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NAS CECIL FIELD, FL  
5090.3a

CONFIRMATORY SAMPLING REPORT FOR BUILDING 1845 OIL-WATER SEPARATOR  
1845S-OW BASE REALIGNMENT AND CLOSURE UNDERGROUND STORAGE TANK AND  
ABOVEGROUND STORAGE TANK GREY SITES NAS CECIL FIELD FL  
2/1/1999  
HARDING LAWSON ASSOCIATES

**CONFIRMATORY SAMPLING REPORT**

**BUILDING 1845, OIL-WATER SEPARATOR 1845S-OW**

**BASE REALIGNMENT AND CLOSURE**

**UNDERGROUND STORAGE TANK AND  
ABOVEGROUND STORAGE TANK GRAY SITES**

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

**Unit Identification Code: N60200**

**Contract No.: N62467-89-D-0317/090**

**Prepared by:**

**Harding Lawson Associates  
2590 Executive Center Circle, East  
Tallahassee, Florida 32301**

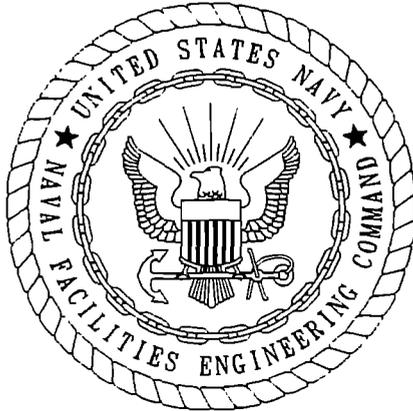
**Prepared for:**

**Department of the Navy, Southern Division  
Naval Facilities Engineering Command  
2155 Eagle Drive  
North Charleston, South Carolina 29418**

**Bryan Kizer, Code 1842, Engineer-in-Charge**

**February 1999**

**Revision 0.0**



CERTIFICATION OF TECHNICAL  
DATA CONFORMITY (MAY 1987)

The Contractor, Harding Lawson Associates, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/090 are complete and accurate and comply with all requirements of this contract.

DATE: January 28, 1999

NAME AND TITLE OF CERTIFYING OFFICIAL: Rao Angara  
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Eric A. Blomberg, P.G.  
Project Technical Lead

(DFAR 252.227-7036)

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Building 1845, Oil-Water Separator 1845S-OW  
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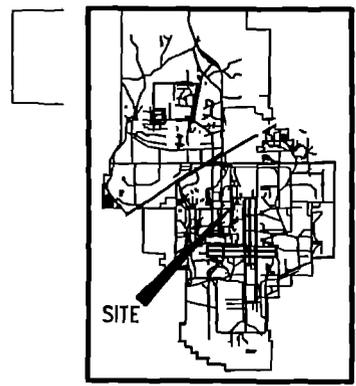
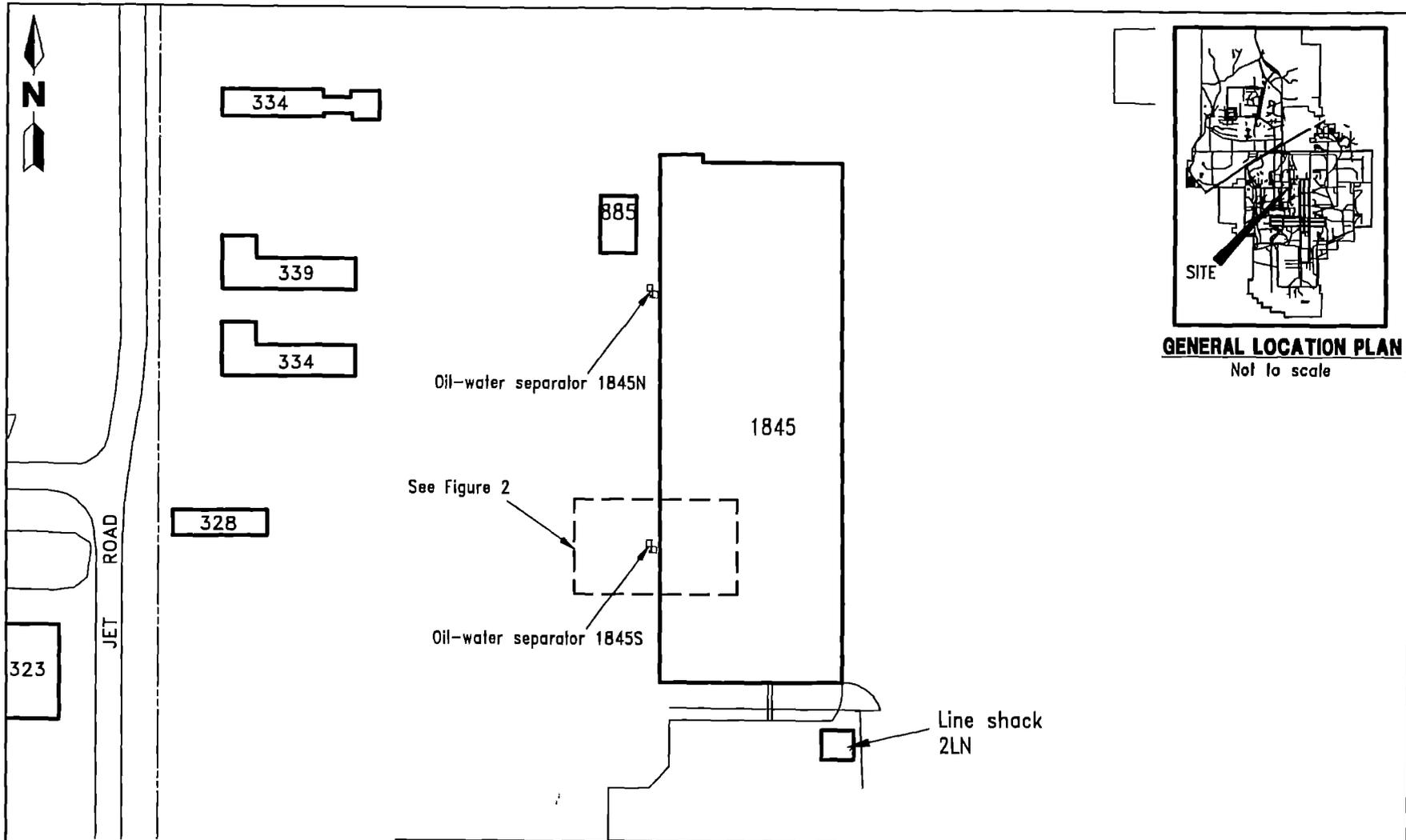
GLOSSARY

bls            below land surface

FDEP          Florida Department of Environmental Protection

NAS            Naval Air Station

OVA            organic vapor analyzer



**GENERAL LOCATION PLAN**  
Not to scale

0 60 120  
SCALE: 1 INCH = 120 FEET

**FIGURE 1**  
**OIL-WATER SEPARATORS 1845N AND 1845S**  
**SITE PLAN**



**CONFIRMATORY SAMPLING REPORT**  
**OIL-WATER SEPARATOR 1845S**  
  
**NAVAL AIR STATION CECIL FIELD**  
**JACKSONVILLE, FLORIDA**

## 1.0 INTRODUCTION

Harding Lawson Associates, under contract to the Southern Division, Naval Facilities Engineering Command, has completed confirmatory sampling for oil-water separator 1845S-OW at Naval Air Station (NAS) Cecil Field in Jacksonville, Florida. This report summarizes the related field operations, results, conclusions, and recommendations.

Oil-water separator 1845S-OW is located on the west side of Building 1845, the maintenance hangar (ABB Environmental Services, Inc., 1994) (Figure 1). The installation date and capacity of the oil-water separator are unknown.

## 2.0 FIELD INVESTIGATION

The confirmatory sampling for oil-water separator 1845S-OW was initiated in September 1998 and included

- the advancement of four soil borings to the water table,
- the installation of one monitoring well, and
- collection and analysis of one groundwater and one subsurface soil samples.

Soil samples were collected from each boring at depth intervals of 1 foot below land surface (bls) and every 2 feet thereafter to the water table. These samples were screened for hydrocarbon vapors with an organic vapor analyzer (OVA).

One subsurface soil sample was collected on October 13, 1998, and analyzed for the used oil group parameters. Sample CEF-1845S-SB2 was collected from 4 to 5 feet bls.

One monitoring well, CEF-1845S-1S, was installed to a depth of 12.9 feet bls. The monitoring well was placed downgradient of the oil-water separator based on the U.S. Geological Survey groundwater model for NAS Cecil Field. A groundwater sample was collected from this well and analyzed for the used oil group parameters. A general site plan indicating the location of the soil borings and monitoring wells is presented on Figure 2. The monitoring well installation detail is included in Appendix A.

## 3.0 SCREENING AND ANALYTICAL RESULTS

Excessively contaminated soil (greater than 50 parts per million on an OVA) was not detected in the four soil borings advanced during the confirmatory sampling. The soil OVA data are summarized in Table 1 and presented on Figure 2.

No contaminants were detected above Florida Department of Environmental Protection (FDEP) soil cleanup target levels in the subsurface soil sample collected for used oil analysis. Subsurface soil analytical results are summarized in Table 2 and



CEF-1845S-SB2 ▲ ● SB2  
(0)

SB1  
(0) ●

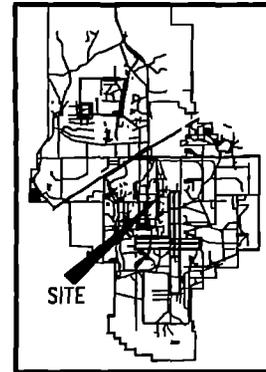
SB3  
(0) ●

SB4  
(0) ●

CEF-1845S-1S

1845S

Oil-water separator 1845S

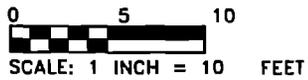


**GENERAL LOCATION PLAN**

Not to scale

**LEGEND**

- CEF-1845S-1S Monitoring well location and designation
- SB3 Soil boring location and designation
- CEF-1845S-SB2 Used oil soil sample location and designation
- (0) OVA reading in ppm
- OVA Organic vapor analyzer
- ppm Parts per million



**FIGURE 2  
OIL-WATER SEPARATOR 1845S  
SOIL BORING AND MONITORING WELL LOCATIONS**



**CONFIRMATORY SAMPLING REPORT  
OIL-WATER SEPARATOR 1845S**

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

**Table 1  
Soil Screening Results**

Confirmatory Sampling Report  
Building 1845, Oil-Water Separator 1845S-OW  
Naval Air Station Cecil Field  
Jacksonville, Florida

Location	OVA Concentration (ppm)			Actual
	Depth (feet bls)	Unfiltered	Filtered	
SB1	1	0	-	0
	3	0	-	0
	4	0	-	0
SB2	1	0	-	0
	3	0	-	0
	5	0	-	0
SB3	1	0	-	0
	3	0	-	0
	4	0	-	0
SB4	1	0	-	0
	3	0	-	0
	5 (refusal)	0	-	0

Notes: Soil samples were filtered with carbon to determine the methane concentration.

OVA = organic vapor analyzer.

ppm = parts per million.

bls = below land surface.

- = filtered readings were not collected.

refusal = subsurface obstruction encountered during boring advancement; no further samples collected at this location.

**Table 2  
Summary of Subsurface Soil Analytical Detections**

Confirmatory Sampling Report  
Building 1845, Oil-Water Separator 1845S-OW  
Naval Air Station Cecil Field  
Jacksonville, Florida

Compound	CEF-1845S-SB2 (4 to 5 feet bls; OVA = 0 ppm)	Soil Cleanup Target Levels <sup>1</sup>
<b><u>Volatile Organic Aromatics (USEPA Method 8020) (mg/kg)</u></b>		
Tetrachloroethene	0.0046	NA/NA
<b><u>Polynuclear Aromatic Hydrocarbons (USEPA Method 8310) (mg/kg)</u></b>		
No compounds detected		
<b><u>Total Recoverable Petroleum Hydrocarbons (FL-PRO) (mg/kg)</u></b>		
Not detected		
<b><u>Inorganic Analytes (mg/kg)</u></b>		
Chromium	7.8	290/TCLP
<sup>1</sup> Chapter 62-770, Florida Administrative Code: Direct Exposure 1/Leachability, Table V.  Notes: bls = below land surface. OVA = organic vapor analyzer. ppm = parts per million. USEPA = U.S. Environmental Protection Agency. mg/kg = milligrams per kilogram. NA = not applicable. FL-PRO = Florida-Petroleum Residual Organics. TCLP = toxicity characteristic leaching procedure.		

presented in Appendix B. No contaminants were detected above FDEP groundwater cleanup target levels in the groundwater samples collected from monitoring well CEF-1845S-1S during the confirmatory sampling. A summary of the groundwater analytical results is presented in Table 3. The complete analytical data set is presented in Appendix B.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

Data obtained during the confirmatory sampling of oil-water separator 1845S-OW did not indicate the presence of contaminated soil and groundwater at levels above cleanup target levels.

It is recommended that no further action take place at the oil-water separator site until it is removed.

**Table 3  
Summary of Groundwater Analytical Results**

Confirmatory Sampling Report  
Building 1845, Oil-Water Separator 1845S-OW  
Naval Air Station Cecil Field  
Jacksonville, Florida

Compound	CEF-1845S-OW-1S	Groundwater Cleanup Target Levels <sup>1</sup>
<b><u>Volatile Organic Aromatics (USEPA Method 601/602) (µg/l)</u></b>		
No compounds detected		
<b><u>Polynuclear Aromatic Hydrocarbons (USEPA Method 625) (µg/l)</u></b>		
No compounds detected		
<b><u>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/l)</u></b>		
Not detected		
<b><u>Inorganic Analytes (µg/l)</u></b>		
No analytes detected		
<sup>1</sup> Chapter 62-770, Florida Administrative Code.  Notes: USEPA = U.S. Environmental Protection Agency. µg/l = micrograms per liter. FL-PRO = Florida-Petroleum Residual Organics. mg/l = milligrams per liter.		

REFERENCE

ABB Environmental Services, Inc. 1994. *Base Realignment and Closure Environmental Baseline Survey Report, Naval Air Station Cecil Field, Jacksonville, Florida.* Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina (November).

**APPENDIX A**  
**MONITORING WELL INSTALLATION DETAIL**

TITLE: NAS Cecil Field, Bldg. 1845 Site Assessment Report		LOG of WELL: CEF-1845So/w-IS	BORING NO. CEF-1845So/w-IS
CLIENT: SOUTHDIVNAVFACENCOM		PROJECT NO: 02565.03	
CONTRACTOR: U.S. Probe and Drill		DATE STARTED: 11-02-98	COMPLTD: 11-02-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 3-13 ft.	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: FID	TOT DPTH: 13.5FT.	DPTH TO $\nabla$ 5.20 FT.
LOGGED BY: H.Hooper	WELL DEVELOPMENT DATE: 11-05-98		SITE: Building 1845

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1				<> See Note		SM		posthole
2								
3				SILTY SAND: dark silty fine sand to 7'bis.				
4								posthole
5								
6							*	
7							**	
8								
9								
10				SILTY SAND: tan silty fine sand.				
11								
12				<> Soil description taken from posthole and auger				
13				* no split spoon samples taken				
14				** no OVA readings taken				
15								

**APPENDIX B**  
**ANALYTICAL DATA**

NAS CECIL FIELD -- OIL/WATER SEPARATOR AT FACILITY 1845S  
 SUBSURFACE SOIL -- ANALYTICAL DATA -- REPORT REQUEST NO. 10566

Lab Sample Number: JR36653  
 Site: UST GREY  
 Locator: CEF-1845S-SB2  
 Collect Date: 13-OCT-98

VALUE QUAL UNITS DL

BRAC VOLATILES

1,1,1-Trichloroethane	1 U	ug/kg	1
1,1,2,2-Tetrachloroethane	1 U	ug/kg	1
1,1,2-Trichloroethane	1 U	ug/kg	1
1,1-Dichloroethane	1 U	ug/kg	1
1,1-Dichloroethene	1 U	ug/kg	1
1,2-Dichlorobenzene	390 U	ug/kg	390
1,2-Dichloroethane	1 U	ug/kg	1
1,2-Dichloropropane	1 U	ug/kg	1
1,3-Dichlorobenzene	390 U	ug/kg	390
1,4-Dichlorobenzene	390 U	ug/kg	390
Benzene	1 U	ug/kg	1
Bromodichloromethane	1 U	ug/kg	1
Bromoform	1 U	ug/kg	1
Bromomethane	1 U	ug/kg	1
Carbon tetrachloride	1 U	ug/kg	1
Chlorobenzene	1 U	ug/kg	1
Chloroethane	1 U	ug/kg	1
Chloroform	1 U	ug/kg	1
Chloromethane	1 U	ug/kg	1
Dibromochloromethane	1 U	ug/kg	1
Ethyl benzene	1 U	ug/kg	1
Methyl chloride	1 U	ug/kg	1
Tetrachloroethene	4.6	ug/kg	1
Toluene	1 U	ug/kg	1
Trichloroethene	1 U	ug/kg	1
Vinyl chloride	1 U	ug/kg	1
cis-1,3-Dichloropropene	1 U	ug/kg	1
m,p-Xylene	1 U	ug/kg	1
o-Xylene	1 U	ug/kg	1
trans-1,2-Dichloroethene	1 U	ug/kg	1
trans-1,3-Dichloropropene	1 U	ug/kg	1

BRAC SEMIVOLATILES

Phenol	390 U	ug/kg	390
bis(2-Chloroethyl)ether	390 U	ug/kg	390
1,3-Dichlorobenzene	390 U	ug/kg	390
1,4-Dichlorobenzene	390 U	ug/kg	390
1,2-Dichlorobenzene	390 U	ug/kg	390
N-Nitroso-di-n-propylamine	390 U	ug/kg	390
Hexachloroethane	390 U	ug/kg	390
Nitrobenzene	390 U	ug/kg	390
Isophorone	390 U	ug/kg	390
2-Nitrophenol	390 U	ug/kg	390
2,4-Dimethylphenol	390 U	ug/kg	390
bis(2-Chloroethoxy) methane	390 U	ug/kg	390
2,4-Dichlorophenol	390 U	ug/kg	390
1,2,4-Trichlorobenzene	390 U	ug/kg	390
Naphthalene	390 U	ug/kg	390
Hexachlorobutadiene	390 U	ug/kg	390
4-Chloro-3-methylphenol	390 U	ug/kg	390

NAS CECIL FIELD -- OIL/WATER SEPARATOR AT FACILITY 1845S  
 SUBSURFACE SOIL -- ANALYTICAL DATA -- REPORT REQUEST NO. 10566

Lab Sample Number: JR36653  
 Site: UST GREY  
 Locator: CEF-1845S-SB2  
 Collect Date: 13-OCT-98

	VALUE	QUAL UNITS	DL
2-Methylnaphthalene	390 U	ug/kg	390
2,4,6-Trichlorophenol	390 U	ug/kg	390
2-Chloronaphthalene	390 U	ug/kg	390
Dimethylphthalate	390 U	ug/kg	390
Acenaphthylene	390 U	ug/kg	390
2,4-Dinitrophenol	2000 U	ug/kg	2000
3- & 4-Methylphenol (2)	390 U	ug/kg	390
4-Nitrophenol	390 U	ug/kg	390
2,4-Dinitrotoluene	390 U	ug/kg	390
Diethylphthalate	390 U	ug/kg	390
4-Chlorophenyl-phenylether	390 U	ug/kg	390
Fluorene	390 U	ug/kg	390
4,6-Dinitro-2-methylphenol	1200 U	ug/kg	1200
4-Bromophenyl-phenylether	390 U	ug/kg	390
Hexachlorobenzene	390 U	ug/kg	390
Pentachlorophenol	390 U	ug/kg	390
Phenanthrene	390 U	ug/kg	390
Anthracene	390 U	ug/kg	390
Di-n-butylphthalate	390 U	ug/kg	390
Fluoranthene	390 U	ug/kg	390
Pyrene	390 U	ug/kg	390
3,3-Dichlorobenzidine	790 U	ug/kg	790
Benzo (a) anthracene	390 U	ug/kg	390
Chrysene	390 U	ug/kg	390
bis(2-Ethylhexyl) phthalate	390 U	ug/kg	390
Di-n-octylphthalate	390 U	ug/kg	390
Benzo (b) fluoranthene	390 U	ug/kg	390
Benzo (k) fluoranthene	390 U	ug/kg	390
Benzo (a) pyrene	390 U	ug/kg	390
Indeno (1,2,3-cd) pyrene	390 U	ug/kg	390
Dibenzo (a,h) anthracene	390 U	ug/kg	390
Benzo (g,h,i) perylene	390 U	ug/kg	390
FLA PRO			
TPH C8-C40	7.8 U	mg/kg	7.8
Arsenic	.6 U	mg/kg	.6
Barium	24 U	mg/kg	24
Cadmium	1 U	mg/kg	.1
Chromium	7.8	mg/kg	1
Lead	8 U	mg/kg	8
Mercury	.01 U	mg/kg	.01
Selenium	2 U	mg/kg	2
Silver	2 U	mg/kg	2

U = NOT DETECTED J = ESTIMATED VALUE  
 UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
 R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- OIL/WATER SEPARATOR AT FACILITY 1845S  
GROUNDWATER -- ANALYTICAL DATA -- REPORT REQUEST NO. 10568

Lab Sample Number: JR41592  
Site: UST GREY  
Locator: CF1845S-OW1S  
Collect Date: 17-NOV-98

VALUE QUAL UNITS DL

BRAC VOLATILES

1,1,1-Trichloroethane	1 U	ug/l	1
1,1,2,2-Tetrachloroethane	1 U	ug/l	1
1,1,2-Trichloroethane	1 U	ug/l	1
1,1-Dichloroethane	1 U	ug/l	1
1,1-Dichloroethene	1 U	ug/l	1
1,2-Dichlorobenzene	1 U	ug/l	1
1,2-Dichloroethane	1 U	ug/l	1
1,2-Dichloropropane	1 U	ug/l	1
1,3-Dichlorobenzene	1 U	ug/l	1
1,4-Dichlorobenzene	1 U	ug/l	1
Benzene	1 U	ug/l	1
Bromodichloromethane	1 U	ug/l	1
Bromoform	1 U	ug/l	1
Bromomethane	1 U	ug/l	1
Carbon tetrachloride	1 U	ug/l	1
Chlorobenzene	1 U	ug/l	1
Chloroethane	2 U	ug/l	2
Chloroform	1 U	ug/l	1
Chloromethane	2 U	ug/l	2
Dibromochloromethane	1 U	ug/l	1
Ethyl benzene	1 U	ug/l	1
Methyl chloride	2 U	ug/l	2
Tetrachloroethene	1 U	ug/l	1
Toluene	1 U	ug/l	1
Trichloroethene	1 U	ug/l	1
Vinyl chloride	1 U	ug/l	1
cis-1,3-Dichloropropene	1 U	ug/l	1
m,p-Xylene	1 U	ug/l	1
o-Xylene	1 U	ug/l	1
trans-1,2-Dichloroethene	1 U	ug/l	1
trans-1,3-Dichloropropene	1 U	ug/l	1

PAHs

Acenaphthene	.5 U	ug/l	.5
Acenaphthylene	1 U	ug/l	1
Anthracene	.05 U	ug/l	.05
Benzo (a) anthracene	.05 U	ug/l	.05
Benzo (b) fluoranthene	.1 U	ug/l	.1
Benzo (k) fluoranthene	.05 U	ug/l	.05
Benzo (a) pyrene	.05 U	ug/l	.05
Chrysene	.05 U	ug/l	.05
Dibenzo (a,h) anthracene	.1 U	ug/l	.1
Fluoranthene	.1 U	ug/l	.1
Fluorene	.1 U	ug/l	.1
Indeno (1,2,3-cd) pyrene	.05 U	ug/l	.05
Benzo (g,h,i) perylene	.1 U	ug/l	.1
Naphthalene	.5 U	ug/l	.5
Phenanthrene	.05 U	ug/l	.05
Pyrene	.05 U	ug/l	.05

NAS CECIL FIELD -- OIL/WATER SEPARATOR AT FACILITY 1845S  
GROUNDWATER -- ANALYTICAL DATA -- REPORT REQUEST NO. 10568

Lab Sample Number: JR41592  
Site: UST GREY  
Locator: CF1845S-OW1S  
Collect Date: 17-NOV-98

	VALUE	QUAL UNITS	DL
FLA PRO			
TPH C8-C40	.2 U	mg/l	.2
Arsenic	.01 U	mg/l	.01
Barium	.1 U	mg/l	.1
Cadmium	.001 U	mg/l	.001
Chromium	.01 U	mg/l	.01
Lead	.005 U	mg/l	.005
Mercury	.0002 U	mg/l	.0002
Selenium	.01 U	mg/l	.01
Silver	.01 U	mg/l	.01

U = NOT DETECTED J = ESTIMATED VALUE  
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
R = RESULT IS REJECTED AND UNUSABLE