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NAS CECIL FIELD, FL
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CONFIRMATORY SAMPLING REPORT FOR BUILDING 81 TANK 81 BASE REALIGNMENT AND CLOSURE UNDERGROUND STORAGE TANK AND ABOVEGROUND STORAGE TANK GREY SITES NAS CECIL FIELD FL

4/1/1998

ABB ENVIRONMENTAL SERVICES INC

CONFIRMATORY SAMPLING REPORT

BUILDING 81, TANK 81

BASE REALIGNMENT AND CLOSURE

UNDERGROUND STORAGE TANK AND ABOVEGROUND STORAGE TANK GREY SITES

NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA

Unit Identification Code: N60200

Contract No.: N62467-89-D-0317/131

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April 1998

CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., 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: April 17, 1998

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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Naval Air Station Cecil Field
Jacksonville, Florida

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Building 81, Tank 81
Naval Air Station Cecil Field
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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
FAC	Florida Administrative Code
OVA	organic vapor analyzer
ppm	parts per million
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank

1.0 INTRODUCTION

ABB Environmental Services, Inc. (ABB-ES), under contract to the Southern Division, Naval Facilities Engineering Command, has completed the confirmatory sampling for Tank 81 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 81 is an underground storage tank (UST) located at Building 81, a maintenance facility housing carpentry, machine, plumbing, paint, and welding shops (ABB-ES, 1994) (Figure 1). The UST, which was installed in 1952, had a 1,000-gallon capacity and is used to store fuel oil for onsite heating (ABB-ES, 1997). A Contamination Assessment Plan for the assessment of soil and groundwater at Tank 81 was prepared by ABB-ES in November 1996 (ABB-ES, 1996).

2.0 FIELD INVESTIGATION

The confirmatory sampling for Tank 81 was initiated in February 1997 and included

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

A monitoring well, CEF-81-5S, was installed east of the UST, north of the location of soil boring CEF-81-SB3 to a depth of 15 feet bls. One groundwater sample was collected from the well and analyzed for the Kerosene Analytical Group parameters. A general site plan indicating the location of the soil borings and monitoring well CEF-81-5S 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 [ppm] on an OVA) was detected in all four soil borings. The highest OVA reading (4,000 ppm) was detected at 5 feet bls in soil boring CEF-81-SB3. The soil OVA data are summarized in Table 1 and presented on Figure 2.

Volatile organic aromatics, polynuclear aromatic hydrocarbons, and total recoverable petroleum hydrocarbons were detected in the groundwater sample collected from monitoring well CEF-81-5S. Benzene, total xylenes, and naphthalene were detected at concentrations exceeding the standards specified in Chapter 62-770, Florida Administrative Code (FAC). The concentration of methylene chloride in groundwater exceeded the primary maximum contaminant level specified in Chapter 62-520, FAC. A summary of the groundwater analytical results is presented in Table 2. The complete analytical data set is presented in Appendix B.

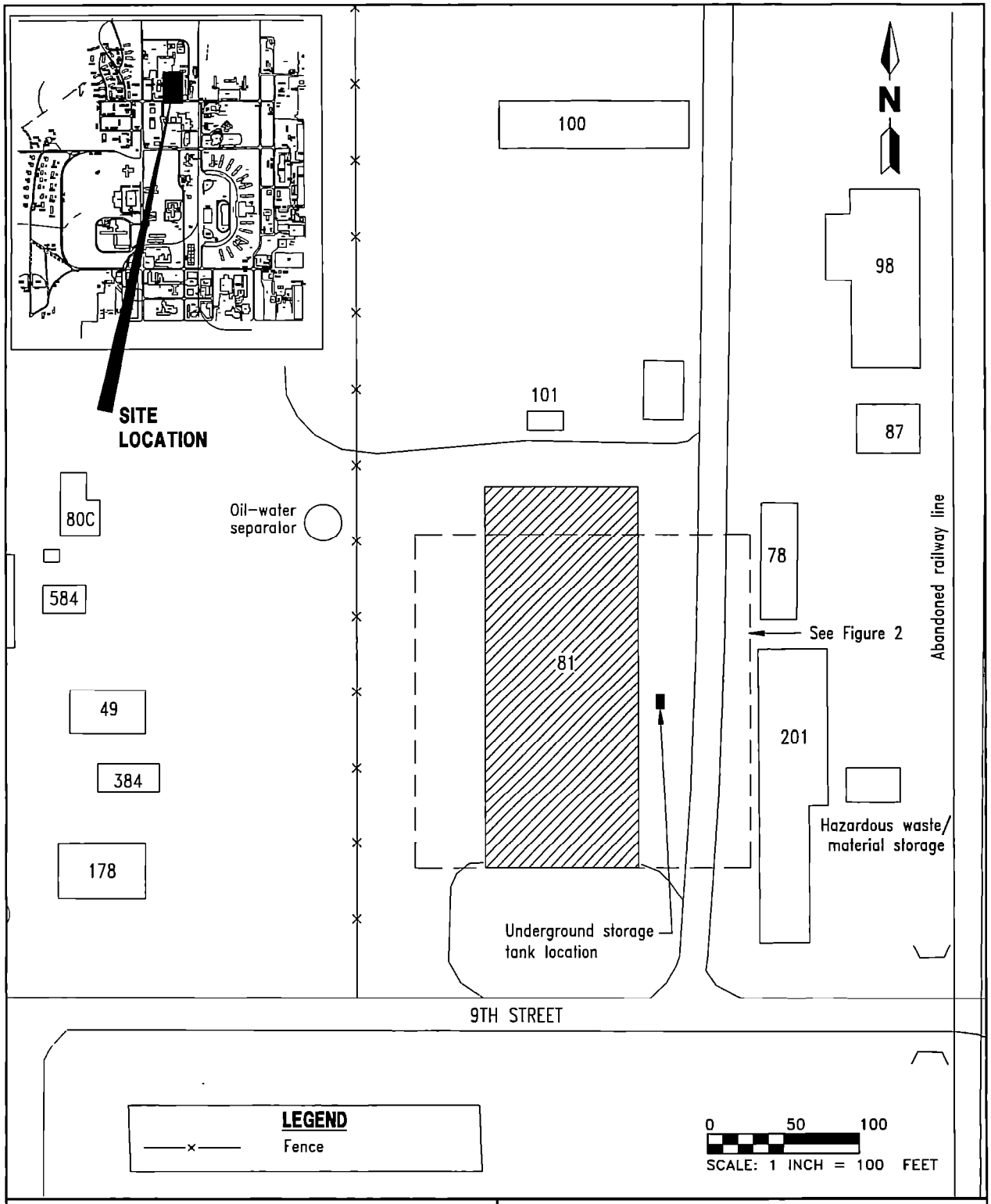

FIGURE 1
TANK 81
GENERAL MAINTENANCE FACILITY

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CONFIRMATORY SAMPLING REPORT
BUILDING 81, TANK 81

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

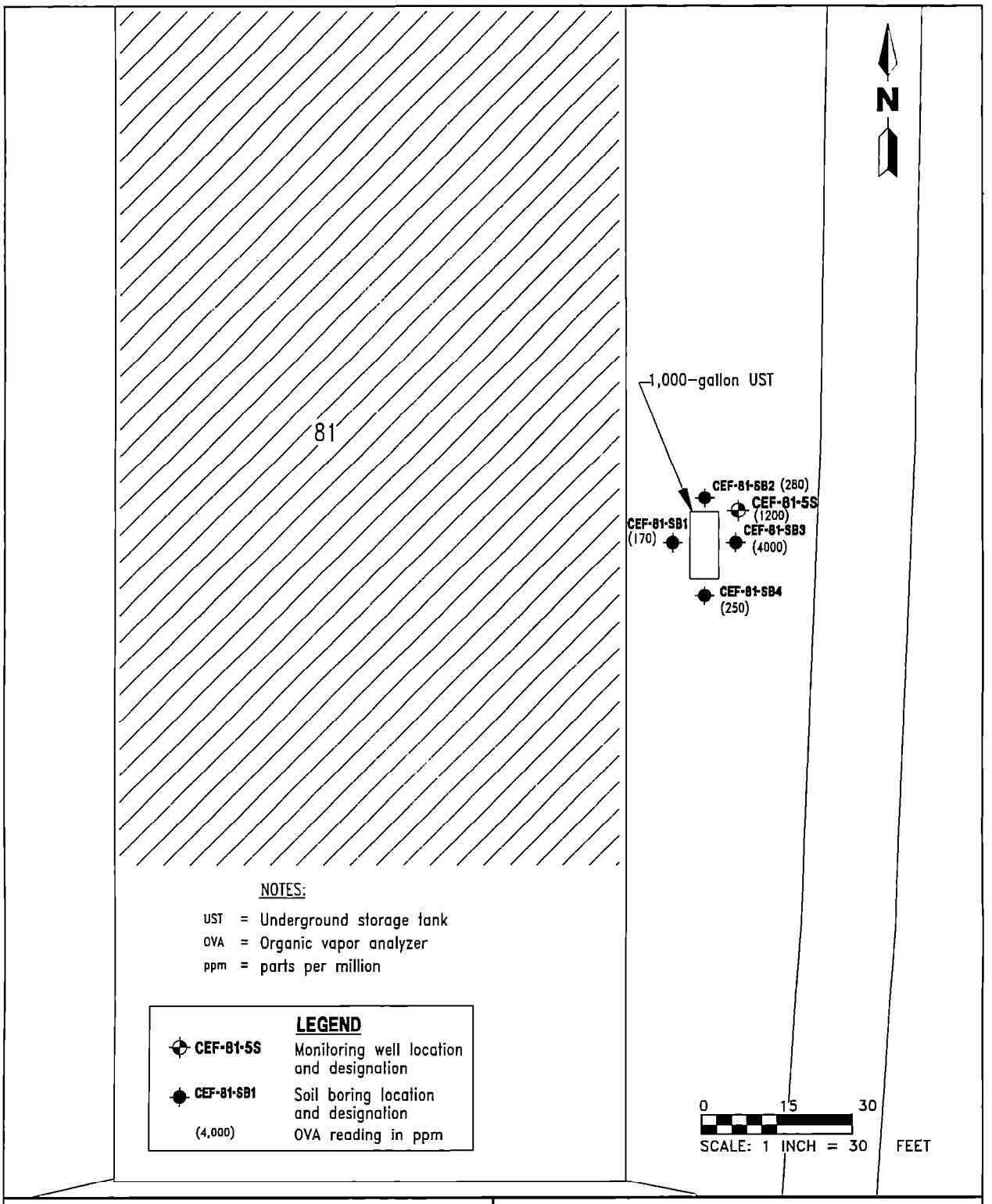

FIGURE 2
TANK 81
SOIL BORING AND MONITORING WELL LOCATIONS

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CONFIRMATORY SAMPLING REPORT
BUILDING 81, TANK 81

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Table 1
Soil Screening Results

Confirmatory Sampling Report
Building 81, Tank 81
Naval Air Station Cecil Field
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
CEF-81-SB1	1	41	0	41
	3 (refusal)	170	0	170
CEF-81-SB2	1	47	0	47
	3	200	0	200
	5	280	0	280
	7 (wet)	>5,000	0	>5,000
CEF-81-SB3	1	220	0	220
	3	330	0	330
	5	4,000	0	4,000
	6.5 (moist)	4,000	0	4,000
CEF-81-SB4	1	0	–	0
	3	0	–	0
	5 (moist)	250	0	250
	7 (wet)	1,900	0	1,900
CEF-81-5S	1	0	–	0
	3	180	–	180
	5	1,200	–	1,200
	11 (wet)	15	–	15

Notes: All soil samples were collected on February 7, 1997.
Monitoring well CEF-81-5S 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.
refusal = subsurface obstruction encountered during boring advancement; no further samples collected at this location.
wet = soil sample was completely saturated when analyzed.
> = greater than.
moist = soil sample was partially saturated when analyzed.
– = filtered readings were not collected.

Table 2
Summary of Groundwater Analytical Results

Confirmatory Sampling Report
Building 81, Tank 81
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	CEF-81-1S	Groundwater Target Cleanup Levels[1]
Volatile Organic Aromatics (USEPA Method 601/602) (µg/ℓ)		
Benzene	1.3	[1]1
Ethylbenzene	26	[2]30
Xylenes	21	[2]20
Methylene Chloride	21	[1]5
Polynuclear Aromatic Hydrocarbons (USEPA Method 625) (µg/ℓ)		
1-Methylnaphthalene	56	NA
2-Methylnaphthalene	57	NA
Naphthalene	73	[3]20
Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/ℓ)		
TRPH	3.1	[3]5

[1] Chapter 62-520, Florida Administrative Code (FAC).
[2] Chapter 62-550, FAC.
[3] Based on the requirements for minimum criteria in Section 376.3071 (s)(b)7., Florida Statute.

Notes: Groundwater sample was collected on March 20, 1997.

USEPA = U.S. Environmental Protection Agency.
µg/ℓ = micrograms per liter.
NA = not applicable.
FL-PRO = Florida Petroleum Residual Organics.
mg/ℓ = milligrams per liter.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Data obtained during the contamination assessment at the Tank 81 site did not provide an adequate assessment of the horizontal and vertical extent of excessively contaminated soil and contaminated groundwater. Therefore, it is recommended that a site assessment be conducted to assess the extent of excessively contaminated soil and groundwater contamination at the Tank 81 site.

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 (SOUTHNAVFACENGCOM), North Charleston, South Carolina (November).

ABB-ES. 1996. *Contamination Assessment Plan, Naval Air Station Cecil Field, Jacksonville, Florida.* Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (November).

ABB-ES. 1997. *Base Realignment and Closure Tank Management Plan, Naval Air Station Cecil Field, Jacksonville, Florida.* Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (January).

APPENDIX A

MONITORING WELL INSTALLATION DETAIL

PROJECT: NAS Cecil Field		**LOG of WELL:** CEF-81-5S	**BORING NO.** CEF-81-5S
CLIENT: SOUTHDIVNAVFACENGCOM	**PROJECT NO:** 8542-03	**DATE STARTED:** 3-4-977	**COMPLETED:** 3-4-977
DRILLING SUBCONTRACTOR: GEOTEK		**SITE:** Building 81	**MONITOR INST.** FID
METHOD: 8.25" HSA	**WELL CASE DIAM.:** 2"	**SCREEN INT.:** 4-14 FT.	**SCREEN SLOT SIZE:** 0
TOC ELEVATION: FT. NGVD	**GROUND ELEV.:** FT. NGVD	**NORTHING:** 2148209	**EASTING:** 375998
WELL DEVELOP. DATE: 3-8-97	**TOTAL DEPTH:** 15 FT. BLS	**DEPTH TO ∇** 5.80 FT. BLS	**LOGGED BY:** J koch

DEPTH FT.	SAMPLE INTERVAL	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0	SILTY SAND: medium grey, fine grain, poorly graded, no petroleum odor.		SM	posthole	
			180	CLAYEY SAND: light grey to medium grey, fine-grain, petroleum odor.		SC	posthole	
5		100%	1200	CLAYEY SAND: Light grey to medium grey, fine-grain, petroleum odor.			2,3,4,6	
10		100%	15	CLAYEY SAND: light brown to light grey, fine-grained, no petroleum odor.			1,3,4,4	
15								
20								

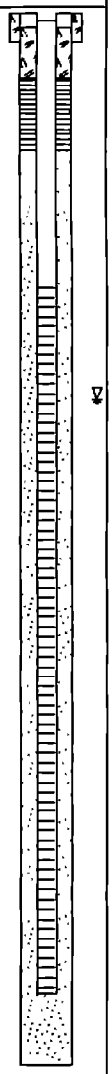

 ABB ENVIRONMENTAL SERVICES, INC.

APPENDIX B

GROUNDWATER ANALYTICAL DATA

NAS CECIL FIELD -- TANK 81
UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9414

Lab Sample Number:	B7C2601400				B7C2601400		
Site	BRACGREY				BRACGREY		
Locator	CEF815S				CEF815S		
Collect Date:	25-MAR-97				25-MAR-97		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
BRACGREY ANAYLTICAL PARAMETERS								
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	-			
1,3-Dichlorobenzene	1	U	ug/l	1	-			
1,4-Dichlorobenzene	1	U	ug/l	1	-			
1,2-Dichloroethane	1	U	ug/l	1	-			
1,2-Dichloropropane	1	U	ug/l	1	-			
1-Methylnaphthalene	56		ug/l	4	-			
2-Methylnaphthalene	57		ug/l	4	-			
Acenaphthene	4	U	ug/l	4	-			
Acenaphthylene	4	U	ug/l	4	-			
Anthracene	4	U	ug/l	4	-			
Benzene	1.3		ug/l	1	-			
Benzo (a) anthracene	.2	U	ug/l	.2	-			
Benzo (a) pyrene	.2	U	ug/l	.2	-			
Benzo (b) fluoranthene	.2	U	ug/l	.2	-			
Benzo (g,h,i) perylene	.4	U	ug/l	.4	-			
Benzo (k) fluoranthene	.3	U	ug/l	.3	-			
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	-			
Chloromethane	1	U	ug/l	1	-			
Chloroform	1	U	ug/l	1	-			
Chloromethane	1	U	ug/l	1	-			
Chrysene	.2	U	ug/l	.2	-			
Dibenzo (a,h) anthracene	.4	U	ug/l	.4	-			
Dibromochloromethane	1	U	ug/l	1	-			
Dichlorodifluoromethane	1	U	ug/l	1	-			
Ethylbenzene	26		ug/l	1	-			
Ethylene dibromide	.01	U	ug/l	.01	-			
Fluoranthene	.4	U	ug/l	.4	-			
Fluorene	8.5		ug/l	4	-			
Indeno (1,2,3-cd) pyrene	.2	U	ug/l	.2	-			
Lead	5	U	ug/l	5	-			
Methyl tert-butyl ether	1	U	ug/l	1	-			
Methylene chloride	21		ug/l	1	-			
Naphthalene	73		ug/l	4	-			
Phenanthrene	4	U	ug/l	4	-			
Pyrene	.4	U	ug/l	.4	-			
Tetrachloroethene	1	U	ug/l	1	-			
Toluene	1	U	ug/l	1	-			
Total petroleum hydrocarbons	3.1		mg/l	.5	-			
Trichloroethene	1	U	ug/l	1	-			
Trichlorofluoromethane	1	U	ug/l	1	-			
Vinyl chloride	1	U	ug/l	1	-			

NAS CECIL FIELD -- TANK 81
UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9414

Lab Sample Number:	B7C2601400				B7C2601400			
Site	BRACGREY				BRACGREY			
Locator	CEF815S				CEF815S			
Collect Date:	25-MAR-97				25-MAR-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Xylenes (total)	21		ug/l	1	-			
cis-1,3-Dichloropropene	1	U	ug/l	1	-			
trans-1,2-Dichloroethene	1	U	ug/l	1	-			
trans-1,3-Dichloropropene	1	U	ug/l	1	-			
Lead-DISS	-				5	U	ug/l	5

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