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NAS CECIL FIELD, FL
5090.3a

CONFIRMATORY SAMPLING REPORT FOR BUILDING 823 OIL-WATER SEPARATOR 823-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 823, OIL-WATER SEPARATOR 823-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

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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

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Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Eric A. Blomberg, P.G.
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(DFAR 252.227-7036)

TABLE OF CONTENTS

Confirmatory Sampling Report
Building 823, Oil-Water Separator 823-OW
Naval Air Station Cecil Field
Jacksonville, Florida

Chapter	Title	Page No.
1.0	INTRODUCTION	1
2.0	FIELD INVESTIGATION	1
3.0	SCREENING AND ANALYTICAL RESULTS	1
4.0	CONCLUSIONS AND RECOMMENDATIONS	5

REFERENCE

APPENDICES

Appendix A: Monitoring Well Installation Detail
Appendix B: Analytical Data

LIST OF FIGURES

Confirmatory Sampling Report
Building 823, Oil-Water Separator 823-OW
Naval Air Station Cecil Field
Jacksonville, Florida

Figure	Title	Page No.
1	Oil-Water Separator 823, Soil Boring and Monitoring Well Locations .	2

LIST OF TABLES

Table	Title	Page No.
1	Soil Screening Results	3
2	Summary of Subsurface Soil Analytical Detections	4
3	Summary of Groundwater Analytical Results	6

GLOSSARY

bls	below land surface
FDEP	Florida Department of Environmental Protection
OVA	organic vapor analyzer
ppm	parts per million

1.0 INTRODUCTION

Harding Lawson Associates, under contract to the Southern Division, Naval Facilities Engineering Command, has completed confirmatory sampling for oil-water separator 823-OW at Naval Air Station Cecil Field in Jacksonville, Florida. This report summarizes the related field operations, results, conclusions, and recommendations.

Oil-water separator 823-OW is located on the west side of Building 823, the fuel operations test building (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 823-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 sample and one subsurface soil sample.

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-823-SB4 was collected from the boring with the highest OVA reading (SB4) at 3 feet bls.

One monitoring well, CEF-823-1S, was installed to a depth of 10.6 feet bls. 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 1. 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 [ppm] on an OVA) was detected in one soil boring (SB4 at 250 ppm) advanced during the confirmatory sampling. The soil OVA data are summarized in Table 1 and presented on Figure 1.

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

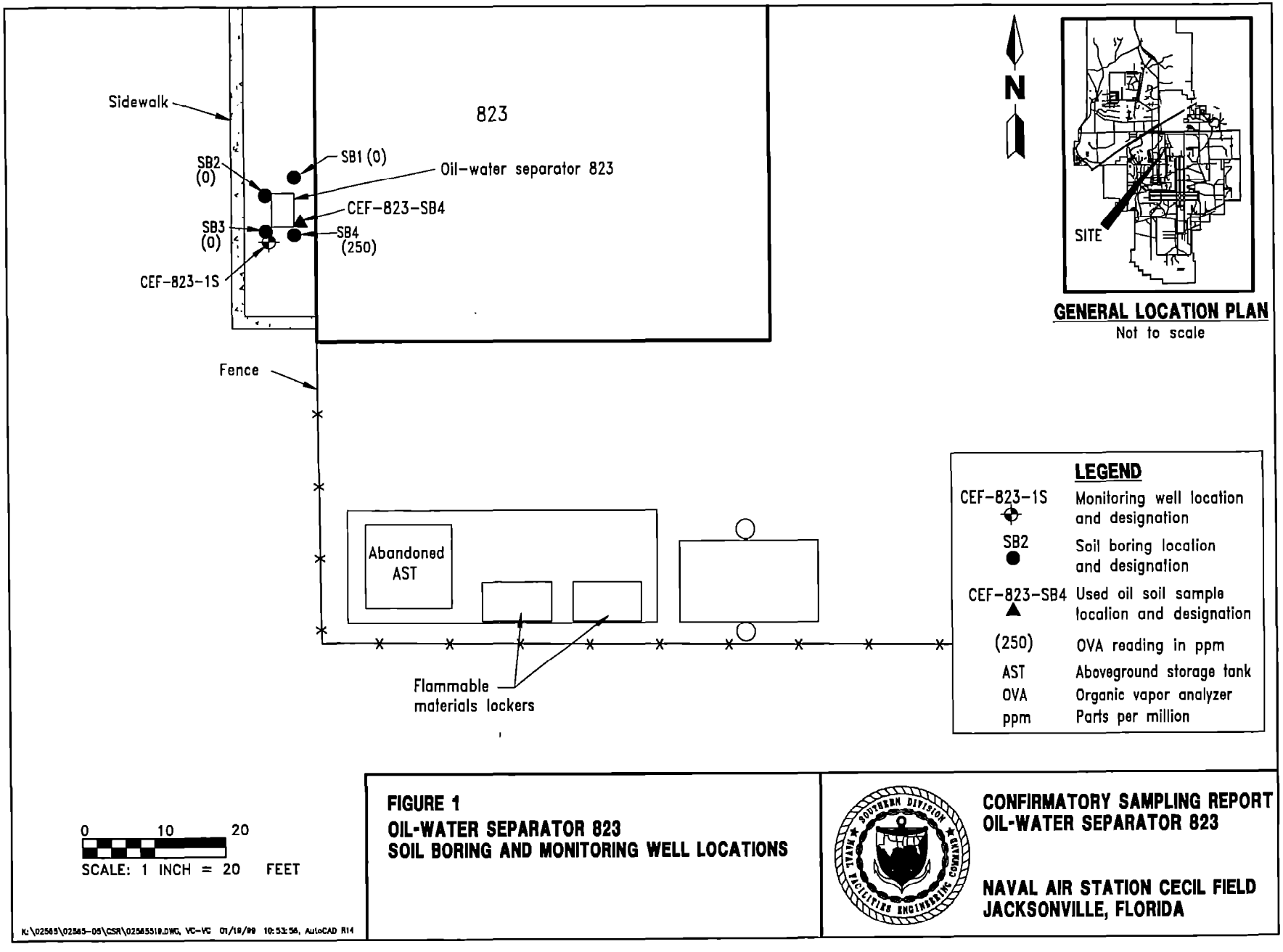

FIGURE 1
OIL-WATER SEPARATOR 823
SOIL BORING AND MONITORING WELL LOCATIONS

CONFIRMATORY SAMPLING REPORT
OIL-WATER SEPARATOR 823

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Table 1
Soil Screening Results

Confirmatory Sampling Report
Building 823, Oil-Water Separator 823-OW
Naval Air Station Cecil Field
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
SB1	1	0	–	0
	3	0	–	0
SB2	1	0	–	0
	3	0	–	0
	3.5	–	–	--
SB3	1	0	–	0
	3	0	–	0
SB4	1	0	–	0
	3	250	0	250

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.

Table 2
Summary of Subsurface Soil Analytical Detections

Confirmatory Sampling Report
Building 823, Oil-Water Separator 823-OW
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	CEF-823-SB4 (3 ft bls; OVA = 250 ppm)	Soil Cleanup Target Levels[1]
Volatile Organic Aromatics (USEPA Method 8020) (mg/kg)		
Tetrachloroethene	0.0099	NA
Toluene	0.0015 J	300/0.4
Trichloroethene	0.0013 J	NA
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310) (mg/kg)		
No compounds detected		
Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/kg)		
TRPH	20	350/340
Inorganic Analytes (mg/kg)		
No analytes detected		

[1] Chapter 62-770, Florida Administrative Code: Direct Exposure, Table 1/Leachability, Table V.

Notes: fl bls = feet below land surface.
OVA = organic vapor analyzer.
ppm = parts per million.
USEPA = U.S. Environmental Protection Agency.
mg/kg = milligrams per kilogram.
NA = not analyzed.
J = estimated value.
FL-PRO = Florida-Petroleum Residual Organics.

presented in Appendix A. No contaminants were detected above FDEP groundwater cleanup target levels in the groundwater samples collected from monitoring well CEF-823-1S 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 823-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 823, Oil-Water separator 823-OW
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	CEF-823-1S	Groundwater Cleanup Target Levels[1]
Volatile Organic Aromatics (USEPA Method 601/602) (µg/ℓ)		
No compounds detected		
Polynuclear Aromatic Hydrocarbons (USEPA Method 625) (µg/ℓ)		
No compounds detected		
Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/ℓ)		
Not detected		
Inorganic Analytes (µg/ℓ)		
No analytes detected		

[1] 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, North Charleston, South Carolina (November).

APPENDIX A

MONITORING WELL INSTALLATION DETAIL

TITLE: NAS Cecil Field, Bldg. 823 Site Assessment Report	LOG of WELL: CEF-823o/w-1S	BORING NO. CEF-823o/w-1S
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 02523.13
CONTRACTOR: U.S. Probe and Drill	DATE STARTED: 11-03-98	COMPLTD: 11-03-98
METHOD: HSA	CASE SIZE: 2in. / SCREEN INT.: 1.5-11.5 ft.	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: FID / TOT DPTH: 12.0FT.	DPTH TO ▽ 3.85 FT.
LOGGED BY: E. Allen	WELL DEVELOPMENT DATE: 11-05-98	SITE: Building 823

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					<> See Note		SM	posthole	
1									
2									
3								posthole	
4									▽
5									
6					SILTY SAND: medium to dark brown silty fine sand.			*	
								**	
7									
8									
9									
10									
11					<> Soil description taken from posthole and auger				
					* no split spoon samples taken				
12					** no OVA readings taken				
13									
14									
15									

HARDING LAWSON ASSOCIATES

APPENDIX B

ANALYTICAL DATA

NAS CECIL FIELD -- OIL/WATER SEPARATOR AT FACILTIY 823
SUBSURFACE SOIL -- ANALYTICAL DATA -- REPORT REQUEST NO. 10553

Lab Sample Number:	JR36651			
Site	UST GREY			
Locator	CEF-823-SB4			
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	20		mg/kg	7.8
Arsenic	.6	U	mg/kg	.6
Barium	24	U	mg/kg	24
Cadmium	1	U	mg/kg	1
Chromium	1.7		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 FACILTIY 823
GROUNDWATER -- ANALYTICAL DATA -- REPORT REQUEST NO. 10580

Lab Sample Number:	JR42213			
Site	UST GREY			
Locator	CF823-OW1S			
Collect Date:	18-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	3		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 FACILTIY 823
GROUNDWATER -- ANALYTICAL DATA -- REPORT REQUEST NO. 10580

Lab Sample Number:	JR42213			
Site	UST GREY			
Locator	CF823-OW1S			
Collect Date:	18-NOV-98			
	VALUE	QUAL	UNITS	DL
1-Methylnaphthalene	.5	U	ug/l	.5
2-Methylnaphthalene	.5	U	ug/l	.5
FLA PRO				
TPH C8-C40	.2	U	mg/l	.2
Arsenic	.01	U	mg/l	.01
Arsenic-DISS	.01	U	mg/l	.01
Barium	.1	U	mg/l	.1
Barium-DISS	.1	U	mg/l	.1
Cadmium	.001	U	mg/l	.001
Cadmium-DISS	.001	U	mg/l	.001
Chromium	.01	U	mg/l	.01
Chromium-DISS	.01	U	mg/l	.01
Lead	.005	U	mg/l	.005
Lead-DISS	.005	U	mg/l	.005
Mercury	.0002	U	mg/l	.0002
Mercury-DISS	.0002	U	mg/l	.0002
Selenium	.01	U	mg/l	.01
Selenium-DISS	.01	U	mg/l	.01
Silver	.01	U	mg/l	.01
Silver-DISS	.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

NAS CECIL FIELD -- OIL/WATER SEPARATOR AT FACILTIY 823
SUBSURFACE SOIL -- ANALYTICAL DATA -- REPORT REQUEST NO. 10553

Lab Sample Number:	JR36651			
Site	UST GREY			
Locator	CEF-823-SB4			
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	9.9		ug/kg	1
Toluene	1.5	J	ug/kg	1
Trichloroethene	1.3	J	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