

N60200.AR.001264  
NAS CECIL FIELD, FL  
5090.3a

CONFIRMATORY SAMPLING REPORT FOR BUILDING 541 TANK G541U 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 541, TANK G541U**  
**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**

**Prepared by:**

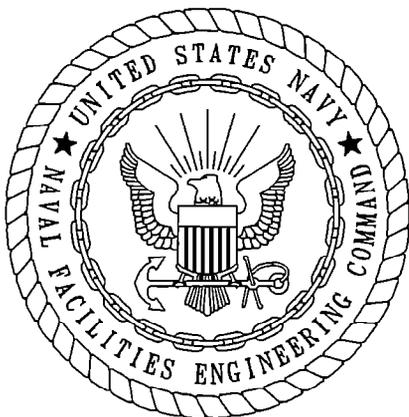
**ABB Environmental Services, Inc.**  
**2590 Executive Center Circle, East**  
**Tallahassee, Florida 32301**

**Prepared for:**

**Department of the Navy, Southern Division**  
**Naval Facilities Engineering Command**  
**2155 Eagle Drive**  
**North Charleston, South Carolina 29418**

**Bryan Kizer, Code 1842, Engineer-in-Charge**

**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

TABLE OF CONTENTS

Confirmatory Sampling Report  
Building 541, Tank G541U  
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

GLOSSARY

ABB-ES      ABB Environmental Services, Inc

BEI          Bechtel Environmental Incorporated  
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 G541U 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 G541U was an underground storage tank (UST) located at Building 541, which is used to house an emergency generator for Building 540 (Figure 1). The UST, which was installed in 1979, had a 250-gallon capacity and was used to store diesel fuel for the generator (ABB-ES, 1997). A Contamination Assessment Plan for the assessment of soil and groundwater at Tank G541U was prepared by ABB-ES in November 1996 (ABB-ES, 1996).

Tank G541U was removed by Bechtel Environmental, Inc. (BEI), on May 22, 1997. Ten tons of excessively contaminated soil were removed at that time. A Closure Report was prepared for Tank G541U and submitted to the Florida Department of Environmental Protection in July of 1997 (BEI, 1997).

## 2.0 FIELD INVESTIGATION

The confirmatory sampling for Tank G541U was initiated in January 1997 (before the UST was removed) and included

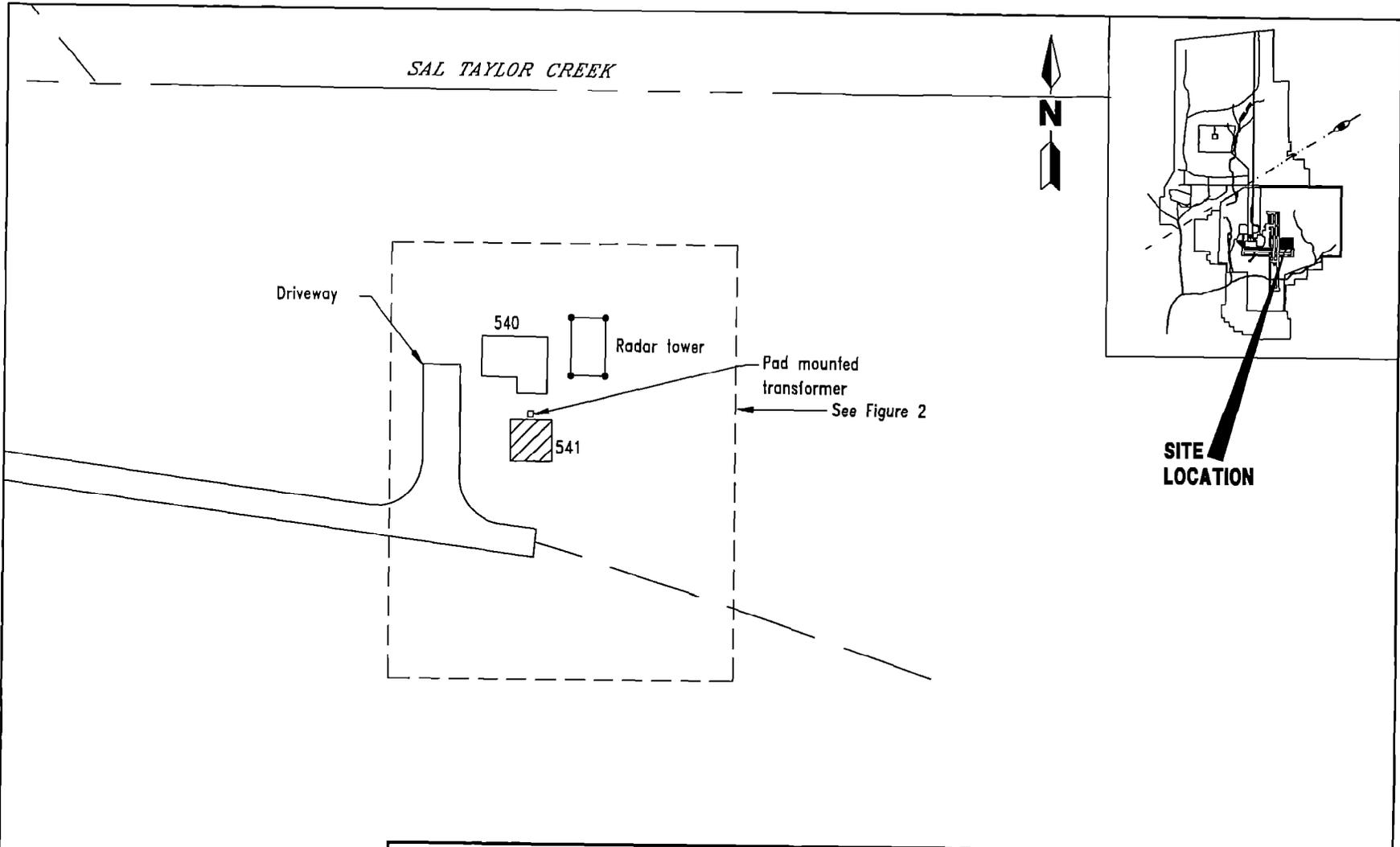
- the advancement of four soil borings to the water table,
- the installation of one shallow groundwater monitoring well, and
- collection and analysis of one groundwater sample.

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-541-1S, was installed east of the UST near the location of soil boring CEF-541-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 three of the four soil borings and during the installation of the monitoring well. The highest OVA reading (>5,000 ppm) was detected at 1 and 3 feet bls during the advancement of monitoring well CEF-541-1S and at 3 feet bls in soil boring CEF-541-SB2. The soil OVA data are summarized in Table 1 and are presented on Figure 2.



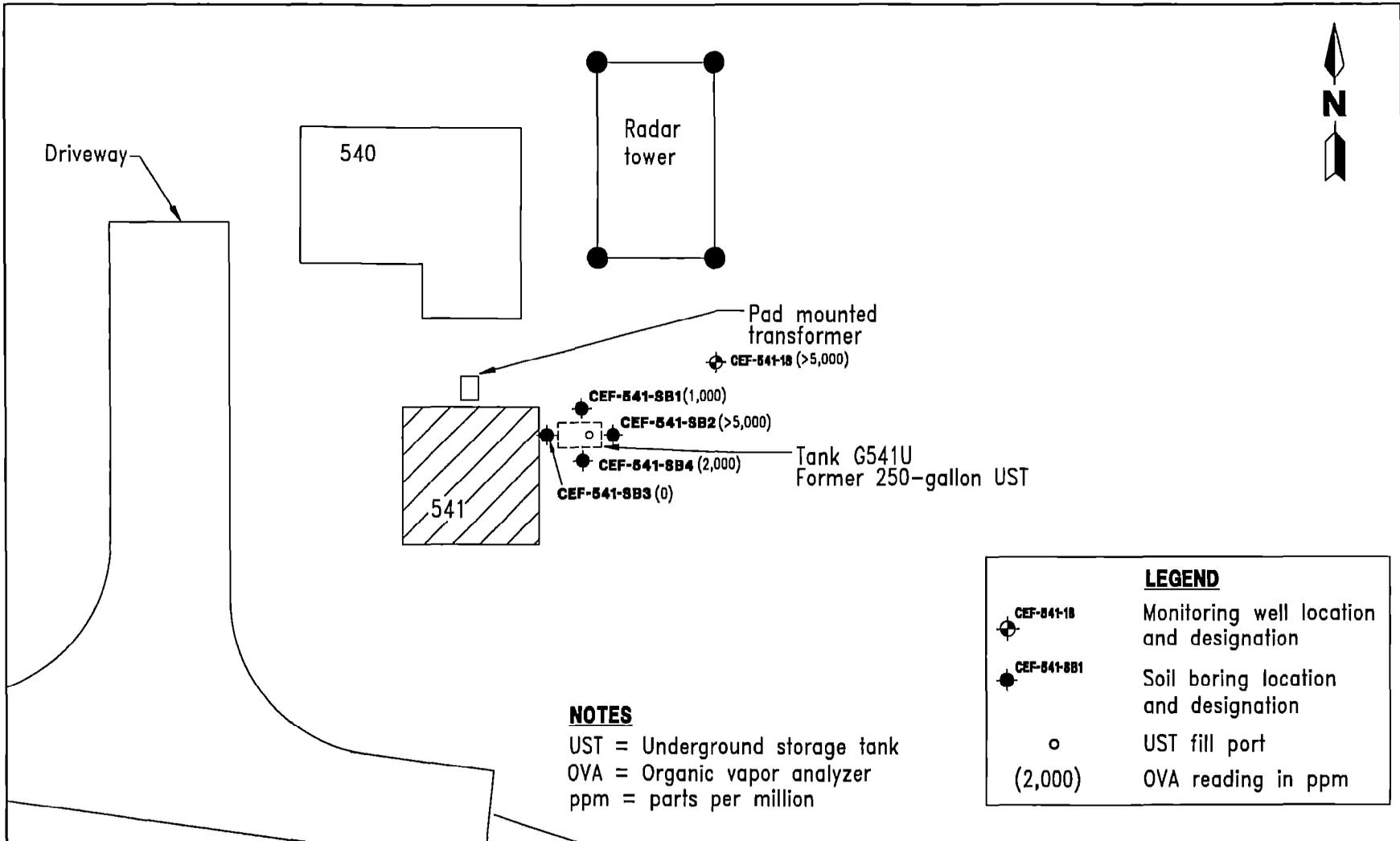
0 50 100  
SCALE: 1 INCH = 100 FEET

**FIGURE 1**  
**TANK G541U**  
**STANDBY GENERATOR BUILDING**



**CONFIRMATORY SAMPLING REPORT**  
**BUILDING 541, TANK G541U**

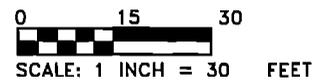
**NAVAL AIR STATION CECIL FIELD**  
**JACKSONVILLE, FLORIDA**



**NOTES**

UST = Underground storage tank  
 OVA = Organic vapor analyzer  
 ppm = parts per million

<b>LEGEND</b>	
	CEF-541-18 Monitoring well location and designation
	CEF-541-SB1 Soil boring location and designation
	UST fill port
	(2,000) OVA reading in ppm



**FIGURE 2  
 TANK G541U  
 SOIL BORING AND MONITORING WELL  
 LOCATIONS**



**CONFIRMATORY SAMPLING REPORT  
 BUILDING 541, TANK G541U**

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

**Table 1  
Soil Screening Results**

Confirmatory Sampling Report  
Building 541, Tank G541U  
Naval Air Station Cecil Field  
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
CEF-541-SB1	1	140	0	140
	3	1,000	0	1,000
	4.5 (wet)	2,000	0	2,000
CEF-541-SB2	1	230	0	230
	3	>5,000	0	>5,000
	4.5 (wet)	>5,000	0	>5,000
CEF-541-SB3	1	0	-	0
	3 (wet)	0	-	0
CEF-541-SB4	1	38	-	38
	3	2,000	-	2,000
	4 (wet)	>5,000	-	>5,000
CEF-541-1S	1	>5,000	-	>5,000
	3	>5,000	-	>5,000
	5 (wet)	>5,000	-	>5,000
	11 (wet)	1,100	-	1,100

Notes: All soil samples were collected on January 21, 1997.  
Monitoring well CEF-541-1S was installed on February 26, 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.  
- = filtered readings were not collected.

Groundwater contamination was not detected at concentrations exceeding requirements specified in Chapter 62-770 of the Florida Administrative Code (FAC). The complete analytical data set is presented in Appendix B.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

Data obtained during the confirmatory sampling at the Tank G541U site did not provide an adequate assessment of the horizontal and vertical extent of excessively contaminated soil. The subsequent removal of Tank G541U did not remove all the excessively contaminated soil. No contaminants were detected above the regulatory standards specified in Chapter 62-770, FAC, in the groundwater sample collected from monitoring well CEF-541-1S. Therefore, it is recommended that additional confirmatory sampling be conducted to assess the extent of excessively contaminated soil at the Tank G541U site.

## 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 Decil Field		LOG of WELL: LEF-541-15	BORING NO. LEF-541-15
CLIENT: SOUTH DIVNAV FACENCOM			PROJECT NO: 8542-03
CONTRACTOR: GEOTEK		DATE STARTED: 2-26-97	COMPLTD: 2-26-97
METHOD: 6.25" HSA	CASE SIZE: 2"	SCREEN INT.: 2-12	PROTECTION LEVEL: 0
TOC ELEV.: FEET.	MONITOR INST.: FID	TOT DPTH: 13 FEET	DPTH TO $\nabla$ 1.04 FEET.
LOGGED BY: J Koch	WELL DEVELOPMENT DATE: 4-4-97		SITE: Building 541

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE ppm	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SAMPLE	SOIL CLASS	BLOWS/6-IN	WELL DATA
5.000			25%	5,000	SILTY SAND: Light grey to medium grey, fine grain, moderate petroleum odor.		SM	posthole	
5.000				5,000	SILTY SAND: Light grey to medium grey, fine grain, moderate petroleum odor.			posthole	
5.000				5,000	SILTY SAND: Light grey to medium grey, fine grain, moderate petroleum odor.			1,1,10	
10.000			100%	1,500	SILTY SAND: Light brown to dark grey, fine grain, no apparent petroleum odor.			2,4,8,12	

**APPENDIX B**  
**GROUNDWATER ANALYTICAL DATA**



Underground Storage Tank Installation and Removal Form
For Certified Contractors

Pollutant Storage System Specialty Contractors as defined in Section 489.113, Florida Statutes (Certified contractors as defined in Section 17-761.20 Florida Administrative Code) shall use this form to certify that the installation, replacement or removal of the storage tank system(s) located at the address listed below was performed in accordance with the Department Reference Standards.

General Facility Information

- 1. DER Facility Identification No.: 168507293
2. Facility Name: Naval Air Station Cecil Field Telephone (904) 778-6040
3. Street Address (physical location): Building G541 Tank Location, NAS Cecil Field, Florida
4. Owner Name: NAS Cecil Field Public Works Dept., Environmental Div. Telephone (904) 778-6040
5. Owner Address Base Environmental Division, Public Works Dept., NAS Cecil Field, Florida
6. Number of Tanks: a. Installed at this time b. Removed at this time One
7. Tank(s) Manufactured by: Unknown
8. Date Work Initiated: 5-22-97 9. Date Work Completed: 5-22-97

Underground Pollutant Tank Installation Checklist

Please certify the completion of the following installation requirements by placing an (X) in the appropriate box.

- 1. The tanks and piping are corrosion resistant and approved for use by State and Federal Laws.
2. Excavation, backfill and compaction completed in accordance with NFPA (National Fire Protection Association) 30(87), API (American Petroleum Institute) 1615, PEI (Petroleum Equipment Institute) RP100-87 and the manufacturers' specifications.
3. Tanks and piping pretested and installed in accordance with NFPA 30(87), API 1615, PEI/RP100(87) and the manufacturers' specifications.
4. Steel tanks and piping are cathodically protected in accordance with NFPA 30(87), API 1632, UL (Underwriters Laboratory) 1746, STI (Steel Tank Institute) R892-89 and the manufacturer's specifications.
5. Tanks and piping tested for tightness after installation in accordance with NFPA 30(87) and PEI/RP100-87.
6. Monitoring well(s) or other leak detection devices installed and tested in accordance with Section 17-761.640, Florida Administrative Code (F.A.C.)
7. Spill and overfill protection devices installed in accordance with Section 17-761.500, F.A.C.
8. Secondary containment installed for tanks and piping as applicable in accordance with Section 17-761.500, F.A.C.

Please Note: The numbers following the abbreviations (e.g. API 1615) are publication or specification numbers issued by these institutions.

Underground Pollutant Tank Removal Checklist

- 1. Closure assessment performed in accordance with Section 17-761.800, F.A.C.
2. Underground tank removed and disposed of as specified in API 1604 in accordance with Section 17-761.800, F.A.C.

## Certification

I hereby certify and attest that I am familiar with the facility that is registered with the Florida Department of Environmental Regulation; that, to the best of my knowledge and belief, the tank installation, replacement or removal at this facility was conducted in accordance with Chapter 489 and Section 376.303, Florida Statutes and Chapter 17-761, Florida Administrative Code (and its adopted reference sources from publications and standards of the National Fire Protection Association (NFPA), the American Petroleum Institute (API), the National Association of Corrosion Engineers (NACE), American Society for Testing and Materials (ASTM); Petroleum Equipment Institute (PEI); Steel Tank Institute (STI); Underwriters Laboratory (UL); and the tank and integral piping manufacturers' specifications; and that the operations on the check were performed accordingly.

Roland M. Boardman <hr/> (Type or Print) Certified Pollutant Tank Contractor Name Pollutant Storage System Specialty Contractor License Number (PSSSC)	PCC054952 <hr/> PSSSC Number
 <hr/> Certified Tank Contractor Signature	6-16-97 <hr/> Date
Roland M. Boardman <hr/> (Type or Print) Field Supervisor Name	<hr/> Date
 <hr/> Field Supervisor Signature	6-16-97 <hr/> Date

The owner or operator of the facility must register the tanks with the Department at least 10 days before installation. The installer must submit this form no more than 30 days after the completion of installation to the Department of Environmental Regulation at the address printed at the top of page one.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761, 800(m)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. (Filled in by DER)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage system closure assessment was performed in accordance with Rule 17-761 or 17-762, Florida Administrative Code. Eligible Early Detectic Incentive (ED) and Reimbursement Program sites do not have to perform a closure assessment.

Please Print or Type
Complete All Applicable Blanks

- 1. Date: 5-22-97
2. DER Facility ID Number: 168507293
3. County: Duval
4. Facility Name: Naval Air Station Cecil Field, Florida
5. Facility Owner: NAS Cecil Field Public Works Department, Environmental Division
6. Facility Address: Tank at Building G541, NAS Cecil Field, Florida
7. Mailing Address: NAS Cecil Field, Public Works Department, Environmental Division
8. Telephone Number: (904) 778-6040
9. Facility Operator: Public Works Dept., Environmental Division
10. Are the Storage Tank(s): (Circle one or both) A. Aboveground or B. Underground
11. Type of Product(s) Stored: Fuel Oil
12. Were the Tank(s): (Circle one) A. Replaced B. Removed C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of Tanks Closed: One
14. Age of Tanks: Unknown

Facility Assessment Information

Yes No Not Applicable
[Grid of checkboxes for facility assessment questions]

- 1. Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
2. Was a Discharge Reporting Form submitted to the Department? If yes, When: 6/26/97 Where: JEP B
3. Is the depth to ground water less than 20 feet?
4. Are monitoring wells present around the storage system? If yes, specify type: Water monitoring Vapor monitoring
5. Is there free product present in the monitoring wells or within the excavation?
6. Were the petroleum hydrocarbon vapor levels in the soils greater than 500 parts per million for gasoline? Specify sample type: Vapor Monitoring wells Soil sample(s)
7. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene? Specify sample type: Vapor Monitoring wells Soil sample(s)
8. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels (See target levels on reverse side of this form and supply laboratory data sheets)
9. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
10. Are any potable wells located within 1/4 of a mile radius of the facility?
11. Is there a surface water body within 1/4 mile radius of the site? If yes, indicate distance:

12. A detailed drawing or sketch of the facility that includes the storage system location, monitoring wells, buildings, storm drains, sumps, float and dispenser locations must accompany this form.
13. If a facility has a pollutant storage tank system that has both gasoline and kerosene/diesel stored on site, both EPA Method 602 and EPA Method 610 must be performed on the ground water samples obtained.
14. Amount of soils removed and receipt of proper disposal.
15. If yes is answered to any one of questions 5-9, a Discharge Reporting Form 17-761.900(1) indicating a suspected release shall be submitted to the Department within one working day.
16. A copy of this form and any attachments must be submitted to the Department's district office in your area and to the locally administered program office under contract with the Department within 60 days of completion of tank removal or filling a tank with an inert material.

\_\_\_\_\_  
 Signature of Owner

*JE Rountree*  
 \_\_\_\_\_  
 Signature of Person Performing Assessment

Tom Rountree, Site Safety & Health Representative  
 \_\_\_\_\_  
 Title of Person Performing Assessment

\_\_\_\_\_  
 Date

*6/18/97*  
 \_\_\_\_\_  
 Date

### State Ground Water Target Levels That Affect A Pollutant Storage Tank System Closure Assessment

State ground water target levels are as follows:

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. For gasoline (EPA Method 602):           <ol style="list-style-type: none"> <li>a. Benzene 1 ug/l</li> <li>b. Total VOA 50 ug/l               <ul style="list-style-type: none"> <li>- Benzene</li> <li>- Toluene</li> <li>- Total Xylenes</li> <li>- Ethylbenzene</li> </ul> </li> <li>c. Methyl Tertiary-Butyl Ether (MTBE) 50 ug/l</li> </ol> </li> </ol> | <ol style="list-style-type: none"> <li>2. For kerosene/diesel (EPA Method 610):           <ol style="list-style-type: none"> <li>a. Polynuclear Aromatic Hydrocarbons (PAHs)<br/>               (Best achievable detection limit, 10 ug/l maximum)</li> </ol> </li> </ol> |
|--|---|

NAS CECIL FIELD --- TANK 541  
 UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9397

Lab Sample Number:	B7C2201010	B7C2201010
Site	BRACGREY	BRACGREY
Locator	CEF5411S	CEF5411S
Collect Date:	20-MAR-97	20-MAR-97
VALUE	QUAL UNITS	DL

BRACGREY ANALYTICAL PARAMETERS

	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
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	1.1 U	ug/l	1	-		
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	.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	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	71.5	ug/l	25	-		
Methyl tert-butyl ether	1 U	ug/l	1	-		
Methylene chloride	1 U	ug/l	1	-		
Naphthalene	2 U	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	.5 U	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 541  
 UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9397

Lab Sample Number:	B7C2201010	B7C2201010
Site	BRACGREY	BRACGREY
Locator	CEF5411S	CEF5411S
Collect Date:	20-MAR-97	20-MAR-97
VALUE	QUAL UNITS	DL
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				34.8	ug/l 10

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