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NAS CECIL FIELD, FL  
5090.3a

SAMPLING AND ANALYSIS REPORT FOR FACILITY 11 BASE REALIGNMENT AND  
CLOSURE ZONE D INDUSTRIAL AND FLIGHT LINE AREA NAS CECIL FIELD FL  
1/1/1999  
HARDING LAWSON ASSOCIATES

**SAMPLING AND ANALYSIS REPORT**  
**FACILITY 11**  
**BASE REALIGNMENT AND CLOSURE**  
**ZONE D, INDUSTRIAL AND FLIGHT LINE AREA**

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

**Unit Identification Code N60200**

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

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Jacksonville, Florida

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## GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
ACM	asbestos-containing material
AST	aboveground storage tank
bls	below land surface
CSR	confirmatory sampling report
ELCR	excess lifetime cancer risk
FDEP	Florida Department of Environmental Protection
GCTL	groundwater cleanup target level
HLA	Harding Lawson Associates
HI	hazard index
HQ	hazard quotient
NAS	Naval Air Station
PAH	polynuclear aromatic hydrocarbon
PRE	preliminary risk evaluation
RBC	risk-based concentration
SAO	sampling and analysis outline
SCTL	soil cleanup target level
TRPH	total recoverable petroleum hydrocarbon
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank

## 1.0 INTRODUCTION

Harding Lawson Associates (HLA), under contract to Southern Division, Naval Facilities Engineering Command, has completed the Phase II Sampling and Analysis program for Facility 11 at Naval Air Station (NAS) Cecil Field. This report summarizes the related field operations, results, conclusions, and recommendations of the Phase II investigation.

Facility 11 is located northeast of the intersection of Avenue "C" and 2nd Street, and has supplied steam to the entire base since it was constructed in 1941. A 5,000-gallon underground storage tank (UST) (Tank 11-A) was located on the south side of the building during the period from 1941 to 1986 and supplied fuel oil for on-site heating. Three 15,000-gallon diesel aboveground storage tanks (ASTs) (Tanks 11-B, -C, and -D), located near the southeast corner of the building, are presently in service. An oil-water separator is located to the north of the ASTs. Potential impacts related to the former UST, and the three existing ASTs, have been addressed under the Tank Management Plan (ABB Environmental Services, Inc. [ABB-ES, 1997]). The Confirmatory Sampling Report (CSR) (ABB-ES, 1998a) for Tank 11-A recommended no further action. Excessively contaminated soil was detected at Tanks 11-B, 11-C, and 11-D, and the CSR (ABB-ES, 1998b) recommended that a site assessment be conducted. Confirmatory sampling is currently underway at the Facility 11 oil-water separator.

During a site walkover, completed in March of 1995, stressed vegetation and oily stains were observed between Facilities 7 and 11. Stressed vegetation is also associated with the steam piping system north of the building. The facility contact indicated that the condensate return lines are bled onto the ground approximately once a week, and the heat of the water kills the grass.

Asbestos surveys conducted in support of the Asbestos Management Plan (ABB-ES, 1995a) confirmed the presence of friable asbestos-containing material (ACM) in pipe insulation; boiler, duct and stack insulation; and mudded joint packing throughout the facility. Suspect ACM was identified in floor tile in an office, breakroom, and bathroom and in floor and ceiling tiles in the main office; however, no samples were collected for confirmation. According to the Asbestos Management Plan, the pipe, boiler, duct, and stack insulation and the mudded joint packing will require abatement prior to lease or transfer of the facility. The plan further recommends that all other suspect ACM be sampled prior to any renovation project that may disturb it to determine whether or not it actually contains asbestos.

A Sampling and Analysis Outline (SAO) for the assessment of surface soil in areas of stressed vegetation north and east of Facility 11, and potential groundwater contamination in the vicinity of the oil-water separator, was prepared by HLA (then ABB-ES) and approved by the Base Realignment and Closure Cleanup Team (ABB-ES, 1995c). The results of the Phase II Sampling and Analysis program are discussed below.

## 2.0 PHASE II INVESTIGATION

The Phase II investigation included the installation of a single groundwater monitoring well and collection of one groundwater sample and four soil samples. Soil samples were collected from 0 to 1 foot below land surface (bls) in areas of visibly stressed vegetation. Soil and groundwater samples were analyzed for target compound list organics and target analyte list inorganics. A general site plan indicating the locations of the sampling points is presented on Figure 1.

Additional surface and subsurface soil samples were subsequently collected in the area surrounding the stressed vegetation, in an attempt to delineate the extent of polynuclear aromatic hydrocarbons (PAHs) and total recoverable petroleum hydrocarbons (TRPH) contamination detected during the initial sampling event. The additional surface soil samples were collected from areas with no visible indication of stressed vegetation. Subsurface soil samples were collected from the depth interval of 1 to 2 feet bls, which is below areas of contaminated surface soil.

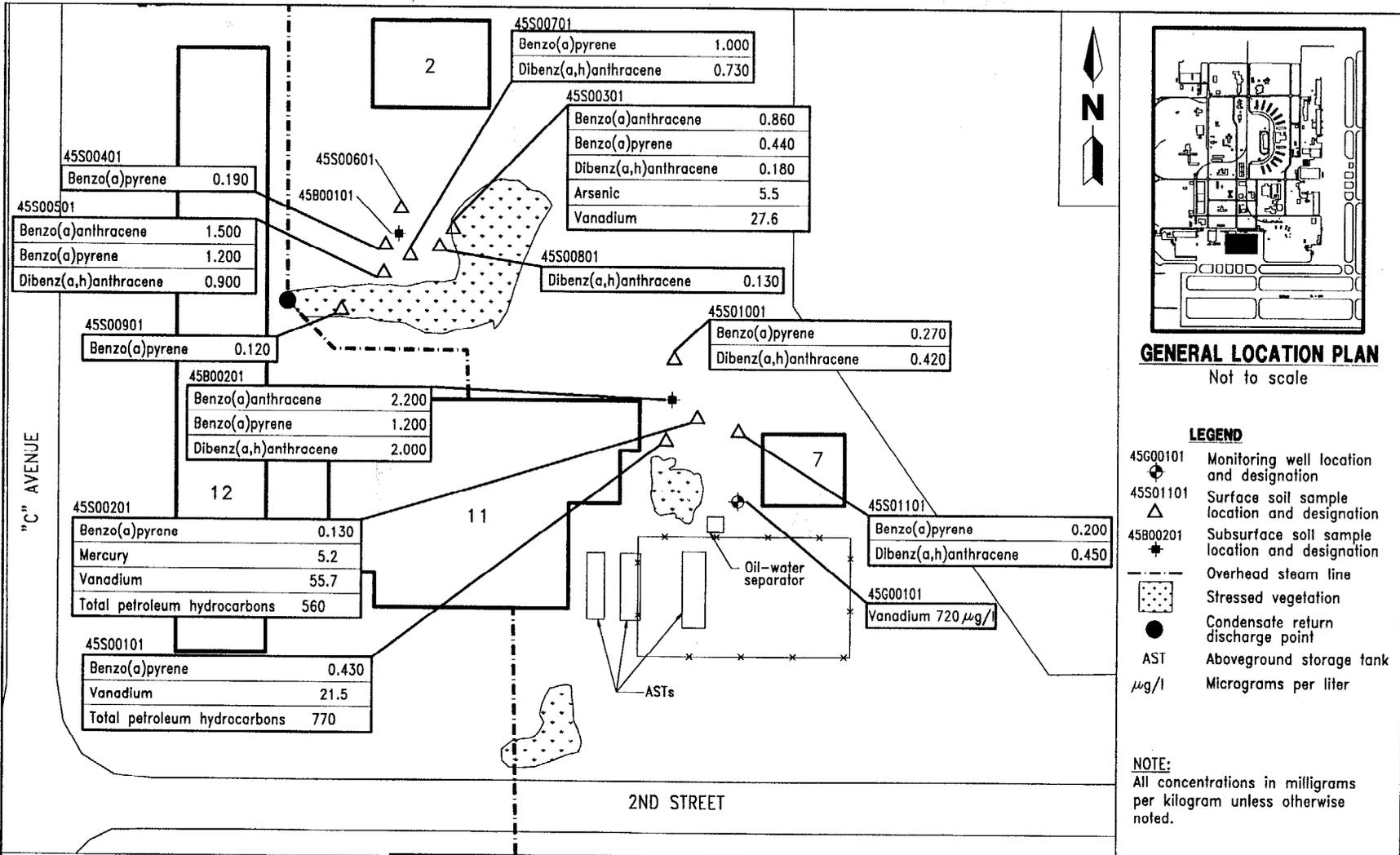
Field activities were undertaken in general conformance with the Project Operations Plan (ABB-ES, 1994a). A site plan indicating the locations of soil and groundwater samples is presented on Figure 1.

## 3.0 PRELIMINARY RISK EVALUATION

A preliminary risk evaluation (PRE) was conducted to assess potential risks to human and ecological receptors posed by contaminants in groundwater and surface soil. Primary exposure pathways were evaluated to determine those pathways that potentially contribute to human health and ecological risks. The evaluation was conducted in general conformance with methodology provided in the U.S. Environmental Protection Agency (USEPA) Region IV memorandum entitled "Amended Guidance on PREs for the Purpose of Reaching a Finding of Suitability to Lease (FOSL)" (USEPA, 1994), USEPA Region IV bulletins on ecological risk assessment (USEPA, 1995), and minutes of meetings with the USEPA and the Florida Department of Environmental Protection (FDEP) concerning PREs (ABB-ES, 1995b). Site background information and rationale for sample collection and analysis are detailed in the Environmental Baseline Survey Report (ABB-ES, 1994b) and the SAO (ABB-ES, 1995c).

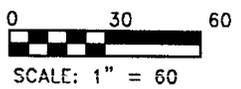
Inorganic analytes were compared to NAS Cecil Field screening criteria for inorganics established by the NAS Cecil Field partnering team. The NAS Cecil Field screening criteria were determined by using the nonparametric upper-outside value cutoffs as described in *Understanding Robust and Exploratory Data Analysis* (Hoaglin et al., 1983). These screening values were developed from data collected throughout NAS Cecil Field. No risk evaluation is conducted for inorganic analytes detected below NAS Cecil Field screening criteria for inorganics.

3.1 PUBLIC HEALTH PRE. All detected analytes were compared to readily available risk-based screening values to assess the likelihood of adverse human health



"C" AVENUE

2ND STREET



**FIGURE 1  
FACILITY 11  
STEAM GENERATING PLANT  
SAMPLE LOCATION PLAN**



**SAMPLING AND ANALYSIS REPORT**

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

effects associated with potential exposure to groundwater. Risk-based screening values were obtained from USEPA Region III Risk-Based Concentrations (RBCs) (USEPA, 1998), and FDEP Soil and Groundwater Cleanup Target Levels (SCTLs and GCTLs) (FDEP, 1998). Most screening values published in the references listed above are based on toxicity constants and standard human exposure scenarios and correspond to fixed levels of risk. The designated level of risk for noncarcinogenic chemicals is based on a hazard quotient (HQ) of 1. The level of risk for carcinogenic chemicals is based on an excess lifetime cancer risk (ELCR) of  $1 \times 10^{-6}$ . Cancer and noncancer risks associated with industrial and residential land use are estimated by dividing the maximum detected analyte concentration by the corresponding USEPA Region III RBC value at the designated level of risk (HQ of 1 or ELCR of  $1 \times 10^{-6}$ ). For noncarcinogens, the HQs are summed to determine the cumulative noncancer risk or hazard index (HI).

Soil. PAHs, TRPH, and inorganics were detected at concentrations in excess of SCTLs in surface soil samples collected from both areas of stressed vegetation. Surface soil and subsurface soil samples collected from outside the visibly stressed areas, in an attempt to delineate the extent of contamination, were also contaminated with PAHs. Subsurface soil sample results were compared to residential SCTLs because they were collected from 1 to 2 feet bls, which is recognized as surface soil by FDEP. Benzo(a)pyrene is a carcinogenic PAH and was detected at concentrations in excess of the SCTL at 10 of the 13 sample locations. Dibenz(a,h)anthracene, a carcinogenic PAH, was detected at a concentration 20 times greater than the SCTL in one subsurface soil sample.

Maximum concentrations of detected analytes in surface and subsurface soil have been compared with RBCs for residential surface soil. An ELCR of  $5 \times 10^{-5}$  and an HI of less than one were calculated for a residential surface soil exposure scenario.

Groundwater. Seventeen inorganic analytes and two volatile organic compounds were detected in the groundwater sample collected near the oil-water separator in the study area. Aluminum, manganese, and vanadium were detected at concentrations in excess of the NAS Cecil Field screening criteria for inorganics and Florida GCTLs. The groundwater monitoring well was subsequently repurged, and filtered and unfiltered groundwater samples were collected and analyzed for these analytes to ensure that suspended solids would not influence the analysis.

The aluminum and manganese concentrations in both the filtered and unfiltered samples was below the NAS Cecil Field screening criteria for inorganics. However, the concentration of vanadium detected in the filtered sample remained above the GCTL. No other compounds were detected at concentrations in excess of GCTLs.

Concentrations of detected analytes in groundwater have been compared with RBCs for tap water and GCTLs and, where applicable, with NAS Cecil Field inorganic background data set (see Appendix A). A HI of 3 was calculated for a potential groundwater exposure scenario, based on the detected concentration of vanadium, and the RBC for a tap water exposure scenario. No other compounds or analytes were detected at concentrations in excess of GCTLs. Therefore, no ELCR was calculated in association with a potential groundwater exposure scenario.

3.2 ECOLOGICAL PRE. Potential exposure pathways and ecological habitat associated with the Steam Plant were characterized by ABB-ES ecological risk assessors in June 1996. Facility 11 is located within a developed industrial area. The area to the north, east, and west of Facility 11 is composed of maintained grass. The area on the south side of Facility 11 is a paved parking area.

Ecological receptors that might occasionally use the study area are likely limited to terrestrial species that are tolerant to human and industrial activity. Soil invertebrates (such as the earthworm) are likely present in the maintained grassy areas, which are subject to regular mowing. Protected species were not observed and are unlikely to utilize the limited habitat at Facility 11.

No exposure pathway to ecological receptors was identified for groundwater. Pathways of potential contaminant exposure for wildlife receptors include direct contact, incidental ingestion of surface soil, and limited terrestrial food-web model exposure to contaminants in surface soil that may bioaccumulate. Pathways for soil invertebrates include direct contact and incidental ingestion of surface soil. Pathways for terrestrial plants include direct contact with surface soil. Due to the limited extent and significance of the habitat associated with the study area, and the requirement for additional evaluation, no further ecological risk evaluation was conducted for this assessment.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

Contaminants have been detected above SCTLs in surface and subsurface soil at Facility 11. The areal extent of the contamination has not been determined. Further evaluation is recommended. In addition, vanadium was detected at a concentration in excess of the Florida GCTL in a groundwater sample collected adjacent to the oil-water separator at Facility 11. Based on the HI calculated for vanadium, it does not likely represent a hazard to human health or the environment at the detected concentration. However, further evaluation may be required. Asbestos abatement was recommended prior to transfer of Facility 11 in the ACM Management Plan.

Based upon the findings of this evaluation, the color code for Facility 11 should be reclassified to 5/Yellow to indicate that contaminants have been detected, and that further evaluation is required. Appropriate site operation and management procedures should be undertaken in order to ensure that current and future site activities do not result in release of additional hazardous substances to the environment. A full disclosure of all environmental conditions and land-use restrictions should be incorporated into any documentation prepared in support of a lease of real property, including Facility 11.

## REFERENCES

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**APPENDIX A**

**SOIL BORING LOG AND PRELIMINARY RISK EVALUATION TABLES**

TITLE: NAS Cecil Field BRAC		LOG of WELL: CEF-11-1S	BORING NO. CEF-11-1S
CLIENT: SOUTHDIVNAVFACENCOM		PROJECT NO: 08520-85	
CONTRACTOR: Alliance Environmental, Inc.		DATE STARTED: 12-2-95	COMPLTD: 12-2-95
METHOD: Auger	CASE SIZE: 2 in.	SCREEN INT.: 4 - 14 ft.	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: PID	TOT DPTH: 15.0FT.	DPTH TO $\nabla$ 6.0 FT.
LOGGED BY: R. Holloway	WELL DEVELOPMENT DATE:		SITE: 45 - 11 Steam Plant

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1			27	SILTY SAND (SM): 100%, very dark grayish brown, quartz, fine- to very fine-grained, subrounded to subangular, well sorted.		SM	posthole	
2			32				posthole	
3			1.1				2,2,3,2	
4			5.7				5,5,3,5	
5								
6								
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8								
9								
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**Preliminary Human Health Risk Evaluation Table**  
**Analytes Detected at Concentrations in Excess of Soil Cleanup Target Levels in Surface Soil**  
**Facility 11, Naval Air Station Cecil Field**

Contaminant <sup>1</sup>	Sample	Concentration					ELCR <sup>2</sup>	HQ <sup>2</sup>
		(mg/kg)	BKGRD	FLSCTL	RBC			
Benzo (a) anthracene	45B00201	2.2		1.4	0.88	3E-06		
Benzo (a) anthracene	45S00501	1.5		1.4	-			
Benzo (a) pyrene	45B00201	1.2		0.1	-			
Benzo (a) pyrene	45S00101	0.43		0.1	-			
Benzo (a) pyrene	45S00201	0.13		0.1	-			
Benzo (a) pyrene	45S00301	0.86		0.1	-			
Benzo (a) pyrene	45S00301RE	0.44		0.1	-			
Benzo (a) pyrene	45S00401	0.19		0.1	-			
Benzo (a) pyrene	45S00501	1.2		0.1	0.088	1E-05		
Benzo (a) pyrene	45S00601	0.08		0.1	-			
Benzo (a) pyrene	45S00701	0.025		0.1	-			
Benzo (a) pyrene	45S00801	1		0.1	-			
Benzo (a) pyrene	45S00901	0.12		0.1	-			
Benzo (a) pyrene	45S01001	0.27		0.1	-			
Benzo (a) pyrene	45S01101	0.2		0.1	-			
Dibenzo (a,h) anthracene	45B00201	2		0.1	0.088	2E-05		
Dibenzo (a,h) anthracene	45S00301	0.18		0.1	-			
Dibenzo (a,h) anthracene	45S00501	0.9		0.1	-			
Dibenzo (a,h) anthracene	45S00701	0.13		0.1	-			
Dibenzo (a,h) anthracene	45S00801	0.73		0.1	-			
Dibenzo (a,h) anthracene	45S01001	0.42		0.1	-			
Dibenzo (a,h) anthracene	45S01101	0.45		0.1	-			
Arsenic	45S00301	5.5	2.0375	0.8	0.43	1E-05		
Mercury	45S00201	5.2	0.16	3.7	23		0.23	
Vanadium	45S00101	21.5	6.3	15	-			
Vanadium	45S00201	55.7	6.3	15	550		0.10	
Vanadium	45S00301	27.6	6.3	15	-			
Total petroleum hydrocarbons	45S00101	770		350	-			
Total petroleum hydrocarbons	45S00201	560		350	-			
<b>Sum=</b>						<b>5E-05</b>	<b>0.33</b>	

**Notes:**

<sup>1</sup> All detected analytes are reported. Concentrations and screening values are expressed in mg/kg

<sup>2</sup>ELCR and HQ are only calculated for analytes detected at concentrations in excess of BKGRD and SCTL

BKGRD = NAS Cecil Field Inorganic Background Data Set

SCTL = Soil Cleanup Target Level, Chapter 62-785, Florida Administrative Code

RBC(R) = Risk-based Concentration (Residential), USEPA Region III, April 1998

ELCR = calculated excess lifetime cancer risk, based on RBC(R) values. (ELCR = detected concentration/RBC(R) \* 1 E-06)

HQ = calculated Hazard Quotient for non-carcinogenic analytes (HQ = detected concentration/RBC(R))

**Preliminary Human Health Risk Evaluation Table for Analytes Detected in Groundwater  
Facility 11, Naval Air Station Cecil Field**

Analyte <sup>1</sup>	Samples		Screening Values			Calculated Risk Values <sup>2</sup>	
	45G00101	45G00102	BKGRD	GCTL	RBC(T)	ELCR	HQ
1,2-Dichloroethene (total)	2			63	55 n		
Trichloroethene	1			3	1.6 c		
*Aluminum	14300	260	13100	200	37000 n		
Aluminum (dissolved)		310	13100	200	37000 n		
Antimony	2.2		44.5	6	15 n		
Barium	13.8		88.2	2000	2600 n		
Calcium	28700		81100				
*Chromium	29.7		18	100	180 n		
*Copper	18.4		12.5	1000	1500 n		
*Iron	1470		7760	300	11000 n		
*Lead	9.7		5.35	15			
Magnesium	3100		10000				
*Manganese	101	59	96.2	50	840 n		
Manganese (dissolved)		62	96.2	50	840 n		
Nickel	16.5		24.5	100	730 n		
Potassium	3140		4330				
Selenium	5.8		7	50	180 n		
*Sodium	235000	44000	16500	160000			
Sodium (dissolved)		35000	16500	160000			
*Vanadium	195	740	20.2	49	260 n		
Vanadium (dissolved)		720	20.2	49	260 n		2.8
Zinc	40.3		76.8	5000	11000 n		
Cyanide	2.2		22	200	730 n		

Sum= 3

**Notes:**

<sup>1</sup> All detected analytes are reported. Concentrations and screening values are expressed in ug/l

<sup>2</sup>ELCR and HQ are only calculated for analytes detected at concentrations in excess of BKGRD and GWCTL

\*= Background screening criteria or GWCTLs have been exceeded

BKGRD= NAS Cecil Field Inorganic Background Data Set

GCTL = Groundwater Cleanup Target Levels, FDEP, Chapter 62-785, Florida Administrative Code

RBC(T)= Risk-based Concentration (Tap Water), USEPA Region III, April 1998

n=non-carcinogenic risk

c=carcinogenic risk

ELCR = calculated excess lifetime cancer risk, based on RBC(T) values.

(ELCR = maximum detected concentration/RBC(T) \* 1E-06)

HQ = calculated Hazard Quotient for non-carcinogenic analytes

(HQ=maximum detected concentration/RBC(T))

**APPENDIX B**

**LABORATORY ANALYTICAL DATA**

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
 SURFACE SOIL ANALYTICAL DATA -- REPORT REQUEST NO. 10535

Lab Sample Number:  
 Site  
 Locator  
 Collect Date:

C2180  
 CECILBRAC2  
 45S00101  
 16-NOV-95

C217W  
 CECILBRAC2  
 45S00201  
 16-NOV-95

C217X  
 CECILBRAC2  
 45S00301  
 16-NOV-95

C2182  
 CECILBRAC2  
 45S00401  
 16-NOV-95

CLP VOLATILES 90-SOW

	VALUE	QUAL UNITS	DL									
Chloromethane	11 U	ug/kg	11									
Bromomethane	11 U	ug/kg	11									
Vinyl chloride	11 U	ug/kg	11									
Chloroethane	11 U	ug/kg	11									
Methylene chloride	11 U	ug/kg	11									
Acetone	11 U	ug/kg	11									
Carbon disulfide	11 U	ug/kg	11									
1,1-Dichloroethene	11 U	ug/kg	11									
1,1-Dichloroethane	11 U	ug/kg	11									
1,2-Dichloroethene (total)	11 U	ug/kg	11									
Chloroform	11 U	ug/kg	11									
1,2-Dichloroethane	11 U	ug/kg	11									
2-Butanone	11 U	ug/kg	11									
1,1,1-Trichloroethane	11 U	ug/kg	11									
Carbon tetrachloride	11 U	ug/kg	11									
Bromodichloromethane	11 U	ug/kg	11									
1,2-Dichloropropane	11 U	ug/kg	11									
cis-1,3-Dichloropropene	11 U	ug/kg	11									
Trichloroethene	11 U	ug/kg	11	3 J	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Dibromochloromethane	11 U	ug/kg	11									
1,1,2-Trichloroethane	11 U	ug/kg	11									
Benzene	11 U	ug/kg	11									
trans-1,3-Dichloropropene	11 U	ug/kg	11									
Bromoform	11 U	ug/kg	11									
4-Methyl-2-pentanone	11 U	ug/kg	11									
2-Hexanone	11 U	ug/kg	11									
Tetrachloroethene	11 U	ug/kg	11									
Toluene	11 U	ug/kg	11									
1,1,2,2-Tetrachloroethane	11 U	ug/kg	11									
Chlorobenzene	11 U	ug/kg	11									
Ethylbenzene	11 U	ug/kg	11									
Styrene	11 U	ug/kg	11									
Xylenes (total)	11 U	ug/kg	11									

CLP SEMIVOLATILES 90-SOW

Phenol	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
bis(2-Chloroethyl) ether	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
2-Chlorophenol	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
1,3-Dichlorobenzene	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
1,4-Dichlorobenzene	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
1,2-Dichlorobenzene	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
2-Methylphenol	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
2,2-oxybis(1-Chloropropane)	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
4-Methylphenol	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
N-Nitroso-di-n-propylamine	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
Hexachloroethane	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
Nitrobenzene	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
Isophorone	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
2-Nitrophenol	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350
2,4-Dimethylphenol	370 U	ug/kg	370	360 U	ug/kg	360	350 U	ug/kg	350	350 U	ug/kg	350

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
 SURFACE SOIL ANALYTICAL DATA -- REPORT REQUEST NO. 10535

Lab Sample Number:  
 Site  
 Locator  
 Collect Date:

C2180  
 CECILBRAC2  
 45S00101  
 16-NOV-95

C217W  
 CECILBRAC2  
 45S00201  
 16-NOV-95

C217X  
 CECILBRAC2  
 45S00301  
 16-NOV-95

C2182  
 CECILBRAC2  
 45S00401  
 16-NOV-95

	VALUE	QUAL	UNITS	DL												
bis(2-Chloroethoxy) methane	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
2,4-Dichlorophenol	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
1,2,4-Trichlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
Naphthalene	370	U	ug/kg	370	360	U	ug/kg	360	38	J	ug/kg	350	350	U	ug/kg	350
4-Chloroaniline	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
Hexachlorobutadiene	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
4-Chloro-3-methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
2-Methylnaphthalene	370	U	ug/kg	370	360	U	ug/kg	360	20	J	ug/kg	350	350	U	ug/kg	350
Hexachlorocyclopentadiene	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
2,4,6-Trichlorophenol	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
2,4,5-Trichlorophenol	890	U	ug/kg	890	860	U	ug/kg	860	860	U	ug/kg	860	850	U	ug/kg	850
2-Chloronaphthalene	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
2-Nitroaniline	890	U	ug/kg	890	860	U	ug/kg	860	860	U	ug/kg	860	850	U	ug/kg	850
Dimethylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
Acenaphthylene	20	J	ug/kg	370	18	J	ug/kg	350	350	U	ug/kg	350	350	U	ug/kg	350
2,6-Dinitrotoluene	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
3-Nitroaniline	890	U	ug/kg	890	860	U	ug/kg	860	860	U	ug/kg	860	850	U	ug/kg	850
Acenaphthene	43	J	ug/kg	370	360	U	ug/kg	360	260	J	ug/kg	350	350	U	ug/kg	350
2,4-Dinitrophenol	890	U	ug/kg	890	860	U	ug/kg	860	860	U	ug/kg	860	850	U	ug/kg	850
4-Nitrophenol	890	U	ug/kg	890	860	U	ug/kg	860	860	U	ug/kg	860	850	U	ug/kg	850
Dibenzofuran	370	U	ug/kg	370	360	U	ug/kg	360	93	J	ug/kg	350	350	U	ug/kg	350
2,4-Dinitrotoluene	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
Diethylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
4-Chlorophenyl-phenylether	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
Fluorene	39	J	ug/kg	370	360	U	ug/kg	360	210	J	ug/kg	350	350	U	ug/kg	350
4-Nitroaniline	890	U	ug/kg	890	860	U	ug/kg	860	860	U	ug/kg	860	850	U	ug/kg	850
4,6-Dinitro-2-methylphenol	890	U	ug/kg	890	860	U	ug/kg	860	860	U	ug/kg	860	850	U	ug/kg	850
N-Nitrosodiphenylamine	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
4-Bromophenyl-phenylether	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
Hexachlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
Pentachlorophenol	890	U	ug/kg	890	860	U	ug/kg	860	860	U	ug/kg	860	850	U	ug/kg	850
Phenanthrene	400		ug/kg	370	28	J	ug/kg	350	1600		ug/kg	350	150	J	ug/kg	350
Anthracene	98	J	ug/kg	370	20	J	ug/kg	350	410		ug/kg	350	20	J	ug/kg	350
Carbazole	99	J	ug/kg	370	360	U	ug/kg	360	490		ug/kg	350	350	U	ug/kg	350
Di-n-butylphthalate	36	J	ug/kg	370	78	J	ug/kg	350	350	U	ug/kg	350	350	U	ug/kg	350
Fluoranthene	580		ug/kg	370	170	J	ug/kg	350	2100		ug/kg	350	380		ug/kg	350
Pyrene	890		ug/kg	370	130	J	ug/kg	350	1600		ug/kg	350	270	J	ug/kg	350
Butylbenzylphthalate	260	J	ug/kg	370	27	J	ug/kg	350	350	U	ug/kg	350	350	U	ug/kg	350
3,3-Dichlorobenzidine	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
Benzo (a) anthracene	340	J	ug/kg	370	99	J	ug/kg	350	1300		ug/kg	350	220	J	ug/kg	350
Chrysene	470		ug/kg	370	150	J	ug/kg	350	1200		ug/kg	350	250	J	ug/kg	350
bis(2-Ethylhexyl) phthalate	580		ug/kg	370	120	J	ug/kg	350	150	J	ug/kg	350	350	U	ug/kg	350
Di-n-octylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	350	U	ug/kg	350	350	U	ug/kg	350
Benzo (b) fluoranthene	550		ug/kg	370	240	J	ug/kg	350	1200		ug/kg	350	260	J	ug/kg	350
Benzo (k) fluoranthene	150	J	ug/kg	370	100	J	ug/kg	350	380		ug/kg	350	130	J	ug/kg	350
Benzo (a) pyrene	430		ug/kg	370	130	J	ug/kg	350	860		ug/kg	350	190	J	ug/kg	350
Indeno (1,2,3-cd) pyrene	160	J	ug/kg	370	67	J	ug/kg	350	440		ug/kg	350	100	J	ug/kg	350
Dibenzo (a,h) anthracene	65	J	ug/kg	370	25	J	ug/kg	350	180	J	ug/kg	350	38	J	ug/kg	350
Benzo (g,h,i) perylene	460		ug/kg	370	99	J	ug/kg	350	430		ug/kg	350	94	J	ug/kg	350
CLP PESTICIDES/PCBS 90-SOW alpha-BHC	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	8.8	U	ug/kg	8.8

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
 SURFACE SOIL ANALYTICAL DATA -- REPORT REQUEST NO. 10535

Lab Sample Number:  
 Site  
 Locator  
 Collect Date:

	C2180			C217W			C217X			C2182		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
beta-BHC	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	8.8 U	ug/kg	8.8
delta-BHC	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	8.8 U	ug/kg	8.8
gamma-BHC (Lindane)	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	8.8 U	ug/kg	8.8
Heptachlor	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	8.8 U	ug/kg	8.8
Aldrin	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	4 J	ug/kg	2	8.8 U	ug/kg	8.8
Heptachlor epoxide	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	1.8 U	ug/kg	1.8	1.4 J	ug/kg	9
Endosulfan I	.54 J	ug/kg	2	4.1	ug/kg	2	1.8 U	ug/kg	1.8	.42 J	ug/kg	9
Dieldrin	3.7 U	ug/kg	3.7	3.6 U	ug/kg	3.6	3.6 U	ug/kg	3.6	18 U	ug/kg	18
4,4-DDE	.21 J	ug/kg	4	24	ug/kg	4	1.9 J	ug/kg	4	160	ug/kg	17
Endrin	3.7 U	ug/kg	3.7	3.6 U	ug/kg	3.6	3.6 U	ug/kg	3.6	.39 J	ug/kg	17
Endosulfan II	3.7 U	ug/kg	3.7	3.6 U	ug/kg	3.6	3.6 U	ug/kg	3.6	18 U	ug/kg	18
4,4-DDD	3.7 U	ug/kg	3.7	3.6 U	ug/kg	3.6	3.6 U	ug/kg	3.6	8.3 J	ug/kg	17
Endosulfan sulfate	3.7 U	ug/kg	3.7	3.6 U	ug/kg	3.6	3.6 U	ug/kg	3.6	18 U	ug/kg	18
4,4-DDT	3.7 U	ug/kg	3.7	22	ug/kg	4	3.6 U	ug/kg	3.6	44	ug/kg	17
Methoxychlor	18 U	ug/kg	18	18 U	ug/kg	18	18 U	ug/kg	18	88 U	ug/kg	88
Endrin ketone	3.7 U	ug/kg	3.7	.83 J	ug/kg	4	3.6 U	ug/kg	3.6	18 U	ug/kg	18
Endrin aldehyde	3.7 U	ug/kg	3.7	3.6 U	ug/kg	3.6	3.6 U	ug/kg	3.6	18 U	ug/kg	18
alpha-Chlordane	1.6 J	ug/kg	2	5.3	ug/kg	2	.2 J	ug/kg	2	18	ug/kg	9
gamma-Chlordane	1.8 J	ug/kg	2	1.6 J	ug/kg	2	1.8 U	ug/kg	1.8	15	ug/kg	9
Toxaphene	180 U	ug/kg	180	180 U	ug/kg	180	180 U	ug/kg	180	880 U	ug/kg	880
Aroclor-1016	37 U	ug/kg	37	36 U	ug/kg	36	36 U	ug/kg	36	180 U	ug/kg	180
Aroclor-1221	74 U	ug/kg	74	72 U	ug/kg	72	71 U	ug/kg	71	350 U	ug/kg	350
Aroclor-1232	37 U	ug/kg	37	36 U	ug/kg	36	36 U	ug/kg	36	180 U	ug/kg	180
Aroclor-1242	37 U	ug/kg	37	36 U	ug/kg	36	36 U	ug/kg	36	180 U	ug/kg	180
Aroclor-1248	37 U	ug/kg	37	36 U	ug/kg	36	36 U	ug/kg	36	180 U	ug/kg	180
Aroclor-1254	73	ug/kg	37	280	ug/kg	35	36 U	ug/kg	36	180 U	ug/kg	180
Aroclor-1260	37 U	ug/kg	37	36 U	ug/kg	36	36 U	ug/kg	36	180 U	ug/kg	180
CLP METALS AND CYANIDE												
Aluminum	2440	mg/kg	40	4430	mg/kg	40	2450	mg/kg	40	1460	mg/kg	40
Antimony	.89 U	mg/kg	12	.86 U	mg/kg	12	.86 U	mg/kg	12	.85 U	mg/kg	12
Arsenic	.67 U	mg/kg	2	1.7 J	mg/kg	2	5.5	mg/kg	2	1.3 J	mg/kg	2
Barium	19.3 J	mg/kg	40	54.4	mg/kg	40	6.2 J	mg/kg	40	3.4 J	mg/kg	40
Beryllium	.22 U	mg/kg	1	.33 J	mg/kg	1	.21 U	mg/kg	1	.21 U	mg/kg	1
Cadmium	.22 U	mg/kg	1	.54 J	mg/kg	1	.21 U	mg/kg	1	.34 J	mg/kg	1
Calcium	15200	mg/kg	1000	20500	mg/kg	1000	1450	mg/kg	1000	573 J	mg/kg	1000
Chromium	8	mg/kg	2	14.3	mg/kg	2	5.5	mg/kg	2	2.5	mg/kg	2
Cobalt	.59 J	mg/kg	10	1.3 J	mg/kg	10	.22 J	mg/kg	10	.21 U	mg/kg	10
Copper	22.3	mg/kg	5	73.3	mg/kg	5	8.7	mg/kg	5	48.5	mg/kg	5
Iron	2530	mg/kg	20	6000	mg/kg	20	1780	mg/kg	20	3250	mg/kg	20
Lead	26.2	mg/kg	.6	112	mg/kg	.6	19.4	mg/kg	.6	10.5	mg/kg	.6
Magnesium	809 J	mg/kg	1000	3080	mg/kg	1000	83.2 J	mg/kg	1000	55.6 J	mg/kg	1000
Manganese	39.5	mg/kg	3	118	mg/kg	3	12.6	mg/kg	3	11.2	mg/kg	3
Mercury	.76	mg/kg	.1	5.2	mg/kg	.1	.11 U	mg/kg	.1	.11 U	mg/kg	.1
Nickel	6.2 J	mg/kg	8	24.8	mg/kg	8	11.6	mg/kg	8	4.6 J	mg/kg	8
Potassium	157 J	mg/kg	1000	470 J	mg/kg	1000	24.5 J	mg/kg	1000	19.3 J	mg/kg	1000
Selenium	.89 U	mg/kg	1	.86 U	mg/kg	1	.86 U	mg/kg	1	.85 U	mg/kg	1
Silver	.22 U	mg/kg	2	.26 J	mg/kg	2	.29 J	mg/kg	2	.21 U	mg/kg	2
Sodium	323 J	mg/kg	1000	802 J	mg/kg	1000	164 J	mg/kg	1000	197 J	mg/kg	1000
Thallium	.67 U	mg/kg	2	.65 U	mg/kg	2	.64 U	mg/kg	2	.64 U	mg/kg	2
Vanadium	21.5	mg/kg	10	55.7	mg/kg	10	27.6	mg/kg	10	4.5 J	mg/kg	10
Zinc	66.6	mg/kg	4	144	mg/kg	4	22.9	mg/kg	4	22.6	mg/kg	4

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
 SURFACE SOIL ANALYTICAL DATA -- REPORT REQUEST NO. 10535

Lab Sample Number:  
 Site  
 Locator  
 Collect Date:

	C2180			C217W			C217X			C2182		
	VALUE	QUAL UNITS	DL									
Cyanide	.17 J	mg/kg	.5	.1 U	mg/kg	.5	.11 U	mg/kg	.5	.1 U	mg/kg	.5

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

NAS CECIL FIELD -- FACILITY -- STEAM GENERATING PLANT  
 SURFACE SOIL ANALYTICAL DATA -- REPORT REQUEST NO. 10539

Lab Sample Number:	A5K1701730	A5K1701730	A5K1701730	A5K1701730
Site	CECILBRAC2	CECILBRAC2	CECILBRAC2	CECILBRAC2
Locator	45S00101	45S00201	45S00301	45S00301
Collect Date:	16-NOV-95	16-NOV-95	16-NOV-95	16-NOV-95
VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS
		DL		
			VALUE	QUAL UNITS
				DL
			VALUE	QUAL UNITS
				DL

Total petroleum hydrocarbons	770	mg/kg	56	560	mg/kg	54	230	mg/kg	21	100.17	PERCE
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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 -- FACILITY -- STEAM GENERATING PLANT  
 SURFACE SOIL ANALYTICAL DATA -- REPORT REQUEST NO. 10539

Lab Sample Number:	A5K1701730		A5K1701730	
Site	CECILBRAC2		CECILBRAC2	
Locator	45S00301		45S00401	
Collect Date:	16-NOV-95		16-NOV-95	
	VALUE	QUAL UNITS	DL	VALUE
			DL	QUAL UNITS

Total petroleum hydrocarbons	98.76	PERCE		23	mg/kg	11
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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 -- FACILITY 11 - STEAM GENERATING PLANT  
 SURFACE SOIL ANALYTICAL DATA -- REPORT REQUEST NO. 10536

Lab Sample Number:  
 Site  
 Locator  
 Collect Date:

JR33362  
 BRAC  
 45S00501  
 23-SEP-98

JR33364  
 BRAC  
 45S00601  
 23-SEP-98

JR33366  
 BRAC  
 45S00701  
 23-SEP-98

JR33365  
 BRAC  
 45S00801  
 23-SEP-98

	VALUE	QUAL UNITS	DL									
<b>PAHs</b>												
Acenaphthene	170 U	ug/kg	170	17 U	ug/kg	17	17 U	ug/kg	17	170 U	ug/kg	170
Acenaphthylene	33 U	ug/kg	33	3.3 U	ug/kg	3.3	3.3 U	ug/kg	3.3	33 U	ug/kg	33
Anthracene	410	ug/kg	170	17 U	ug/kg	17	32	ug/kg	17	440	ug/kg	170
Benzo (a) anthracene	1500	ug/kg	17	77	ug/kg	1.7	83	ug/kg	1.7	1400	ug/kg	17
Benzo (b) fluoranthene	1400	ug/kg	33	120	ug/kg	3	110	ug/kg	3	1100	ug/kg	33
Benzo (k) fluoranthene	630	ug/kg	17	47	ug/kg	2	27	ug/kg	2	530	ug/kg	17
Benzo (a) pyrene	1200	ug/kg	17	80	ug/kg	2	25	ug/kg	2	1000	ug/kg	17
Chrysene	1800	ug/kg	17	93	ug/kg	1.7	70	ug/kg	1.7	1600	ug/kg	17
Dibenzo (a,h) anthracene	900	ug/kg	33	3.3 U	ug/kg	3.3	130	ug/kg	3.3	730	ug/kg	33
Fluoranthene	3900	ug/kg	33	210	ug/kg	3.3	310	ug/kg	3.3	3400	ug/kg	33
Fluorene	220	ug/kg	33	41	ug/kg	3.3	3.3 U	ug/kg	3.3	210	ug/kg	33
Indeno (1,2,3-cd) pyrene	800	ug/kg	17	60	ug/kg	1.7	44	ug/kg	1.7	630	ug/kg	17
Benzo (g,h,i) perylene	900	ug/kg	33	53	ug/kg	3.3	27	ug/kg	3.3	770	ug/kg	33
Naphthalene	170 U	ug/kg	170	17 U	ug/kg	17	17 U	ug/kg	17	170 U	ug/kg	170
Phenanthrene	1900	ug/kg	17	70	ug/kg	1.7	150	ug/kg	1.7	1800	ug/kg	17
Pyrene	2300	ug/kg	17	130	ug/kg	1.7	340	ug/kg	1.7	2000	ug/kg	17
1-Methylnaphthalene	170 U	ug/kg	170	17 U	ug/kg	17	17 U	ug/kg	17	170 U	ug/kg	170
2-Methylnaphthalene	170 U	ug/kg	170	17 U	ug/kg	17	17 U	ug/kg	17	170 U	ug/kg	170

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

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
 SURFACE SOIL ANALYTICAL DATA -- REPORT REQUEST NO. 10536

Lab Sample Number:	JR33361	JR33368	JR33367					
Site	BRAC	BRAC	BRAC					
Locator	45S00901	45S01001	45S01101					
Collect Date:	23-SEP-98	23-SEP-98	23-SEP-98					
VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

PAHs

Acenaphthene	84 U	ug/kg	84	170 U	ug/kg	170	170 U	ug/kg	170
Acenaphthylene	16 U	ug/kg	16	33 U	ug/kg	33	33 U	ug/kg	33
Anthracene	83 U	ug/kg	83	170 U	ug/kg	170	170 U	ug/kg	170
Benzo (a) anthracene	100	ug/kg	8.4	250	ug/kg	17	260	ug/kg	17
Benzo (b) fluoranthene	160	ug/kg	17	330	ug/kg	33	270	ug/kg	33
Benzo (k) fluoranthene	71	ug/kg	8	200	ug/kg	17	150	ug/kg	17
Benzo (a) pyrene	120	ug/kg	8	270	ug/kg	17	200	ug/kg	17
Chrysene	200	ug/kg	8.4	340	ug/kg	17	320	ug/kg	17
Dibenzo (a,h) anthracene	100	ug/kg	17	420	ug/kg	33	450	ug/kg	33
Fluoranthene	460	ug/kg	17	580	ug/kg	33	820	ug/kg	33
Fluorene	28	ug/kg	17	33 U	ug/kg	33	33 U	ug/kg	33
Indeno (1,2,3-cd) pyrene	93	ug/kg	8.4	230	ug/kg	17	170	ug/kg	17
Benzo (g,h,i) perylene	81	ug/kg	17	220	ug/kg	33	160	ug/kg	33
Naphthalene	84 U	ug/kg	84	170 U	ug/kg	170	170 U	ug/kg	170
Phenanthrene	290	ug/kg	8.4	180	ug/kg	17	250	ug/kg	17
Pyrene	240	ug/kg	8.4	400	ug/kg	17	730	ug/kg	17
1-Methylnaphthalene	84 U	ug/kg	84	170 U	ug/kg	170	170 U	ug/kg	170
2-Methylnaphthalene	84 U	ug/kg	84	170 U	ug/kg	170	170 U	ug/kg	170

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

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
 SUBSURFACE SOIL ANALYTICAL DATA -- REPORT REQUEST NO. 10537

Lab Sample Number:	JR33363	JR33369
Site	BRAC	BRAC
Locator	45B00101	45B00201
Collect Date:	23-SEP-98	23-SEP-98

	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
<b>PAHs</b>								
Acenaphthene	17	U	ug/kg	17	170	U	ug/kg	170
Acenaphthylene	3.3	U	ug/kg	3.3	33	U	ug/kg	33
Anthracene	17	U	ug/kg	17	1200		ug/kg	170
Benzo (a) anthracene	12		ug/kg	1.7	2200		ug/kg	17
Benzo (b) fluoranthene	3	U	ug/kg	3	1400		ug/kg	33
Benzo (k) fluoranthene	2	U	ug/kg	2	800		ug/kg	17
Benzo (a) pyrene	2	U	ug/kg	2	1200		ug/kg	17
Chrysene	14		ug/kg	1.7	2300		ug/kg	17
Dibenzo (a,h) anthracene	3.3	U	ug/kg	3.3	2000		ug/kg	33
Fluoranthene	9.6		ug/kg	3.3	6400		ug/kg	33
Fluorene	3.3	U	ug/kg	3.3	710		ug/kg	33
Indeno (1,2,3-cd) pyrene	1.7	U	ug/kg	1.7	870		ug/kg	17
Benzo (g,h,i) perylene	3.3	U	ug/kg	3.3	1200		ug/kg	33
Naphthalene	17	U	ug/kg	17	170	U	ug/kg	170
Phenanthrene	5	J	ug/kg	1.7	4900		ug/kg	17
Pyrene	9.3		ug/kg	1.7	3500		ug/kg	17
1-Methylnaphthalene	17	U	ug/kg	17	170	U	ug/kg	170
2-Methylnaphthalene	17	U	ug/kg	17	170	U	ug/kg	170

U = NOT DETECTED J = ESTIMATED VALUE  
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 R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
GROUNDWATER ANALYTICAL DATA -- REPORT REQUEST NO. 10534

Lab Sample Number: C33C9  
Site: CECILBRAC2  
Locator: 45G00101  
Collect Date: 22-FEB-96

VALUE QUAL UNITS DL

CLP VOLATILES 90-SOW

Chloromethane	2 U	ug/l	2
Bromomethane	2 U	ug/l	2
Vinyl chloride	2 U	ug/l	2
Chloroethane	2 U	ug/l	2
Methylene chloride	1 U	ug/l	1
Acetone	2 U	ug/l	2
Carbon disulfide	1 U	ug/l	1
1,1-Dichloroethene	1 U	ug/l	1
1,1-Dichloroethane	1 U	ug/l	1
1,2-Dichloroethene (total)	2	ug/l	2
Chloroform	1 U	ug/l	1
1,2-Dichloroethane	1 U	ug/l	1
2-Butanone	2 U	ug/l	2
1,1,1-Trichloroethane	1 U	ug/l	1
Carbon tetrachloride	1 U	ug/l	1
Bromodichloromethane	1 U	ug/l	1
1,2-Dichloropropane	1 U	ug/l	1
cis-1,3-Dichloropropene	1 U	ug/l	1
Trichloroethene	1	ug/l	2
Dibromochloromethane	1 U	ug/l	1
1,1,2-Trichloroethane	1 U	ug/l	1
Benzene	1 U	ug/l	1
trans-1,3-Dichloropropene	1 U	ug/l	1
Bromoform	1 U	ug/l	1
4-Methyl-2-pentanone	2 U	ug/l	2
2-Hexanone	2 U	ug/l	2
Tetrachloroethene	1 U	ug/l	1
Toluene	1 U	ug/l	1
1,1,2,2-Tetrachloroethane	1 U	ug/l	1
Chlorobenzene	1 U	ug/l	1
Ethylbenzene	1 U	ug/l	1
Styrene	1 U	ug/l	1
Xylenes (total)	1 U	ug/l	1

CLP SEMIVOLATILES 90-SOW

Phenol	10 U	ug/l	10
bis(2-Chloroethyl) ether	10 U	ug/l	10
2-Chlorophenol	10 U	ug/l	10
1,3-Dichlorobenzene	10 U	ug/l	10
1,4-Dichlorobenzene	10 U	ug/l	10
1,2-Dichlorobenzene	10 U	ug/l	10
2-Methylphenol	10 U	ug/l	10
2,2-oxybis(1-Chloropropane)	10 U	ug/l	10
4-Methylphenol	10 U	ug/l	10
N-Nitroso-di-n-propylamine	10 U	ug/l	10
Hexachloroethane	10 U	ug/l	10
Nitrobenzene	10 U	ug/l	10
Isophorone	10 U	ug/l	10
2-Nitrophenol	10 U	ug/l	10
2,4-Dimethylphenol	10 U	ug/l	10

NAS CECIL FIELD -- FACILITY -- STEAM GENERATING PLANT  
 GROUNDWATER ANALYTICAL DATA -- REPORT REQUEST NO. 10534

Lab Sample Number: C33C9  
 Site: CECILBRAC2  
 Locator: 45G00101  
 Collect Date: 22-FEB-96

VALUE QUAL UNITS DL

	VALUE	QUAL	UNITS	DL
bis(2-Chloroethoxy) methane	10	U	ug/l	10
2,4-Dichlorophenol	10	U	ug/l	10
1,2,4-Trichlorobenzene	10	U	ug/l	10
Naphthalene	10	U	ug/l	10
4-Chloroaniline	10	U	ug/l	10
Hexachlorobutadiene	10	U	ug/l	10
4-Chloro-3-methylphenol	10	U	ug/l	10
2-Methylnaphthalene	10	U	ug/l	10
Hexachlorocyclopentadiene	10	U	ug/l	10
2,4,6-Trichlorophenol	10	U	ug/l	10
2,4,5-Trichlorophenol	25	U	ug/l	25
2-Chloronaphthalene	10	U	ug/l	10
2-Nitroaniline	25	U	ug/l	25
Dimethylphthalate	10	U	ug/l	10
Acenaphthylene	10	U	ug/l	10
2,6-Dinitrotoluene	10	U	ug/l	10
3-Nitroaniline	25	U	ug/l	25
Acenaphthene	10	U	ug/l	10
2,4-Dinitrophenol	25	U	ug/l	25
4-Nitrophenol	25	U	ug/l	25
Dibenzofuran	10	U	ug/l	10
2,4-Dinitrotoluene	10	U	ug/l	10
Diethylphthalate	10	U	ug/l	10
4-Chlorophenyl-phenylether	10	U	ug/l	10
Fluorene	10	U	ug/l	10
4-Nitroaniline	25	U	ug/l	25
4,6-Dinitro-2-methylphenol	25	U	ug/l	25
N-Nitrosodiphenylamine	10	U	ug/l	10
4-Bromophenyl-phenylether	10	U	ug/l	10
Hexachlorobenzene	10	U	ug/l	10
Pentachlorophenol	25	U	ug/l	25
Phenanthrene	10	U	ug/l	10
Anthracene	10	U	ug/l	10
Carbazole	10	U	ug/l	10
Di-n-butylphthalate	10	U	ug/l	10
Fluoranthene	10	U	ug/l	10
Pyrene	10	U	ug/l	10
Butylbenzylphthalate	10	U	ug/l	10
3,3-Dichlorobenzidine	10	U	ug/l	10
Benzo (a) anthracene	10	U	ug/l	10
Chrysene	10	U	ug/l	10
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10
Di-n-octylphthalate	10	U	ug/l	10
Benzo (b) fluoranthene	10	U	ug/l	10
Benzo (k) fluoranthene	10	U	ug/l	10
Benzo (a) pyrene	10	U	ug/l	10
Indeno (1,2,3-cd) pyrene	10	U	ug/l	10
Dibenzo (a,h) anthracene	10	U	ug/l	10
Benzo (g,h,i) perylene	10	U	ug/l	10
CLP PESTICIDES/PCBS 90-SOW alpha-BHC	.05	U	ug/l	.05

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
 GROUNDWATER ANALYTICAL DATA -- REPORT REQUEST NO. 10534

Lab Sample Number: C33C9  
 Site: CECILBRAC2  
 Locator: 45G00101  
 Collect Date: 22-FEB-96

	VALUE	QUAL UNITS	DL
beta-BHC	.05 U	ug/l	.05
delta-BHC	.05 U	ug/l	.05
gamma-BHC (Lindane)	.05 U	ug/l	.05
Heptachlor	.05 U	ug/l	.05
Aldrin	.05 U	ug/l	.05
Heptachlor epoxide	.05 U	ug/l	.05
Endosulfan I	.05 U	ug/l	.05
Dieldrin	.1 U	ug/l	.1
4,4-DDE	.1 U	ug/l	.1
Endrin	.1 U	ug/l	.1
Endosulfan II	.1 U	ug/l	.1
4,4-DDD	.1 U	ug/l	.1
Endosulfan sulfate	.1 U	ug/l	.1
4,4-DDT	.1 U	ug/l	.1
Methoxychlor	.5 U	ug/l	.5
Endrin ketone	.1 U	ug/l	.1
Endrin aldehyde	.1 U	ug/l	.1
alpha-Chlordane	.05 U	ug/l	.05
gamma-Chlordane	.05 U	ug/l	.05
Toxaphene	5 U	ug/l	5
Aroclor-1016	1 U	ug/l	1
Aroclor-1221	2 U	ug/l	2
Aroclor-1232	1 U	ug/l	1
Aroclor-1242	1 U	ug/l	1
Aroclor-1248	1 U	ug/l	1
Aroclor-1254	1 U	ug/l	1
Aroclor-1260	1 U	ug/l	1
CLP METALS AND CYANIDE			
Aluminum	14300 J	ug/l	40
Antimony	2.2 J	ug/l	12
Arsenic	3 U	ug/l	2
Barium	13.8 J	ug/l	40
Beryllium	1 U	ug/l	1
Cadmium	1 U	ug/l	1
Calcium	28700	ug/l	1000
Chromium	29.7	ug/l	2
Cobalt	2 U	ug/l	10
Copper	18.4 J	ug/l	5
Iron	1470 J	ug/l	20
Lead	9.7	ug/l	.6
Magnesium	3100 J	ug/l	1000
Manganese	101	ug/l	3
Mercury	.2 U	ug/l	.1
Nickel	16.5 J	ug/l	8
Potassium	3140 J	ug/l	1000
Selenium	5.8	ug/l	1
Silver	1 U	ug/l	2
Sodium	235000	ug/l	1000
Thallium	4 U	ug/l	2
Vanadium	195	ug/l	10
Zinc	40.3 J	ug/l	4

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
GROUNDWATER ANALYTICAL DATA -- REPORT REQUEST NO. 10534

Lab Sample Number: C33C9  
Site: CECILBRAC2  
Locator: 45G00101  
Collect Date: 22-FEB-96

VALUE QUAL UNITS DL

Cyanide 2.2 J ug/l .5

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NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
GROUNDWATER ANALYTICAL DATA -- REPORT REQUEST NO. 10538

Lab Sample Number: A6B2301240  
Site: CECILBRAC2  
Locator: 45G00101  
Collect Date: 22-FEB-96

VALUE QUAL UNITS DL

Total petroleum hydrocarbons .5 U mg/l .5

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R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- FACILITY 11 - STEAM GENERATING PLANT  
GROUNDWATER ANALYTICAL DATA -- REPORT REQUEST NO. 10533

Lab Sample Number: JR38613  
Site: BRAC  
Locator: 45G00102  
Collect Date: 28-OCT-98

VALUE QUAL UNITS DL

	VALUE	QUAL UNITS	DL
Aluminum	.26	mg/l	.05
Aluminum-DISS	.31	mg/l	.05
Manganese	.059	mg/l	.01
Manganese-DISS	.062	mg/l	.01
Sodium	44	mg/l	5
Sodium-DISS	35	mg/l	5.4
Vanadium	.74	mg/l	.01
Vanadium-DISS	.72	mg/l	.01

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