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NAS CECIL FIELD, FL
5090.3a

SITE ASSESSMENT REPORT FOR BUILDING 502 TANK 502 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 502, TANK 502
BASE REALIGNMENT AND CLOSURE
UNDERGROUND STORAGE TANK AND
ABOVEGROUND STORAGE TANK GREY SITES
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

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Unit Identification Code: N60200

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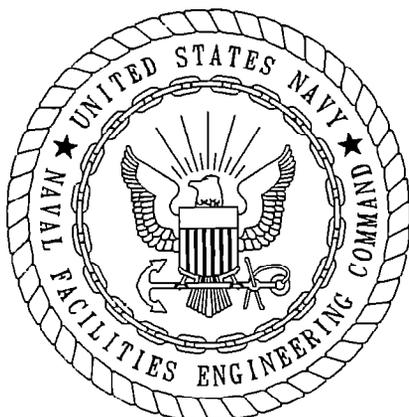
Prepared for:

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

Bryan Kizer, Code 1842, Engineer-in-Charge

April 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 502, Tank 502
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 502, Tank 502
Naval Air Station Cecil Field
Jacksonville, Florida

<u>Figure</u>	<u>Title</u>	<u>Page No.</u>
1	Tank 502 Ordnance Administration Armory Building	2
2	Tank 502 Soil Boring and Monitoring Well Locations	4
3	Tank 502 Monitoring Well Locations and Data	11

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	9
4	Summary of Groundwater Analytical Results	10

GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
BEI	Bechtel Environmental Incorporated
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
TRPH	total recoverable petroleum hydrocarbons
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 502 at Naval Air Station Cecil Field in Jacksonville, Florida. This report summarizes the related field operations, results, conclusions, and recommendations of the SA.

Tank 502 was an underground storage tank (UST) located at Building 502, which originally served as a maintenance facility for equipment and vehicles associated with the Aviation Ordnance Area (Figure 1). The UST, which was installed in 1957, had a 1,000-gallon capacity and was used to supply fuel oil to a hot-water boiler (ABB Environmental Services, Inc. [ABB-ES], 1997a). A Contamination Assessment Plan for the assessment of soil and groundwater at Tank 502 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 (ABB-ES, 1997b).

Tank 502 was removed by Bechtel Environmental, Inc. (BEI), on April 16, 1997. Five tons of excessively contaminated soil were removed at that time. A Closure Report was prepared for Tank 502 and submitted to the Florida Department of Environmental Protection (FDEP) in July of 1997 (BEI, 1997).

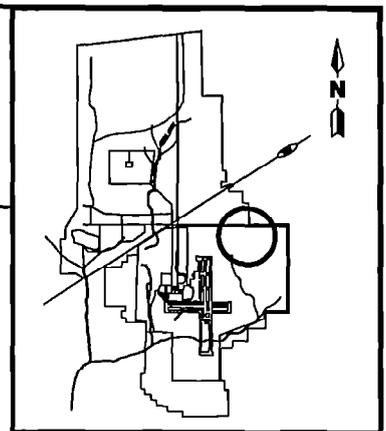
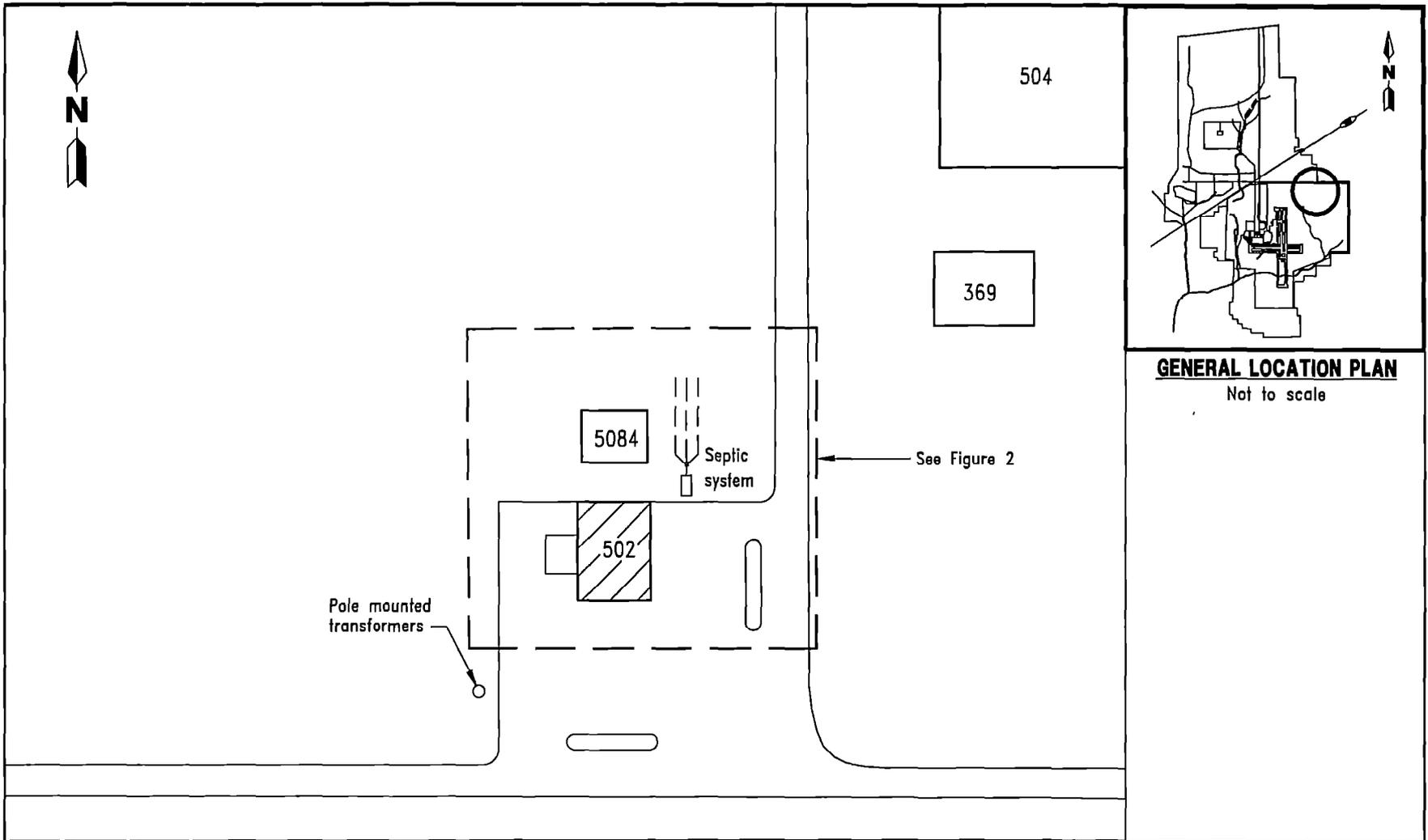
2.0 FIELD INVESTIGATION

The SA for Tank 502 was initiated in October 1997 and included

- the advancement of 18 soil borings to the water table,
- the installation of one deep and three shallow groundwater monitoring wells, and
- collection and analysis of two subsurface 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 16, 1998, at soil boring locations with varying levels of contamination and analyzed for the Kerosene Analytical Group (KAG) parameters. Samples CEF-502-SB4 and CEF-502-SB10 were collected from 5 to 6 feet bls.

One shallow monitoring well, CEF-502-1S, was installed during the CSR near the location of soil boring CEF-502-SB1 to a depth of 12 feet bls. Three additional shallow monitoring wells were installed at the Tank 502 site. CEF-502-2S was installed near the former tank location, and wells CEF-502-3S and CEF-502-4S were installed downgradient of the source area. The deep well, CEF-502-5D, was installed immediately downgradient of the source area and screened between 25 and



GENERAL LOCATION PLAN
Not to scale

0 50 100
SCALE: 1 INCH = 100 FEET

FIGURE 1
TANK 502
ORDNANCE ADMINISTRATION
ARMORY BUILDING



SITE ASSESSMENT REPORT
BUILDING 502, TANK 502

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

30 feet bls. The downgradient well locations were selected based on groundwater flow direction, which was assessed by measuring water levels in piezometers. Groundwater samples were collected from the monitoring wells and analyzed for the KAG parameters. A general site plan indicating the location of the soil borings and monitoring wells is presented on Figure 2. The monitoring well construction detail is summarized in Table 1 and included in Appendix A.

3.0 SCREENING AND ANALYTICAL RESULTS

Excessively contaminated soil (greater than 50 parts per million on an OVA) was detected in seven 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.

Ethylbenzene, toluene, xylenes, and total recoverable petroleum hydrocarbons (TRPH) were detected in the subsurface soil samples at concentrations that exceeded FDEP soil cleanup target levels. Subsurface soil analytical results are summarized in Table 3 and presented in Appendix B.

A source removal was conducted by CH2M Hill Constructors, Inc., on January 13 - 14, 1999, to remove petroleum contaminated soil in excess of cleanup target levels. Approximately 369 cubic yards of soil was removed from the Tank 502 site. The source removal report is presented in Appendix C.

Benzene, ethylbenzene, xylenes, naphthalene, and TRPH were detected in groundwater samples at concentrations above FDEP cleanup target levels. A summary of the groundwater analytical results is presented in Table 4 and depicted on Figure 3. The complete analytical data set is presented in Appendix B.

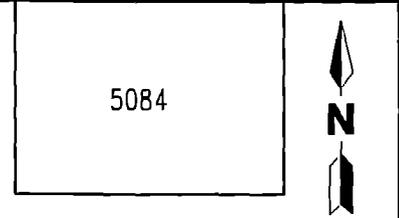
4.0 CONCLUSIONS AND RECOMMENDATIONS

Data obtained during the SA at the Tank 502 site provided an adequate assessment of the horizontal and vertical extent of excessively contaminated soil and petroleum-contaminated groundwater. Contaminants in soil and groundwater were detected at concentrations above FDEP cleanup target levels.

Petroleum contaminated soil detected above cleanup target levels was removed in January 1999. No further action is recommended for the soil at the Tank 502 site.

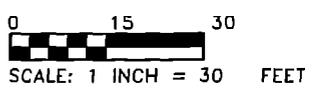
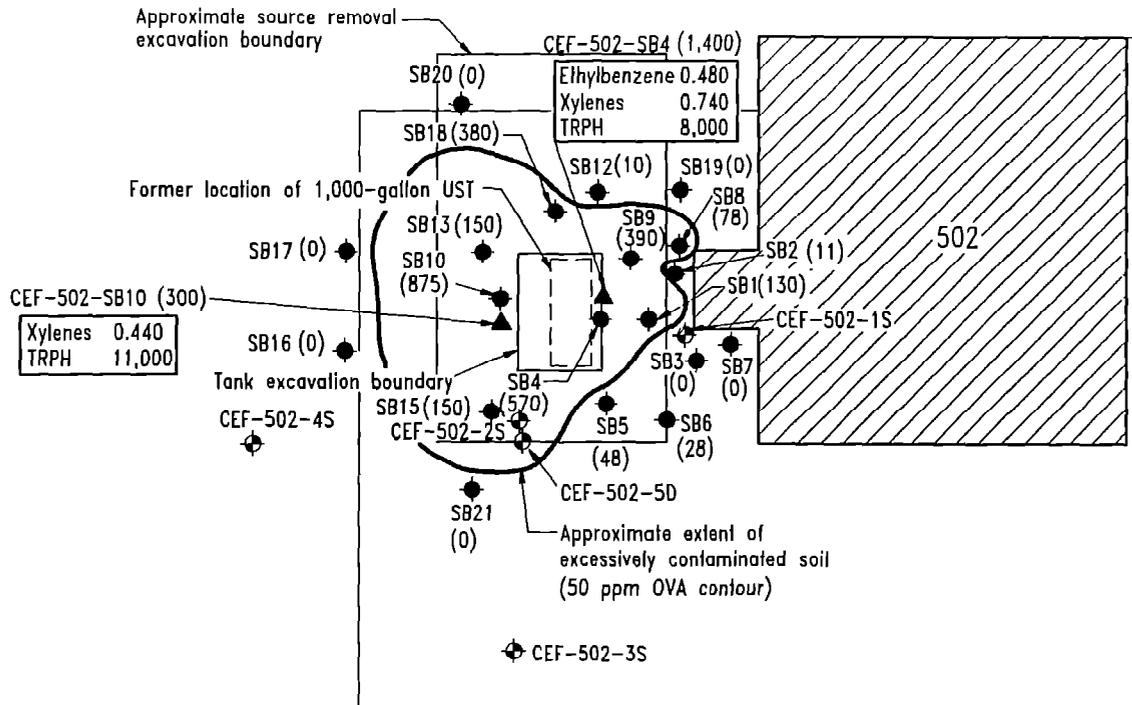
Since benzene, ethylbenzene, xylene, naphthalene, and TRPH were previously detected above the cleanup target levels at the Tank 502 site, it is recommended that groundwater monitoring for natural attenuation take place at the Tank 502 site. Monitoring wells CEF-502-2S and CEF-502-5D were abandoned during the source removal. Therefore, a shallow water table monitoring well and a deep (screened 25 to 30 feet bls) monitoring well should be installed at the former UST location. The two newly installed wells and well CEF-502-4S will be monitored for volatile organic compounds (USEPA Method 602), semivolatile organic compounds (USEPA Method 8310), and TRPH on a semiannual basis.

GW flow?
Arrow



LEGEND

- CEF-502-1S Monitoring well location and designation
- SB10 Soil boring location and designation
- CEF-502-SB4 Confirmatory KAG soil sample location and designation
- (875) OVA reading in ppm
- TRPH 11,000 Contaminant and concentration (in micrograms per liter) that exceed cleanup target levels
- UST Underground storage tank
- OVA Organic vapor analyzer
- ppm Parts per million
- KAG Kerosene Analytical Group
- TRPH Total recoverable petroleum hydrocarbons



**FIGURE 2
TANK 502
SOIL BORING AND MONITORING WELL
LOCATIONS**



**SITE ASSESSMENT REPORT
BUILDING 502, TANK 502**

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

Table 1
Monitoring Well Construction Summary and Groundwater Elevation Data

Site Assessment Report
 Building 502, Tank 502
 Naval Air Station Cecil Field
 Jacksonville, Florida

Monitoring Well No.	Total Well Depth (feet bls)	Screened Interval (feet bls)	TOC Elevation (feet NGVD)	June 18, 1998	
				Depth to Water (feet BTOC)	Water-Level Elevation (feet NGVD)
CEF-502-1S	13	3 to 13	83.26	NM	NA
CEF-502-2S	14	4 to 14	83.37	8.61	74.76
CEF-502-3S	13	3 to 13	82.06	7.32	74.74
CEF-502-4S	13	3 to 13	82.09	7.43	74.66
CEF-502-5D	30	25 to 30	83.43	5.67	77.76

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

**Table 2
Soil Screening Results**

Site Assessment Report
Building 502, Tank 502
Naval Air Station Cecil Field
Jacksonville, Florida

Boring Number	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
SB1	1	0	-	0
	3	60	0	60
	5	130	0	130
	6.5 (wet)	1,000	0	1,000
SB2	1	0	-	0
	3	0	-	0
	5	11	0	11
	6.5 (wet)	1,400	0	1,400
SB3	1	0	-	0
	3	0	-	0
	5	0	-	0
	6.5 (wet)	130	0	130
SB4	1	0	-	0
	3	220	0	220
	5	600	30	570
	6 (wet)	900	-	900
SB5	1	0	-	0
	3	0	0	0
	5	48	0	48
	6 (wet)	190	30	160
SB6	1	0	-	0
	3	0	-	0
	5	38	10	28
	6 (wet)	250	40	210
SB7	1	0	-	0
	3	0	-	0
	5	0	-	0
	6 (wet)	0	-	0
SB8	1	0	-	0
	3	18	-	18
	5	100	28	78
	6 (wet)	900	130	770

See notes at end of table.

Table 2 (Continued)
Soil Screening Results

Site Assessment Report
Building 502, Tank 502
Naval Air Station Cecil Field
Jacksonville, Florida

Boring Number	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
SB9	1	0	-	0
	3	280	0	280
	5	390	0	390
	6 (wet)	1,400	100	1,300
SB10	1	0	-	0
	3	320	0	320
	5	900	25	875
	6 (wet)	1,400	0	1,400
SB11	1	0	-	0
	3	0	-	0
	5	0	-	0
SB12	1	0	-	0
	3	10	-	10
	5	1,000	0	1,000
SB13	1	150	0	150
	3	0	-	0
	5	1,900	0	1,900
SB14	1	0	-	0
	3	0	-	0
	5	2,200	0	2,200
SB15	1	0	-	0
	3	150	0	150
	5	2,000	0	2,000
SB16	1.5	0	-	0
	3	0	-	0
SB17	1	0	-	0
	3	0	-	0
SB18	1	0	-	0
	3	380	0	380
	4.8	290	0	290
SB19	1	0	-	0
	2.5	0	-	0
	3.5	0	-	0

See notes at end of table.

**Table 2 (Continued)
Soil Screening Results**

Site Assessment Report
Building 502, Tank 502
Naval Air Station Cecil Field
Jacksonville, Florida

Boring Number	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
SB20	1	0	-	0
	3	0	-	0
	4	0	-	0
SB21	1	0	-	0
	3	0	-	0

Notes: All soil samples were collected on February 3, 1997.
Soil samples were filtered with carbon to determine the methane concentration.
OVA readings were not taken during monitoring well installation.

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

Table 3
Summary of Subsurface Soil Analytical Detections

Site Assessment Report
 Building 502, Tank 502
 Naval Air Station Cecil Field
 Jacksonville, Florida

Compound	CEF-502-SB4 (5 to 6 feet bls; OVA = 1,400 ppm)	CEF-502-SB10 (5 to 6 feet bls; OVA = 300 ppm)	Soil Cleanup Target Levels ¹
<u>Volatile Organic Aromatics (USEPA Method 8020) (mg/kg)</u>			
Ethylbenzene	0.470 J	0.260 J	240/0.4
Toluene	0.065 J	ND	300/0.4
Xylenes	0.740 J	0.440 J	290/0.3
<u>Polynuclear Aromatic Hydrocarbons (USEPA Method 8310) (mg/kg)</u>			
Benzo(a)anthracene	0.690 J	ND	1.4/2.9
Fluoranthene	6.0 J	5.1 J	2,800/550
Pyrene	2.9 J	2.6	2,200/570
<u>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/kg)</u>			
TRPH	8,000	11,000	350/340

¹ Chapter 62-770, Florida Administrative Code: Direct Exposure Table 1/Leachability, Table V.

Notes: Bold indicates concentration exceeded cleanup target level.

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

Table 4
Summary of Groundwater Analytical Results

Site Assessment Report
Building 502, Tank 502
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	CEF-502-1S	CEF-502-2S	CEF-502-3S	CEF-502-4S	CEF-502-5D	Groundwater Cleanup Target Levels ¹
<u>Volatile Organic Aromatics (USEPA Method 601/602) (µg/l)</u>						
Benzene	ND	26	ND	ND	ND	1
Ethylbenzene	19	68	ND	ND	ND	30
Toluene	ND	14	ND	ND	ND	40
Xylenes	7.9	180	ND	ND	ND	20
1,4-Dichlorobenzene	ND	ND	ND	ND	1.3	NA
<u>Polynuclear Aromatic Hydrocarbons (USEPA Method 625) (µg/l)</u>						
Fluoranthene	ND	8.3	ND	ND	ND	280
1-Methylnaphthalene	150	200	ND	1.3	ND	NA
2-Methylnaphthalene	200	260	ND	ND	ND	NA
Naphthalene	160	200	ND	ND	ND	20
<u>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/l)</u>						
TRPH	7.5	13	ND	ND	ND	5

¹ Chapter 62-770, Florida Administrative Code.

Notes: Groundwater samples were collected on March 20, 1997, and June 18, 1998.

Bold indicates concentration exceeded cleanup target level.

USEPA = U.S. Environmental Protection Agency.

µg/l = micrograms per liter.

ND = not detected.

NA = not applicable.

mg/l = milligrams per liter.

FL-PRO = Florida-Petroleum Residual Organics.



LEGEND

CEF-502-1S Monitoring well location and designation

Groundwater flow direction

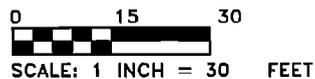
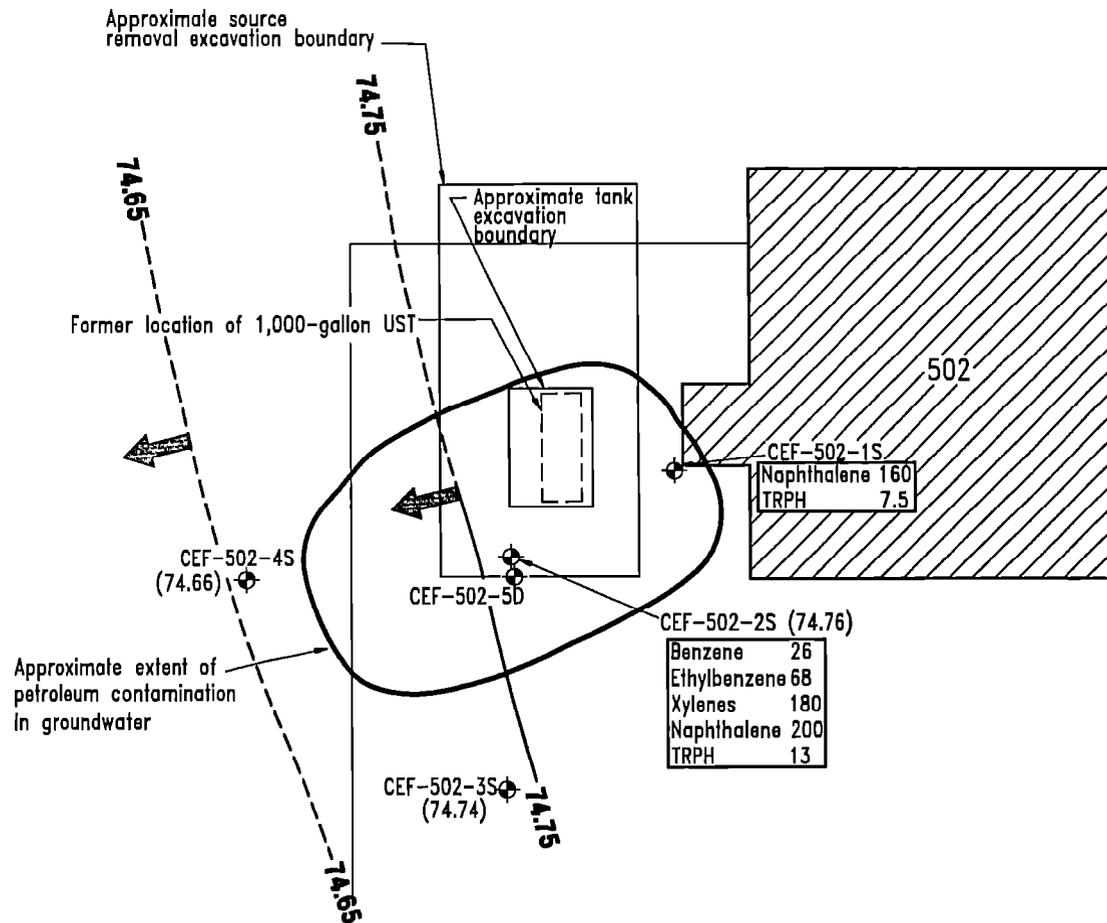
74.65 Potentiometric contour (dashed where inferred)

TRPH 13	Contaminant and concentration (in micrograms per liter) that exceed cleanup target levels
---------	---

(74.66) Groundwater elevation

UST Underground storage tank

TRPH Total recoverable petroleum hydrocarbons



**FIGURE 3
TANK 502
MONITORING WELL LOCATIONS AND DATA**



**SITE ASSESSMENT REPORT
BUILDING 502, TANK 502**

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

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.

Compound	Milestone Objectives ($\mu\text{g}/\ell$)				
	End of				
	Year 1	Year 2	Year 3	Year 4	Year 5
Benzene	26	13	6	3	<1
Ethylbenzene	60	50	40	30	<30
Xylenes	150	100	50	20	<20
Naphthalene	150	100	50	20	<20
TRPH	10	8	6	5	<5

Notes: $\mu\text{g}/\ell$ = micrograms per liter.
 < = less than.
 TRPH = total recoverable petroleum hydrocarbons.

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 502 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 502, Tank 502, 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 (October).
- Bechtel Environmental Incorporated. 1997. DO #59: *Closure Report for Above Storage Tank/Underground Storage Tank Removals, Naval Air Station Cecil Field, Jacksonville, Florida*. (July).

APPENDIX A
MONITORING WELL INSTALLATION DETAIL

PROJECT: NAS Cecil Field		LOG of WELL: CEF-502-IS		BORING NO. CEF-502-IS	
CLIENT: SOUTHDIYNAVFACENGCOM		PROJECT NO: 8542-03		DATE STARTED: 3-17-97	
DRILLING SUBCONTRACTOR: GEOTEK		SITE: Building 502		COMPLETED: 3-17-97	
METHOD: 6.25" HSA		WELL CASE DIAM.: 2"		MONITOR INST. FID	
TOC ELEVATION: FT. NGVD		GROUND ELEV.: FT. NGVD		SCREEN INT.: 5.5-10.5 FT.	
WELL DEVELOP. DATE: 3-17-97		TOTAL DEPTH: 10.5 FT. BLS		SCREEN SLOT SIZE: D	
		DEPTH TO ∇: 8.50 FT. BLS		NORTHING: 2149482	
				EASTING: 388285.9	
				LOGGED BY: J Tarr	

DEPTH FT.	SAMPLE INTERVAL	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0				SANDY GRAVEL (FILL MATERIAL): Light Brown, gravel with sand and silt, well graded.	0.0 0.0 0.0	GM		
60				SILTY SAND: Grey to brown, fine grain, poorly graded, strong petroleum odor.		SM	posthole	
1400				SILTY SAND: Light brown to black, very brittle, hard pan, petroleum odor.			Hand Auger	
1000				SILTY SAND: Light brown to black, very brittle, hard pan, petroleum odor.			Hand Auger	

TITLE: NAS Cecil Field, Bldg. 502, Site Assessment Report		LOG of WELL: CEF-502-2S	BORING NO. CEF-502-2S
CLIENT: SOUTH DIV NAVFACENCOM			PROJECT NO: 02523.13
CONTRACTOR: Custom Drilling		DATE STARTED: 02-12-98	COMPLTD: 02-12-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 4-14 ft.	PROTECTION LEVEL: D
TOC ELEV.: 83.37 FT.	MONITOR INST.: FID	TOT DPTH: 14.5FT.	DPTH TO ∇ 8.61 FT.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: N/A		SITE: Building 502

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1				<> see note		SM		
2			0					posthole
3								
4								
5			410	SILTY SAND: dark gray to black, fine grain.				posthole
6								
7								
8								*
9								**
10			400	SILTY SAND: dark brown to black, hardpan, fine grain.				
11								
12								
13				<> soil description taken from CEF-502-50				
14			430	* no split spoon samples taken ** OVA reading taken from auger cuttings				
15								

TITLE: NAS Cecil Field, Bldg. 502, Site Assessment Report		LOG of WELL: CEF-502-3S	BORING NO. CEF-502-3S
CLIENT: SOUTHDIIVNAVFACENCOM		PROJECT NO: 02523.13	
CONTRACTOR: Custom Drilling		DATE STARTED: 02-12-98	COMPLTD: 02-12-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 4-14 ft.	PROTECTION LEVEL: D
TOC ELEV.: 82.06 FT.	MONITOR INST.: FID	TOT DPTH: 14.5FT.	DPTH TO ∇ 7.32 FT.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: N/A		SITE: Building 502

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				posthole	
3								
4			0				posthole	
5				SILTY SAND: dark gray to black, fine grain.				
6			0					
7								
8							*	
9							**	
10			20	SILTY SAND: dark brown to black, hardpan, fine grain.				
11								
12								
13				<> soil description taken from CEF-502-5D				
14				* no spill spoon samples taken				
14			30	** OVA reading taken from auger cuttings				
15								

TITLE: NAS Cecil Field, Bldg. 502, Site Assessment Report		LOG of WELL: CEF-502-4S	BORING NO. CEF-502-4S
CLIENT: SOUTH DIV NAV FAC ENG COM		PROJECT NO: 02523.13	
CONTRACTOR: Custom Drilling		DATE STARTED: 02-12-98	COMPLTD: 02-12-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 4-14 ft.	PROTECTION LEVEL: D
TOC ELEV.: 82.09 FT.	MONITOR INST.: FID	TOT DPTH: 14.5 FT.	DPTH TO ∇ 7.43 FT.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: N/A		SITE: Building 502

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				posthole	
3					SILTY SAND: reddish brown to pale yellowish brown, fine grain, hardpan.				
4				0				posthole	
5					SILTY SAND: dark gray to black, fine grain.				
6									
7									
8				20				*	
9								**	
10					SILTY SAND: dark brown to black, hardpan, fine grain.				
11									
12									
13					<> soil description taken from CEF-502-5D				
14				150	* no split spoon samples taken ** OVA reading taken from auger cuttings				
15									

TITLE: NAS Cecil Field, Bldg. 502, Site Assessment Report		LOG of WELL: CEF-502-5D	BORING NO. CEF-502-5D
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 02523.13
CONTRACTOR: Custom Drilling		DATE STARTED: 03-02-98	COMPLTD: 03-09-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 25-30 ft.	PROTECTION LEVEL: D
TOC ELEV.: 83.43 FT.	MONITOR INST.: FID	TOT DPTH: 30.5FT.	DPTH TO ∇ 5.67 FT.
LOGGED BY: J. Tarr	WELL DEVELOPMENT DATE: 03-11-98		SITE: Building 502

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1						SM		
2			2				posthole	
3			3				posthole	
4								
5								
6		75%	1700	SILTY SAND: dark gray to black, very strong petroleum odor.			2,3,4,3	
7								
8								
9								
10								
11		50%	1500	SILTY SAND: dark brown to black, hardpan, strong petroleum odor.			6, >50 (3")	
12								
13								
14								
15								
16		50%	260	SILTY SAND: light brown to reddish brown, hardpan.			8,12,>50 (3")	
17								
18								
19								
20								
21		100%	150	SILTY SAND: light brown, slight petroleum odor.			4,6,6,12	
22								
23								
24								
25								
26		75%	0	SILTY SAND: brown, fine grain with trace of clay.			5,7,8,11	
27								
28								
29								
30								
31		100%	0	SILTY SAND: olive gray, fine grain, trace of clay.			6,6,6,4	
32								
33								
34								
35								

APPENDIX B
ANALYTICAL DATA

NAS CECIL FIELD TANK 502
 UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9396

Lab Sample Number: B7C2201010
 Site: BRACGREY
 Locator: CEF5021S
 Collect Date: 20-MAR-97

VALUE QUAL UNITS DL

BRACGREY ANALYTICAL PARAMETERS

1,1,1-Trichloroethane	1 U	ug/l	1
1,1,2,2-Tetrachloroethane	1 U	ug/l	1
1,1,2-Trichloroethane	1 U	ug/l	1
1,1-Dichloroethane	1 U	ug/l	1
1,1-Dichloroethene	1 U	ug/l	1
1,2-Dichlorobenzene	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	150	ug/l	20
2-Methylnaphthalene	200	ug/l	20
Acenaphthene	20 U	ug/l	20
Acenaphthylene	20 U	ug/l	20
Anthracene	20 U	ug/l	20
Benzene	1 U	ug/l	1
Benzo (a) anthracene	1 U	ug/l	1
Benzo (a) pyrene	1 U	ug/l	1
Benzo (b) fluoranthene	1 U	ug/l	1
Benzo (g,h,i) perylene	2 U	ug/l	2
Benzo (k) fluoranthene	1.5 U	ug/l	1.5
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 (e,h) anthracene	2 U	ug/l	2
Dibromochloromethane	1 U	ug/l	1
Dichlorodifluoromethane	1 U	ug/l	1
Ethylbenzene	19	ug/l	1
Ethylene dibromide	.02 U	ug/l	.02
Fluoranthene	2 U	ug/l	2
Fluorene	20 U	ug/l	20
Indeno (1,2,3-cd) pyrene	1 U	ug/l	1
Lead	5 U	ug/l	5
Methyl tert-butyl ether	1 U	ug/l	1
Methylene chloride	1 U	ug/l	1
Naphthalene	160	ug/l	20
Phenanthrene	20 U	ug/l	20
Pyrene	2 U	ug/l	2
Tetrachloroethene	1 U	ug/l	1
Toluene	1 U	ug/l	1
Total petroleum hydrocarbons	7.5	mg/l	.5
Trichloroethene	1 U	ug/l	1
Trichlorofluoromethane	1 U	ug/l	1
Vinyl chloride	1 U	ug/l	1

Lab Sample Number: B7C2201010
Site BRACGREY
Locator CEF5021S
Collect Date: 20-MAR-97

VALUE QUAL UNITS DL

Xylenes (total)	7.9	ug/l	1
cis-1,3-Dichloropropene	1 U	ug/l	1
trans-1,2-Dichloroethene	1 U	ug/l	1
trans-1,3-Dichloropropene	1 U	ug/l	1

Lead-DISS -

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

NAS CECIL FIELD GREY TANK 502
GROUNDWATER DATA -- REPORT REQ NO. 10062

Lab Sample Number:	ABF1901630	ABF1901630	ABF1901630	ABF1901630								
Site	UST GREY	UST GREY	UST GREY	UST GREY								
Locator	CEF-502-2S	CEF-502-3S	CEF-502-4S	CEF-502-5D								
Collect Date:	18-JUN-98	18-JUN-98	18-JUN-98	18-JUN-98								
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

BETX AND DICHLOROBENZENES

Benzene	26	ug/l	10	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Ethylbenzene	68	ug/l	10	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Toluene	14	ug/l	10	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Xylenes (total)	180	ug/l	10	1 U	ug/l	1	1.2	ug/l	1	1 U	ug/l	1
Chlorobenzene	10 U	ug/l	10	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,2-Dichlorobenzene	10 U	ug/l	10	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,3-Dichlorobenzene	10 U	ug/l	10	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,4-Dichlorobenzene	10 U	ug/l	10	1 U	ug/l	1	1 U	ug/l	1	1.3	ug/l	1

PAHs

Acenaphthene	20 U	ug/l	20	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Acenaphthylene	20 U	ug/l	20	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Anthracene	20 U	ug/l	20	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Benzo (a) anthracene	2 U	ug/l	2	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (b) fluoranthene	2 U	ug/l	2	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (k) fluoranthene	1 U	ug/l	1	.05 U	ug/l	.05	.05 U	ug/l	.05	.05 U	ug/l	.05
Benzo (a) pyrene	2 U	ug/l	2	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Chrysene	2 U	ug/l	2	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Dibenzo (a,h) anthracene	2 U	ug/l	2	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Fluoranthene	8.3 J	ug/l	2	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Fluorene	20 U	ug/l	20	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Indeno (1,2,3-cd) pyrene	2 U	ug/l	2	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (g,h,i) perylene	2 U	ug/l	2	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Naphthalene	200	ug/l	20	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Phenanthrene	20 U	ug/l	20	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Pyrene	2 U	ug/l	2	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
1-Methylnaphthalene	200	ug/l	20	1 U	ug/l	1	1.3	ug/l	1	1 U	ug/l	1
2-Methylnaphthalene	260	ug/l	20	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1

FLA PRO

TPH C8-C40	13	mg/l	.5	.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

NAS CECIL FIELD -- TANK 502
 SOIL DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 9952

Lab Sample Number:	ABD1701040		ABD1701040	
Site	UST GREY		UST GREY	
Locator	CEF-502-SB4		CEF-502-SB10	
Collect Date:	16-APR-98		16-APR-98	
	VALUE	DL	VALUE	DL
	QUAL UNITS		QUAL UNITS	

UST GREY					
	VALUE	DL	VALUE	DL	
Benzene	12 U	ug/kg	12	11 U	ug/kg
Ethylbenzene	470 J	ug/kg	12	260 J	ug/kg
Toluene	65 J	ug/kg	12	11 U	ug/kg
Xylenes (total)	740 J	ug/kg	12	440 J	ug/kg
Acenaphthene	24000 U	ug/kg	24000	23000 U	ug/kg
Acenaphthylene	24000 U	ug/kg	24000	23000 U	ug/kg
Anthracene	24000 U	ug/kg	24000	23000 U	ug/kg
Benzo (a) anthracene	690 J	ug/kg	610	570 U	ug/kg
Benzo (a) pyrene	810 U	ug/kg	610	570 U	ug/kg
Benzo (b) fluoranthene	610 U	ug/kg	610	570 U	ug/kg
Benzo (g,h,i) perylene	610 U	ug/kg	610	570 U	ug/kg
Benzo (k) fluoranthene	610 U	ug/kg	610	570 U	ug/kg
Chrysene	2400 U	ug/kg	2400	2300 U	ug/kg
Dibenzo (a,h) anthracene	610 U	ug/kg	610	570 U	ug/kg
Fluoranthene	6000 J	ug/kg	610	5100 J	ug/kg
Fluorene	24000 U	ug/kg	24000	23000 U	ug/kg
Indeno (1,2,3-cd) pyrene	610 U	ug/kg	610	570 U	ug/kg
Naphthalene	24000 U	ug/kg	24000	23000 U	ug/kg
Phenanthrene	24000 U	ug/kg	24000	23000 U	ug/kg
Pyrene	2900 J	ug/kg	610	2600	ug/kg
FLA PRO					
TPH C8-C40	8000	mg/kg	240	11000	mg/kg

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

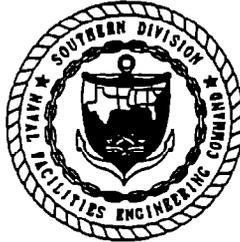
UST 502

**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 Constructors, Inc.	4
CH2M HILL	2
Harding Lawson Associates	1

FINAL DRAFT

SOURCE REMOVAL REPORT

Revision No.: 00

UST 502

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

Unit Identification Code: N60200
Contract No. N62467-98-D-0995, CTO No. 002

Prepared by:

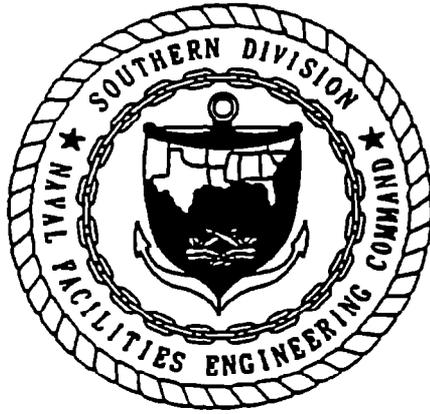
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Atlanta, Georgia 30346

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.
Contract 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	Headspace 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

Appendix E: Laboratory Report of KAG Analyses

LIST OF FIGURES

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

LIST OF TABLES

Table	Title	Page No.	Revision No.	Date
2-1	Summary of Manifests	2-1	00	03/05/99
2-2	Summary of Headspace Screening Results	2-3	00	03/05/99
2-3	Summary of KAG Results	2-4	00	03/05/99

GLOSSARY

ABB	ABB Environmental Services, Inc.
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 502

Date(s) of Source Removal: 1/13-14/99

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>556 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: 48.25 feet long x 29.5 feet wide x 7 feet deep (see Figure 2-1) 1000-gallon UST, contained fuel oil (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 wells CEF-502-1S, CEF-502-2S, 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 502 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 502 is described in detail in the NAS Cecil Field Basewide Work Plan, Revision 1 (CCI, 1998a) and the Work Plan Addendum (CCI, 1998b). This work was authorized under the Remedial Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 002.

1.1 SITE BACKGROUND. UST 502 was a 1,000-gallon fuel oil tank located on the Main Base of NAS Cecil Field. The tank was used to store fuel oil for the hot-water boiler in Building 502, a maintenance facility for equipment and vehicles associated with the Aviation Ordnance Area. UST 502 was installed in 1957 and removed April 16, 1997. Five tons of excessively contaminated soil were excavated at the time the UST was removed (ABB, 1997). Subsequently, excessively contaminated soils were identified around UST 502 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 502 was to remove petroleum-contaminated soils that exceeded 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.

5084



LEGEND

- + CEF-502-1S
 Monitoring well location and designation
- SB10
 Soil boring location and designation
- ▲ CEF-502-SB4
 Confirmatory KAG soil sample location and designation
- (875)
 OVA reading in ppm
- | | |
|------|--------|
| TRPH | 11,000 |
|------|--------|

 Contaminant and concentration (in micrograms per liter) that exceed cleanup target levels
- UST Underground storage tank
- OVA Organic vapor analyzer
- ppm Parts per million
- KAG Kerosene Analytical Group
- TRPH Total recoverable petroleum hydrocarbons

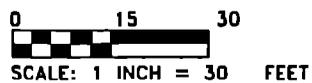
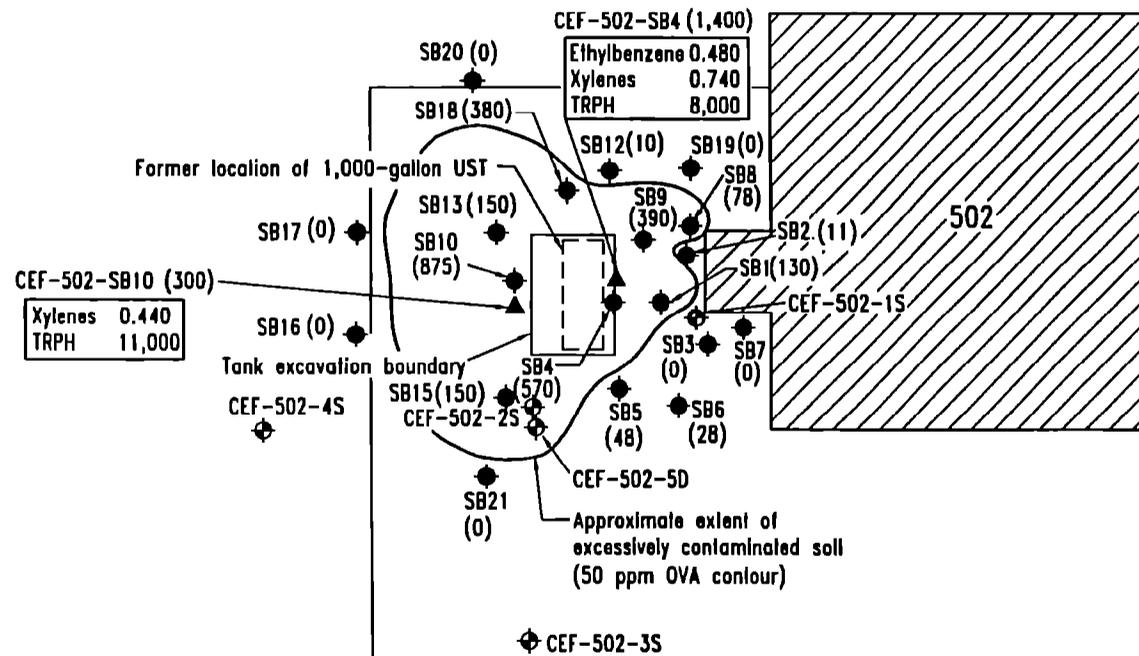


FIGURE 1-1
TANK 502
EXISTING CONDITIONS



SOURCE REMOVAL REPORT
BUILDING 502, TANK 502

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

2.0 SOURCE REMOVAL ACTIVITIES

A Source Removal was conducted at UST 502 on January 13 and 14, 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, three monitoring wells, CEF-502-1S, CEF-502-2S, and CEF-502-5D 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. The asphalt was removed at UST 502 to obtain access to the excavation area.

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 wells CEF-502-1S and CEF-502-2S, which were 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, 556 tons of petroleum-contaminated soil were excavated and disposed of offsite. The excavation was approximately 48.25 feet long, 29.5 feet wide, and 7 feet deep, corresponding to approximately 369 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 (lbs.)	Net (pounds)
1/13/99	202	Modlin	CF 1147	64840	22700	42140
1/13/99	9804	Modlin	CF 1148	66560	23180	43380
1/13/99	9808	Modlin	CF 1149	65140	22580	42560
1/13/99	209	Modlin	CF 1150	67180	23600	43580
1/13/99	9802	Modlin	CF 1151	58460	23200	35260
1/13/99	210	Modlin	CF 1152	66760	23500	43260
1/13/99	9800	Modlin	CF 1153	71580	22600	48980
1/13/99	223	Modlin	CF 1154	67020	23500	43520
1/13/99	9809	Modlin	CF 1155	63200	23360	39840
1/13/99	9803	Modlin	CF 1156	63580	22600	40980
1/13/99	9702	Modlin	CF 1157	62960	22600	40360
1/13/99	9801	Modlin	CF 1158	65100	22600	42500

LEGEND



EXCAVATED 7' OF CONTAMINATED SOIL

NOTE: FID VALUES SHOWN ARE CORRECTED FOR METHANE



Abandoned Monitoring well location

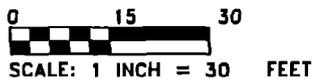
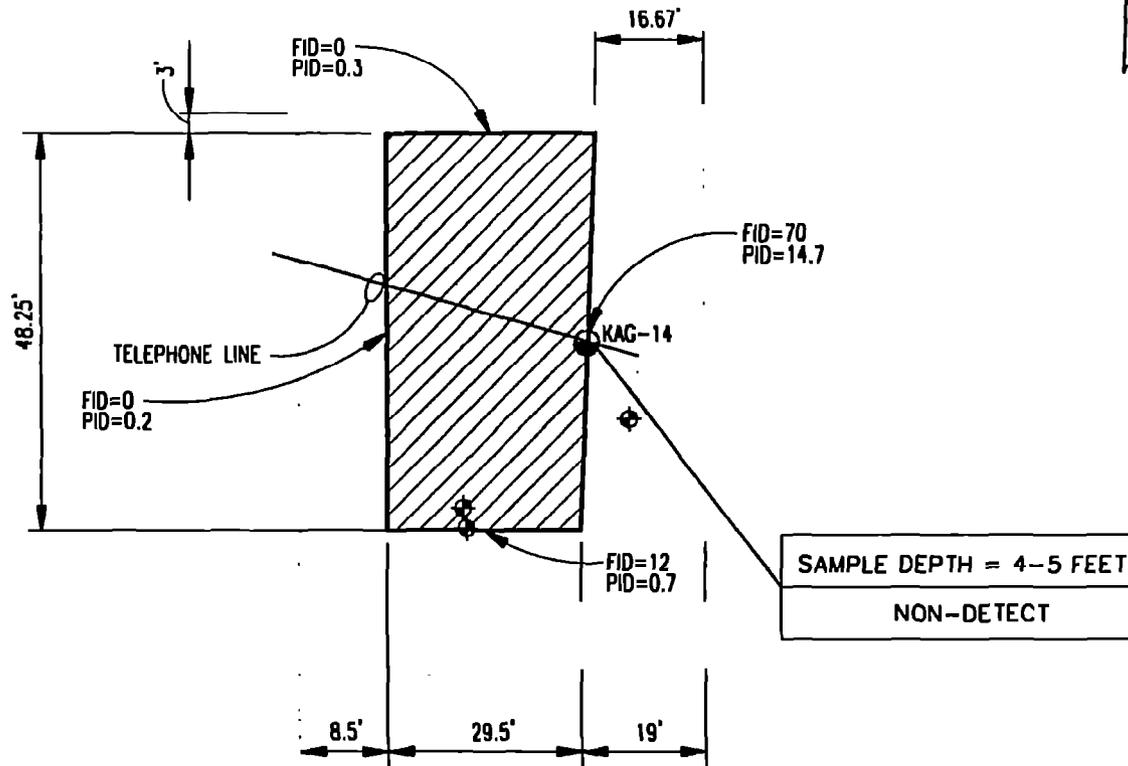


FIGURE 2-1
TANK 502
SOIL EXCAVATION AREA



SOURCE REMOVAL REPORT
BUILDING 502, TANK 502

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Table 2-1 Continued
Summary of Manifests for Soil Disposal

Date	Truck #	Company	Manifest #	Weight (pounds)	Tare (pounds)	Net (pounds)
1/13/99	202	Modlin	CF 1159	61220	22700	38520
1/13/99	9808	Modlin	CF 1160	66100	22580	43520
1/13/99	9804	Modlin	CF 1161	66620	23180	43440
1/13/99	209	Modlin	CF 1162	68900	23600	45300
1/13/99	9802	Modlin	CF 1163	64380	23200	41180
1/13/99	210	Modlin	CF 1164	65500	23500	42000
1/13/99	223	Modlin	CF 1165	65900	23500	42400
1/13/99	9800	Modlin	CF 1166	70940	22600	48340
1/13/99	9803	Modlin	CF 1167	63700	22600	41100
1/13/99	9809	Modlin	CF 1168	63420	23300	40120
1/13/99	202	Modlin	CF 1169	66320	22700	43620
1/13/99	9801	Modlin	CF 1170	67920	22600	45320
1/14/99	9809	Modlin	CF 1171	68620	23360	45260
1/14/99	202	Modlin	CF 1172	67860	22700	45160
Number of Truck Loads = 26				Total Weight (pounds) =		1111640
				Total Weight (tons) =		555.82

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 re-paved with asphalt.

2.3 SAMPLING AND ANALYSIS. Soil samples were collected from the walls of the excavation at a depth of 4.5 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 Head Space Analysis. Soil samples collected from the UST 502 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. The headspace results were below 50 ppm on the north, south, and west sides of the excavation. On the eastside of the excavation the headspace result was 70 ppm, exceeding the level of 50 ppm for excessively contaminated soil. Because of the proximity to Building 502, the excavation could not be extended any further on the east side.

Table 2-2
Summary of Headspace Screening Results

Station ID	Depth (feet bls)	FID Unfiltered (ppm)	FID with Filter (ppm)	FID Corrected (ppm)	PID (ppm)
North	4.5	0	0	0	0.3
South	4.5	14	2	12	0.7
East	4.5	85	15	70	14.7
West	4.5	0	0	0	0.2

2.3.2 KAG Analyses. Because the headspace result (OVA with FID) on the eastern limit of the excavation was above 50 ppm, a soil sample was later collected at that location for KAG analyses. The sample (labeled 502, KAG-14) was collected at a depth of 4 to 5 feet bls on January 26, 1999. The soil sample was analyzed for VOCs, PAHs, and TRPH by the FLO-PRO method. The soil sample analyzed for VOCs was collected in accordance with EPA Method 5035. Laboratory analyses were conducted by Advanced Environmental Laboratories, Jacksonville, Florida.

The results of the KAG analyses showed no exceedances of SCTLs. The results of the soil analyses are shown in Table 2-3 and the laboratory report is presented in Appendix E. Because KAG analyses previously had been used at this site to delineate the limits of the excavation, no additional KAG analyses were conducted at UST 502.

**Table 2-3
Results of KAG Analyses**

		Station ID:	502; KAG-14 (Lab ID 990154-3)
		Depth:	4 - 5 ft bls
		Laboratory:	AEL
		Collection Date:	1/26/99
COPC	Units	SCTLs	
Benzene	mg/kg	0.007	0.005 U
Ethyl benzene	mg/kg	0.4	0.005 U
Toluene	mg/kg	0.4	0.005 U
Total Xylenes	mg/kg	0.3	0.005 U
MTBE	mg/kg	0.2	0.005 U
Acenaphthene	mg/kg	4	0.2 U
Acenaphthylene	mg/kg	22	0.2 U
Anthracene	mg/kg	2000	0.2 U
Benzo(a)anthracene	mg/kg	2.9	0.2 U
Benzo(a)pyrene	mg/kg	7.8	0.2 U
Benzo(b)fluoranthene	mg/kg	9.8	0.2 U
Benzo(g,h,i) perylene	mg/kg	13000	0.2 U
Benzo(k)fluoranthene	mg/kg	25	0.2 U
Chrysene	mg/kg	80	0.2 U
Dibenzo(a,h)anthracene	mg/kg	14	0.2 U
Fluoranthene	mg/kg	550	0.2 U
Fluorene	mg/kg	87	0.2 U
Indeno(1,2,3-c,d)pyrene	mg/kg	28	0.2 U
Naphthalene	mg/kg	1	0.2 U
Phenanthrene	mg/kg	120	0.2 U
Pyrene	mg/kg	570	0.2 U
TRPH	mg/kg	340	4 U

3.0 CONCLUSIONS

A total of 556 tons of petroleum-contaminated soils at UST 502 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 on three walls (north, south, and west sides) of the excavation. On the east wall of the excavation where the headspace result (OVA with FID reading) exceeded 50 ppm, KAG analyses confirmed that the soil was below SCTLs. No free product was found during the excavation.

4.0 REFERENCES

ABB Environmental Services, Inc., 1997, Confirmatory Sampling Report, Building 502, Tank 502, BRAC UST and AST Grey Sites, NAS Cecil Field, Jacksonville, Florida, October.

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.

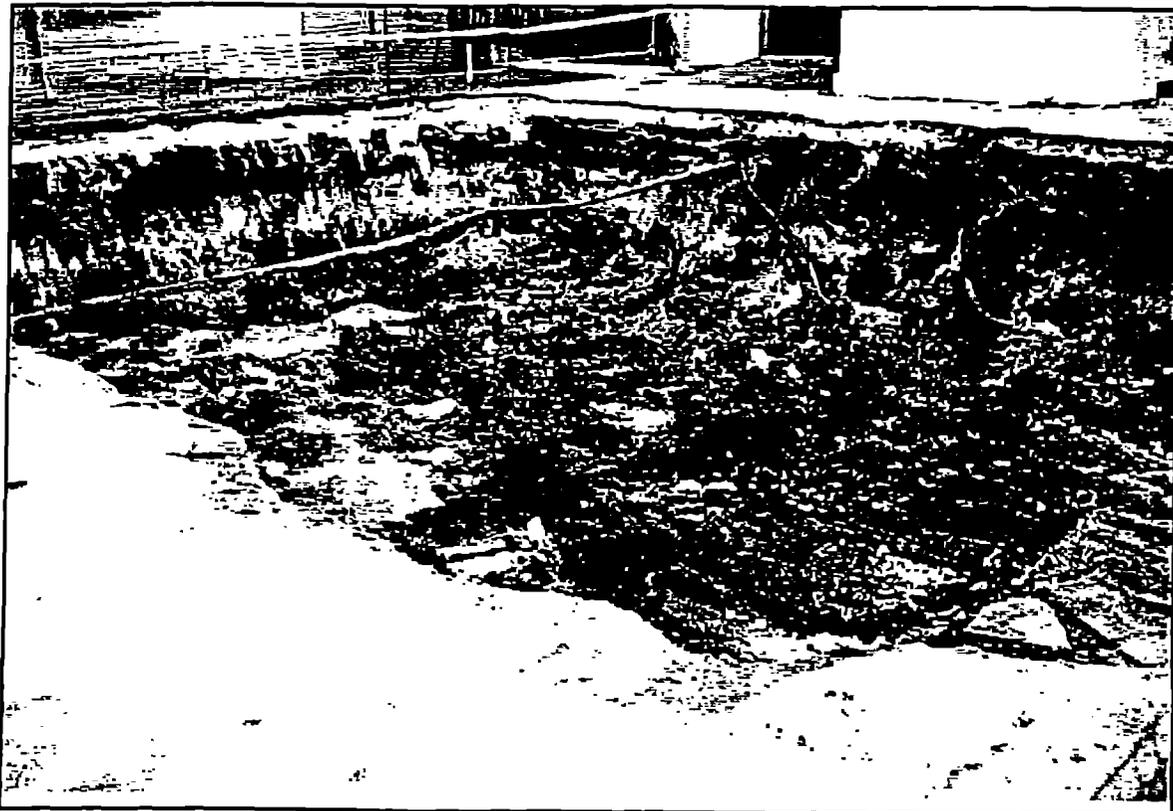
CH2M HILL Constructors, Inc., 1998b, Work Plan Addendum No. 1, Excavation of Petroleum-Contaminated Soil from 11 Former UST Sites and the Day Tank 2 Area, NAS Cecil Field, Jacksonville, Florida: prepared for Southern Division Naval Facilities Engineering Command, November.

Harding Lawson Associates (HLA), 1998, Site Assessment Report, Building 502, Tank 502, BRAC UST and AST Grey Sites, NAS Cecil Field, Jacksonville, Florida, October.

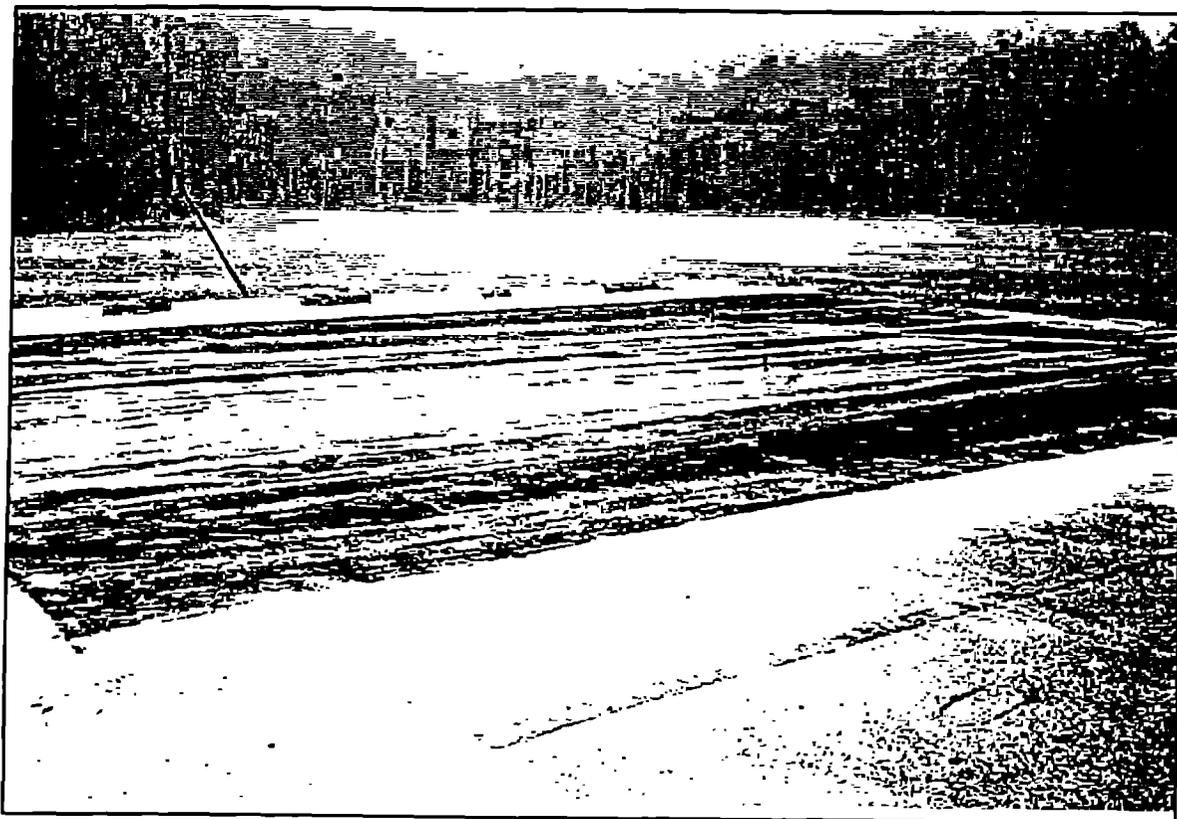
Southern Division Naval Facilities Engineering Command Quality Improvement Forum, 1998, A Guideline for the Preparation of Remedial Action Reports/Closure Reports, Revision 0, May 11.

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

**APPENDIX A
PHOTOGRAPHS**



EXCAVATION IN PROGRESS

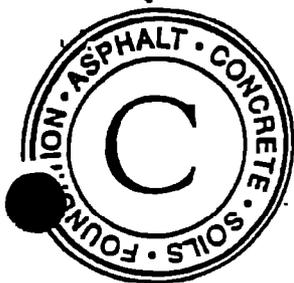


SITE RESTORATION

UST SITE
BUILDING 502

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.
1st 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 tremmied 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:

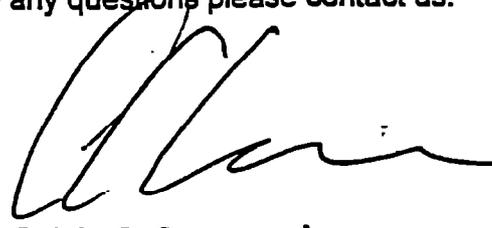
Monitoring Well No.	Diameter	Depth, Ft.
CEF-605-1S	2"	12' 1"
CEF-605-5D	2"	30' 3"
CEF-607-1S	2"	12' 4"
CEF-639-1S	2"	13' 2"
CEF-623-4D	2"	29' 6"
CEF-623-1S	2"	12' 2"
CEF-F-15	2"	14' 5"
CEF-880-1S	2"	14' 7"
CEF-502-5D	2"	30' 0"
CEF-502-2S	2"	13' 2"
CEF-502-1S	2"	10' 6"
TOTAL		192' 2"

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# _____ DID # _____

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.

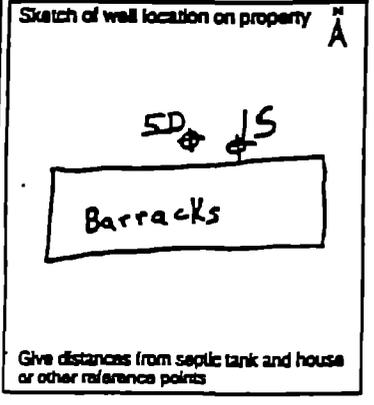
Grout	No. of Bags	From (FL)	To (FL)
Neat Cement	1/3	0	12.1
Bentonite:			

WELL LOCATION: County Duval
W 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 _____ FL Intake Depth _____ FL



Form 408-3-3 Rev. 12/85

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 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' 1"</u>	0	12.1	Cement-bentonite grout
			Abandoned Well
Diameter _____ From _____ To _____			No CEF-605-1S
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.)

ERMIT # _____ CUP# _____ DID # _____

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.

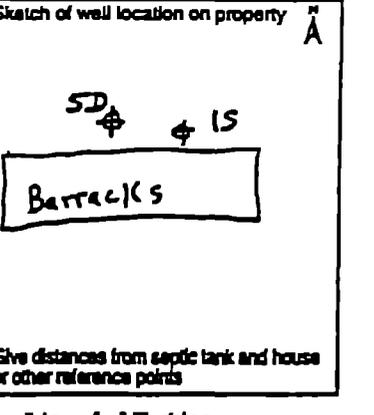
Grout	No. of Bags	From (FL)	To (FL)
Neat Cement	1	0	30.2
Bentonite:	1/4		

WELL LOCATION: County Duval
W 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 _____ 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 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>30.2</u>	0	30.2	Cement-bentonite grout
			Abandoned Well
Diameter _____ From _____ To _____			No CEF-605-SD
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

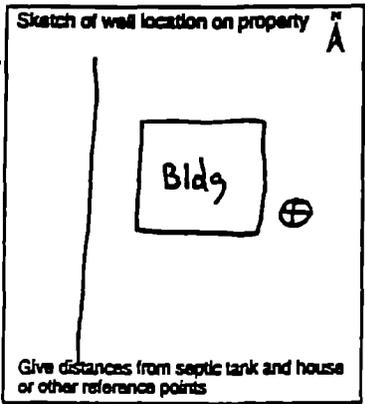
SIGNATURE [Signature] License # 11026

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	12.3
Bentonite:			

WELL LOCATION: County Duval
 NW 1/4 of NE 1/4 of Section 10 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 _____ FL Intake Depth _____ FL

Form 408-3-3 Rev. 12/95

OWNER'S NAME U S 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 Above Below Land Surface
 Casing: Black Steel Galv. 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	12.3	Cement Bentonite grout
From <u>0</u>			
To <u>12.3</u>			
			Abandoned Well No
Diameter _____			CEF-607-15
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.)

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

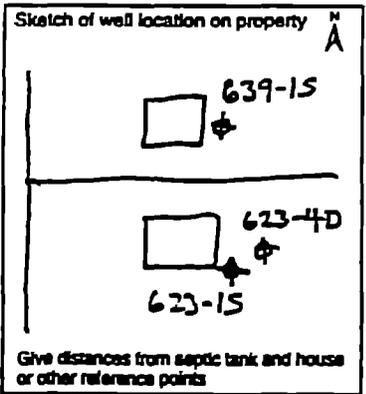
SIGNATURE [Signature] License # _____

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: 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 _____ FL Intake Depth _____ FL

Form 408-3-3 Rev. 12/95

OWNER'S NAME U S 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 Above Below Land Surface
 Casing: Black Steel Galv. 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	13.2	CEMENT-Bentonite grout
From <u>0</u>			
To <u>13.2</u>			
			Abandoned Well No
Diameter _____			CEF-639-15
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.)

PERMIT # _____ CUP# _____ DID # _____

If permit is for multiple wells indicate the number of wells drilled _____

Indicate remaining wells to be cancelled _____

WATER WELL CONTRACTOR'S

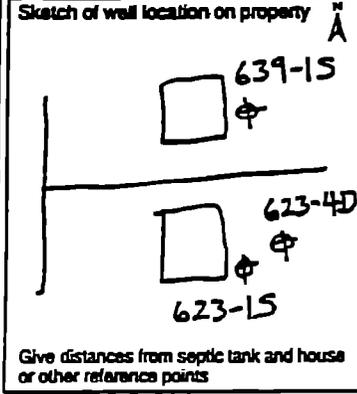
SIGNATURE Frank Linehan License # 11026

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 1/4 of NE 1/4 of Section 3 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 _____ FL Intake Depth _____ FL

OWNER'S NAME U.S. Navy - NTS 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 Above Below Land Surface
 Casing: Black Steel Galv. 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>	From <u>0</u> To <u>12.2</u>		<u>Cement Bentonite grout</u>
Diameter _____	From _____ To _____		<u>Abandoned Well No</u>
			<u>CEF-623-1S</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# _____ DID # _____

If permit is for multiple wells indicate the number of wells drilled _____

Indicate remaining wells to be cancelled _____

WATER WELL CONTRACTOR'S

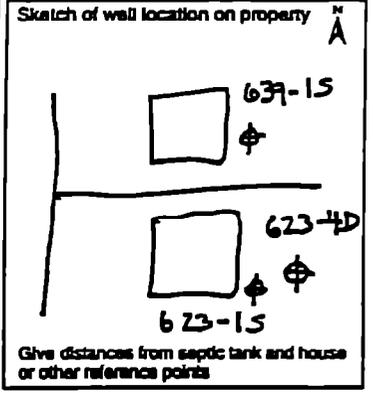
SIGNATURE Frank Linehan License # 11026

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 1/4 of NE 1/4 of Section 3 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 _____ FL Intake Depth _____ FL

OWNER'S NAME U.S. Navy - NTS 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 Above Below Land Surface
 Casing: Black Steel Galv. 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>	From <u>0</u> To <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 _____		

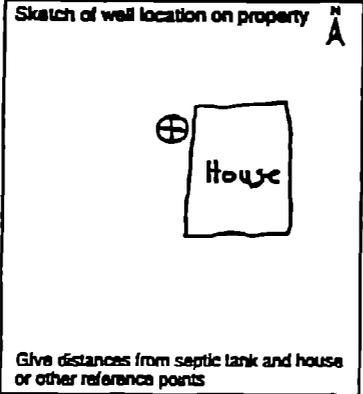
Driller's Name: Frank Linehan
 (print or type)

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 [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	14.4
Bentonite:			

WELL LOCATION: County Duval
NE 1/4 of SE 1/4 of Section 15 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 [Signature]
 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 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>14.4</u>	<u>0</u>	<u>14.4</u>	<u>Cement-Bentonite grout</u>
			<u>Abandoned Well No</u>
Diameter _____ From _____ To _____			<u>CEF-F-15</u>
Liner <input type="checkbox"/> or Casing <input type="checkbox"/> Diameter _____ From _____ To _____			

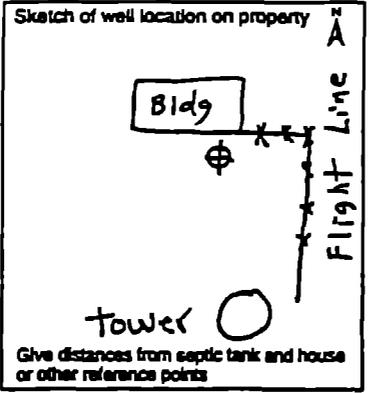
Driller's Name: Frank Linehan
 (print or type)

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 [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	14.6
Bentonite:			

WELL LOCATION: County Duval
SE 1/4 of NW 1/4 of Section 23 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 _____ FL 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>14.6</u>	<u>0</u>	<u>14.6</u>	<u>Cement-Bentonite grout</u>
			<u>Abandoned Well No</u>
Diameter _____ From _____ To _____			<u>CEF-880-15</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 # _____ CUPP # _____ DID # _____

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

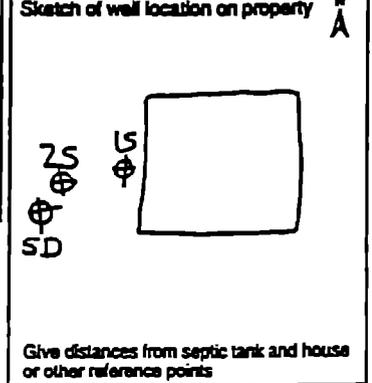
WATER WELL CONTRACTOR'S SIGNATURE Frank Linehan License # 11026
 I certify that the information provided in this report is accurate and true.

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

WELL LOCATION: County Duval
SE 14 of SE 14 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 _____ FL Intake Depth _____ FL

OWNER'S NAME _____ 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 _____ O.P.M. Measuring Pt. (Describe): _____
 Which is _____ FL 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.
Diameter _____ From _____ To _____			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 # _____ CUPP # _____ DID # _____

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

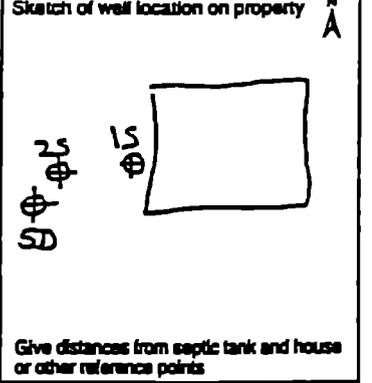
WATER WELL CONTRACTOR'S SIGNATURE Frank Linehan License # 11026
 I certify that the information provided in this report is accurate and true.

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

WELL LOCATION: County Duval
SE 14 of SE 14 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 _____ 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 _____ O.P.M. Measuring Pt. (Describe): _____
 Which is _____ FL 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.
Diameter _____ From _____ To _____			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 # 11026

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

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

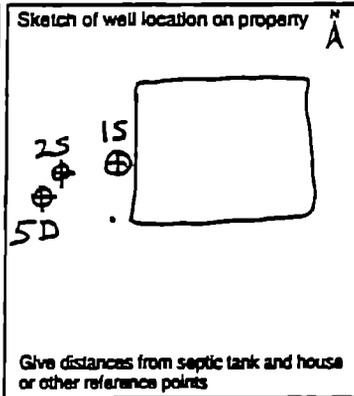
WELL LOCATION: County Duval

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. 12/85

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 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 (Ft.)		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>	<u>0</u>	<u>30.0</u>	<u>Cement-bentonite grout</u>
Diameter _____ From _____ To _____			<u>Abandoned Well No</u> <u>CEF-502-5D</u>
Liner <input type="checkbox"/> or Casing <input type="checkbox"/> Diameter _____ From _____ To _____			

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

APPENDIX C
SOIL DISPOSAL MANIFESTS

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **1147**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone **704-284-9448**

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

8. Containers
No. Type

9. Total Quantity

10. Unit Wt/Vol

a. **Petroleum Contaminated Soil**

001 D T

22

T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above
Site # 502
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 Day Yr
11 13 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name
Joe Weydeney

Signature
Joe Weydeney

Month Day Yr
11 13 99

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Yr

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
Peary Crews

Signature
Peary Crews

Month Day Yr
11 13 99

ORIGINAL - RETURN TO GENERATOR

GENERATOR
TRANSPORTER
FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest
Document # **7798**

1. Page 1
of 1

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

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

4. Transporter 1 Company Name
Moblin Trucking Co.

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
**Kedesh Inc.
Hwy 17 North
Kingsland, GA 31548**

A. Transporter's Phone **704-284-9448**

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

8. Containers
No. Type

9. Total
Quantity

10. Unit
Wt/Vol

a. **Petroleum Contaminated Soil**

001 D-T

22

T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

Site # **502**

Non-RCRA, Non-Hazardous

E. Handling Codes for Wastes Listed Above

Job #5495/ Profile #11800

11. Special Handling Instructions and Additional Information

9804

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 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

James F. Rowe

Signature

James F. Rowe

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

Reay Crews

Signature

Reay Crews

21.69

Month Day Year
11 13 99

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **1194**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone **904-254-7448**

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

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

a.	8. Containers		9. Total Quantity	10. Unit WW/Vol
	No.	Type		
Petroleum Contaminated Soil	001	D T	22	T
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

Site # **502**

Non-RCRA, Non-Hazardous

E. Handling Codes for Wastes Listed Above

Job #5495/ Profile #11800

11. Special Handling Instructions and Additional Information

9808

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

L. Roy A Long

Signature

L. Roy A Long

Month Day Year
11 13 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Louise Olive

Signature

Louise Olive

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

Pegau Crews

Signature

Pegau Crews

21.28

Month Day Year
11 13 99

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

209

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 7150

1. Page 1 of 1

2. Generator's Name and Mailing Address
Commanding Officer, Staff Civil Eng.
PO 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 31548

A. Transporter's Phone 904-284-9448

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

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

a.	b.	c.	d.	8. Containers		9. Total Quantity	10. Unit W/Vol
				No.	Type		
Petroleum Contaminated Soil				001	D T	22	T

D. Additional Descriptions for Materials Listed Above
Site # 502
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: LeRoy A Long Signature: LeRoy A Long Month: 11 Day: 13 Year: 89

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: DAVID McVirt Signature: David McVirt Month: 11 Day: 13 Year: 89

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: 13 Year: 89

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **7757**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone **904-284-9446**

B. Transporter's Phone

C. Facility's Phone

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

D. Additional Descriptions for Materials Listed Above
Site # 502
Non-RCRA, Non-Hazardous

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

11. Special Handling Instructions and Additional Information
4802

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 **11** Day **13** Year **99**

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name **Stephen Leroy** Signature **Stephen M Leroy** Month **11** 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 **Peggy Crews** Signature **Peggy Crews** Month **11** Day **13** Year **99**

GENERATOR
TRANSPORTER
FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **1252**

1. Page 1 of 1

2. Generator's Name and Mailing Address: **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone **904-254-9448**
B. Transporter's Phone
C. Facility's Phone

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

D. Additional Descriptions for Materials Listed Above

Site # **502**

Non-RCRA, Non-Hazardous

E. Handling Codes for Wastes Listed Above

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 Waste.

Printed/Typed Name: **LEROY A LONG** Signature: *Leroy A Long* Month: **11** Day: **13** Year: **99**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: **Elmer McHurt** Signature: *Elmer McHurt* Month: **11** 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: **Peggy Crews** Signature: *Peggy Crews* Month: **11** Day: **13** Year: **99**

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document # **7153**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone **704-284-9448**

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

8. Containers
No. | Type

9. Total Quantity

10. Unit Wt/Vol

Waste Shipping Name and Description	Containers No.	Containers Type	Total Quantity	Unit Wt/Vol
a. Petroleum Contaminated Soil	001	D T	22	T
b.	.	.	.	.
c.	.	.	.	.
d.	.	.	.	.

D. Additional Descriptions for Materials Listed Above

Site # **502**

Non-RCRA, Non-Hazardous

E. Handling Codes for Wastes Listed Above

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 Waste.

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

Jeff Nicholson

Signature

Jeff Nicholson

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.

24.49

Printed/Typed Name

Rosay Crews

Signature

Rosay Crews

Month Day Year

11/13/99

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **1157**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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
Kingland, GA 31548**

A. Transporter's Phone **904-284-7448**
B. Transporter's Phone
C. Facility's Phone

7. Waste Shipping Name and Description

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

a.	8. Containers		9. Total Quantity	10. Unit Wt/Vol
	No.	Type		
Petroleum Contaminated Soil	001	D T	22	T
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Site # 502
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 **LeRoy A Long** Signature **LeRoy A Long** Month **11** Day **13** Year **1999**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name **Robert J. Crain** Signature **Robert J. Crain** Month **11** Day **13** Year **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** Month **11** Day **13** Year **1999**
21.76

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **7755**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone **904-237-8448**
B. Transporter's Phone
C. Facility's Phone

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

D. Additional Descriptions for Materials Listed Above
Site # 502
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 **11** Day **13** Year **99**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name **Dellaris** Signature **Dellaris** Month Day Year

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 **13** Year **99**

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest
Documentation
7156

1. Page 1
of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.**
PO 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 31548

A. Transporter's Phone **904-284-9449**

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

8. Containers
No. Type

9. Total
Quantity

10.
Unit
Wt/Vol

a. **Petroleum Contaminated Soil**

001 D-T

22

T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

Site # **502**

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 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

Signature

Month Day Year

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Randy Jenkins

Signature

Randy Jenkins

Month Day Year
11 13 99

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

Peay Crews

Signature

Peay Crews

Month Day Year
11 13 99

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **7757**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

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

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

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

a.	Petroleum Contaminated Soil	001	D T	22	T
b.					
c.					
d.					

D. Additional Descriptions for Materials Listed Above

Site # **502**

Non-RCRA, Non-Hazardous

E. Handling Codes for Wastes Listed Above

Job #5495/ Profile #11800

11. Special Handling Instructions and Additional Information

9702

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 A Long

Month Day Year

11/13/99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Dwight Moody

Signature

Dwight Moody

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

Peggy Crews

Signature

Peggy Crews

Month Day Year

11/13/99

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest
Document No.
1758

1. Page 1
of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone **904-284-9448**
B. Transporter's Phone
C. Facility's Phone

7. Waste Shipping Name and Description

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

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

D. Additional Descriptions for Materials Listed Above

Site # **502**

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

LeRay A Long

Signature

LeRay A Long

Month Day Year
11 13 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

DOUGLAS L. FELTON

Signature

Douglas P. Felton

Month Day Year
11 15 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.

2625

Printed/Typed Name

Reay Crews

Signature

Reay Crews

Month Day Year
11 13 99

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 1159

1. Page 1 of 1

2. Generator's Name and Mailing Address: Commanding Officer, Staff Civil Eng. PO 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 31548

A. Transporter's Phone 904-284-9448

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

8. Containers No. Type

9. Total Quantity

10. Unit WW/ol

a. Petroleum Contaminated Soil

001 D.T

22

T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above: Site # 502 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 Wastes.

Printed/Typed Name: LeRoy A Long

Signature: LeRoy A Long

Month Day Year: 1/13/98

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Joe Weydener

Signature: Joe Weydener

Month Day Year: 1/13/99

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: Peggy Crews

Signature: Peggy Crews

Month Day Year: 11/13/99

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **1160**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

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

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

8. Containers
No. | Type

9. Total Quantity

10. Unit Wt/Vol

a. **Petroleum Contaminated Soil**

001

D.T

22

T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

Site # 502

Non-RCRA, Non-Hazardous

E. Handling Codes for Wastes Listed Above

Job #5495/ Profile #11800

11. Special Handling Instructions and Additional Information

9808

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

L. Ray A Long

Signature

L. Ray A Long

Month Day Year

11 13 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Lorrie Olive

Signature

Lorrie Olive

Month Day Year

11 17 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 15.

Printed/Typed Name

Regan Crews

Signature

Regan Crews

Month Day Year

11 13 99

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **7761**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone **704-284-9448**
B. Transporter's Phone
C. Facility's Phone

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

D. Additional Descriptions for Materials Listed Above
Site # 502
Non-RCRA, Non-Hazardous

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

11. Special Handling Instructions and Additional Information
9804

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 **7** Day **13** Year **99**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name **James F. Rowe** Signature **James F. Rowe** Month **7** 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 **Regay Crews** Signature **Regay Crews** Month **11** Day **13** Year **99**
21.72

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. *71.62*

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

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 #: 520**

E. Handling Codes for Wastes Listed Above

Non-RCRA, Non-Hazardous

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

Signature

Month Day Year

LeRoy A Long

LeRoy A Long

Month Day Year

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

DAVID M. MOUNT

David M. Mount

Month Day Year

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 10.

22.65

Printed/Typed Name

Signature

Month Day Year

Kevin Crews

Kevin Crews

Month Day Year

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **1163**

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

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.	Petroleum Contaminated Soil	.	DT	.	T
b.		.	.	.	.
c.		.	.	.	.
d.		.	.	.	.

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

802

Non-RCRA, Non-Hazardous

E. Handling Codes for Wastes Listed Above

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 Waste.

Printed/Typed Name LEROY A Long	Signature <i>Leroy R Long</i>	Month Day Year 11 13 99
---	----------------------------------	-----------------------------------

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name <i>Sterling Lewis</i>	Signature <i>Sterling Lewis</i>	Month Day Year 11 13 99
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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.

20.59

Printed/Typed Name Peggy Crews	Signature <i>Peggy Crews</i>	Month Day Year 11 13 99
--	---------------------------------	-----------------------------------

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **1164**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

8. Containers
No. Type

9. Total Quantity

10. Unit Wt/Vol

a. **Petroleum Contaminated Soil**

. . . D T T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

Site # **502**

Non-RCRA, Non-Hazardous

E. Handling Codes for Wastes Listed Above

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 Waste.

Printed/Typed Name

LARRY A LONG

Signature

Larry A Long

Month Day Year
1 / 13 / 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Elmer McQuinn

Signature

Elmer McQuinn

Month Day Year
1 / 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.

21,00

Printed/Typed Name

Peggy Crews

Signature

Peggy Crews

Month Day Year
1 / 13 / 99

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **77.65.**

1. Page 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

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**

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

Site# **502**

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

Leroy A Long

Signature

Leroy A Long

Month Day Year **7 13 99**

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Robert J. Crow

Signature

Robert J. Crow

Month Day Year **1 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 10. :

21.20

Printed/Typed Name

Peggy Crews

Signature

Peggy Crews

Month Day Year **11 13 99**

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 11-666

1. Page 1

2. Generator's Name and Mailing Address
 Commanding Officer, Staff Civil Eng.
 PO 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 31548

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

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

Site# 502

Non-RCRA, Non-Hazardous

E. Handling Codes for Wastes Listed Above

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 Waste.

Printed/Typed Name

LeRoy A Long

Signature

LeRoy A Long

Month Day Year

1 / 13 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Jeff Nicholson

Signature

Jeff Nicholson

Month Day Year

1 / 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 18.

24.17

Printed/Typed Name

Peggy Crews

Signature

Peggy Crews

Month Day Year

1 / 13 99

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **776-7**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

8. Containers

No.

Type

9. Total Quantity

10. Unit WW/Vol

a. **Petroleum Contaminated Soil**

D T

T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

Site # **502**

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

LeRoy A Long

Signature

LeRoy A Long

Month Day Year
11 13 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

RANDY JENKINS

Signature

Randy Jenkins

Month Day Year
11 13 99

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year
11 13 99

15. Discrepancy Indication Space

20.55

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 Day Year
11 13 99

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **1768**

1. Page 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

A. Transporter's Phone

B. Transporter's Phone

C. Facility's Phone

7. Waste Shipping Name and Description

8. Containers

No. Type

9. Total Quantity

10. Unit Wt/Vol

a. **Petroleum Contaminated Soil**

. . . D T T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

Site # 502

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 Day Year

11/13/99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Deloris

Signature

Deloris

Month Day Year

.

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 18.

20106

Printed/Typed Name

Kenneth Crews

Signature

Kenneth Crews

Month Day Year

11/13/99

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 7164

1. Page 1 of 1

2. Generator's Name and Mailing Address
 Commanding Officer, Staff Civil Eng.
 PO 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 31548

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. Petroleum Contaminated Soil
b.
c.
d.

D. Additional Descriptions for Materials Listed Above
 Site# 502
 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: 17, Day: 13, Year: 99

13. Transporter 1 Acknowledgement of Receipt of Materials
 Printed/Typed Name: JOE WEIDENER
 Signature: JOE WEIDENER
 Month: 17, 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 15.
 21.81
 Printed/Typed Name: KEVIN CREWS
 Signature: KEVIN CREWS
 Month: 11, Day: 13, Year: 99

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. **1170**

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

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. **Petroleum Contaminated Soil**

b.

c.

d.

D. Additional Descriptors for Materials Listed Above

Site# 502

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

LARRY A LONG

Signature

Larry A Long

Month Day Year
11 13 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

DOUGLAS L. FELTON

Signature

Douglas L. Felton

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

22.66

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 Day Year
11 13 99

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 777

1. Page 1 of 1

2. Generator's Name and Mailing Address **Commanding Officer, Staff Civil Eng.
PO 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 31548**

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**

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

Site# 502

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 Day Year
7 14 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

T. J. J. J.

Signature

T. J. J. J.

Month Day Year
7 14 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 15.

2263

Printed/Typed Name

Peggy Crews

Signature

Peggy Crews

Month Day Year
11 14 99

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 11-72

1. Page 1 of 1

2. Generator's Name and Mailing Address
 Commanding Officer, Staff Civil Eng.
 PO 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 31548

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. Petroleum Contaminated Soil

b.

c.

d.

D. Additional Descriptions for Materials Listed Above
 Site# 502/607
 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 Day Year
 11 14 99

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name
 Joe Weydener

Signature
 Joe Weydener

Month Day Year
 11 14 99

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.

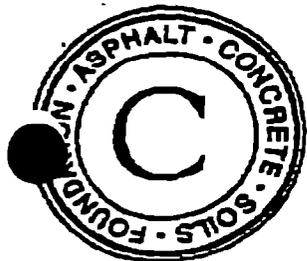
Printed/Typed Name
 Peggy Crews

Signature
 Peggy Crews

Month Day Year
 11 14 99

ORIGINAL - RETURN TO GENERATOR

**APPENDIX D
CLEAN FILL CERTIFICATION**



CAL-TECH TESTING, INC.

ENGINEERING & TESTING LABORATORY

P.O. Box 1625, Lake City, FL 32058-1625
6900 Phillips Hwy., Sta. 3, Jacksonville, FL 32216
7850 Rex Drive, Milton, FL 32570

Lake City • (904) 755-9633
Fax • (904) 752-6466

Jacksonville • (904) 296-7201
Fax • (904) 296-7202

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:

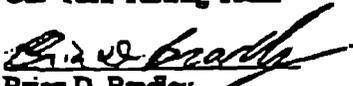
The Cal-Tech Testing Team (CTT) is writing this letter in response to your request for information concerning the disposal of the liner and information concerning the source of fill material used for the backfilling operations at Day Tank 2 and the 8 UST locations at Naval Air Station Cecil Field.

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

APPENDIX E
LABORATORY REPORT OF KAG ANALYSIS



Client: CH2M Hill
Project Name: NAS Cecil
Project No.: NAS Cecil

Report No.: J990154
Date Sampled: 1/26/99
Date Submitted: 1/26/99
Date Reported: 1/28/99

Address: 115 Perimeter Center Place NE
Suite 700
Atlanta, GA 3034

Project Chemist: Chuck Ged

Attention: Craig Haas

Page No.: 1 of 6

Sample Description

The following soil samples were submitted by CH2M Hill on 1/26/99 for analysis outlined on the attached Chain of Custody:

Project #: NAS Cecil

1. 880-N @ 14:15
2. 880W @ 14:30
3. 502 @ 08:30

Approved by: _____


Jolene C. Warnke, Project Manager

Advanced Environmental Laboratories, Inc.

Analytical Report

Client: CH2M Hill
 Project No.: NAS Cecil
 Matrix: Soil

Report No.: J990154
 Date Sampled: 1/26/99
 Date Submitted: 1/26/99
 Date Reported: 1/28/99

Page No.: 2 of 6

~~Volatile Aromatics Hydrocarbons~~
 EPA Method 5035/8021
 Units: µg/Kg

Lab Code: 990154-1 990154-2 990154-3 990150-mb
 Dilution Factor: 5 5 5 1
 Date Analyzed: 1/27/99 1/27/99 1/27/99 1/26/99
 Sample Name: Method

Analytes	MRL	880-N	880W	502	Blank
Methyl- <i>tert</i> -butyl Ether	5	U	111	U	U
Benzene	5	U	U	U	U
Toluene	5	U	U	U	U
Chlorobenzene	5	U	U	U	U
Ethylbenzene	5	U	11.0	U	U
<i>m&p</i> - Xylenes	5	U	60.5	U	U
<i>o</i> -Xylene	5	U	30.5	U	U
1,3-Dichlorobenzene	5	U	U	U	U
1,4-Dichlorobenzene	5	U	U	U	U
1,2-Dichlorobenzene	5	U	U	U	U
Surrogates	Acceptance Limits	Percent Recovery	Percent Recovery	Percent Recovery	Percent Recovery
Bromofluorobenzene	70-135	85	82	105	82

U Not detected above the MRL
 MRL Method Reporting Limit

Analytical Report

Client: CH2M Hill
 Project No.: NAS Cecil
 Matrix: Soil

Report No.: J990154
 Date Sampled: 1/26/99
 Date Submitted: 1/26/99
 Date Reported: 1/28/99

Page No.: 3 of 6

Polynuclear Aromatic Hydrocarbons
 EPA Methods 3550A/8270
 Units: µg/Kg

Analytes	MRL	Lab Code:	990154-1	990154-2	990154-3	990150-mb
		Dilution Factor:	1	1	1	1
		Date Extracted:	1/27/99	1/27/99	1/27/99	1/26/99
		Date Analyzed:	1/27/99	1/27/99	1/27/99	1/26/99
		Sample Name:	880-N	880W	502	Method Blank
Naphthalene	200	U	250	U	U	U
2-Methylnaphthalene	200	U	2938	U	U	U
1-Methylnaphthalene	200	U	3154	U	U	U
Acenaphthylene	200	U	U	U	U	U
Acenaphthene	200	U	U	U	U	U
Fluorene	200	U	U	U	U	U
Phenanthrene	200	U	2304	U	U	U
Anthracene	200	U	2453	U	U	U
Fluoranthene	200	U	555	U	U	U
Pyrene	200	U	406	U	U	U
Benzo(a)anthracene	200	U	U	U	U	U
Chrysene	200	U	U	U	U	U
Benzo(b)fluoranthene	200	U	U	U	U	U
Benzo(k)Fluoranthene	200	U	U	U	U	U
Benzo(a)pyrene	200	U	U	U	U	U
Indeno-1,2,3(cd)pyrene	200	U	U	U	U	U
Dibenzo(ah)anthracene	200	U	U	U	U	U
Benzo(ghi)perylene	200	U	U	U	U	U
Surrogate	Acceptance Limit	Percent Recovery	Percent Recovery	Percent Recovery	Percent Recovery	Percent Recovery
2-Fluorobiphenyl	43-130	61	55	59	101	

U Not detected above the MRL
 MRL Method Reporting Limit

Analytical Report

Client: CH2M Hill
 Project No.: NAS Cecil
 Matrix: Soil

Report No.: J990154
 Date Sampled: 1/26/99
 Date Submitted: 1/26/99
 Date Reported: 1/28/99

Page No.: 4 of 6

Florida Petroleum Residual Organic
EPA Methods 3550/FL-PRO
 Units: µg/Kg

Analytes	MRL	Lab Code: 990154-1 990154-2 990154-3 990123-mb			
		880-N	880W	502	Blank
Octane (C ₈)	250	U	2600	U	U
Decane (C ₂₅₀)	250	U	7100	U	U
Dodecane (C ₁₂)	250	U	134700	U	U
Tetradecane (C ₁₄)	250	U	202500	310	U
Hexadecane (C ₁₆)	250	U	501000	1160	U
Octadecane (C ₁₈)	250	U	215500	1810	U
Eicosane (C ₂₀)	250	U	159900	U	U
Docosane (C ₂₂)	250	U	68600	U	U
Tetracosane (C ₂₄)	250	U	22400	U	U
Hexacosane (C ₂₆)	250	U	2500U	U	U
Octacosane (C ₂₈)	250	U	2500U	U	U
Triacosane (C ₃₀)	250	U	2500U	U	U
Dotriacontane (C ₃₂)	250	U	2500U	U	U
Tetratriacontane (C ₃₄)	250	U	2500U	U	U
Hexatriacontane (C ₃₆)	250	U	2500U	U	U
Octatriacontane (C ₃₈)	250	U	2500U	U	U
Tetracotane (C ₄₀)	250	U	2500U	U	U
TOTAL PHS	4000	U	1314300	U	U
Surrogate	Acceptance Limit	Percent Recovery	Percent Recovery	Percent Recovery	Percent Recovery
Ortho-terphenyl(OTP)	42-193	61	130	80	87

U Not detected above the MRL
 MRL Method Reporting Limit

Quality Assurance Report

Client: CH2M Hill
 Project No.: NAS Cecil
 Matrix: Soil

Report No.: J990154
 Date Sampled: 1/26/99
 Date Submitted: 1/26/99
 Date Reported: 1/28/99

Page No.: 5 of 6

Volatile Aromatics Hydrocarbons
 EPA Method 5035/8021
 Units: µg/Kg

Matrix Spike/Matrix Spike Duplicate Summary

Lab Code : 990152-3ms
 Date Analyzed: 1/27/99

Analyte	Spike Level		Sample Result	Spike Result		% Recovery		Acceptance limits	% RPD
	MS	MSD		MS	MSD	MS	MSD		
Benzene	50	50	U	41.0	36.0	82	72	39-120	13
Toluene	50	50	8.9	52.5	45.5	87	73	46-148	18
Ethylbenzene	50	50	8.7	53.0	46.6	89	76	32-160	16
Surrogates									
Bromofluorobenzene	50	50		60.7	56.3	121	113	70-135	7

Laboratory Control Sample Summary

Lab Code : 990150-lcs
 Date Analyzed: 1/27/99

Analyte	True Value	Result	Percent Recovery	Acceptance Limits
Benzene	50	33.6	67	39-150
Toluene	50	39.2	78	35-146
Ethylbenzene	50	40.1	80	26-162
Surrogates				
Bromofluorobenzene	50	51.1	102	70-135

Quality Assurance Report

Client: CH2M Hill
Project No.: NAS Cecil
Matrix: Soil

Report No.: J990154
Date Sampled: 1/26/99
Date Submitted: 1/26/99
Date Reported: 1/28/99

Page No.: 6 of 6

Florida Petroleum Range Organics
EPA Method 3550/FL-PRO
Units: µg/Kg

Laboratory Control Sample Summary

Lab Code : 990123-lcs
Date Analyzed: 1/26/99

Analyte	True Value	Result	Percent Recovery	Acceptance Limits
Decane	100	35.8	36	55-118
Octadecane	100	64.9	65	55-118
Triacontane	100	77.6	78	55-118
Surrogates				
Nonatriacontane	100	92.4	92	42-193