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CONTAMINATION ASSESSMENT REPORT TANK 199 SITE NAS CECIL FIELD FL  
3/1/1997  
ABB ENVIRONMENTAL SERVICES, INC

**CONTAMINATION ASSESSMENT REPORT**

**TANK 199 SITE**

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

**Unit Identification Code: N60200**

**Contract No.: N62467-89-D-0317/127**

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**March 1997**



## FOREWORD

Subtitle I of the hazardous and Solid Waste Amendments of 1984 to the Solid Waste Disposal Act (SWDA) of 1965 established a national regulatory program for managing underground storage tanks (USTs) containing hazardous materials, primarily petroleum products. Hazardous wastes stored in USTs were already regulated under the Resource Conservation and Recovery Act of 1976, which was also an amendment to SWDA. Subtitle I requires that the U.S. Environmental Protection Agency (USEPA) promulgate UST regulations. The program was designed to be administered by the individual States, who were allowed to develop more stringent standards, but not less stringent standards. Local governments were permitted to establish regulatory programs and standards that are more stringent, but not less stringent than either State or Federal regulations. The USEPA UST regulations are found in the Code of Federal Regulations, Title 40, Part 280 (Title 40 CFR 280), *Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks*, and Title 40 CFR 281, *Approval of State Underground Storage Tank Programs*. Title 40 CFR 280 was revised and published on September 23, 1988, and became effective December 22, 1988.

The Navy's UST program policy is to comply with all Federal, State, and local regulations pertaining to USTs. This report was prepared to satisfy the requirements of Chapter 62-770, Florida Administrative Code, *State Underground Petroleum Environmental Response*, regulations pertaining to petroleum contamination in Florida's environment as a result of spills or leaking tanks or piping.

Questions regarding this report should be addressed to the Commanding Officer, Naval Air Station Cecil Field, Jacksonville, Florida, or to Southern Division, Naval Facilities Engineering Command, Code 1842 at AUTOVON 563-0528 or (803) 820-5896.

## EXECUTIVE SUMMARY

A contamination assessment was conducted at the Tank 199 site to assess the horizontal and vertical extent of petroleum contamination in soil and groundwater. Tank 199 was a 2,000-gallon underground heating oil tank for the Family Service Center at Building 199. The tank was removed in August 1995 and was found to have been leaking. The contamination assessment consisted of the installation of piezometers, monitoring wells, the advancement of soil borings, and the collection of soil and groundwater samples. The findings, conclusions, and recommendations of the contamination assessment are presented below.

### Findings:

- Depth to water in the surficial aquifer ranges from 3 to 4 feet below land surface (bls) and the general groundwater flow direction is to the south.
- Excessively contaminated soil was detected in soil samples from 50 of the 84 soil borings advanced during this field investigation. The volume of excessively contaminated soil at the Tank 199 site is approximately 4,000 cubic yards.
- Petroleum-contaminated soil was excavated during the removal of Tank 199, hauled offsite, and thermally treated.
- No free product was detected in any of the 4 piezometers or 10 monitoring wells installed at the site.
- The horizontal extent of petroleum-contaminated groundwater is limited to monitoring well CEF-199-1S, which is located at the former underground storage tank (UST) location. Benzene and total volatile organic aromatic (VOA) concentrations exceeded the Chapter 62-770, Florida Administrative Code, target levels of 1 part per billion (ppb) and 50 ppb, respectively. The benzene concentration in monitoring well CEF-199-1S was 8 ppb, and the total VOA concentration was 75.6 ppb. Chloroform, fluorene, methyl tert-butyl ether, and lead were also detected in Tank 199 groundwater samples, but are sporadic and do not appear to be related to the fuel oil release.
- The vertical extent of petroleum contamination does not exceed 35 feet bls, which is the top of the screened interval of the deep monitoring well CEF-199-2D.

### Conclusions:

Data obtained during this contamination assessment at the Tank 199 site appears to be sufficient to assess the horizontal and vertical extent of excessively contaminated soil and groundwater contamination. The contaminant distribution indicates that both soil and groundwater have been impacted by a petroleum release from Tank 199. The area of groundwater contamination is limited to the former UST location, while the soil contamination is much more widespread, extending to the grassy area and parking lot east of Building 199.

Recommendations:

Based on the results of the contamination assessment, it is recommended that a monitoring only plan be prepared for the Tank 199 site. Soil samples should be collected and analyzed for the kerosene analytical group parameters, including the Florida Petroleum Range Organics Method to assess if a remedial action plan for contaminated soil should be prepared.

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- Appendix B: Monitoring Well and Piezometer Lithologic Logs
- Appendix C: Soil OVA Data
- Appendix D: Groundwater Analytical Results

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## GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
CAR	Contamination Assessment Report
FAC	Florida Administrative Code
ft/day	feet per day
ISI	Innovative Services International
KAG	kerosene analytical group
MTBE	methyl tert-butyl ether
NAS	Naval Air Station
OVA	organic vapor analyzer
PID	photoionization detector
ppb	parts per billion
ppm	parts per million
™	Trademark
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOA	volatile organic aromatics

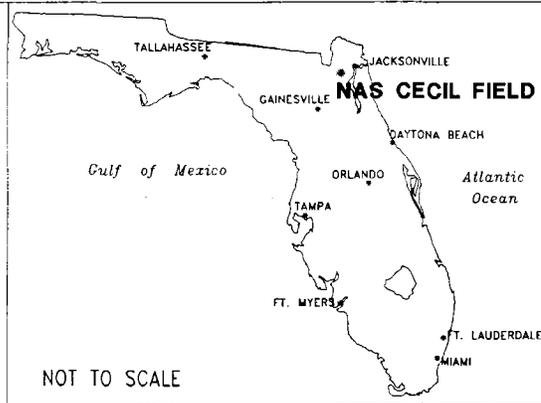
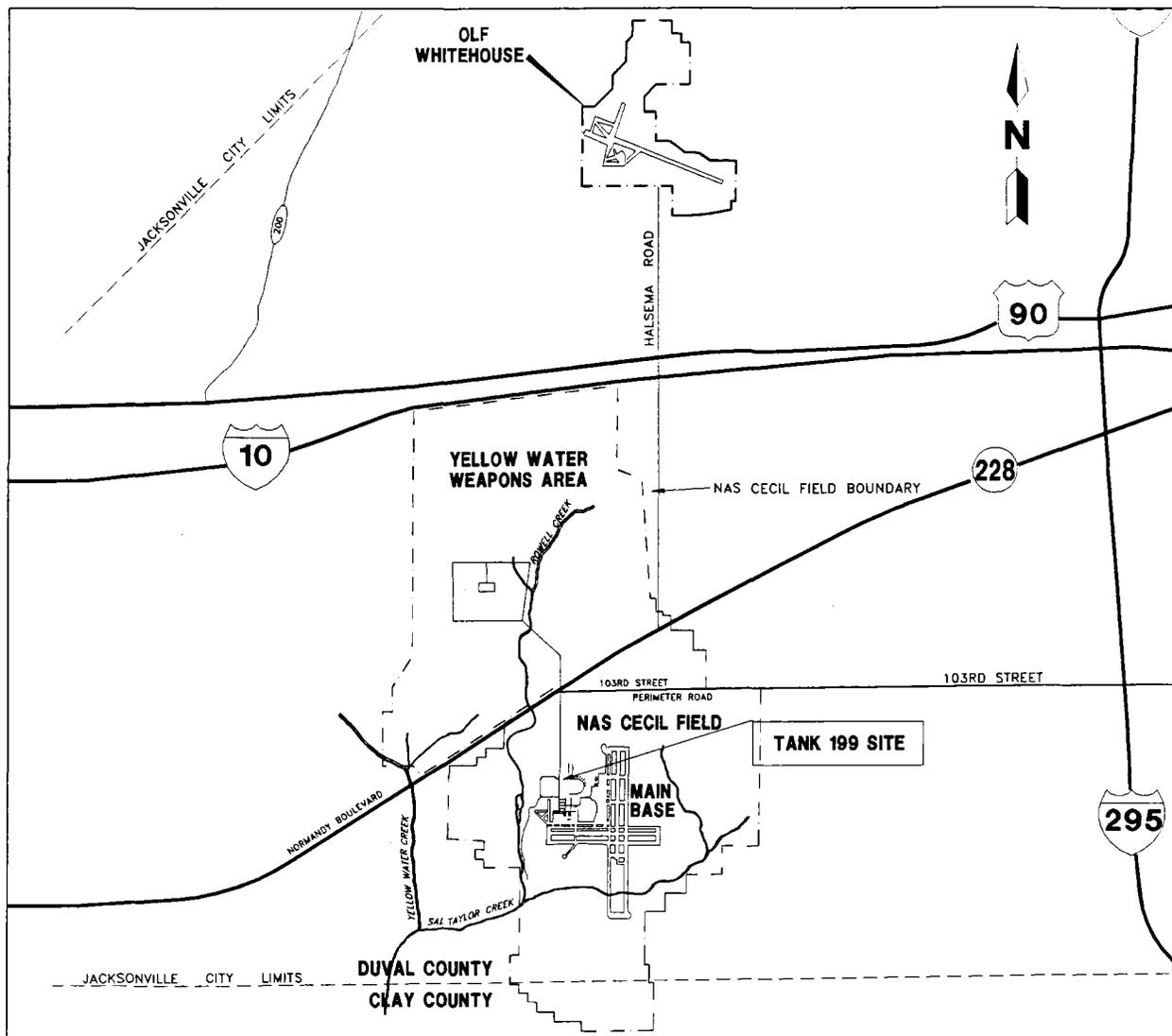
## 1.0 INTRODUCTION

ABB Environmental Services, Inc. (ABB-ES), has been contracted by the Southern Division, Naval Facilities Engineering Command to prepare a contamination assessment report (CAR) for the Tank 199 site at the U.S. Naval Air Station (NAS) Cecil Field, Jacksonville, Florida. Figure 1-1 shows the general locations of the site at NAS Cecil Field. The Tank 199 site is located on the east side of Building 199, which is located on the southeastern corner of the intersection of C Avenue and 6th Street.

1.1 PURPOSE. The purpose of the Tank 199 Site CAR is to present site background information, field methodologies, results, conclusions of the contamination assessment field investigation, and recommendations for future actions.

1.2 SCOPE AND RATIONALE. The scope and rationale of the contamination assessment conducted at the Tank 199 Site included

- installation of four shallow water table piezometers to assess the presence of free product and groundwater flow direction;
- advancement of 84 soil borings and collection of soil samples from the vadose zone for organic vapor analyzer (OVA) headspace analysis to assess the extent of soil contamination and aid in the placement of monitoring wells;
- installation of nine shallow water table monitoring wells and one double-cased deep monitoring well to assess the horizontal and vertical extent of groundwater contamination;
- collection of groundwater samples from all monitoring wells for kerosene analytical group (KAG) laboratory analysis using U.S. Environmental Protection Agency (USEPA) Methods 601, 602, 610, 418.1, and 239.2;
- collection of water-level data to assess the groundwater flow direction and hydraulic gradient at the site; and
- aquifer testing to estimate hydraulic conductivity in the upper part of the surficial aquifer.



0 6,500 13,000

SCALE: 1 INCH = 13,000 FEET

Source: Southern Division, Naval Facilities Engineering Command, 1988

**FIGURE 1-1  
GENERAL LOCATION MAP**



**CONTAMINATION ASSESSMENT  
PLAN, TANK 199**

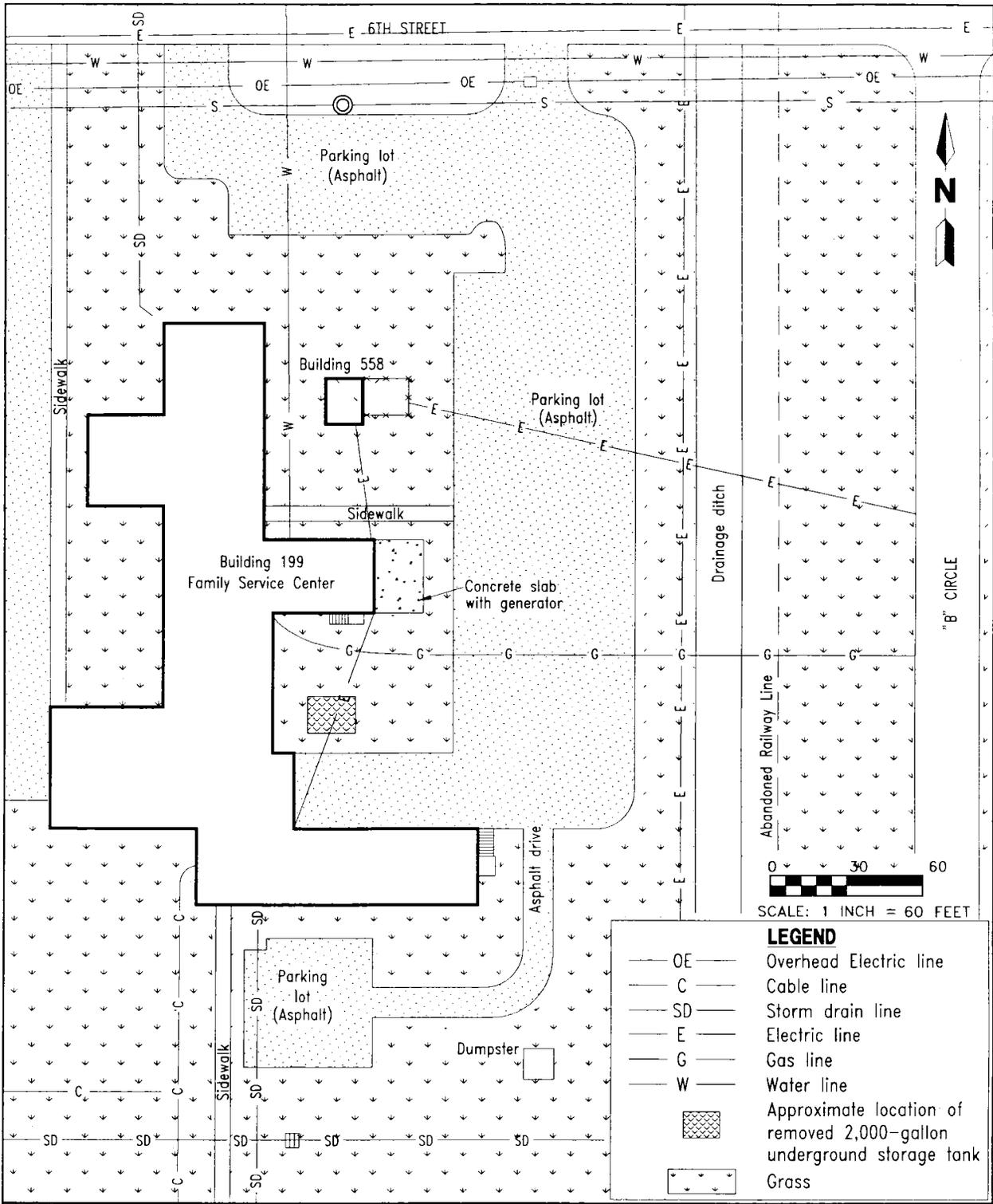
**NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA**

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## 2.0 BACKGROUND

2.1 SITE DESCRIPTION AND HISTORY. Tank 199 was a 2,000-gallon underground heating oil tank located on the east side of Building 199, which contains the Family Service Center (Figure 2-1). On August 10, 1995, the tank was removed by Innovative Services International (ISI), and was discovered to have been leaking. Approximately 150 gallons of free product were recovered from the tank excavation using gasoline-powered pumps equipped with vacuum hoses. A tank closure assessment was conducted and a Closure Assessment Report (Appendix A) was submitted to the Florida Department of Environmental Protection (FDEP) on December 1, 1995.

During the removal of Tank 199, ISI collected 31 soil samples within and around the tank excavation at depths ranging from 1 foot to 6 feet below land surface (bls). Soil samples were screened for hydrocarbon vapors using a photoionization detector (PID). The highest PID reading recorded was 174 parts per million (ppm) at 2 feet bls. Soil sample locations and PID readings from the closure assessment are presented in Appendix A.



**FIGURE 2-1  
SITE MAP**



**CONTAMINATION ASSESSMENT  
REPORT, TANK 199**

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

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### 3.0 FIELD INVESTIGATION

A contamination assessment field investigation for the Tank 199 site was initiated by ABB-ES in August 1996. Details of the field activities are presented in the following sections.

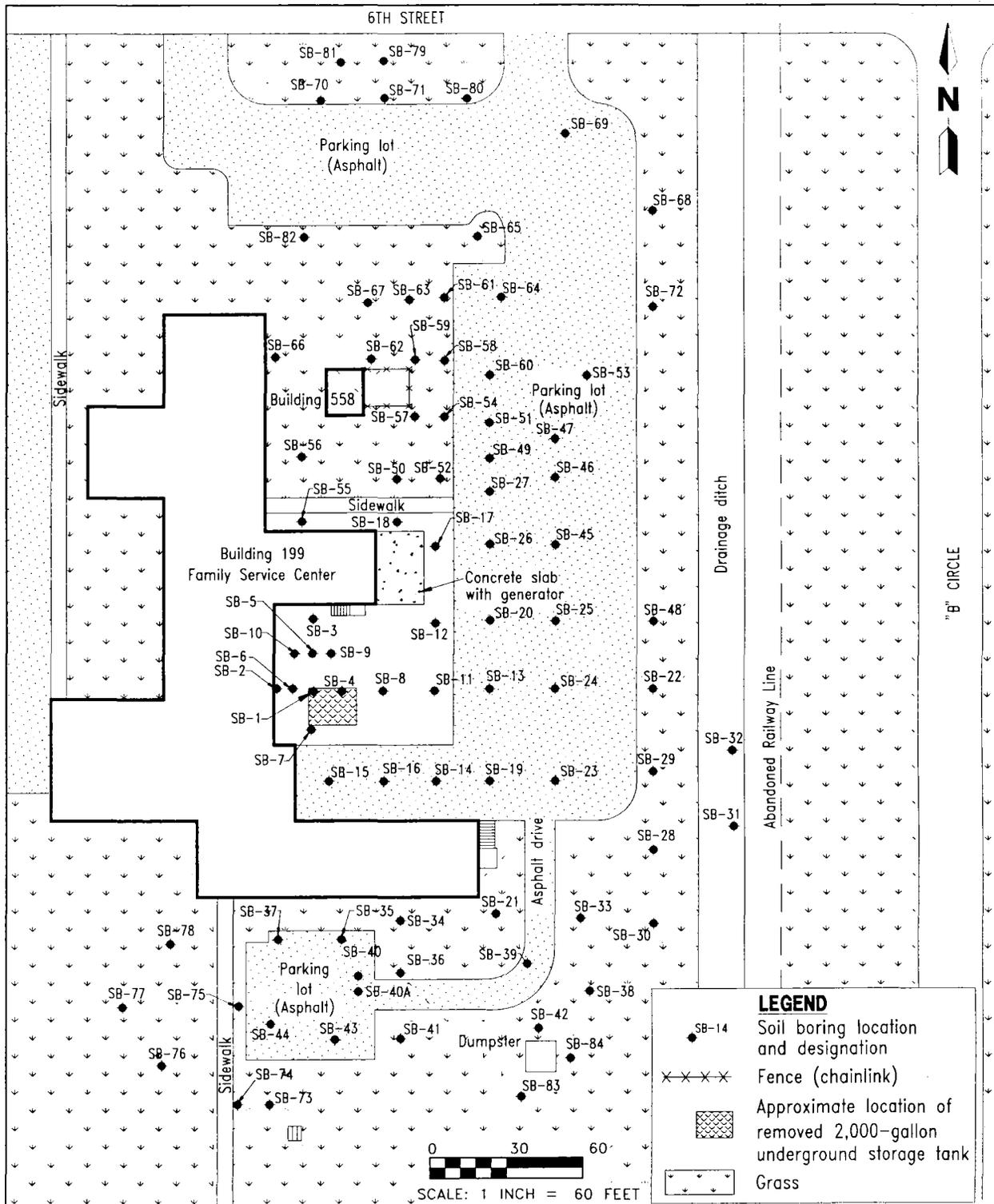
3.1 SOIL BORING PROGRAM. From August 14 through 22, 1996, and on November 8 and November 27, 1996, a total of 84 soil borings (SB-1 through SB-84) were advanced at the Tank 199 site. Soil boring locations are presented on Figure 3-1.

All soil borings were advanced to the top of the water table (approximately 3 to 4 feet bls) using stainless-steel hand augers. Soil samples were collected from each boring at depth intervals of 1-foot bls and every 2 feet thereafter to the top of the water table. Soil samples were screened for hydrocarbon vapors using an OVA in accordance with Chapter 62-770.200(2) Florida Administrative Code (FAC). OVA screening results from soil borings SB-1 through SB-84 are discussed in Section 5.1.

3.2 MONITORING WELL AND PIEZOMETER INSTALLATION. Three shallow piezometers (CEF-199-PZ1 through CEF-199-PZ3) were installed on August 14, 1996 and one additional shallow piezometer (CEF-199-PZ4) was installed on August 23, 1996.

Nine shallow monitoring wells (CEF-199-1S and CEF-199-3S through CEF-199-10S) and one deep double-cased monitoring well (CEF-199-2D) were installed on October 10 and October 11, 1996, and on November 16, 17, and 18, 1996. Shallow wells were installed to 13 feet bls. The deep double-cased monitoring well was installed to 40 feet bls. Monitoring well and piezometer locations are shown on Figure 3-2, and construction details are presented in Table 3-1. Boring logs for monitoring wells CEF-199-1S through CEF-199-10S are presented in Appendix B.

3.3 GROUNDWATER SAMPLING AND ANALYSIS. Groundwater samples were collected from monitoring wells CEF-199-1S through CEF-199-10S on December 3, 4, and 5, 1996. All groundwater samples were analyzed for Chapter 62-770, FAC, KAG parameters, which include USEPA Methods 602 (volatile organic aromatics [VOA] including methyl tert-butyl ether [MTBE]), 601 (purgable halocarbons), 610 (polynuclear aromatic hydrocarbons), 504 (ethylene dibromide), 418.1 (total recoverable petroleum hydrocarbons), and 239.2 (total lead). Both filtered and unfiltered groundwater samples were collected and analyzed for lead (with the exception of monitoring wells CEF-199-1S, CEF-199-8S, and CEF-199-9S) because the turbidity values during monitoring well purging could not be reduced below 5 nephelometric turbidity units.



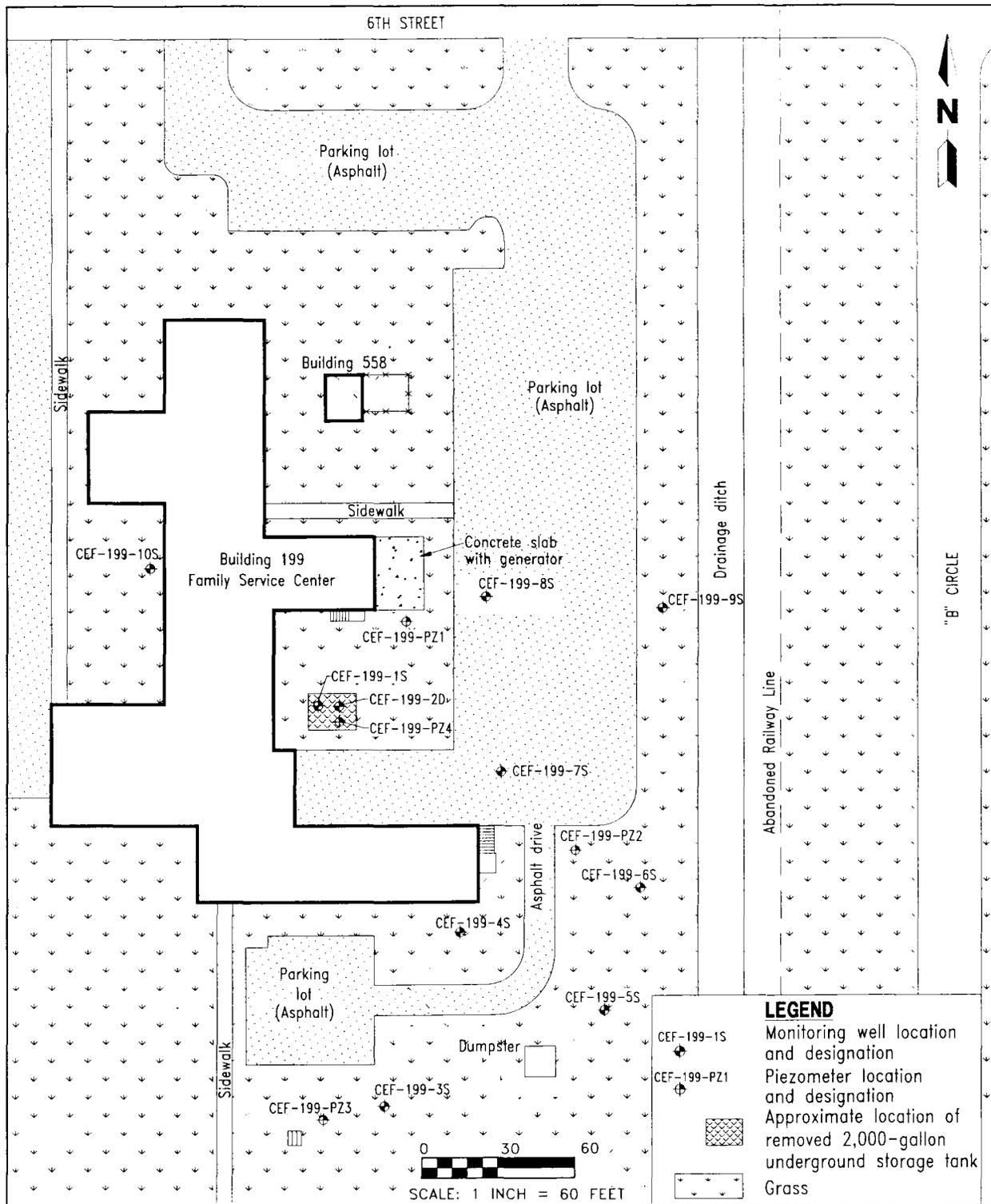
**FIGURE 3-1  
SOIL BORING LOCATIONS**



**CONTAMINATION ASSESSMENT  
REPORT, TANK 199**

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

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**FIGURE 3-2  
MONITORING WELL AND  
PIEZOMETER LOCATIONS**



**CONTAMINATION ASSESSMENT  
REPORT, TANK 199**

**NAVAL AIR STATION CECIL FIELD  
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**Table 3-1  
Monitoring Well Construction Summary and Groundwater Elevation Data**

Contamination Assessment Report  
Tank 199 Site  
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Jacksonville, Florida

Monitoring Well No.	Total Well Depth (feet bls)	Screened Interval (feet bls)	TOC Elevation (feet NGVD)	December 5, 1996	
				Depth to Water (feet BTOC)	Water-Level Elevation (feet NGVD)
CEF-199-1S	13	3.0 - 13	77.93	3.87	74.06
CEF-199-2D	40	35.0 - 40	77.97	4.15	73.82
CEF-199-3S	13	3.0 - 13	75.98	3.12	72.86
CEF-199-4S	13	3.0 - 13	77.16	3.89	73.27
CEF-199-5S	13	3.0 - 13	76.05	3.11	72.94
CEF-199-6S	13	3.0 - 13	75.48	1.84	73.64
CEF-199-7S	13	3.0 - 13	77.14	3.05	74.09
CEF-199-8S	13	3.0 - 13	77.42	3.35	74.07
CEF-199-9S	13	3.0 - 13	77.07	3.05	74.02
CEF-199-10S	13	3.0 - 13	77.66	3.62	74.04

Notes: bls = below land surface.  
 NGVD = National Geodetic Vertical Datum, 1929.  
 TOC = top of casing.  
 BTOC = below top of casing

#### 4.0 SITE-SPECIFIC GEOLOGY AND HYDROGEOLOGY

Geologic and hydrogeologic characteristics of the shallow surficial aquifer at the Tank 199 site were assessed using the following data:

- soil boring and lithologic logs
- groundwater elevations in site monitoring wells
- analysis of rising-head aquifer slug tests

4.1 GEOLOGY. The historical and regional geology and hydrogeology is presented in the General Information Report (ABB-ES, 1996). In general, the shallow (3 to 13 feet bls) soil at the Tank 199 site consists of silty, fine-grained sand, silty sand, and peat with cypress wood fragments. From 13 to 40 feet bls, greenish-grey to olive, fine-grained silty sand with traces of clay was encountered.

4.2 HYDROGEOLOGY. The surficial aquifer system in the area of NAS Cecil Field is primarily composed of undifferentiated silty sand with some clayey sand lenses. Only the shallow surficial aquifer was encountered during drilling operations at the site and the geologic materials in this part of the aquifer are described in Section 4.1. The surficial aquifer is unconfined and the depth to groundwater at the Tank 199 site is approximately 3 to 4 feet bls.

4.2.1 Groundwater Flow Direction Groundwater levels were measured on December 5, 1996, in all monitoring wells at the site. Groundwater elevations and monitoring well screened intervals are given in Table 3-1.

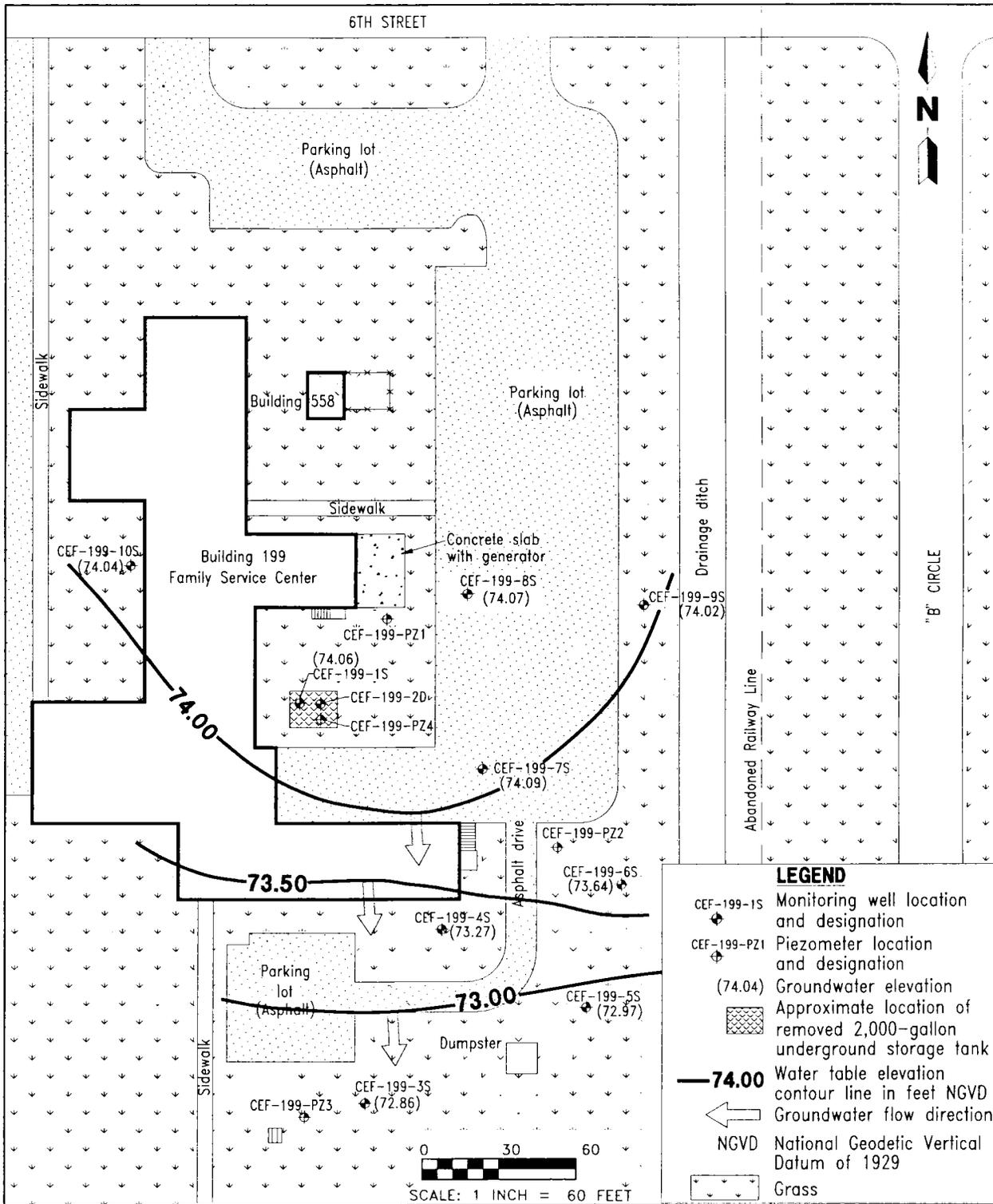
Depth to groundwater across the site varied from approximately 3 to 4 feet bls. Piezometric surface maps prepared using groundwater elevations from shallow monitoring wells indicate that the general groundwater flow direction in the surficial aquifer is to the south (Figure 4-1).

4.2.2 Hydraulic Gradient The water table gradient and the groundwater flow direction were assessed using the measured groundwater elevations from monitoring wells at the Tank 199 Site. The gradient was calculated using the following equation:

$$i = g/d \quad (1)$$

where:

- i = hydraulic gradient foot/feet (ft/ft)
- g = hydraulic head difference between two monitoring points (e.g., 1.12 feet between CEF-199-5S and CEF-199-7S) parallel with groundwater flow direction
- d = distance between gradient monitoring points (ft) (e.g., 91.5 feet)
- i = 1.12 feet divided by 91.5 feet = 0.012 ft/ft.



**FIGURE 4-1  
WATER TABLE ELEVATION MAP,  
DECEMBER 5, 1996**



**CONTAMINATION ASSESSMENT  
REPORT, TANK 199**

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

**4.2.3 Hydraulic Conductivity** Slug tests were conducted in select Tank 199 monitoring wells to provide an estimate of the hydraulic conductivity of the surficial aquifer. The mean hydraulic conductivity for the upper part (from the water table to 40 feet bls) of the surficial aquifer was estimated to be 1.7 feet per day (ft/day). This is slightly lower than other estimates of the surficial aquifer hydraulic conductivity at NAS Cecil Field, which are 5 ft/day. The lower hydraulic conductivity may be due to the abundant organic material found in the screened interval of the water table monitoring wells. The mean hydraulic conductivity for the water table wells is 0.6 ft/day, which is lower than the overall mean. However, the deep well (CEF-199-2D), which had little organic material over its screened interval, had a hydraulic conductivity of 5 ft/day.

**4.2.4 Groundwater Seepage Velocity** Using the average hydraulic conductivity value (0.6 ft/day) for the upper part (water table) of the surficial aquifer (where groundwater contamination is present), a groundwater seepage velocity can be calculated. Using the equation:

$$v = ki/n \quad (2)$$

where:

- v = seepage velocity (ft/day)
- k = hydraulic conductivity ( 0.6 ft/day)
- i = hydraulic gradient (0.012 ft/ft)
- n = effective porosity (0.20)
- v = (0.6 ft/day) (0.012 ft/ft)/0.20 = 0.036 ft/day or 13 feet per year (ft/yr)

## 5.0 CONTAMINATION ASSESSMENT RESULTS

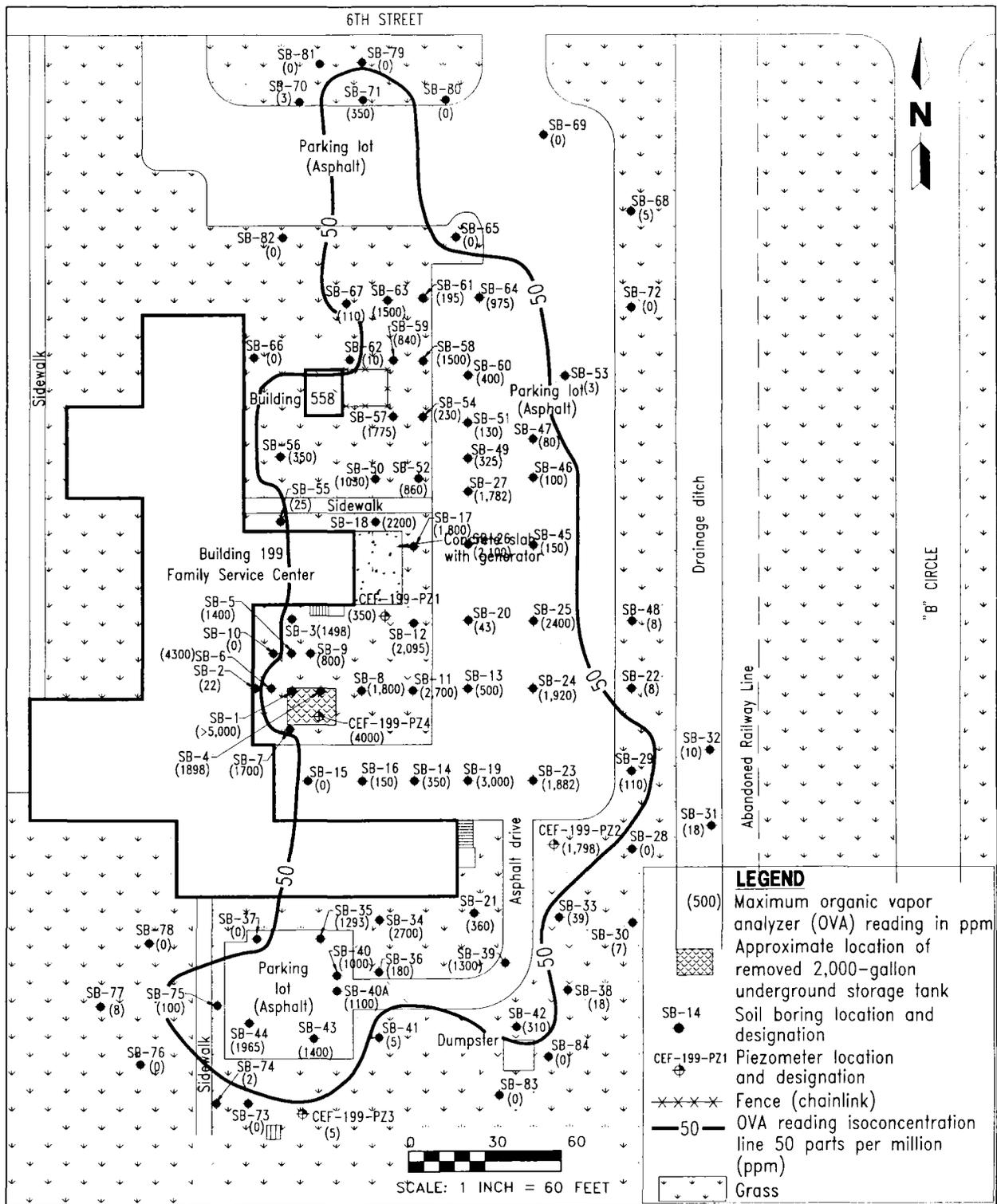
5.1 SOIL BORING PROGRAM AND OVA RESULTS. Excessively contaminated soil (greater than 50 ppm on an OVA) was detected in 50 of the 84 soil borings.

The highest OVA reading (>5,000 ppm) was detected in soil boring SB-1, which is located in the center of the former Tank 199 excavation, at 5 foot bls. The maximum soil sample OVA readings are shown in Figure 5-1. It is estimated that 4,000 yd<sup>3</sup> of excessively contaminated soil are present at the Tank 199 site. This estimate was based on the volume of soil between 1 and 4 feet bls within the 50 ppm OVA contour on Figure 5-1. Soil OVA data are summarized in Appendix C.

It should be noted that a large area of excessively contaminated soil is located upgradient (north and northeast) of the source area. No apparent sources were identified upgradient except for a former underground storage tank (UST), which was located north of Building 558 (Figure 5-1). However, no contamination was identified during the removal of the Building 558 UST as documented in the closure assessment report. The upgradient migration of contaminants may have been influenced by a ruptured waterline that was discovered underneath Building 199 west of the former Tank 199 UST location. The length of time and rate of water discharging to the ground beneath Building 199 is unknown. The ruptured pipeline was repaired in September 1996.

5.2 GROUNDWATER ASSESSMENT RESULTS. Figure 5-2 shows the distribution of KAG parameters detected in groundwater samples collected from the Tank 199 monitoring wells. Petroleum contamination in groundwater is limited to the upper part of the surficial aquifer in monitoring well CEF-199-1S (screened from 3 to 13 feet bls). Groundwater contamination detected in monitoring well CEF-199-1S included benzene (8 parts per billion [ppb]), ethylbenzene (11 ppb), toluene (4.5 ppb), xylene (52 ppb), and 1-methylnaphthalene (14 ppb). Groundwater analytical data obtained from monitoring well CEF-199-1S exceeded the Florida Class G-II groundwater regulatory standard of 1 ppb for benzene and 50 ppb for total VOA (the sum concentration of benzene, toluene, ethyl benzene, and xylenes [75.6 ppm]). Compounds detected in groundwater samples collected from the Tank 199 site are summarized in Table 5-1. The complete groundwater analytical data set is presented in Appendix D.

Chloroform, fluorene, MTBE, and lead were also detected in the groundwater samples but appear to be isolated occurrences.



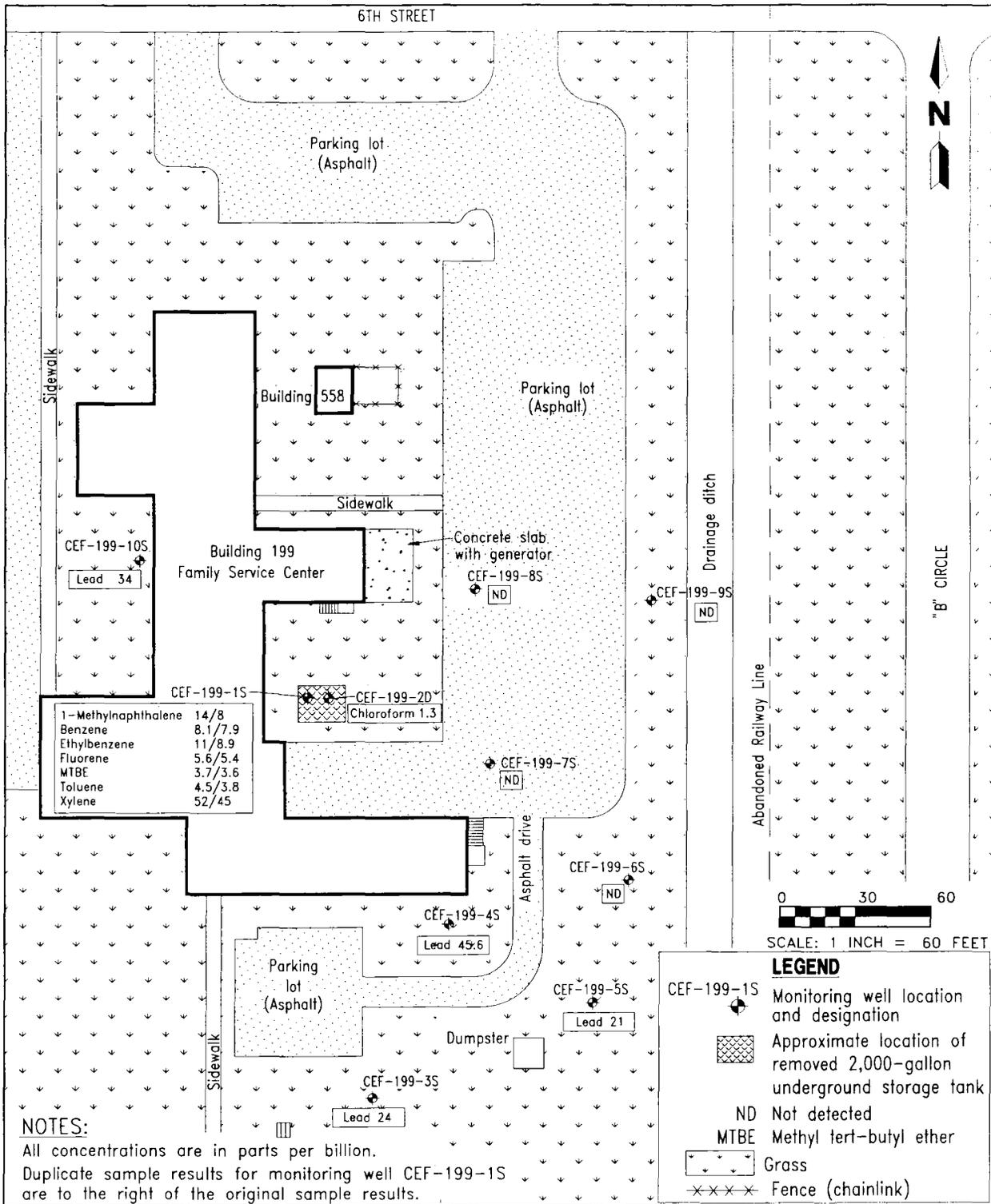
**FIGURE 5-1**  
**SOIL CONTAMINATION DISTRIBUTION**  
**MAP, AUGUST AND NOVEMBER 1996**



**CONTAMINATION ASSESSMENT**  
**REPORT, TANK 199**

**NAVAL AIR STATION CECIL FIELD**  
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**FIGURE 5-2**  
**KEROSENE ANALYTICAL GROUP**  
**PARAMETERS DETECTED IN GROUNDWATER**



**CONTAMINATION ASSESSMENT**  
**REPORT, TANK 199**

**NAVAL AIR STATION CECIL FIELD**  
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**Table 5-1  
Summary of Groundwater Analytical Results  
December 3, 4, and 6, 1995**

Contamination Assessment Report  
Tank 199 Site  
Naval Air Station Cecil Field  
Jacksonville, Florida

Compound	Well Identification, CEF-199-										Regulatory <sup>1</sup> Standards for Class G-II Groundwater	
	1S/1SD	2D	3S	4S	5S	6S	7S	8S	9S	10S		
<b><u>Volatile Organic Aromatics (VOAs) (USEPA Method 601/602) (ppb)</u></b>												
Benzene	8.1/7.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Chloroform	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Ethylbenzene	11/8.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Toluene	4.5/3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Xylenes, total	52/45	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Methyl tert-butyl ether	3.7/3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50
Total VOA	75.6/65.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50
<b><u>Polynuclear Aromatic Hydrocarbons (PAH) (USEPA Method 625) (ppb)</u></b>												
Fluorene	5.6/5.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
1-Methylnaphthalene	14/8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Total naphthalenes	14/8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	100
<b><u>Total Recoverable Petroleum Hydrocarbons (TRPH) (USEPA Method 418.1) (ppm)</u></b>												
TRPH	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
<b><u>Ethylene Dibromide (EDB) (USEPA Method 601 Modified) (ppb)</u></b>												
EDB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02
<b><u>Metals (UNFILTERED/FILTERED)(USEPA Method 239.2) (ppb)</u></b>												
Lead	ND/ND	ND/ND	24/26.8	45.6/40.8	21/16.8	ND/ND	ND/ND	ND/NS	ND/NS	34/31.6	ND/NS	50
See notes at end of table.												

**Table 5-1 (Continued)**  
**Summary of Groundwater Analytical Results,**  
**December 3, 4, and 6, 1995**

Contamination Assessment Report  
Tank 199 Site  
Naval Air Station Cecil Field  
Jacksonville, Florida

<sup>1</sup> Chapter 62-770.730(5a), Florida Administrative Code.

Notes: USEPA = U.S. Environmental Protection Agency.

ppb = parts per billion.

ND = not detected.

NS = not sampled.

Total naphthalenes = sum of 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene.

Total VOAs = sum of benzene, ethylbenzene, toluene, and xylenes.

ppm = parts per million.

## 6.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

6.1 FINDINGS. The following findings for the Tank 199 Site at NAS Cecil Field are based on the results of the contamination assessment conducted at the end of 1996.

- Depth to water in the surficial aquifer ranges from 3 to 4 feet bls and the general groundwater flow direction is to the south.
- Excessively contaminated soil was detected in soil samples from 50 of the 84 soil borings advanced during this field investigation. The volume of excessively contaminated soil at the Tank 199 site is approximately 4,000 cubic yards.
- No free product was detected in any of the four piezometers or ten monitoring wells installed at the site.
- The horizontal extent of petroleum-contaminated groundwater is limited to monitoring well CEF-199-1S, which is located at the former UST location. Benzene and total VOA concentrations exceeded the Chapter 62-770, FAC, target levels of 1 ppb and 50 ppb, respectively. The benzene concentration in monitoring well CEF-199-1S was 8 ppb and the total VOA concentration was 75.6 ppb. Chloroform, fluorene, MTBE, and lead were also detected in Tank 199 groundwater samples, but are sporadic in distribution and do not appear to be related to the fuel oil release.
- The vertical extent of petroleum contamination does not exceed 35 feet bls, which is the top of the screened interval of the deep monitoring well CEF-199-2D.

6.2 CONCLUSIONS. Data obtained during this contamination assessment at the Tank 199 site appears to be sufficient to assess the horizontal and vertical extent of excessively contaminated soil and groundwater contamination. The contaminant distribution indicates that both soil and groundwater have been impacted by a petroleum release from Tank 199. The area of groundwater contamination is limited to the former UST location while the soil contamination is much more widespread, extending to the grassy area and parking lot east of Building 199.

6.3 RECOMMENDATIONS. Based on the results of the contamination assessment, it is recommended that a monitoring only plan be prepared for the Tank 199 site. Soil samples should be collected and analyzed for the KAG parameters, including the Florida Petroleum Range Organics Method to assess if a remedial action plan for contaminated soil should be prepared.

## 7.0 PROFESSIONAL REVIEW CERTIFICATION

This CAR was prepared under the direct supervision of a professional geologist registered in the state of Florida using sound hydrogeologic principles and professional judgment. This assessment is based on the geologic investigation and associated information detailed in the text and appended to this report or referenced in public literature. Recommendations are based upon interpretations of the applicable regulatory requirements, guidelines, and relevant issues discussed with regulatory personnel during the site assessment. If conditions that differ from those described are determined to exist, the undersigned geologist should be notified to evaluate the effects of any additional information on this assessment or the recommendations made in this report. This report meets the criteria set forth in Chapter 492 of the Florida Statutes with regard to good professional practices as applied to Chapter 62-770, FAC. This CAR was developed for the Tank 199 Site at NAS Cecil Field, Jacksonville, Florida, and should not be construed to apply to any other site.

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Eric A. Blomberg  
Professional Geologist  
P.G. No. 1695

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Date

REFERENCE

ABB Environmental Services, Inc., 1996, Draft General Information Report for Naval Air Station Cecil Field, Jacksonville, Florida: prepared for Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina.

**APPENDIX A**  
**CLOSURE ASSESSMENT REPORT**

5090  
2000  
August 10, 1995

City of Jacksonville  
Bio-Environmental Division  
Attn: Mr. Gerald Young  
Towncentre-Suite 412  
421 West Church Street  
Jacksonville, Fl 32202-4111

Dear Mr. Young:

This letter is to confirm the telephone report made by Ms. Ursula Klimas on August 10, 1995 regarding a release from an Underground Storage Tank discovered during the removal of the heating oil tank at Building 199 on August 10.

Approximately 150 gallons of free product have been recovered from the excavation pit. We will remove as much free product as possible before back filling the excavation pit. A Contamination Assessment will be performed at this site.

A report was not made to the National Response Center, U.S. Environmental Protection Agency as no water ways were threatened.

If you have any questions regarding this matter, please contact Ms. Ursula Klimas at (904) 778-6040.

Sincerely,

DAVID KRUZICKI  
By direction of  
the Commanding Officer

Copy to:  
Florida Department of  
Environmental Protection  
Northeast District

Florida Department of  
Environmental Protection  
Attn: Mr. Mike Deliz

COMNAVBASE (Code N3)



# Florida Department of Environmental Regulation

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

DER Form #	17-761 (02/95)
Form Title	Closure Assessment Form
Effective Date	December 10, 1995
DER Application No.	

## Closure Assessment Form

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

Please Print or Type  
Complete All Applicable Blanks

- Date: December 1, 1995
- DER Facility ID Number: N/A
- County: Duval
- Facility Name: N.A.S. Cecil Field - Building #199
- Facility Owner: United States Navy
- Facility Address: Building #199, C Avenue, N.A.S. Cecil Field
- Mailing Address: Naval Air Station - Cecil Field
- Telephone Number: (\_\_\_\_) \_\_\_\_\_
- Facility Operator: U.S. Navy
- Are the Storage Tank(s): (Circle one or both) A. Aboveground or  B. Underground
- Type of Product(s) Stored: #2 Diesel Fuel
- Were the Tank(s): (Circle one) A. Replaced  B. Removed C. Closed in Place D. Upgraded (aboveground tanks only)
- Number of Tanks Closed: One (1)
- Age of Tanks: UnKnown

### Facility Assessment Information

- | Yes                                 | No                                  | Not Applicable                      |   |
|-------------------------------------|-------------------------------------|-------------------------------------|---|
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     | 1. Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     | 2. Was a Discharge Reporting Form submitted to the Department?<br>If yes, When: _____ Where: _____  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     | 3. Is the depth to ground water less than 20 feet?  |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 4. Are monitoring wells present around the storage system?<br>If yes, specify type: <input type="checkbox"/> Water monitoring <input type="checkbox"/> Vapor monitoring   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 5. Is there free product present in the monitoring wells or within the excavation?  |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 6. Were the petroleum hydrocarbon vapor levels in the soils greater than 500 parts per million for gasoline?<br>Specify sample type: <input type="checkbox"/> Vapor Monitoring wells <input type="checkbox"/> Soil sample(s)                  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 7. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene?<br>Specify sample type: <input type="checkbox"/> Vapor Monitoring wells <input checked="" type="checkbox"/> Soil sample(s) |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 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)                                     |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 9. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?   |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 10. Are any potable wells located within 1/4 of a mile radius of the facility?  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     | 11. Is there a surface water body within 1/4 mile radius of the site? If yes, indicate distance: _____  |

LOG# Form 6	17-JUN-2006
Form Title	Closure Assessment Form
Effective Date	December 10, 1990
DER Application No.	Filed on the 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

  
\_\_\_\_\_  
Signature of Person Performing Assessment

12/1/95  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Professional Geologist  
\_\_\_\_\_  
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:

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



# Florida Department of Environmental Regulation

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

DER Form #	17-761.900(5)
Form Title	Underground Storage Tank Installation & Removal Form for Certified Contractors
Effective Date	December 10, 1990
DER Application No.	(Filed in by DER)

## Underground Storage Tank Installation and Removal Form For Certified Contractors

Pollutant Storage System Specialty Contractors as defined in Section 489.113, Florida Statutes (Certified contractors as defined in Section 17-761.200, Florida Administrative Code) shall use this form to certify that the installation, replacement or removal of the storage tank system(s) located at the address listed below was performed in accordance with Department Reference Standards.

### General Facility Information

- DER Facility Identification No.: N/A
- Facility Name: N.A.S. Cecil Field - Building #199 Telephone: (\_\_\_\_\_) \_\_\_\_\_
- Street Address (physical location): Building #199, C Avenue, N.A.S. Cecil Field  
Jacksonville, FL
- Owner Name: United States Navy Telephone: (\_\_\_\_\_) \_\_\_\_\_
- Owner Address: Naval Air Station - Cecil Field
- Number of Tanks: a. Installed at this time \_\_\_\_\_ b. Removed at this time One (1)
- Tank(s) Manufactured by: Unknown
- Date Work Initiated: \_\_\_\_\_ 9. Date Work Completed: \_\_\_\_\_

### Underground Pollutant Tank Installation Checklist

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

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

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

### Underground Pollutant Tank Removal Checklist

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

### Certification

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

Roland Boardman

(Type or Print)  
 Certified Pollutant Tank Contractor Name  
 Pollutant Storage System Specialty Contractor License Number (PSSSC)

PCC 054952  
 PSSSC Number

[Signature]

Certified Tank Contractor Signature

12-1-95  
 Date

R Boardman

(Type or Print)  
 Field Supervisor Name

12-1-95  
 Date

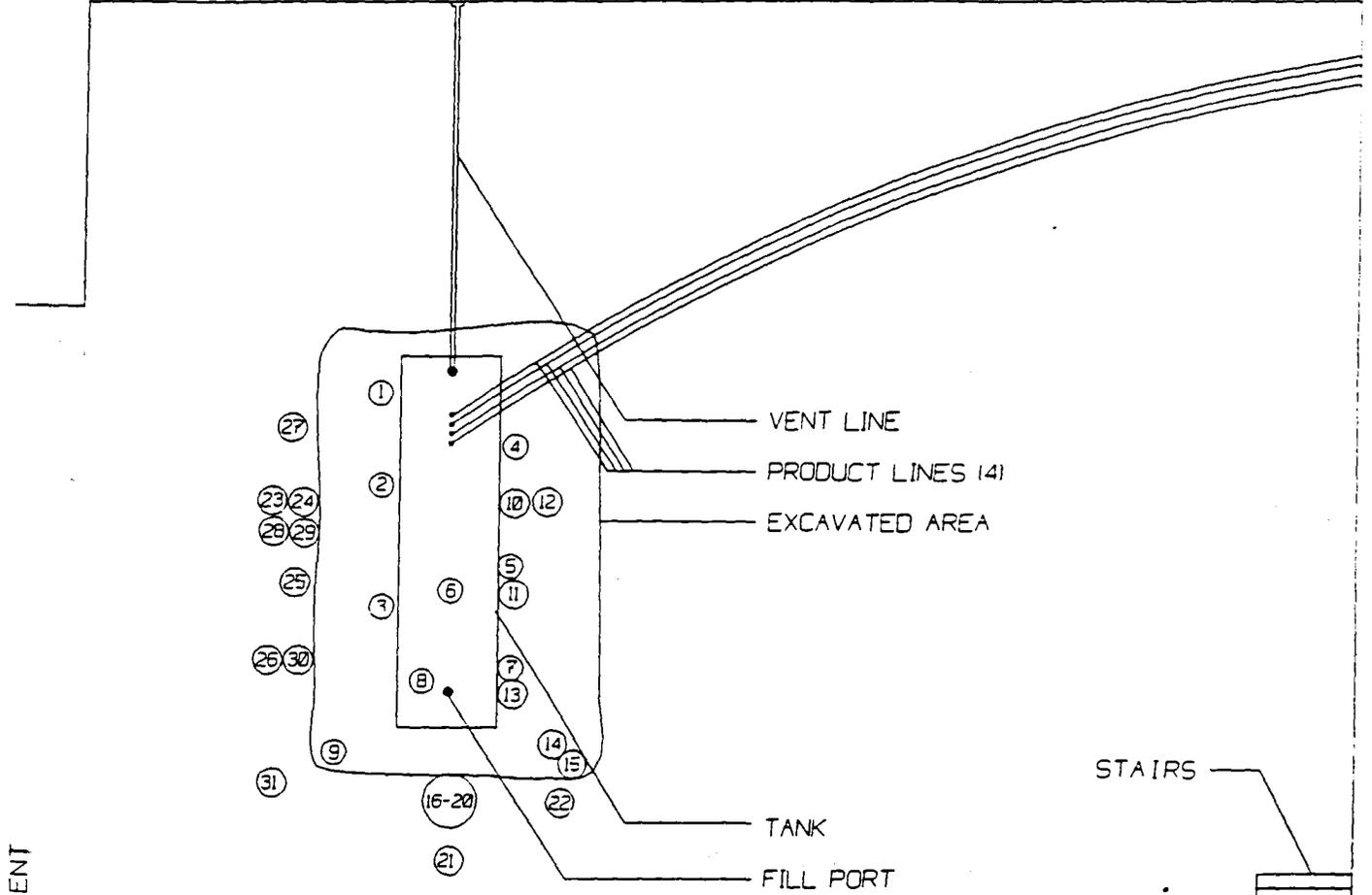
[Signature]

Field Supervisor Signature

12-1-95  
 Date

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

BUILDING #199



SAMPLE #	HC READING	DEPTH	SAMPLE #	HC READING	DEPTH
1	440	1'	17	1740	2'
2	6.7	1'	18	1530	4'
3	1.2	1'	19	730	5'
4	260	1'	20	760	5'
5	00	1'	21	570	3'
6	160	1'	22	940	4'
7	1120	1'	23	30	1'
8	150	1'	24	1000	2'
9	1110	1'	25	1470	2'
10	650	2'	26	1430	2'
11	700	2'	27	900	2'
12	310	4'	28	820	3'
13	150	6'	29	1300	4'
14	950	4'	30	1460	3'
15	680	2'	31	1110	3'
16	730	1'			

① = SAMPLE LOCATION

NOT TO SCALE

ALL SAMPLES ANALYZED WITH A THERMO ENVIRONMENTAL INSTRUMENTS MODEL 580B PHOTOIONIZATION DETECTOR.



INNOVATIVE  
SERVICES  
INTERNATIONAL, INC.

SITE PLAN

BUILDING #199

NAVAL AIR STATION  
CECIL FIELD  
JACKSONVILLE, FLORIDA

**APPENDIX B**

**MONITORING WELL AND PIEZOMETER LITHOLOGIC LOGS**

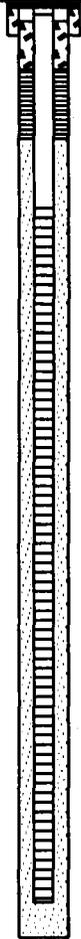
<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-1S		<b>Boring ID:</b> CEF-199-1S	
<b>Client:</b> SOUTHDIVNAVFACENGCOM				<b>Job No.:</b> 08570-05	
<b>Contractor:</b> Alliance Environmental, Inc.			<b>Date started:</b> 10-10-96		<b>Compltd:</b> 10-10-96
<b>Method:</b> Hollow Stem Auger		<b>Casing dia.:</b> 2"	<b>Screened int.:</b> 3'-13'		<b>Protection level:</b> D
<b>TOC elev.:</b> 77.93 Ft.		<b>Type of OVM:</b> FID	<b>Total dpth:</b> 13Ft.		<b>Dpth to g:</b> 4.61 Ft.
<b>ABB Rep.:</b> J. Tarr		<b>Well development date:</b> 11-20-96			<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
			2700	SILTY SAND: dark gray, fine-gained, poorly graded, roots, organics, hydrocarbon odor.		SM	posthole	
			2700				posthole	
5		0.3/2	1300	SILTY SAND: dark black, hydrocarbon odor, concrete slab at 6.5 feet below land surface.			1,1,2,refusal	
10		1.0/2	1400	SILTY SAND: light brown, wood, traces of concrete chips, hydrocarbon odor.			8,8,17,20	
15								
20								

<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-2D	<b>Boring ID:</b> CEF-199-2D
<b>Client:</b> SOUTHDIVNAVFACENCOM		<b>Job No.:</b> 08570-05	
<b>Contractor:</b> Alliance Environmental, Inc.		<b>Date started:</b> 10-10-96	<b>Compltd:</b> 10-11-96
<b>Method:</b> Mud Rotary	<b>Casing dia.:</b> 6" / 2"	<b>Screened int.:</b> 35'-40'	<b>Protection level:</b> D
<b>TOC elev.:</b> 77.97 Ft.	<b>Type of OVM:</b> FID	<b>Total dpth:</b> 40.5Ft.	<b>Dpth to γ:</b> 4.86 Ft.
<b>ABB Rep.:</b> J. Tarr	<b>Well development date:</b> 11-20-96		<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
5				See log CEF-199-1S for lithology.		SM		
15		1.5/2	250	SILTY SAND: light brown with dry pieces of black sands, poorly graded.			18,20,38,32	
20		1.0/2	150	SILTY SAND: light brown, fine-grained, poorly graded.			20,33,33,36	
25		1.5/2	120	SILTY SAND: green-gray, fine-grained, poorly graded, traces of clay.			8,7,7,8	
30		1.0/2	0	SILTY SAND: as above.			10,20,26,32	
35		0.5/2	40	SILTY SAND: green-gray, fine-grained, poorly graded.			10,15,20,30	
40		0.5/2	5	SILTY SAND: light gray to white, fine-grained, poorly graded.			16,25,38,30	
45								
50								

<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-3S	<b>Boring ID:</b> CEF-199-3S
<b>Client:</b> SOUTHDIVNAVFACENCOM		<b>Job No.:</b> 08570-05	
<b>Contractor:</b> Alliance Environmental, Inc.		<b>Date started:</b> 11-16-96	<b>Compl'd:</b> 11-16-96
<b>Method:</b> Hollow Stem Auger	<b>Casing dia.:</b> 2"	<b>Screened int.:</b> 3'-13'	<b>Protection level:</b> D
<b>TOC elev.:</b> 75.98 Ft.	<b>Type of OVM:</b> FID	<b>Total dpth:</b> 13Ft.	<b>Dpth to <math>\gamma</math>:</b> 3.43 Ft.
<b>ABB Rep.:</b> J. Tarr	<b>Well development date:</b> 11-20-96		<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0				SILTY SAND: light brown, fine-grained, poorly graded.		SM	posthole	
0				ORGANIC HUMUS: very soft, cypress wood.		PT	posthole	
5		0.1/2		ORGANIC HUMUS: dark black, highly organic, soft.			3,3,1,1	
10		0.1/2	23	ORGANIC HUMUS: dark black, highly organic, soft.			3,4,4,4	
15								
20								

<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-4S	<b>Boring ID:</b> CEF-199-4S
<b>Client:</b> SOUTHDIVNAVFACENCOM		<b>Job No.:</b> 08570-05	
<b>Contractor:</b> Alliance Environmental, Inc.		<b>Date started:</b> 11-16-96	<b>Compltd:</b> 11-16-96
<b>Method:</b> Hollow Stem Auger	<b>Casing dia.:</b> 2"	<b>Screened int.:</b> 3'-13'	<b>Protection level:</b> D
<b>TOC elev.:</b> 77.16 Ft.	<b>Type of OVM:</b> FID	<b>Total dpth:</b> 13Ft.	<b>Dpth to γ:</b> 3.96 Ft.
<b>ABB Rep.:</b> J. Tarr	<b>Well development date:</b> 11-20-96		<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0				SILTY SAND: light gray, fine-grained, poorly graded.		SM	posthole	
>500				SILTY SAND: dark gray, fine-grained, poorly graded.			posthole	
5		0.25/2	1000	ORGANIC HUMUS: dark brown, very fine-grained, very soft, cypress wood, wet.		PT	1,1,1,4	
10		0.75/2	1000	SILTY SAND: brown, fine-grained, cypress wood, soft.		SM	2,3,3,4	

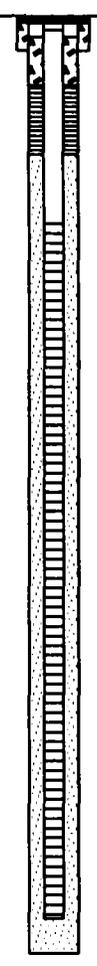
<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-5S	<b>Boring ID:</b> CEF-199-5S
<b>Client:</b> SOUTHDIVNAVFACENGCOM			<b>Job No.:</b> 08570-05
<b>Contractor:</b> Alliance Environmental, Inc.		<b>Date started:</b> 11-17-96	<b>Compltd:</b> 11-17-96
<b>Method:</b> Hollow Stem Auger	<b>Casing dia.:</b> 2"	<b>Screened int.:</b> 3'-13'	<b>Protection level:</b> D
<b>TOC elev.:</b> 76.05 Ft.	<b>Type of OVM:</b> FID	<b>Total dpth:</b> 13Ft.	<b>Dpth to <math>\gamma</math>:</b> 3.45 Ft.
<b>ABB Rep.:</b> J. Tarr	<b>Well development date:</b> 11-20-96		<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0				SILTY SAND: light brown to black, fine-grained.		SM	posthole	
25				SILTY SAND: dark black, very soft, cypress wood, organics.			posthole	
5		0.25/2	130	ORGANIC HUMUS: dark black, very soft, organics.		PT	6,3,4,8	
10		0.75/2	150	SILTY SAND: dark gray, fine-grained, poorly graded.		SM	3,7,7,11	

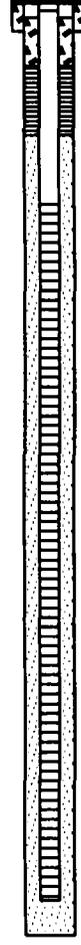
<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-6S	<b>Boring ID:</b> CEF-199-6S
<b>Client:</b> SOUTHDIVNAVFACENGCOM			<b>Job No.:</b> 08570-05
<b>Contractor:</b> Alliance Environmental, Inc.		<b>Date started:</b> 11-17-96	<b>Compltd:</b> 11-17-96
<b>Method:</b> Hollow Stem Auger	<b>Casing dia.:</b> 2"	<b>Screened int.:</b> 3'-13'	<b>Protection level:</b> D
<b>TOC elev.:</b> 75.48 Ft.	<b>Type of OVM:</b> FID	<b>Total dpth:</b> 13Ft.	<b>Dpth to g:</b> 2.39 Ft.
<b>ABB Rep.:</b> J. Tarr	<b>Well development date:</b>		<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0				SILTY SAND: black, soft, organics.		SM	posthole	
150				As above.			posthole	
5		2/2	480	SILTY SAND: dark brown, fine-grained, poorly graded, cypress wood.			3,4,8,7	
10		1/2	100	SILTY SAND: dark brown, cypress wood, organics, unknown odor.			27,35,40,17	
15								
20								

<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-7S	<b>Boring ID:</b> CEF-199-7S
<b>Client:</b> SOUTHDIVNAVFACENCOM		<b>Job No.:</b> 08570-05	
<b>Contractor:</b> Alliance Environmental, Inc.		<b>Date started:</b> 11-18-96	<b>Compltd:</b> 11-18-96
<b>Method:</b> Hollow Stem Auger	<b>Casing dia.:</b> 2"	<b>Screened int.:</b> 3'-13'	<b>Protection level:</b> D
<b>TOC elev.:</b> 77.14 Ft.	<b>Type of OVM:</b> FID	<b>Total dpth:</b> 13Ft.	<b>Dpth to <math>\gamma</math>:</b> 3.69 Ft.
<b>ABB Rep.:</b> J. Tarr	<b>Well development date:</b> 11-20-96		<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0				SILTY SAND: fine-grained, poorly graded.		SM	posthole	
4200			SILTY SAND: light gray, fine-grained, poorly graded.	posthole				
5		2/2	1600	SILTY SAND: brown, fine-grained, poorly graded, cypress wood, wet.		4,4,3,5		
10		1/2	800	SILTY SAND: light reddish-brown, fine-grained, poorly graded, slight hydrocarbon odor.		8,8,10,18		
15								
20								

<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-8S	<b>Boring ID:</b> CEF-199-8S
<b>Client:</b> SOUTHDIIVNAVFACENCOM		<b>Job No.:</b> 08570-05	
<b>Contractor:</b> Alliance Environmental, Inc.		<b>Date started:</b> 11-18-96	<b>Compltd:</b> 11-18-96
<b>Method:</b> Hollow Stem Auger	<b>Casing dia.:</b> 2"	<b>Screened int.:</b> 3'-13'	<b>Protection level:</b> D
<b>TOC elev.:</b> 77.42 Ft.	<b>Type of OVM:</b> FID	<b>Total dpth:</b> 13Ft.	<b>Dpth to γ:</b> 4.11 Ft.
<b>ABB Rep.:</b> J. Tarr	<b>Well development date:</b> 11-20-96		<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.	
0				SILTY SAND: light gray, fine-grained with silt, poorly graded.		SM			
2000			As above.						
5		1.5/2	600	SILTY SAND: light brown, fine-grained, poorly graded, organics with cypress wood from 5' to 5.5'.					3,9,8,18
10		2/2	250	SILTY SAND: light brown, fine-grained, poorly graded, organics with cypress wood at 10'.					5,9,9,7
15									
20									

<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-9S	<b>Boring ID:</b> CEF-199-9S
<b>Client:</b> SOUTHDIVNAVFACENCOM		<b>Job No.:</b> 08570-05	
<b>Contractor:</b> Alliance Environmental, Inc.		<b>Date started:</b> 11-18-96	<b>Compl'd:</b> 11-18-96
<b>Method:</b> Hollow Stem Auger	<b>Casing dia.:</b> 2"	<b>Screened int.:</b> 3'-13'	<b>Protection level:</b> D
<b>TOC elev.:</b> 77.07 Ft.	<b>Type of OVM:</b> FID	<b>Total dpth:</b> 13Ft.	<b>Dpth to γ:</b> 3.80 Ft.
<b>ABB Rep.:</b> J. Tarr	<b>Well development date:</b> 11-20-96		<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
90				SILTY SAND: black, organics.		SM	posthole	
0				SILTY SAND: dark brown, fine-grained, poorly graded.			posthole	
5		1/2	30	SILTY SAND: light brown to dark brown, fine-grained, tree roots.			4,5,8,15	
10		1.5/2	30	SILTY SAND: light brown, fine-grained, poorly graded.			3,3,5,12	
15								
20								

<b>Project:</b> NAS Cecil Field		<b>Well ID:</b> CEF-199-10S	<b>Boring ID:</b> CEF-199-10S
<b>Client:</b> SOUTHDIVNAVFACENCOM		<b>Job No.:</b> 08570-05	
<b>Contractor:</b> Alliance Environmental, Inc.		<b>Date started:</b> 11-18-96	<b>Compltd:</b> 11-18-96
<b>Method:</b> Hollow Stem Auger	<b>Casing dia.:</b> 2"	<b>Screened int.:</b> 3'-13'	<b>Protection level:</b> D
<b>TOC elev.:</b> 77.66 Ft.	<b>Type of OVM:</b> FID	<b>Total dpth:</b> 13Ft.	<b>Dpth to γ:</b> 4.19 Ft.
<b>ABB Rep.:</b> J. Tarr	<b>Well development date:</b> 11-20-96		<b>Site:</b> Building 199

Depth Ft.	Laboratory Sample ID.	Sample Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
0				SILTY SAND: light gray, fine-grained, poorly graded.		SM	posthole	
3000			SILTY SAND: dark gray, fine-grained, poorly graded.	posthole				
5		1.5/2	1100	SILTY SAND: dark brown to black, fine-grained, poorly graded, trace of wood, roots.		4,6,5,7		
10		1/1	450	SILTY SAND: light reddish-brown, fine-grained, poorly graded, tree roots at 10'.		10,30		

**APPENDIX C**  
**SOIL OVA DATA**

**Table C-1**  
**Soil Sample Organic Vapor Analyzer Results**  
**August and November 1996**

Contamination Assessment Report  
 Tank 199 Site  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Boring No.	Depth (feet)	Date Sampled	Unfiltered Concentration	Filtered Concentration	Actual Concentration
PZ-1	1	8/14/96	2	0	2
	3	8/14/96	350	0	350
	5 (moist)	8/14/96	400	18	382
SB-1	1	8/14/96	120	0	120
	3	8/14/96	2,400	0	2,400
	5 (moist)	8/14/96	>5,000	0	>5,000
	6.5 (wet)	8/14/96	4,400	0	4,400
SB-2	1	8/14/96	22	0	22
	3	8/14/96	5	0	5
	4 (wet)	8/14/96	5	0	5
SB-3	1	8/15/96	0	0	0
	3	8/15/96	1,500	2	1,498
	5 (wet)	8/15/96	600	0	600
SB-4	1	8/15/96	1,900	2	1,898
	3	8/15/96	1,800	0	1,800
	5 (wet)	8/15/96	3,000	0	3,000
PZ-2	1	8/15/96	3	0	3
	3	8/15/96	1,800	2	1,798
	5 (wet)	8/15/96	2,400	0	2,400
PZ-3	1	8/15/96	0	0	0
	3	8/15/96	1,400	0	1,400
	5 (wet)	8/15/96	210	0	210
SB-5	1	8/15/96	170	0	170
	3	8/15/96	1,400	0	1,400
	5 (wet)	8/15/96	210	0	210
SB-6	1	8/15/96	2,000	0	2,000
	3	8/15/96	4,300	0	4,300
	4.5 (wet)	8/15/96	3,000	0	3,000
SB-7	1	8/15/96	12	0	12
	3	8/15/96	1,700	0	1,700
	5 (wet)	8/15/96	1,000	0	1,000
SB-8	1	8/15/96	1,300	0	1,300
	3	8/15/96	1,800	0	1,800
	5 (moist)	8/15/96	1,000	0	1,000
SB-9	1	8/15/96	0	0	0
	3	8/15/96	800	0	800
	5 (moist)	8/15/96	1,000	0	1,000

See notes at end of table.

**Table C-1 (Continued)**  
**Soil Sample Organic Vapor Analyzer Results**  
**August and November 1996**

Contamination Assessment Report  
 Tank 199 Site  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Boring No.	Depth (feet)	Date Sampled	Unfiltered Concentration	Filtered Concentration	Actual Concentration
SB-10	1	8/15/96	0	0	0
	3	8/15/96	0	0	0
	4 (wet)	8/15/96	0	0	0
SB-11	1	8/16/96	2	0	2
	3	8/16/96	2,700	0	2,700
	4 (wet)	8/16/96	500	0	500
SB-12	1	8/16/96	0	0	0
	3	8/16/96	3,700	0	3,700
	4	8/16/95	2,100	5	2,095
	5 (wet)	8/16/96	1,100	1	1,099
SB-13	1	8/16/96	0	0	0
	3	8/16/96	500	0	500
	5 (moist)	8/16/96	1,400	0	1,400
SB-14	1	8/16/96	0	0	0
	3 (moist)	8/16/96	350	0	350
	5 (wet)	8/16/96	600	0	600
SB-15	1	8/16/96	0	0	0
	3 (moist)	8/16/96	0	0	0
	5 (wet)	8/16/96	500	0	500
SB-16	1	8/16/96	0	0	0
	3 (moist)	8/16/96	150	0	150
	5 (wet)	8/16/96	900	0	900
SB-17	1	8/16/96	0	0	0
	3	8/16/96	1,800	0	1,800
	5 (wet)	8/16/96	1,500	0	1,500
SB-18	1	8/16/96	6	0	6
	3	8/16/96	1,900	0	1,900
	5 (moist)	8/16/96	2,200	0	2,200
	6.5 (wet)	8/16/96	1,700	0	1,700
SB-19	1	8/19/96	9	0	9
	3 (moist)	8/19/96	3,000	0	3,000
	4 (wet)	8/19/96	2,300	0	2,300
SB-20	1	8/19/96	0	0	0
	3 (moist)	8/19/96	43	0	43
	4 (wet)	8/19/96	220	0	220
SB-21	1	8/19/96	0	0	0
	3	8/19/96	360	0	360
	4.5 (wet)	8/19/96	100	0	100

See notes at end of table.

**Table C-1 (Continued)**  
**Soil Sample Organic Vapor Analyzer Results**  
**August and November 1996**

Contamination Assessment Report  
 Tank 199 Site  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Boring No.	Depth (feet)	Date Sampled	Unfiltered Concentration	Filtered Concentration	Actual Concentration
SB-22	1	8/19/96	8	8	0
	3 (moist)	8/19/96	14	6	8
	4 (wet)	8/19/96	3	0	3
SB-23	1	8/20/96	80	0	80
	3 (moist)	8/20/96	2,000	18	1,882
	5 (wet)	8/20/96	60	3	57
SB-24	1	8/20/96	3	0	3
	3 (moist)	8/20/96	2,000	80	1,920
	4.5 (wet)	8/20/96	2,000	23	1,987
SB-25	1	8/20/96	0	0	0
	3	8/20/96	2,400	0	2,400
	5 (wet)	8/20/96	1,200	0	1,200
SB-26	1	8/20/96	4	0	4
	3	8/20/96	2,100	0	2,100
	5 (wet)	8/20/96	180	0	180
SB-27	1	8/20/96	0	0	0
	3	8/20/96	1,800	18	1,782
	5 (wet)	8/20/96	70	0	70
SB-28	1	8/20/96	20	0	20
	3	8/20/96	150	150	0
	4 (wet)	8/20/96	1,200	20	1,980
SB-29	1	8/20/96	4	0	4
	3	8/20/96	110	0	110
	4 (wet)	8/20/96	500	0	500
SB-30	1	8/20/96	0	0	0
	3 (wet)	8/20/96	7	0	7
	4 (wet)	8/20/96	50	0	50
SB-31	1	8/20/96	0	0	0
	3 (moist)	8/20/96	18	0	18
	4 (wet)	8/20/96	0	0	0
SB-32	1	8/20/96	0	0	0
	3 (moist)	8/20/96	10	0	10
	4 (wet)	8/20/96	50	0	50
SB-33	1	8/20/96	1	0	0
	3	8/20/96	39	0	39
	4.5 (wet)	8/20/96	150	0	150

See notes at end of table.

**Table C-1 (Continued)**  
**Soil Sample Organic Vapor Analyzer Results**  
**August and November 1996**

Contamination Assessment Report  
 Tank 199 Site  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Boring No.	Depth (feet)	Date Sampled	Unfiltered Concentration	Filtered Concentration	Actual Concentration
SB-34	1	8/20/96	3	0	3
	3	8/20/96	2,700	0	2,700
	5 (wet)	8/20/96	90	0	90
SB-35	1	8/20/96	0	0	0
	3	8/20/96	1,300	7	1,293
	5 (wet)	8/20/96	230	0	230
SB-36	1	8/20/96	0	0	0
	3	8/20/96	180	0	180
	4.5 (wet)	8/20/96	600	0	600
SB-37	1	8/20/96	0	0	0
	3 (wet)	8/20/96	40	0	40
SB-38	1	8/21/96	0	0	0
	3	8/21/96	18	0	18
	4.5 (wet)	8/21/96	1,300	0	1,300
SB-39	1	8/21/96	0	0	0
	3	8/21/96	1,300	0	1,300
	4 (wet)	8/21/96	1,800	0	1,800
SB-40	1 (refusal)	8/21/96	1,000	0	1,000
SB-40A	2.5 (refusal)	8/21/96	1,100	0	1,100
SB-41	1	8/21/96	0	0	0
	3	8/21/96	5	0	5
	4 (wet)	8/21/96	10	0	10
SB-42	1	8/21/96	0	0	0
	3	8/21/96	310	0	310
	3.5 (wet)	8/21/96	450	0	450
SB-43	1	8/21/96	35	0	35
	3	8/21/96	1,500	100	1,400
	3.5 (refusal)				
SB-44	1	8/21/96	500	0	500
	3	8/21/96	2,000	35	1,965
	4 (wet)	8/21/96	2,200	0	2,200
SB-45	1	8/21/96	0	0	0
	3	8/21/96	150	0	150
	4 (wet)	8/21/96	330	0	330
SB-46	1	8/21/96	0	0	0
	3	8/21/96	100	0	100
	4.5 (wet)	8/21/96	290	0	290

See notes at end of table.

**Table C-1 (Continued)**  
**Soil Sample Organic Vapor Analyzer Results**  
**August and November 1996**

Contamination Assessment Report  
 Tank 199 Site  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Boring No.	Depth (feet)	Date Sampled	Unfiltered Concentration	Filtered Concentration	Actual Concentration
SB-47	1	8/21/96	0	0	0
	3	8/21/96	80	0	80
	4 (wet)	8/21/96	80	0	80
SB-48	1	8/21/96	0	0	0
	3	8/21/96	8	0	8
	4.5 (wet)	8/21/96	45	0	45
SB-49	1	8/21/96	0	0	0
	3	8/21/96	350	25	325
	4 (wet)	8/21/96	280	0	280
SB-50	1	8/22/96	0	0	0
	3	8/22/96	1,000	100	900
	5	8/22/96	1,100	70	1,030
	7	8/22/96	420	90	330
	8 (wet)	8/22/96	900	0	900
SB-51	1	8/22/96	0	0	0
	3	8/22/96	130	0	130
	4.5 (wet)	8/22/96	2,500	0	2,500
SB-52	1	8/22/96	0	0	0
	3	8/22/96	900	40	860
	3.5 (refusal)				
SB-53	1	8/22/96	0	0	0
	3	8/22/96	3	0	3
	4.5 (wet)	8/22/96	24	0	24
SB-54	1	8/22/96	0	0	0
	3	8/22/96	150	0	150
	5	8/22/96	230	0	230
	7 (wet)	8/22/96	250	0	250
SB-55	1	8/22/96	0	0	0
	3	8/22/96	25	0	25
	5	8/22/96	2,000	0	2,000
	5.5 (refusal)				
SB-56	1	8/22/96	0	0	0
	3	8/22/96	350	0	350
	4.5 (refusal)				
SB-57	1	8/22/96	0	0	0
	3	8/22/96	900	0	900
	5 (damp)	8/22/96	1,800	25	1,775
	7 (wet)	8/22/96	1,900	0	1,900

See notes at end of table.

**Table C-1 (Continued)**  
**Soil Sample Organic Vapor Analyzer Results**  
**August and November 1996**

Contamination Assessment Report  
 Tank 199 Site  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Boring No.	Depth (feet)	Date Sampled	Unfiltered Concentration	Filtered Concentration	Actual Concentration
SB-58	1	8/22/96	0	0	0
	3	8/22/96	50	0	50
	5 (moist)	8/22/96	1,500	0	1,500
	6.5 (wet)	8/22/96	500	0	500
SB-59	1	8/23/96	0	0	0
	3	8/23/96	1,000	160	840
	4 (wet)	8/23/96	1,900	0	1,900
SB-60	1	8/23/96	0	0	0
	3	8/23/96	1,200	800	400
	4 (wet)	8/23/96	700	0	700
SB-61	1	8/23/96	0	0	0
	3	8/23/96	220	25	195
	3.5 (refusal)				
SB-62	1	8/23/96	7	0	7
	3	8/23/96	10	0	10
	4 (wet)	8/23/96	2,000	0	2,000
SB-63	1	8/23/96	0	0	0
	3	8/23/96	1,500	0	1,500
	4 (wet)	8/23/96	2,500	0	2,500
PZ-4	1	8/23/96	2,400	0	2,400
	3	8/23/96	4,000	0	4,000
	4.5 (wet)	8/23/96	2,400	0	2,400
SB-64	1	8/23/96	0	0	0
	3	8/23/96	1,000	25	975
	4.5 (wet)	8/23/96	2,300	0	2,300
SB-65	1	8/23/96	0	0	0
	3	8/23/96	0	0	0
	4 (wet)	8/23/96	3	0	3
SB-66	1	8/23/96	0	0	0
	3	8/23/96	0	0	0
	4 (wet)	8/23/96	10	0	10
SB-67	1	8/23/96	0	0	0
	3	8/23/96	110	0	110
	4 (wet)	8/23/96	2,200	0	2,200
SB-68	1	8/23/96	0	0	0
	3	8/23/96	5	0	5
	4 (wet)	8/23/96	0	0	0

See notes at end of table.

**Table C-1 (Continued)**  
**Soil Sample Organic Vapor Analyzer Results**  
**August and November 1996**

Contamination Assessment Report  
 Tank 199 Site  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Boring No.	Depth (feet)	Date Sampled	Unfiltered Concentration	Filtered Concentration	Actual Concentration
SB-69	1	8/23/96	0	0	0
	3	8/23/96	0	0	0
	4 (wet)	8/23/96	0	0	0
SB-70	1	8/23/96	0	0	0
	3	8/23/96	3	0	3
	4 (wet)	8/23/96	150	0	150
SB-71	1	8/23/96	0	0	0
	3	8/23/96	350	0	350
	4 (wet)	8/23/96	2,000	0	2,000
SB-72	1	8/23/96	0	0	0
	3	8/23/96	0	0	0
	4	8/23/96	120	0	120
SB-73	1	11/8/96	0	0	0
	3 (moist)	11/8/96	0	0	0
	3.5 (wet)	11/8/96	2	0	2
SB-74	1	11/8/96	1	0	1
	3 (moist)	11/8/96	2	0	2
	3.5 (wet)	11/8/96	55	0	55
SB-75	1	11/8/96	0	0	0
	3	11/8/96	100	0	100
	3.5 (wet)	11/8/96	240	0	240
SB-76	1	11/8/96	0	0	0
	2.5	11/8/96	0	0	0
	3 (wet)	11/8/96	30	0	30
SB-77	1	11/8/96	0	0	0
	3	11/8/96	8	0	8
	3.5 (wet)	11/8/96	9	0	9
SB-78	1	11/8/96	0	0	0
	3	11/8/96	0	0	0
	3.5 (wet)	11/8/96	0	0	0
SB-79	1	11/27/96	0	0	0
	3	11/27/96	0	0	0
	4.5 (wet)	11/27/96	0	0	0
SB-80	1	11/27/96	0	0	0
	3	11/27/96	0	0	0
	4.5 (wet)	11/27/96	0	0	0

See notes at end of table.

**Table C-1 (Continued)**  
**Soil Sample Organic Vapor Analyzer Results**  
**August and November 1996**

Contamination Assessment Report  
 Tank 199 Site  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Boring No.	Depth (feet)	Date Sampled	Unfiltered Concentration	Filtered Concentration	Actual Concentration
SB-81	1	11/27/96	0	0	0
	3	11/27/96	0	0	0
	4.5 (wet)	11/27/96	0	0	0
SB-82	1	11/27/96	0	0	0
	3 (moist)	11/27/96	0	0	0
	4 (wet)	11/27/96	0	0	0
SB-83	1	11/27/96	0	0	0
	3 (moist)	11/27/96	0	0	0
	3.5 (refusal)				
SB-84	1	11/27/96	0	0	0
	3	11/27/96	0	0	0
	4.5 (wet)	11/27/96	0	0	0

Notes: All concentrations in parts per million.  
 wet: sample completely saturated.  
 moist: sample moist or damp.

**APPENDIX D**

**GROUNDWATER ANALYTICAL RESULTS**

NAS CECIL FIELD -- TANK 199 REPORT NO. 8529  
GROUNDWATER - KEROSENE GROUP

Lab Sample Number:	B6L0401300	B6L0401300	B6L0401300	B6L0401300								
Site	TANK 199	TANK 199	TANK 199	TANK 199								
Locator	99G00101	99G00101D	99G00201	99G00301								
Collect Date:	03-DEC-96	03-DEC-96	03-DEC-96	03-DEC-96								
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

KEROSENE GROUP

1,1,1-Trichloroethane	1 U	ug/l	1									
1,1,2,2-Tetrachloroethane	1 U	ug/l	1									
1,1,2-Trichloroethane	1 U	ug/l	1									
1,1-Dichloroethane	1 U	ug/l	1									
1,1-Dichloroethene	1 U	ug/l	1									
1,2-Dichlorobenzene	1 U	ug/l	1									
1,2-Dichloroethane	1 U	ug/l	1									
1,2-Dichloropropane	1 U	ug/l	1									
1,3-Dichlorobenzene	1 U	ug/l	1									
1,4-Dichlorobenzene	1 U	ug/l	1									
1-Methylnaphthalene	14	ug/l	2	8	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
2-Methylnaphthalene	2 U	ug/l	2									
Acenaphthene	2 U	ug/l	2									
Acenaphthylene	2 U	ug/l	2									
Anthracene	2 U	ug/l	2									
Benzene	8.1	ug/l	1	7.9	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Benzo (a) anthracene	.1 U	ug/l	.1									
Benzo (a) pyrene	.1 U	ug/l	.1									
Benzo (b) fluoranthene	.1 U	ug/l	.1									
Benzo (g,h,i) perylene	.1 U	ug/l	.1									
Benzo (k) fluoranthene	.15 U	ug/l	.15									
Bromodichloromethane	1 U	ug/l	1									
Bromoform	1 U	ug/l	1									
Bromomethane	1 U	ug/l	1									
Carbon tetrachloride	1 U	ug/l	1									
Chlorobenzene	1 U	ug/l	1									
Chloroethane	1 U	ug/l	1									
Chloroform	1 U	ug/l	1	1 U	ug/l	1	1.3	ug/l	1	1 U	ug/l	1
Chloromethane	1 U	ug/l	1									
Chrysene	.1 U	ug/l	.1									
Dibenzo (a,h) anthracene	.1 U	ug/l	.1									
Dibromochloromethane	1 U	ug/l	1									
Dichlorodifluoromethane	1 U	ug/l	1									
Ethylbenzene	11	ug/l	1	8.9	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Ethylene dibromide	.02 U	ug/l	.02									
Fluoranthene	.2 U	ug/l	.2									
Fluorene	5.6	ug/l	2	5.4	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Indeno (1,2,3-cd) pyrene	.1 U	ug/l	.1									
Lead	5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	24	ug/l	5
Methyl tert-butyl ether	3.7	ug/l	1	3.6	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Methylene chloride	1 U	ug/l	1									
Naphthalene	2 U	ug/l	2									
Phenanthrene	2 U	ug/l	2									
Pyrene	.2 U	ug/l	.2									
Tetrachloroethene	1 U	ug/l	1									
Toluene	4.5	ug/l	1	3.8	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Total petroleum hydrocarbons	1 U	mg/l	1									
Trichloroethene	1 U	ug/l	1									
Trichlorofluoromethane	1 U	ug/l	1									
Vinyl chloride	1 U	ug/l	1									

NAS CECIL FIELD -- TANK 199 REPORT NO. 8529  
GROUNDWATER - KEROSENE GROUP

Lab Sample Number:	B6L0401300		B6L0401300		B6L0401300		B6L0401300		
Site	TANK 199		TANK 199		TANK 199		TANK 199		
Locator	99G00101		99G00101D		99G00201		99G00301		
Collect Date:	03-DEC-96		03-DEC-96		03-DEC-96		03-DEC-96		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

Xylenes (total)	52	ug/l	1	45	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
cis-1,3-Dichloropropene	1 U	ug/l	1									
trans-1,2-Dichloroethene	1 U	ug/l	1									
trans-1,2-Dichloropropene	-			-			-			-		

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

NAS CECIL FIELD -- TANK 199 REPORT NO. 8529  
GROUNDWATER - KEROSENE GROUP

Lab Sample Number:	B6L0401300		B6L0501460		B6L0501460		B6L0501460		B6L0501460			
Site	TANK 199		TANK 199		TANK 199		TANK 199		TANK 199			
Locator	99G00401		99G00501		99G00601		99G00701		99G00701			
Collect Date:	03-DEC-96		04-DEC-96		04-DEC-96		04-DEC-96		04-DEC-96			
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
KEROSENE GROUP												
1,1,1-Trichloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,1,2,2-Tetrachloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,1,2-Trichloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,1-Dichloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,1-Dichloroethene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,2-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,2-Dichloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,2-Dichloropropane	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
1-Methylnaphthalene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
2-Methylnaphthalene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Acenaphthene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Acenaphthylene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Anthracene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Benzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Benzo (a) anthracene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (a) pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (b) fluoranthene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (g,h,i) perylene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (k) fluoranthene	.15 U	ug/l	.15	.15 U	ug/l	.15	.15 U	ug/l	.15	.15 U	ug/l	.15
Bromodichloromethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Bromoform	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Bromomethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Carbon tetrachloride	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
Chloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Chloroform	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Chloromethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Chrysene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Dibenzo (a,h) anthracene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Dibromochloromethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Dichlorodifluoromethane	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
Ethylene dibromide	.02 U	ug/l	.02	.02 U	ug/l	.02	.02 U	ug/l	.02	.02 U	ug/l	.02
Fluoranthene	.2 U	ug/l	.2	.2 U	ug/l	.2	.2 U	ug/l	.2	.2 U	ug/l	.2
Fluorene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Indeno (1,2,3-cd) pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Lead	45.6	ug/l	10	21	ug/l	5	5	ug/l	5	5	ug/l	5
Methyl tert-butyl ether	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1

NAS CECIL FIELD -- TANK 199 REPORT NO. 8529  
GROUNDWATER - KEROSENE GROUP

Lab Sample Number:	B6L0401300	B6L0501460	B6L0501460	B6L0501460
Site	TANK 199	TANK 199	TANK 199	TANK 199
Locator	99G00401	99G00501	99G00601	99G00701
Collect Date:	03-DEC-96	04-DEC-96	04-DEC-96	04-DEC-96

	VALUE	QUAL	UNITS	DL												
Methylene chloride	1	U	ug/l	1												
Naphthalene	2	U	ug/l	2												
Phenanthrene	2	U	ug/l	2												
Pyrene	.2	U	ug/l	.2												
Tetrachloroethene	1	U	ug/l	1												
Toluene	1	U	ug/l	1												
Total petroleum hydrocarbons	1	U	mg/l	1												
Trichloroethene	1	U	ug/l	1												
Trichlorofluoromethane	1	U	ug/l	1												
Vinyl chloride	1	U	ug/l	1												
Xylenes (total)	1	U	ug/l	1												
cis-1,3-Dichloropropene	1	U	ug/l	1												
trans-1,2-Dichloroethene	1	U	ug/l	1												
trans-1,2-Dichloropropene	-				-				-				-			

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

NAS CECIL FIELD -- TANK 199 REPORT NO. 8529  
GROUNDWATER - KEROSENE GROUP

Lab Sample Number:	B6L0501460	B6L0501460	B6L0601210
Site	TANK 199	TANK 199	TANK 199
Locator	99G00801	99G00901	99G01001
Collect Date:	04-DEC-96	04-DEC-96	05-DEC-96
	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL

KEROSENE GROUP

1,1,1-Trichloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,1,2,2-Tetrachloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,1,2-Trichloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,1-Dichloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,1-Dichloroethene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,2-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,2-Dichloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,2-Dichloropropane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,3-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,4-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1-Methylnaphthalene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
2-Methylnaphthalene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Acenaphthene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Acenaphthylene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Anthracene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Benzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Benzo (a) anthracene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (a) pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (b) fluoranthene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (g,h,i) perylene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (k) fluoranthene	.15 U	ug/l	.15	.15 U	ug/l	.15	.15 U	ug/l	.15
Bromodichloromethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Bromoform	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Bromomethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Carbon tetrachloride	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
Chloroethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Chloroform	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Chloromethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Chrysene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Dibenzo (a,h) anthracene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Dibromochloromethane	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Dichlorodifluoromethane	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
Ethylene dibromide	.02 U	ug/l	.02	.02 U	ug/l	.02	.02 U	ug/l	.02
Fluoranthene	.2 U	ug/l	.2	.2 U	ug/l	.2	.2 U	ug/l	.2
Fluorene	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Indeno (1,2,3-cd) pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Lead	5 U	ug/l	5	5 U	ug/l	5	34	ug/l	10
Methyl tert-butyl ether	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1

NAS CECIL FIELD -- TANK 199 REPORT NO. 8529  
GROUNDWATER - KEROSENE GROUP

Lab Sample Number:	B6L0501460	B6L0501460	B6L0601210
Site	TANK 199	TANK 199	TANK 199
Locator	99G00801	99G00901	99G01001
Collect Date:	04-DEC-96	04-DEC-96	05-DEC-96

	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Methylene chloride	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Naphthalene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Phenanthrene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Pyrene	.2	U	ug/l	.2	.2	U	ug/l	.2	.2	U	ug/l	.2
Tetrachloroethene	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
Total petroleum hydrocarbons	1	U	mg/l	1	1	U	mg/l	1	1	U	mg/l	1
Trichloroethene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Trichlorofluoromethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Vinyl chloride	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Xylenes (total)	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
cis-1,3-Dichloropropene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
trans-1,2-Dichloroethene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
trans-1,2-Dichloropropene	-				-				-			

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

NAS CECIL FIELD -- TANK 199 REPORT NO. 8530  
GROUNDWATER - KEROSENE GROUP - HITS REPORT

Lab Sample Number:	B6L0401300	B6L0401300	B6L0401300	B6L0401300								
Site	TANK 199	TANK 199	TANK 199	TANK 199								
Locator	99G00101	99G00101D	99G00201	99G00301								
Collect Date:	03-DEC-96	03-DEC-96	03-DEC-96	03-DEC-96								
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

KEROSENE GROUP	VALUE	QUAL UNITS	DL									
1-Methylnaphthalene	14	ug/l	2	8	ug/l	2	- U	ug/l	2	- U	ug/l	2
Benzene	8.1	ug/l	1	7.9	ug/l	1	- U	ug/l	1	- U	ug/l	1
Chloroform	- U	ug/l	1	- U	ug/l	1	1.3	ug/l	1	- U	ug/l	1
Ethylbenzene	11	ug/l	1	8.9	ug/l	1	- U	ug/l	1	- U	ug/l	1
Fluorene	5.6	ug/l	2	5.4	ug/l	2	- U	ug/l	2	- U	ug/l	2
Lead	- U	ug/l	5	- U	ug/l	5	- U	ug/l	5	24	ug/l	5
Methyl tert-butyl ether	3.7	ug/l	1	3.6	ug/l	1	- U	ug/l	1	- U	ug/l	1
Toluene	4.5	ug/l	1	3.8	ug/l	1	- U	ug/l	1	- U	ug/l	1
Xylenes (total)	52	ug/l	1	45	ug/l	1	- U	ug/l	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 -- TANK 199 REPORT NO. 8530  
GROUNDWATER - KEROSENE GROUP - HITS REPORT

Lab Sample Number:	B6L0401300		B6L0501460		B6L0501460		B6L0501460		
Site	TANK 199		TANK 199		TANK 199		TANK 199		
Locator	99G00401		99G00501		99G00601		99G00701		
Collect Date:	03-DEC-96		04-DEC-96		04-DEC-96		04-DEC-96		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

	VALUE	QUAL UNITS	DL									
KEROSENE GROUP												
1-Methylnaphthalene	- U	ug/l	2									
Benzene	- U	ug/l	1									
Chloroform	- U	ug/l	1									
Ethylbenzene	- U	ug/l	1									
Fluorene	- U	ug/l	2									
Lead	45.6	ug/l	10	21	ug/l	5	- U	ug/l	5	- U	ug/l	5
Methyl tert-butyl ether	- U	ug/l	1									
Toluene	- U	ug/l	1									
Xylenes (total)	- 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 -- TANK 199 REPORT NO. 8530  
GROUNDWATER - KEROSENE GROUP - HITS REPORT

Lab Sample Number:	B6L0501460		B6L0501460		B6L0601210	
Site	TANK 199		TANK 199		TANK 199	
Locator	99G00801		99G00901		99G01001	
Collect Date:	04-DEC-96		04-DEC-96		05-DEC-96	
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
KEROSENE GROUP									
1-Methylnaphthalene	- U	ug/l	2	- U	ug/l	2	- U	ug/l	2
Benzene	- U	ug/l	1	- U	ug/l	1	- U	ug/l	1
Chloroform	- U	ug/l	1	- U	ug/l	1	- U	ug/l	1
Ethylbenzene	- U	ug/l	1	- U	ug/l	1	- U	ug/l	1
Fluorene	- U	ug/l	2	- U	ug/l	2	- U	ug/l	2
Lead	- U	ug/l	5	- U	ug/l	5	34	ug/l	10
Methyl tert-butyl ether	- U	ug/l	1	- U	ug/l	1	- U	ug/l	1
Toluene	- U	ug/l	1	- U	ug/l	1	- U	ug/l	1
Xylenes (total)	- U	ug/l	1	- U	ug/l	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 -- TANK 199 REPORT NO. 8531  
GROUNDWATER - DISSOLVED LEAD

Lab Sample Number:	B6L0401300		B6L0401300		B6L0401300		B6L0501460		
Site	TANK 199		TANK 199		TANK 199		TANK 199		
Locator	99H00201		99H00301		99H00401		99H00501		
Collect Date:	03-DEC-96		03-DEC-96		03-DEC-96		04-DEC-96		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

Lead-DISS		5 U	ug/l	5	26.8	ug/l	10	40.8	ug/l	10	16.8	ug/l	5
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U = NOT DETECTED J = ESTIMATED VALUE  
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- TANK 199 REPORT NO. 8531  
GROUNDWATER - DISSOLVED LEAD

Lab Sample Number:	B6L0501460		B6L0501460		B6L0601210	
Site	TANK 199		TANK 199		TANK 199	
Locator	99H00601		99H00701		99H01001	
Collect Date:	04-DEC-96		04-DEC-96		05-DEC-96	
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

Lead-DISS	5	U	ug/l	5	5	U	ug/l	5	31.6	ug/l	10
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U = NOT DETECTED J = ESTIMATED VALUE  
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- TANK 199  
 GROUNDWATER DATA -- "HITS" REPORT -- REPORT REQUEST NO. 10696

Lab Sample Number:	JR47291	JR47292			
Site	TANK 199	TANK 199			
Locator	CEF-199-1S	CEF-199-4S			
Collect Date:	22-DEC-98	22-DEC-98			
VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

BETX, MTBE, & DICHLOROBENZENES

Benzene	3.1	ug/l	1	- U	ug/l	1
Ethylbenzene	5 J	ug/l	1	- U	ug/l	1
m,p-Xylene	1	ug/l	1	- U	ug/l	1

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 UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
 R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- TANK 199  
 SOIL DATA -- "HITS" REPORT -- REPORT REQUEST NO. 10695

Lab Sample Number:	JR98042	JR98041	JR98043	JR98044								
Site	TANK 199	TANK 199	TANK 199	TANK 199								
Locator	CEF-199-SB1A	CEF-199-SB2A	CEF-199-SB3A	CEF-199-SB4A								
Collect Date:	01-APR-98	01-APR-98	01-APR-98	01-APR-98								
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

BETX, MTBE, & DICHLOROBENZENES

Toluene	- U	ug/kg	6									
m,p-Xylene	- U	ug/kg	6									

PAHs

Benzo (a) anthracene	- U	ug/kg	3.3	- U	ug/kg	3.5	- U	ug/kg	3.3	- U	ug/kg	3.3
Benzo (b) fluoranthene	- U	ug/kg	3	- U	ug/kg	3.5	- U	ug/kg	3	- U	ug/kg	3
Benzo (k) fluoranthene	- U	ug/kg	3	- U	ug/kg	3.5	- U	ug/kg	3	- U	ug/kg	3
Benzo (a) pyrene	- U	ug/kg	2	- U	ug/kg	1.8	- U	ug/kg	2	- U	ug/kg	2
Fluoranthene	- U	ug/kg	17	- U	ug/kg	18	- U	ug/kg	17	- U	ug/kg	17
Fluorene	- U	ug/kg	17	- U	ug/kg	18	- U	ug/kg	17	- U	ug/kg	17
Phenanthrene	- U	ug/kg	17	- U	ug/kg	18	- U	ug/kg	17	- U	ug/kg	17
Pyrene	- U	ug/kg	17	- U	ug/kg	18	- U	ug/kg	17	- U	ug/kg	17

FLA PRO

TPH C8-C40	28	mg/kg	7.8	- U	mg/kg	8.1	- U	mg/kg	7.8	34	mg/kg	8.4
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NAS CECIL FIELD -- TANK 199  
 SOIL DATA -- "HITS" REPORT -- REPORT REQUEST NO. 10695

Lab Sample Number:	JR98045	JR98046	JR11352	JR11353
Site	TANK 199	TANK 199	TANK 199	TANK 199
Locator	CEF-199-SB5A	CEF-199-SB6A	CEF-199-SB7A	CEF-199-SB8A
Collect Date:	01-APR-98	01-APR-98	27-APR-98	27-APR-98

	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
<b>BETX, MTBE, &amp; DICHLOROBENZENES</b>												
Toluene	- U	ug/kg	6	19	ug/kg	12	- U	ug/kg	10	- U	ug/kg	8
m,p-Xylene	- U	ug/kg	6	17	ug/kg	12	- U	ug/kg	10	- U	ug/kg	8
<b>PAHs</b>												
Benzo (a) anthracene	-			-			- U	ug/kg	17	- U	ug/kg	3.3
Benzo (b) fluoranthene	-			-			- U	ug/kg	17	25	ug/kg	3
Benzo (k) fluoranthene	-			-			- U	ug/kg	17	15	ug/kg	3
Benzo (a) pyrene	-			-			- U	ug/kg	8	5	ug/kg	2
Fluoranthene	-			-			- U	ug/kg	83	20	ug/kg	17
Fluorene	-			-			- U	ug/kg	83	- U	ug/kg	17
Phenanthrene	-			-			- U	ug/kg	83	- U	ug/kg	17
Pyrene	-			-			- U	ug/kg	83	- U	ug/kg	17
<b>FLA PRO</b>												
TPH C8-C40	33	mg/kg	8.4	1800	mg/kg	310	400	mg/kg	13	290	mg/kg	10

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NAS CECIL FIELD -- TANK 199  
 SOIL DATA -- "HITS" REPORT -- REPORT REQUEST NO. 10695

Lab Sample Number:	JR11351	JR22911			
Site	TANK 199	TANK 199			
Locator	CEF-199-SB9A	CEF-199-SB10A			
Collect Date:	27-APR-98	10-JUL-98			
VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

BETX, MTBE, & DICHLOROBENZENES

Toluene	- U	ug/kg	7	- U	ug/kg	7
m,p-Xylene	- U	ug/kg	7	- U	ug/kg	7

PAHs

Benzo (a) anthracene	30	ug/kg	3.3	- U	ug/kg	1.7
Benzo (b) fluoranthene	- U	ug/kg	3	- U	ug/kg	3
Benzo (k) fluoranthene	- U	ug/kg	3	- U	ug/kg	2
Benzo (a) pyrene	- U	ug/kg	2	- U	ug/kg	2
Fluoranthene	- U	ug/kg	17	- U	ug/kg	3.3
Fluorene	95	ug/kg	17	- U	ug/kg	3.3
Phenanthrene	70	ug/kg	17	- U	ug/kg	1.7
Pyrene	46	ug/kg	17	- U	ug/kg	1.7

FLA PRO

TPH C8-C40	- U	mg/kg	9	290	mg/kg	8.9
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**NEW DOCUMENT**



March 14, 1997

Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400  
Attention: Mr. Eric Nuzie

**Subject: Contamination Assessment Report  
Tank 199 Site  
NAS Cecil Field, Jacksonville, Florida  
Contract No. N62467-89-D-0317/127**

Dear Eric:

On behalf of Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), ABB Environmental Services, Inc. is pleased to forward two copies of the subject document for your review and approval.

Comments or questions you may have concerning this report should be directed to Mr. Bryan Kizer at SOUTHNAVFACENGCOM (803-820-5896).

Very truly yours,

ABB ENVIRONMENTAL SERVICES, INC.

Rao Angara  
Task Order Manager

cc: B. Kizer, SDIV  
S. Wilson, SDIV  
D. Kruzicki, NASCF  
H. Bauer, BEI  
D. Vaughn-Wright, USEPA  
L. Routhier, ABB-ES  
L. Shields, City of Jacksonville  
File

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