

N60200.AR.001806  
NAS CECIL FIELD, FL  
5090.3a

SITE ASSESSMENT REPORT FOR BUILDING 623 TANK 623 BASE REALIGNMENT AND  
CLOSURE UNDERGROUND STORAGE TANK AND ABOVEGROUND STORAGE TANK  
GREY SITES REVISION 1 NAS CECIL FIELD FL  
4/1/1999  
HARDING LAWSON ASSOCIATES

**SITE ASSESSMENT 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-0317/090**

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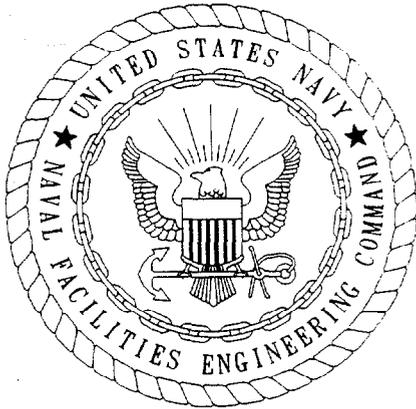
**Prepared for:**

**Department of the Navy, Southern Division  
Naval Facilities Engineering Command  
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**April 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: April 19, 1999

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)

TABLE OF CONTENTS

Site Assessment 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 . . . . .	3
4.0	CONCLUSIONS AND RECOMMENDATIONS . . . . .	3

REFERENCES

APPENDICES

- Appendix A: Monitoring Well Installation Detail
- Appendix B: Analytical Data
- Appendix C: Source Removal Report

LIST OF FIGURES

Site Assessment 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 . . . . .	4

LIST OF TABLES

<u>Table</u>	<u>Title</u>	<u>Page No.</u>
1	Monitoring Well Construction Summary and Groundwater Elevation Data	5
2	Soil Screening Results . . . . .	6
3	Summary of Subsurface Soil Analytical Detections . . . . .	7
4	Summary of Groundwater Analytical Results . . . . .	8

GLOSSARY

ABB-ES      ABB Environmental Services, Inc.

BEI          Bechtel Environmental, Inc.  
bls          below land surface

CSR          confirmatory sampling report

FDEP        Florida Department of Environmental Protection

HLA          Harding Lawson Associates

KAG          Kerosene Analytical Group

OVA          organic vapor analyzer

SA          site assessment

UST          underground storage tank

## 1.0 INTRODUCTION

Harding Lawson Associates (HLA), under contract to the Southern Division, Naval Facilities Engineering Command, has completed the site assessment (SA) 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 SA.

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 Environmental Services, Inc. [ABB-ES], 1997a). A Contamination Assessment Plan for the assessment of soil and groundwater at Tank 623 was prepared by HLA (then ABB-ES) in November 1996 (ABB-ES, 1996). Results of the contamination assessment are presented in the Confirmatory Sampling Report (CSR), which recommended that an SA be conducted to delineate the extent of excessively contaminated soil and groundwater contamination (ABB-ES, 1997b).

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 (FDEP) (BEI, 1997).

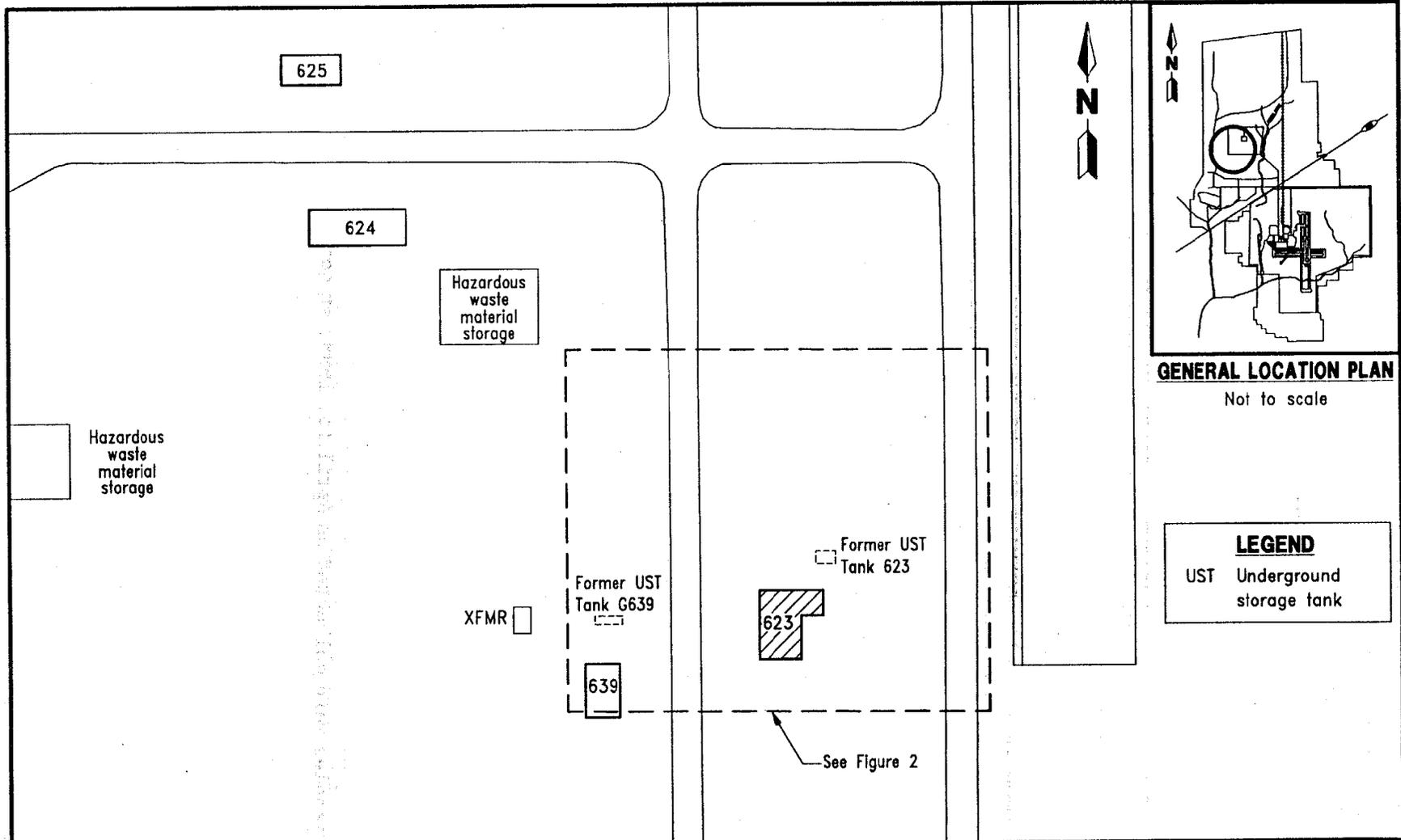
## 2.0 FIELD INVESTIGATION

The SA for Tank 623 was initiated in October 1997 and included

- the advancement of eight soil borings to the water table,
- installation of one deep and three shallow groundwater monitoring wells, and
- collection and analysis of two subsurface soil and four groundwater samples.

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). Two subsurface soil samples were collected on April 15, 1998, at soil boring locations with varying levels of contamination and analyzed for the Kerosene Analytical Group (KAG) parameters. Samples CEF-623-SB1M and CEF-623-SB2H were collected from 4 feet bls and from 5.5 feet bls, respectively.

A monitoring well, CEF-623-1S, was installed (during the confirmatory sampling) south of the UST near the location of soil boring CEF-623-SB2 to a depth of 12 feet bls. Two additional shallow monitoring wells, CEF-623-2S and CEF-623-3S, were installed downgradient of the former tank location. The deep source monitoring well CEF-623-4D was installed immediately downgradient of the source area and screened between 25 and 30 feet bls. The downgradient locations were selected based on the groundwater flow direction, which was assessed by measuring



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



**SITE ASSESSMENT REPORT**  
**BUILDING 623, TANK 623**

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

water levels in piezometers. Groundwater samples were collected from the wells and analyzed for the KAG 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 summarized in Table 1 and included in Appendix A.

### 3.0 SCREENING AND ANALYTICAL RESULTS

Groundwater flow direction was assessed (with piezometers) to be to the north-northwest. Groundwater flow could not be confirmed with monitoring wells due to the presence of free product in monitoring well CEF-623-1S.

Excessively contaminated soil (greater than 50 parts per million on an OVA) was not detected in the eight soil borings advanced during the SA. The extent of excessively contaminated soil is presented on Figure 2. The soil OVA data are summarized in Table 2 and presented on Figure 2.

No contaminants were detected above FDEP soil cleanup target levels in the subsurface soil samples collected for KAG analysis. Subsurface soil analytical results are summarized in Table 3 and presented in Appendix B.

No contaminants were detected above FDEP groundwater cleanup target levels in the groundwater samples collected for KAG analysis. Groundwater analytical results are summarized in Table 4 and presented in Appendix B.

Free product with an approximate thickness of 1.5 feet was measured in monitoring well CEF-623-1S.

A source removal was conducted by CH2M Hill Constructors, Inc., on January 12 - 13, 1999, to remove free product and petroleum contaminated soil. Approximately 235 cubic yards of soil was removed from the Tank 623 site. The source removal report is presented in Appendix C.

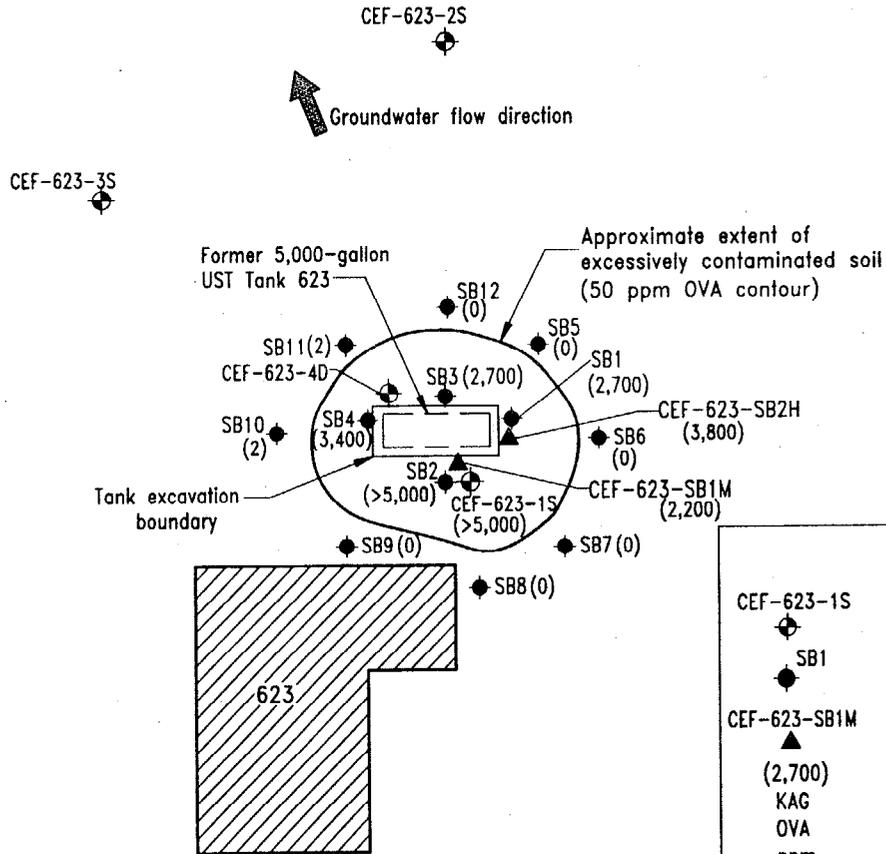
As described in the CSR, volatile organic aromatics, polynuclear aromatic hydrocarbons, and total recoverable petroleum hydrocarbons were detected in the groundwater sample collected from monitoring well CEF-623-1S in March 1997. Benzene (18 micrograms per liter) was the only compound detected at a concentration above the standards specified in Chapter 62-770, Florida Administrative Code. Monitoring well CEF-623-1S was not sampled during the SA due to the presence of free product. A summary of the groundwater analytical results is presented in Table 4. The complete analytical data set is presented in Appendix B.

### 4.0 CONCLUSIONS AND RECOMMENDATIONS

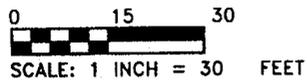
Groundwater flow direction is to the north-northwest.

Data obtained during the confirmatory sampling at the Tank 623 site provided an adequate assessment of the horizontal and vertical extent of excessively contaminated soil and contaminated groundwater.

No contaminants were detected during the SA above FDEP cleanup target levels in the subsurface soil and groundwater samples collected for KAG analysis.



Former 3,000-gallon UST Tank G639



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



**SITE ASSESSMENT REPORT  
BUILDING 623, TANK 623**

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

**Table 1**  
**Monitoring Well Construction Summary and Groundwater Elevation Data**

Site Assessment Report  
 Building 623, Tank 623  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Monitoring Well No.	Total Well Depth (feet bls)	Screened Interval (feet bls)	TOC Elevation (feet NGVD)	July 9, 1998	
				Depth to Water (feet BTOC)	Water-Level Elevation (feet NGVD)
CEF-623-1S	12	2 to 12	82.25	NM	NA
CEF-623-2S	12	2 to 12	82.69	0.65	82.04
CEF-623-3S	12	2 to 12	82.36	0.05	82.31
CEF-623-4D	30	25 to 30	82.27	1.88	80.39

Notes: bls = below land surface.  
 TOC = top of casing.  
 NGVD = National Geodetic Vertical Datum, 1929.  
 BTOC = below top of casing.  
 NM = not measured due to free product.  
 NA = not applicable.

**Table 2  
Soil Screening Results**

Site Assessment Report  
Building 623, Tank 623  
Naval Air Station Cecil Field  
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bis)	Unfiltered	Filtered	Actual
SB1	1	1,000	0	1,000
	3	2,400	0	2,400
	5	2,700	0	2,700
SB2	1	120	0	120
	3	>5,000	0	>5,000
	5 (wet)	2,700	0	2,700
SB3	1	600	0	600
	3	2,700	0	2,700
	5 (wet)	1,100	0	1,100
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
SB5	1	0	--	0
	3 (wet)	70	--	70
SB6	1	0	--	0
	3 (wet)	40	5	35
SB7	1	0	--	0
	3 (wet)	0	--	0
SB8	1	0	--	0
	3 (wet)	0	--	0
SB9	1	0	--	0
	3 (wet)	450	30	420
SB10	1	2	--	2
	3 (wet)	0	--	0
SB11	1	2	--	2
	3 (wet)	19	3	16
SB12	1	0	--	0
	3 (wet)	0	--	0

Notes: All soil samples were collected on January 23 and October 29, 1997.  
Soil samples were filtered with carbon to determine the methane concentration.

OVA = organic vapor analyzer.  
ppm = parts per million.  
bis = below land surface.  
wet = soil sample was completely saturated when analyzed.  
> = greater than.  
-- = filtered readings were not collected.

**Table 3  
Summary of Subsurface Soil Analytical Detections**

Site Assessment Report  
Building 623, Tank 623  
Naval Air Station Cecil Field  
Jacksonville, Florida

Compound	CEF-623-SB1M (4 feet bls OVA = 2,200 ppm)	CEF-623-SB2H (5.5 feet bls OVA = 3,800 ppm)	Soil Cleanup Target Levels <sup>1</sup>
<b><u>Volatile Organic Aromatics (USEPA Method 8020) (mg/kg)</u></b>			
Ethylbenzene	ND	0.004	240/0.4
Xylenes	ND	0.019	290/0.3
<b><u>Polynuclear Aromatic Hydrocarbons (USEPA Method 8310) (mg/kg)</u></b>			
Benzo(a)anthracene	ND	0.024	1.4/2.9
Benzo(a)pyrene	ND	0.024	0.1/7.8
Benzo(b)fluoranthene	ND	0.027	1.4/9.8
Benzo(g,h,i)perylene	ND	0.015	2,300/13,000
Benzo(k)fluoranthene	ND	0.013	15/25
Chrysene	ND	ND	140/80
Dibenz(a,h)anthracene	ND	0.0095	0.1/14
Fluoranthene	ND	0.061	2,000/550
Indeno(1,2,3-cd)pyrene	ND	0.012	1.5/28
Pyrene	ND	0.140	2,200/570
<b><u>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/kg)</u></b>			
TRPH	12	240	350/340

<sup>1</sup> Chapter 62-770, Florida Administrative Code Direct Exposure I/Leachability, Table V.

Notes: Soil samples were collected on April 15, 1998.

bls = below land surface.  
OVA = organic vapor analyzer.  
ppm = parts per million.  
USEPA = U.S. Environmental Protection Agency.  
mg/kg = milligrams per kilogram.  
ND = not detected.  
FL-PRO = Florida-Petroleum Residual Organics.

**Table 4  
Summary of Groundwater Analytical Results**

Site Assessment Report  
Building 623, Tank 623  
Naval Air Station Cecil Field  
Jacksonville, Florida

Compound	<sup>1</sup> CEF-623-1S	CEF-623-2S	CEF-623-3S	CEF-623-4D	Groundwater Cleanup Target Levels <sup>2</sup>
<b>Volatile Organic Aromatics (USEPA Method 601/602) (<math>\mu\text{g}/\ell</math>)</b>					
Benzene	<b>18</b>	ND	ND	ND	1
Ethylbenzene	30	ND	ND	ND	30
Toluene	ND	15	ND	ND	40
Xylenes	12	ND	ND	ND	20
<b>Polynuclear Aromatic Hydrocarbons (USEPA Method 625) (<math>\mu\text{g}/\ell</math>)</b>					
1-Methylnaphthalene	16	ND	ND	ND	NA
2-Methylnaphthalene	10	ND	ND	ND	NA
Naphthalene	3	ND	ND	ND	20
<b>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (<math>\text{mg}/\ell</math>)</b>					
TRPH	1.1	ND	ND	ND	5

<sup>1</sup> Well not sampled during the site assessment due to presence of free product. Data shown are from the confirmatory sampling in March 1997.

<sup>2</sup> Chapter 62-770, Florida Administrative Code.

Notes: Groundwater samples were collected on March 20, 1997 (CEF-623-1S), and July 9, 1998 (CEF-623-2S, CEF-623-3S, and CEF-623-4D).

**Bold indicates concentration exceeds cleanup target level.**

USEPA = U.S. Environmental Protection Agency.

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

ND = not detected.

NA = not applicable.

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

FL-PRO = Florida-Petroleum Residual Organics.

A source removal was conducted in January 1999 to remove free product and petroleum contaminated soil. No further action is recommended for the soil at the Tank 623 site.

Since benzene was previously detected above the cleanup target level in monitoring well CEF-623-1S, it is recommended that groundwater monitoring for natural attenuation (MONA) take place at the Tank 623 site. Monitoring well CEF-623-1S was abandoned during the source removal, therefore a shallow water table monitoring well should be installed at the former location of CEF-623-1S. The newly installed well and well CEF-623-2S will be monitored for volatile organic compounds (USEPA Method 602) and semivolatile organic compounds (USEPA Method 8310) on a semiannual basis.

The approved remedial action by natural attenuation monitoring period is 5 years. Milestone objectives are established if monitoring is projected to take greater than 1 year. The following are the milestone objectives that will be used for annual evaluation of remediation progress by natural attenuation. An explanation of the progress relative to these milestone objectives, and the need for corrective action (if applicable), should be provided in the annual evaluation.

**Milestone Objectives ( $\mu\text{g}/\text{l}$ )**

Compound	End of				
	Year 1	Year 2	Year 3	Year 4	Year 5
Benzene	12	6	3	1	<1
Ethylbenzene	30	<30	<30	<30	<30

Notes:  $\mu\text{g}/\text{l}$  = micrograms per liter.  
 < = less than.

5.0 PROFESSIONAL REVIEW CERTIFICATION

The SA contained in this report was prepared using sound hydrogeologic principles and judgment. This assessment is based on the geologic investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of any additional information on the assessment described in this report. This SA report was developed for the Tank 623 site at NAS Cecil Field, Jacksonville, Florida, and should not be construed to apply to any other site.



Eric A. Blomberg  
Professional Geologist  
P.G. No. 0001695

4-23-99

Date

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

ABB-ES. 1997b. *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*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (November).

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**

PROJECT: NAS Cecil Field		LOG of WELL: CEF-823-IS	BORING NO. CEF-823-IS
CLIENT: SOUTHDIIVNAV FACENCOM	PROJECT NO: 8542-03	DATE STARTED: 2-25-97	COMPLETED: 2-25-97
DRILLING SUBCONTRACTOR: GEOTEK		SITE: Building 823	MONITOR INST. FID
METHOD: 8.25" HSA	WELL CASE DIAM.: 2"	SCREEN INT.: 2-12 FT.	SCREEN SLOT SIZE: 0
TOC ELEVATION: FT. NGVD	GROUND ELEV.: FT. NGVD	NORTHING:	EASTING:
WELL DEVELOP. DATE: 3-3-97	TOTAL DEPTH: 13 FT. BLS	DEPTH TO $\nabla$ 1.54 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
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.	SM		posthole		
5	100%	>5,000	SILTY SAND: As above, strong petroleum odor.	SM				
10	100%	450	SAND: Light grey, fine grain, petroleum odor.			5,7,8,13		
15								
20								

TITLE: NAS Cecil Field, Bldg. 623, Site Assessment Report		LOG of WELL: CEF-623-2S	BORING NO. CEF-623-2S
CLIENT: SOUTHDIVNAVFACENCOM		PROJECT NO: 02523.13	
CONTRACTOR: Custom Drilling		DATE STARTED: 02-11-98	COMPLTD: 02-11-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 2-12 ft.	PROTECTION LEVEL: D
TOC ELEV.: 82.69 FT.	MONITOR INST.: FID	TOT DPTH: 12.5FT.	DPTH TO $\nabla$ N/A FT.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: 02-23-98		SITE: Building 623

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1				<> see note		SM		
2			0	SILTY SAND: dark brown, fine grain.			posthole	
3								
4			0				posthole	
5								
6				SILTY SAND: dark brown, fine grain.				
7								
8			0				*	
9							**	
10				SILTY SAND: gray, fine grain, slightly clayey.				
11								
12			20					
13				<> soil description taken from CEF-623-4D				
14				* no split spoon samples taken				
15				** OVA reading taken from auger cuttings				

TITLE: NAS Cecil Field, Bldg. 623, Site Assessment Report		LOG of WELL: CEF-623-3S	BORING NO. CEF-623-3S
CLIENT: SOUTHDIIVNAVFACENCOM		PROJECT NO: 02523.13	
CONTRACTOR: Custom Drilling		DATE STARTED: 02-11-98	COMPLTD: 02-11-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 2-12 ft.	PROTECTION LEVEL: D
TOC ELEV.: 82.36 FT.	MONITOR INST.: FID	TOT DPTH: 12.5FT.	DPTH TO ∇ N/A FT.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: 02-23-98		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
1					<> see note		SM		
2				0	SILTY SAND: dark brown, fine grain.			posthole	
3									
4				150				posthole	
5									
6					SILTY SAND: dark brown, fine grain.				
7									
8				38				*	
9								**	
10					SILTY SAND: gray, fine grain, slightly clayey.				
11									
12									
13					<> soil description taken from CEF-623-4D				
14					* no split spoon samples taken				
15					** OVA reading taken from auger cuttings				

TITLE: NAS Cecil Field, Bldg. 623, Site Assessment Report		LOG of WELL: CEF-623-4D	BORING NO. CEF-623-4D
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 02523.13	
CONTRACTOR: Custom Drilling		DATE STARTED: 02-25-98	COMPLTD: 02-25-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 25-30 ft.	PROTECTION LEVEL: 0
TOC ELEV.: 82.27 FT.	MONITOR INST.: FID	TOT DPTH: 30.5FT.	DPTH TO $\nabla$ N/A FT.
LOGGED BY: J. Tarr	WELL DEVELOPMENT DATE: 02-27-98		SITE: Building 623

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1						SM		
2				SILTY SAND: dark brown, fine grain.			posthole	
3							posthole	
4								
5								
6		25%	3200	SILTY SAND: dark brown, fine grain.			1,1,2	
7								
8								
9								
10								
11		0%					4,5,7,5	
12								
13								
14								
15								
16		75%	110	SILTY SAND: light gray to olive grayish orange, fine grain, very slightly clayey.			3,4,5,4	
17								
18								
19								
20								
21		100%	40	SILTY SAND: light olive greenish gray, fine grain, slightly clayey.			2,2,3,5	
22								
23								
24								
25								
26		100%	150	SANDY CLAY: light to olive gray, with clay stringers.			2,3,4,5	
27								
28								
29								
30								
31		100%	70	SANDY CLAY: light gray to olive gray, very soft, saturated.			2,2,3,5	
32								
33								
34								
35								

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

NAS CECIL FIELD TANK 623  
 SOIL DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 9948

Lab Sample Number:	A8D1701010	A8D1701010
Site	UST GREY	UST GREY
Locator	CEF-623-SB1M	CEF-623-SB2H
Collect Date:	15-APR-98	15-APR-98
	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL

	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
UST GREY						
Benzene	1.2 U	ug/kg	1.2	1.2 U	ug/kg	1.2
Ethylbenzene	1.2 U	ug/kg	1.2	4 J	ug/kg	1.2
Toluene	1.2 U	ug/kg	1.2	1.2 U	ug/kg	1.2
Xylenes (total)	1.2 U	ug/kg	1.2	19 J	ug/kg	1.2
Acenaphthene	240 U	ug/kg	240	240 U	ug/kg	240
Acenaphthylene	240 U	ug/kg	240	240 U	ug/kg	240
Anthracene	240 U	ug/kg	240	240 U	ug/kg	240
Benzo (a) anthracene	5.9 U	ug/kg	5.9	24	ug/kg	5.9
Benzo (a) pyrene	5.9 U	ug/kg	5.9	24	ug/kg	5.9
Benzo (b) fluoranthene	5.9 U	ug/kg	5.9	27	ug/kg	5.9
Benzo (g,h,i) perylene	5.9 U	ug/kg	5.9	15	ug/kg	5.9
Benzo (k) fluoranthene	5.9 U	ug/kg	5.9	13	ug/kg	5.9
Chrysene	24 U	ug/kg	24	24 U	ug/kg	24
Dibenzo (a,h) anthracene	5.9 U	ug/kg	5.9	9.5	ug/kg	5.9
Fluoranthene	5.9 U	ug/kg	5.9	61	ug/kg	5.9
Fluorene	240 U	ug/kg	240	240 U	ug/kg	240
Indeno (1,2,3-cd) pyrene	5.9 U	ug/kg	5.9	12	ug/kg	5.9
Naphthalene	240 U	ug/kg	240	240 U	ug/kg	240
Phenanthrene	240 U	ug/kg	240	240 U	ug/kg	240
Pyrene	5.9 U	ug/kg	5.9	140 J	ug/kg	5.9
FLA PRO						
TPH C8-C40	12	mg/kg	12	240	mg/kg	12

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

NAS CECIL FIELD -- TANK 623  
GROUNDWATER ANALYTICAL DATA -- REPORT REQUEST NO. 10197

Lab Sample Number:	A8G1001060		A8G1001060		A8G1001060
Site	UST GREY		UST GREY		UST GREY
Locator	CEF-623-2S		CEF-623-3S		CEF-623-4D
Collect Date:	09-JUL-98		09-JUL-98		09-JUL-98
	VALUE	DL	VALUE	DL	VALUE
	QUAL UNITS		QUAL UNITS		QUAL UNITS
					DL

BETX AND DICHLOROBENZENES

Benzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Ethylbenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Toluene	15	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Xylenes (total)	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Chlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,2-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,3-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,4-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1

PAHs

Acenaphthene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Acenaphthylene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Anthracene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Benzo (a) anthracene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (b) fluoranthene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (k) fluoranthene	.05 U	ug/l	.05	.05 U	ug/l	.05	.05 U	ug/l	.05
Benzo (a) pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Chrysene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Dibenzo (a,h) anthracene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Fluoranthene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Fluorene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Indeno (1,2,3-cd) pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (g,h,i) perylene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Naphthalene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Phenanthrene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
1-Methylnaphthalene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
2-Methylnaphthalene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1

FLA PRO									
TPH C8-C40	.5 U	mg/l	.5	.5 U	mg/l	.5	.5 U	mg/l	.5

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

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

**APPENDIX C**  
**SOURCE REMOVAL REPORT**

**FINAL DRAFT**

**SOURCE REMOVAL REPORT**

Revision No.: 00

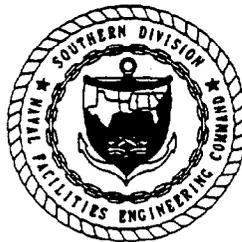
**UST 623**

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

Unit Identification Code N60200  
Contract No. N62467-98-D-0995, CTO No. 0002

**March 1999**

Prepared for:



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

**FINAL DRAFT – NOT FOR PUBLIC RELEASE**

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CH2M HILL	2
Harding Lawson Associates	1

**FINAL DRAFT**

**SOURCE REMOVAL REPORT**

Revision No.: 00

**UST 623**

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

Unit Identification Code: N60200  
Contract No. N62467-98-D-0995, CTO No. 0002

Prepared by:

CH2M HILL Constructors, Inc.  
115 Perimeter Center Place, N.E., Suite 700  
Atlanta, Georgia 30346

Prepared for:

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

Bryan Kizer, Engineer-in-Charge

**March 1999**



**CERTIFICATION OF TECHNICAL  
DATA CONFORMITY (MARCH 1999)**

The contractor, CH2M HILL Constructors, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0002 are complete and accurate and comply with all requirements of this contract.

DATE: March 5, 1999

NAME AND TITLE OF CERTIFYING OFFICIAL:

\_\_\_\_\_  
Norman N. Hatch, Jr., P.E.  
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL:

\_\_\_\_\_  
Charles A. Radford  
Project Technical Lead

## TABLE OF CONTENTS

<u>Chapter</u>	<u>Title</u>	<u>Page No.</u>	<u>Revision No.</u>	<u>Date</u>
GLOSSARY				
SOURCE REMOVAL CHECKLIST				
1.0	Introduction	1-1	00	03/05/99
	1.1 Site Background	1-1	00	03/05/99
	1.2 Project Objectives	1-1	00	03/05/99
2.0	Source Removal Activities	2-1	00	03/05/99
	2.1 Site Preparation	2-1	00	03/05/99
	2.2 Soil Excavation and Disposal	2-1	00	03/05/99
	2.2.1 Soil Excavation	2-1	00	03/05/99
	2.2.2 Soil Transportation and Disposal	2-1	00	03/05/99
	2.2.3 Backfilling and Site Restoration	2-3	00	03/05/99
	2.3 Sampling and Analysis	2-3	00	03/05/99
	2.3.1 Head Space Analysis	2-3	00	03/05/99
	2.3.2 KAG Analysis	2-3	00	03/05/99
3.0	Conclusions	3-1	00	03/05/99

### REFERENCES

### APPENDICES

Appendix A: Photographs

Appendix B: Well Abandonment Report

Appendix C: Soil Disposal Manifests

Appendix D: Clean Fill Certification

**LIST OF FIGURES**

<b>Figure</b>	<b>Title</b>	<b>Page No.</b>	<b>Revision No.</b>	<b>Date</b>
1-1	Existing Conditions	1-2	00	03/05/99
2-1	Soil Excavation Area	2-2	00	03/05/99

**LIST OF TABLES**

<b>Table</b>	<b>Title</b>	<b>Page No.</b>	<b>Revision No.</b>	<b>Date</b>
1-1	Summary of Manifests for Soil Disposal	2-1	00	03/05/99
2-1	Summary of Headspace Screening Results	2-3	00	03/05/99

## GLOSSARY

ABB	ABB Environmental Services
bls	below land surface
CCI CTO	CH2M HILL Constructors Inc. Contract Task Order
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FID	flame ionization Detector
HLA	Harding Lawson Associates
KAG	kerosene analytical group
NAS	Naval Air Station
OVA	Organic Vapor Analyzer
PAHs	polynuclear aromatic hydrocarbons
PID	photoionization detector
ppm	parts per million
SA	Site Assessment
SCTLs	selected soil cleanup target levels
SJRWMD	St. Johns River Water Management District
SOUTHNAV- FACENCOM	Southern Division, Naval Facilities Engineering Command
TRPH	total recoverable petroleum hydrocarbons
UST	underground storage tank
VOCs	volatile organic compounds

**SOURCE REMOVAL REPORT REQUIREMENTS – CHECKLIST**

Per FAC 62-770.300(3) the Source Removal Report shall contain the following information in detail, as applicable:

Site Name: UST 623

Date(s) of Source Removal: 1/12-13/99

Required Information	Response
1. Volume of product that was discharged, if known	<i>Unknown</i>
2. Volume of free product and the volume of groundwater recovered	<i>No free product found</i>
3. Volume of contaminated soil excavated and treated or properly disposed	<i>270 tons of soil excavated and disposed of offsite</i>
4. Disposal or recycling methods for free product and contaminated soil	<i>Contaminated soils recycled at Kedesh, Inc., Kingsland, Georgia</i>
5. Disposal methods for other contaminated media	<i>No other contaminated media</i>
6. Scaled site map (including a graphical representation of the scale used) showing location(s) of free product recovered and the area of soil removed or treated and the approximate locations of all samples taken	<i>See Figure 2-1</i>
7. Table summarizing free product thickness in each monitoring well or piezometer and the dates the measurements were made	<i>No free product found</i>
8. Type of field screening instrument or method used	<i>OVA/FID and PID</i>
9. Dimensions of the excavation(s) and location(s), integrity, capacities and last known contents of storage tanks, integral piping, dispensers, or appurtenances removed	<i>Excavation area: 31 feet long x 29 feet wide x 7 feet deep (see Figure 2-1) 5000-gallon UST, contained fuel oil used for heating (see Figure 1-1)</i>
10. Dimensions of the excavation(s) and location(s) and capacities of replacement underground storage tanks	<i>Not Applicable. No replacement UST installed</i>
11. Table indicating the identification, depth and field soil screening results of each sample collected	<i>See Table 2-2</i>
12. Depth to groundwater at the time of each excavation, measurement locations and method used to obtain that information	<i>Depth to groundwater approximately 6 feet bls. Measured in monitoring well CEF-623-1S and by visual observation (See Section 2.2.1)</i>
13. Type of petroleum or petroleum products discharged	<i>Fuel oil</i>
14. Documentation confirming the proper treatment or proper disposal of the free product or contaminated soil, including disposal manifests for free product, a copy of the treatment or acceptance of the contaminated soil and results of analyses, if performed	<i>See Table 2-1 and Appendix C</i>
15. For land farmed soil, a copy of the pre-treatment and post-treatment analytical results	<i>Not Applicable. Soil disposed of offsite</i>

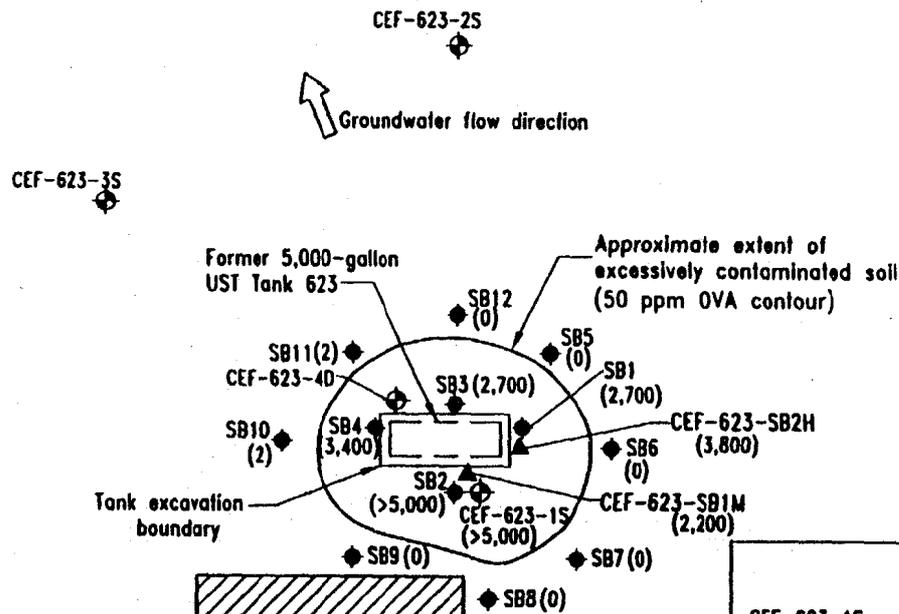
## 1.0 INTRODUCTION

CH2M HILL Constructors, Inc. (CCI) was contracted by the Southern Division Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) to excavate petroleum-contaminated soil and prepare a Source Removal Report for the underground storage tank (UST) Site 623 at Naval Air Station (NAS) Cecil Field in Jacksonville, Florida. The Source Removal was conducted in accordance with the Florida Department of Environmental Protection (FDEP) Petroleum Contamination Site Cleanup rule 62-770, Florida Administrative Code (FAC).

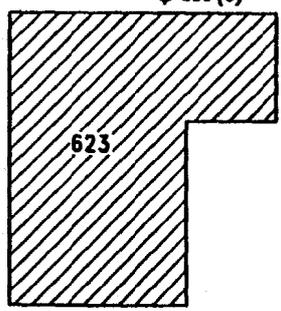
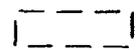
The scope of services for excavation of petroleum-contaminated soils at UST 623 is described in detail in the NAS Cecil Field Basewide Work Plan, Revision 1 (CCI, 1998a) and the Work Plan Addendum No. 1, Revision 1 (CCI, 1998b). This work was authorized under the Remedial Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0002.

**1.1 SITE BACKGROUND.** UST 623 was a 5,000-gallon fuel oil tank located in the Yellow Waters Weapons Complex. The tank was used to store fuel for onsite heating of Building 623, which housed utilities and quality assurance. UST 623 was installed in 1958 and removed April 17, 1997. No soil was excavated at the time the UST was removed (ABB, 1997). Subsequently, excessively contaminated soils were identified around UST 623 during the Site Assessment (SA) and a Source Removal was recommended (HLA, 1998). The proposed limits of the excavation area were determined during the SA by using both headspace analysis and laboratory analyses. A site plan showing the results of the SA soil delineation and the site conditions prior to the Source Removal is presented in Figure 1-1.

**1.2 PROJECT OBJECTIVES.** The primary objective of the soil excavation at UST 623 was to remove petroleum-contaminated soils that exceed the Selected Soil Cleanup Target Levels (SCTLs) outlined in FAC 62-770. FDEP allows the use of headspace analysis as a screening tool in evaluating whether the soil samples exceed the SCTLs. Under headspace analysis, soil samples are screened using an organic vapor analyzer (OVA) equipped with a flame ionization detector (FID) in accordance with the procedures outlined in FAC 62-770.200(8). Soils with an OVA reading exceeding 50 part per million (ppm), based on the kerosene analytical group (KAG), are considered to be excessively contaminated and are expected to contain constituents exceeding the SCTLs. Confirmatory sampling is required under FAC 62-770.200(8), where the OVA results are confirmed by laboratory analysis for the KAG. The KAG analysis for soils includes volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and total recoverable petroleum hydrocarbons (TRPH) by the FLO-PRO method.



Former 3,000-gallon  
UST Tank G639



LEGEND	
◆	CEF-623-1S Monitoring well location and designation
◆	SB1 Soil boring location and designation
▲	CEF-623-SB1M Confirmatory KAG soil sample location and designation
(2,700)	OVA reading in ppm
KAG	Kerosene Analytical Group
OVA	Organic vapor analyzer
ppm	Parts per million
UST	Underground storage tank

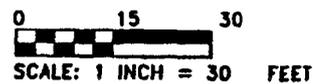


FIGURE 1-1  
TANK 623  
EXISTING CONDITIONS



SOURCE REMOVAL REPORT  
BUILDING 623, TANK 623

NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA

## 2.0 SOURCE REMOVAL ACTIVITIES

A Source Removal was conducted at UST 623 on January 12 - 13, 1999. Petroleum-contaminated soil was excavated from the area around the former location of the UST and disposed of offsite. No free product was found during the excavation. Photographs showing the site during and after the Source Removal are presented in Appendix A.

**2.1 SITE PREPARATION.** In preparation for excavation, monitoring wells CEF-623-1S and CEF-623-4D were abandoned on January 5, 1999. The wells, abandoned in accordance with St. Johns River Water Management District (SJRWMD) regulations, were filled with a cement-bentonite grout. The well abandonment report is presented in Appendix B.

**2.2 SOIL EXCAVATION AND DISPOSAL.** Soils were initially excavated based on the limits of the excessively contaminated soil delineated as part of the SA. The walls of the excavation were screened using headspace analysis to determine if additional soil should be excavated.

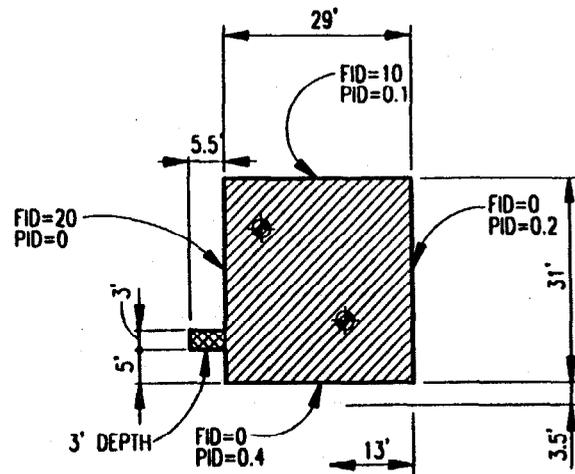
**2.2.1 Soil Excavation.** The soil was excavated to approximately 1 foot below the water table, to a depth of approximately 7 feet below land surface (bls). The depth to groundwater was originally estimated from the monitoring well CEF-623-1S, which was later abandoned. Immediately prior to excavation, the water table was determined by hand augering bore holes and measuring the depth to water. The groundwater level was confirmed by visual observation during the excavation.

The soil was excavated using a trackhoe and was immediately loaded into waiting trucks. No contaminated soil was stockpiled onsite. Based on the manifests, 270 tons of petroleum-contaminated soil were excavated and disposed of offsite. The excavation was approximately 31 feet long, 29 feet wide, and 7 feet deep, corresponding to approximately 235 cubic yards. The excavation area is shown in Figure 2-1.

**2.2.2 Soil Transportation and Disposal.** The petroleum-contaminated soil was transported offsite by truck to the Kedesh, Inc. soil thermal treatment facility in Kingsland, Georgia. A summary of the manifests is presented in Table 2-1 and copies of the manifests are presented in Appendix C.

**Table 2-1  
Summary of Manifests for Soil Disposal**

Date	Truck #	Company	Manifest #	Weight (pounds)	Tare (pounds)	Net (pounds)
1/12/99	209	Modlin	CF 1134	67260	23680	43580
1/12/99	9803	Modlin	CF 1135	60300	22600	37700
1/12/99	9801	Modlin	CF 1136	61400	22600	38800
1/12/99	210	Modlin	CF 1137	68060	23500	44560
1/13/99	202	Modlin	CF 1138	68060	22700	45360
1/13/99	209	Modlin	CF 1139	72040	23680	48360
1/13/99	9800	Modlin	CF 1140	71280	22600	48680
1/13/99	9802	Modlin	CF 1141	60780	23200	37580
1/13/99	210	Modlin	CF 1142	67820	23500	44320
1/13/99	9809	Modlin	CF 1143	59640	23300	36340
1/13/99	223	Modlin	CF 1144	59180	23500	35680
1/13/99	9803	Modlin	CF 1145	55840	22600	33240
1/13/99	9801	Modlin	CF 1146	68720	22600	46120
Number of Truck Loads = 13					Total Weight (pounds) =	540320
					Total Weight (tons) =	270.16



**LEGEND**

 EXCAVATED 7' OF CONTAMINATED SOIL

NOTE: FID VALUES SHOWN ARE CORRECTED FOR METHANE

 Abandoned Monitoring well location

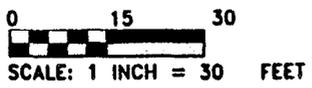


FIGURE 2-1  
TANK 623  
SOIL EXCAVATION AREA



SOURCE REMOVAL REPORT  
BUILDING 623, TANK 623

NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA

**2.2.3 Backfilling and Site Restoration.** The material used to backfill the excavation was clean fill brought in from a borrow pit operated by Anderson-Columbia, Inc. in Maxville, Florida. A copy of the letter certifying that the material was clean fill is presented in Appendix D.

Once the excavation area was backfilled, the site was graded and seeded with Bahia grass.

**2.3 SAMPLING AND ANALYSIS.** Soil samples were collected from the walls of the excavation at a depth of 4 to 5 feet bls. Because soils were excavated to 1 foot below the water table, no samples were collected from the floor of the excavation. The sampling locations are shown in Figure 2-1.

**2.3.1 Headspace Analysis.** Soil samples collected from the UST 623 excavation were screened using an OVA equipped with a FID in accordance with the procedures outlined in 62-770.200(8) FAC. A methane filter was used to correct the results. Samples were also screened using a Photoionization Detector (PID). The results of the headspace analyses are shown in Table 2-2. All headspace results were below 50 ppm.

**Table 2-2  
Summary of Headspace Screening Results**

Station ID	Depth (ft bls)	FID Unfiltered (ppm)	FID with Filter (ppm)	FID Corrected (ppm)	PID (ppm)
North	4.5	20	10	10	0.1
South	4.5	1000	1000	0	0.4
East	4.5	20	20	0	0.2
West	4.5	120	100	20	0

**2.3.2 KAG Analysis.** Because all of the headspace results (OVA with FID) were below 50 ppm and KAG analysis had previously been used at this site to delineate the limits of the excavation, no additional KAG analyses were conducted at UST 623.

### 3.0 CONCLUSIONS

A total of 270 tons of petroleum-contaminated soils at UST 623 that were identified during the SA have been removed and disposed of offsite. The soil was excavated to approximately 1 foot below the water table, to a depth of approximately 7 feet bls. The horizontal limits of the excavation had headspace results (OVA with FID) of less than 50 ppm. No free product was found during the excavation.

**REFERENCES**

ABB Environmental Services, Inc., 1997, Confirmatory Sampling Report, Building 623, Tank 623, BRAC UST and AST Grey Sites, NAS Cecil Field, Jacksonville, Florida. November.

CH2M HILL Constructors, Inc., 1998a, Basewide Work Plan, Revision No. 1, NAS Cecil Field, Jacksonville, Florida prepared for Southern Division Naval Facilities Engineering Command, November.

CH2M HILL Constructors, Inc., 1998b, Work Plan Addendum No. 1, Revision No. 1, Excavation of Petroleum-Contaminated Soil from 11 Former UST Sites and the Day Tank 2 Area, NAS Cecil Field, Jacksonville, Florida: prepared for Southern Division Naval Facilities Engineering Command, November.

Harding Lawson Associates (HLA), 1998, Site Assessment Report, Building 623, Tank 623, BRAC UST and AST Grey Sites, NAS Cecil Field, Jacksonville, Florida, September.

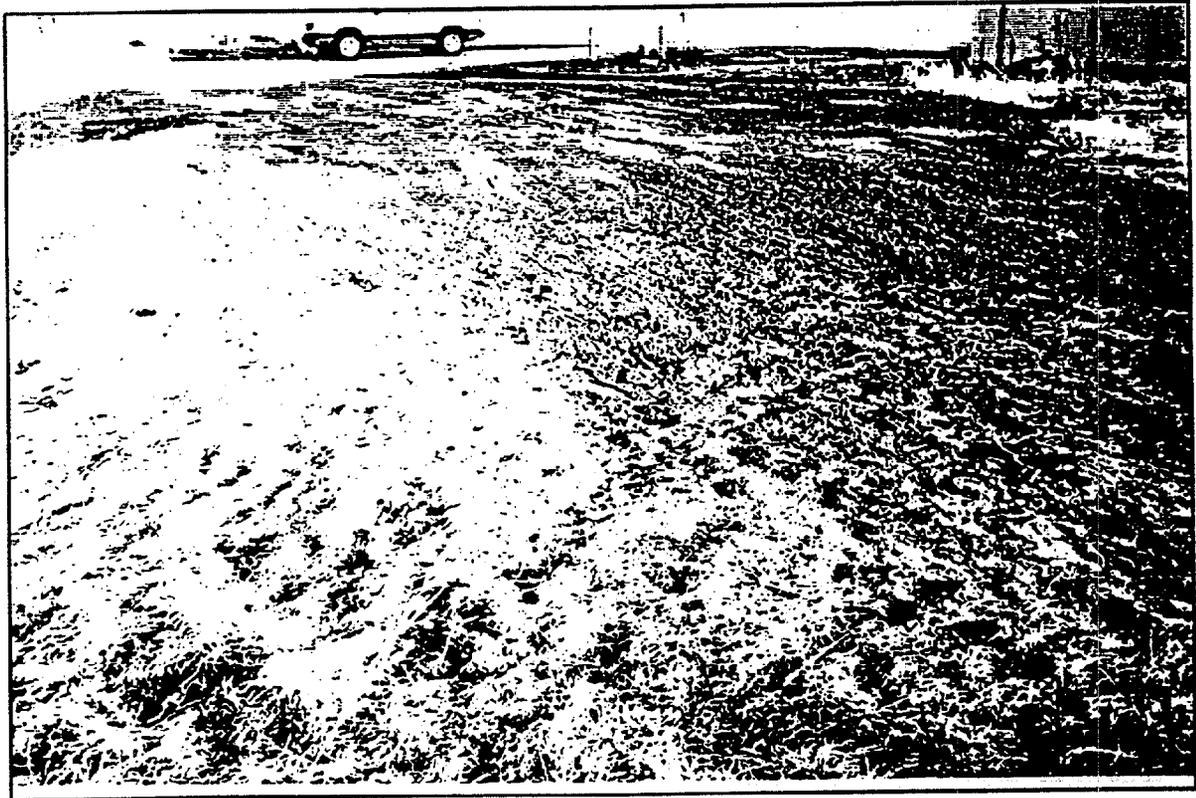
Southern Division Naval Facilities Engineering Command Quality Improvement Forum, 1998. A Guideline for the Preparation of Remedial Action Reports/Closure Reports, Revision 0, May 11.

Southern Division Naval Facilities Engineering Command, 1996, Environmental Report Format Guidance Manual, Revision No. 5. October 9.

**APPENDIX A  
PHOTOGRAPHS**



EXCAVATION IN PROGRESS

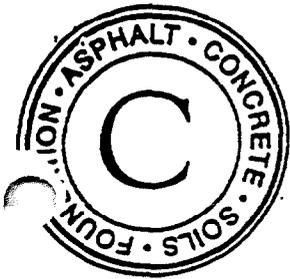


SITE RESTORATION

UST SITE  
BUILDING 623  
YELLOW WATER

**CH2MHILL**

**APPENDIX B**  
**WELL ABANDONMENT REPORT**



# CAL-TECH TESTING, INC.

## ENGINEERING & TESTING LABORATORY

P.O. Box 1625, Lake City, FL 32056-1625  
6900 Phillips Hwy., Ste. 3, Jacksonville, FL 32216  
7850 Rex Drive, Milton, FL 32570

Lake City • (904) 755-3633  
Fax • (904) 752-5456  
Jacksonville • (904) 296-7201  
Fax • (904) 296-7202  
Milton • (904) 626-0080  
Fax • (904) 626-0190

January 6, 1999

NAS Cecil Field  
Attn: CH2M Hill Constructors, Inc.  
13200 Normandy Blvd.  
1<sup>st</sup> Street, Bldg. 884  
Jacksonville, Florida 32215  
Attn: Mr. Charlie Radford

Subject: Report of Monitoring Well Abandonment  
Various UST Sites  
NAS Cecil Field  
Jacksonville, Florida  
Cal-Tech Project No. 98-313

Dear Mr. Radford,

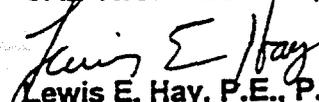
Cal-Tech Testing abandoned eleven monitoring wells for the subject project on January 5, 1999. These wells were all 2 inches in diameter. The wells were filled with a cement-bentonite grout which was tremmed to the bottom of each. The grout displaced the groundwater to the top of the well where it was captured and containerized. The table below shows the depth and diameter of each well:

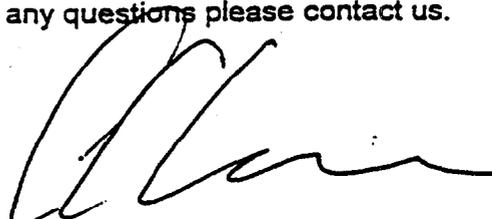
Monitoring Well No.	Diameter	Depth, Ft.
CEF-605-1S	2"	12' 1"
CEF-605-5D	2"	30' 3"
CEF-607-1S	2"	12' 4"
CEF-639-1S	2"	13' 2"
CEF-623-4D	2"	29' 6"
CEF-623-1S	2"	12' 2"
CEF-F-15	2"	14' 5"
CEF-880-1S	2"	14' 7"
CEF-502-5D	2"	30' 0"
CEF-502-2S	2"	13' 2"
CEF-502-1S	2"	10' 6"
TOTAL		192' 2"

Copies of the well abandonment reports are attached. These reports will be provided to the St. Johns Water Management District and The City of Jacksonville.

We have enjoyed serving you thus far. If you have any questions please contact us.

Very truly yours,  
CAL-TECH TESTING, INC.

  
Lewis E. Hay, P.E., P.G.  
Sr. Engineer

  
Calvin C. Creamer, Jr.  
General Manager

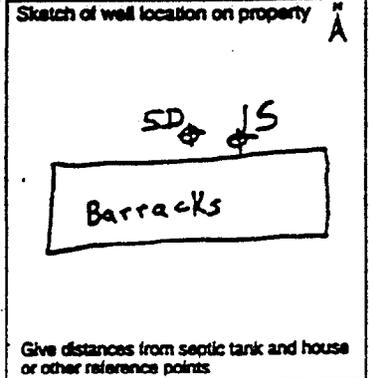
**WELL COMPLETION REPORT** (Please complete in black ink or type.)

ERMIT # \_\_\_\_\_ CUP/ WUP # \_\_\_\_\_ DID # \_\_\_\_\_  
 permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_  
 indicate remaining wells to be cancelled \_\_\_\_\_  
 WATER WELL CONTRACTOR'S  
 SIGNATURE [Signature] License # 11026  
 I certify that the information provided in this report is accurate and true.

Grout	No. of Bags	From (FL)	To (FL)
Neat Cement:	1/3	0	12.1
Bentonite:			

WELL LOCATION: County Duval  
W 1/4 of NE 1/4 of Section 10 Twp: 3S Rge: 24E  
 altitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP \_\_\_\_\_  
 Official Use Only



CHEMICAL ANALYSIS WHEN REQUIRED  
 Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm  
 Chloride: \_\_\_\_\_ ppm  
 Lab Test  Field Test Kit  
 Pump Type  
 Centrifugal  Jet  Submersible  Turbine  
 Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_  
 Pump Depth \_\_\_\_\_ FL Intake Depth \_\_\_\_\_ FL

Form 408-3-3 Rev. 12/95

OWNER'S NAME US Navy - NAS Cecil Field  
 COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_  
 WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor   
 HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_  
 DRILL METHOD  Rotary  Cable Tool  Combination  
 Jet  Auger Other \_\_\_\_\_

Measured Static Water Level _____ Measured Pumping Water Level _____		After _____ Hours at _____ G.P.M. Measuring Pt. (Describe): _____	
Which is _____ FL <input type="checkbox"/> Above <input type="checkbox"/> Below Land Surface			
Casing: <input type="checkbox"/> Black Steel <input type="checkbox"/> Galv. <input checked="" type="checkbox"/> PVC Other _____			
<input type="checkbox"/> Open Hole <input type="checkbox"/> Screen	Depth (FL)	DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones. Color   Grain Size   Type of Material	
Casing Diameter & Depth (FL)	From	To	
Diameter <u>2"</u>	0	12.1	Cement-bentonite grout
From <u>0</u>			
To <u>12'1"</u>			
			Abandoned well
Diameter _____			No CEF-605-1S
From _____			
To _____			
Liner <input type="checkbox"/> or Casing <input type="checkbox"/>			
Diameter _____			
From _____			
To _____			

Driller's Name: Frank Linehan  
 (print or type)

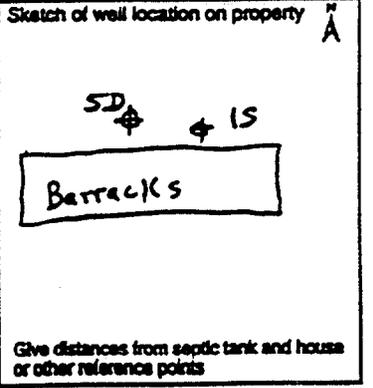
**WELL COMPLETION REPORT** (Please complete in black ink or type.)

ERMIT # \_\_\_\_\_ CUP/ WUP # \_\_\_\_\_ DID # \_\_\_\_\_  
 permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_  
 indicate remaining wells to be cancelled \_\_\_\_\_  
 WATER WELL CONTRACTOR'S  
 SIGNATURE [Signature] License # 11026  
 I certify that the information provided in this report is accurate and true.

Grout	No. of Bags	From (FL)	To (FL)
Neat Cement:	1	0	30.2
Bentonite:	1/4		

WELL LOCATION: County Duval  
W 1/4 of NE 1/4 of Section 10 Twp: 3S Rge: 24E  
 altitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP \_\_\_\_\_  
 Official Use Only



CHEMICAL ANALYSIS WHEN REQUIRED  
 Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm  
 Chloride: \_\_\_\_\_ ppm  
 Lab Test  Field Test Kit  
 Pump Type  
 Centrifugal  Jet  Submersible  Turbine  
 Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_  
 Pump Depth \_\_\_\_\_ FL Intake Depth \_\_\_\_\_ FL

OWNER'S NAME US Navy - NAS Cecil Field  
 COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_  
 WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor   
 HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_  
 DRILL METHOD  Rotary  Cable Tool  Combination  
 Jet  Auger Other \_\_\_\_\_

Measured Static Water Level _____ Measured Pumping Water Level _____		After _____ Hours at _____ G.P.M. Measuring Pt. (Describe): _____	
Which is _____ FL <input type="checkbox"/> Above <input type="checkbox"/> Below Land Surface			
Casing: <input type="checkbox"/> Black Steel <input type="checkbox"/> Galv. <input checked="" type="checkbox"/> PVC Other _____			
<input type="checkbox"/> Open Hole <input type="checkbox"/> Screen	Depth (FL)	DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones. Color   Grain Size   Type of Material	
Casing Diameter & Depth (FL)	From	To	
Diameter <u>2"</u>	0	30.2	Cement-bentonite grout
From <u>0</u>			
To <u>30.2</u>			
			Abandoned well
Diameter _____			No CEF-605-SD
From _____			
To _____			
Liner <input type="checkbox"/> or Casing <input type="checkbox"/>			
Diameter _____			
From _____			
To _____			

Driller's Name: Frank Linehan  
 (print or type)

PERMIT # \_\_\_\_\_ CLUP/WUP # \_\_\_\_\_ DID # \_\_\_\_\_

If permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_

Indicate remaining wells to be cancelled \_\_\_\_\_

WATER WELL CONTRACTOR'S

SIGNATURE [Signature] License # 11024

I certify that the information provided in this report is accurate and true.

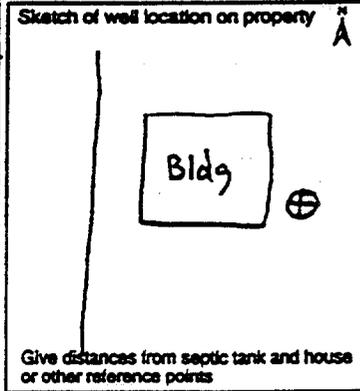
Grout	No. of Bags	From (FL)	To (FL)
Neat Cement:	1/3	0	12.3
Bentonite:			

WELL LOCATION: County Duval  
NW 1/4 of NE 1/4 of Section 10 Twp: 35 Rge: 24E

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP

Official Use Only



CHEMICAL ANALYSIS WHEN REQUIRED

Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm

Chloride: \_\_\_\_\_ ppm

[ ] Lab Test [ ] Field Test Kit

Pump Type

[ ] Centrifugal [ ] Jet [ ] Submersible [ ] Turbine

Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_

Pump Depth \_\_\_\_\_ Ft. Intake Depth \_\_\_\_\_ Ft.

Form 40B-3-3 Rev. 12/95

COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_

WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor \_\_\_\_\_  
HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_

DRILL METHOD [ ] Rotary [ ] Cable Tool [ ] Combination  
[ ] Jet [X] Auger Other \_\_\_\_\_

Measured Static Water Level \_\_\_\_\_ Measured Pumping Water Level \_\_\_\_\_  
After \_\_\_\_\_ Hours at \_\_\_\_\_ G.P.M. Measuring Pt. (Describe): \_\_\_\_\_  
Which is \_\_\_\_\_ Ft. [ ] Above [ ] Below Land Surface  
Casing: [ ] Black Steel [ ] Galv. [X] PVC Other \_\_\_\_\_

Casing Diameter & Depth (FL)	Depth (FL)		DRILL CUTTINGS LOG Exam. cuttings every 20 ft. or at formation change. Note cavities, depth to producing zones. Color   Grain Size   Type of Material
	From	To	
Diameter <u>2"</u> From <u>0</u> To <u>12.3</u>	0	12.3	Cement Bentonite gr Abandoned well No

Diameter \_\_\_\_\_  
From \_\_\_\_\_  
To \_\_\_\_\_  
CEF-607-15

Liner [ ] or Casing [ ]  
Diameter \_\_\_\_\_  
From \_\_\_\_\_  
To \_\_\_\_\_

Driller's Name: Frank Linehan  
(print or type)

WELL COMPLETION REPORT (Please complete in black ink or type.)

PERMIT # \_\_\_\_\_ CLUP/WUP # \_\_\_\_\_ DID # \_\_\_\_\_

If permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_

Indicate remaining wells to be cancelled \_\_\_\_\_

WATER WELL CONTRACTOR'S

SIGNATURE [Signature] License # \_\_\_\_\_

I certify that the information provided in this report is accurate and true.

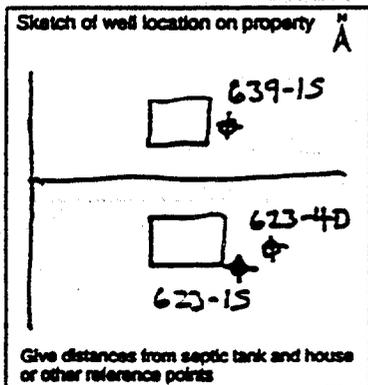
Grout	No. of Bags	From (FL)	To (FL)
Neat Cement:	1/3	0	13.2
Bentonite:			

WELL LOCATION: County Duval  
SE 1/4 of NE 1/4 of Section 3 Twp: 35 Rge: 24E

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP

Official Use Only



CHEMICAL ANALYSIS WHEN REQUIRED

Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm

Chloride: \_\_\_\_\_ ppm

[ ] Lab Test [ ] Field Test Kit

Pump Type

[ ] Centrifugal [ ] Jet [ ] Submersible [ ] Turbine

Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_

Pump Depth \_\_\_\_\_ Ft. Intake Depth \_\_\_\_\_ Ft.

Form 40B-3-3 Rev. 12/95

OWNER'S NAME US Navy - NAS Cecil

COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_

WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor \_\_\_\_\_  
HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_

DRILL METHOD [ ] Rotary [ ] Cable Tool [ ] Combination  
[ ] Jet [X] Auger Other \_\_\_\_\_

Measured Static Water Level \_\_\_\_\_ Measured Pumping Water Level \_\_\_\_\_  
After \_\_\_\_\_ Hours at \_\_\_\_\_ G.P.M. Measuring Pt. (Describe): \_\_\_\_\_  
Which is \_\_\_\_\_ Ft. [ ] Above [ ] Below Land Surface  
Casing: [ ] Black Steel [ ] Galv. [X] PVC Other \_\_\_\_\_

Casing Diameter & Depth (FL)	Depth (FL)		DRILL CUTTINGS LOG Exam. cuttings every 20 ft. or at formation change. Note cavities, depth to producing zones. Color   Grain Size   Type of Material
	From	To	
Diameter <u>2"</u> From <u>0</u> To <u>13.2</u>	0	13.2	CEMENT-Bentonite gr Abandoned Well No

Diameter \_\_\_\_\_  
From \_\_\_\_\_  
To \_\_\_\_\_  
CEF-639-15

Liner [ ] or Casing [ ]  
Diameter \_\_\_\_\_  
From \_\_\_\_\_  
To \_\_\_\_\_

Driller's Name: Frank Linehan  
(print or type)

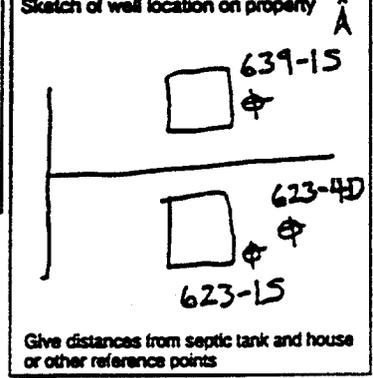
**WELL COMPLETION REPORT** (Please complete in black ink or type.)  
 PERMIT # \_\_\_\_\_ CUP/WUP # \_\_\_\_\_ DID # \_\_\_\_\_  
 If permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_  
 Indicate remaining wells to be cancelled \_\_\_\_\_  
 WATER WELL CONTRACTOR'S SIGNATURE Frank Linehan License # 11026  
 I certify that the information provided in this report is accurate and true.

Grout	No. of Bags	From (FL)	To (FL)
Neat Cement:	1/3	0	12.2
Bentonite:			

WELL LOCATION: County Duval  
SE 14 of NE 14 of Section 3 Twp: 35 Rge: 24E

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP  
 Official Use Only



CHEMICAL ANALYSIS WHEN REQUIRED  
 Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm  
 Chloride: \_\_\_\_\_ ppm  
 Lab Test  Field Test Kit  
 Pump Type  
 Centrifugal  Jet  Submersible  Turbine  
 Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_  
 Pump Depth \_\_\_\_\_ Ft. Intake Depth \_\_\_\_\_ Ft.

OWNER'S NAME \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_  
 COMPLETION DATE \_\_\_\_\_  
 WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor   
 HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_  
 DRILL METHOD  Rotary  Cable Tool  Combination  
 Jet  Auger Other \_\_\_\_\_

Measured Static Water Level \_\_\_\_\_ Measured Pumping Water Level \_\_\_\_\_  
 After \_\_\_\_\_ Hours at \_\_\_\_\_ G.P.M. Measuring Pt. (Describe): \_\_\_\_\_  
 Which is \_\_\_\_\_ Ft.  Above  Below Land Surface  
 Casing:  Black Steel  Galv.  PVC Other \_\_\_\_\_

Casing Diameter & Depth (FL)	Depth (FL)		DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones. Color   Grain Size   Type of Material
	From	To	
Diameter <u>2"</u> From <u>0</u> To <u>12.2</u>	<u>0</u>	<u>12.2</u>	<u>Cement Bentonite grout</u>
Diameter _____ From _____ To _____			<u>Abandoned Well No</u> <u>CEF-623-15</u>
Liner <input type="checkbox"/> or Casing <input type="checkbox"/> Diameter _____ From _____ To _____			

Driller's Name: Frank Linehan  
 (print or type)

**WELL COMPLETION REPORT** (Please complete in black ink or type.)

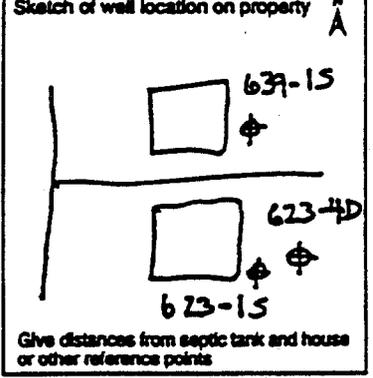
PERMIT # \_\_\_\_\_ CUP/WUP # \_\_\_\_\_ DID # \_\_\_\_\_  
 If permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_  
 Indicate remaining wells to be cancelled \_\_\_\_\_  
 WATER WELL CONTRACTOR'S SIGNATURE Frank Linehan License # 11026  
 I certify that the information provided in this report is accurate and true.

Grout	No. of Bags	From (FL)	To (FL)
Neat Cement:	1	0	29.5
Bentonite:	1/4		

WELL LOCATION: County Duval  
SE 14 of NE 14 of Section 3 Twp: 35 Rge: 24E

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP  
 Official Use Only



CHEMICAL ANALYSIS WHEN REQUIRED  
 Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm  
 Chloride: \_\_\_\_\_ ppm  
 Lab Test  Field Test Kit  
 Pump Type  
 Centrifugal  Jet  Submersible  Turbine  
 Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_  
 Pump Depth \_\_\_\_\_ Ft. Intake Depth \_\_\_\_\_ Ft.

OWNER'S NAME US Navy - NAS Cecil Field  
 COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_  
 WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor   
 HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_  
 DRILL METHOD  Rotary  Cable Tool  Combination  
 Jet  Auger Other \_\_\_\_\_

Measured Static Water Level \_\_\_\_\_ Measured Pumping Water Level \_\_\_\_\_  
 After \_\_\_\_\_ Hours at \_\_\_\_\_ G.P.M. Measuring Pt. (Describe): \_\_\_\_\_  
 Which is \_\_\_\_\_ Ft.  Above  Below Land Surface  
 Casing:  Black Steel  Galv.  PVC Other \_\_\_\_\_

Casing Diameter & Depth (FL)	Depth (FL)		DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones. Color   Grain Size   Type of Material
	From	To	
Diameter <u>2"</u> From <u>0</u> To <u>29.5</u>	<u>0</u>	<u>29.5</u>	<u>Cement Bentonite grout</u>
Diameter _____ From _____ To _____			<u>Abandoned Well No</u> <u>CEF 623-4D</u>
Liner <input type="checkbox"/> or Casing <input type="checkbox"/> Diameter _____ From _____ To _____			

Driller's Name: Frank Linehan  
 (print or type)

**WELL COMPLETION REPORT** (Please complete in black ink or type.)

PERMIT # \_\_\_\_\_ CUP/WUP # \_\_\_\_\_ DID # \_\_\_\_\_

If permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_

Indicate remaining wells to be cancelled \_\_\_\_\_

WATER WELL CONTRACTOR'S

SIGNATURE Frank Linehan License # 11026

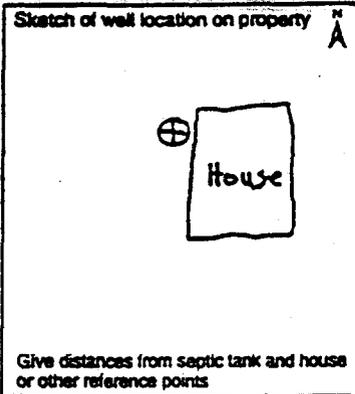
I certify that the information provided in this report is accurate and true.

Grout	No. of Bags	From (FL)	To (FL)
Neat Cement:	1/3	0	14.4
Bentonite:			

WELL LOCATION: County Duval  
NE 1/4 of SE 1/4 of Section 15 Twp: 3S Rge: 24E

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP  
 \_\_\_\_\_  
 Official Use Only



**CHEMICAL ANALYSIS WHEN REQUIRED**

Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm

Chloride: \_\_\_\_\_ ppm

[ ] Lab Test [ ] Field Test Kit

Pump Type

[ ] Centrifugal [ ] Jet [ ] Submersible [ ] Turbine

Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_

Pump Depth \_\_\_\_\_ Ft. Intake Depth \_\_\_\_\_ Ft.

OWNER'S NAME US Navy

COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_

WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor \_\_\_\_\_

HRS Limited \_\_\_\_\_ 62-624 \_\_\_\_\_ Other \_\_\_\_\_

DRILL METHOD [ ] Rotary [ ] Cable Tool [ ] Combination

[ ] Jet [X] Auger Other \_\_\_\_\_

Measured Static Water Level \_\_\_\_\_ Measured Pumping Water Level \_\_\_\_\_  
 After \_\_\_\_\_ Hours at \_\_\_\_\_ G.P.M. Measuring Pt. (Describe): \_\_\_\_\_  
 Which is \_\_\_\_\_ Ft. [ ] Above [ ] Below Land Surface  
 Casing: [ ] Black Steel [ ] Galv. [X] PVC Other \_\_\_\_\_

Casing Diameter & Depth (FL)	Depth (FL)		DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation change. Note cavities, depth to producing zones. Color   Grain Size   Type of Material
	From	To	
Diameter <u>2"</u> From <u>0</u> To <u>14.4</u>	<u>0</u>	<u>14.4</u>	<u>Cement-Bentonite grout</u>
Diameter _____ From _____ To _____			<u>Abandoned Well No</u>
Diameter _____ From _____ To _____			<u>CEE-F-15</u>
Liner [ ] or Casing [ ] Diameter _____ From _____ To _____			

Driller's Name: Frank Linehan  
 (print or type)

**WELL COMPLETION REPORT** (Please complete in black ink or type.)

PERMIT # \_\_\_\_\_ CUP/WUP # \_\_\_\_\_ DID # \_\_\_\_\_

If permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_

Indicate remaining wells to be cancelled \_\_\_\_\_

WATER WELL CONTRACTOR'S

SIGNATURE Frank Linehan License # 11026

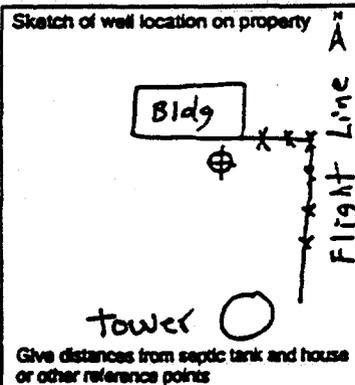
I certify that the information provided in this report is accurate and true.

Grout	No. of Bags	From (FL)	To (FL)
Neat Cement:	1/3	0	14.6
Bentonite:			

WELL LOCATION: County Duval  
SE 1/4 of NW 1/4 of Section 23 Twp: 3S Rge: 24E

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP  
 \_\_\_\_\_  
 Official Use Only



**CHEMICAL ANALYSIS WHEN REQUIRED**

Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm

Chloride: \_\_\_\_\_ ppm

[ ] Lab Test [ ] Field Test Kit

Pump Type

[ ] Centrifugal [ ] Jet [ ] Submersible [ ] Turbine

Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_

Pump Depth \_\_\_\_\_ Ft. Intake Depth \_\_\_\_\_ Ft.

OWNER'S NAME US Navy - NAS Cecil Field

COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_

WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor [X] \_\_\_\_\_

HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_

DRILL METHOD [ ] Rotary [ ] Cable Tool [ ] Combination

[ ] Jet [X] Auger Other \_\_\_\_\_

Measured Static Water Level \_\_\_\_\_ Measured Pumping Water Level \_\_\_\_\_  
 After \_\_\_\_\_ Hours at \_\_\_\_\_ G.P.M. Measuring Pt. (Describe): \_\_\_\_\_  
 Which is \_\_\_\_\_ Ft. [ ] Above [ ] Below Land Surface  
 Casing: [ ] Black Steel [ ] Galv. [X] PVC Other \_\_\_\_\_

Casing Diameter & Depth (FL)	Depth (FL)		DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation change. Note cavities, depth to producing zones. Color   Grain Size   Type of Material
	From	To	
Diameter <u>2"</u> From <u>0</u> To <u>14.6</u>	<u>0</u>	<u>14.6</u>	<u>Cement-Bentonite grout</u>
Diameter _____ From _____ To _____			<u>Abandoned Well No</u>
Diameter _____ From _____ To _____			<u>CEE-880-1S</u>
Liner [ ] or Casing [ ] Diameter _____ From _____ To _____			

Driller's Name: Frank Linehan  
 (print or type)

PERMIT # \_\_\_\_\_ CUP# \_\_\_\_\_ WUP # \_\_\_\_\_ DID # \_\_\_\_\_

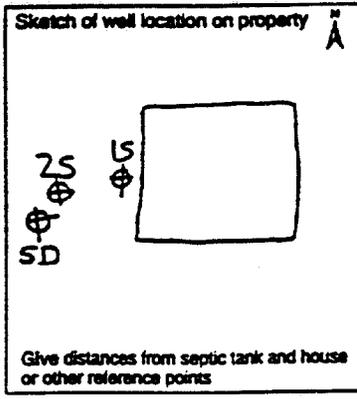
If permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_  
indicate remaining wells to be cancelled \_\_\_\_\_

WATER WELL CONTRACTOR'S SIGNATURE Frank Linehan License # 11026  
I certify that the information provided in this report is accurate and true.

Material	No. of Bags	From (FL)	To (FL)
Neat Cement:	1/3	0	10.5
Bentonite:			

WELL LOCATION: County Duval  
SE 1/4 of SE 1/4 of Section 13 Twp: 3S Rge: 24E  
Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP  
Official Use Only



CHEMICAL ANALYSIS WHEN REQUIRED  
Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm  
Chloride: \_\_\_\_\_ ppm  
 Lab Test  Field Test Kit  
Pump Type  
 Centrifugal  Jet  Submersible  Turbine  
Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_  
Pump Depth \_\_\_\_\_ Ft. Intake Depth \_\_\_\_\_ Ft.

COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_

WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor   
HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_

DRILL METHOD  Rotary  Cable Tool  Combination  
 Jet  Auger Other \_\_\_\_\_

Measured Static Water Level \_\_\_\_\_ Measured Pumping Water Level \_\_\_\_\_  
After \_\_\_\_\_ Hours at \_\_\_\_\_ G.P.M. Measuring Pt. (Describe): \_\_\_\_\_  
Which is \_\_\_\_\_ Ft.  Above  Below Land Surface  
Casing:  Black Steel  Galv.  PVC Other \_\_\_\_\_

Casing Diameter & Depth (FL)	Depth (FL)		DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones. Color   Grain Size   Type of Material
	From	To	
Diameter <u>2"</u> From <u>0</u> To <u>10.5</u>	0	10.5	Cement-bentonite grout
			Abandoned well No. _____
			CEF-502-1S
Liner <input type="checkbox"/> or Casing <input type="checkbox"/>			
Diameter _____			
From _____			
To _____			

Driller's Name: Frank Linehan  
(print or type)

### WELL COMPLETION REPORT (Please complete in black ink or type.)

PERMIT # \_\_\_\_\_ CUP# \_\_\_\_\_ WUP # \_\_\_\_\_ DID # \_\_\_\_\_

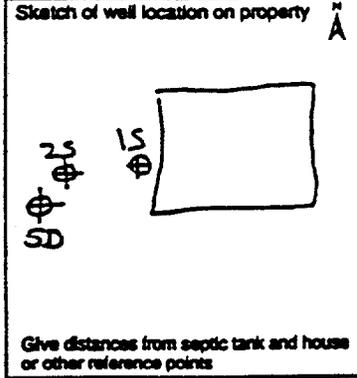
If permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_  
indicate remaining wells to be cancelled \_\_\_\_\_

WATER WELL CONTRACTOR'S SIGNATURE Frank Linehan License # 11026  
I certify that the information provided in this report is accurate and true.

Material	No. of Bags	From (FL)	To (FL)
Neat Cement:	1/3	0	13.2
Bentonite:			

WELL LOCATION: County Duval  
SE 1/4 of SE 1/4 of Section 13 Twp: 3S Rge: 24E  
Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP  
Official Use Only



CHEMICAL ANALYSIS WHEN REQUIRED  
Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm  
Chloride: \_\_\_\_\_ ppm  
 Lab Test  Field Test Kit  
Pump Type  
 Centrifugal  Jet  Submersible  Turbine  
Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_  
Pump Depth \_\_\_\_\_ Ft. Intake Depth \_\_\_\_\_ Ft.

OWNER'S NAME US Navy - NAS Cecil Field

COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_

WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor   
HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_

DRILL METHOD  Rotary  Cable Tool  Combination  
 Jet  Auger Other \_\_\_\_\_

Measured Static Water Level \_\_\_\_\_ Measured Pumping Water Level \_\_\_\_\_  
After \_\_\_\_\_ Hours at \_\_\_\_\_ G.P.M. Measuring Pt. (Describe): \_\_\_\_\_  
Which is \_\_\_\_\_ Ft.  Above  Below Land Surface  
Casing:  Black Steel  Galv.  PVC Other \_\_\_\_\_

Casing Diameter & Depth (FL)	Depth (FL)		DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones. Color   Grain Size   Type of Material
	From	To	
Diameter <u>2"</u> From <u>0</u> To <u>13.2</u>	0	13.2	Cement-bentonite grout
			Abandoned well No. _____
			CEF-502-2S
Liner <input type="checkbox"/> or Casing <input type="checkbox"/>			
Diameter _____			
From _____			
To _____			

Driller's Name: Frank Linehan  
(print or type)

**WELL COMPLETION REPORT** (Please complete in black ink or type.)

PERMIT # \_\_\_\_\_ CUP/WUP # \_\_\_\_\_ DID # \_\_\_\_\_

If permit is for multiple wells indicate the number of wells drilled \_\_\_\_\_

Indicate remaining wells to be cancelled \_\_\_\_\_

WATER WELL CONTRACTOR'S

SIGNATURE [Signature] License # 11021

I certify that the information provided in this report is accurate and true.

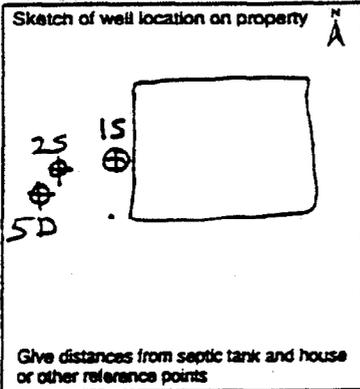
Grout	No. of Bags	From (FL)	To (FL)
Neat Cement:		0	30.0
Bentonite:	1/4		

WELL LOCATION: County Duval  
SE 1/4 of SE 1/4 of Section 13 Twp: 3S Rge: 24E

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

DATE STAMP

Official Use Only



CHEMICAL ANALYSIS WHEN REQUIRED

Iron: \_\_\_\_\_ ppm Sulfate: \_\_\_\_\_ ppm

Chloride: \_\_\_\_\_ ppm

Lab Test  Field Test Kit

Pump Type

Centrifugal  Jet  Submersible  Turbine

Horsepower \_\_\_\_\_ Capacity \_\_\_\_\_ G.P.M. \_\_\_\_\_

Pump Depth \_\_\_\_\_ Ft. Intake Depth \_\_\_\_\_ Ft.

Form 408-3-3 Rev. 12/95

OWNER'S NAME US Navy - NAS Cecil Field

COMPLETION DATE \_\_\_\_\_ Florida Unique I.D. \_\_\_\_\_

WELL USE: DEP/Public \_\_\_\_\_ Irrigation \_\_\_\_\_ Domestic \_\_\_\_\_ Monitor

HRS Limited \_\_\_\_\_ 62-524 \_\_\_\_\_ Other \_\_\_\_\_

DRILL METHOD  Rotary  Cable Tool  Combination

Jet  Auger Other \_\_\_\_\_

Measured Static Water Level \_\_\_\_\_ Measured Pumping Water Level \_\_\_\_\_

After \_\_\_\_\_ Hours at \_\_\_\_\_ G.P.M. Measuring Pt. (describe): \_\_\_\_\_

Which is \_\_\_\_\_ Ft.  Above  Below Land Surface

Casing:  Black Steel  Galv.  PVC Other \_\_\_\_\_

Casing Diameter & Depth (Ft.)	Depth (FL)		DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones. Color   Grain Size   Type of Material
	From	To	
Diameter <u>2"</u> From <u>0</u> To <u>30.0</u>	0	30.0	<u>Cement-bentonite grout</u>
Diameter _____ From _____ To _____			<u>Abandoned Well No</u>
			<u>CEF-502-SD</u>
Liner <input type="checkbox"/> or Casing <input type="checkbox"/>			
Diameter _____			
From _____			
To _____			

Driller's Name: (print or type) Frank Linchan

**APPENDIX C**  
**SOIL DISPOSAL MANIFESTS**

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF-1134**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( **904** ) **778-5620**

4. Transporter 1 Company Name **Modlin Trucking Co. 209**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **904-284-9448**

B. Transporter's Phone

C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers  
No. | Type  
9. Total Quantity  
10. Unit WW/Vol

a. **Petroleum Contaminated Soil**

**001** | **DT** | **22** | **T**

7. Waste Shipping Name and Description		8. Containers		9. Total Quantity	10. Unit WW/Vol
		No.	Type		
a. Petroleum Contaminated Soil		001	DT	22	T
b.		.	.	.	.
c.		.	.	.	.
d.		.	.	.	.

D. Additional Descriptions for Materials Listed Above **SITE #: 623**

**Non-RCRA, Non-Hazardous**

E. Handling Codes for Wastes Listed Above

**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name **LEROY A LONG**

Signature **Leroy A Long**

Month Day Year **11 12 99**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name **DAVID McBERT**

Signature **David McBERT**

Month Day Year **11 12 99**

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name **Peggy Cross**

Signature **Peggy Cross**

Month Day Year

**ORIGINAL - RETURN TO GENERATOR**

GENERATOR

TRANSPORTER

FACILITY

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF-1135**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( 904 ) **778-5620**

4. Transporter 1 Company Name **Modlin Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **904-248-9448**  
B. Transporter's Phone  
C. Facility's Phone **(912) 729-7555**

7. Waste Shipping Name and Description	8. Containers		9. Total Quantity	10. Unit Wt/Vol
	No.	Type		
a. <b>Petroleum Contaminated Soil</b>	<b>001</b>	<b>DT</b>		<b>T</b>
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above **SITE #: 623**  
**Non-RCRA, Non-Hazardous**

E. Handling Codes for Wastes Listed Above  
**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information  
**9809**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name **LEROY A LONG** Signature **Leroy A Long** Month **1** Day **12** Year **98**

13. Transporter 1 Acknowledgement of Receipt of Materials  
Printed/Typed Name **KANDY JENKINS** Signature **Kandy Jenkins** Month **1** Day **12** Year **99**

14. Transporter 2 Acknowledgement of Receipt of Materials  
Printed/Typed Name Signature Month Day Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name **Peggy Crews** Signature **Peggy Crews** Month **1** Day **12** Year **99**

**ORIGINAL - RETURN TO GENERATOR**

GENERATOR

TRANSPORTER

FACILITY

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF-1136**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( 904 ) **778-5620**

4. Transporter 1 Company Name **Modlin Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **704-248-9448**  
B. Transporter's Phone  
C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers No.	9. Total Quantity	10. Unit Wt/Vol
<b>001</b>		<b>T</b>

a. **Petroleum Contaminated Soil**

D. Additional Descriptions for Materials Listed Above **SITE #: 623**  
**Non-RCRA, Non-Hazardous**

E. Handling Codes for Wastes Listed Above  
**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

**9801**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name **LEROY A LONG** Signature **Leroy A Long** Month **1** Day **12** Year **99**

13. Transporter 1 Acknowledgement of Receipt of Materials  
Printed/Typed Name **Douglas L. FELTON** Signature **Douglas L. Felton** Month **1** Day **12** Year **99**

14. Transporter 2 Acknowledgement of Receipt of Materials  
Printed/Typed Name Signature Month Day Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name **Peggy Crews** Signature **Peggy Crews** Month **11** Day **12** Year **99**

GENERATOR

TRANSPORTER

FACILITY

**ORIGINAL - RETURN TO GENERATOR**

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF-1137**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( **904** ) **778-5620**

4. Transporter 1 Company Name **Modlin Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **704-248-9448**  
B. Transporter's Phone  
C. Facility's Phone **(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers		9. Total Quantity	10. Unit Wt/Vol
No.	Type		

a.	<b>Petroleum Contaminated Soil</b>	<b>001</b>	<b>DT</b>	<b>.....</b>	<b>T</b>
b.					
c.					
d.					

D. Additional Descriptions for Materials Listed Above **SITE #: 623**

E. Handling Codes for Wastes Listed Above  
**Job #5495/Profile #11800**

**Non-RCRA, Non-Hazardous**

11. Special Handling Instructions and Additional Information

**#210**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name <b>Leroy A Long</b>	Signature <i>Leroy A Long</i>	Month	Day	Year
		.	.	.

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name <b>Elmer McQuint</b>	Signature <i>Elmer McQuint</i>	Month	Day	Year
		<b>7</b>	<b>12</b>	<b>99</b>

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		.	.	.

FACILITY

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name <b>Roggy Crews</b>	Signature <i>Roggy Crews</i>	Month	Day	Year
		<b>11</b>	<b>12</b>	<b>99</b>

**ORIGINAL - RETURN TO GENERATOR**

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF-1138**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( 904 ) **778-5620**

4. Transporter 1 Company Name  
**Modlin Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **704-248-9448**  
B. Transporter's Phone  
C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers  
No. Type 9. Total Quantity 10. Unit Wt/Vol

8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
<b>001</b>	<b>DT</b>		<b>T</b>

D. Additional Descriptions for Materials Listed Above **SITE #: 623**

**Non-RCRA, Non-Hazardous**

E. Handling Codes for Wastes Listed Above  
**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

**202**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name **Leroy A Long** Signature **Leroy A Long** Month **1** Day **13** Year **98**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name **Joe Weydenner** Signature **Joe Weydenner** Month **1** Day **13** Year **98**

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name Signature Month Day Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name **Peggy Crowds** Signature **Peggy Crowds** Month **11** Day **13** Year **99**

**ORIGINAL - RETURN TO GENERATOR**

GENERATOR

TRANSPORTER

FACILITY

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF-1139**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( 904 ) 778-5620

4. Transporter 1 Company Name **Modlin Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **904-248-9448**  
B. Transporter's Phone  
C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers No.	9. Total Quantity	10. Unit Wt/Vol
001		T

a. **Petroleum Contaminated Soil**

b.  
c.  
d.

D. Additional Descriptions for Materials Listed Above **SITE #: 623**  
**Non-RCRA, Non-Hazardous**

E. Handling Codes for Wastes Listed Above  
**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

**209**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name **Leray A Long** Signature **Leray R Long** Month **1** Day **13** Year **99**

13. Transporter 1 Acknowledgement of Receipt of Materials  
Printed/Typed Name **DAVID M. GRIFF** Signature **David M. Griff** Month **1** Day **13** Year **99**

14. Transporter 2 Acknowledgement of Receipt of Materials  
Printed/Typed Name \_\_\_\_\_ Signature \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name **Pegau Crews** Signature **Pegau Crews** **24.18** Month **1** Day **13** Year **99**

GENERATOR  
TRANSPORTER  
FACILITY

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF-1140**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( 904 ) **778-5620**

4. Transporter 1 Company Name **Modlin Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address **Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **904-248-9448**

B. Transporter's Phone

C. Facility's Phone **(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers		9. Total Quantity	10. Unit Wt/Vol
No.	Type		
<b>001</b>	<b>BT</b>		<b>T</b>
.	.	.	.
.	.	.	.
.	.	.	.

a. **Petroleum Contaminated Soil**

b.

c.

d.

D. Additional Descriptions for Materials Listed Above **SITE #: 623**

E. Handling Codes for Wastes Listed Above

**Non-RCRA, Non-Hazardous**

**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

**9800**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Wastes.

Printed/Typed Name

Signature

Month Day Year

**L. Roy A Long**

*L. Roy A Long*

**11 13 99**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

**Jeff Nicholson**

*Jeff Nicholson*

**11 13 99**

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name

Signature

Month Day Year

**Ray Crews**

*Ray Crews*

**24.34**

**11 13 99**

**ORIGINAL - RETURN TO GENERATOR**

GENERATOR

TRANSPORTER

FACILITY

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF 1141**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( **904** ) **778-5620**

4. Transporter 1 Company Name **Modlin Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **904-248-9448**  
B. Transporter's Phone  
C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
-------------------	------	-------------------	-----------------

a. **Petroleum Contaminated Soil**

<b>001</b>	<b>DT</b>		<b>T</b>

b.

c.

d.

D. Additional Descriptions for Materials Listed Above **SITE #: 623**

E. Handling Codes for Wastes Listed Above

**Non-RCRA, Non-Hazardous**

**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

**9802**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Wastes.

Printed/Typed Name

**LEROY A LONG**

Signature

*Leroy A Long*

Month Day Year

**11 13 99**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

*Stefan Loxot*

Signature

*Stefan Loxot*

Month Day Year

**11 13 99**

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

**REGAN CROWS**

Signature

*Regan Crows*

Month Day Year

**11 13 99**

**ORIGINAL - RETURN TO GENERATOR**

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **C.F. 1142**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( 904 ) 778-5620

4. Transporter 1 Company Name **Modis Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **904-248-9448**

B. Transporter's Phone

C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers		9. Total Quantity	10. Unit Wt/Vol
No.	Type		

a.	<b>Petroleum Contaminated Soil</b>	<b>001</b>	<b>DT</b>	<b>.....</b>	<b>T</b>
b.		<b>..</b>	<b>..</b>	<b>.....</b>	
c.		<b>..</b>	<b>..</b>	<b>.....</b>	
d.		<b>..</b>	<b>..</b>	<b>.....</b>	

D. Additional Descriptions for Materials Listed Above **SITE #: 210**

E. Handling Codes for Wastes Listed Above

**Non-RCRA, Non-Hazardous**

**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

**210**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Wastes.

Printed/Typed Name <b>LEROY A LONG</b>	Signature <i>Leroy A Long</i>	Month <b>11</b>	Day <b>13</b>	Year <b>1999</b>
---	----------------------------------	--------------------	------------------	---------------------

13. Transporter 1 Acknowledgement of Receipt of Materials	Printed/Typed Name <b>Elmer McQuirt</b>	Signature <i>Elmer McQuirt</i>	Month <b>11</b>	Day <b>13</b>	Year <b>1999</b>
---	--	-----------------------------------	--------------------	------------------	---------------------

14. Transporter 2 Acknowledgement of Receipt of Materials	Printed/Typed Name	Signature	Month	Day	Year
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15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name <b>Reay Crews</b>	Signature <i>Reay Crews</i>	Month <b>11</b>	Day <b>13</b>	Year <b>1999</b>
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**ORIGINAL - RETURN TO GENERATOR**

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF-1143**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( 904 ) **778-5620**

4. Transporter 1 Company Name  
**Modlin Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **904-248-9448**  
B. Transporter's Phone  
C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

a. **Petroleum Contaminated Soil**

b.

c.

d.

8. Containers	9. Total Quantity	10. Unit WWVol
001	DT	T
.	.	.
.	.	.
.	.	.

D. Additional Descriptions for Materials Listed Above **SITE #: 023**

E. Handling Codes for Wastes Listed Above  
**Non-RCRA, Non-Hazardous**  
**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

**9809**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name  
**Leroy A Long**

Signature **Leroy A Long** Month **1** Day **13** Year **99**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name  
**Dobris**

Signature **Dobris** Month **1** Day **13** Year **99**

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature Month Day Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name  
**Kevin Crews**

Signature **Kevin Crews** Month **1** Day **13** Year **99**

**ORIGINAL - RETURN TO GENERATOR**

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF1144**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( 904 ) 778-5620

4. Transporter 1 Company Name **Medlin Trucking Co.**

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone **904-248-9448**

B. Transporter's Phone

C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers		9. Total Quantity	10. Unit Wt/Vol
No.	Type		

a.	<b>Petroleum Contaminated Soil</b>	<b>001</b>	<b>DT</b>	<b>.....</b>	<b>T</b>
b.		<b>..</b>	<b>.</b>	<b>.....</b>	
c.		<b>..</b>	<b>.</b>	<b>.....</b>	
d.		<b>..</b>	<b>.</b>	<b>.....</b>	

D. Additional Descriptions for Materials Listed Above **SITE #: 623**  
**Non-RCRA, Non-Hazardous**

E. Handling Codes for Wastes Listed Above  
**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

**223**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name <b>Leroy A Long</b>	Signature <i>Leroy A Long</i>	Month <b>11</b>	Day <b>13</b>	Year <b>99</b>
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13. Transporter 1 Acknowledgement of Receipt of Materials	Printed/Typed Name <b>Robert J. Crain</b>	Signature <i>Robert J Crain</i>	Month <b>11</b>	Day <b>13</b>	Year <b>99</b>
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14. Transporter 2 Acknowledgement of Receipt of Materials	Printed/Typed Name	Signature	Month	Day	Year
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15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 15.

Printed/Typed Name <b>Kevin Crews</b>	Signature <i>Kevin Crews</i>	Month <b>11</b>	Day <b>13</b>	Year <b>98</b>
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**ORIGINAL - RETURN TO GENERATOR**

**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. **CF-1145**

1. Page 1 of

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( **904** ) **778-5620**

4. Transporter 1 Company Name

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kedesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone  
B. Transporter's Phone  
C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers		9. Total Quantity	10. Unit Wt/Vol
No.	Type		

a.	<b>Petroleum Contaminated Soil</b>	..	DT	.....	T
b.		..	.	.....	
c.		..	.	.....	
d.		..	.	.....	

D. Additional Descriptions for Materials Listed Above **SITE #: 623**  
**Non-RCRA, Non-Hazardous**

E. Handling Codes for Wastes Listed Above  
**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information  
**9803**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name <b>LEROY A LONG</b>	Signature <i>Leroy A Long</i>	Month Day Year <b>11 13 99</b>
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13. Transporter 1 Acknowledgement of Receipt of Materials	Printed/Typed Name <b>RANDY JENKINS</b>	Signature <i>Randy Jenkins</i>	Month Day Year <b>11 13 99</b>
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14. Transporter 2 Acknowledgement of Receipt of Materials	Printed/Typed Name	Signature	Month Day Year
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15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.	Printed/Typed Name <b>KEVIN COOGE</b>	Signature <i>Kevin Cooge</i>	Month Day Year <b>11 13 99</b>
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**NON-HAZARDOUS WASTE MANIFEST**

Manifest Document No. 11.4.6

1. Page 1 of

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.  
P.O. Box 108, Code 184, NAS Cecil Field  
Jacksonville, FL 32215**

3. Generator's Phone ( 904 ) 778-5620

4. Transporter 1 Company Name

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address  
**Kadesh, Inc.  
Hwy 17 North  
Kingsland, GA**

A. Transporter's Phone

B. Transporter's Phone

C. Facility's Phone  
**(912) 729-7555**

7. Waste Shipping Name and Description

8. Containers

No.

Type

9. Total Quantity

10. Unit Wt/Vol

a. **Petroleum Contaminated Soil**

..

DT

..

T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above **SITE #: 623**

**Non-RCRA, Non-Hazardous**

E. Handling Codes for Wastes Listed Above

**Job #5495/Profile #11800**

11. Special Handling Instructions and Additional Information

**9801**

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

**LEROY A LONG**

Signature

*LeRoy A Long*

Month Day Year  
**11 / 13 1999**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

**DOUGLAS L. FELTON**

Signature

*Douglas L. Felton*

Month Day Year  
**11 / 13 1999**

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

**PEGGY CREWS**

Signature

*Peggy Crews*

**23.06**

Month Day Year  
**11 / 13 1999**

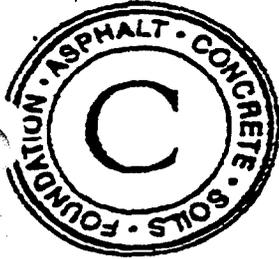
**ORIGINAL - RETURN TO GENERATOR**

GENERATOR

TRANSPORTER

FACILITY

**APPENDIX D  
CLEAN FILL CERTIFICATION**



# CAL-TECH TESTING, INC.

## ENGINEERING & TESTING LABORATORY

P.O. Box 1625, Lake City, FL 32058-1625  
8800 Phillips Hwy., Ste. 3, Jacksonville, FL 32216  
7850 Rex Drive, Milton, FL 32570

Lake City • (904) 755-3633

Fax • (904) 752-5458

Jacksonville • (904) 298-7201

Fax • (904) 298-7202

Milton • (904) 626-0080

Fax • (904) 626-0190

January 27, 1999

CH2MHILL Constructors, Inc.  
115 Perimeter Center Place, N.E.  
Suite 700  
Atlanta, GA 30346-1278  
Attn: Charles Radford

RE: Response to Request for Information

Dear Mr. Radford:

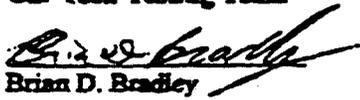
The Cal-Tech Testing Team (CTT) is writing this letter in response to your request for information concerning the disposal of the liner and information concerning the source of fill material used for the backfilling operations at Day Tank 2 and the 8 UST locations at Naval Air Station Cecil Field.

The liner, excavated from the day tank 2 site, was shipped to the Trail Ridge Landfill in Baldwin, Florida. The landfill charges disposal by the size of the incoming container. The liner was shipped in two 20 cubic yard roll-off containers. The disposal charge was for 40 cubic yards. We have attached copies of the manifests indicating the volume of materials and the transporter information. No weigh tickets are available for this material.

The fill material used for the Day Tank 2 and 8 UST locations was native soil excavated from an Anderson Columbia Co. Inc. (ACCI) facility located in Maxville, Florida. The fill was from a natural sand bar formation. This material was undisturbed prior to use at the Naval Air Station Cecil Field projects.

Questions related to this item can be directed to myself at (904) 755-1196 and fax is (904) 758-9050.

Sincerely,  
Cal-Tech Testing Team

  
Brian D. Bradley  
Project Manager