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NAS CECIL FIELD, FL
5090.3a

CONFIRMATORY SAMPLING REPORT FOR BUILDING 200 TANK 200 BASE
REALIGNMENT AND CLOSURE UNDERGROUND STORAGE TANK AND ABOVEGROUND
STORAGE TANK GREY SITES REVISION 1 NAS CECIL FIELD FL
2/1/1999
HARDING LAWSON ASSOCIATES

CONFIRMATORY SAMPLING REPORT
BUILDING 200, TANK 200
BASE REALIGNMENT AND CLOSURE
UNDERGROUND STORAGE TANK AND
ABOVEGROUND STORAGE TANK GRAY SITES
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Approved

Unit Identification Code: N60200

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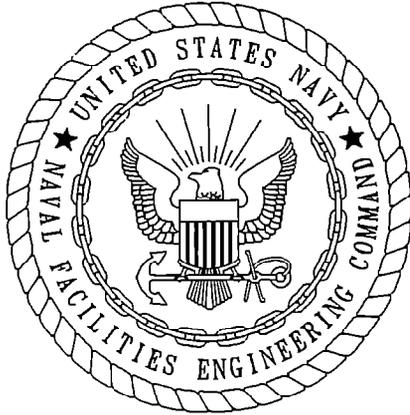
**Department of the Navy, Southern Division
Naval Facilities Engineering Command
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February 1999

Revision 1.0

*Why was this done?
Mandy*



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-0317/131 are complete and accurate and comply with all requirements of this contract.

DATE: February 23, 1999

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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 200, Tank 200
Naval Air Station Cecil Field
Jacksonville, Florida

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Building 200, Tank 200
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GLOSSARY

ABB-ES ABB Environmental Services, Inc.
BEI Bechtel Environmental, Inc.
bls below land surface
HLA Harding Lawson Associates
OVA organic vapor analyzer
UST underground storage tank

1.0 INTRODUCTION

Harding Lawson Associates (HLA), under contract to the Southern Division, Naval Facilities Engineering Command, has completed the confirmatory sampling for Tank 200 at Naval Air Station Cecil Field in Jacksonville, Florida. This report summarizes the related field operations, results, conclusions, and recommendations of the confirmatory sampling.

Tank 200 was an underground storage tank (UST) located south of Building 200. Building 200 is used as a hobby shop and as the administrative headquarters of the Morale, Welfare, and Recreation staff (Figure 1). The UST, which was installed in 1975, had a 315-gallon capacity and was used to store waste oil (ABB Environmental Services, Inc. [ABB-ES], 1994 and 1997a). A Contamination Assessment Plan for the assessment of soil and groundwater at Tank 200 was prepared by HLA (then ABB-ES) in November 1996 (ABB-ES, 1996).

Confirmatory soil sampling was conducted in January 1997 and the results did not indicate the presence of excessively contaminated soil (ABB-ES, 1997b).

Tank 200 was removed by Bechtel Environmental, Inc. (BEI), on April 30, 1997. A Closure Report was prepared for Tank 200 and submitted to the Florida Department of Environmental Protection on July 1, 1997 (BEI, 1997). A monitoring well was not installed during the Tank 200 removal, and additional investigation was recommended in the revised confirmatory sampling report dated April 1998 (ABB-ES, 1998).

2.0 FIELD INVESTIGATION

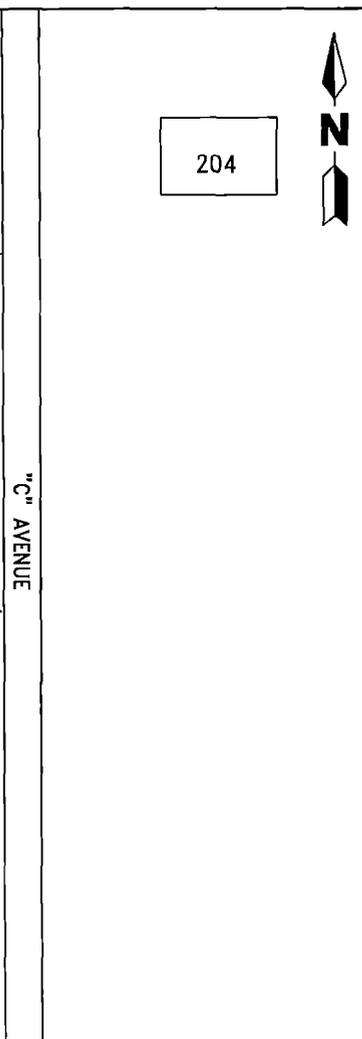
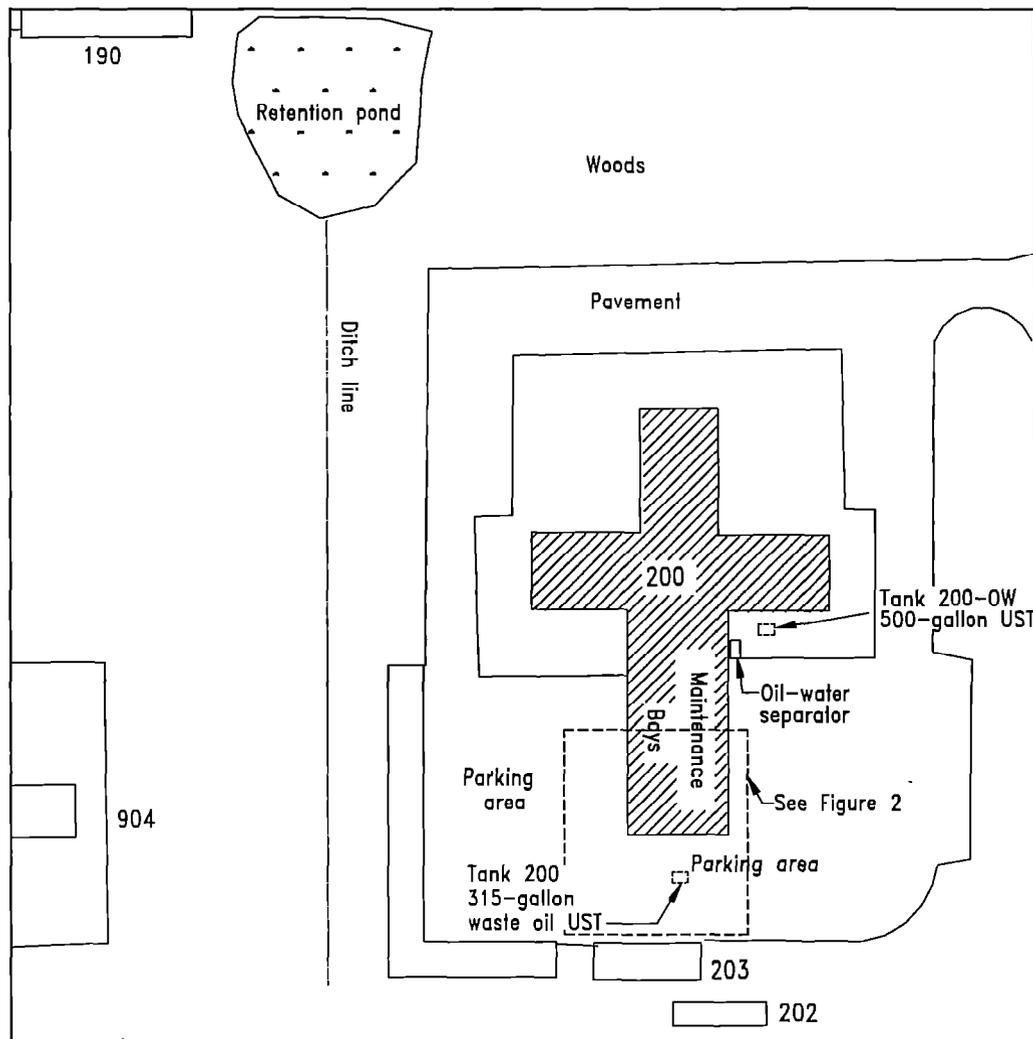
The confirmatory sampling of Tank 200 was initiated in January 1997 and included the advancement of four soil borings to the water table, the collection of one subsurface soil sample, and the installation of one monitoring well.

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

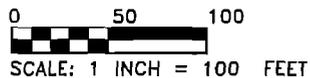
One subsurface soil sample, CEF-200-SB3, was collected from 3 feet bls at the location of soil boring SB3 and analyzed for used oil group parameters.

One monitoring well, CEF-200-2S, was installed in the center of the former tank location to a depth of 11.6 feet and groundwater was sampled and analyzed for the used oil group parameters. Monitoring well construction detail is presented in Appendix A.

A general site plan indicating the location of the soil borings and monitoring well is presented as Figure 2.



NOTE:
UST = Underground storage tank

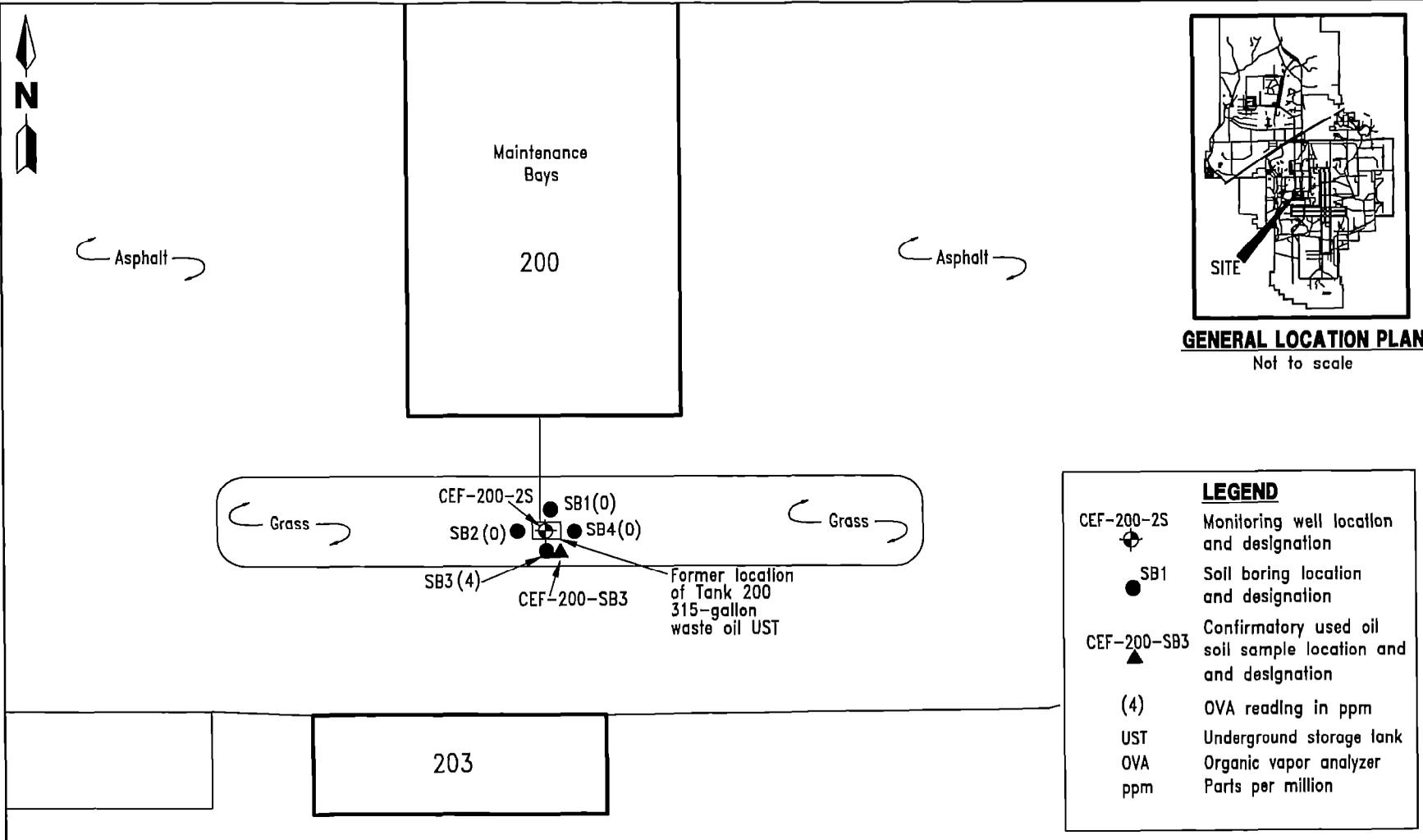


**FIGURE 1
TANK 200
HOBBY SHOP**



**CONFIRMATORY SAMPLING REPORT
BUILDING 200, TANK 200**

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



GENERAL LOCATION PLAN

Not to scale

LEGEND

- CEF-200-2S Monitoring well location and designation
- SB1 Soil boring location and designation
- CEF-200-SB3 Confirmatory used oil soil sample location and designation
- (4) OVA reading in ppm
- UST Underground storage tank
- OVA Organic vapor analyzer
- ppm Parts per million

**FIGURE 2
TANK 200
SOIL BORING AND MONITORING WELL LOCATIONS**



**CONFIRMATORY SAMPLING REPORT
TANK 200**

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

3.0 SCREENING AND ANALYTICAL RESULTS

Excessively contaminated soil (having an OVA reading greater than 50 parts per million) was not detected at this site. The soil OVA data are summarized in Table 1 and presented on Figure 2.

No contaminants were detected above cleanup target levels in the subsurface soil and groundwater samples collected at the Tank 200 site. Subsurface soil analytical results are summarized in Table 2 and groundwater results are summarized in Table 3. Complete analytical results are presented in Appendix B.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Data obtained during the confirmatory sampling and tank closure at the Tank 200 site did not indicate the presence of excessively contaminated soil.

No contaminants were detected above cleanup target levels in subsurface soil or groundwater samples. Therefore, no further action is recommended for the Tank 200 site.

**Table 1
Soil Screening Results**

Confirmatory Sampling Report
Building 200, Tank 200
Naval Air Station Cecil Field
Jacksonville, Florida

Location	OVA Concentration (ppm)			Actual
	Depth (feet bls)	Unfiltered	Filtered	
CEF-200-SB1	1	0	--	0
	3	0	--	0
	4 (wet)	0	--	0
CEF-200-SB2	1	0	--	0
	3	0	--	0
	4 (wet)	0	--	0
CEF-200-SB3	1	0	--	0
	3	0	--	0
	4 (wet)	0	--	0
CEF-200-SB4	1	0	--	0
	3	0	--	0
	4 (wet)	0	--	0
CEF-200-1S	1	0	--	0
	3	0	--	0
	7 (wet)	10	--	10
	11 (wet)	11	--	11

Notes: All soil samples were collected on January 13, 1997.
Monitoring well CEF-200-1S was installed on March 4, 1997.
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.
wet = soil sample was completely saturated when analyzed.

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

Confirmatory Sampling Report
Building 200, Tank 200
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	CEF-200-SB3 (3 feet bls; OVA = 0 ppm)	Soil Cleanup Target Levels ¹
<u>Volatile Organic Aromatics (USEPA Method 8020) (mg/kg)</u>		
Tetrachloroethane	0.0084	NA
Toluene	0.0032	300/0.4
<u>Polynuclear Aromatic Hydrocarbons (USEPA Method 8310) (mg/kg)</u>		
No compounds detected		
<u>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/kg)</u>		
TRPH	170	350/340
<u>Inorganic Analytes (mg/kg)</u>		
Chromium	5.2	290/TCLP
Lead	63	500/TCLP
Mercury	0.02	3.7/TCLP
¹ Chapter 62-770, Florida Administrative Code: Direct Exposure I/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.		

**Table 3
Summary of Groundwater Analytical Detections**

Confirmatory Sampling Report
Building 200, Tank 200
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	Monitoring Well CEF-200-2S	Groundwater Cleanup Target Levels ¹
<u>Volatile Organic Aromatics (USEPA Method 8020) (µg/l)</u>		
No compounds detected		
<u>Polynuclear Aromatic Hydrocarbons (USEPA Method 8310) (µg/l)</u>		
No compounds detected		
<u>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (µg/l)</u>		
Not detected		
<u>Inorganic Analytes (µg/l)</u>		
No analytes detected		
¹ Chapter 62-770, Florida Administrative Code: Direct Exposure I/Leachability, Table V. Notes: USEPA = U.S. Environmental Protection Agency. µg/l = micrograms per liter. FL-PRO = Florida-Petroleum Residual Organics.		

REFERENCES

- ABB Environmental Services, Inc. (ABB-ES). 1994. *Base Realignment and Closure Environmental Baseline Survey Report, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOC), North Charleston, South Carolina (November).
- ABB-ES. 1996. *Contamination Assessment Plan, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina (November).
- ABB-ES. 1997a. *Base Realignment and Closure Tank Management Plan, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina (January).
- ABB-ES. 1997b. *Confirmatory Sampling Report, Building 200, Tank 200, Base Realignment and Closure, Underground Storage Tank and Aboveground Storage Tank Gray Sites, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina (November).
- ABB-ES. 1998. *Confirmatory Sampling Report, Building 200, Tank 200, Base Realignment and Closure, Underground Storage Tank and Aboveground Storage Tank Gray Sites, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina (April).
- Bechtel Environmental, Inc. 1997. DO #59: *Closure Report for Aboveground Storage Tank/Underground Storage Tank Removals, Naval Air Station Cecil Field, Jacksonville, Florida*. (July).

APPENDIX A
MONITORING WELL CONSTRUCTION DETAIL

TITLE: NAS Cecil Field, Bldg. 200 Site Assessment Report		LOG of WELL: CEF-200-2S	BORING NO. CEF-200-2S
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 02523.13	
CONTRACTOR: U.S. Probe and Drill		DATE STARTED: 09-22-98	COMPLTD: 09-22-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 2-12 ft.	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: FID	TOT DPTH: 12.5FT.	DPTH TO ∇ 3.74 FT.
LOGGED BY: H.Hooper	WELL DEVELOPMENT DATE: 09-24-98		SITE: Building 200

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		
2								
3							posthole	
4				SILTY SAND: dark gray silty fine sand.				
5								
6							*	
7							**	
8								
9								
10								
11				<> Soil description taken from posthole and auger				
12				* no split spoon samples taken				
13				** no OVA readings taken				
14								
15								

APPENDIX B
ANALYTICAL DATA

NAS CECIL FIELD -- FACILITY 200
 SUBSURFACE SOIL -- ANALYTICAL DATA -- REPORT REQUEST NO. 10543

Lab Sample Number: JR36661
 Site: UST GREY
 Locator: CEF-200-SB3
 Collect Date: 14-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	8.4	ug/kg	1
Toluene	3.2	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 -- FACILITY 200
 SUBSURFACE SOIL -- ANALYTICAL DATA -- REPORT REQUEST NO. 10543

Lab Sample Number: JR36661
 Site: UST GREY
 Locator: CEF-200-SB3
 Collect Date: 14-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	170	mg/kg	7.8
Arsenic	.6 U	mg/kg	.6
Barium	24 U	mg/kg	24
Cadmium	1 U	mg/kg	1
Chromium	5.2	mg/kg	1
Lead	63	mg/kg	8
Mercury	.02	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 -- FACILITY 200
GROUNDWATER -- ANALYTICAL DATA -- REPORT REQUEST NO. 10571

Lab Sample Number: JR42211
Site: UST GREY
Locator: CEF-200-2S
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	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 -- FACILITY 200
GROUNDWATER -- ANALYTICAL DATA -- REPORT REQUEST NO. 10571

Lab Sample Number: JR42211
Site: UST GREY
Locator: CEF-200-2S
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
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