N60200.AR.001941
NAS CECIL FIELD, FL
5090.3a

SITE ASSESSMENT REPORT FOR BUILDING 80 TANK 80 BASE REALIGNMENT AND CLOSURE UNDERGROUND STORAGE TANK AND ABOVEGROUND STORAGE TANK GREY SITES NAS CECIL FIELD FL

6/1/1999

HARDING LAWSON ASSOCIATES

SITE ASSESSMENT REPORT

BUILDING 80, TANK 80

BASE REALIGNMENT AND CLOSURE

UNDERGROUND STORAGE TANK AND ABOVEGROUND STORAGE TANK GREY SITES

NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA

Unit Identification Code: N60200

Contract No.: N62467-89-D-0317/090

Prepared by:

Harding Lawson Associates
2590 Executive Center Circle, East
Tallahassee, Florida 32301

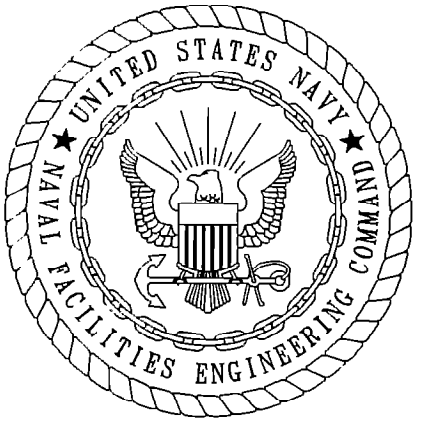
Prepared for:

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

Bryan Kizer, Code 1842, Engineer-in-Charge

June 1999

Revision 0.0



CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, Harding Lawson Associates, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/090 are complete and accurate and comply with all requirements of this contract.

DATE: June 29, 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)

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
DPT	direct push technology
FDEP	Florida Department of Environmental Protection
HLA	Harding Lawson Associates
KAG	Kerosene Analytical Group
OVA	organic vapor analyzer
SA	site assessment
UST	underground storage tank

1.0 INTRODUCTION

Harding Lawson Associates (HLA), under contract to the Southern Division, Naval Facilities Engineering Command, has completed the site assessment (SA) for Tank 80 at Naval Air Station Cecil Field in Jacksonville, Florida. This report summarizes the related field operations, results, conclusions, and recommendations of the SA.

Tank 80 was an underground storage tank (UST) located at Building 80, which serves as an automotive maintenance and repair shop (Figure 1). The UST, which was installed in 1941, had a 1,000-gallon capacity and was used to store fuel oil for onsite heating (ABB Environmental Services, Inc. [ABB-ES], 1997a). A Contamination Assessment Plan for the assessment of soil and groundwater at Tank 80 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, which recommended that an SA be conducted to delineate the extent of excessively contaminated soil and groundwater contamination (ABB-ES, 1997b).

Tank 80 was removed by Supship Portsmouth Environmental Detachment Charleston, on August 27, 1998. A total of 127 tons of petroleum contaminated soil was removed from the site at that time. Organic vapor analyzer (OVA) readings of soil samples collected from the excavation walls indicated that all soil contamination had been removed except on the north end of the excavation. A soil sample was collected from the north wall of the excavation for Kerosene Analytical Group (KAG) analysis. No contaminants were detected in the KAG soil sample. A temporary monitoring well was installed in the north end of the excavation and no groundwater contaminants were detected. A Closure Report was prepared for Tank 80 and submitted to the Florida Department of Environmental Protection (FDEP) in December 1998.

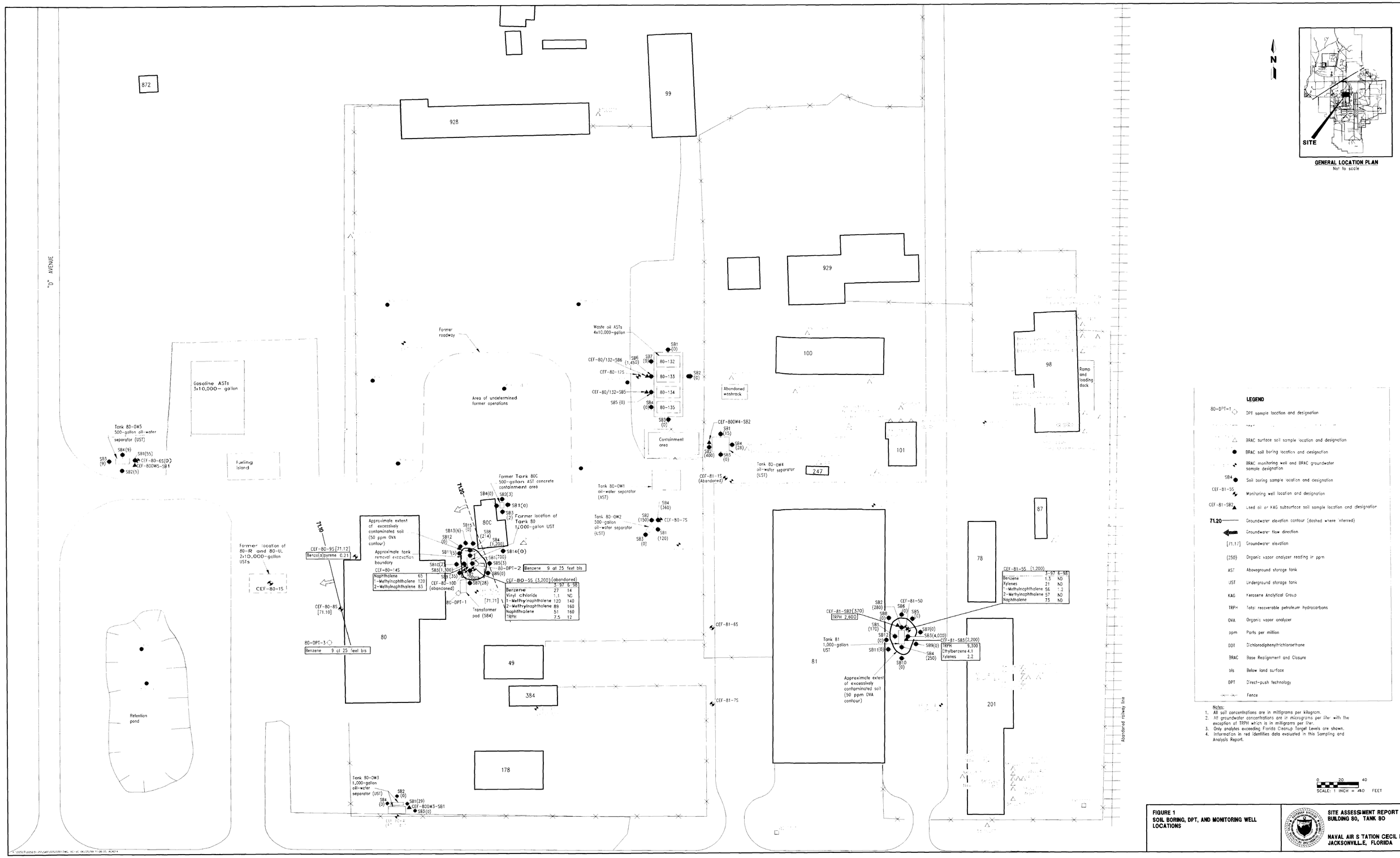
2.0 FIELD INVESTIGATION

The SA for Tank 80 was initiated in October 1997 and included

- the advancement of eleven soil borings to the water table,
- groundwater screening using a direct push technology (DPT) rig,
- installation of one deep and three shallow groundwater monitoring wells, and
- collection and analysis of 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 OVA. Two KAG soil samples were collected during the closure assessment. Sampling details are provided in the closure assessment in Appendix A.

Groundwater screening was conducted at three locations (80-DPT-1, 80-DPT-2, and 80-DPT-3) at the Tank 80 site (Figure 1). Groundwater samples were collected at



GENERAL LOCATION PLAN
Not to scale

LEGEND

- 80-DPT-1 — DPT sample location and designation
- BRAC surface soil sample location and designation
- BRAC soil boring location and designation
- BRAC monitoring well and BRAC groundwater sample designation
- SB4 — Soil boring sample location and designation
- CEF-81-5S — Monitoring well location and designation
- CEF-81-SB2 — Used oil or KAG subsurface soil sample location and designation
- 71.20 — Groundwater elevation contour (dashed where inferred)
- Groundwater flow direction
- [71.17] — Groundwater elevation
- (250) — Organic vapor analyzer reading in ppm
- AST — Aboveground storage tank
- UST — Underground storage tank
- KAG — Kerosene Analytical Group
- TRPH — Total recoverable petroleum hydrocarbons
- OVA — Organic vapor analyzer
- ppm — Parts per million
- DDT — Dichlorodiphenyltrichloroethane
- BRAC — Base Realignment and Closure
- bls — Below land surface
- DPT — Direct-push technology
- Fence

Notes:
1. All soil concentrations are in milligrams per kilogram.
2. All groundwater concentrations are in micrograms per liter with the exception of TRPH which is in milligrams per liter.
3. Only analytes exceeding Florida Cleanup Target Levels are shown.
4. Information in red identifies data evaluated in this Sampling and Analysis Report.

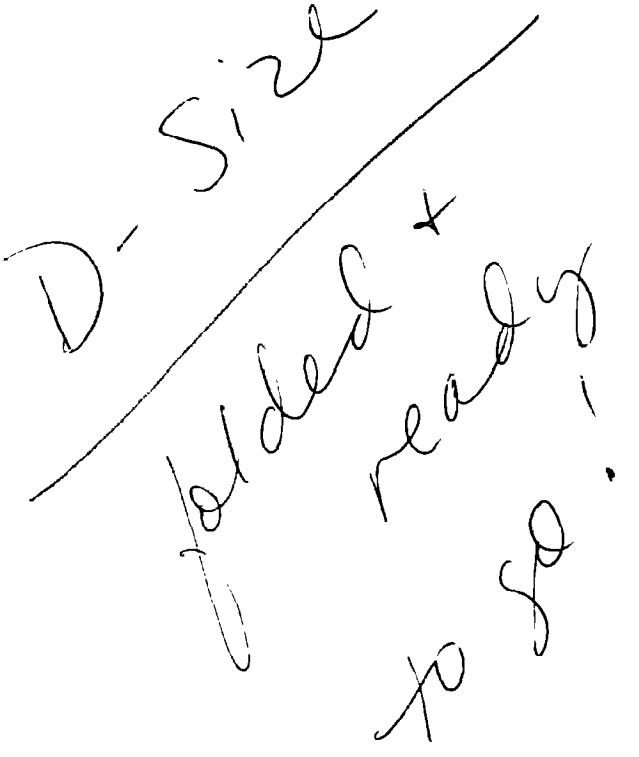
0 20 40
SCALE: 1 INCH = 40 FEET

FIGURE 1
SOIL BORING, DPT, AND MONITORING WELL LOCATIONS

SITE ASSESSMENT REPORT
BUILDING 80, TANK 80

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Figure 1 Soil Boring, DPT, and Monitoring Well Locations



depths of 10, 25, 45, and 65 feet bls and analyzed for volatile organic compounds using U.S. Environmental Protection Agency (USEPA) Method 602.

A monitoring well, CEF-80-5S, was installed (during the confirmatory sampling) near the southeast corner of the UST to a depth of 14 feet bls. Two additional shallow monitoring wells, CEF-80-8S and CEF-80-9S, were installed downgradient of the former tank location. The deep source monitoring well CEF-80-10D was installed immediately downgradient of the source area and screened between 25 and 30 feet bls. The downgradient locations were selected based on the groundwater flow direction, which was assessed during the BRAC investigation of this facility. Monitoring wells CEF-80-5S and CEF-80-10D were abandoned during the tank removal. Monitoring well CEF-80-5S was reinstalled (as well CEF-80-14S) at the former tank location when it was determined that the closure assessment well was installed too far to the north.

Groundwater samples were collected from the wells and analyzed for the KAG parameters. A general site plan indicating the location of the soil borings and the monitoring well is presented on Figure 1. The monitoring well installation detail is summarized in Table 1 and included in Appendix A.

3.0 SCREENING AND ANALYTICAL RESULTS

Groundwater flow direction was assessed to be to the west-southwest.

Excessively contaminated soil (greater than 50 parts per million on an OVA) was detected in one of the eleven soil borings advanced during the SA. The extent of excessively contaminated soil is presented on Figure 1. The soil OVA data are summarized in Table 2 and presented on Figure 1. As described above, all excessively contaminated soil was removed during tank closure with exception of the north wall of the excavation. A KAG soil sample was collected from the north wall of the excavation and no contaminants were detected. Soil sampling results are presented in Appendix B.

Groundwater screening results indicated the presence of benzene at concentrations above the cleanup target level. Benzene was detected in DPT screening samples from the source area (25 feet bls) and downgradient (25 feet bls) at a concentration of 8.8 micrograms per liter. However, benzene was not detected in the source area deep monitoring well which has screened from 25 to 30 feet bls. Analytical results are summarized in Table 3 and presented in Appendix C.

Benzene, ethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, benzo(a)pyrene, and vinyl chloride were detected above FDEP groundwater cleanup target levels in the groundwater samples collected for KAG analysis at the Tank 80 site. In the May 1999 sampling of the source area monitoring well CEF-80-14S, only 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene were detected at concentrations greater than cleanup target levels. Groundwater analytical results are summarized in Table 4 and presented in Appendix C.

Table 1
Monitoring Well Construction Summary and Groundwater Elevation Data

Site Assessment Report
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Monitoring Well No.	Total Well Depth (feet bls)	Screened Interval (feet bls)	TOC Elevation (feet NGVD)	June 24, 1999	
				Depth to Water (feet BTOC)	Water-Level Elevation (feet NGVD)
CEF-80-2S	14	4 to 14	79.98	8.81	71.12
CEF-80-5S	14	4 to 14	80.18	NA	NA
CEF-80-8S	14	4 to 14	79.90	8.80	71.10
CEF-80-9S	14	4 to 14	79.95	8.83	71.17
CEF-80-10D	30	25 to 30	79.25	NA	NA
CEF-80-14S	15	5 to 15	NM	NM	NA

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 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
SB1	1	700	0	700
	3 (refusal)	700	0	700
SB2	1	310	0	310
	3	900	0	900
	5 (wet)	1,400	0	1,400
SB3	1	1,100	0	1,100
	3	1,300	0	1,300
	5 (wet)	3,500	0	3,500
SB4	1	1,100	0	1,100
	3	1,200	0	1,200
	5	3,800	0	3,800
SB5	1	0	–	0
	3	3	–	3
	5 (wet)	0	–	0
SB6	1	0	–	0
	3	0	–	0
	5 (wet)	0	–	0
SB7	1	28	–	28
	3	0	–	0
	5 (wet)	0	–	0
SB8	1	80	0	80
	3	230	16	214
	5 (wet)	50	8	42
SB9	1	35	–	35
	3	3	–	3
	5 (wet)	4	–	4
SB10	1	0	–	0
	3	2	–	2
	5 (wet)	0	–	0
SB11	1	2	–	2
	3	5	–	5
	5 (wet)	0	–	0

See notes at end of table.

Table 2 (Continued)
Soil Screening Results

Site Assessment Report
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
SB12	1	0	–	0
	3	0	–	0
	5 (wet)	0	–	0
SB13	1	0	–	0
	3	0	–	0
	5 (wet)	0	–	0
SB14	1	0	–	0
	3	0	–	0
	5 (wet)	0	–	0
SB15	1	0	–	0
	3	0	–	0
	5 (wet)	0	–	0

Notes: All soil samples were collected on February 5, 1997, November 4, 1997, and November 10, 1997.
Soil samples were filtered with carbon to determine the methane concentration.

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

Table 3
Groundwater Screening Results

Site Assessment Report
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Location	10 feet bls	25 feet bls	45 feet bls	65 feet bls	Cleanup Target Levels[1]
80-DPT-1	ND	ND	ND	ND	NA
80-DPT-2					
Benzene	ND	**8.8**	ND	ND	1
80-DPT-3					
Chlorobenzene	7.6	33	ND	ND	100
Benzene	ND	**8.8**	ND	ND	1
1,2-dichlorobenzene	ND	7.7	ND	ND	600
1,3-Dichlorobenzene	ND	3.4	ND	ND	10
1,4-Dichlorobenzene	ND	6.1	ND	ND	75

[1] Chapter 62-777, Florida Administrative Code.

Notes: Groundwater samples were collected December 1-3, 1997.
Bold indicates concentration exceeds cleanup target level.
All concentrations are in micrograms per liter.

bls = below land surface.
ND = not detected.
NA = not applicable.

Table 4
Summary of Groundwater Analytical Results

Site Assessment Report
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	[1]CEF-80-5S		CEF-80-8S	CEF-80-9S	[1]CEF-80-10D	CEF-80-14S	Groundwater Cleanup Target Levels[2]
	1997	1998					
Volatile Organic Aromatics (USEPA Method 601/602) (µg/ℓ)							
Benzene	**27**	**14**	ND	ND	ND	ND	1
Ethylbenzene	19	**33**	ND	ND	ND	27	30
Toluene	1.2	ND	ND	ND	ND	ND	40
Xylenes	7.9	ND	ND	ND	ND	ND	20
Vinyl Chloride	**1.1**	ND	ND	ND	ND	ND	1
Trichloroethene	1.9	ND	ND	ND	ND	ND	3
1,1 Dichloroethane	3.3	ND	ND	ND	ND	ND	70
Methylene Chloride	1.5	ND	ND	ND	ND	ND	5
Polynuclear Aromatic Hydrocarbons (USEPA Method 625) (µg/ℓ)							
Anthracene	ND	ND	ND	ND	ND	0.5	2,100
1-Methylnaphthalene	**120**	**140**	ND	ND	ND	**120**	20
2-Methylnaphthalene	**89**	**160**	ND	ND	ND	**83**	20
Naphthalene	**51**	**160**	ND	ND	ND	**65**	20
Fluorene	ND	ND	ND	ND	ND	3.5	280
Benzo(a)pyrene	ND	ND	ND	**0.21**	ND	ND	0.2
Benzo(b)fluoranthene	ND	ND	ND	0.14	ND	ND	0.2
Benzo(g,h,i)perylene	ND	ND	ND	0.12	ND	ND	210
Benzo(k)fluoranthene	ND	ND	ND	0.069	ND	ND	0.5
Pyrene	ND	0.63	ND	0.16	ND	ND	210
Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/ℓ)							
TRPH	**7.5**	**12**	ND	ND	ND	ND	5

[1] Well has been abandoned.
[2] Chapter 62-777, Florida Administrative Code.

Notes: Groundwater samples were collected on March 20, 1997 (CEF-80-5S), June 17, 1998 (CEF-80-5S, CEF-80-8S, CEF-80-9S, and CEF-80-10D, and May 20, 1999 (CEF-80-14S).

Bold indicates concentration exceeds cleanup target level.

USEPA = U.S. Environmental Protection Agency.
µg/ℓ = micrograms per liter.
ND = not detected.
mg/ℓ = milligrams per liter.
FL-PRO = Florida-Petroleum Residual Organics.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Groundwater flow direction is to the west-southwest.

Data obtained during the site assessment at the Tank 80 site provided an adequate assessment of the horizontal and vertical extent of excessively contaminated soil and contaminated groundwater. Excessively contaminated soil was removed during the removal of Tank 80 with the exception of the north sidewall of the excavation. A KAG soil sample was collected from the north sidewall and no contaminants were detected above cleanup target levels. Therefore, no further action is recommended for the soil at the Tank 80 site.

Several contaminants were present in groundwater at concentrations above cleanup target levels. Therefore, it is recommended that groundwater monitoring for natural attenuation (MONA) take place at the Tank 80 site. Benzene concentrations in the source area have reduced from 27 micrograms per liter in 1997 to non-detect in May of 1999. Monitoring wells CEF-80-8S, CEF-80-9S, and CEF-80-14S will be monitored for volatile organic compounds (USEPA Method 602) and semivolatile organic compounds (USEPA Method 8310) on a semiannual basis.

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

Milestone Objectives ($\mu g/\ell$)

Compound	End of				
	Year 1	Year 2	Year 3	Year 4	Year 5
1-Methylnaphthalene	100	80	60	40	<20
2-Methylnaphthalene	70	55	35	25	<20
Naphthalene	60	50	40	30	<20
Benzo(a)pyrene	0.21	0.20	<0.20	<0.20	<0.20

Notes: $\mu g/\ell$ = micrograms per liter.
< = less than.

5.0 PROFESSIONAL REVIEW CERTIFICATION

The SA contained in this report was prepared using sound hydrogeologic principles and judgment. This assessment is based on the geologic investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of any additional information on the assessment described in this report. This SA report was developed for the Tank 80 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

6-29-99
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 80, Tank 80, Base Realignment and Closure, Underground Storage Tank and Aboveground Storage Tank Grey Sites, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (November).

APPENDIX A

CLOSURE ASSESSMENT REPORT

Florida Department of Environmental Regulation
Twin Towers Office Bldg • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761.900(6)
Form Title: Closure Assessment Form
Effective Date: December 31, 1995
DER Application No. _____
Rule 17-761, F.A.C.

Closure Assessment Form

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

Please Print or Type
Complete All Applicable Blanks

1. Date: 12-7-98
2. DER Facility ID Number: 168507293 3. County: DUVAL
4. Facility Name: BUILDING 80, TRANSPORTATION
5. Facility Owner: U.S. NAVY, NAVAL AIR STATION CECIL FIELD
6. Facility Address: BUILDING 80, "D" AVENUE
7. Mailing Address: N.P.W.C., BOX 101, CECIL FIELD ZONE, NAS CECIL FIELD
8. Telephone Number: (904) 778-5620, x114 9. Facility Operator: DAVE KRUZICKI
10. Are the Storage Tank(s). **(Circle one or both)** A. Aboveground or B. (Underground)
11. Type of Product(s) Stored: #2 FUEL OIL
12. Were the Tank(s): **(Circle one)** A. Replaced B. (Removed) C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of Tanks Closed: ONE 14. Age of Tanks: UNKNOWN

Facility Assessment Information

Yes	No	Not Applicable	
☐	☒		1. Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
☐	☒		2. Was a Discharge Reporting Form submitted to the Department? If yes, When: _____ Where: _____
☒	☐		3. Is the depth to ground water less than 20 feet?
☒	☐	☐	4. Are monitoring wells present around the storage system? If yes, specify type: ☒ Water monitoring ☐ Vapor monitoring
☐	☒	☐	5. Is there free product present in the monitoring wells or within the excavation?
☐	☐	☒	6. Were the petroleum hydrocarbon vapor levels in the soils greater than 500 parts per million for gasoline? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
☒	☐	☐	7. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
☐	☒	☐	8. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels? (See target levels on reverse side of this form and supply laboratory data sheets)
☐	☐	☒	9. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
☐	☒		10. Are any potable wells located within ¼ of a mile radius of the facility?
☐	☒		11. Is there a surface water body within ¼ mile radius of the site? If yes, indicate distance: _____

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794

Northeast District
7825 Baymeadows Way, Suite B 200
Jacksonville, Florida 32207

Central District
3319 Maguire Blvd, Suite 232
Orlando, Florida 32803-3767

Southwest District
4520 Oak Fair Blvd
Tampa, Florida 33610-7347

South District
2269 Bay St
Fort Myers, Florida 33901-2845

Southeast District
1900 S. Congress Ave., Suite A
West Palm Beach, Florida 33406

DER Form # 17-761.900(6)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. _____
(Filled in by DER)

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

Signature of Owner	Date
T. L. LaQuea	12-7-98
Signature of Person Performing Assessment	Date
PROJECT MANAGER	
Title of Person Performing Assessment	

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

State ground water target levels are as follows:

1. For gasoline (EPA Method 602):
   a. Benzene 1 ug/l
   b. Total VOA 50 ug/l
      - Benzene
      - Toluene
      - Total Xylenes
      - Ethylbenzene
   c. Methyl Test-Butyl Ether (MTBE) 50 ug/l

2. For kerosene/diesel (EPA Method 610):
   a. Polynuclear Aromatic Hydrocarbons (PAHS) (Best achievable detection limit, 10 ug/l maximum)

SPORTENVDETCHASN
SUPSHIP PORTSMOUTH ENVIRONMENTAL DETACHMENT CHARLESTON
1899 NORTH HOBSON AVENUE
NORTH CHARLESTON, S.C. 29405-2106
Underground Storage Tank (UST) Assessment Report

I OWNERSHIP OF UST(S)

Agency/Owner: Naval Air Station, Cecil Field DER Facility No. 168507293

Mailing Address: N.P.W.C., Box 101, Cecil Field Zone, NAS Cecil Field.

City: Jacksonville State: FL Zip Code: 32215-0101

Area Code: 904 Telephone Number: 778-5620, x114 Contact Person: Dave Kruzicki

II SITE IDENTIFICATION AND LOCATION

Site I.D. #: BUILDING 80

Facility Name: Naval Air Station Cecil Field

Street Address: Building 80, "D" Avenue

City: Jacksonville, 32215-0101 County: Duval

III CLOSURE INFORMATION

Closure Started: 8/27/98 Closure Completed: 9/02/98

Number of USTs Closed: 1

N/A	SPORTENVDETCHASN
Consultant	UST Removal Contractor

IV. CERTIFICATION (Read and Sign after completing entire submittal)

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate and complete

T.L. McElwee
Name (Type or Print)

T.L. McElwee
Signature

V. UST INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A. Product	Fuel Oil					
B. Capacity	1,000gal					
C. Age	unk					
D. Construction Material	steel					
E. Month/Year of Last Use	unk					
F. Depth (ft.) To Base of Tank	7'					
G. Spill Prevention Equipment Y/N	N					
H. Overfill Prevention Equipment Y/N	N					
I. Method of Closure Removed/Filled	R					
J. Visible Corrosion or Pitting Y/N	N					
K. Visible Holes Y/N	N					

L. Method of disposal for any USTs removed from the ground (attach disposal manifests)

UST 80 was removed, drained, cut open at both ends, and cleaned with a steam cleaner. It was then cut up for recycling as scrap metal and delivered to Commercial Metals Inc.. (See Attachment III.)

M. Method of disposal for any liquid petroleum, sludges, or waste waters removed from the USTs (attach disposal manifests)

Prior to tank removal the residual fuel was pumped out of the tank by Cecil Field Fuel Farm personnel for recycling. The oily rinse water was recycled through the oil/water separator at the Transportation Office, Building 80, NAS Cecil Field.

N. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST

UST 80, a fuel oil tank, had a black painted exterior. It was in very good condition with only minor corrosion.

VI. PIPING INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4
A. Construction Material.....	Copper/Steel			
B. Distance from UST to Dispenser.....	60' see note 1			
C. Number of Dispensers.....	1 see note 1			
D. Type of System P/S.....	S			
E. Was Piping Removed from the Ground? Y/N....	Y See Note 2			
F. Visible Corrosion or Pitting Y/N.....	Y			
G. Visible Holes Y/N.....	N			
H. Age.....	Unk			

Note 1: The tank provided fuel oil to Building 80 boiler.
Note 2: Piping was removed to the edge of the excavation and the remaining piping was flushed, capped and left in place.

I. If any corrosion, pitting, or holes were observed, describe the location and extent for each line.

The copper piping was in good condition with little corrosion and no pitting. However, the 3/4" copper supply line was loosely connected to steel piping just above the tank. The numerous steel threaded fittings that connected to the tank were badly corroded. See Site Map 2 and Photo 5.

VII. BRIEF SITE DESCRIPTION AND HISTORY

Building 80 is located on "D" Avenue at NAS Cecil Field. The building had a 1,000 gallon tank which provided fuel oil to the boiler of building 80. The tank measured 4' x 10' 9" long and was located beneath the asphalt parking lot on the east side of the building.

The piping from building 80 to the excavation was flushed and then capped at the edge of the excavation. Another set of copper supply and return piping was found under the set that tied into the tank. The abandoned piping was cut and crimped at the edge of the excavation.

After the removal of UST 80, OVA headspace samples were taken on each wall of the excavation at 2' and 6'. In this excavation, the initial ground water depth was at 6' 8". See Site Map 3. Due to the high readings that were being collected in the original excavation, it was determined that additional sampling would need to be performed to determine the extent of the contamination. OVA readings were taken in three areas 5' and 10' out from the original excavation at 2' and 6' depths. Readings above 50 ppm were found 5' from excavation but no OVA readings above 50 ppm were found 10' from excavation. See Site Map 3. The excavation was enlarged to try and remove all soil contamination. See Site Map 5. Re-sampling of excavation walls revealed all soil contamination had been removed except on the north end of the excavation. Due to interferences encountered that prevented further excavation, it was decided to take a soil sample from this area and send it to the Lab for analysis. The excavation was backfilled with clean soil from DT Services, Jacksonville, Florida. The contaminated soil removed from the excavation was disposed of by Southland Environmental Services Inc. at Broadhurst Landfill in Jesup, Georgia (127 tons).

VIII. SITE CONDITIONS

		Yes	No	Unk
A.	Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells? UST Excavation & Soil Borings	X		
B.	Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells? UST Excavation & Soil Borings	X		
C.	Was water present in the UST excavation, soil borings, or trenches? UST Excavation @ 6'8" BGSL and was 4" deep	X		
D.	Did contaminated soils remain stockpiled on site after closure?		X	
E.	Was a petroleum sheen or free product detected on any excavation or boring waters? UST Excavation - very light sheen, no measurable thickness	X		

IX. SAMPLE INFORMATION

See Site Maps 3 & 6

X. SAMPLING METHODOLOGY

Provide a detailed description of the methods used to collect and store (preserve) the samples.

After the removal of UST 80, OVA headspace samples were taken on each wall of the excavation at 2' and 6'. In this excavation, the initial ground water depth was at 6' 8". All OVA headspace soil samples were extracted using the backhoe bucket and sampled from the middle of the bucket. Sampling was performed in accordance with the FDEP Pollutant Storage Tank Closure Assessment Requirements and the FDEP Quality Assurance Standard Operating Procedures for Petroleum Storage System Closure Assessments.

Sample jars were prepared by the testing laboratory. The sample containers were filled leaving no head space and immediately capped.

The samples were marked, logged, and immediately placed in sample coolers packed with ice to maintain an approximate temperature of 4° C. Tools were thoroughly cleaned and decontaminated with organic-free soap and water after each sample.

The samples remained in the custody of SPORTENVDETCHASN until they were transferred to NPWC Pensacola Environmental Laboratory for analysis as documented in the attached Chain-of-Custody Record.

XI. RECEPTORS

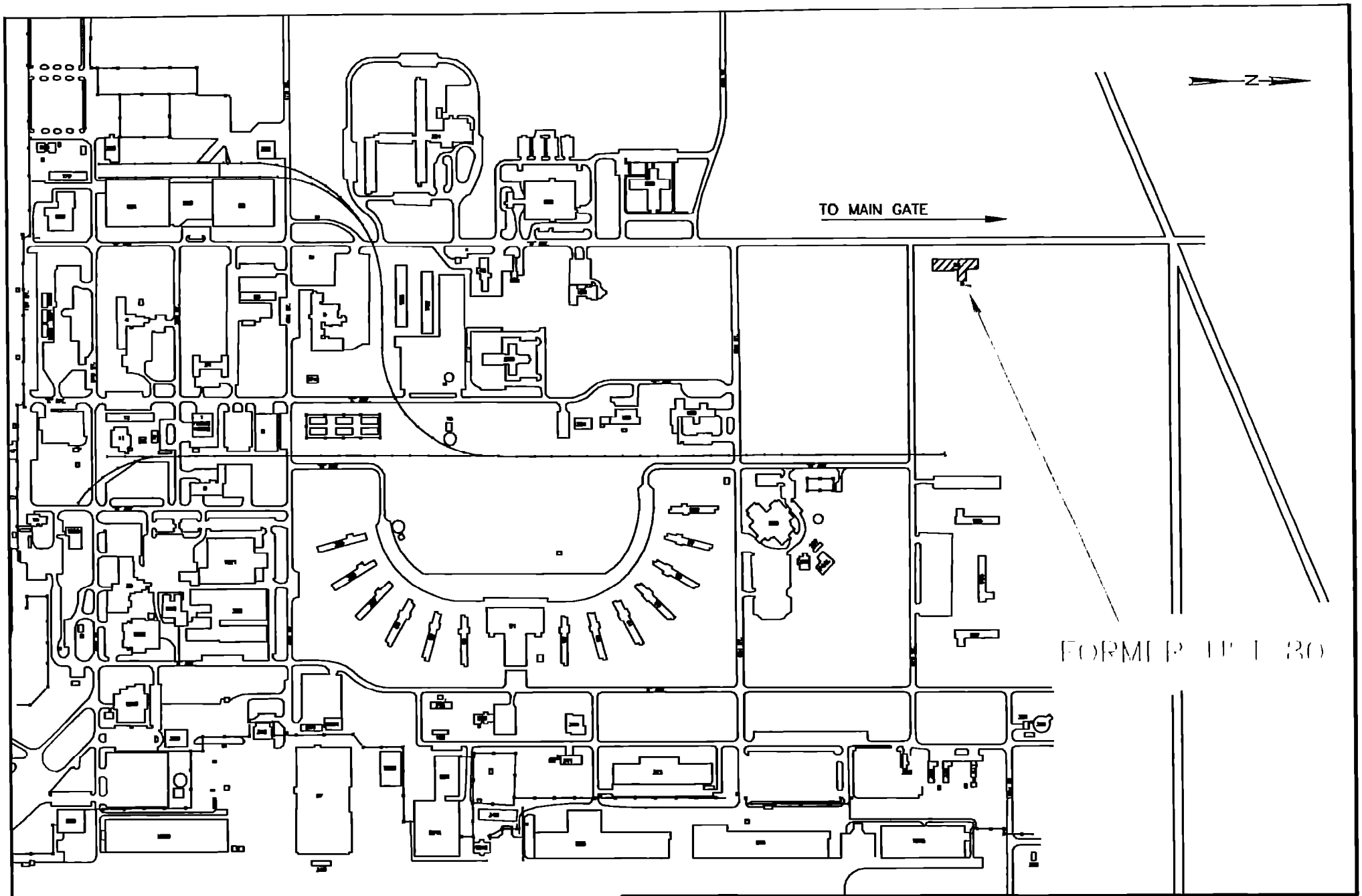
		Yes	No
A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?		X
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system?		X
C.	Are there any underground structures (e.g., basements) located within 100 feet of the UST system?		X
D.	Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? **[electrical, water & air]**	X	
E.	Has contaminated soil been identified at a depth of less than 3 feet below land surface in an area that is not capped by asphalt or concrete?		X

Attachment I

SITE MAPS AND PHOTOGRAPHS

Site Maps 1, 2, 3, 4, 5 and 6

Photographs 1 thru 10



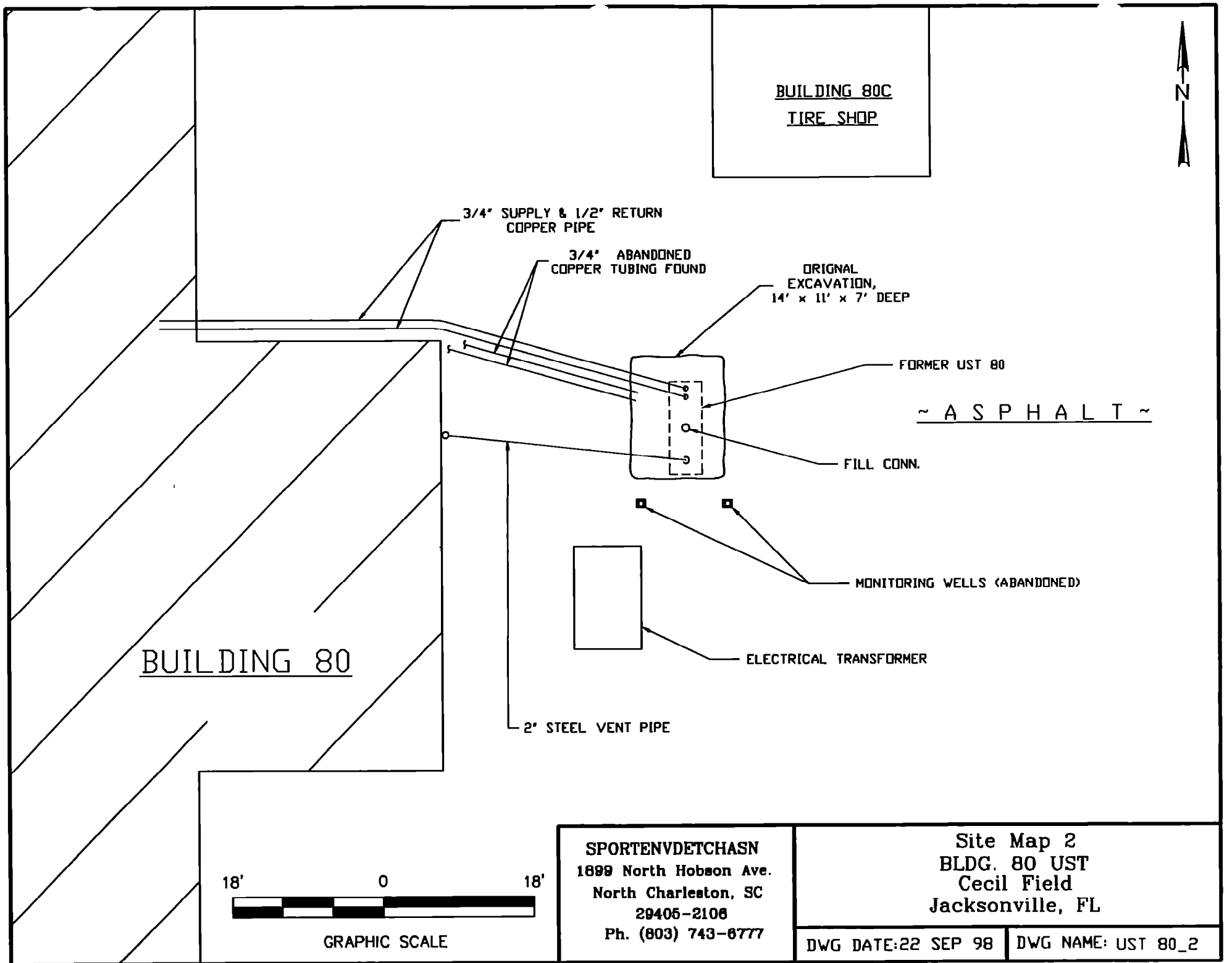
GRAPHIC SCALE

SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC
29405-2106
Ph. (843) 743-6777

Site Map 1
UST 80
NAS Cecil Field
Jacksonville, FL

DWG DATE:6 OCT 98

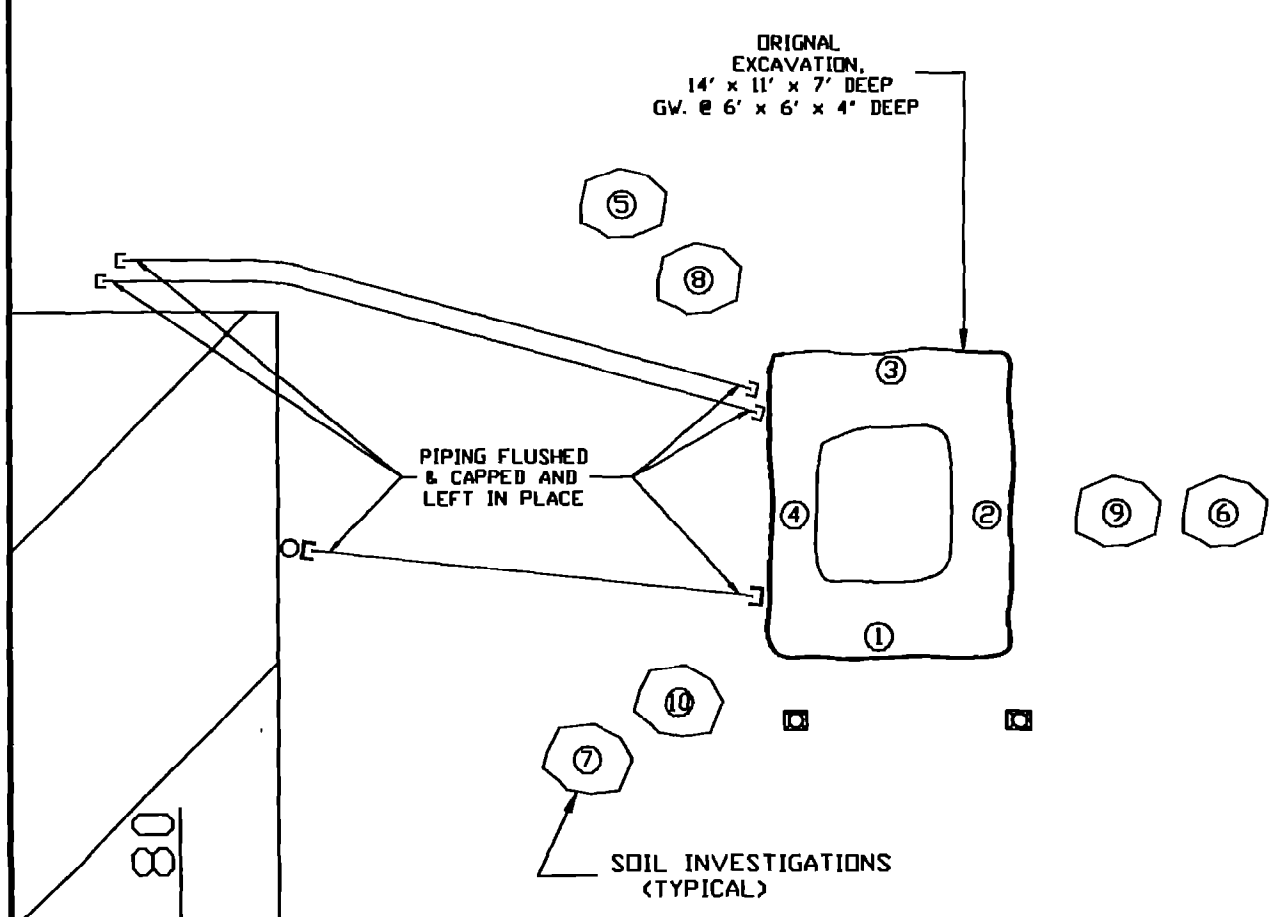
DWG NAME: CF80_1



SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC
29405-2106
Ph. (803) 743-6777

Site Map 2
BLDG. 80 UST
Cecil Field
Jacksonville, FL

DWG DATE:22 SEP 98 | DWG NAME: UST 80_2



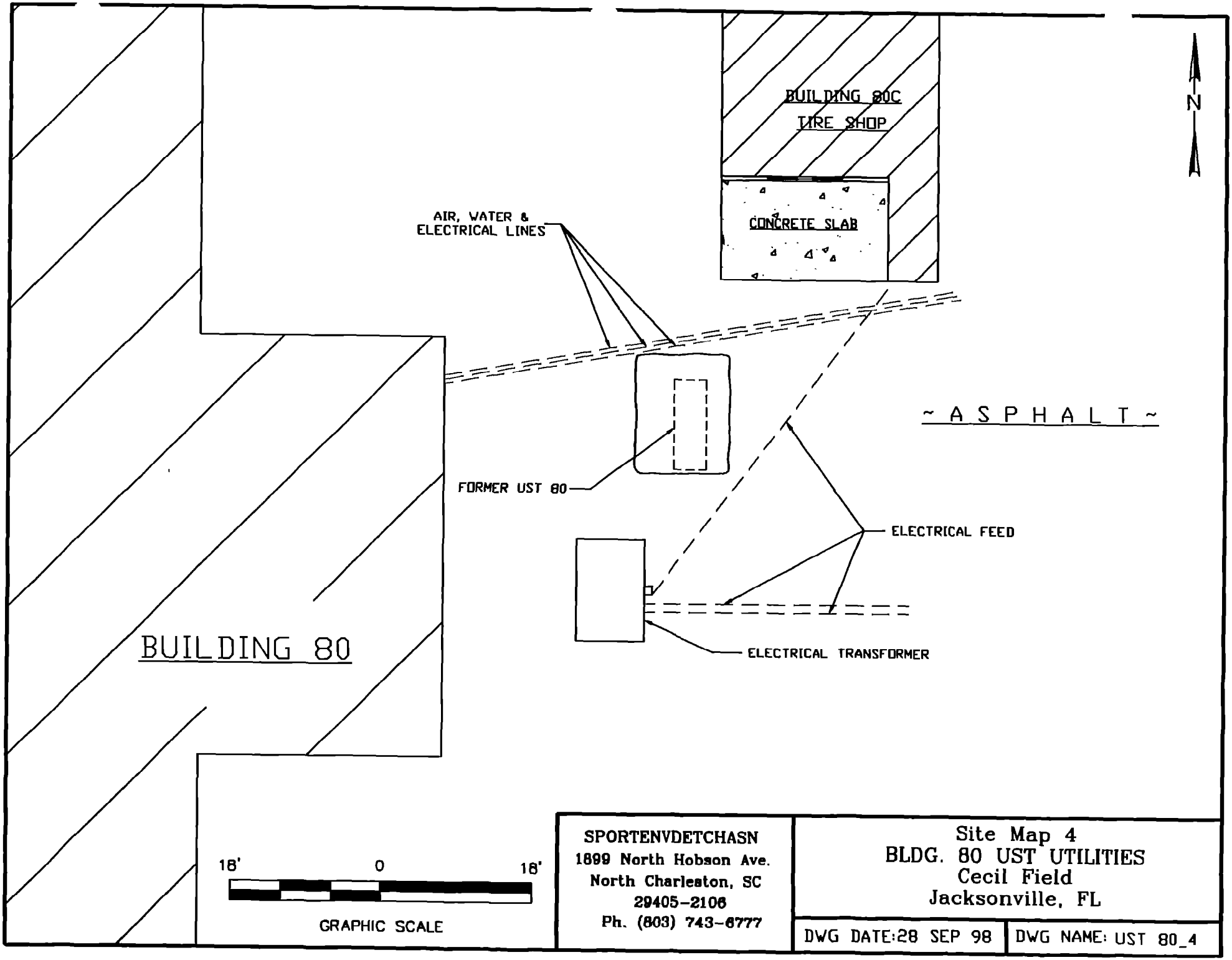
SAMPLE LOCATION	DEPTH	READING (ppm) UNFILTERED	READING (ppm) FILTERED	READING (ppm) ACTUAL
1	2'	2137	93	2044
1	6'	843	303	540
2	2'	180	9.1	171.1
2	6'	541	405	136
3	2'	121	18.7	102.3
3	6'	544	246	298
4	2'	697	0	697
4	6'	499	413	86
5	2'	0	0	0
5	5'	13.7	0	13.7
6	2'	22.7	0	22.7
6	5'	22	0	22
7	2'	0	0	0
7	5'	0	0	0
8	2'	33	0	33
8	5'	25.3	0	25.3
9	2'	32.8	0	32.8
9	5'	142.2	71.6	70.6
10	2'	22.5	0	22.5
10	5'	70.3	25	55.3

SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC
29405-2106
Ph. (803) 743-6777

Site Map 3
BLDG. 80 UST EXCAVATION
Cecil Field
Jacksonville, FL

DWG DATE:22 SEP 98

DWG NAME: UST 80_3

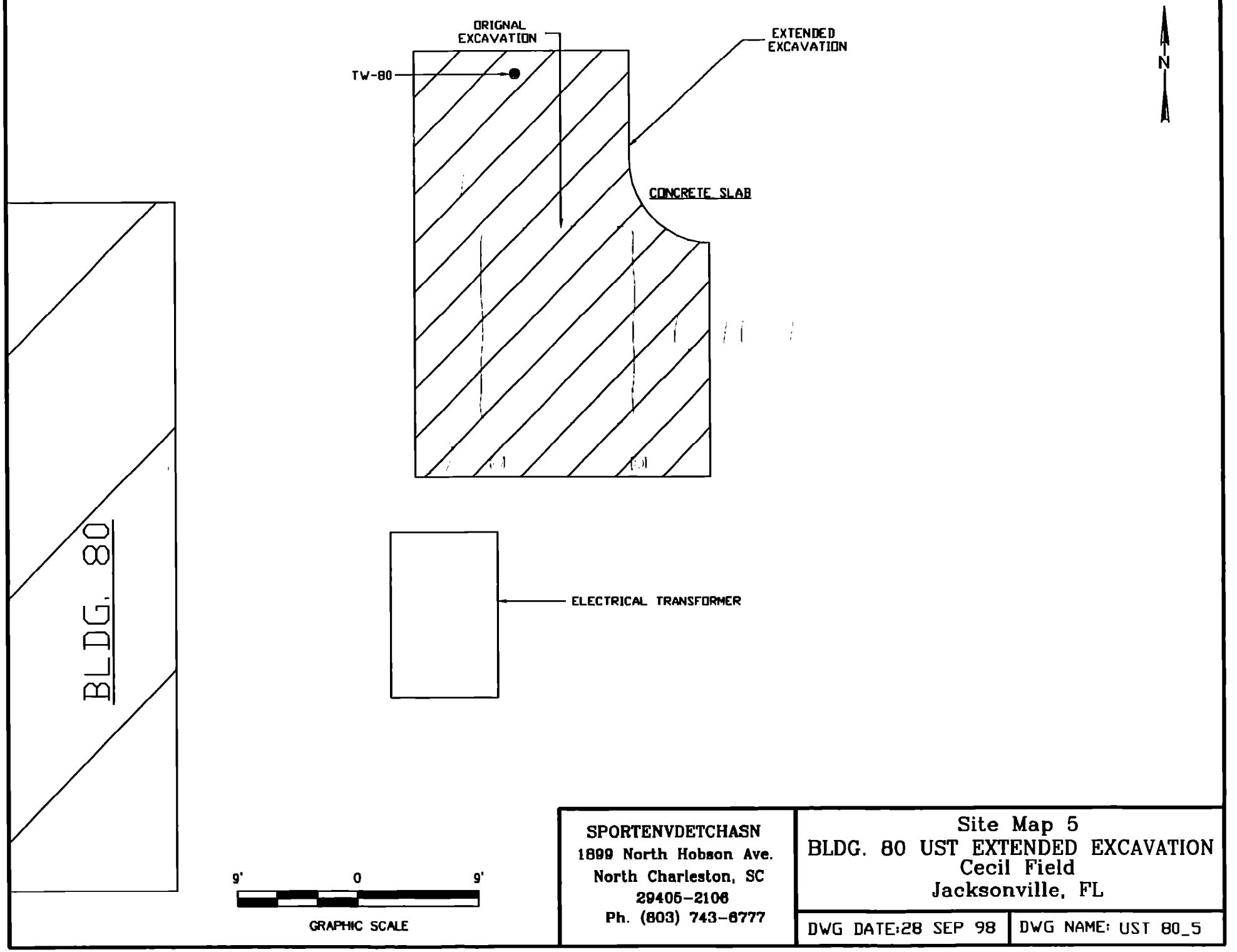


SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC
29405-2106
Ph. (803) 743-6777

Site Map 4
BLDG. 80 UST UTILITIES
Cecil Field
Jacksonville, FL

DWG DATE:28 SEP 98

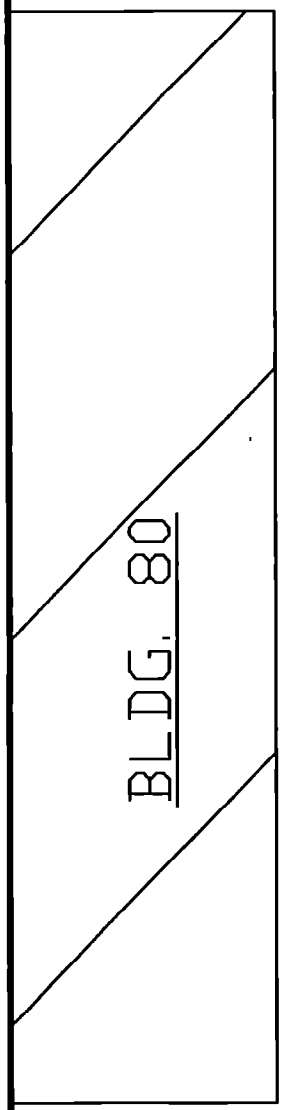
DWG NAME: UST 80_4

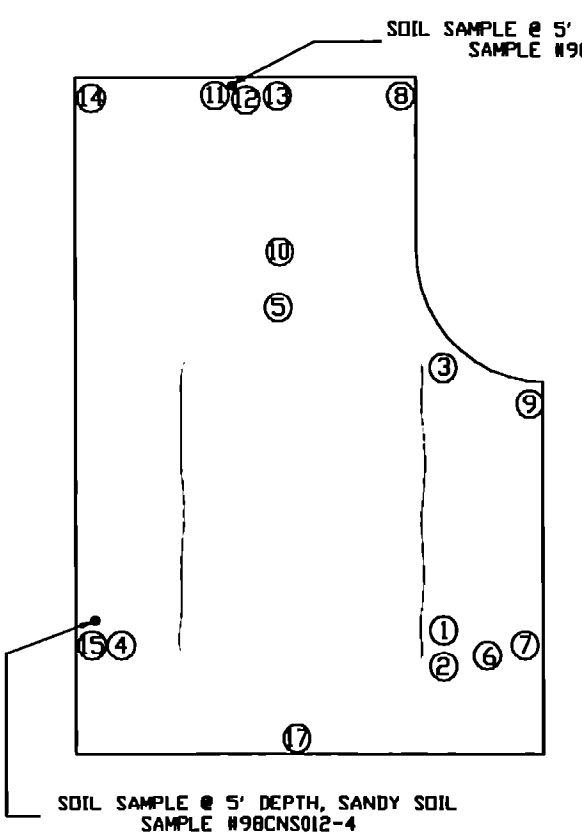


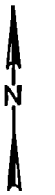
SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC
29406-2106
Ph. (803) 743-6777

Site Map 5
BLDG. 80 UST EXTENDED EXCAVATION
Cecil Field
Jacksonville, FL

DWG DATE:28 SEP 98 | DWG NAME: UST 80_5

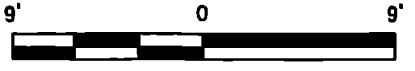






SAMPLE LOCATION	DEPTH	READING (ppm) UNFILTERED	READING (ppm) FILTERED	READING (ppm) ACTUAL
1	2'	158	0	158
2	2'	187	0	187
3	3'	320	0	320
4	5'	52	0	52
5	5'	507	0	507
6	5'	387	0	387
7	5'	17.5	0	17.5
8	5'	38.1	0	38.1
9	5'	28.7	0	28.7
10	5'	81	0	81
■ 11	2'	64	0	64
■ 12	3'	158	0	158
■ 13	4'	111	0	111
14	4'	11.1	0	11.1
15	4'	2.6	0	2.6
16	4'	28.8	0	28.8
17	4'	34	0	34

■ OVER-EXCAVATING STOPPED AND SOIL SAMPLE TAKEN.



GRAPHIC SCALE

SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC
29405-2108
Ph. (803) 743-6777

Site Map 6
EXTENDED EXCAVATION SAMPLING
Cecil Field
Jacksonville, FL

DWG DATE: 28 SEP 98

DWG NAME: UST 80_6

BUILDING 80 TANK REMOVAL

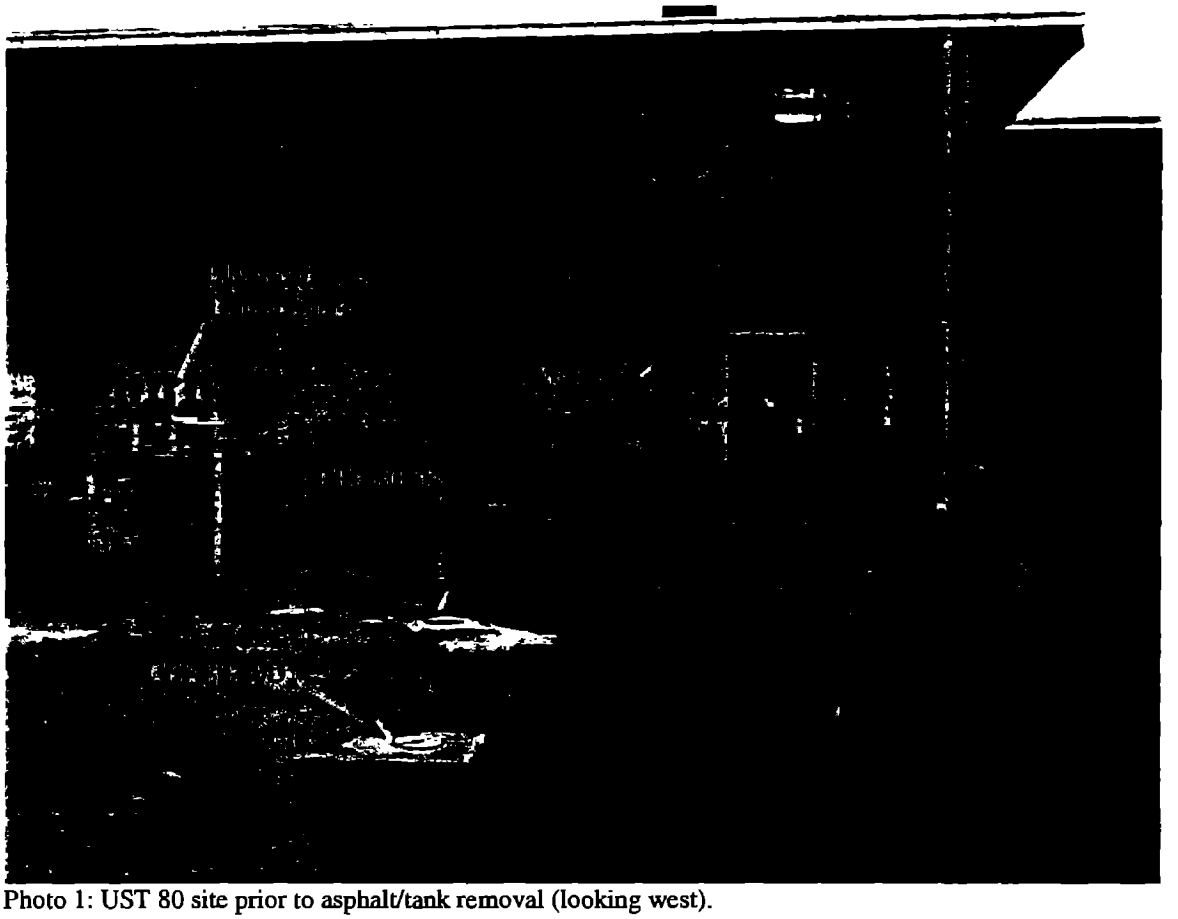


Photo 1: UST 80 site prior to asphalt/tank removal (looking west).

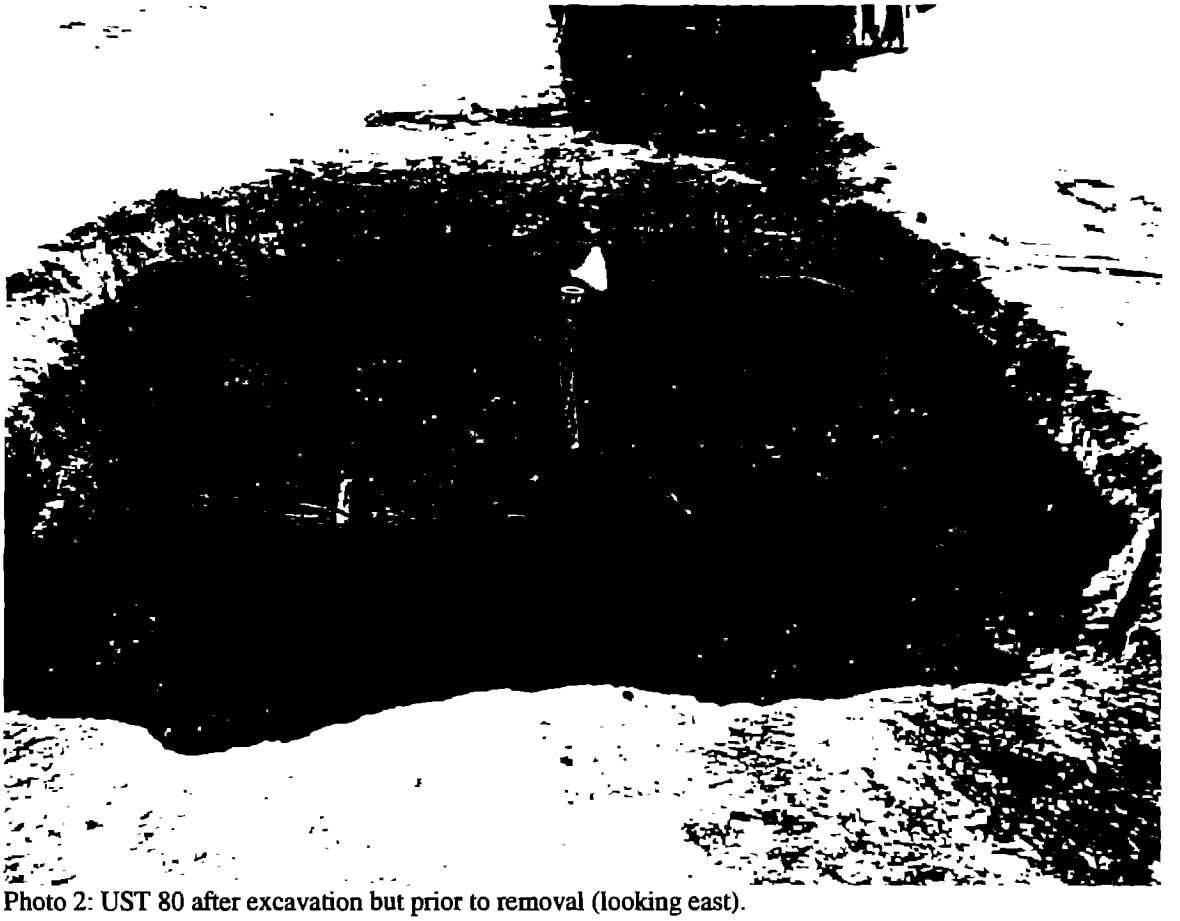


Photo 2: UST 80 after excavation but prior to removal (looking east).

BUILDING 80 TANK REMOVAL

Photo 3: UST 80 being removed from excavation.

Photo 4: UST excavation after tank removal. Strong odor, light sheen on GW.

BUILDING 80 TANK REMOVAL

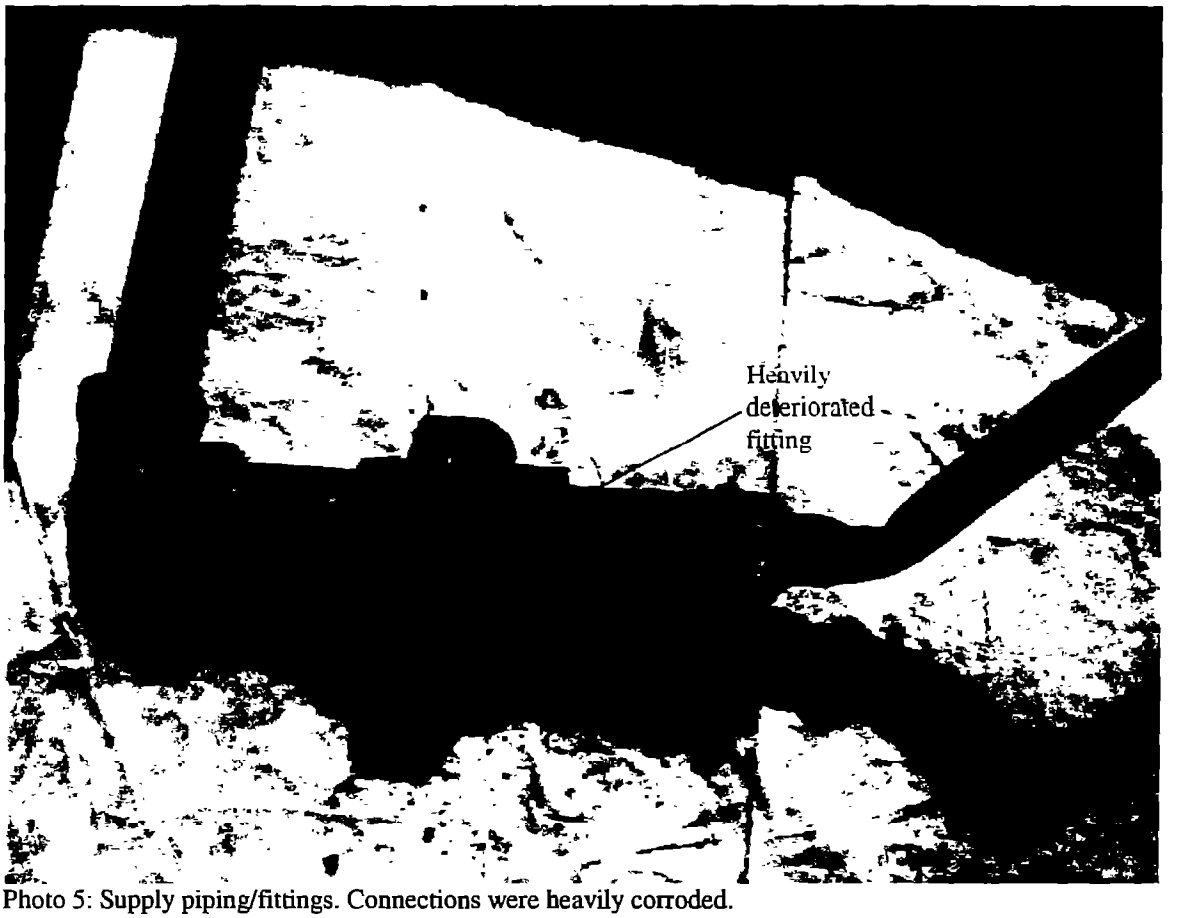


Photo 5: Supply piping/fittings. Connections were heavily corroded.


Photo 6: UST 80 excavation after tank removal and during contaminated soil removal.

BUILDING 80 TANK REMOVAL

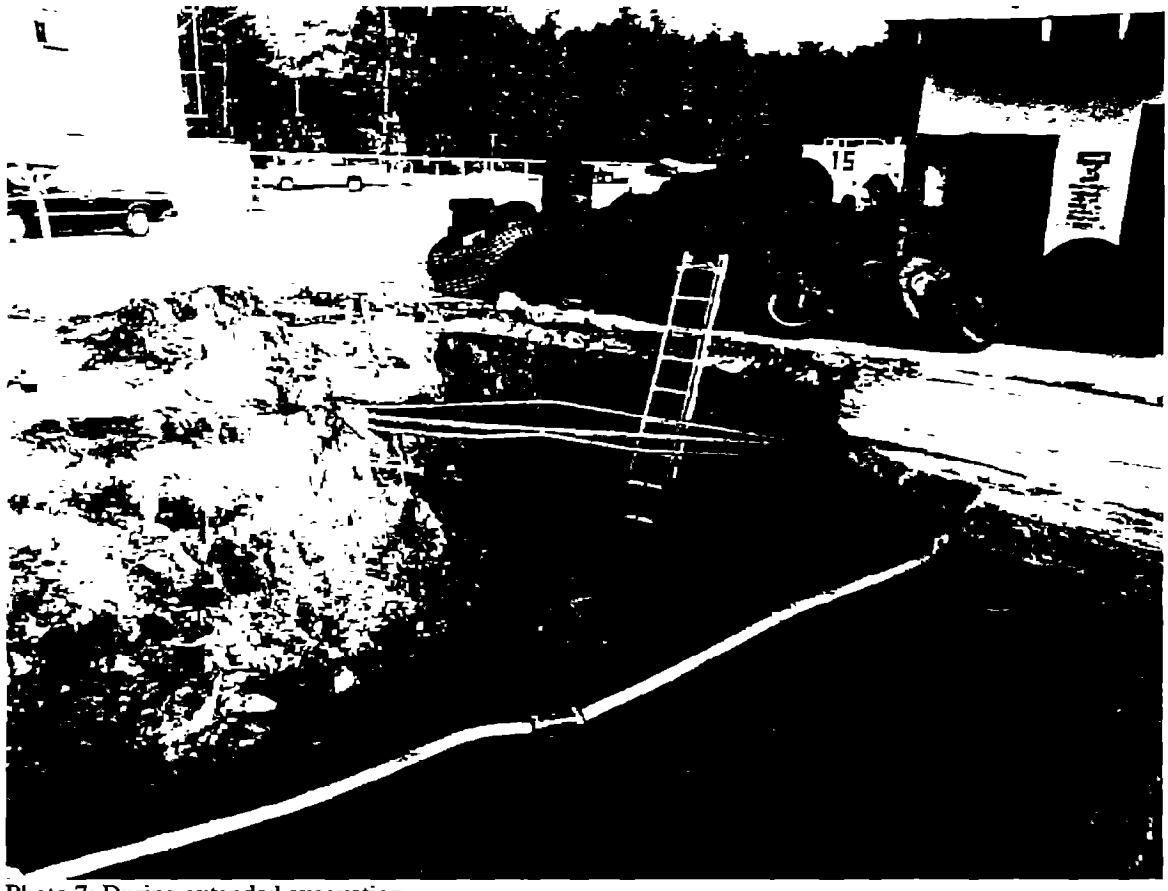


Photo 7: During extended excavation.

Photo 8: During extended excavation.

BUILDING 80 TANK REMOVAL

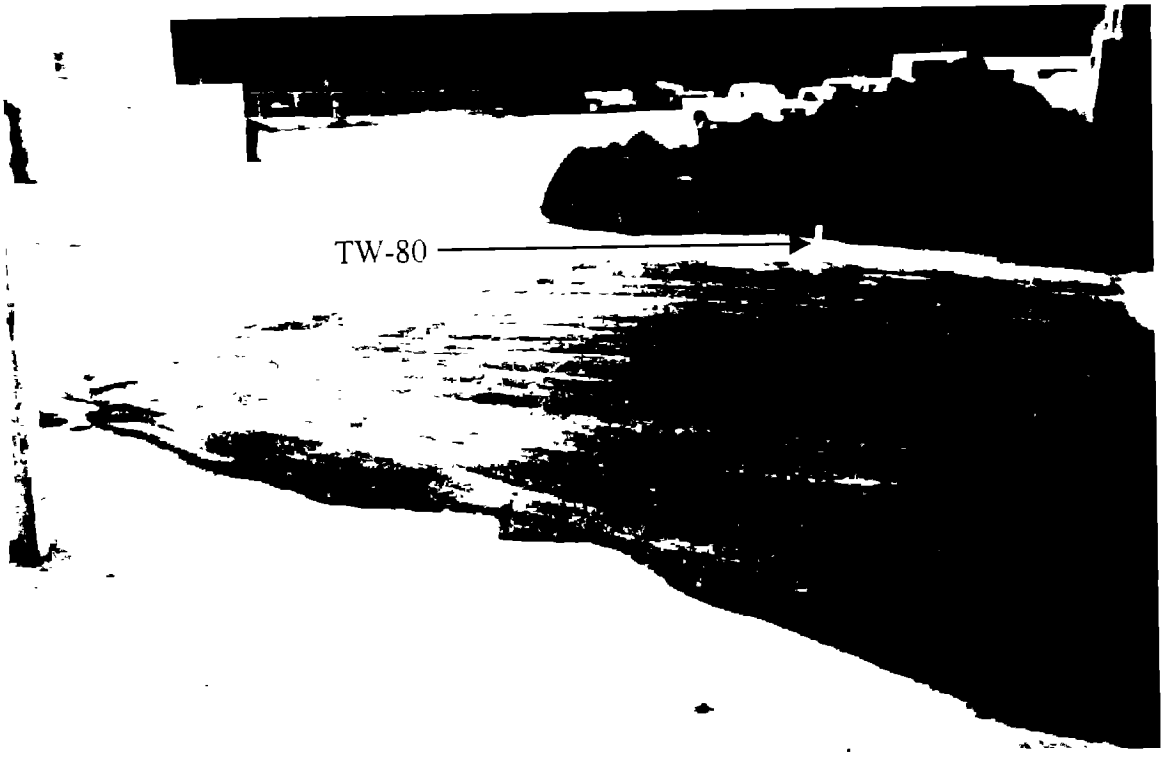


Photo 9: UST 80 excavation after backfill and during asphalt repair.

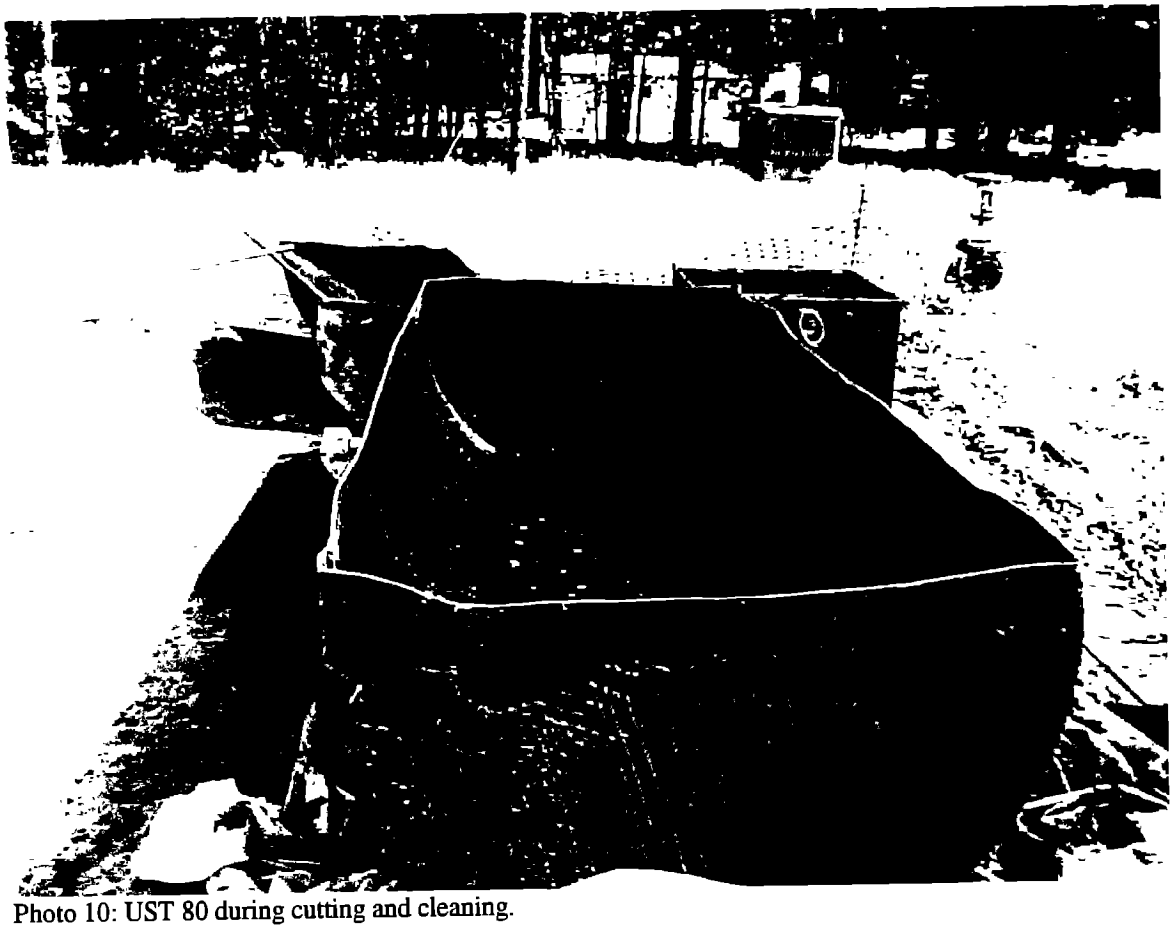


Photo 10: UST 80 during cutting and cleaning.

Attachment II

ANALYTICAL RESULTS

NOTE:

Sample Number **98CNS012-6** was inadvertently used on two different Chain of Custody sheets for two different samples (see enclosed). The first use was for a VOA soil trip blank and the second use was the ground water sample from the temporary monitoring well at UST 80 site. The Laboratory tracking numbers and the sample matrix will serve to distinguish the two samples from each other.

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: SPORTENVDETCHASN Lab
Address: 1899 No. Hobson Ave.
N. Charleston, SC 29405-2106
Phone #: (843) 743-3239 x124
Contact: Bill Hiers

Analytical Report

BETX + MTBE by Method 8260

Lab Report Number: 83321
Sample Date: 31 Aug 98
Received Date: 1 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- 83321
Sample Name / Location	98CNS012-3 F/O Tank North Bldg 80
Collector's Name	McElwee
Date & Time Collected	31 Aug 98 @ 1630
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	3 Sep 98 JM Method 5030/8260
Date of Analysis	3 Sep 98
Sample Matrix	Soil
Dilution	X 1

Compound Name	1- 83321	units	Det. Limit	Flags
Benzene	BDL	ug/Kg	1	
Ethylbenzene	BDL	ug/Kg	2	
Toluene	BDL	ug/Kg	2	
m,p-Xylene	BDL	ug/Kg	4	
o-Xylene	BDL	ug/Kg	2	
Methyl-tert-butyl ether (MTBE)	BDL	ug/Kg	2	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	104
Toluene-d8	86-119	104
Bromofluorobenzene	85-116	112

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by : _____
Jerry Dees, Laboratory Director

Date: 10/13/98
Report Generated

End of Report

Navy Public Works Center

Environmental Laboratory

Analytical Report

610 PAH's by Method 8270

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: SPORTENVDETCHASN Lab
Address: 1899 No. Hobson Ave.
N. Charleston, SC 29405-2106
Phone #: (843) 743-3239 x124
Contact: Bill Hiers

Lab Report Number: 83321
Sample Date: 31 Aug 98
Received Date: 1 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- 83321
Sample Name / Location	98CNS012-3 F/O Tank North Bldg 80
Collector's Name	McElwee
Date & Time Collected	31 Aug 98 @ 1600
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	3 Sep 98 MC
Date of Analysis	4 Sep 98
Sample Matrix	Soil
Dilution	X 1

Compound Name	1- 83321	units	Det. Limit	Flags
Acenaphthene	BDL	ug/Kg	160	
Acenaphthylene	BDL	ug/Kg	190	
Anthracene	BDL	ug/Kg	170	
Benzo(a)anthracene	BDL	ug/Kg	160	
Benzo(a)pyrene	BDL	ug/Kg	180	
Benzo(b)fluoranthene	BDL	ug/Kg	160	
Benzo(g,h,i)perylene	BDL	ug/Kg	180	
Benzo(k)fluoranthene	BDL	ug/Kg	210	
Chrysene	BDL	ug/Kg	170	
Dibenz(a,h)anthracene	BDL	ug/Kg	170	
Fluoranthene	BDL	ug/Kg	180	
Fluorene	BDL	ug/Kg	160	
Indeno(1,2,3-cd)pyrene	BDL	ug/Kg	180	
1-Methylnaphthalene *	BDL	ug/Kg	200	
2-Methylnaphthalene	BDL	ug/Kg	220	
Naphthalene	BDL	ug/Kg	160	
Phenanthrene	BDL	ug/Kg	180	
Pyrene	BDL	ug/Kg	200	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	23-120	53
2-Fluorobiphenyl	30-115	65
Terphenyl -d14	18-137	93

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 10/13/98
Report Generated

End of Report

Navy Public Works Center
Environmental Laboratory

Analytical Report

Petroleum Range Organics by FLPRO

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: SPORTENVDETCHASN Lab
Address: 1899 No. Hobson Ave.
N. Charleston, SC 29405-2106
Phone #: (843) 743-3239 x124
Contact: Bill Hiers

Lab Report Number: 83321
Sample Date: 31 Aug 98
Received Date: 1 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- 83321			
Sample Name / Location	98CNS012-3 F/O Tank North Bldg 80			
Collector's Name	McElwee			
Date & Time Collected	31 Aug 98 @ 1600			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	3 Sep 98 MC			
Date of Analysis	4 Sep 98			
Sample Matrix	Soil			
Dilution	X 1			
Parameter	1- 83321	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	5.0	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142	99
Nonatriacontane (C-39)	42-193	93

COMMENTS :

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 10/13/98

End of Report

Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Analytical Report

BETX + MTBE by Method 8260

Client: SPORTENVDETCHASN Lab
Address: 1899 No. Hobson Ave.
N. Charleston, SC 29405-2106
Phone #: (843) 743-3239 x124
Contact: Bill Hiers

Lab Report Number: 83322
Sample Date: 31 Aug 98
Received Date: 1 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- 83322
Sample Name / Location	98CNS012-4 F/O Tank SW Bldg 80
Collector's Name	McElwee
Date & Time Collected	31 Aug 98 @ 1630
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	3 Sep 98 JM Method 5030/8260
Date of Analysis	3 Sep 98
Sample Matrix	Soil
Dilution	X 1

Compound Name	1- 83322	units	Det. Limit	Flags
Benzene	BDL	ug/Kg	1	
Ethylbenzene	BDL	ug/Kg	2	
Toluene	BDL	ug/Kg	2	
m,p-Xylene	BDL	ug/Kg	4	
o-Xylene	BDL	ug/Kg	2	
Methyl-tert-butyl ether (MTBE)	BDL	ug/Kg	2	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	100
Toluene-d8	86-119	97
Bromoflourobenzene	85-116	101

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by : Jerry Deas, Laboratory Director

Date: 12/4/98
Report Generated

End of Report

Navy Public Works Center

Environmental Laboratory

Analytical Report

610 PAH's by Method 8270

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: SPORTENVDETCHASN Lab
Address: 1899 No. Hobson Ave.
N. Charleston, SC 29405-2106
Phone #: (843) 743-3239 x124
Contact: Bill Hiers

Lab Report Number: 83322
Sample Date: 31 Aug 98
Received Date: 1 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- **83322**
Sample Name / Location	98CNS012-4 F/O Tank SW Bldg 80
Collector's Name	McElwee
Date & Time Collected	31 Aug 98 @ 1630
Sample Type (composite or grab)	Grab
Analyst	J Moore
Date of Extraction / Initials	3 Sep 98 MC
Date of Analysis	4 Sep 98
Sample Matrix	Soil
Dilution	X 1

Compound Name	1- 83322	units	Det. Limit	Flags
Acenaphthene	BDL	ug/Kg	160	
Acenaphthylene	BDL	ug/Kg	190	
Anthracene	BDL	ug/Kg	170	
Benzo(a)anthracene	BDL	ug/Kg	160	
Benzo(a)pyrene	BDL	ug/Kg	180	
Benzo(b)fluoranthene	BDL	ug/Kg	160	
Benzo(g,h,i)perylene	BDL	ug/Kg	180	
Benzo(k)fluoranthene	BDL	ug/Kg	210	
Chrysene	BDL	ug/Kg	170	
Dibenz(a,h)anthracene	BDL	ug/Kg	170	
Fluoranthene	BDL	ug/Kg	180	
Fluorene	BDL	ug/Kg	160	
Indeno(1,2,3-cd)pyrene	BDL	ug/Kg	180	
1-Methylnaphthalene *	BDL	ug/Kg	200	
2-Methylnaphthalene	BDL	ug/Kg	220	
Naphthalene	BDL	ug/Kg	160	
Phenanthrene	BDL	ug/Kg	180	
Pyrene	BDL	ug/Kg	200	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	23-120	58
2-Fluorobiphenyl	30-115	72
Terphenyl -d14	18-137	101

COMMENTS :

BDL = Below Detection Limit. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 12/4/98
Report Generated

End of Report

Navy Public Works Center

Environmental Laboratory

Analytical Report

Petroleum Range Organics by FLPRO

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: SPORTENVDETCHASN Lab
Address: 1899 No. Hobson Ave.
N. Charleston, SC 29405-2106
Phone #: (843) 743-3239 x124
Contact: Bill Hiers

Lab Report Number: 83322
Sample Date: 31 Aug 98
Received Date: 1 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- 83322
Sample Name / Location	98CNS012-4 F/O Tank SW Bldg 80
Collector's Name	McElwee
Date & Time Collected	31 Aug 98 @ 1630
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	3 Sep 98 MC
Date of Analysis	4 Sep 98
Sample Matrix	Soil
Dilution	X 1

Parameter	1- 83322	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	5.0	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142	98
Nonatriacontane (C-39)	42-193	95

COMMENTS :

BDL = Below Detection Limit. mg/Kg = milligram per Kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 12/4/98

End of Report

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: SPORTENVDETCHASN Lab
Address: 1899 No. Hobson Ave.
N. Charleston, SC 29405-2106
Phone #: (843) 743-3239 x124
Contact: Bill Hiers

Analytical Report

BETX + MTBE by Method 8260

Lab Report Number: 83324
Sample Date: 31 Aug 98
Received Date: 1 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- 83324
Sample Name / Location	98CNS012-6 VOA Soil Trip Blank
Collector's Name	NS
Date & Time Collected	31 Aug 98 @ 1630
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	12 Sep 98 JM Method 5030/8260
Date of Analysis	12 Sep 98
Sample Matrix	Soil
Dilution	X 1

Compound Name	1- 83324	units	Det. Limit	Flags
Benzene	BDL	ug/Kg	1	
Ethylbenzene	BDL	ug/Kg	2	
Toluene	BDL	ug/Kg	2	
m,p-Xylene	BDL	ug/Kg	4	
o-Xylene	BDL	ug/Kg	2	
Methyl-tert-butyl ether (MTBE)	BDL	ug/Kg	2	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	109
Toluene-d8	86-119	102
Bromofluorobenzene	85-116	99

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/Kg = microgram per Kilogram. *=FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 10/13/98
Report Generated

End of Report

HAZARDOUS WASTE CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, FL 32508
Ph: (904) 452-4728/3842
DSN: 922-4728/3842
FX: (904) 452-2799/2287

Requester: SPORTENVDETCHASN LAB
Address: 1899 N. HOBSON AVE, N. CHARLESTON, S.C. 29405-2106
Phone #: 843-743-3239. ext 124
Contact: MR. BILL HIERS
Job Order #: 127402

Report Required? (Yes) No DEP? (Yes) No
Lab ID Number:
Sample Date:
Received Date: 9/1/98
Sample Site: NAS CECIL FIELD
Lab Due Date:

Sample ID #	Lab	#1-8-3319	#2-8-3320	#3-8-3321	#4-8-3322
Sample Name		98CNSO12-1 O/W Sep	98CNSO12-2 O/W Sep TANK	98CNSO12-3 F/O TANK NORTH	98CNSO12-4 F/O TANK-SW
or Location		BLDG 200	BLDG 200	BLDG 80	BLDG 80
Sampled by		NESBITT	NESBITT	MCELWEE	MCELWEE
Collection	Date	8/31/98	8/31/98	8/31/98	8/31/98
Date/Time	Time	1600	1600	1630	1630
Sample Matrix		Soil	Soil	Soil	Soil

Notes: *3 DAY TURN-AROUND ON ALL 4 SAMPLES.*

GROUP PARAMETERS by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	FY97 Units	Containers Required (L/S)	Preservatives Used (Liquids)
HW Charact. (complete)	EPA SW 846									56	See below	See below
Ignitability (Flashpoint)	SW 846 1010									2	250ml/4 oz.	4° C
Reactivity (Cyanide & Sulfide)	EPA SW-846									4	1L/4 oz.	4° C
Corrosivity (pH)	SW 846 9040/9045									1.5	250ml/4 oz.	4° C
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
TCLP Non Volatile Extraction	SW 846 1311									4	40 ml/1/4 oz.	4° C
TCLP Volatile ZHE Extraction	SW 846 1311									4	1Lx4/32 oz.	HCl to pH<2/4° C
TCLP BNA Extractables	SW 846 8270									8	1Lx3/4 oz.	4° C
TCLP Acid Extractables	SW 846 8270									8	1Lx3/4 oz.	4° C
TCLP B/N Extractables	SW 846 8270									8	1Lx3/4 oz.	4° C
TCLP Pesticides	SW 846 8080									8	1Lx3/4 oz.	4° C
TCLP Herbicides	SW 846 8150									8	1Lx3/4 oz.	4° C
TCLP Volatiles	SW 846 8260									8	40 ml x 3/4 oz.	HCl to pH<2/4° C
TCLP Metals (8)	EPA SW-846									8.5	500 ml/4 oz.	HNO3 to pH<2
Mutagenic Samples	EPA SW-846									~50%	See above	See above
Complete Priority Pollutants	EPA SW-846									40	See below	See below
35 Acid Extractables	SW 846 8270									8	1Lx3/4 oz.	4° C
35 B/N Extractables	SW 846 8270									8	1Lx3/4 oz.	4° C
35 Pesticide/PCB's	SW 846 8080									8	1Lx3/4 oz.	4° C
35 Volatiles	SW 846 8260									8	40 ml x 3/4 oz.	HCl to pH<2/4° C
35 Metals (13)	EPA SW-846									8	500 ml/4 oz.	HNO3 to pH<2
35 Cyanide/Phenol	EPA SW-846									4	1L Plastic/1L Glass	NaOH/H2SO4
Toxicity (TCLP less Pest/Herb	EPA SW-846									36	See below	See below
8021 - BTEX Solvents	EPA SW-846									24	1Lx3&40mlx4/16 oz.	4° C
Kerosene Anal. Group (PL-PPC)	SW-846/PLOOP									24	Volatile	As Received
PL-9 P.C.	PLOOP	X		X		X		X		5	1Lx3/16 oz.	H2SO4 to pH<2/4°C
Total Volatiles + TIC	SW 846 8260	X		X						8	40 ml/3/4 oz.	HCl to pH<2/4° C
Total BNA Extractables + TIC	SW 846 8270	X		X						16	1Lx2/16 oz.	4° C
Total RCRA Metals (8)	EPA SW-846	X		X						8.5	500 ml/4 oz.	HNO3 to pH<2
Shore Metals	EPA SW-846										500 ml/4 oz.	HNO3 to pH<2
PCB's in Oil	SW 846 8080									1	40 ml/4 oz.	None
PCB's in Water/Soil/Wipes	SW 846 8080									4	1L/4 oz.	None
Other:												
BTEX						X		X				
PAH						X		X				

Comments: TOTAL VOLATILES AND BTEX SAMPLES INCLUDE 3 ENCORE SAMPLERS EACH AND ONE 8OZ JAR EACH.
3 DAY TURNAROUND-ALL SAMPLES.

Relinquished by: T.Q. Lee
Date/Time: 8/31/98 1900
FEDEX overnight

Received by: Susan T. Young
Date/Time: 9/1/98 0915

17802
140nL
15 Syringe Bags

HAZARDOUS WASTE CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

...vironmental Laboratory
...7, Code 920
...ensacola, Fl. 32508
... (904) 452-4728/3642
DSN: 922-4728/3642
FAX: (904) 452-2799/2387

Requester: SPORTENVDETCHASN LAB
Address: 1899 N. HOBSON AVE
N. CHARLESTON, S.C. 29405-2106
Phone #: 843-743-3239 ext 124
Contact: MR. BILL HICKS
Job Order #:

Report Required? (Yes) No   DEP? (Yes) No
Lab ID Number:
Sample Date:
Received Date: 9/1/98
Sample Site: NAS CECIL FIELD
Lab Due Date:

		#1	#2	#3	#4
Sample ID #	Lab	8-3323	8-3324		
Sample Name or Location		98CNS012-5 F/C TANK BLDG 808	98CNS012-6 VOA-SOIL TRIP BLANK		
Sampled by		NESBITT			
Collection Date/Time	Date	8/31/98	8/31/98		
	Time	1330	1630		
Sample Matrix		SOIL	SOIL		

Notes:

GROUP PARAMETERS by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	FY97 Units	Containers Required (L/S)	Preservative(s) Used (Liquids)
HW Charact. (complete)	EPA SW 846									56	See below	See below
Ignitability (Flashpoint)	SW 846 1010									2	250ml/4 oz.	4° C
Reactivity (Cyanide & Sulfide)	EPA SW-846									4	1L/4 oz.	4° C
Corrosivity (pH)	SW 846 9040/9045									2.5	250ml/4 oz.	4° C
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
TCLP Non Volatile Extraction	SW 846 1311									4	40 mlx3/4 oz.	4° C
TCLP Volatile ZHE Extraction	SW 846 1311									4	1Lx4/32 oz.	HCl to pH<2/4° C
TCLP BNA Extractables	SW 846 8270									18	1Lx3/4 oz.	4° C
TCLP Acid Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
TCLP B/N Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
TCLP Pesticides	SW 846 8080									9	1Lx3/4 oz.	4° C
TCLP Herbicides	SW 846 8150									9	1Lx3/4 oz.	4° C
TCLP Volatiles	SW 846 8260									5	40 ml x 3/4 oz.	HCl to pH<2/4° C
TCLP Metals (8)	EPA SW-846									8.5	500 ml/4 oz.	HNO_3 to pH<2
Multiphasic Samples	EPA SW-846									+50%	See above	See above
Complete Priority Pollutants	EPA SW-846									40	See below	See below
PP Acid Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
PP B/N Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
PP Pesticide/PCB's	SW 846 8080									9	1Lx3/4 oz.	4° C
PP Volatiles	SW 846 8260									5	40 ml x 3/4 oz.	HCl to pH<2/4° C
PP Metals (13)	EPA SW-846									9	500 ml/4 oz.	HNO_3 to pH<2
PP Cyanide/Phenol	EPA SW-846									4	1L Plastic/1L Glass	$NaOH/H_2SO_4$
Toxicity (TCLP) less Pest/Herb	EPA SW-846									36	See below	See below
F001 – F005 Solvents	EPA SW-846									24	1Lx3&40mlx4/16 oz.	4° C
Kerosene Anal. Group (FL-PRO)	SW-846/FL DEP									24	Multiple	As Required
FL-PRO	FL DEP	X								5	1Lx3/16 oz.	H_2SO_4 to pH<2/4°C
Total Volatiles	SW 846 8260									8	40 mlx3/4 oz.	HCl to pH<2/4° C
Total BNA Extractables	SW 846 8270									16	1Lx2/16 oz.	4° C
Total RCRA Metals (8)	EPA SW-846									8.5	500 ml/4 oz.	HNO_3 to pH<2
Single Metals	EPA SW-846									1	500 ml/4 oz.	HNO_3 to pH<2
PCB's in Oil	SW 846 8080									3	40 ml/4 oz.	None
PCB's in Water/Soil/Wipes	SW 846 8080									4	1L/4 oz.	None
Other:												
BTEX		X		X								
PAH		X										

Comments: BTEX SAMPLE INCLUDES 3 ENCORE SAMPLERS AND ONE 8OZ JAR.
This sample DOES NOT REQUIRE A 3 DAY TURNAROUND

Relinquished by: [signature]
Date/Time: 8/31/98 1900

Received by: [signature]
Date/Time: 9/1/98 0915

...rev 10/2/96

Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: SPORTENVDETCHASN Lab
Address: 1899 N. Hobson Ave
N. Charleston SC 29405-2100
Phone #: (843) 743-3239 Ext. 124
Contact: Mr. Bill Hiers

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 83384
Sample Date: 5 Sep 98
Received Date: 9 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- 83384
Sample Name / Location	98CNS012-6 TW-80 Bldg 80
Collector's Name	McElwee
Date & Time Collected	5 Sep 98 @ 1000
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	9 Sep 98 MC
Date of Analysis	9 Sep 98
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 83384	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
m,p-Xylene	BDL	ug/L	1	
o-Xylene	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	1	
Naphthalene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	76-133	103
Toluene-d8	86-119	102
Bromoflourobenzene	86-116	102

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 10/1/98
Report Generated

End of Report

Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: SPORTENVDETCHASN Lab
Address: 1899 N. Hobson Ave
N. Charleston SC 29405-2100
Phone #: (843) 743-3239 Ext. 124
Contact: Mr. Bill Hiers

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 83384
Sample Date: 5 Sep 98
Received Date: 9 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- 83384
Sample Name / Location	98CNS012-6 TW-80 Bldg 80
Collector's Name	McElwee
Date & Time Collected	5 Sep 98 @ 1000
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	11 Sep 98 JJ
Date of Analysis	25 Sep 98
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 83384	units	MDL	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)flouranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)flouranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Flouranthene	BDL	ug/L	2	
Flourene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	84
2-Flourobiphenyl	43-116	82
Terphenyl -d14	33-141	83

Explanation of Flags:

COMMENTS : Surrogate recovery limits derived from EPA OLM01.0 SOW 3/90.

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.
MDL = Method detection limit. Practical quantitation limits (PQL) may be derived by multiplying the MDL by 4.

Approved by : Jerry Dees, Laboratory Director

Date: 10/1/98
Report Generated

End of Report

Navy Public Works Center

Environmental Laboratory

Analytical Report

Petroleum Range Organics by FLPRO

Bldg. 3887, Code 440
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: SPORTENVDETCHASN Lab
Address: 1899 N. Hobson Ave
N. Charleston SC 29405-2100
Phone #: (843) 743-3239 Ext. 124
Contact: Mr. Bill Hiers

Lab Report Number: 83384
Sample Date: 5 Sep 98
Received Date: 9 Sep 98
Sample Site: NAS Cecil Field
Job Order No.: 127 4021

LAB Sample ID#	1- 83384
Sample Name / Location	98CNS012-6 TW-80 Bldg 80
Collector's Name	McElwee
Date & Time Collected	5 Sep 98 @ 1000
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of extraction / Initials	11 Sep 98 JJ
Date of Analysis	11 Sep 98
Sample Matrix	Groundwater
Dilution	x 1

Parameter	1- 83384	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142	112
Nonatriacontane (C-39)	42-193	116

COMMENTS :

BDL = Below Detection Limit mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by : Jerry Deese, Laboratory Director Date: 10/1/98

HAZARDOUS WASTE CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory

Bldg. 3887, Code 920
NAS Pensacola, Fl. 32508
Ph#: (904) 452-4728/3842
DSN: 922-4728/3842
FAX: (904) 452-2799/2387

Requester: SOUTHNAVDETCHASN LAB
Address: 1899 N. HUBERT AVE
N. CHARLESTON S.C 29405-2106
Phone #: 843-743-3239 ext 124
Contact: MR. BILL HICKS
Job Order #:

Report Required? Yes No DEP? Yes No
Lab ID Number:
Sample Date:
Received Date:
Sample Site: NAS CECIL FIELD
Lab Due Date:

Sample ID #	Lab	#1-83384	#2-83385	#3-83386	#4-83387	Notes
Sample Name		98CNS012-6	98CNS012-7	98CNS012-8	98CNS012-9	
or Location		TW-80 BLDG 80	TW-808 BLDG 808	TW-200-1 BLDG 200	TW-200-2 BLDG 200	
Sampled by		MCELWEE	MCELWEE	MCELWEE	MCELWEE	
Collection	Date	9/5/98	9/5/98	9/5/98	9/5/98	
Date/Time	Time	1000	1100	1405	1345	
Sample Matrix		GW	GW	GW	GW	

GROUP PARAMETERS by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	FY97 Units	Containers Required (L/S)	Preservatives Used (Liquids)
HW Channel (complete)	EPA SW 846									58	See below	See below
Ignitability (Flashpoint	SW 846 1010									1	250ml/4 oz.	4° C
Reactivity (Cyanide & Sulfide	EPA SW-846									1	1L/4 oz.	4° C
Corrosivity (pH	SW 846 9040/9045I									25	250ml/4 oz.	4° C
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
TCLP Non Volatile Extraction	SW 846 1311									1	40 ml/1/4 oz.	4° C
TCLP Volatile ZHE Extraction	SW 846 1311									1	1Lx4/32 oz.	HCl to pH<2, 4° C
TCLP BNA Extractables	SW 846 8270									18	1Lx3/4 oz.	4° C
TCLP Acid Extractables	SW 846 8270									3	1Lx3/4 oz.	4° C
TCLP B/N Extractables	SW 846 8270									3	1Lx3/4 oz.	4° C
TCLP Pesticides	SW 846 8080									7	1Lx3/4 oz.	4° C
TCLP Herbicides	SW 846 8150									3	1Lx3/4 oz.	4° C
TCLP Volatiles	SW 846 8260									3	40 ml x 3/4 oz.	HCl to pH<2, 4° C
TCLP Metals (6)	EPA SW-846									15	500 ml/4 oz.	HNO3 to pH<2
Mutagenic Samples	EPA SW-846									~50%	See above	See above
Complete Priority Pollutants	EPA SW-846									40	See below	See below
PP Acid Extractables	SW 846 8270									3	1Lx3/4 oz.	4° C
PP B/N Extractables	SW 846 8270									3	1Lx3/4 oz.	4° C
PP Pesticide/PCB's	SW 846 8080									9	1Lx3/4 oz.	4° C
PP Volatiles	SW 846 8260									3	40 ml x 3/4 oz.	HCl to pH<2, 4° C
PP Metals (13)	EPA SW-846									13	500 ml/4 oz.	HNO3 to pH<2
PP Cyanide/Phenol	EPA SW-846									2	1L Plastic/1L Glass	NaOH+H SO4
Toxicity (TCLP) less Pesticides	EPA SW-846									38	See below	See below
4001 - 7005 Solvents	EPA SW-846									24	1Lx40ml vial/16 oz.	4° C
Kerosene Anal. Group (FL-PRO)	SW-846/FL DEP									24	Amber	As Received
FL-PRO	FLDEP	X		X		X		X		5	1Lx3/16 oz.	HCl to pH<2, 4° C
Total Volatiles w/TIC	SW 846 8260					X		X		3	40 ml/3/4 oz.	HCl to pH<2, 4° C
Total BNA Extractables w/TIC	SW 846 8270					X		X		18	1Lx2/16 oz.	4° C
Total RCRA Metals (8)	EPA SW-846					X 4-16-98		X 4-16-98		15	500 ml/4 oz.	HNO3 to pH<2
Silver Metals	EPA SW-846									-	500 ml/4 oz.	HNO3 to pH<2
PCB's in Oil	SW 846 8080									7	40 ml/4 oz.	None
PCB's in Water/Soil/Waste	SW 846 8080									1	1Lx4 oz.	None
Other												
BTEX, NAPTH, MTBE		X		X								
PAH		X		X								

Comments:

Relinquished by: V. R. McElwee
Date/Time: 9/6/98 1218 WS

Received by:
Date/Time:

Attachment III

Certificate of Disposal (tank)

UST Certificate of Disposal

CONTRACTOR

Supervisor of Shipbuilding, Conversion and Repair, USN
Portsmouth, VA
Environmental Detachment Charleston
1899 North Hobson Avenue
North Charleston 29405-2106

Telephone (803) 743-6482

TANK ID & LOCATION

Building 80, UST 80, NAS Cecil Field, Jacksonville, Florida

DISPOSAL LOCATION

Recycling Center
NAS Cecil Field, Jacksonville

TYPE OF TANK	SIZE (GAL)
Steel	1000

CLEANING/DISPOSAL METHOD

The tank was removed from the Building 80 site, cut open, cleaned with a steam cleaner, cut into sections, and recycled through Commercial Metals.

DISPOSAL CERTIFICATION

I certify that the above tank has been properly cleaned and disposed of.

Thomas R. McQuee / 12-3-98
(Name) (Date)

Attachment IV

Soil Disposal Manifests

REPUBLIC
Waste Services Division

Manifest Number: 0218

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer

US EPA ID#: FL5170022474

Billing Address: Environmental Division. PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval

Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
Bldg 80 Fuel Oil Soil	27	11016	Tons.	Dump Truck
	24.99			

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long — Generator Authorized Agent Name

LeRoy A Long — Signature

9/2/98 — Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc.

DOT#: ICCMC258346

Address: PO Box 417, Live Oak, Florida

Truck Number: L130

DAVID LEE — Name of Authorized Agent

David Lee — Signature

9-2-98 — Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc.

Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth — Name of Authorized Agent

Earlene Lambeth — Signature

9-2-98 — Date Received

White - Original Yellow - Transporter Pink - Disposal Facility Gold - Customer

REPUBLIC
Waste Services Division

Manifest Number: 0207

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer

US EPA ID#: FL5170022474

Billing Address: Environmental Division. PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval

Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
Bldg 80 F/O Soil	27	11016	Tons	Truck Dump
	25.28			

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long
Generator Authorized Agent Name

LeRoy A Long 9/2/98
Signature Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc.

DOT#: ICC MC 258346

Address: PO Box 417, Live Oak, Florida

Truck Number: L128

Buddy Hurst
Name of Authorized Agent

Buddy Hurst 9-2-98
Signature Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc.

Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth
Name of Authorized Agent

Earlene Lambeth 9-2-98
Signature Date Received

White - Original Yellow - Transporter Pink - Disposal Facility Gold - Customer

REPUBLIC
Waste Services Division

Manifest Number: 0205

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer

US EPA ID#: FL 5170022474

Billing Address: Environmental Division. PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval

Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
Bldg 80 F/O soil	27	11014	TONS	Truck Dump
	25.36			

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long
Generator Authdrized Agent Name

LeRoy A. Long 9/2/98
Signature Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc.

DOT#: ICC MC 258346

Address: PO Box 417, Live Oak, Florida

Truck Number: L-158

Chad Howard
Name of Authorized Agent

9-2-98
Signature Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc.

Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth
Name of Authorized Agent

Earlene Lambeth 9-2-98
Signature Date Received

White - Original Yellow - Transporter Pink - Disposal Facility Gold - Customer

REPUBLIC
Waste Services Division

Manifest Number: 0206

NON-HAZARDOUS WASTE MANIFEST

L 54

GENERATOR

US Navy NAS Cecil Field

Generator Name: Commanding Officer Staff Civil Engineer

US EPA ID#: FL 5170022474

Billing Address: Environmental Division. PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval

Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
Bldg 80 F/O Soil	27 25.06	11016	Tons	Truck Dump

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long — Generator Authorized Agent Name

LeRoy A Long — Signature

9/2/98 — Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc.

DOT#: MC-MC 258346

Address: PO Box 417, Live Oak, Florida

Truck Number: L54

Raymond Brooms — Name of Authorized Agent

Signature

9-2-98 — Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc.

Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth — Name of Authorized Agent

Earlene Lambeth — Signature

9-2-98 — Date Received

White - Original Yellow - Transporter Pink - Disposal Facility Gold - Customer

REPUBLIC
Waste Services Division

Manifest Number: 0204

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name: US Navy NAS Cecil Field
Commanding Officer Staff Civil Engineer

US EPA ID#: FL5170022474

Billing Address: Environmental Division. PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

Site Address: PO Box 108 Code 184 NAS Cecil Field, Jacksonville, Florida 32215

County of Origin: Duval

Phone: 904-778-5620 ext. 114

Description of Waste	Total Quantity	Profile Number	Unit of Measure	Container Type
Bldg 80 Fuel/o Soil	27	11014	Tons	Dump Truck
	26.30			

Special Handling Instructions

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

LeRoy A Long
Generator Authorized Agent Name

LeRoy A Long
Signature

9/2/98
Date Shipped

TRANSPORTER

Transporter Name: Beaver Bulk, Inc.

DOT#: MC 258344

Address: PO Box 417, Live Oak, Florida

Truck Number: L-110

DENNIS BENDS
Name of Authorized Agent

Signature

9/2
Date Delivered

DISPOSAL FACILITY

Site Name: Broadhurst Environmental, Inc.

Phone Number: 912-530-7050

Address 4800 Broadhurst Rd. W., Jesup, GA 31545

I hereby acknowledge receipt of the above described materials.

Earlene Lambeth
Name of Authorized Agent

Earlene Lambeth 9-2-98
Signature

Date Received

White - Original Yellow - Transporter Pink - Disposal Facility Gold - Customer

Attachment V

Monitoring Well Abandonment Forms

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 (All wells drilled need an individual completion report)

SIGNATURE Bob Nicholson License # 1927

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	14
Bentonite:			

WELL LOCATION: County Duval County Fuel Farm

____1/4 of ____1/4 of Section 15 Twp: 3S Rge: 24E

Latitude _____ Longitude _____

DATE STAMP

Official Use Only

CHEMICAL ANALYSIS WHEN REQUIRED

Iron: _____ ppm Sulfate: _____ ppm

Chloride: _____ ppm

[ ] Lab Test [ ] Field Test Kit

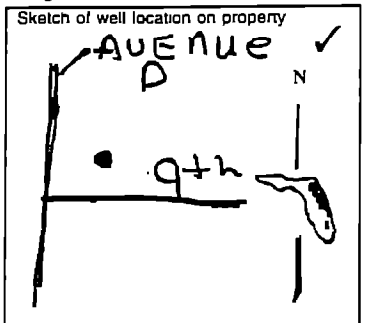
Pump Type

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

Horsepower _____ Capacity _____ G.P.M. _____

Pump Depth _____ Ft. Intake Depth _____ Ft.

Sketch of well location on property



Give distances from septic tank and house or other reference points

OWNER'S NAME NAS Cecil

COMPLETION DATE 8-21-98 Florida Unique I.D. _____

WELL USE: DEP/Public ____ Irrigation ____ Domestic ____ Monitor ____

HRS Limited ____ 62-524 ____ Other Abandonment

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. [X] PVC Other _____

[ ] Open Hole [X] Screen	Depth (Ft.)		DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones.
Casing Diameter & Depth (Ft.)	From	To	Color | Grain Size | Type of Material
Diameter 2" From 0 To 14	0	14	ABANDON WELL WITH TREMIE PIPE
Diameter ____ From ____ To ____			(CEF 80-55)
Liner [ ] or Casing [ ] Diameter ____ From ____ To ____			

Driller's Name: *(print or type)* Michael E Nicholson

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 (All wells drilled need an individual completion report)

SIGNATURE Bob Nicholson License # 1927

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

Grout	No. of Bags	From (Ft.)	To (Ft.)
Neat Cement:	2	0	30
Bentonite:			

WELL LOCATION: County Duval County Fuel Farm

____1/4 of ____1/4 of Section 15 Twp: 3S Rge: 24E

Latitude _____ Longitude _____

DATE STAMP

Official Use Only

CHEMICAL ANALYSIS WHEN REQUIRED

Iron: _____ ppm Sulfate: _____ ppm

Chloride: _____ ppm

[ ] Lab Test [ ] Field Test Kit

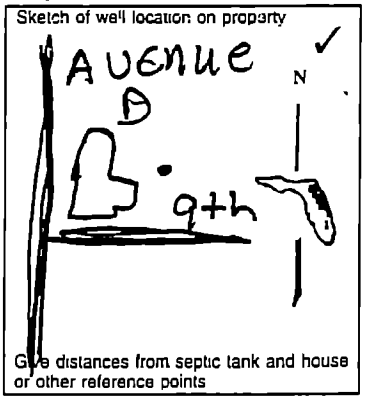
Pump Type

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

Horsepower _____ Capacity _____ G.P.M. _____

Pump Depth _____ Ft. Intake Depth _____ Ft.

Sketch of well location on property



Give distances from septic tank and house or other reference points

OWNER'S NAME NAS Cecil

COMPLETION DATE 8-21-98 Florida Unique I.D. _____

WELL USE: DEP/Public ____ Irrigation ____ Domestic ____ Monitor ____

HRS Limited ____ 62-524 ____ Other Abandonment

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. [X] PVC Other _____

[ ] Open Hole [X] Screen	Depth (Ft.)		DRILL CUTTINGS LOG Examine cuttings every 20 ft. or at formation changes. Note cavities, depth to producing zones.
Casing Diameter & Depth (Ft.)	From	To	Color | Grain Size | Type of Material
Diameter 2" From 0 To 30	0	30	ABANDON WELL WITH TREMIE PIPE
Diameter ____ From ____ To ____			(CEF-80-10-D)
Liner [ ] or Casing [ ] Diameter ____ From ____ To ____			

Driller's Name: *(print or type)* Michael E Nicholson

APPENDIX B

MONITORING WELL INSTALLATION DETAIL

PROJECT: NAS Cecil Field		**LOG of WELL:** CEF-80-5S	**BORING NO.** CEF-80-5S
CLIENT: SOUTHDIVNAVFACENGCOM	**PROJECT NO:** 8542-03	**DATE STARTED:** 3-3-97	**COMPLETED:** 3-3-97
DRILLING SUBCONTRACTOR: GEOTEK		**SITE:** Building 80	**MONITOR INST.** PID
METHOD: 8.25" HSA	**WELL CASE DIAM.:** 2"	**SCREEN INT.:** 3-13 FT.	**SCREEN SLOT SIZE:** 0
TOC ELEVATION: FT. NGVD	**GROUND ELEV.:** FT. NGVD	**NORTHING:** 2146297	**EASTING:** 375599.2
WELL DEVELOP. DATE: 3-5-97	**TOTAL DEPTH:** 14 FT. BLS	**DEPTH TO ▽** 5.05 FT. BLS	**LOGGED BY:** J Koch

DEPTH FT.	SAMPLE INTERVAL	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			1,000	SILTY SAND: Light grey to brown, fine grained, petroleum odor.		SM	posthole	
			1,300	SILTY SAND: Dark brown to black, fine grained, petroleum odor.			posthole	
5		40%	3,200	CLAYEY SAND: Light grey to dark grey, fine grained, saturated, petroleum odor.		SC	1,1,2,2	▽
10		0%	N/A	No split-spoon recovery.			1,1,2,2	
		100%	180	CLAYEY SAND: Light to dark grey, fine grained, strong petroleum odor.			2,3,5,8	
15								
20								

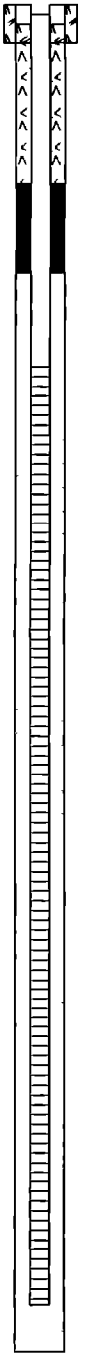
 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Cecil Field, Bldg. 80 ,Site Assessment Report		LOG of WELL: CEF-80-8S	BORING NO. CEF-80-8S
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 02523.13
CONTRACTOR: Custom Drilling		DATE STARTED: 02-03-98	COMPLTD: 02-03-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 4-14 ft.	PROTECTION LEVEL: D
TOC ELEV.: 79.90 FT.	MONITOR INST.: FID	TOT DPTH: 14.5FT.	DPTH TO ∇ N/A FT.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: 02-05-98		SITE: Building 80

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

TITLE: NAS Cecil Field, Bldg. 80 ,Site Assessment Report	LOG of WELL: CEF-80-9S	BORING NO. CEF-80-9S
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 02523.13
CONTRACTOR: Custom Drilling	DATE STARTED: 02-03-98	COMPLTD: 02-03-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 4-14 ft.	PROTECTION LEVEL: D
TOC ELEV.: 79.95 FT.	MONITOR INST.: FID	TOT DPTH: 14.5FT.	DPTH TO ▽ N/A FT.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: 02-05-98	SITE: Building 80

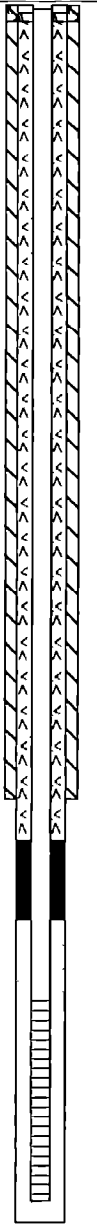
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					<> see note		SM		
2				0	SILTY SAND: gray, fine grain, poorly graded.			posthole	
3									
4				0				posthole	
5									
6									
7					SILTY SAND: reddish brown, fine grain.				
8				0				*	
9								**	
10					SILTY SAND: pale yellowish orange pink, fine grain, with trace of clay.				
11									
12					SILTY SAND: light gray, fine grain.				
13									
14				0	<> soil description taken from auger cuttings. * no split spoon samples taken ** OVA reading taken from auger cuttings				
15									



HARDING LAWSON ASSOCIATES

TITLE: NAS Cecil Field, Bldg. 80, Site Assessment Report	LOG of WELL: CEF-80-10D	BORING NO. CEF-80-10D
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 02523.13
CONTRACTOR: Custom Drilling	DATE STARTED: 02-06-98	COMPLTD: 02-10-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 25-30 ft.	PROTECTION LEVEL: D
TOC ELEV.: 79.25 FT.	MONITOR INST.: FID	TOT DPTH: 30.5FT.	DPTH TO ∇ N/A FT.
LOGGED BY: J. Tarr	WELL DEVELOPMENT DATE: 02-24-98	SITE: Building 80

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				60	SILTY SAND: dark gray to black, fine grain.			posthole	
3									
4				1800			SC	posthole	
5									
6			25%		CLAYEY SAND: light gray, slightly plastic, petroleum odor.			4,3,4,5	
7									
8							SM		
9									
10					SILTY SAND: light gray, fine grain, petroleum odor.				
11			25%	1600				3,2,3,3	
12									
13									
14									
15									
16			25%	1000	SILTY SAND: light gray to black, fine grain, petroleum odor.			2,1,2,2	
17									
18									
19									
20									
21			50%	50	SILTY SAND: light gray, fine grain, trace of clay, slight petroleum odor.			2,3,3,3	
22									
23									
24									
25									
26			100%	8	SILTY SAND: light gray.			14,21,27,24	
27									
28									
29									
30									
31			100%	3	SILTY SAND: light brown, fine grain.			10,14,18,12	
32									
33									
34									
35									



TITLE: NAS Cecil Field, Bldg. 80 Site Assessment Report	LOG of WELL: CEF-80-13S	BORING NO. CEF-80-13S
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 02523-12
CONTRACTOR: Groundwater Protection Services	DATE STARTED: 05-11-99	COMPLTD: 05-11-99
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 5-15 ft.	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: FID	TOT DPTH: 15.5FT.	DPTH TO ▽ 7.42 FT.
LOGGED BY: H.Hooper	WELL DEVELOPMENT DATE: 05-12-99	SITE: Building 80

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1				0	<> See Note		SM	posthole	
4				0				posthole	
5					SILTY SAND: dark to light brown slightly silty fine sand.				
6				0				*	
								**	
8				0					
10				0					
11					SILTY SAND: dark to light brown slightly silty fine sand.				
12				0					
14				0					
16					<> Soil description taken from posthole and auger				
					* no split spoon samples taken				
17					** OVA readings taken at borehole				
20									

TITLE: NAS Cecil Field, Bldg. 80 Site Assessment Report	LOG of WELL: CEF-80-14S	BORING NO. CEF-80-14S
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 02523-12
CONTRACTOR: Groundwater Protection Services	DATE STARTED: 05-11-99	COMPLTD: 05-11-99
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 5-15 ft	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: FID	TOT DPTH: 15.5FT.	DPTH TO ▽ 7.78 FT.
LOGGED BY: H.Hooper	WELL DEVELOPMENT DATE: 05-12-99	SITE: Building 80

DEPTH FT.	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1				0	<> See Note		SP	posthole	
2									
3									
4				20	SAND: dark brown fine sand (fill)			posthole	
5									
6				10				*	
7								**	
8				5			SM		
9									
10				0					
11					SILTY SAND: light gray to gray silty fine sand.				
12				0					
13									
14				0					
15									
16					<> Soil description taken from posthole and auger				
17					* no split spoon samples taken				
18					** OVA readings taken at borehole.				
19									
20									

HARDING LAWSON ASSOCIATES

APPENDIX C

ANALYTICAL DATA

NAS CECIL FIELD -- UST GREY SITE 80
GROUNDWATER DATA -- REPORT REQUEST NO. 9913

Lab Sample Number:		JR81873			JR81874			JR81891			JR81892		
Site		UST GREY			UST GREY			UST GREY			UST GREY		
Locator		80DPT1-10			80DPT1-25			80DPT1-45			80DPT1-65		
Collect Date:		01-DEC-97			01-DEC-97			02-DEC-97			02-DEC-97		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
BETX, MTBE, & DICHLOROBENZENES	ug/l															
Benzene		1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Ethylbenzene		1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Toluene		1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Chlorobenzene		1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Methyl tert-butyl ether		2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
1,2-Dichlorobenzene		1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,3-Dichlorobenzene		1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,4-Dichlorobenzene		1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
m,p-Xylene		1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
o-Xylene		1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1

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

NAS CECIL FIELD -- UST GREY SITE 80
GROUNDWATER DATA -- REPORT REQUEST NO. 9913

Lab Sample Number:	JR81893				JR81894				JR81895				JR81896			
Site	UST GREY				UST GREY				UST GREY				UST GREY			
Locator	80DPT2-10				80DPT2-25				80DPT2-45				80DPT2-60			
Collect Date:	02-DEC-97				02-DEC-97				02-DEC-97				02-DEC-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
BETX, MTBE, & DICHLOROBENZENES ug/l																
Benzene	1	U	ug/l	1	8.8		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Ethylbenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Toluene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Chlorobenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Methyl tert-butyl ether	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
1,2-Dichlorobenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,3-Dichlorobenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,4-Dichlorobenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
m,p-Xylene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
o-Xylene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1

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NAS CECIL FIELD -- UST GREY SITE 80
GROUNDWATER DATA -- REPORT REQUEST NO. 9913

Lab Sample Number:	JR82101				JR82102				JR82103				JR82104			
Site	UST GREY				UST GREY				UST GREY				UST GREY			
Locator	80DPT3-10				80DPT3-25				80DPT3-45				80DPT3-63			
Collect Date:	03-DEC-97				03-DEC-97				03-DEC-97				03-DEC-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
BETX, MTBE, & DICHLOROBENZENES ug/l																
Benzene	1	U	ug/l	1	8.8		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Ethylbenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Toluene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Chlorobenzene	7.6		ug/l	1	33		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Methyl tert-butyl ether	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
1,2-Dichlorobenzene	1	U	ug/l	1	7.7		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,3-Dichlorobenzene	1	U	ug/l	1	3.4		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,4-Dichlorobenzene	1	U	ug/l	1	6.1		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
m,p-Xylene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
o-Xylene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1

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NAS CECIL FIELD -- TANK 80
UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9423

Lab Sample Number:	B7C2001620				B7C2001620			
Site	BRACGREY				BRACGREY			
Locator	CEF805S				CEF805S			
Collect Date:	19-MAR-97				19-MAR-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
BRACGREY ANAYLTICAL 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	3.3		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	120		ug/l	20	-			
2-Methylnaphthalene	89		ug/l	20	-			
Acenaphthene	20	U	ug/l	20	-			
Acenaphthylene	20	U	ug/l	20	-			
Anthracene	20	U	ug/l	20	-			
Benzene	27		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	1.3		ug/l	1	-			
Chloromethane	1	U	ug/l	1	-			
Chrysene	1	U	ug/l	1	-			
Dibenzo (a,h) anthracene	2	U	ug/l	2	-			
Dibromochloromethane	1	U	ug/l	1	-			
Dichlorodifluoromethane	1	U	ug/l	1	-			
Ethylbenzene	50		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	1.5		ug/l	1	-			
Naphthalene	51		ug/l	20	-			
Phenanthrene	20	U	ug/l	20	-			
Pyrene	2	U	ug/l	2	-			
Tetrachloroethene	1	U	ug/l	1	-			
Toluene	1.2		ug/l	1	-			
Total petroleum hydrocarbons	4.1		mg/l	.5	-			
Trichloroethene	1.9		ug/l	1	-			
Trichlorofluoromethane	1	U	ug/l	1	-			
Vinyl chloride	1.1		ug/l	1	-			

NAS CECIL FIELD -- TANK 80
UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9423

Lab Sample Number:	B7C2001620				B7C2001620			
Site	BRACGREY				BRACGREY			
Locator	CEF805S				CEF805S			
Collect Date:	19-MAR-97				19-MAR-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Xylenes (total)	69		ug/l	1	-			
cis-1,3-Dichloropropene	1	U	ug/l	1	-			
trans-1,2-Dichloroethene	1	U	ug/l	1	-			
trans-1,3-Dichloropropene	1	U	ug/l	1	-			
Lead-DISS	-				5	U	ug/l	5

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NAS CECIL FIELD -- UST GREY TANK 80
GROUNDWATER DATA -- REPORT REQ NO. 10058

Lab Sample Number:	A8F1801270				A8F1801270				A8F1801270				A8F1801270			
Site	UST GREY				UST GREY				UST GREY				UST GREY			
Locator	CEF-80-5S				CEF-80-5S				CEF-80-8S				CEF-80-9S			
Collect Date:	17-JUN-98				17-JUN-98				17-JUN-98				17-JUN-98			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
BETX AND DICHLOROBENZENES																
Benzene	14		ug/l	2.5	61		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Ethylbenzene	33		ug/l	2.5	74		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Toluene	2.5	U	ug/l	2.5	46		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Xylenes (total)	2.5	U	ug/l	2.5	-				1	U	ug/l	1	1	U	ug/l	1
Chlorobenzene	2.5	U	ug/l	2.5	48		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,2-Dichlorobenzene	2.5	U	ug/l	2.5	46		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,3-Dichlorobenzene	2.5	U	ug/l	2.5	44		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,4-Dichlorobenzene	2.5	U	ug/l	2.5	47		ug/l	1	1	U	ug/l	1	1	U	ug/l	1
PAHs																
Acenaphthene	5	U	ug/l	5	-				1	U	ug/l	1	1	U	ug/l	1
Acenaphthylene	5	U	ug/l	5	-				1	U	ug/l	1	1	U	ug/l	1
Anthracene	5	U	ug/l	5	-				1	U	ug/l	1	1	U	ug/l	1
Benzo (a) anthracene	.5	U	ug/l	.5	-				.1	U	ug/l	.1	.1	U	ug/l	.1
Benzo (b) fluoranthene	.5	U	ug/l	.5	-				.1	U	ug/l	.1	.14		ug/l	.1
Benzo (k) fluoranthene	.25	U	ug/l	.25	-				.05	U	ug/l	.05	.069		ug/l	.05
Benzo (a) pyrene	.5	U	ug/l	.5	-				.1	U	ug/l	.1	.21		ug/l	.1
Chrysene	.5	U	ug/l	.5	-				.1	U	ug/l	.1	.1	U	ug/l	.1
Dibenzo (a,h) anthracene	.5	U	ug/l	.5	-				.1	U	ug/l	.1	.1	U	ug/l	.1
Fluoranthene	.5	U	ug/l	.5	-				.1	U	ug/l	.1	.1	U	ug/l	.1
Fluorene	5	U	ug/l	5	-				1	U	ug/l	1	1	U	ug/l	1
Indeno (1,2,3-cd) pyrene	.5	U	ug/l	.5	-				.1	U	ug/l	.1	.1	U	ug/l	.1
Benzo (g,h,i) perylene	.5	U	ug/l	.5	-				.1	U	ug/l	.1	.12		ug/l	.1
Naphthalene	160		ug/l	5	-				1	U	ug/l	1	1	U	ug/l	1
Phenanthrene	5	U	ug/l	5	-				1	U	ug/l	1	1	U	ug/l	1
Pyrene	.63	PF	ug/l	.5	-				.1	U	ug/l	.1	.16		ug/l	.1
1-Methylnaphthalene	140		ug/l	5	-				1	U	ug/l	1	1	U	ug/l	1
2-Methylnaphthalene	160		ug/l	5	-				1	U	ug/l	1	1	U	ug/l	1
FLA PRO																
TPH C8-C40	12		mg/l	.5	-				.5	U	mg/l	.5	.5	U	mg/l	.5

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NAS CECIL FIELD -- UST GREY TANK 80
GROUNDWATER DATA -- REPORT REQ NO. 10058

Lab Sample Number:	A8F1801270			
Site	UST GREY			
Locator	CEF-80-10D			
Collect Date:	17-JUN-98			
	VALUE	QUAL	UNITS	DL
BETX AND DICHLOROBENZENES				
Benzene	1	U	ug/l	1
Ethylbenzene	1	U	ug/l	1
Toluene	1	U	ug/l	1
Xylenes (total)	1	U	ug/l	1
Chlorobenzene	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
PAHs				
Acenaphthene	1	U	ug/l	1
Acenaphthylene	1	U	ug/l	1
Anthracene	1	U	ug/l	1
Benzo (a) anthracene	.1	U	ug/l	.1
Benzo (b) fluoranthene	.1	U	ug/l	.1
Benzo (k) fluoranthene	.05	U	ug/l	.05
Benzo (a) pyrene	.1	U	ug/l	.1
Chrysene	.1	U	ug/l	.1
Dibenzo (a,h) anthracene	.1	U	ug/l	.1
Fluoranthene	.1	U	ug/l	.1
Fluorene	1	U	ug/l	1
Indeno (1,2,3-cd) pyrene	.1	U	ug/l	.1
Benzo (g,h,i) perylene	.1	U	ug/l	.1
Naphthalene	1	U	ug/l	1
Phenanthrene	1	U	ug/l	1
Pyrene	.1	U	ug/l	.1
1-Methylnaphthalene	1	U	ug/l	1
2-Methylnaphthalene	1	U	ug/l	1
FLA PRO				
TPH C8-C40	.5	U	mg/l	.5

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NAS Cecil Field

Sample Identifier	**CEF-80-14S**				
Sample Collect Date	**5/20/99**				
Analyte					
EPA 602 - Vol. Aromatics					
1,2-Dichlorobenzene	10 U ug/L	(10)	--	--	--
1,3-Dichlorobenzene	10 U ug/L	(10)	--	--	--
1,4-Dichlorobenzene	10 U ug/L	(10)	--	--	--
Benzene	10 U ug/L	(10)	--	--	--
Chlorobenzene	10 U ug/L	(10)	--	--	--
Ethylbenzene	27 ug/L	(10)	--	--	--
m,p-Xylene	10 U ug/L	(10)	--	--	--
Methyl tert-butyl ether	20 U ug/L	(20)	--	--	--
o-Xylene	10 U ug/L	(10)	--	--	--
Toluene	10 U ug/L	(10)	--	--	--
EPA 8021- Vol. Aromatics					
1,1,1-Trichloroethane	10 U ug/L	(10)	--	--	--
1,1,2,2-Tetrachloroethane	10 U ug/L	(10)	--	--	--
1,1,2-Trichloroethane	10 U ug/L	(10)	--	--	--
1,1-Dichloroethane	10 U ug/L	(10)	--	--	--
1,1-Dichloroethene	10 U ug/L	(10)	--	--	--
1,2-Dichlorobenzene	10 U ug/L	(10)	--	--	--
1,2-Dichloroethane	10 U ug/L	(10)	--	--	--
1,2-Dichloropropane	10 U ug/L	(10)	--	--	--
1,3-Dichlorobenzene	10 U ug/L	(10)	--	--	--
1,4-Dichlorobenzene	10 U ug/L	(10)	--	--	--
Bromodichloromethane	10 U ug/L	(10)	--	--	--
Bromoform	10 U ug/L	(10)	--	--	--
Bromomethane	10 U ug/L	(10)	--	--	--
Carbon tetrachloride	10 U ug/L	(10)	--	--	--

Sample Identifier	CEF-80-14S			
Sample Collect Date	5/20/99			
Analyte				
Chlorobenzene	10 U ug/L (10)	--	--	--
Chloroethane	20 U ug/L (20)	--	--	--
Chloroform	10 U ug/L (10)	--	--	--
Chloromethane	20 U ug/L (20)	--	--	--
cis 1,2-Dichloroethene	10 U ug/L (10)	--	--	--
cis 1,3-Dichloropropene	10 U ug/L (10)	--	--	--
Dibromochloromethane	10 U ug/L (10)	--	--	--
Dichlorodifluoromethane	10 U ug/L (10)	--	--	--
Methylene chloride	20 U ug/L (20)	--	--	--
Tetrachloroethene	10 U ug/L (10)	--	--	--
trans 1,2-Dichloroethene	10 U ug/L (10)	--	--	--
trans 1,3-Dichloropropene	10 U ug/L (10)	--	--	--
Trichloroethene	10 U ug/L (10)	--	--	--
Trichlorofluoromethane	20 U ug/L (20)	--	--	--
Vinyl chloride	10 U ug/L (10)	--	--	--
EPA 8310- PAH by HPLC				
1-Methylnaphthalene	120 ug/L (10)	--	--	--
2-Methylnaphthalene	83 ug/L (10)	--	--	--
Acenaphthene	5 U ug/L (5)	--	--	--
Acenaphthylene	10 U ug/L (10)	--	--	--
Anthracene	.5 I ug/L (.5)	--	--	--
Benzo (a) Anthracene	.5 U ug/L (.5)	--	--	--
Benzo (a) Pyrene	.5 U ug/L (.5)	--	--	--
Benzo (b) Fluoranthene	1 U ug/L (1)	--	--	--
Benzo (g,h,i) Perylene	1 U ug/L (1)	--	--	--
Benzo (k) Fluoranthene	.5 U ug/L (.5)	--	--	--
Chrysene	.5 U ug/L (.5)	--	--	--
Dibenzo (a,h) anthracene	1 U ug/L (1)	--	--	--
Fluoranthene	1 U ug/L (1)	--	--	--
Fluorene	3.5 ug/L (1)	--	--	--
Indeno (1,2,3-cd) pyrene	.5 U ug/L (.5)	--	--	--

Sample Identifier	CEF-80-14S			
Sample Collect Date	5/20/99			
Analyte				
Naphthalene	65 ug/L (5)	--	--	--
Phenanthrene	10 U ug/L (10)	--	--	--
Pyrene	.5 U ug/L (.5)	--	--	--
FL PRO Petroleum Residue				
Total Petroleum Hydrocarbons	.2 U mg/L (.2)	--	--	--

Footnotes: Values in parentheses are detection limits