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NAS CECIL FIELD, FL
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CONFIRMATORY SAMPLING REPORT FOR BUILDING 334 TANK 325-OW BASE
REALIGNMENT AND CLOSURE UNDERGROUND STORAGE TANK AND ABOVEGROUND
STORAGE TANK GREY SITES REVISION 1 NAS CECIL FIELD FL
9/1/1999
HARDING LAWSON ASSOCIATES

CONFIRMATORY SAMPLING REPORT
BUILDING 334, TANK 325-OW
BASE REALIGNMENT AND CLOSURE
UNDERGROUND STORAGE TANK AND
ABOVEGROUND STORAGE TANK GREY SITES
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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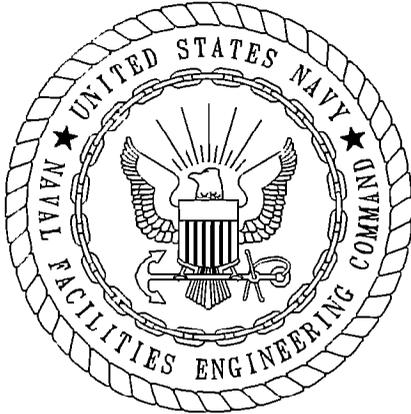
Prepared for:

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September 1999

Revision 1.0



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: September 22, 1999

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(DFAR 252.227-7036)

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Naval Air Station Cecil Field
Jacksonville, Florida

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Building 334, Tank 334-OW
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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

1.0 INTRODUCTION

Harding Lawson Associates (HLA), under contract to the Southern Division, Naval Facilities Engineering Command, has completed the confirmatory sampling for the oil-water separator, 325-OW, 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 325-OW is an oil-water separator located at Building 334, a jet engine test facility. The separator, which was installed in 1991, has a 500-gallon capacity and is used to separate and store waste oil generated from test cell use (ABB-ES, 1997). A Contamination Assessment Plan for the assessment of soil and groundwater at Jet Engine Test Cell was prepared by HLA in November 1996 (ABB-ES, 1996).

2.0 FIELD INVESTIGATION

The confirmatory sampling at Tank 325-OW was initiated in February 1997. It included

- the advancement of four soil borings to the water table,
- the installation of one shallow groundwater monitoring well, and
- the collection and analysis of one groundwater sample and one 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, CEF-325-SB4, was collected from 5 feet bls at soil boring location SB4 and analyzed for the used oil analytical parameters.

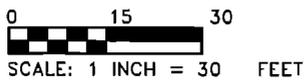
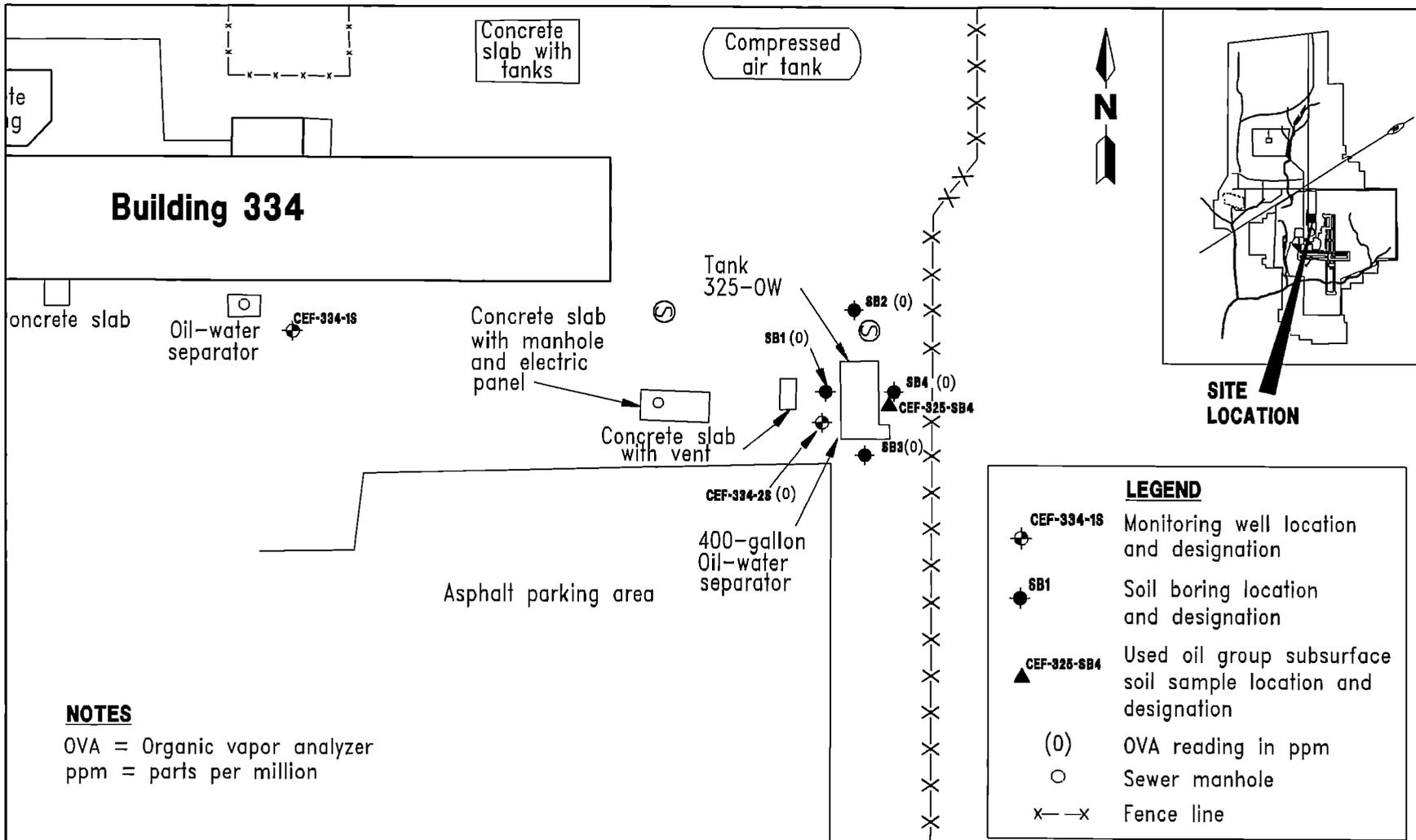
One monitoring well, CEF-334-2S, was installed west of the separator near the location of soil boring SB2 to a depth of 13 feet bls. One groundwater sample was collected and analyzed for the Kerosene Analytical Group parameters.

A general site plan indicating the location of the soil borings and the monitoring well is presented on Figure 1. The monitoring well installation detail is presented in Appendix A.

3.0 SCREENING AND ANALYTICAL RESULTS

Excessively contaminated soil (greater than 50 parts per million [ppm] on an OVA) in the unsaturated zone was not detected in the four soil borings. The highest OVA reading (70 ppm) was detected in a fully saturated sample collected from 7 feet bls. The soil OVA data are summarized in Table 1 and presented on Figure 1.

No contaminants were detected above Florida cleanup target levels in the subsurface soil sample CEF-325-SB4. Soil analytical results are summarized in Table 2 and found in Appendix B.



**FIGURE 1
TANK 325-OW
SOIL BORING AND MONITORING WELL
LOCATIONS**



**CONFIRMATORY SAMPLING REPORT
BUILDING 334, TANK 325-OW**

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

**Table 1
Soil Screening Results**

Confirmatory Sampling Report
Building 334, Tank 325-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
	5	0	–	0
	7 (wet)	50	0	50
SB2	1	0	–	0
	3	0	–	0
	5	0	–	0
	7 (wet)	70	0	70
SB3	1	0	–	0
	3	0	–	0
	5	0	–	0
	6.5 (moist; refusal)	0	–	0
SB4	1	0	–	0
	3	0	–	0
	5	0	–	0
	7 (moist to wet)	40	0	40
CEF-334-2S	1	0	–	0
	3	0	–	0
	5 (wet)	0	–	0
	11 (wet)	0	–	0

Notes: All soil samples were collected on January 28, 1997.
Monitoring well CEF-334-2S was installed on February 17, 1997.
All concentrations in ppm.
Soil samples were filtered with carbon to determine the methane concentration.

OVA = organic vapor analyzer.
ppm = parts per million.
bls = below land surface.
wet = soil sample was completely saturated when analyzed.
– = filtered readings were not collected.
moist = soil sample was partially saturated when analyzed.
refusal = subsurface obstruction prevented further sample collection at this location.

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

Confirmatory Sampling Report
Building 334, Oil-water Separator 325-OW
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	CEF-325-SB4 (5 feet bls; OVA = 0 ppm)	Soil Cleanup Target Levels ¹
<u>Volatile Organic Aromatics (USEPA Method 8020) (mg/kg)</u>		
Not detected.		
<u>Polynuclear Aromatic Hydrocarbons (USEPA Method 8310) (mg/kg)</u>		
Not detected.		
<u>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/kg)</u>		
TRPH	340	350/340
<u>Inorganic Analytes (mg/kg)</u>		
Mercury	0.075	0.8/TCLP
Lead	3.8	75/TCLP
Chromium	5.6	290/TCLP
¹ Chapter 62-770, Florida Administrative Code: Direct Exposure, I/Leachability, Table V. Bold = concentration exceeded cleanup target level. USEPA = U.S. Environmental Protection Agency. mg/kg = milligrams per kilogram. ND = not detected. FL-PRO = Florida-Petroleum Residual Organics.		

No contaminants were detected in the groundwater sample collected from monitoring well CEF-334-2S. Groundwater analytical data is summarized in Table 3 and presented in Appendix B.

**Table 3
Summary of Groundwater Analytical Results**

Confirmatory Sampling Report
Building 334, Oil-water Separator 325-OW
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	CEF-334-2S	Groundwater Cleanup Target Levels ¹
<u>Volatile Organic Aromatics (USEPA Method 601/602) (µg/l)</u>		
Not detected.		
<u>Polynuclear Aromatic Hydrocarbons (USEPA Method 625) (µg/l)</u>		
Not detected.		
<u>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/l)</u>		
Not detected.		
<u>Lead (µg/l)</u>		
Not detected.		

¹ Chapter 62-770, Florida Administrative Code (FAC).

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 confirmatory sampling at the oil-water separator 325-OW site did not indicate the presence of excessively contaminated soil. No contaminants were detected above cleanup target levels in soil or groundwater samples collected from the site. Therefore, it is recommended that no further action be taken until the oil-water separator is taken out of use and proper closure is performed.

REFERENCES

- ABB Environmental Services, Inc. (ABB-ES). 1996. *Contamination Assessment Plan, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for Southern Division, Naval Facilities Engineering Command (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).
- Bechtel Environmental Incorporated. 1997. DO #59: *Closure Report for Above Storage Tank/Underground Storage Tank Removals, Naval Air Station Cecil Field, Jacksonville, Florida*. (July).

APPENDIX A
MONITORING WELL INSTALLATION DETAIL

TITLE: NAS Cecil Field		LOG of WELL: CEF-334-2S	BORING NO. CEF-334-2S
CLIENT: SOUTHDIVNAVFACENCOM		PROJECT NO: 8542-03	
CONTRACTOR: GEOTEK		DATE STARTED: 2-27-97	COMPLTD: 2-27-97
METHOD: 6.25" HSA	CASE SIZE: 2"	SCREEN INT.: 3-14	PROTECTION LEVEL: 0
TOC ELEV.: FEET.	MONITOR INST.: FID	TOT DPTH: 14 FEET.	DPTH TO ∇ 6.24 FEET.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: 3-4-97		SITE: Building 334

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0					SILTY SAND: Light grey, fine grained, no petroleum odor.	[Diagonal Hatching]	SM	posthole	[Well Diagram]
0				SILTY SAND: As above.	posthole				
5			80%	0	SILTY SAND: As above, saturated.		1,2,1,5		
10			80%	0	SAND: Light brown, fine grained with some medium grained soil, no petroleum odor.	SP	1,2,2,4		
15									
20									

APPENDIX B
GROUNDWATER ANALYTICAL DATA

NAS CECIL FIELD -- TANK 3250W
 UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9395

Lab Sample Number: B7C2601400
 Site BRACGREY
 Locator CEF3342S
 Collect Date: 25-MAR-97

VALUE QUAL UNITS DL

BRACGREY ANALYTICAL 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	10 U	ug/l	10
1,3-Dichlorobenzene	10 U	ug/l	10
1,4-Dichlorobenzene	10 U	ug/l	10
1,2-Dichloroethane	1 U	ug/l	1
1,2-Dichloropropane	1 U	ug/l	1
1-Methylnaphthalene	2 U	ug/l	2
2-Methylnaphthalene	2 U	ug/l	2
Acenaphthene	2 U	ug/l	2
Acenaphthylene	2 U	ug/l	2
Anthracene	2 U	ug/l	2
Benzene	1 U	ug/l	1
Benzo (a) anthracene	.1 U	ug/l	.1
Benzo (a) pyrene	10 U	ug/l	10
Benzo (b) fluoranthene	.1 U	ug/l	.1
Benzo (g,h,i) perylene	10 U	ug/l	10
Benzo (k) fluoranthene	10 U	ug/l	10
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	.1 U	ug/l	.1
Dibenzo (a,h) anthracene	.2 U	ug/l	.2
Dibromochloromethane	1 U	ug/l	1
Dichlorodifluoromethane	1 U	ug/l	1
Ethylbenzene	1 U	ug/l	1
Ethylene dibromide	.02 U	ug/l	.02
Fluoranthene	.2 U	ug/l	.2
Fluorene	2 U	ug/l	2
Indeno (1,2,3-cd) pyrene	.1 U	ug/l	.1
Lead	5 U	ug/l	5
Methyl tert-butyl ether	1 U	ug/l	1
Methylene chloride	1 U	ug/l	1
Naphthalene	2 U	ug/l	2
Phenanthrene	10 U	ug/l	10
Pyrene	.2 U	ug/l	.2
Tetrachloroethene	1 U	ug/l	1
Toluene	1 U	ug/l	1
Total petroleum hydrocarbons	.5 U	ng/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 3250W
UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9395

Lab Sample Number: B7C2601400
Site BRACGREY
Locator CEF3342S
Collect Date: 25-MAR-97

VALUE QUAL UNITS DL

Xylenes (total)	1 U	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

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

NAS Cecil Field - Subsurface Soil Analytical Results - Oil-water Separator 325-OW

Sample Identifier CEF-325-SB4

Sample Collect Date 5/11/99

Analyte

All Analyses

1,1,1-Trichloroethane	6. U ug/kg (6.)
1,1,2,2-Tetrachloroethane	6. U ug/kg (6.)
1,1,2-Trichloroethane	6. U ug/kg (6.)
1,1-Dichloroethane	6. U ug/kg (6.)
1,1-Dichloroethene	6. U ug/kg (6.)
1,2-Dichloroethane	6. U ug/kg (6.)
1,2-Dichloropropane	6. U ug/kg (6.)
1-Methylnaphthalene	38. U ug/kg (38.)
2-Butanone	110. U ug/kg (110.)
2-Hexanone	110. U ug/kg (110.)
2-Methylnaphthalene	38. U ug/kg (38.)
4-Methyl-2-pentanone	110. U ug/kg (110.)
Acenaphthene	19. U ug/kg (19.)
Acenaphthylene	38. U ug/kg (38.)
Acetone	280. U ug/kg (280.)
Anthracene	2. U ug/kg (2.)
Arsenic	0.6 U mg/kg (0.6)
Barium	23. U mg/kg (23.)
Benzene	6. U ug/kg (6.)
Benzo(a)anthracene	1.9 U ug/kg (1.9)
Benzo(a)pyrene	2. U ug/kg (2.)
Benzo(b)fluoranthene	3. U ug/kg (3.)
Benzo(g,h,i)perylene	3.8 U ug/kg (3.8)
Benzo(k)fluoranthene	11. U ug/kg (2.)
Bromodichloromethane	6. U ug/kg (6.)
Bromoform	6. U ug/kg (6.)
Bromomethane	11. U ug/kg (11.)

Sample Identifier CEF-325-SB4

Sample Collect Date 5/11/99

Analyte

Cadmium	1. U mg/kg (1.)
Carbon disulfide	280. U ug/kg (280.)
Carbon tetrachloride	6. U ug/kg (6.)
Chlorobenzene	6. U ug/kg (6.)
Chloroethane	11. U ug/kg (11.)
Chloroform	6. U ug/kg (6.)
Chloromethane	6. U ug/kg (6.)
Chromium	5.6 mg/kg (1.)
Chrysene	1.9 U ug/kg (1.9)
cis 1,2-Dichloroethene	6. U ug/kg (6.)
Dibenzo(a,h)anthracene	3.8 U ug/kg (3.8)
Dibromochloromethane	6. U ug/kg (6.)
Ethylbenzene	6. U ug/kg (6.)
Fluoranthene	3.8 U ug/kg (3.8)
Fluorene	3.8 U ug/kg (3.8)
Indeno(1,2,3-cd)pyrene	1.9 U ug/kg (1.9)
Lead	3.8 mg/kg (1.)
m-Xylene + p-Xylene	11. U ug/kg (11.)
Mercury	0.075 mg/kg (0.01)
Methylene chloride	28. U ug/kg (28.)
Naphthalene	19. U ug/kg (19.)
o-Xylene	6. U ug/kg (6.)
Percent Solids	88. Percent (0.01)
Phenanthrene	38. U ug/kg (38.)
Pyrene	1.9 U ug/kg (1.9)
Selenium	2. U mg/kg (2.)
Silver	2. U mg/kg (2.)
Styrene	6. U ug/kg (6.)
Tetrachloroethene	17. U ug/kg (17.)
Toluene	6. U ug/kg (6.)
Total Petroleum Hydrocarbons (C8-C40)	340. mg/kg (75.)

Sample Identifier **CEF-325-SB4**

Sample Collect Date **5/11/99**

Analyte

trans 1,2-Dichloroethene **6. U ug/kg (6.)**

trans 1,2-Dichloropropene **6. U ug/kg (6.)**

Trichloroethene **6. U ug/kg (6.)**

Vinyl chloride **6. U ug/kg (6.)**

Footnotes: Values in parentheses are detection limits