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NAS CECIL FIELD, FL
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CONFIRMATORY SAMPLING REPORT FOR BUILDING 437 TANK 437 BASE
REALIGNMENT AND CLOSURE UNDERGROUND STORAGE TANK AND ABOVEGROUND
STORAGE TANK GREY SITES NAS CECIL FIELD FL
4/1/1999
HARDING LAWSON ASSOCIATES

CONFIRMATORY SAMPLING REPORT
BUILDING 437, TANK 437
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-0317/090

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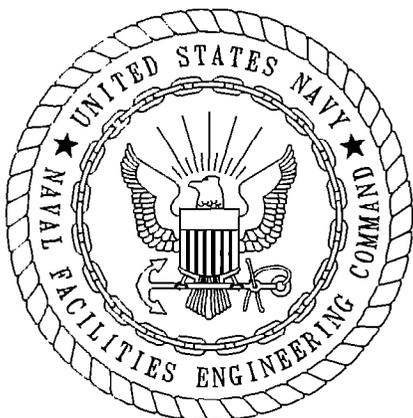
Prepared for:

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April 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: April 7, 1999

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(DFAR 252.227-7036)

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Building 437, Tank 437
Naval Air Station Cecil Field
Jacksonville, Florida

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GLOSSARY

ISI Innovative Services International, Inc.
NAS Naval Air Station
UST underground storage tank

1.0 INTRODUCTION

Harding Lawson Associates, under contract to the Southern Division, Naval Facilities Engineering Command, has completed confirmatory sampling for Tank 437 at Naval Air Station (NAS) Cecil Field in Jacksonville, Florida. This report summarizes the related field operations, results, conclusions, and recommendations.

Tank 437 was an underground storage tank (UST) located on the north side of Building 437, which is a house used for enlisted housing (Figure 1). The UST, which was installed in 1955, had a 350-gallon capacity and was used to store fuel oil for on-site heating. Tank 437 was removed by Innovative Services International, Inc. (ISI), on June 6, 1995. A closure assessment report was prepared for Tank 437 and submitted to the Florida Department of Environmental Protection (ISI, 1995). The closure assessment report indicated that vinyl chloride was present in groundwater at a concentration of 1.5 micrograms per liter which is above the Florida cleanup target level of 1 $\mu\text{g}/\ell$. Therefore, to evaluate the current condition of groundwater at the Tank 437 site, the NAS Cecil Field petroleum subcommittee requested the installation and sampling of a monitoring well at the Tank 437 site.

2.0 FIELD INVESTIGATION

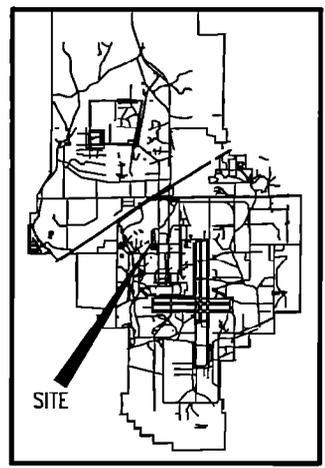
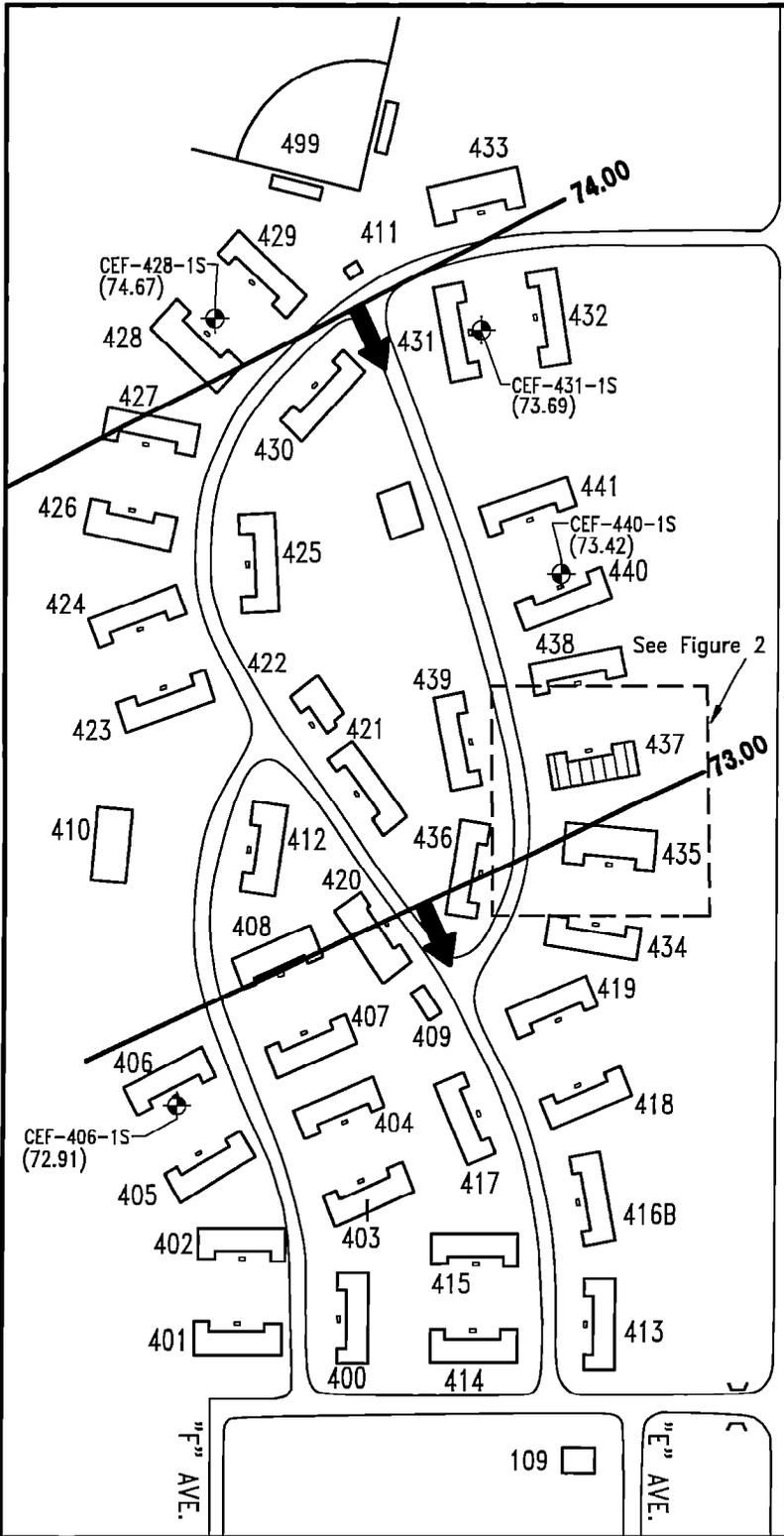
The confirmatory sampling for Tank 437 was initiated in January, 1999 and included

- the installation of one monitoring well, and
- collection and analysis of one groundwater sample.

One monitoring well, CEF-437-1S, was installed to a depth of 11.5 feet below land surface. A groundwater sample was collected from this well and analyzed for the Kerosene Analytical Group parameters. A general site plan indicating the location of the monitoring well is presented on Figure 2. The monitoring well installation detail is included in Appendix A.

3.0 SCREENING AND ANALYTICAL RESULTS

Total xylenes, detected at a concentration of 21 micrograms per liter ($\mu\text{g}/\ell$) in the groundwater sample collected from monitoring well CEF-437-1S was the only parameter which exceeded the Florida Department of Environmental Protection cleanup target level. A summary of the groundwater analytical results is presented in Table 1. The complete analytical data set is presented in Appendix B.



GENERAL LOCATION PLAN
Not to scale

LEGEND

- CEF-406-1S Monitoring well location and designation
- 73.00** Groundwater elevation contour
- Groundwater flow direction
- (72.91) Groundwater elevation (June 1998)
- Former location of 350-gallon underground storage tank

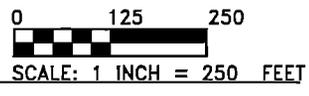


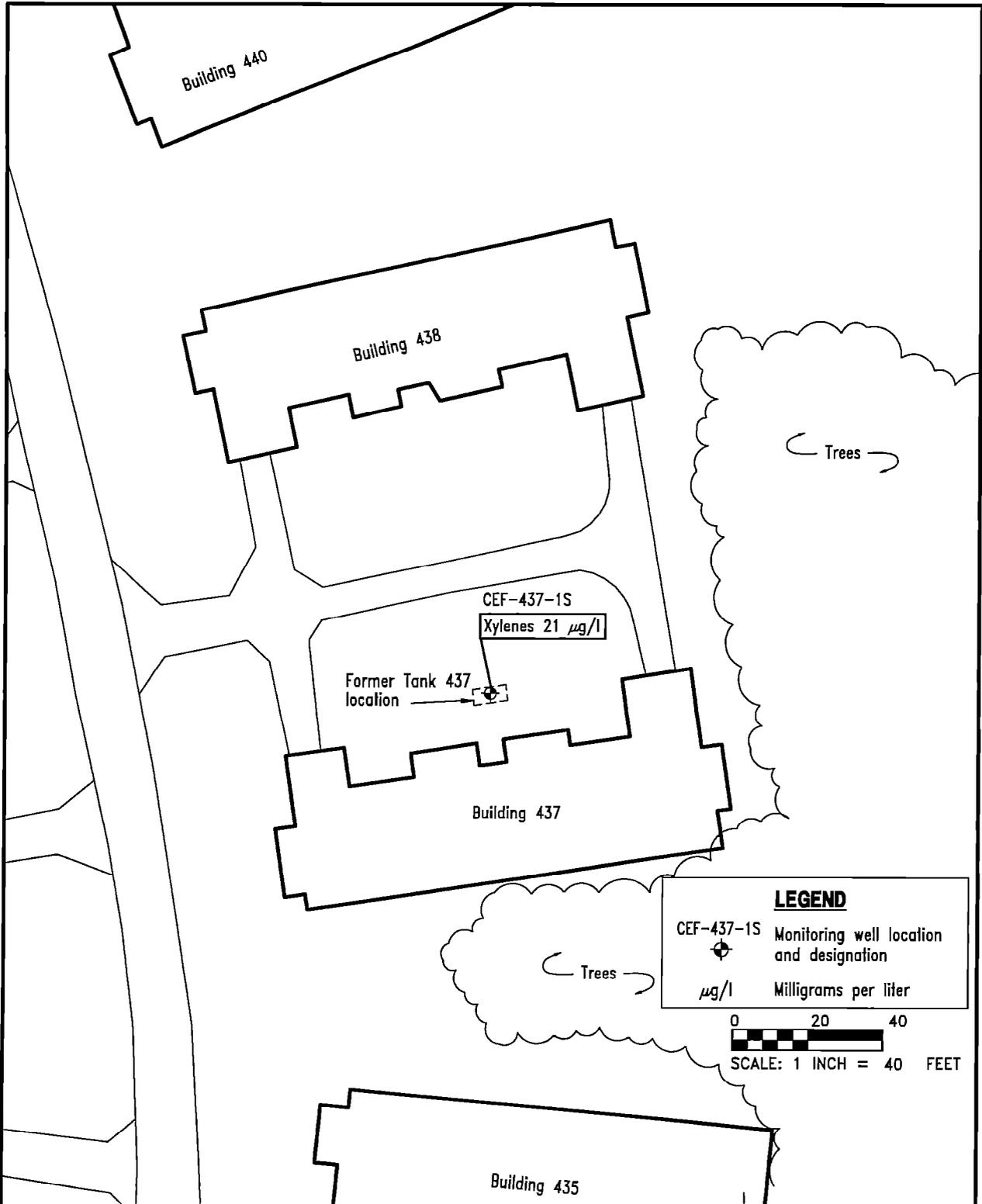
FIGURE 1
SITE LOCATION MAP



CONFIRMATORY SAMPLING REPORT
BUILDING 437, TANK 437

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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**FIGURE 2
MONITORING WELL LOCATION**



**CONFIRMATORY SAMPLING REPORT
BUILDING 437, TANK 437**

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

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4.0 CONCLUSIONS AND RECOMMENDATIONS

Data obtained during the confirmatory sampling of Tank 437 indicated the presence of contaminated groundwater at concentrations above cleanup target levels. Vinyl chloride; however, was not detected during the confirmatory sampling.

It is recommended that a site assessment be conducted at the Tank 437 site.

Table 1 Summary of Groundwater Analytical Results		
Confirmatory Sampling Report Building 437, Tank 437 Naval Air Station Cecil Field Jacksonville, Florida		
Compound	CEF-437-1S	Groundwater Cleanup Target Levels ¹
<u>Volatile Organic Aromatics (USEPA Method 601/602) (µg/l)</u>		
Methyl tert-butyl ether	3	35
Toluene	1.1 J	40
Ethylbenzene	2	30
Total Xylenes	21	20
<u>Polynuclear Aromatic Hydrocarbons (USEPA Method 625) (µg/l)</u>		
Naphthalene	3.7	20
1-Methylnaphthalene	9	NA
2-Methylnaphthalene	14	NA
Fluorene	2	280
Anthracene	0.9	2,100
Benzo(a)anthracene	0.09	0.2
<u>Total Recoverable Petroleum Hydrocarbons (FL-PRO) (mg/l)</u>		
Not detected		
¹ Chapter 62-770, Florida Administrative Code. USEPA = U.S. Environmental Protection Agency. µg/l = micrograms per liter. J = value estimated. NA = not applicable. FL-PRO = Florida Petroleum Residual Organics. mg/l = milligrams per liter.		

REFERENCE

Innovative Services International, Inc. 1995. Closure Report for Underground Storage Tank Removals, Naval Air Station Cecil Field, Jacksonville, Florida.

APPENDIX A
MONITORING WELL INSTALLATION DETAIL

TITLE: NAS Cecil Field, Bldg. 437 Site Assessment Report		LOG of WELL: CEF-437-1S	BORING NO. CEF-437-1S
CLIENT: SOUTHDIVNAVFACENCOM			PROJECT NO: 02523-13
CONTRACTOR: U.S. Probe and Drill		DATE STARTED: 01-26-99	COMPLTD: 01-26-99
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 1.5-11.5 FT.	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: FID	TOT DPTH: 12.00FT.	DPTH TO ∇ 3.14 FT.
LOGGED BY: H.Hooper	WELL DEVELOPMENT DATE: 02-03-99		SITE: Building 437

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			<1	SILTY SAND: dark gray silty fine sand w/ trace of clay.				
3								
4							posthole	
5			4					
6				SILTY SAND: light gray tan silty fine sand w/ trace of clay.			* **	
7			2					
8								
9								
10				SILTY SAND: tan silty fine sand w/ trace of clay.				
11			1					
12				<> Soil description taken from posthole and auger * no split spoon samples taken ** OVA readings taken at borehole				
13								
14								
15								

APPENDIX B
ANALYTICAL DATA

NAS CECIL FIELD -- FACILITY 437 / TANK 437
GROUNDWATER -- ANALYTICAL DATA -- REQUEST NO. 10920

Lab Sample Number: JR54352
Site: UST GREY
Locator: CEF-437-1S
Collect Date: 12-FEB-99

VALUE QUAL UNITS DL

601/602

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-Dichloroethane	1 U	ug/l	1
1,2-Dichloropropane	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
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
Chloromethane	2 U	ug/l	2
Chloroform	1 U	ug/l	1
Dibromochloromethane	1 U	ug/l	1
Dichlorodifluoromethane	1 U	ug/l	1
Ethylbenzene	2	ug/l	1
Methylene chloride	2 U	ug/l	2
Tetrachloroethene	1 U	ug/l	1
Toluene	1.1 J	ug/l	1
Trichloroethene	1 U	ug/l	1
Trichlorofluoromethane	2 U	ug/l	2
Vinyl chloride	1 U	ug/l	1
m,p-Xylene	13	ug/l	1
o-Xylene	8	ug/l	1
cis-1,2-Dichloroethene	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

FLA PRO

TPH C8-C40	.2 U	mg/l	.2
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METHOD 8310

Naphthalene	3.7	ug/l	.5
Acenaphthylene	1 U	ug/l	1
1-Methylnaphthalene	9	ug/l	.5
2-Methylnaphthalene	14	ug/l	.5
Acenaphthene	.5 U	ug/l	.5
Fluorene	2	ug/l	.1
Phenanthrene	.05 U	ug/l	.05
Anthracene	.9	ug/l	.05
Fluoranthene	.1 U	ug/l	.1
Pyrene	.05 U	ug/l	.05
Benzo (a) anthracene	.09	ug/l	.05
Benzo (b) fluoranthene	.1 U	ug/l	.1

NAS CECIL FIELD -- FACILITY 437 / TANK 437
GROUNDWATER -- ANALYTICAL DATA -- REQUEST NO. 10920

Lab Sample Number: JR54352
Site: UST GREY
Locator: CEF-437-1S
Collect Date: 12-FEB-99

VALUE QUAL UNITS DL

Benzo (k) fluoranthene	.05 U	ug/l	.05
Chrysene	.05 U	ug/l	.05
Benzo (a) pyrene	.05 U	ug/l	.05
Dibenzo (a,h) anthracene	.1 U	ug/l	.1
Benzo (g,h,i) perylene	.1 U	ug/l	.1
Indeno (1,2,3-cd) pyrene	.05 U	ug/l	.05

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