N60200.AR.003124
NAS CECIL FIELD, FL
5090.3a

SOURCE REMOVAL REPORT FOR CONTAMINATED SOIL REMOVAL AT JP-5 PIPELINE VALVE BOX 2 NAS CECIL FIELD FL

11/1/2001

CH2MHILL CONSTRUCTORS INC

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

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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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.

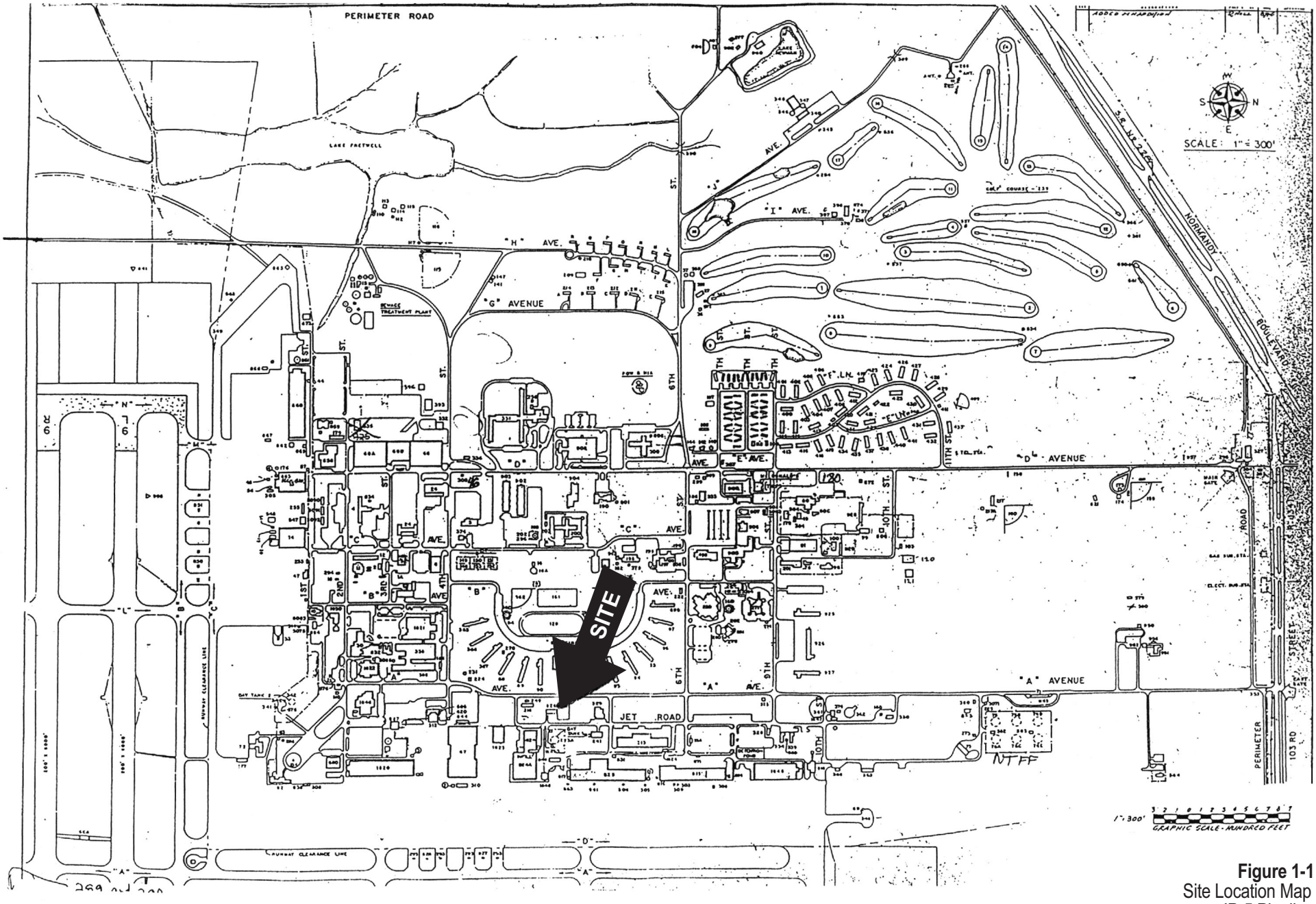

Figure 1-1
Site Location Map
JP-5 Pipeline
NAS Cecil Field
Jacksonville, Florida

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.

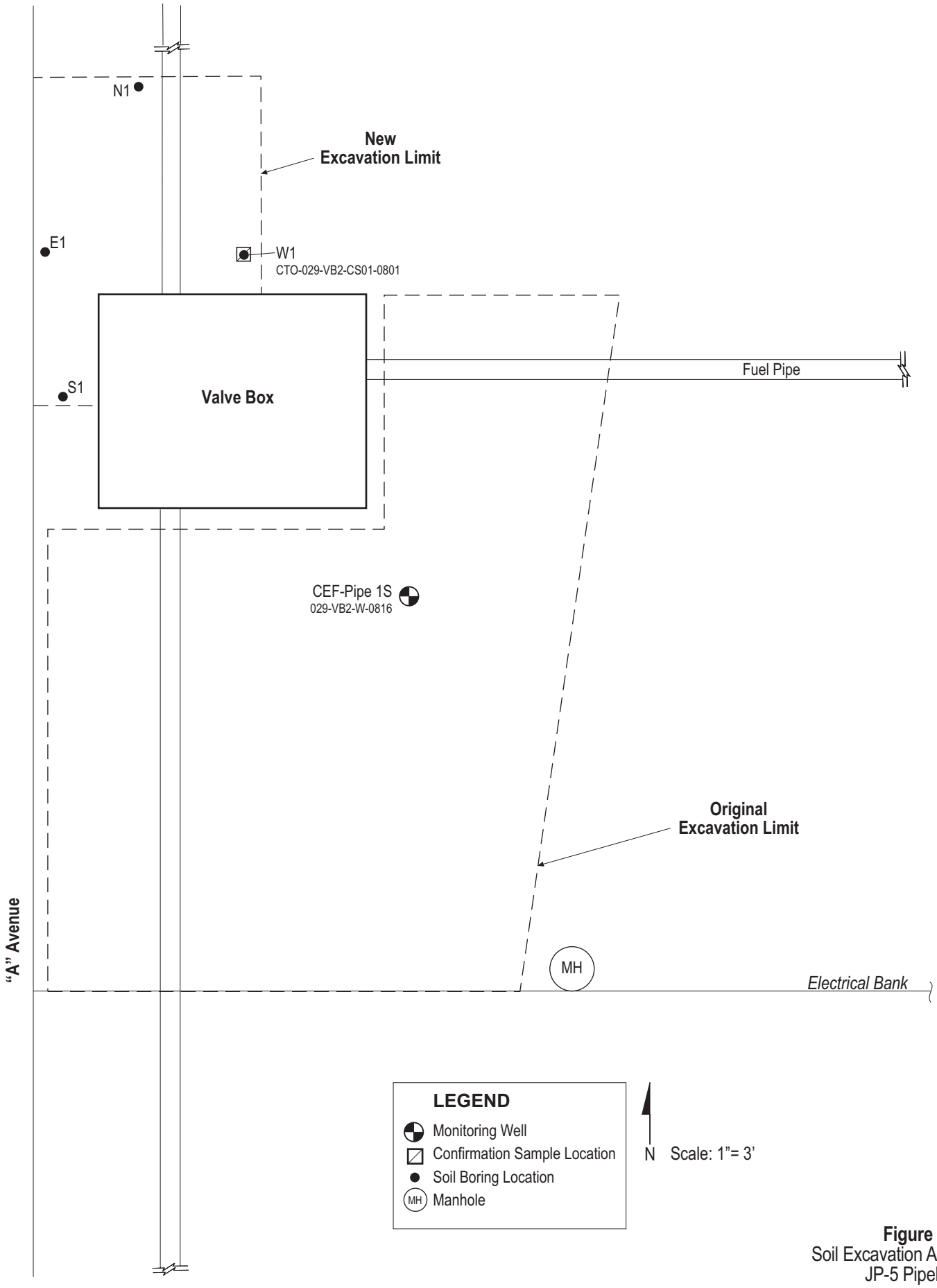

Figure 2-1
Soil Excavation Area
JP-5 Pipeline
NAS Cecil Field
Jacksonville, Florida

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.

Appendix B

Copy of Soil Manifest

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: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, Georgia 31545

I hereby acknowledge receipt of the above described materials.

Bill Broadhurst — Bill Broadhurst — 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 Pustay 9/6/01
Butch Pustay 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 deliberate or willful omission of composition or physical traits, 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

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

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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

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	9.9	ug/kg
EPA 8081A	Toxaphene	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 53

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 W [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 #:

FOR LAB USE ONLY
LAB #: 124935
QUOTE #:

*MATRIX CODES:
DW - DRINKING WATER, WW - WASTEWATER, GW - GROUNDWATER, SW - SURFACE WATER, ST - STORM WATER, L - LIQUID, S - SOIL, SL - SLUDGE, SD - SOLID, A - AIR, O - OIL, P - PRODUCT

DATE	TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# OF CONTAINERS	LAB ID NUMBER	REMARKS/ADDITIONAL INFORMATION
7-20-00	[illegible]	S		✓	North Area	1		Composite
7-20-00	[illegible]	S		✓	South Area	1		ASI [illegible]
7-20-00	[illegible]	S		✓	East Area	1		
7-20-00	[illegible]	S		✓	West Area	1		

SAMPLED BY AND TITLE: Joe Bradlin	DATE/TIME: 7/20 [illegible]	RELINQUISHED BY:	DATE/TIME:	COC/CUSTODY SEAL: ✓ ✓
RECEIVED BY:	DATE/TIME:	RELINQUISHED BY:	DATE/TIME:	ICE: NC
RECEIVED BY:	DATE/TIME:	RELINQUISHED BY:	DATE/TIME:	pH: N/A
RECEIVED BY LAB: [illegible]	DATE/TIME: [illegible]	SAMPLE SHIPPED VIA: UPS FED-EX COURIER CLIENT OTHER:		TEMPERATURE:
ENTERED INTO LIMS:	COC REVIEWED:	AIR BILL #: [illegible]	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
2-Chloronaphthalene	360 U	330 U	µg/Kg
Carbazole	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.

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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.

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ENCO LABORATORIES
REPORT # : JAX14577
DATE REPORTED: December 7, 2000
REFERENCE : 149152
PROJECT NAME : NTFF Removal

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
3 & 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.

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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

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5 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 REPORTS/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 Cherniak, 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 REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
ffsite 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 REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
hris Cherniak	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, Semi-volatiles	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 Cherniak, TASK Environmental	Transported to ENCO Labs by TASK Environmental	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
nted Name and Signature: hris Cherniak, TASK Environmental	12/4/00	15:35	Printed Name and Signature:		
nted Name and Signature: L. Carlisle	12/4/00	15:35	Printed Name and Signature:		

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC1001, Rev 12-00

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

:H2M Hill Constructors, Inc.
/5 Perimeter Center Place, Suite '00
/lanta, GA 30346-1278
el No (770) 604-9182 , Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
148799-16

ROJECT 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.)
)ffiste 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-SIMs SemiVols									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																			

AMPLER(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:			Printed Name and Signature:		
ill Canelos, CCI/JAJES W/ Canelos	2/21/01	12:10	M. O Reason	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 CC(Jan) 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) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER: 154282-19

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 Bldg 190	154282	Kemron Environmental Svcs	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 777-4812 FAX: (904) 777-4262
PROJECT 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.):
Bldg 190 / VB #2	0029		Jeff Wilmoth / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770) 604-9182 Ext 561 FAX: 604-9282
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.):
Paul Malewicki	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: 770-449-5800 Fax: 770-449-5477		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED (Per Client)	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	Volatiles by 8010B/8020	Pesticides by 8081B/8082C	TRPH by FL-PRO								SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	01-CTO-029-CS02-0001	Confirmatory	S	08/01/01	11:50	III B	14	x	x	x										
2	01-CTO-029-VB#2-CS01-0001	Confirmatory	S	08/01/01	11:50	III B	14	x	x	x										
3	01-CTO-029-W-CS01-0001	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																				

SAMPLER(S) AND COMPANY: (please print)
Scott Sloan / Paul Malewicki
J.A. Jones Environmental Services

COURIER AND SHIPPING NUMBER:

SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Clc Sealed Sub intact Cooler Temp 2 [illegible]

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature: P. Malewicki [signature]	8/1/01	17:30	Printed Name and Signature: Federal Express 828532164361	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 Report); [ ] Copy 1 - Project File; [ ] Copy 2 - PMO

Form CC3001, Rev 02/00

KEMRON ENVIRONMENTAL SERVICES

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

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

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: 08/06/01 Time: 11:18

Instrument: HP2
Analyst: HV
Lab File ID: 2G14186

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

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
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:		
				8/16	13:25

Distribution: [ ] **Original** - Laboratory (To be returned with Analytical Report); [ ] **Copy 1** - Project File; [ ] **Copy 2** - PMO

Form CC 001, Rev 02/00

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108427

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
154282-21

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/6010	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)	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	8/16/01		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

000017

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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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

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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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)**

Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/29/01 Result Units: mg/Kg

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	16		30

ANALYSIS: **X_PRO Sample Surrogates (Soil)**

Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/29/01 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 **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: 029-VB2-W-0816

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

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-1

Date Sampled: 8/21/01

Date Received: 8/21/01

Date Reported: 9/6/01

Sample Matrix: SOIL

ANALYSIS: Petroleum Range Organics (PRO)

Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/28/01 Result Units: mg/Kg

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	<RL		30

ANALYSIS: X PRO QC Surrogates (Soil)

Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/28/01 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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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 2°C

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 ANAL.

Attn: MARTIN VAN LOON

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 AC18997	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

Perform Q.C. on Sample : —

Condition Upon Receipt :

Comments : CONTACT L. PERK W/ QUESTIONS CHARM-HILL-CENTERFIELD CD-3024

Samples Relinquished By : [signature] Date : 8/20/01 Time: 16:30

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			Contract:	CECIL_FIELD
Case No.:	N/A			Client ID No. :	BKS13582
Lab Code:	GPLL			Lab Sample ID:	BKS0821
Lab File ID:	F28246.D	Matrix:	SOIL	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.

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.

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.

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	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 00:43

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	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.

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	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:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	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		Anal. Date	Tech	SEQ No.	Multipl	M	Prep	R	Client	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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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			K
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				K
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				K
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				K
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				K
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				K
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				K
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				K
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				K
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				K
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				K
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				K

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	Description	A	Sample Id	ST	Method	Results	RL Raw	R	Raw	Multiplier	Reporti	Raw Unt	nFinal	Sort	spk	Flag	V	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				1.0000	
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	

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PERCENT SOLIDS DETERMINATION LOG

Analyst: R.S
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-SBD-5	0.9822	10.2489	9.4541	
	085	005-CSA-9-L41-SBD-6	0.9758	10.8289	9.7027	
108121	001	CDC-TCRA-(140 160)(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	0.9872	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	0.8
	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)	0.9923	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	10.4668	8.8616	

Comments: