.249	5.97
11)		Acetone		0.165	0.160	0.158	0.154	0.148	0.157	3.99
12)		Iodomethane	0.429	0.445	0.458	0.451	0.454	0.454	0.448	2.38
13)		Methyl Acetate	0.351	0.447	0.448	0.444	0.446	0.420	0.426	9.00
14)		Carbon Disulfide		0.810	0.880	0.895	0.868	0.878	0.866	3.81
15)		Hexane	0.621	0.505	0.577	0.603	0.584	0.585	0.579	6.87
16)		Methylene Chloride		1.078	0.951	0.910	0.899	0.878	0.943	8.49
17)		trans-1,2-Dichloroe	0.580	0.596	0.619	0.626	0.624	0.620	0.611	3.05
18)		Acrylonitrile	0.169	0.175	0.180	0.175	0.167	0.174	0.173	2.74
19)		Methyl Tert Butyl E	0.653	0.789	0.789	0.767	0.778	0.758	0.756	6.85
20)	P	1,1-Dichloroethane	0.631	0.676	0.682	0.690	0.678	0.655	0.669	3.27
21)		Vinyl acetate	1.411	1.810	1.817	1.727	1.553	1.269	1.598	14.11
22)		Di-isopropyl ether	1.942	2.266	2.263	2.192	2.145	2.051	2.143	5.93
23)		ETBE	1.213	1.498	1.495	1.486	1.498	1.478	1.445	7.89
24)		2,2-Dichloropropane		0.251	0.259	0.259	0.243	0.240	0.250	3.44
25)		cis-1,2-Dichloroeth	0.261	0.303	0.299	0.292	0.291	0.285	0.288	5.21
26)		2-Butanone	0.248	0.280	0.286	0.279	0.277	0.267	0.273	4.92
27)		Bromochloromethane	0.117	0.149	0.146	0.142	0.140	0.138	0.139	8.09
28)	C	Chloroform	0.477	0.483	0.471	0.466	0.457	0.459	0.469	2.17
29)		Tetrahydrofuran	0.164	0.196	0.187	0.184	0.181	0.175	0.181	6.04
30)		1,1,1-Trichloroetha	0.311	0.331	0.355	0.367	0.360	0.364	0.348	6.41
31)		Cyclohexane		0.737	0.864	0.908	0.881	0.881	0.854	7.92
32)	S	Dibromofluoromethan	0.254	0.250	0.257	0.256	0.250	0.250	0.253	1.27
33)		1,1-Dichloropropene	0.283	0.319	0.355	0.361	0.352	0.350	0.337	8.89
34)		Carbon Tetrachlorid	0.267	0.275	0.313	0.326	0.329	0.335	0.307	9.56
35)	S	1,2-Dichloroethane-	0.348	0.350	0.357	0.338	0.337	0.330	0.343	2.84
36)		Benzene	1.142	1.146	1.136	1.128	1.084	1.037	1.112	3.90
37)		TAME	0.710	0.828	0.834	0.811	0.803	0.776	0.794	5.79
38)		1,2-Dichloroethane	0.620	0.575	0.561	0.550	0.551	0.536	0.566	5.27
39)		Trichloroethene	0.270	0.264	0.272	0.271	0.270	0.270	0.269	1.01
40)		Methylcyclohexane	0.308	0.356	0.390	0.406	0.390	0.384	0.372	9.54
41)	C	1,2-Dichloropropane	0.373	0.438	0.428	0.416	0.406	0.386	0.408	6.06
42)		Dibromomethane	0.144	0.171	0.174	0.166	0.166	0.165	0.164	6.51
43)		Bromodichloromethan	0.329	0.375	0.375	0.371	0.370	0.368	0.365	4.79
44)		2-Nitropropane	0.132	0.159	0.161	0.159	0.157	0.153	0.153	7.17
45)		2-Chloroethyl vinyl		0.238	0.241	0.237	0.225	0.210	0.230	5.47
46)		4-Methyl-2-pentanon	0.589	0.662	0.663	0.649	0.636	0.605	0.634	4.81

Initial Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC629-ICC629
Lab FileID: C0014262.D

47)		cis-1,3-Dichloropro	0.415	0.500	0.497	0.498	0.497	0.486	0.482	6.88
48)	I	Chlorobenzene-d5	----------ISTD----------							
49)	S	Toluene-d8	1.154	1.150	1.164	1.170	1.159	1.149	1.158	0.72
50)	C	Toluene	1.450	1.404	1.425	1.416	1.387	1.362	1.407	2.16
51)		trans-1,3-Dichlorop	0.446	0.518	0.538	0.529	0.537	0.520	0.515	6.75
52)		1,1,2-Trichloroetha	0.249	0.266	0.276	0.259	0.262	0.254	0.261	3.69
53)		Tetrachloroethene	0.338	0.317	0.353	0.352	0.348	0.347	0.343	4.02
54)		2-hexanone	0.512	0.532	0.547	0.539	0.525	0.495	0.525	3.63
55)		1,3-Dichloropropane	0.456	0.557	0.556	0.539	0.528	0.501	0.523	7.41
56)		Dibromochloromethan	0.284	0.341	0.338	0.331	0.338	0.336	0.328	6.63
57)		1,2-Dibromoethane	0.288	0.339	0.342	0.331	0.332	0.329	0.327	6.03
58)		1-Chlorohexane	0.368	0.393	0.432	0.444	0.439	0.431	0.418	7.29
59)	P	Chlorobenzene	0.924	1.017	1.010	0.985	0.990	0.963	0.981	3.48
60)		1,1,1,2-Tetrachloro	0.312	0.332	0.345	0.333	0.333	0.316	0.329	3.66
61)	C	Ethylbenzene	1.523	1.568	1.608	1.588	1.535	1.470	1.549	3.22
62)		m,p-Xylene	1.210	1.243	1.250	1.231	1.205	1.144	1.214	3.17
63)		o-Xylene	1.300	1.335	1.324	1.279	1.229	1.168	1.273	4.98
64)		Styrene	1.049	1.170	1.167	1.115	1.076	1.020	1.099	5.63
65)	P	Bromoform	0.201	0.221	0.233	0.236	0.241	0.243	0.229	6.95
66)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
67)		Isopropylbenzene	2.564	2.614	2.732	2.712	2.718	2.706	2.674	2.56
68)	S	4-Bromofluorobenzen	0.916	0.918	0.924	0.905	0.927	0.923	0.919	0.86
69)		Bromobenzene	0.721	0.757	0.751	0.705	0.717	0.683	0.722	3.84
70)	P	1,1,2,2-Tetrachloro	0.699	0.804	0.793	0.760	0.760	0.737	0.759	5.01
71)		trans-1,4-Dichloro-	0.346	0.242	0.309	0.336	0.365	0.371	0.328	14.52
72)		1,2,3-Trichloroprop	0.186	0.217	0.222	0.211	0.218	0.212	0.211	6.15
73)		n-Propylbenzene	3.130	3.130	3.320	3.285	3.189	3.063	3.186	3.11
74)		2-Chlorotoluene	2.313	2.291	2.318	2.220	2.158	2.066	2.228	4.52
75)		4-Chlorotoluene	2.077	2.217	2.223	2.146	2.153	2.115	2.155	2.64
76)		1,3,5-Trimethylbenz	2.298	2.358	2.383	2.321	2.259	2.154	2.295	3.57
77)		Benzyl chloride	1.043	1.243	1.397	1.386	1.398	1.367	1.306	10.83
78)		sec-Butylbenzene	2.623	2.587	2.808	2.816	2.780	2.763	2.729	3.63
79)		1,3-Dichlorobenzene	1.416	1.494	1.480	1.423	1.434	1.409	1.443	2.48
80)		4-Isopropyltoluene	2.058	2.139	2.284	2.237	2.227	2.197	2.190	3.67
81)		1,4-Dichlorobenzene	1.443	1.540	1.513	1.468	1.461	1.435	1.477	2.79
82)		tert-Butylbenzene	1.240	1.257	1.292	1.283	1.257	1.291	1.270	1.69
83)		n-Butylbenzene	2.018	1.935	2.098	2.069	2.035	2.003	2.026	2.79
84)		1,2-Dichlorobenzene	1.402	1.450	1.454	1.407	1.411	1.373	1.416	2.19
85)		1,2,4-Trimethylbenz	2.418	2.543	2.576	2.497	2.493	2.425	2.492	2.52
86)		1,2-Dibromo-3-Chlor		0.136	0.136	0.133	0.131	0.132	0.134	1.54
87)		1,2,4-Trichlorobenz	1.019	0.894	0.900	0.857	0.868	0.855	0.899	6.89
88)		Hexachlorobutadiene		0.266	0.301	0.286	0.284	0.295	0.286	4.67
89)		Naphthalene		2.165	2.243	2.154	2.204	2.174	2.188	1.64
90)		1,2,3-Trichlorobenz		0.788	0.803	0.768	0.779	0.770	0.782	1.83
91)	I	Tert Butyl alcohol-d1	----------ISTD----------							
92)		Acrolein	2.333	1.475	1.737	1.412	1.323		1.656	24.67

----- Linear regression ----- Coefficient = 0.9919
Response Ratio = 0.06407 + 1.30531 *A

93)		Tert-Butyl Alcohol	2.239	2.483	2.379	2.259	2.404	2.427	2.365	4.07
94)		1,4-Dioxane	0.158	0.170	0.163	0.158	0.169	0.173	0.165	4.02
95)		Cyclohexanone		1.057	0.978	0.874	0.944	0.964	0.963	6.83

(#) = Out of Range

826045.M Sat Feb 01 10:19:34 2003 RPT1

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC634-CC629
Lab FileID: C0014344.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\020403\C0014344.D
Acq On : 4 Feb 2003 10:10 am
Sample : CC629-40
Misc : ms2067,vc634,,,,,
MS Integration Params: RTEINT.P

Vial: 1
Operator: KarenW
Inst : MSVOA5
Multiplr: 1.00

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 31 14:36:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.001 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	84	0.00
2		Dichlorodifluoromethane	0.231	0.233	-0.9	85	0.00
3	P	Chloromethane	0.630	0.660	-4.8	92	0.00
4	C	Vinyl Chloride	0.365	0.411	-12.6	96	0.00
5		Bromomethane	0.149	0.173	-16.1	101	0.00
6		Chloroethane	0.182	0.213	-17.0	101	0.00
7		Trichlorofluoromethane	0.292	0.312	-6.8	93	0.00
8		Ethyl ether	0.719	0.724	-0.7	81	0.00
9	C	1,1-Dichloroethene	0.631	0.647	-2.5	82	0.00
10		Freon 113	0.249	0.236	5.2	76	0.00
11		Acetone	0.157	0.139	11.5	74	0.00
12		Iodomethane	0.448	0.422	5.8	79	0.00
13		Methyl Acetate	0.426	0.395	7.3	75	0.00
14		Carbon Disulfide	0.866	0.808	6.7	76	0.00
15		Hexane	0.579	0.622	-7.4	87	0.00
16		Methylene Chloride	0.943	0.828	12.2	76	0.00
17		trans-1,2-Dichloroethene	0.611	0.625	-2.3	84	0.00
18		Acrylonitrile	0.173	0.157	9.2	75	0.00
19		Methyl Tert Butyl Ether	0.756	0.685	9.4	75	0.00
20	P	1,1-Dichloroethane	0.669	0.687	-2.7	84	0.00
21		Vinyl acetate	1.598	1.563	2.2	76	0.00
22		Di-isopropyl ether	2.143	2.092	2.4	80	0.00
23		ETBE	1.445	1.507	-4.3	85	0.00
24		2,2-Dichloropropane	0.250	0.238	4.8	77	0.00
25		cis-1,2-Dichloroethene	0.288	0.291	-1.0	84	0.00
26		2-Butanone	0.273	0.245	10.3	74	0.00
27		Bromochloromethane	0.139	0.137	1.4	81	0.00
28	C	Chloroform	0.469	0.449	4.3	81	0.00
29		Tetrahydrofuran	0.181	0.156	13.8	71	-0.01
30		1,1,1-Trichloroethane	0.348	0.365	-4.9	84	0.00
31		Cyclohexane	0.854	0.898	-5.2	83	0.00
32	S	Dibromofluoromethane	0.253	0.259	-2.4	85	0.00
33		1,1-Dichloropropene	0.337	0.332	1.5	77	0.00
34		Carbon Tetrachloride	0.307	0.332	-8.1	86	0.00
35	S	1,2-Dichloroethane-d4	0.343	0.339	1.2	84	0.00
36		Benzene	1.112	1.064	4.3	79	0.00
37		TAME	0.794	0.759	4.4	79	0.00
38		1,2-Dichloroethane	0.566	0.540	4.6	83	0.00
39		Trichloroethene	0.269	0.276	-2.6	86	0.00
40		Methylcyclohexane	0.372	0.369	0.8	76	0.00
41	C	1,2-Dichloropropane	0.408	0.420	-2.9	85	0.00
42		Dibromomethane	0.164	0.167	-1.8	84	0.00

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC634-CC629
Lab FileID: C0014344.D

43		Bromodichloromethane	0.365	0.355	2.7	80	0.00
44		2-Nitropropane	0.153	0.132	13.7	70	0.00
45		2-Chloroethyl vinyl ether	0.230	0.224	2.6	79	0.00
46		4-Methyl-2-pentanone	0.634	0.584	7.9	76	0.00
47		cis-1,3-Dichloropropene	0.482	0.467	3.1	79	0.00
48	I	Chlorobenzene-d5	1.000	1.000	0.0	86	0.00
49	S	Toluene-d8	1.158	1.118	3.5	82	0.00
50	C	Toluene	1.407	1.404	0.2	85	0.00
51		trans-1,3-Dichloropropene	0.515	0.483	6.2	79	0.00
52		1,1,2-Trichloroethane	0.261	0.236	9.6	79	0.00
53		Tetrachloroethene	0.343	0.338	1.5	83	0.00
54		2-hexanone	0.525	0.467	11.0	75	0.00
55		1,3-Dichloropropane	0.523	0.493	5.7	79	0.00
56		Dibromochloromethane	0.328	0.325	0.9	85	0.00
57		1,2-Dibromoethane	0.327	0.294	10.1	76	0.00
58		1-Chlorohexane	0.418	0.446	-6.7	87	0.00
59	P	Chlorobenzene	0.981	0.970	1.1	85	0.00
60		1,1,1,2-Tetrachloroethane	0.329	0.341	-3.6	88	0.00
61	C	Ethylbenzene	1.549	1.605	-3.6	87	0.00
62		m,p-Xylene	1.214	1.260	-3.8	88	0.00
63		o-Xylene	1.273	1.316	-3.4	89	0.00
64		Styrene	1.099	1.035	5.8	80	0.00
65	P	Bromoform	0.229	0.243	-6.1	89	0.00
66	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	91	0.00
67		Isopropylbenzene	2.674	2.352	12.0	79	0.00
68	S	4-Bromofluorobenzene	0.919	0.853	7.2	86	0.00
69		Bromobenzene	0.722	0.745	-3.2	96	0.00
70	P	1,1,2,2-Tetrachloroethane	0.759	0.627	17.4	75	0.00
71		trans-1,4-Dichloro-2-butene	0.328	0.307	6.4	83	0.00
72		1,2,3-Trichloropropane	0.211	0.175	17.1	75	0.00
73		n-Propylbenzene	3.186	3.135	1.6	87	0.00
74		2-Chlorotoluene	2.228	2.126	4.6	87	0.00
75		4-Chlorotoluene	2.155	2.022	6.2	85	0.00
76		1,3,5-Trimethylbenzene	2.295	2.039	11.2	80	0.00
77		Benzyl chloride	1.306	1.291	1.1	85	0.00
78		sec-Butylbenzene	2.729	2.395	12.2	77	0.00
79		1,3-Dichlorobenzene	1.443	1.328	8.0	85	0.00
80		4-Isopropyltoluene	2.190	2.055	6.2	83	0.00
81		1,4-Dichlorobenzene	1.477	1.361	7.9	84	0.00
82		tert-Butylbenzene	1.270	1.227	3.4	87	0.00
83		n-Butylbenzene	2.026	1.973	2.6	87	0.00
84		1,2-Dichlorobenzene	1.416	1.275	10.0	82	0.00
85		1,2,4-Trimethylbenzene	2.492	2.153	13.6	78	0.00
86		1,2-Dibromo-3-Chloropropane	0.134	0.100	25.4#	68	0.00
87		1,2,4-Trichlorobenzene	0.899	0.839	6.7	89	0.00
88		Hexachlorobutadiene	0.286	0.322	-12.6	102	0.00
89		Naphthalene	2.188	1.853	15.3	78	0.00
90		1,2,3-Trichlorobenzene	0.782	0.746	4.6	88	0.00
91	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	72	0.00
92		Acrolein	1.656	1.863	-12.5	95	0.00
93		Tert-Butyl Alcohol	2.365	2.561	-8.3	82	0.00
94		1,4-Dioxane	0.165	0.154	6.7	70	-0.01
95		Cyclohexanone	0.963	0.875	9.1	72	0.00

Average % D = 6.6

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: VC634-CC629
Lab FileID: C0014344.D

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0014262.D 826045.M Wed Feb 05 08:59:29 2003 RPT1

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Blank Spike Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6857-BS	AB24520.D	1	02/03/03	NJ	02/03/03	OP6857	GAB900

The QC reported here applies to the following samples: Method: EPA 504.1

F16417-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.23	92	80-120

Blank Spike Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6857-BS2	AB24521.D	1	02/03/03	NJ	02/03/03	OP6857	GAB900

The QC reported here applies to the following samples: Method: EPA 504.1

F16417-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.23	92	80-120

Method Blank Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6857-MB	AB24522.D	1	02/03/03	NJ	02/03/03	OP6857	GAB900

The QC reported here applies to the following samples: Method: EPA 504.1

F16417-1

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6857-MS	AB24527.D	1	02/03/03	NJ	02/03/03	OP6857	GAB900
OP6857-MSD	AB24528.D	1	02/03/03	NJ	02/03/03	OP6857	GAB900
F16390-1	AB24526.D	1	02/03/03	NJ	02/03/03	OP6857	GAB900

The QC reported here applies to the following samples: Method: EPA 504.1

F16417-1

CAS No.	Compound	F16390-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		0.236	0.20	85	0.21	90	5	74-120/22

Initial Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAB900-ICC900
Lab FileID: AB24514.D

Response Factor Report ECD 1

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Mon Feb 03 16:21:32 2003

Calibration Files
.125 =AB24513.D 0.25 =AB24514.D 0.50 =AB24515.D
0.75 =AB24516.D 1.0 =AB24517.D

	Compound	.125	0.25	0.50	0.75	1.0	Avg	%RSD
1)	1,2-Dibromoethane	1.949	1.673	1.547	1.406	1.356	1.586 E4	15.00
2)	1,2-Dibromo-3-chlorop	2.082	1.978	1.820	1.823	1.801	1.901 E4	6.51

Signal #2 Calibration Files
.125 =AB24513.D 0.25 =AB24514.D 0.50 =AB24515.D
0.75 =AB24516.D 1.0 =AB24517.D

	Compound	.125	0.25	0.50	0.75	1.0	Avg	%RSD
1)	1,2-Dibromoethane	2.661	2.292	2.153	1.948	1.876	2.186 E4	14.30
2)	1,2-Dibromo-3-chlorop	5.055	4.597	4.315	4.012	3.892	4.374 E4	10.73

(#) = Out of Range

504_1.M Tue Feb 04 13:33:30 2003 RPT1

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAB900-CC900
Lab FileID: AB24530.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\0203EDB\AB24530.D\ECD1B.CH  Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\0203EDB\AB24530.D\ECD2A.CH
Acq On    :  3 Feb 2003   8:56 pm                    Operator: nareshj
Sample    : CC900-0.50                               Inst    : ECD 1
Misc      : op6857,gab900,35.0,,,2,1,water           Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Mon Feb 03 16:21:32 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.500	0.470	6.0	96	0.00
2	1,2-Dibromo-3-chloropropane	0.500	0.462	7.6	97	0.00

Signal #2

1	1,2-Dibromoethane	0.500	0.466	6.8	95	0.00
2	1,2-Dibromo-3-chloropropa	0.500	0.462	7.6	94	0.00

Evaluate Continuing Calibration Report - Not Founds

```
Signal #1 : C:\HPCHEM\1\DATA\0203EDB\AB24530.D\ECD1B.CH  Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\0203EDB\AB24530.D\ECD2A.CH
Acq On    :  3 Feb 2003   8:56 pm                    Operator: nareshj
Sample    : CC900-0.50                               Inst    : ECD 1
Misc      : op6857,gab900,35.0,,,2,1,water           Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Mon Feb 03 16:21:32 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AB24515.D 504_1.M Tue Feb 04 13:36:22 2003 RPT1

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Blank Spike Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6876-BS	OP27061.D	1	02/06/03	SKW	02/05/03	OP6876	GOP928

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F16417-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C8-C40)	0.85	0.758	89	59-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	91%	51-125%

Blank Spike Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6886-BS	AA014232.D	1	02/07/03	SM	02/06/03	OP6886	GAA679

The QC reported here applies to the following samples: Method: EPA 8310

F16417-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	20	15.7	79	52-104
208-96-8	Acenaphthylene	20	15.5	78	51-103
120-12-7	Anthracene	20	16.9	85	60-112
56-55-3	Benzo(a)anthracene	10	8.6	86	64-111
50-32-8	Benzo(a)pyrene	10	8.7	87	56-118
205-99-2	Benzo(b)fluoranthene	10	8.8	88	63-117
191-24-2	Benzo(g,h,i)perylene	10	9.1	91	45-118
207-08-9	Benzo(k)fluoranthene	10	8.8	88	56-118
218-01-9	Chrysene	10	9.0	90	67-112
53-70-3	Dibenzo(a,h)anthracene	10	8.8	88	41-119
206-44-0	Fluoranthene	20	17.0	85	61-111
86-73-7	Fluorene	20	16.0	80	54-105
193-39-5	Indeno(1,2,3-cd)pyrene	10	8.9	89	46-118
91-20-3	Naphthalene	20	14.4	72	44-105
90-12-0	1-Methylnaphthalene	20	14.9	75	47-102
91-57-6	2-Methylnaphthalene	20	14.9	75	47-101
85-01-8	Phenanthrene	20	16.4	82	55-109
129-00-0	Pyrene	20	16.9	85	61-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	84%	32-142%
92-94-4	p-Terphenyl	85%	30-128%

Blank Spike Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6886-BS	AA014261.D	1	02/10/03	SM	02/06/03	OP6886	GAA680

The QC reported here applies to the following samples: Method: EPA 8310

F16417-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	20	16.3	82	52-104
208-96-8	Acenaphthylene	20	16.0	80	51-103
120-12-7	Anthracene	20	17.1	86	60-112
56-55-3	Benzo(a)anthracene	10	8.9	89	64-111
50-32-8	Benzo(a)pyrene	10	9.0	90	56-118
205-99-2	Benzo(b)fluoranthene	10	9.1	91	63-117
191-24-2	Benzo(g,h,i)perylene	10	9.4	94	45-118
207-08-9	Benzo(k)fluoranthene	10	9.1	91	56-118
218-01-9	Chrysene	10	9.2	92	67-112
53-70-3	Dibenzo(a,h)anthracene	10	9.1	91	41-119
206-44-0	Fluoranthene	20	17.4	87	61-111
86-73-7	Fluorene	20	16.5	83	54-105
193-39-5	Indeno(1,2,3-cd)pyrene	10	9.2	92	46-118
91-20-3	Naphthalene	20	15.0	75	44-105
90-12-0	1-Methylnaphthalene	20	15.4	77	47-102
91-57-6	2-Methylnaphthalene	20	15.3	77	47-101
85-01-8	Phenanthrene	20	16.8	84	55-109
129-00-0	Pyrene	20	17.2	86	61-109

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

Method Blank Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6876-MB	OP27062.D	1	02/06/03	SKW	02/05/03	OP6876	GOP928

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F16417-1

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	88%	51-125%

Method Blank Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6886-MB	AA014233.D	1	02/07/03	SM	02/06/03	OP6886	GAA679

The QC reported here applies to the following samples: Method: EPA 8310

F16417-1

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	81%	32-142%
92-94-4	p-Terphenyl	69%	30-128%

Method Blank Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6886-MB	AA014262.D	1	02/10/03	SM	02/06/03	OP6886	GAA680

The QC reported here applies to the following samples: Method: EPA 8310

F16417-1

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	82%	32-142%
92-94-4	p-Terphenyl	69%	30-128%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6876-MS	OP27064.D	1	02/06/03	SKW	02/05/03	OP6876	GOP928
OP6876-MSD	OP27065.D	1	02/06/03	SKW	02/05/03	OP6876	GOP928
F16415-1	OP27063.D	1	02/06/03	SKW	02/05/03	OP6876	GOP928

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F16417-1

CAS No.	Compound	F16415-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C8-C40)	ND		1.73	1.60	92	1.60	92	0	38-133/23

CAS No.	Surrogate Recoveries	MS	MSD	F16415-1	Limits
84-15-1	o-Terphenyl	99%	92%	89%	51-125%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6886-MS	AA014250.D	1	02/08/03	SM	02/06/03	OP6886	GAA679
OP6886-MSD	AA014251.D	1	02/08/03	SM	02/06/03	OP6886	GAA679
F16428-1 [a]	AA014249.D	1	02/07/03	SM	02/06/03	OP6886	GAA679

The QC reported here applies to the following samples: Method: EPA 8310

F16417-1

CAS No.	Compound	F16428-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		41.7	35.8	86	36.8	88	3	20-140/45
208-96-8	Acenaphthylene	ND		41.7	35.6	85	37.2	89	4	17-141/46
120-12-7	Anthracene	ND		41.7	35.5	85	36.1	87	2	48-123/23
56-55-3	Benzo(a)anthracene	ND		20.8	18.5	89	18.8	90	2	42-134/22
50-32-8	Benzo(a)pyrene	ND		20.8	18.6	89	18.7	90	1	55-119/23
205-99-2	Benzo(b)fluoranthene	ND		20.8	18.4	88	18.6	89	1	58-118/22
191-24-2	Benzo(g,h,i)perylene	ND		20.8	19.0	91	19.2	92	1	57-118/23
207-08-9	Benzo(k)fluoranthene	ND		20.8	18.5	89	18.7	90	1	58-120/22
218-01-9	Chrysene	ND		20.8	18.9	91	19.1	92	1	49-137/23
53-70-3	Dibenzo(a,h)anthracene	ND		20.8	18.4	88	18.6	89	1	57-12(
206-44-0	Fluoranthene	ND		41.7	37.3	90	38.5	92	3	55-117/22
86-73-7	Fluorene	ND		41.7	34.3	82	35.6	85	4	25-135/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		20.8	18.6	89	18.9	91	2	57-118/22
91-20-3	Naphthalene	9.9		41.7	38.9	70	41.2	75	6	18-129/45
90-12-0	1-Methylnaphthalene	2.9		41.7	35.8	79	36.9	82	3	18-131/46
91-57-6	2-Methylnaphthalene	4.4		41.7	36.5	77	37.5	79	3	12-135/48
85-01-8	Phenanthrene	ND		41.7	35.8	86	37.0	89	3	39-129/27
129-00-0	Pyrene	ND		41.7	37.5	90	38.6	93	3	57-116/21

CAS No.	Surrogate Recoveries	MS	MSD	F16428-1	Limits
84-15-1	o-Terphenyl	111%	110%	99%	32-142%
92-94-4	p-Terphenyl	88%	90%	80%	30-128%

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

Semivolatile Surrogate Recovery Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Method: EPA 8310 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F16417-1	AA014235.D	79.0	81.0
OP6886-BS	AA014232.D	84.0	85.0
OP6886-BS	AA014261.D	87.0	87.0
OP6886-MB	AA014233.D	81.0	69.0
OP6886-MB	AA014262.D	82.0	69.0
OP6886-MS	AA014250.D	111.0	88.0
OP6886-MSD	AA014251.D	110.0	90.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	32-142%
S2 = p-Terphenyl	30-128%

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Method: FLORIDA-PRO Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F16417-1	OP27066.D	86.0
OP6876-BS	OP27061.D	91.0
OP6876-MB	OP27062.D	88.0
OP6876-MS	OP27064.D	99.0
OP6876-MSD	OP27065.D	92.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	51-125%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	GOP928-CC894	Injection Date:	02/06/03
Lab File ID:	OP27058.D	Injection Time:	10:21
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.11

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP6876-BS	OP27061.D	02/06/03	11:24	5.12
OP6876-MB	OP27062.D	02/06/03	11:45	5.12
F16415-1	OP27063.D	02/06/03	12:06	5.11
OP6876-MS	OP27064.D	02/06/03	12:26	5.11
OP6876-MSD	OP27065.D	02/06/03	12:47	5.11
F16417-1	OP27066.D	02/06/03	13:07	5.11

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	GAA679-ICC679	Injection Date:	02/07/03
Lab File ID:	AA014228.D	Injection Time:	15:33
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	9.04	11.26

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP6886-BS	AA014232.D	02/07/03	17:09	9.04	11.26
OP6886-MB	AA014233.D	02/07/03	17:32	9.04	11.26
ZZZZZZ	AA014234.D	02/07/03	17:56	9.04	11.26
F16417-1	AA014235.D	02/07/03	18:20	9.04	11.26
ZZZZZZ	AA014236.D	02/07/03	18:44	9.04	11.26
ZZZZZZ	AA014237.D	02/07/03	19:07	9.04	11.26
ZZZZZZ	AA014238.D	02/07/03	19:31	9.04	11.26
ZZZZZZ	AA014239.D	02/07/03	19:55	9.05	11.25

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	GAA679-CC679	Injection Date:	02/07/03
Lab File ID:	AA014248.D	Injection Time:	23:29
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	9.04	9.04	11.25	11.25

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
F16428-1	AA014249.D	02/07/03	23:53	9.04		11.26	
OP6886-MS	AA014250.D	02/08/03	00:17	9.05		11.26	
OP6886-MSD	AA014251.D	02/08/03	00:41	9.06		11.25	
ZZZZZZ	AA014252.D	02/08/03	01:04	9.05		11.26	
ZZZZZZ	AA014255.D	02/08/03	02:16	9.05		11.26	
ZZZZZZ	AA014256.D	02/08/03	02:40	9.05		11.26	
ZZZZZZ	AA014257.D	02/08/03	03:03	9.05		11.26	
GAA679-ECC679	AA014258.D	02/08/03	03:27	9.05	9.05	11.26	11.26

Surrogate
Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Check Std:	GAA680-CC679	Injection Date:	02/10/03
Lab File ID:	AA014260.D	Injection Time:	11:39
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	9.22	9.22	11.34	11.34

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP6886-BS	AA014261.D	02/10/03	12:02	9.20		11.33	
OP6886-MB	AA014262.D	02/10/03	12:26	9.21		11.33	
ZZZZZZ	AA014263.D	02/10/03	12:50	9.18		11.33	
ZZZZZZ	AA014264.D	02/10/03	13:14	9.19		11.33	
GAA680-ECC679	AA014265.D	02/10/03	13:38	9.20	9.20	11.33	11.33

Surrogate
Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Initial Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GOP894-ICC894
Lab FileID: OP25896.D

Response Factor Report FID 2

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Tue Dec 03 15:25:44 2002
Response via : Initial Calibration

Calibration Files
1 =OP25894.D 2 =OP25895.D 3 =OP25896.D
4 =OP25897.D 5 =OP25898.D 6 =OP25899.D 7 =OP25900.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1)S O-TERPHENYL	3.601	3.702	3.759	3.751	3.803			3.723 E4	2.07
2)H TPH (C8-C40)	3.420	3.482	3.499	3.475	3.454	3.097	3.084	3.359 E4	5.51

Average % RSD = 3.8

(#) = Out of Range

FL_PRO_F.M Wed Dec 04 08:35:27 2002

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GOP928-CC894
Lab FileID: OP27058.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\0206PRO\OP27058.D          Vial: 1
Acq On    :  6 Feb 2003  10:21 am                    Operator: stephw
Sample    : CC894-1020                               Inst    : FID 2
Misc      : op6876,gop928,1000,,,1,1,water           Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Mon Feb 03 15:10:24 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	57.918	3.5	96	0.00
2 H	TPH (C8-C40)	1020.000	1078.192	-5.7	101	0.00

Average % D = 4.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP25896.D FL_PRO_F.M Fri Feb 07 10:39:05 2003

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GOP928-CC894
Lab FileID: OP27067.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\0206PRO\OP27067.D          Vial: 10
Acq On    :  6 Feb 2003   1:28 pm                    Operator: stephw
Sample    : CC894-1020                               Inst    : FID 2
Misc      : op6876,gop928,930,,,1,1,water            Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Mon Feb 03 15:10:24 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	60.453	-0.8	100	0.00
2 H	TPH (C8-C40)	1020.000	1066.109	-4.5	100	0.00

Average % D = 2.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP25896.D FL_PRO_F.M Fri Feb 07 10:39:06 2003

Initial Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA679-ICC679
Lab FileID: AA014228.D

Response Factor Report DAD

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Mon Feb 10 08:12:41 2003
Response via : Initial Calibration

Calibration Files
L1 =AA014225.D L2 =AA014226.D L3 =AA014227.D
L4 =AA014228.D L5 =AA014229.D L6 =AA014230.D L7 =AA013279.D

	Compound	L1	L2	L3	L4	L5	L6	L7	Avg	%RSD
1)	Naphthalene	4.749	4.598	4.387	4.283	4.231	4.303		4.425 E5	4.62
2)	Acenaphthylene	1.860	1.824	1.751	1.711	1.701	1.730		1.763 E5	3.67
3)	1-Methyl Naphthal	4.248	3.963	3.819	3.721	3.651	3.743		3.857 E5	5.68
4)	2-Methyl Naphthal	4.123	3.966	3.787	3.698	3.624	3.722		3.820 E5	4.93
5)	Acenaphthene	3.175	3.050	2.952	2.879	2.809	2.890		2.959 E5	4.50
6)	Fluorene	1.187	1.123	1.072	1.039	1.011	1.027		1.077 E6	6.23
7)	Phenanthrene	1.059	0.999	0.959	0.931	0.913	0.928		0.965 E6	5.74
8)S	O-Terphenyl	4.061	3.824	3.645	3.550	3.491	3.563		3.689 E5	5.85
9)	Anthracene		1.158	1.071	1.001	0.956	0.954		1.028 E5	8.41
10)	Fluoranthene	8.861	8.403	8.211	7.990	7.865	7.972		8.217 E5	4.50
11)	Pyrene	1.372	1.291	1.220	1.163	1.122	1.110		1.213 E6	8.46
12)S	P-Terphenyl	1.562	1.467	1.399	1.359	1.340	1.363		1.415 E6	5.99
13)	Benzo(a)Anthracen	2.490	2.332	2.234	2.163	2.123	2.152		2.249 E6	6.22
14)	Chrysene		3.110	2.874	2.668	2.526	2.445		2.725 E6	9.91
15)	Benzo(b)Fluoranth	1.327	1.252	1.198	1.175	1.163	1.185		1.217 E6	5.11
16)	Benzo(k)Fluoranth	7.912	7.312	7.097	6.943	6.881	7.017		7.194 E5	5.31
17)	Benzo(a) Pyrene	1.470	1.482	1.406	1.376	1.360	1.383		1.413 E6	3.65
18)	Dibenzo(a,h)anthr	1.160	1.098	1.066	1.043	1.032	1.050		1.075 E6	4.43
19)	Benzo(g,h,i) Pery	7.378	7.663	7.613	7.506	7.446	7.608		7.536 E5	1.47
20)	Indeno(1,2,3-cd)p	6.354	6.212	6.073	5.984	5.940	6.070		6.106 E5	2.51
Signal #2										
1)	Naphthalene	2.827	2.688	2.655	2.602	2.571	2.614		2.659 E5	3.45
2)	Acenaphthylene	1.815	1.789	1.757	1.712	1.716	1.734		1.754 E5	2.37
3)	1-Methyl Naphthal	1.872	1.705	1.667	1.628	1.593	1.640		1.684 E5	5.90
4)	2-Methyl Naphthal	2.437	2.389	2.315	2.266	2.211	2.279		2.316 E5	3.61
5)	Acenaphthene	1.104	1.003	1.017	1.002	0.962	1.008		1.016 E5	4.61
6)	Fluorene	1.356	1.278	1.230	1.202	1.180	1.207		1.242 E6	5.24
7)	Phenanthrene	3.533	3.325	3.137	2.990	2.882	2.868		3.123 E6	8.47
8)S	O-Terphenyl	6.373	6.169	5.957	5.888	5.799	5.935		6.020 E5	3.52
9)	Anthracene	7.618	6.916	5.414	4.281	3.595	3.189		5.169 E6	34.93
	----- Quadratic regression ----- Coefficient = 0.9971									
	Response Ratio = 3286059.29017 + 5215009.94382 *A + -53822.59532 *A^2									
10)	Fluoranthene	8.357	7.942	7.721	7.783	7.684	7.838		7.888 E5	3.14
11)	Pyrene	8.112	7.430	7.348	7.201	7.111	7.245		7.408 E5	4.89
12)S	P-Terphenyl	7.899	7.439	7.103	6.927	6.834	6.944		7.191 E5	5.66
13)	Benzo(a)Anthracen	1.854	1.741	1.685	1.649	1.633	1.664		1.704 E6	4.83
14)	Chrysene	2.692	2.603	2.513	2.431	2.390	2.413		2.507 E6	4.78
15)	Benzo(b)Fluoranth	1.141	1.100	1.057	1.031	1.015	1.033		1.063 E6	4.56
16)	Benzo(k)Fluoranth	1.829	1.725	1.672	1.639	1.623	1.654		1.690 E6	4.52
17)	Benzo(a) Pyrene	1.193	1.126	1.089	1.055	1.030	1.035		1.088 E6	5.76
18)	Dibenzo(a,h)anthr	3.061	2.880	2.753	2.639	2.561	2.552		2.741 E6	7.31
19)	Benzo(g,h,i) Pery	1.302	1.249	1.245	1.217	1.204	1.226		1.240 E6	2.78
20)	Indeno(1,2,3-cd)p	8.956	8.532	8.579	8.303	8.260	8.444		8.512 E5	2.94

(#) = Out of Range

Initial Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA679-ICC679
Lab FileID: AA014228.D

8310_32.M Mon Feb 10 10:14:02 2003

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA679-CC679
Lab FileID: AA014240.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0207PAH\AA014240.D\DAD1B.CH Vial: 6
Signal #2 : F:\HPCHEM\1\DATA\0207PAH\AA014240.D\DAD1A.CH
Acq On : 07-Feb-2003, 20:19:17 Operator: SARAHM
Sample : CC679-20 Inst : DAD
Misc : op6886,gaa679,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Mon Feb 10 10:12:26 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.318	3.4	100	0.00
2		Acenaphthylene	20.000	19.392	3.0	100	0.00
3		1-Methyl Naphthalene	20.000	19.246	3.8	100	0.00
4		2-Methyl Naphthalene	20.000	19.307	3.5	100	0.00
5		Acenaphthene	20.000	19.440	2.8	100	0.00
6		Fluorene	20.000	19.259	3.7	100	0.00
7		Phenanthrene	20.000	19.281	3.6	100	0.00
8	S	O-Terphenyl	20.000	19.247	3.8	100	0.00
9		Anthracene	20.000	19.445	2.8	100	0.00
10		Fluoranthene	20.000	19.417	2.9	100	0.00
11		Pyrene	20.000	19.124	4.4	100	0.00
12	S	P-Terphenyl	20.000	19.185	4.1	100	0.00
13		Benzo(a)Anthracene	10.000	9.596	4.0	100	0.00
14		Chrysene	10.000	9.822	1.8	100	0.01
15		Benzo(b)Fluoranthene	10.000	9.625	3.8	100	0.03
16		Benzo(k)Fluoranthene	10.000	9.628	3.7	100	0.03
17		Benzo(a) Pyrene	10.000	9.689	3.1	99	0.03
18		Dibenzo(a,h)anthracene	10.000	9.675	3.2	100	0.03
19		Benzo(g,h,i) Perylene	10.000	9.917	0.8	100	0.03
20		Indeno(1,2,3-cd)pyrene	10.000	9.781	2.2	100	0.03

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.521	2.4	100	0.00
2		Acenaphthylene	20.000	19.554	2.2	100	0.00
3		1-Methyl Naphthalene	20.000	19.307	3.5	100	0.00
4		2-Methyl Naphthalene	20.000	19.501	2.5	100	0.00
5		Acenaphthene	20.000	19.668	1.7	100	0.00
6		Fluorene	20.000	19.306	3.5	100	0.00
7		Phenanthrene	20.000	19.129	4.4	100	0.00
8	S	O-Terphenyl	20.000	19.531	2.3	100	0.00
9		Anthracene	20.000	19.625	1.9	100	0.00
10		Fluoranthene	20.000	19.699	1.5	100	0.00
11		Pyrene	20.000	19.371	3.1	100	0.00
12	S	P-Terphenyl	20.000	19.248	3.8	100	0.00
13		Benzo(a)Anthracene	10.000	9.652	3.5	100	0.00
14		Chrysene	10.000	9.690	3.1	100	0.01
15		Benzo(b)Fluoranthene	10.000	9.652	3.5	100	0.03

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA679-CC679
Lab FileID: AA014240.D

16	Benzo(k)Fluoranthene	10.000	9.632	3.7	99	0.03
17	Benzo(a) Pyrene	10.000	9.638	3.6	99	0.03
18	Dibenzo(a,h)anthracene	10.000	9.548	4.5	99	0.03
19	Benzo(g,h,i) Perylene	10.000	9.767	2.3	100	0.03
20	Indeno(1,2,3-cd)pyrene	10.000	9.737	2.6	100	0.03

Average % D = 3.1

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA014228.D 8310_32.M Mon Feb 10 10:18:27 2003

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA679-CC679
Lab FileID: AA014248.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0207PAH\AA014248.D\DAD1B.CH Vial: 6
Signal #2 : F:\HPCHEM\1\DATA\0207PAH\AA014248.D\DAD1A.CH
Acq On : 07-Feb-2003, 23:29:36 Operator: SARAHM
Sample : CC679-20 Inst : DAD
Misc : op6886,gaa679,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Mon Feb 10 10:12:26 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.426	2.9	100	0.00
2		Acenaphthylene	20.000	19.560	2.2	101	0.00
3		1-Methyl Naphthalene	20.000	19.401	3.0	101	0.00
4		2-Methyl Naphthalene	20.000	19.458	2.7	100	0.00
5		Acenaphthene	20.000	19.567	2.2	101	0.00
6		Fluorene	20.000	19.403	3.0	100	0.00
7		Phenanthrene	20.000	19.417	2.9	101	0.00
8	S	O-Terphenyl	20.000	19.386	3.1	101	0.00
9		Anthracene	20.000	19.574	2.1	100	0.00
10		Fluoranthene	20.000	19.554	2.2	101	0.00
11		Pyrene	20.000	19.256	3.7	100	0.00
12	S	P-Terphenyl	20.000	19.339	3.3	101	0.00
13		Benzo(a)Anthracene	10.000	9.663	3.4	100	0.00
14		Chrysene	10.000	9.867	1.3	101	0.00
15		Benzo(b)Fluoranthene	10.000	9.703	3.0	100	0.02
16		Benzo(k)Fluoranthene	10.000	9.705	2.9	101	0.01
17		Benzo(a) Pyrene	10.000	9.759	2.4	100	0.01
18		Dibenzo(a,h)anthracene	10.000	9.756	2.4	101	0.00
19		Benzo(g,h,i) Perylene	10.000	9.994	0.1	100	0.01
20		Indeno(1,2,3-cd)pyrene	10.000	9.864	1.4	101	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.612	1.9	100	0.00
2		Acenaphthylene	20.000	19.668	1.7	101	0.00
3		1-Methyl Naphthalene	20.000	19.419	2.9	100	0.00
4		2-Methyl Naphthalene	20.000	19.637	1.8	100	0.00
5		Acenaphthene	20.000	19.755	1.2	100	0.00
6		Fluorene	20.000	19.454	2.7	101	0.00
7		Phenanthrene	20.000	19.249	3.8	101	0.00
8	S	O-Terphenyl	20.000	19.663	1.7	101	0.00
9		Anthracene	20.000	19.634	1.8	100	0.00
10		Fluoranthene	20.000	19.839	0.8	101	0.00
11		Pyrene	20.000	19.532	2.3	100	0.00
12	S	P-Terphenyl	20.000	19.396	3.0	101	0.00
13		Benzo(a)Anthracene	10.000	9.712	2.9	100	0.00
14		Chrysene	10.000	9.757	2.4	101	0.00
15		Benzo(b)Fluoranthene	10.000	9.725	2.8	100	0.01

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA679-CC679
Lab FileID: AA014248.D

16	Benzo(k)Fluoranthene	10.000	9.702	3.0	100	0.01
17	Benzo(a) Pyrene	10.000	9.704	3.0	100	0.01
18	Dibenzo(a,h)anthracene	10.000	9.645	3.6	100	0.00
19	Benzo(g,h,i) Perylene	10.000	9.849	1.5	100	0.01
20	Indeno(1,2,3-cd)pyrene	10.000	9.819	1.8	101	0.00

Average % D = 2.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA014228.D 8310_32.M Mon Feb 10 10:18:30 2003

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA679-ECC679
Lab FileID: AA014258.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0207PAH\AA014258.D\DAD1B.CH Vial: 6
Signal #2 : F:\HPCHEM\1\DATA\0207PAH\AA014258.D\DAD1A.CH
Acq On : 08-Feb-2003, 03:27:39 Operator: SARAHM
Sample : ECC679-20 Inst : DAD
Misc : op6886,gaa679,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Mon Feb 10 10:12:26 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.523	2.4	101	0.00
2		Acenaphthylene	20.000	19.746	1.3	102	0.00
3		1-Methyl Naphthalene	20.000	19.523	2.4	101	0.00
4		2-Methyl Naphthalene	20.000	19.561	2.2	101	0.00
5		Acenaphthene	20.000	19.677	1.6	101	0.00
6		Fluorene	20.000	19.502	2.5	101	0.00
7		Phenanthrene	20.000	19.538	2.3	101	0.00
8	S	O-Terphenyl	20.000	19.490	2.6	101	0.00
9		Anthracene	20.000	19.663	1.7	101	0.00
10		Fluoranthene	20.000	19.666	1.7	101	0.00
11		Pyrene	20.000	19.342	3.3	101	0.00
12	S	P-Terphenyl	20.000	19.453	2.7	101	0.00
13		Benzo(a)Anthracene	10.000	9.725	2.8	101	0.00
14		Chrysene	10.000	9.912	0.9	101	0.00
15		Benzo(b)Fluoranthene	10.000	9.761	2.4	101	0.02
16		Benzo(k)Fluoranthene	10.000	9.779	2.2	101	0.02
17		Benzo(a) Pyrene	10.000	9.742	2.6	100	0.02
18		Dibenzo(a,h)anthracene	10.000	9.829	1.7	101	0.02
19		Benzo(g,h,i) Perylene	10.000	10.069	-0.7	101	0.02
20		Indeno(1,2,3-cd)pyrene	10.000	9.948	0.5	102	0.01

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.698	1.5	101	0.00
2		Acenaphthylene	20.000	19.789	1.1	101	0.00
3		1-Methyl Naphthalene	20.000	19.509	2.5	101	0.00
4		2-Methyl Naphthalene	20.000	19.685	1.6	101	0.00
5		Acenaphthene	20.000	19.771	1.1	100	0.00
6		Fluorene	20.000	19.527	2.4	101	0.00
7		Phenanthrene	20.000	19.354	3.2	101	0.00
8	S	O-Terphenyl	20.000	19.727	1.4	101	0.00
9		Anthracene	20.000	19.710	1.4	100	0.00
10		Fluoranthene	20.000	19.913	0.4	101	0.00
11		Pyrene	20.000	19.620	1.9	101	0.00
12	S	P-Terphenyl	20.000	19.503	2.5	101	0.00
13		Benzo(a)Anthracene	10.000	9.782	2.2	101	0.00
14		Chrysene	10.000	9.813	1.9	101	0.00
15		Benzo(b)Fluoranthene	10.000	9.797	2.0	101	0.02

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA679-ECC679
Lab FileID: AA014258.D

16	Benzo(k)Fluoranthene	10.000	9.765	2.3	101	0.02
17	Benzo(a) Pyrene	10.000	9.672	3.3	100	0.02
18	Dibenzo(a,h)anthracene	10.000	9.678	3.2	101	0.02
19	Benzo(g,h,i) Perylene	10.000	9.909	0.9	101	0.02
20	Indeno(1,2,3-cd)pyrene	10.000	9.899	1.0	101	0.01

Average % D = 2.0

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA014228.D 8310_32.M Mon Feb 10 10:18:32 2003

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA680-CC679
Lab FileID: AA014260.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0210PAH\AA014260.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\0210PAH\AA014260.D\DAD1A.CH
Acq On : 10-Feb-2003, 11:39:10 Operator: SARAHM
Sample : CC679-10 Inst : DAD
Misc : op6886,gaa680,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Mon Feb 10 14:16:58 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.169	-1.7	103	0.00
2		Acenaphthylene	10.000	10.182	-1.8	102	0.00
3		1-Methyl Naphthalene	10.000	10.123	-1.2	102	0.00
4		2-Methyl Naphthalene	10.000	10.125	-1.3	102	0.00
5		Acenaphthene	10.000	10.238	-2.4	103	0.00
6		Fluorene	10.000	10.156	-1.6	102	0.00
7		Phenanthrene	10.000	10.126	-1.3	102	0.00
8	S	O-Terphenyl	10.000	10.102	-1.0	102	0.00
9		Anthracene	10.000	10.488	-4.9	101	0.00
10		Fluoranthene	10.000	10.289	-2.9	103	0.00
11		Pyrene	10.000	10.258	-2.6	102	0.00
12	S	P-Terphenyl	10.000	10.103	-1.0	102	0.00
13		Benzo(a)Anthracene	5.000	5.080	-1.6	102	0.00
14		Chrysene	5.000	5.381	-7.6	102	0.00
15		Benzo(b)Fluoranthene	5.000	5.069	-1.4	103	0.00
16		Benzo(k)Fluoranthene	5.000	5.065	-1.3	103	0.00
17		Benzo(a) Pyrene	5.000	5.105	-2.1	103	0.00
18		Dibenzo(a,h)anthracene	5.000	5.087	-1.7	103	0.00
19		Benzo(g,h,i) Perylene	5.000	5.216	-4.3	103	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.116	-2.3	103	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.267	-2.7	103	0.00
2		Acenaphthylene	10.000	10.262	-2.6	102	0.00
3		1-Methyl Naphthalene	10.000	10.166	-1.7	103	0.00
4		2-Methyl Naphthalene	10.000	10.258	-2.6	103	0.00
5		Acenaphthene	10.000	10.314	-3.1	103	0.00
6		Fluorene	10.000	10.178	-1.8	103	0.00
7		Phenanthrene	10.000	10.280	-2.8	102	0.00
8	S	O-Terphenyl	10.000	10.180	-1.8	103	0.00
9		Anthracene	10.000	11.075	-10.7	101	0.00
10		Fluoranthene	10.000	10.051	-0.5	103	0.00
11		Pyrene	10.000	10.113	-1.1	102	0.00
12	S	P-Terphenyl	10.000	10.092	-0.9	102	0.00
13		Benzo(a)Anthracene	5.000	5.070	-1.4	103	0.00
14		Chrysene	5.000	5.133	-2.7	102	0.00
15		Benzo(b)Fluoranthene	5.000	5.098	-2.0	103	0.00

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA680-CC679
Lab FileID: AA014260.D

16	Benzo(k)Fluoranthene	5.000	5.088	-1.8	103	0.00
17	Benzo(a) Pyrene	5.000	5.144	-2.9	103	0.00
18	Dibenzo(a,h)anthracene	5.000	5.154	-3.1	103	0.00
19	Benzo(g,h,i) Perylene	5.000	5.162	-3.2	103	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.113	-2.3	101	0.00

Average % D = 2.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA014227.D 8310_32.M Mon Feb 10 14:24:09 2003

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA680-ECC679
Lab FileID: AA014265.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0210PAH\AA014265.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\0210PAH\AA014265.D\DAD1A.CH
Acq On : 10-Feb-2003, 13:38:00 Operator: SARAHM
Sample : ECC679-20 Inst : DAD
Misc : op6886,gaa680,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Mon Feb 10 14:16:58 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.536	2.3	101	0.02
2		Acenaphthylene	20.000	19.710	1.4	102	0.01
3		1-Methyl Naphthalene	20.000	19.522	2.4	101	0.00
4		2-Methyl Naphthalene	20.000	19.569	2.2	101	0.00
5		Acenaphthene	20.000	19.812	0.9	102	0.00
6		Fluorene	20.000	19.528	2.4	101	0.00
7		Phenanthrene	20.000	19.519	2.4	101	-0.01
8	S	O-Terphenyl	20.000	19.599	2.0	102	-0.02
9		Anthracene	20.000	19.717	1.4	101	-0.01
10		Fluoranthene	20.000	19.689	1.6	101	-0.01
11		Pyrene	20.000	19.218	3.9	100	-0.01
12	S	P-Terphenyl	20.000	19.411	2.9	101	0.00
13		Benzo(a)Anthracene	10.000	9.706	2.9	101	0.00
14		Chrysene	10.000	9.900	1.0	101	0.01
15		Benzo(b)Fluoranthene	10.000	9.756	2.4	101	0.03
16		Benzo(k)Fluoranthene	10.000	9.748	2.5	101	0.03
17		Benzo(a) Pyrene	10.000	9.770	2.3	100	0.03
18		Dibenzo(a,h)anthracene	10.000	9.794	2.1	101	0.03
19		Benzo(g,h,i) Perylene	10.000	10.083	-0.8	101	0.02
20		Indeno(1,2,3-cd)pyrene	10.000	9.934	0.7	101	0.03

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.745	1.3	101	0.02
2		Acenaphthylene	20.000	19.743	1.3	101	0.01
3		1-Methyl Naphthalene	20.000	19.509	2.5	101	0.00
4		2-Methyl Naphthalene	20.000	19.732	1.3	101	0.00
5		Acenaphthene	20.000	20.043	-0.2	102	0.00
6		Fluorene	20.000	19.580	2.1	101	0.00
7		Phenanthrene	20.000	19.304	3.5	101	-0.01
8	S	O-Terphenyl	20.000	19.887	0.6	102	-0.02
9		Anthracene	20.000	19.576	2.1	99	-0.01
10		Fluoranthene	20.000	19.960	0.2	101	-0.01
11		Pyrene	20.000	19.530	2.3	100	-0.01
12	S	P-Terphenyl	20.000	19.452	2.7	101	0.00
13		Benzo(a)Anthracene	10.000	9.766	2.3	101	0.00
14		Chrysene	10.000	9.793	2.1	101	0.01
15		Benzo(b)Fluoranthene	10.000	9.776	2.2	101	0.03

Continuing Calibration Summary

Job Number: F16417
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

Sample: GAA680-ECC679
Lab FileID: AA014265.D

16	Benzo(k)Fluoranthene	10.000	9.769	2.3	101	0.03
17	Benzo(a) Pyrene	10.000	9.727	2.7	100	0.03
18	Dibenzo(a,h)anthracene	10.000	9.686	3.1	101	0.03
19	Benzo(g,h,i) Perylene	10.000	9.932	0.7	101	0.02
20	Indeno(1,2,3-cd)pyrene	10.000	9.905	1.0	102	0.03

Average % D = 1.9

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA014228.D 8310_32.M Mon Feb 10 14:24:39 2003

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:28	MA3167-ICV1	1		
10:32	MA3167-ICB1	1		
10:35	MA3167-CRI1	1		
10:38	MA3167-ICSA1	1		
10:42	MA3167-ICSA2	1		
10:43	MA3167-ICSAB1	1		
10:54	MA3167-CCV1	1		
11:00	MA3167-CCB1	1		
11:19	MP5153-MB1	1		
11:23	MP5153-B1	1		
11:30	F16405-1	1		(sample used for QC only; not part of login F16417)
11:34	MP5153-D1	1		
11:38	MP5153-SD1	5		
11:42	MP5153-S1	1		
11:46	MP5153-S2	1		
11:52	ZZZZZZ	1		
11:56	MP5153-MB2	1		
12:00	MP5153-B2	1		
12:06	MA3167-CCV2	1		
12:13	MA3167-CCB2	1		
12:16	MP5156-MB1	1		
12:20	MP5156-B1	1		
12:27	F16373-1	1		(sample used for QC only; not part of login F16417)
12:31	MP5156-D1	1		
12:35	MP5156-SD1	5		
12:38	MP5156-S1	1		
12:42	MP5156-S2	1		
12:49	MP5157-MB1	1		
12:53	MP5157-B1	1		
12:59	F16437-1	1		(sample used for QC only; not part of login F16417)
13:03	MA3167-CCV3	1		
13:09	MA3167-CCB3	1		
13:13	MP5157-D1	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IRO20603.ASC Date Analyzed: 02/06/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3167
Parameters: Pb

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	13:17	MP5157-SD1	5		
	13:21	MP5157-S1	1		
	13:25	MP5157-S2	1		
	13:31	ZZZZZZ	1		
	13:35	ZZZZZZ	1		
	13:39	F16417-1	1		
---------->	Last reportable sample/prep for job F16417				
	13:43	ZZZZZZ	1		
	13:47	ZZZZZZ	1		
	13:51	ZZZZZZ	1		
	13:55	MA3167-CCV4	1		
	14:01	MA3167-CCB4	1		
---------->	Last reportable CCB for job F16417				
	14:05	ZZZZZZ	1		
	14:09	ZZZZZZ	1		
	14:13	ZZZZZZ	1		
	14:17	ZZZZZZ	1		
	14:21	ZZZZZZ	1		
	14:24	ZZZZZZ	1		
	14:28	MP5155-MB1	1		
	14:32	MP5155-B1	1		
	14:39	F16389-1	1		(sample used for QC only; not part of login F16417)
	14:42	MP5155-D1	1		
	14:46	MA3167-CCV5	1		
	14:53	MA3167-CCB5	1		
	14:57	MP5155-SD1	5		
	15:01	MP5155-S1	1		
	15:04	MP5155-S2	1		
	15:11	ZZZZZZ	1		
	15:15	ZZZZZZ	1		
	15:19	ZZZZZZ	1		
	15:23	ZZZZZZ	1		
	15:26	ZZZZZZ	1		
	15:30	ZZZZZZ	1		
	15:34	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:38	MA3167-CCV6	1		
15:45	MA3167-CCB6	1		
15:48	ZZZZZZ	1		
15:52	ZZZZZZ	1		
15:56	ZZZZZZ	1		
16:00	MP5155-MB2	1		
16:04	MP5155-B2	1		
16:09	MA3167-CRI2	1		
16:13	MA3167-CCV7	1		
16:19	MA3167-CCB7	1		
16:27	MP5163-MB1	1		
16:30	MP5163-B1	1		
16:37	F16479-1	1		(sample used for QC only; not part of login F16417)
16:41	MP5163-D1	1		
16:45	MP5163-SD1	5		
16:49	MP5163-S1	1		
16:52	MP5163-S2	1		
16:59	MP5160-MB1	1		
17:03	MP5160-B1	1		
17:07	MP5160-B2	1		
17:13	MA3167-CCV8	1		
17:19	MA3167-CCB8	1		
17:23	ZZZZZZ	1		
17:27	MP5159-MB1	1		
17:31	MP5159-B1	1		
17:38	F16458-1	1		(sample used for QC only; not part of login F16417)
17:41	MP5159-D1	1		
17:45	MP5159-SD1	5		
17:49	MP5159-S1	1		
17:53	MP5159-S2	1		
18:00	ZZZZZZ	1		
18:03	ZZZZZZ	1		
18:07	MA3167-CCV9	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IRO20603.ASC Date Analyzed: 02/06/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3167
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:14	MA3167-CCB9	1		
18:18	ZZZZZZ	1		
18:22	ZZZZZZ	1		
18:25	ZZZZZZ	1		
18:29	ZZZZZZ	1		
18:35	MA3167-CRI3	1		
18:38	MA3167-CCV10	1		
18:45	MA3167-CCB10	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B

Time	Sample Description	Istd#1
10:28	MA3167-ICV1	5045
10:32	MA3167-ICB1	5098 R
10:35	MA3167-CRI1	5115
10:38	MA3167-ICSA1	4730
10:42	MA3167-ICSA2	4730
10:43	MA3167-ICSAB1	4691
10:54	MA3167-CCV1	4976
11:00	MA3167-CCB1	5001
11:19	MP5153-MB1	4943
11:23	MP5153-B1	4988
11:30	F16405-1	4905
11:34	MP5153-D1	5023
11:38	MP5153-SD1	5120
11:42	MP5153-S1	5030
11:46	MP5153-S2	4959
11:52	ZZZZZZ	4899
11:56	MP5153-MB2	4974
12:00	MP5153-B2	4961
12:06	MA3167-CCV2	5093
12:13	MA3167-CCB2	5118
12:16	MP5156-MB1	5081
12:20	MP5156-B1	5069
12:27	F16373-1	5092
12:31	MP5156-D1	5077
12:35	MP5156-SD1	5163
12:38	MP5156-S1	5048
12:42	MP5156-S2	4966
12:49	MP5157-MB1	5059
12:53	MP5157-B1	4987
12:59	F16437-1	5029
13:03	MA3167-CCV3	5014
13:09	MA3167-CCB3	5035
13:13	MP5157-D1	5043
13:17	MP5157-SD1	5097

INTERNAL STANDARD SUMMARY

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B

Time	Sample Description	Istd#1
13:21	MP5157-S1	5022
13:25	MP5157-S2	5060
13:31	ZZZZZZ	5102
13:35	ZZZZZZ	5109
13:39	F16417-1	5037
13:43	ZZZZZZ	5097
13:47	ZZZZZZ	5140
13:51	ZZZZZZ	5078
13:55	MA3167-CCV4	5127
14:01	MA3167-CCB4	5069
14:05	ZZZZZZ	4833
14:09	ZZZZZZ	5052
14:13	ZZZZZZ	5022
14:17	ZZZZZZ	5847
14:21	ZZZZZZ	5076
14:24	ZZZZZZ	5052
14:28	MP5155-MB1	5016
14:32	MP5155-B1	5015
14:39	F16389-1	4727
14:42	MP5155-D1	4701
14:46	MA3167-CCV5	5103
14:53	MA3167-CCB5	5116
14:57	MP5155-SD1	5044
15:01	MP5155-S1	4732
15:04	MP5155-S2	4772
15:11	ZZZZZZ	4714
15:15	ZZZZZZ	4776
15:19	ZZZZZZ	4749
15:23	ZZZZZZ	4713
15:26	ZZZZZZ	4795
15:30	ZZZZZZ	4749
15:34	ZZZZZZ	4749
15:38	MA3167-CCV6	5103
15:45	MA3167-CCB6	5129

INTERNAL STANDARD SUMMARY

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B

Time	Sample Description	Istd#1
15:48	ZZZZZZ	4824
15:52	ZZZZZZ	4802
15:56	ZZZZZZ	4784
16:00	MP5155-MB2	5063
16:04	MP5155-B2	5041
16:09	MA3167-CRI2	5159
16:13	MA3167-CCV7	5107
16:19	MA3167-CCB7	5151
16:27	MP5163-MB1	5090
16:30	MP5163-B1	5056
16:37	F16479-1	4982
16:41	MP5163-D1	4995
16:45	MP5163-SD1	5146
16:49	MP5163-S1	4944
16:52	MP5163-S2	4961
16:59	MP5160-MB1	5037
17:03	MP5160-B1	4981
17:07	MP5160-B2	4975
17:13	MA3167-CCV8	5047
17:19	MA3167-CCB8	5117
17:23	ZZZZZZ	5009
17:27	MP5159-MB1	4974
17:31	MP5159-B1	4969
17:38	F16458-1	5148
17:41	MP5159-D1	5154
17:45	MP5159-SD1	5149
17:49	MP5159-S1	5067
17:53	MP5159-S2	5030
18:00	ZZZZZZ	5259
18:03	ZZZZZZ	5049
18:07	MA3167-CCV9	5094
18:14	MA3167-CCB9	5149
18:18	ZZZZZZ	5160
18:22	ZZZZZZ	5194

INTERNAL STANDARD SUMMARY

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B

Time	Sample Description	Istd#1
18:25	ZZZZZZ	5197
18:29	ZZZZZZ	5155
18:35	MA3167-CRI3	5225
18:38	MA3167-CCV10	5175
18:45	MA3167-CCB10	5230

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
QC Limits: result < RL

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B
Units: ug/l

Metal	RL	IDL	ICB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	6.6	anr							
Antimony	5.0	1.5	anr							
Arsenic	10	2.8	anr							
Barium	200	.49	anr							
Beryllium	5.0	.26	anr							
Cadmium	5.0	.26	anr							
Calcium	1000	3.8	anr							
Chromium	10	.43	anr							
Cobalt	50	.5	anr							
Copper	25	.44	anr							
Iron	300	7.1	anr							
Lead	5.0	1.2	0.20	<5.0	1.6	<5.0	1.6	<5.0	3.8	<5.0
Magnesium	5000	9.9	anr							
Manganese	15	.16	anr							
Molybdenum	50	.75								
Nickel	40	1.1	anr							
Potassium	5000	14	anr							
Selenium	10	2	anr							
Silver	10	.55	anr							
Sodium	5000	150	anr							
Thallium	10	1.5	anr							
Tin	50	2.2								
Vanadium	50	.47	anr							
Zinc	20	.59	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
QC Limits: result < RL

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B
Units: ug/l

Metal	RL	IDL	CCB raw	final
Aluminum	200	6.6	anr	
Antimony	5.0	1.5	anr	
Arsenic	10	2.8	anr	
Barium	200	.49	anr	
Beryllium	5.0	.26	anr	
Cadmium	5.0	.26	anr	
Calcium	1000	3.8	anr	
Chromium	10	.43	anr	
Cobalt	50	.5	anr	
Copper	25	.44	anr	
Iron	300	7.1	anr	
Lead	5.0	1.2	2.8	<5.0
Magnesium	5000	9.9	anr	
Manganese	15	.16	anr	
Molybdenum	50	.75		
Nickel	40	1.1	anr	
Potassium	5000	14	anr	
Selenium	10	2	anr	
Silver	10	.55	anr	
Sodium	5000	150	anr	
Thallium	10	1.5	anr	
Tin	50	2.2		
Vanadium	50	.47	anr	
Zinc	20	.59	anr	

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC Date Analyzed: 02/06/03 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3167 Units: ug/l

Metal	ICV True	ICV Results	% Rec	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2030	101.5	2000	2030	101.5	2000	2000	100.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Thallium	anr								
Tin									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC Date Analyzed: 02/06/03 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3167 Units: ug/l

Metal	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	2000	1980	99.0	2000	2000	100.0
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	anr					
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium	anr					
Thallium	anr					
Tin						
Vanadium	anr					
Zinc	anr					

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
QC Limits: 70 to 130 % Recovery

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B
Units: ug/l

Metal	CRI True	CRIA True	CRI Results	% Rec
Aluminum	400		anr	
Antimony	10		anr	
Arsenic	20		anr	
Barium	400		anr	
Beryllium	10		anr	
Cadmium	10		anr	
Calcium	2000		anr	
Chromium	20		anr	
Cobalt	100		anr	
Copper	50		anr	
Iron	600		anr	
Lead	10		11.2	112.0
Magnesium	10000		anr	
Manganese	30		anr	
Molybdenum	100			
Nickel	80		anr	
Potassium	10000		anr	
Selenium	10		anr	
Silver	20		anr	
Sodium	10000		anr	
Thallium	20		anr	
Tin	100			
Vanadium	100		anr	
Zinc	40		anr	

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

File ID: IR020603.ASC
QC Limits: 80 to 120 % Recovery

Date Analyzed: 02/06/03
Run ID: MA3167

Methods: SW846 6010B
Units: ug/l

Metal	ICSA True	ICSAB True	ICSA Results	% Rec	ICSA Results	% Rec	ICSAB Results	% Rec
Aluminum	500000	500000			524000	104.8	537000	107.4
Antimony		1000			-1.6		1060	106.0
Arsenic		1000			-3.7		1070	107.0
Barium		500			1.2		531	106.2
Beryllium		500			-1.8		514	102.8
Cadmium		1000			-1.3		1030	103.0
Calcium	500000	500000			491000	98.2	495000	99.0
Chromium		500			1.3		487	97.4
Cobalt		500			0.18		495	99.0
Copper		500			-3.5		523	104.6
Iron	200000	200000			205000	102.5	207000	103.5
Lead		1000			-0.50		1010	101.0
Magnesium	500000	500000			545000	109.0	550000	110.0
Manganese		500			-1.5		516	103.2
Molybdenum		1000			-8.6		1000	100.0
Nickel		1000			2.3		1010	101.0
Potassium					7.2		-370	
Selenium		1000			0.63		1060	106.0
Silver		1000			-0.51		1050	105.0
Sodium					27.7		188	
Thallium		1000			6.2		1030	103.0
Tin		1000			-2.1		1030	103.0
Vanadium		500			7.9		514	102.8
Zinc		1000			-6.5		1010	101.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5157
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/05/03

Metal	RL	IDL	MB raw	final
Aluminum	200	6.6		
Antimony	5.0	1.5		
Arsenic	10	2.8	anr	
Barium	200	.49		
Beryllium	5.0	.26		
Cadmium	5.0	.26	anr	
Calcium	1000	3.8		
Chromium	10	.43	anr	
Cobalt	50	.5		
Copper	25	.44		
Iron	300	7.1	anr	
Lead	5.0	1.2	1.5	<5.0
Magnesium	5000	9.9		
Manganese	15	.16	anr	
Molybdenum	50	.75		
Nickel	40	1.1	anr	
Potassium	5000	14		
Selenium	10	2		
Silver	10	.55	anr	
Sodium	5000	150	anr	
Thallium	10	1.5		
Tin	50	2.2		
Vanadium	50	.47	anr	
Zinc	20	.59		

Associated samples MP5157: F16417-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5157
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:		02/05/03						02/05/03	
Metal	F16437-1 Original	DUP	RPD	QC Limits	F16437-1 Original	MS	Spikelot MPFLICP	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	anr								
Barium									
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	0.0	0.0	NC	0-10	0.0	1000	1000	100.0	84-118
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium									
Selenium									
Silver	anr								
Sodium	anr								
Thallium									
Tin									
Vanadium	anr								
Zinc									

Associated samples MP5157: F16417-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5157
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/05/03

Metal	F16437-1 Original	MSD	Spikelot MPFLICP	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium						
Beryllium						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper						
Iron	anr					
Lead	0.0	1010	1000	101.0	1.0	
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	anr					
Potassium						
Selenium						
Silver	anr					
Sodium	anr					
Thallium						
Tin						
Vanadium	anr					
Zinc						

Associated samples MP5157: F16417-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5157
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/05/03

Metal	BSP Result	Spikelot MPFLICP	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium				
Beryllium				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron	anr			
Lead	1020	1000	102.0	80-120
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	anr			
Potassium				
Selenium				
Silver	anr			
Sodium	anr			
Thallium				
Tin				
Vanadium	anr			
Zinc				

Associated samples MP5157: F16417-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F16417
Account: TETRPAPT - Tetra Tech, NUS
Project: NAS Cecil Field-CTO-248

QC Batch ID: MP5157
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/05/03

Metal	F16437-1 Original	SDL 1:5	RPD	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium				
Beryllium				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron	anr			
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	anr			
Potassium				
Selenium				
Silver	anr			
Sodium	anr			
Thallium				
Tin				
Vanadium	anr			
Zinc				

Associated samples MP5157: F16417-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

TETRA TECH NUS, INC.

CHAIN OF CUSTODY | NUMBER 2222 | PAGE 1 OF 1

PROJECT NO: N4248 G0248	FACILITY: VALVE BOX 2 NAS CECIL FIELD	PROJECT MANAGER: PAUL CALLIGAN	PHONE NUMBER: 813 806 0202
SAMPLERS (SIGNATURE): Marvin W. Dale		FIELD OPERATIONS LEADER: MERV DAVE	PHONE NUMBER: 904 636 6125
		CARRIER/WAYBILL NUMBER: COURIER	

LABORATORY NAME AND CONTACT: ACCUTEST SUE BELL
ADDRESS: 4405 VINELAND RD. C-15
CITY, STATE: ORLANDO, FL 32811

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2003	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	SELECT VOCs* SW846 8260B	SVOCs** SW846 8310	TRPH FL-PRO	EDB 504.1	TOTAL LEAD SW846 6010B				COMMENTS
								CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	G	G	P				
								PRESERVATIVE USED	HCl	None	H_2SO_4	None	HNO_3				
1/30	1810	F16417 CEF-PIPE-GW-15-01				GW	G	11	3	2	2	3	1				Cool to 4°C
																	N3996-WR98
																	* VOHs; 1,2-dichloroethane; BTEX; & MTBE.
																	** Include 1- and 2-methylnaphthalene

1. RELINQUISHED BY: Marvin W. Dale	DATE 1/31/03	TIME 1205	1. RECEIVED BY: [illegible]	DATE 1/31/03	TIME 12:05
2. RELINQUISHED BY: [illegible]	DATE 2/1/03	TIME 8:15	2. RECEIVED BY: Nuna Mohammed	DATE 2/1/03	TIME 8:15
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R FORM NO. TINUS-001