

N60200.AR.001153  
NAS CECIL FIELD, FL  
5090.3a

CONFIRMATORY SAMPLING REPORT FOR BUILDING 623 TANK 623 BASE  
REALIGNMENT AND CLOSURE UNDERGROUND STORAGE TANK AND ABOVEGROUND  
STORAGE TANK GREY SITES NAS CECIL FIELD FL  
11/1/1997  
ABB ENVIRONMENTAL SERVICES INC

**CONFIRMATORY SAMPLING REPORT**  
**BUILDING 623, TANK 623**  
**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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**Prepared for:**

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**November 1997**



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: December 2, 1997

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(DFAR 252.227-7036)

TABLE OF CONTENTS

Confirmatory Sampling Report  
Building 623, Tank 623  
Naval Air Station Cecil Field  
Jacksonville, Florida

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

REFERENCES

APPENDICES

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

LIST OF FIGURES

Confirmatory Sampling Report  
Building 623, Tank 623  
Naval Air Station Cecil Field  
Jacksonville, Florida

<u>Figure</u>	<u>Title</u>	<u>Page No.</u>
1	Tank 623, Utilities/Quality Assurance Building . . . . .	2
2	Tank 623, Soil Boring and Monitoring Well Locations . . . . .	3

LIST OF TABLES

<u>Table</u>	<u>Title</u>	<u>Page No.</u>
1	Soil Screening Results . . . . .	4
2	Summary of Groundwater Analytical Results . . . . .	6

## GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
BEI	Bechtel Environmental, Inc.
bls	below land surface
OVA	organic vapor analyzer
ppm	parts per million
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 623 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 623 was an underground storage tank (UST) located at Building 623, which was a utilities and quality assurance building located in the Yellow Water Weapons Complex (Figure 1). The UST, which was installed in 1958, had a 5,000-gallon capacity and was used to store fuel oil for onsite heating (ABB-ES, 1997). A Contamination Assessment Plan for the assessment of soil and groundwater at tank 623 was prepared by ABB-ES in November 1996 (ABB-ES, 1996).

Tank 623 was removed by Bechtel Environmental, Inc. (BEI), on April 17, 1997. No soil was removed from the site at that time. A Closure Report was prepared for Tank 623 and submitted to the Florida Department of Environmental Protection (BEI, 1997).

## 2.0 FIELD INVESTIGATION

The confirmatory sampling for Tank 623 was initiated in January 1997 (before the UST was removed) and included

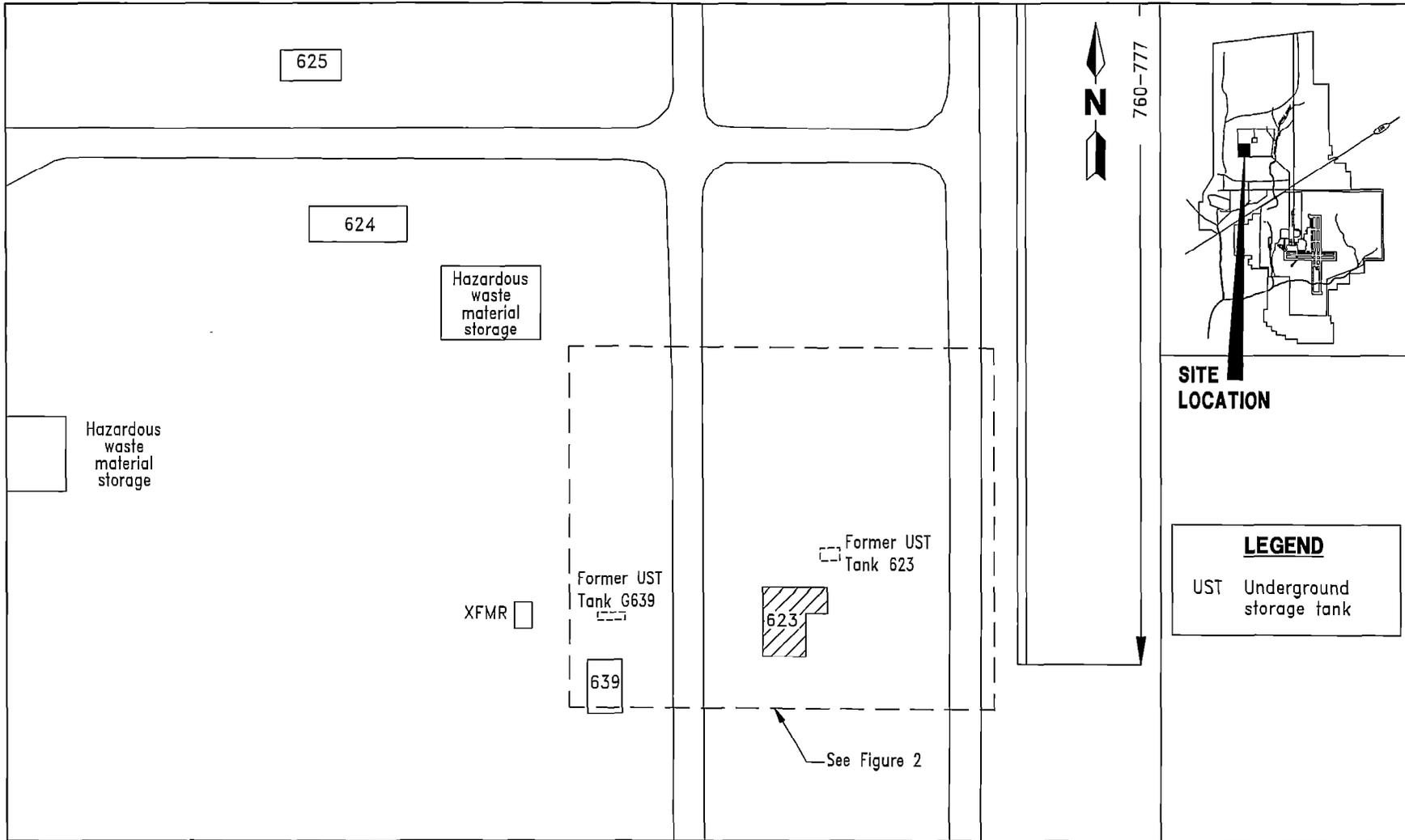
- the advancement of four soil borings to the water table,
- the installation of one shallow groundwater monitoring well, and
- collection and analysis of one groundwater sample.

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-623-1S, was installed south of the UST near the location of soil boring CEF-623-SB2 to a depth of 12 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 the monitoring well is presented on Figure 2. The monitoring well installation detail is included in Appendix A.

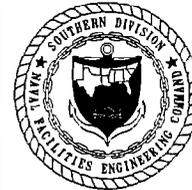
## 3.0 SCREENING AND ANALYTICAL RESULTS

Excessively contaminated soil (greater than 50 parts per million [ppm] on an OVA) was detected in all four soil borings. The highest OVA reading (greater than 5000 ppm) was detected at 3 feet bls from a sample collected from soil boring CEF-617-SB2 and during the installation of monitoring well CEF-623-1S. The soil OVA data are summarized in Table 1 and presented on Figure 2.



0 50 100  
SCALE: 1 INCH = 100 FEET

**FIGURE 1  
TANK 623, UTILITIES / QUALITY ASSURANCE  
BUILDING**

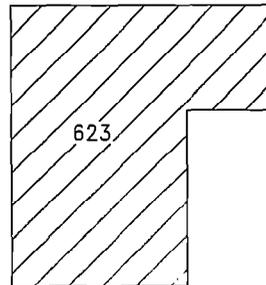
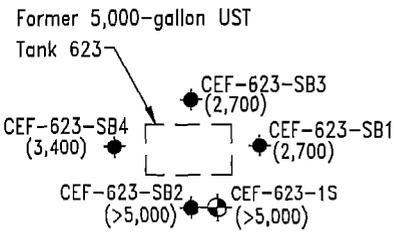


**CONFIRMATORY SAMPLING REPORT  
BUILDING 623, TANK 623**

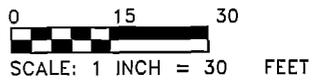
**NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA**



Former 3,000-gallon  
UST Tank G639



<b>LEGEND</b>	
CEF-623-1S 	Monitoring well location and designation
CEF-623-SB1 	Soil boring location and designation
(3,400)	Organic vapor analyzer reading in parts per million
UST	Underground storage tank



**FIGURE 2  
TANK 623  
SOIL BORING AND MONITORING WELL  
LOCATIONS**



**CONFIRMATORY SAMPLING REPORT  
BUILDING 623, TANK 623**

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

**Table 1**  
**Soil Screening Results**

Confirmatory Sampling Report  
Building 623, Tank 623  
Naval Air Station Cecil Field  
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
CEF-623-SB1	1	1,000	0	1,000
	3	2,400	0	2,400
	5	2,700	0	2,700
CEF-623-SB2	1	120	0	120
	3	>5,000	0	>5,000
	5 (wet)	2,700	0	2,700
CEF-623-SB3	1	600	0	600
	3	2,700	0	2,700
	5 (wet)	1,100	0	1,100
CEF-623-SB4	1	1,900	0	1,900
	3	3,400	0	3,400
	5	2,400	0	2,400
CEF-623-1S	1	3,200	0	3,200
	3	>5,000	0	>5,000
	5	>5,000	0	>5,000
	11 (wet)	450	0	450

Notes: All soil samples were collected on January 23, 1997.  
Monitoring well CEF-623-1S was installed on February 25, 1997.  
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.  
> = greater than.

Volatile organic aromatics, polynuclear aromatic hydrocarbons, and total recoverable petroleum hydrocarbons were detected in the groundwater sample collected from monitoring well CEF-623-1S. Benzene (18 micrograms per liter) was the only compound detected at a concentration above the standards specified in Chapter 62-770, Florida Administrative Code. A summary of the groundwater analytical results is presented in Table 2. The complete analytical data set is presented in Appendix B.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

Data obtained during the confirmatory sampling at the Tank 623 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 additional site investigation be conducted to assess the extent of excessively contaminated soil and groundwater contamination at the Tank 623 site.

**Table 2**  
**Summary of Groundwater Analytical Results**

Confirmatory Sampling Report  
Building 623, Tank 623  
Naval Air Station Cecil Field  
Jacksonville, Florida

Compound	CEF-623-1S	Groundwater Cleanup Target Levels
<b><u>Volatile Organic Aromatics (USEPA Method 601/602) (<math>\mu\text{g}/\ell</math>)</u></b>		
Benzene	18	<sup>1</sup> 1
Ethylbenzene	30	<sup>2</sup> 30
Xylenes	12	<sup>2</sup> 20
<b><u>Polynuclear Aromatic Hydrocarbons (USEPA Method 625) (<math>\mu\text{g}/\ell</math>)</u></b>		
1-Methylnaphthalene	16	NA
2-Methylnaphthalene	10	NA
Naphthalene	3	<sup>2</sup> 20
<b><u>Total Recoverable Petroleum Hydrocarbons (TRPH) (Florida Pro) (mg/l)</u></b>		
TRPH	1.1	<sup>3</sup> 5

<sup>1</sup> Chapter 62-520, Florida Administrative Code (FAC).

<sup>2</sup> Chapter 62-550, FAC.

<sup>3</sup> Based on the requirements for minimum criteria in Section 376.3071(5)(b)7, Florida Statutes.

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

USEPA = U.S. Environmental Protection Agency.

$\mu\text{g}/\ell$  = micrograms per liter.

NA = not applicable.

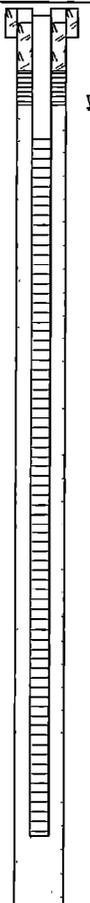
$\text{mg}/\ell$  = milligrams per liter.

## 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, Inc. 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-623-1S	BORING NO. CEF-623-1S
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 8542-03
CONTRACTOR: GEOTEK		DATE STARTED: 2-25-97	COMPLTD: 2-25-97
METHOD: 6.25" HSA	CASE SIZE: 2"	SCREEN INT.: 2-12	PROTECTION LEVEL: D
TOC ELEV.: FEET.	MONITOR INST.: FID	TOT DPTH: 13 FEET.	DPTH TO $\nabla$ 1.54 FEET.
LOGGED BY: J Koch	WELL DEVELOPMENT DATE: 3-3-97		SITE: Building 623

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				3,200	SILTY SAND: Light grey to dark grey, fine grain, strong petroleum odor.		SM	posthole	
				>5,000	SILTY SAND: As above, strong petroleum odor.		posthole		
5			100%	>5,000	SILTY SAND: As above, strong petroleum odor.		1,1,1		
10			100%	450	SAND: Light grey, fine grain, petroleum odor.		5,7,8,13		
15									
20									

**APPENDIX B**

**GROUNDWATER ANALYTICAL DATA**

NAS CECIL FIELD -- TANK 623  
UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9493

Lab Sample Number:	B7C2001620	B7C2001620	
Site	BRACGREY	BRACGREY	
Locator	CEF6231S	CEF6231S	
Collect Date:	19-MAR-97	19-MAR-97	
	VALUE	QUAL UNITS	DL
	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	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	16	ug/l	2	-
2-Methylnaphthalene	10	ug/l	2	-
Acenaphthene	2.1	ug/l	2	-
Acenaphthylene	2 U	ug/l	2	-
Anthracene	2 U	ug/l	2	-
Benzene	18	ug/l	1	-
Benzo (a) anthracene	.1 U	ug/l	.1	-
Benzo (a) pyrene	.1 U	ug/l	.1	-
Benzo (b) fluoranthene	.1 U	ug/l	.1	-
Benzo (g,h,i) perylene	.2 U	ug/l	.2	-
Benzo (k) fluoranthene	.15 U	ug/l	.15	-
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	30	ug/l	1	-
Ethylene dibromide	.02 U	ug/l	.02	-
Fluoranthene	.2 U	ug/l	.2	-
Fluorene	4	ug/l	2	-
Indeno (1,2,3-cd) pyrene	.1 U	ug/l	.1	-
Lead	5 U	ug/l	5	-
Methyl tert-butyl ether	6.7	ug/l	1	-
Methylene chloride	1 U	ug/l	1	-
Naphthalene	3	ug/l	2	-
Phenanthrene	2 U	ug/l	2	-
Pyrene	.2 U	ug/l	.2	-
Tetrachloroethene	1 U	ug/l	1	-
Toluene	1 U	ug/l	1	-
Total petroleum hydrocarbons	1.1	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 623  
 UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9493

Lab Sample Number:	B7C2001620		B7C2001620	
Site	BRACGREY		BRACGREY	
Locator	CEF6231S		CEF6231S	
Collect Date:	19-MAR-97		19-MAR-97	
	VALUE	QUAL UNITS	DL	VALUE
				QUAL UNITS
				DL

Xylenes (total)	12	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