32501.005
03.04.05.0002

N00204.AR.000949
NAS PENSACOLA
5090.3a

Final Preliminary Site Characterization Report Site 5 NAS Pensacola Pensacola, Florida

SOUTHNAVFACENGCOM
Contract Number:
N62467-89-D-0318
CTO-970

Prepared for:

Comprehensive Long-Term Environmental Action Navy (CLEAN)
Naval Support Activity
Naval Air Station
Pensacola, Florida

Prepared by:

EnSafe/Allen & Hoshall
9720 Summer Trees Drive, Suite 8
Memphis, Tennessee 38134
(901) 383-9115

July 7,1995

Security Classification of This Page

Report Documentation Page

Form approved
OMB No. 0704-0188

1a. Report Security Classification **Unclassified**	1b. Restrictive Marking **NIA**
2a. Security Clarsification Authority **NIA**	3. Distribution/Availability of Report **See Cover Letters**
2b. Declassification/Downgrading Schedule **NIA**	
	5. Monitoring Organization Report Number(s) **NIA**
6a. Name of Performing Organization **EnSafe/Allen & Hoshall** — 6b. Office symbol *(if applicable)* **E/A&H**	7a. Name of Monitoring Organization **Naval A t Station Pensacola**
	7b. Address (City, State and *Zip Code)* **Pensacola, Florida**
8a. Name of Funding/ Sponsoring Organization **SOUTHNAVFACENGCOM** — 8b. Office symbol (if applicable) **NIA**	9. Procurement Instrument Identification Number **N62467-89-D0318/970**
	10. Source of Funding Numbers

Program Element No.	Project No.	Task No.	Work Unit Accession No,

11. Title *(Include Security Classification)*
Final Preliminary Site Characterization Report, Site 5, Naval Air Station NAS Pensacola, Pensacola Florida

12. Personal Author(s)

13a. Type of Report	13b. Time Covered	14. Date of Report *(Yew, Month, Day)*	15. Page Count
Final	From **11/93** To **8/26/96**	**1996, August 26**	**286**

17. COSATI Codes

Field	Group	Sub-Group

18. Subject Terms *(Continue on reverse if necessary and identify by block number)*

19. Abstract (Continue *on reverse if necessary and identify by Mock number)*

20. Distribution/Availability of Abstract ☐ Unclassified/Unlimited ☐ Same as Rept ☐ DTIC Users	21. Abstract Security Classification
22a. Name of Responsible Individual **William Hill**	22b. Telephone *(Include* Area Code) **(803) 743-0324** — 22c. Office Symbol

DD Form 1473, JUN 86 *Previous editions ore obsolete.*
SIN 0102-LF-014-8603

Security Classification of this page

The following Preliminary Site Characterization was conducted for Site 5, the Borrow Pit at Naval Air Station Pensacola. The purpose of this investigation was to delineate the nature and extent of contaminants in soil and groundwater at the site. The following summary and recommendations are based on the findings of this investigation.

- According to historical records, soil was removed from the site to use as landfill cover at Site 1. Navy personnel stated the soil removed from Site 5 was used to build the back road at the facility. No record exists of any dumping at Site 5.

- In 1992, A86 conducted an underground storage tank investigation at Site 3221NE, adjacent to the northwest corner of Site 5. Groundwater at the site had detected concentrations of petroleum constituents including ethylbenzene, toluene, xylenes, napthalenes, and Total Recoverable Petroleum Hydrocarbon (TRPH). Chromium and lead were detected sporadically in soil below regulatory levels. Parameters detected are associated solely with Site 3221NE, not Site 5, and will be addressed under the Florida petroleum program.

- Specific metals identified in the site soil above the reference standard include magnesium and mercury. The only organic compound detected in the site soil was 4,4'-DDT in the 0 to 1-foot interval at 05S05. Trichloroethene was detected in soil samples collected from the 0 to 1-foot interval, but a resampling and analysis determined the trichloroethene was a laboratory contaminant. No detected parameter exceeded its respective preliminary remedial goal.

- Volatile organic compounds, semivolatile organic compounds, pesticides, and polychlorinated biphenyls were not identified in groundwater. Inorganic compounds exceeding their respective standards were aluminum, iron, lead, and manganese. Overall, the metals concentrations in the shallow groundwater may be attributed to metals partitioning onto suspended particulate matter. In groundwater samples collected after additional purging to lower turbidity, the detected concentrations of lead and manganese decreased to below the standards. Although aluminum and iron concentrations remained above the standards after additional purging, their concentrations markedly decreased. Monitoring well 05GS01 could not be sampled twice because the well went dry.

- Groundwater from the surficial zone of the Sand-and-Gravel Aquifer is not used as a potable water supply in southern Escambia County nor is it anticipated to be used for that purpose in the future.

- Underlying the site's surficial zone at approximately 45 feet deep is the low permeability zone, consisting of clays and silt, which separates the upper surficial zone from the main producing zone (a potable water source). Previous investigations at NAS Pensacola have shown the low permeability zone ranges in thickness from 12 to 17 feet, and contains hydraulic conductivities of 1.76 x 10^{-3} feet/day (6.224 x 10^{-7} centimeters/second) to 2.065 x 10^{-5} feet/day (7.285 x 10^{-9} cm/sec). Hence, the potential for communication between the zones is considered minimal.

- Groundwater flows in a radial pattern across the site toward Bayou Grande at a velocity of 0.04 feet per day.

The following recommendation is based on the conclusions of this investigation.

- No further action is warranted at this site based on the detected concentrations.

Table of Contents

EXECUTIVE SUMMARY ix

1.0 INTRODUCTION 1-1

2.0 SITE DESCRIPTION AND HISTORY 2-1
- 2.1 Site Description 2-1
- 2.2 Facility History and Previous Investigations 2-1
  - 2.2.1 Site History 2-1
  - 2.2.2 Previous Investigations 2-1

3.0 ENVIRONMENTAL SETTING 3-1
- 3.1 Physiography 3-1
- 3.2 Regional Stratigraphy and Hydrogeology 3-1
- 3.3 Ecological Setting 3-10
  - 3.3.1 Regional Setting 3-10
  - 3.3.2 NAS Pensacola Setting 3-12
- 3.4 Climate 3-16

4.0 PRELIMINARY INVESTIGATIONS 4-1
- 4.1 Aerial Photograph Analysis 4-1
- 4.2 Site Reconnaissance 4-1
- 4.3 Contaminant Source Survey 4-2
- 4.4 Habitat and Biota Survey 4-2

5.0 FIELD INVESTIGATION AND METHODS 5-1
- 5.1 Soil 5-8
  - 5.1.1 Contamination Assessment Sampling 5-8
  - 5.1.2 Physical Characterization Sampling 5-11
- 5.2 Groundwater 5-11
  - 5.2.1 Monitoring Well Installation 5-12
  - 5.2.2 Groundwater Sampling 5-14
- 5.3 Sampling Protocol 5-15
  - 5.3.1 Sample Handling 5-16
  - 5.3.2 Sample Containers and Reservation 5-16
  - 5.3.3 QA/QC Samples 5-18
  - 5.3.4 Sample Packaging and Shipment 5-19
  - 5.3.5 Chain-of-Custody 5-20
- 5.4 Ancillary Data 5-20
- 5.5 Decontamination 5-21
- 5.6 Investigation-Derived Wastes 5-21

5.7 Rationale and Methods for Hydrologic Investigations 5-22
5.7.1 Potentiometric Surface Mapping 5-22
5.7.2 Aquifer Testing 5-23

6.0 GEOLOGICAL AND HYDROLOGICAL RESULTS 6-1
6.1 Site-Specific Geological Interpretation 6-1
6.2 Groundwater Hydrologic Results 6-1
6.3 Conclusions 6-6

7.0 NATURE AND EXTENT OF CONTAMINATION 7-1
7.1 Soil Analytical Results 7-1
7.1.1 Metals 7-1
7.1.2 Pesticides 7-5
7.1.3 Volatile Organic Compounds 7-5
7.1.4 Interpretations and Conclusions 7-6
7.2 Groundwater Analytical Results 7-6
7.2.1 Metals 7-8
7.2.2 Interpretations and Conclusions 7-14
7.3 Material Blanks Analytical Results 7-14

8.0 DATA VALIDATION 8-1
8.1 Data Quality 8-1
8.2 Organic Analysis 8-2
8.2.1 Blanks 8-2
8.2.2 Calibration 8-5
8.2.3 Precision 8-6
8.2.4 Accuracy 8-7
8.2.5 Representativeness 8-9
8.2.6 Completeness 8-10
8.2.7 Comparability 8-10
8.3 Inorganic Analysis 8-10
8.3.1 Holding Times 8-10
8.3.2 Calibration 8-11
8.3.3 Blanks 8-11
8.3.4 ICP Interference Check Sample Analysis 8-11
8.3.5 Laboratory Control Sample Analyses 8-12
8.3.6 Duplicate/Spike 8-12
8.4 Validation Worksheets 8-13
8.5 Data Assessment 8-13

9.0 FATE AND TRANSPORT 9-1
9.1 Sources of Detected Parameters 9-1
9.2 Contaminant Migration 9-1
9.2.1 Leaching of Soil to Groundwater 9-1
9.2.2 Surface Water Transport 9-2
9.2.3 Groundwater Transport 9-2
9.3 Current and Potential Affected Media 9-2

10.0 CONCLUSIONS AND RECOMMENDATIONS 10-1

11.0 REFERENCES 11-1

12.0 FLORIDA PROFESSIONAL GEOLOGIST SEAL 12-1

Lii of Figures

Figure 2-1 Site Location Map 2-3
Figure 2-2 Site Map 2-5
Figure 2-3 3221NE Monitoring Well Locations 2-9
Figure 3-1 Generalized Geologic Cross-Section of Hydrogeologic Units of Northwest Florida 3-3
Figure 3-2 Geological Cross-Section of the Surficial Aquifer at NAS Pensacola 3-7
Figure 4-1 Habitat Community 4-3
Figure 5-1 Soil Boring and Monitoring Well Locations 5-9
Figure 6-1 Potentiometric Map 6-3
Figure 7-1 Detected Metals Concentrations in Groundwater 7-9

List of Tables

Table 2-1 Soil Sampling Results 3221NE 2-11
Table 2-2 Groundwater Sampling Results 3221NE 2-12
Table 3-1 Threatened and Endangered Flora and Fauna Observed or Likely to Occur within or near Pensacola Bay 3-14
Table 5-1 Analytical Parameters Contamination Assessment 5-2
Table 5-2 Analytical Parameters Physical Characterization 5-3
Table 5-3 Summary of Soil Sample Collection 5-4
Table 5-4 Summary of Groundwater Sample Collection 5-5
Table 5-5 Monitoring Well Construction Data 5-13
Table 5-6 Sample Containers and Preservation as per Medium and Analysis — TAL/TCL 5-16

Table 5-7 Sample Containers and Preservation as per Medium and Analysis — Physical Parameters 5-17
Table 6-1 Low and High Ti& Groundwater Elevation Data 6-2
Table 7-1 Summary of Detected Metals in Soil 7-3
Table 7-2 Summary of Detected Volatile Organic Compounds in Soil 7-5
Table 7-3 Summary of Detected Metals in Groundwater. 7-11

List of Appendices

Appendix A Sampling and Analysis Plan
Appendix B Soil Boring Logs
Appendix C Monitoring Well Construction Logs
Appendix D Monitoring Well Development
Appendix E Monitoring Well Purging and Groundwater Sampling
Appendix F AQTESOLV Graphs and Field Data
Appendix G Database Summary of Analytical Data
Appendix H Database Summary of Reference Samples
Appendix I Physical Parameter Analysis

List of Abbreviations

The following list contains many of the acronyms, initials, abbreviations, and units of measure used in this report.

%RSD	Percent Relative Standard Deviation
%D	Percent Difference
"C	Degrees Celsius
"F	Degrees Fahrenheit
µg/kg	Micrograms per kilogram
	Micrograms per liter
	Applicable or Relevant and Appropriate Requirement(s)
ASTM	American Society of Testing and Materials
bls	Below Land Surface
BOD	Biological Oxygen Demand
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CLEAN	Comprehensive Long-Term Environmental Action Navy
CLP	Contract Laboratory Program
COD	Chemical Oxygen Demand
CRQL	Contract Required Quantitation Limit
CSAP	Comprehensive Sampling and Analysis Plan
DCB	Decachlorobipheny1
DCE	Dichloroethene
DI	Deionized
DOT	U.S. Department of Transportation
E/A&H	EnSafe/Allen & Hoshall
E&E	Ecology and Environment, Inc.
ECD	Electron Capture Detector
FDEP	Florida Department of Environmental Protection
FNAI	Florida Natural Areas Inventory
FPDWS	Florida Primary Drinking Water Standard
FSDWS	Florida Secondary Drinking Water Standard
g-BHC	Lindane
G&M	Geraghty and Miller, Inc.
H_2SO_4	Sulfuric Acid
HCl	Hydrochloric Acid
HNO_3	Nitric Acid
ICP	Inductive Coupled Plasma
ICS(A)	Interference Check Sample (Analysis)
IDL	Instrument Detection Limit
ID	Inside Diameter
J	Positively Detected; Estimated Value

L	Liter
LCSA	Laboratory Control Sample Analysis
K	Hydraulic Conductivity
MCL(s)	Maximum Contaminant Level(s)
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
ml	Milliliter
MS	Matrix spike
MSD	Matrix Spike Duplicate
msl	Mean Sea Level
NA	Not Analyzed
NaOH	Sodium Hydroxide
NAS	Naval Air Station
NCP	National Contigency Plan
ND	Not Detected
NEESA	Naval Energy and Environmental Support Activity
NS	No Standard Established
oz	ounce
PBLK	Pesticide/PCB Method Blank
PCBS	Polychlorinated Biphenyls
PIBLK	Pesticide/PCB Instrument Blank
PID	photoionization Detector
ppb	Parts per billion
ppm	Parts per million
PPS	Physical Parameters, Soil
PPW	Physical Parameters, Water
PVC	Polyvinyl Chloride
QA	Quality Assurance
QC	Quality Control
	Risk-Based Concentrations
RRF(s)	Relative Response Factor(s)
SAP	Sampling and Analysis Plan
SBLK	Semivolative Method Blank
SDG(s)	Sample Delivery Group(s)
SDWA	Safe Drinking Water Act
SEGS	Southeastern Geological Survey
SMCL(s)	Secondary Maximum Contaminant Level(s)
SMP	Site Management Plan
SOP/QAM	Standard operating Procedures/Quality Assurance Manual
SOW	statement of work
SVOC(s)	Semivolatile Organic Compound(s)
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List

TCX	Tetrachloro-m-xylene
TIC(s)	Tentatively Identified Compound(s)
TKN	Total Kjeldahl Nitrogen
TOC	Total Organic Carbon
TRPH(s)	Total Recoverable Petroleum Hydrocarbon(s)
TSS	Total Suspended Solids
UJ	Not Detected Above the Reported Sample Quantitation Limit; however, the reported quantitation limit is approximate
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VBLK	Volatile Method Blank
VOC(s)	Volatile Organic Compound(s)
VTSR	Verified Time of Sample Receipt

This page left blank intentionally.

EXECUTIVE SUMMARY

The following Preliminary Site Characterization was conducted for Site 5, the Borrow Pit at Naval Air Station Pensacola. The purpose of this investigation was to delineate the nature and extent of contaminants in soil and groundwater at the site. The following summary and recommendations are based on the findings of this investigation.

- According to historical records, soil was removed from the site to use as landfill cover at Site 1. Navy personnel stated the soil removed from Site 5 was used to build the back road at the facility. No record exists of any dumping at Site 5.

- In 1992, ABB conducted an underground storage tank investigation at Site 3221NE, adjacent to the northwest corner of Site 5. Groundwater at the site had detected concentrations of petroleum constituents including ethylbenzene, toluene, xylenes, napthalenes, and Total Recoverable Petroleum Hydrocarbon (TRPH). Chromium and lead were detected sporadically in mil below regulatory levels. Parameters detected are associated solely with Site 3221NE, not Site 5, and will be addressed under the Florida petroleum program.

- Specific metals identified in the site soil above the reference standard include magnesium and mercury. The only organic compound detected in the site soil was 4,4'-DDT in the 0 to 1-foot interval at 05S05. Trichloroethene was detected in soil samples collected from the 0 to 1-foot interval, but a resampling and analysis determined the trichloroethene was a laboratory contaminant. No detected parameter exceeded its respective preliminary remedial goal.

- Volatile organic compounds, semivolatile organic compounds, pesticides, and polchlorinated biphenyls were not identified in groundwater. Inorganic compounds exceeding their respective standards were aluminum, iron, lead, and manganese. Overall, the metals concentrations in the shallow groundwater may be attributed to metals

partitioning onto suspended particulate matter. In groundwater samples collected after additional purging to lower turbidity, the detected concentrations of lead and manganese decreased to below the standards. Monitoring well 05GS01 could not be sampled twice because the well went dry. Although aluminum and iron concentrations remained above the standards after additional purging, their concentrations markedly decreased.

- Groundwater from the surficial zone of the Sand-and-Gravel Aquifer is not used as a potable water supply in southern Escambia County nor is it anticipated to be used for that purpose in the future.

- Underlying the site's surficial zone at approximately 45 feet deep is the low permeability zone, consisting of clays and silt, which separates the upper surficial zone from the main producing zone (a potable water source). Previous investigations at NAS Pensacola have shown the low permeability zone ranges in thickness from 12 to 17 feet, and contains hydraulic conductivities of 1.76×10^{-3} feet/day (6.224×10^{-7} centimeters/second) to 2.065×10^{-5} feet/day (7.285×10^{-9} cm/sec). Hence, the potential for communication between the zones is considered minimal.

- Groundwater flows in a radial pattern across the site toward Bayou Grande at a velocity of 0.04 feet per day.

The following recommendation is based on the conclusions of this investigation.

- No further action is warranted at this site based on the detected concentrations.

1.0 INTRODUCTION

As part of the U.S. Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) program, a preliminary site characterization has been completed at Site 5 — the Borrow Pit, located at the Naval Air Station (NAS) Pensacola, Florida. The investigation was conducted by EnSafe/Allen & Hoshall (E/A&H) to meet the requirements of the federal Comprehensive Environmental Response and Liability Act (CERCLA) program which administers investigation and cleanup of former hazardous waste sites. This report summarizes activities conducted during the investigation and the resulting findings and conclusions. The report also documents data collection and analytical methods used during the investigation. The objectives of this investigation are outlined below.

Objectives of the Preliminary Site Characterization

- To delineate the sources, nature, magnitude, and extent of any soil and groundwater contamination.

- To explore appropriate methods of addressing any site contamination based on data generated during this investigation.

This report is organized into the following elements:

- A review of previous investigations and historical aerial photographs for site history and background information.

- A preliminary field investigation including a habitat and biota survey to help characterize field conditions in the study area.

- A field investigation which describes the completion of soil borings and monitoring wells; sampling of soil and groundwater for laboratory analysis; the geological and hydrogeological conditions at the site; and the nature and extent of soil and groundwater a — ion at the site.

- Overall conclusions and recommendations based on the results of this investigation.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The Borrow Pit, Site 5, is southeast of the easternmost end of Forrest Sherman Field, immediately east of Building 3221 (see Figure 2-1). The site consists of an area approximately 500' x 800' bordered to the west by Building 3221 and parking facilities, to the north and south by wooded areas, and to the east by Site 6, the Fort Redoubt Rubble Disposal Area (see Figure 2-2). The site is unpaved with a sandy, sparsely vegetated surface. Site 5 forms a shallow depression approximately 1 foot below grade (Ecology and Environment, Inc. [E&E] 1992a). The site is approximately 30 feet above mean sea level (msl).

2.2 Facility History and Previous Investigations

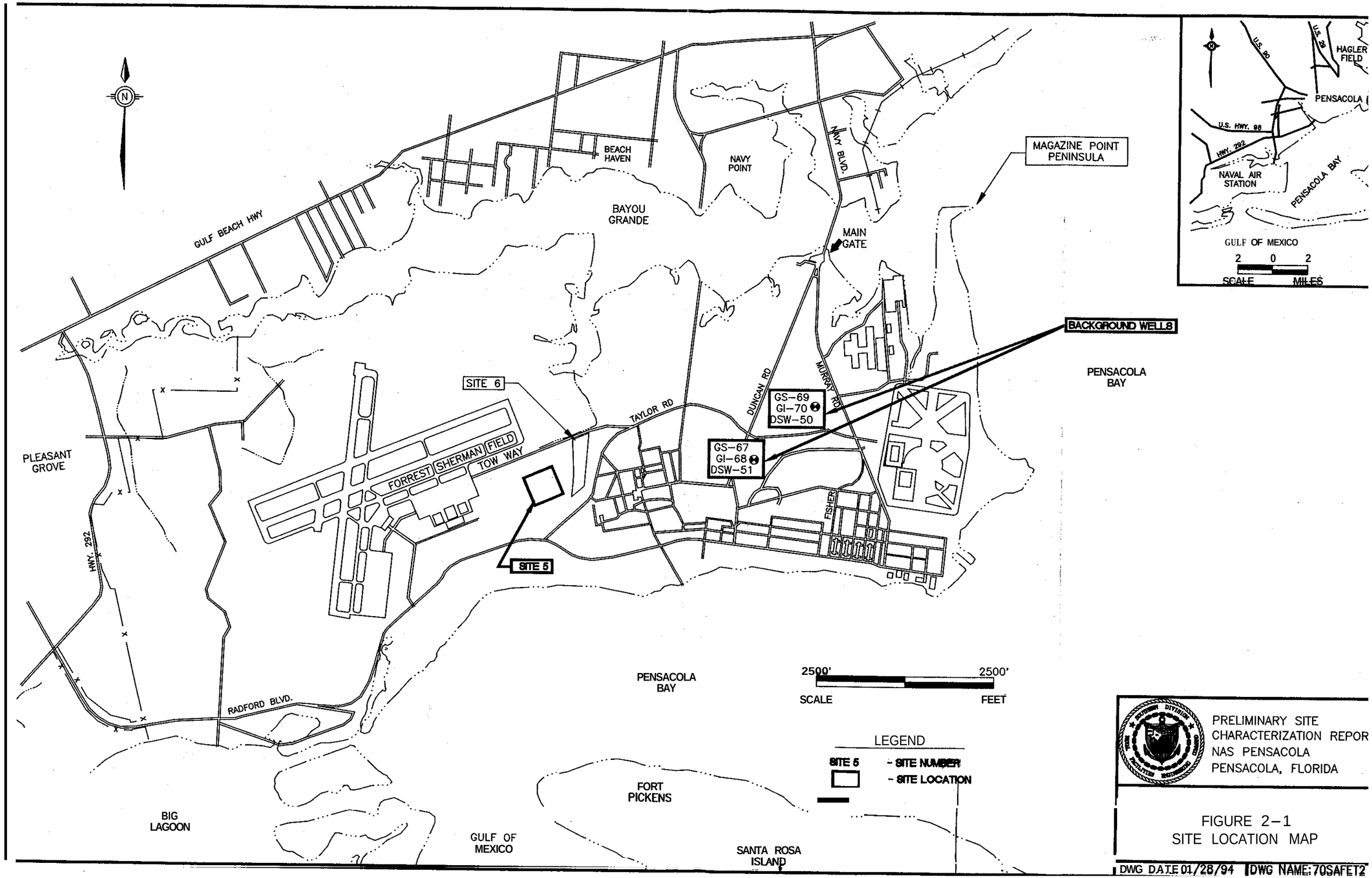
2.2.1 Site History

In 1976, soil was removed from Site 5 for use as cover material at the NAS Pensacola Sanitary Landfill — Site 1 (Naval Energy and Environmental Support Activity [NEESA] 1983). The area where soil had been removed is primarily unvegetated. An Initial Assessment Study of potentially contaminated sites at NAS Pensacola was conducted by NEESA in June 1983. Based on a field inspection, review of historical records, and interviews with NAS Pensacola personnel, NEESA concluded hazardous waste had not been disposed of at Site 5 and the site did not pose a threat to human health or the environment.

2.2.2 Previous Investigations

Before this investigation, no field investigations involving the sampling of soil and/or groundwater have been performed at Site 5. No production wells are known to be present in the vicinity of the site.

This page left blank intentionally.



PRELIMINARY SITE CHARACTERIZATION REPOR
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 2-1
SITE LOCATION MAP

DWG DATE 01/28/94 DWG NAME: 70SAFET2

Table 2-1
Soil Sampling Results — UST Site 3221NE

Sample ID	Depth (feet)	Total Metals Analysis Concentration			
		Arsenic	Cadmium	Chromium	Lead
MW-1/SB-1	5	ND	ND	ND	16
MW-1/SB-1 duplicate	5	ND	ND	4.6	25
MW-2/SB-4	5.5	ND	ND	ND	ND
MW-3/SB-7	5.5	ND	ND	ND	ND
MW-4/SB-10	5	ND	ND	ND	ND
MW-5/SB-9	6	ND	ND	ND	ND
MW-6/SB-11	6	ND	ND	ND	ND
MW-7/SB-12	4	ND	ND	ND	3.9
MW-8/SB-13	5	ND	ND	ND	ND
MW-9/SB-5	NS	NS	NS	NS	NS
MW-12/SB-16	7	ND	ND	ND	ND
State Regulatory Level		55	55	275	77
PRG		0.37	37.5	39.0	400

Source: ABB 1992

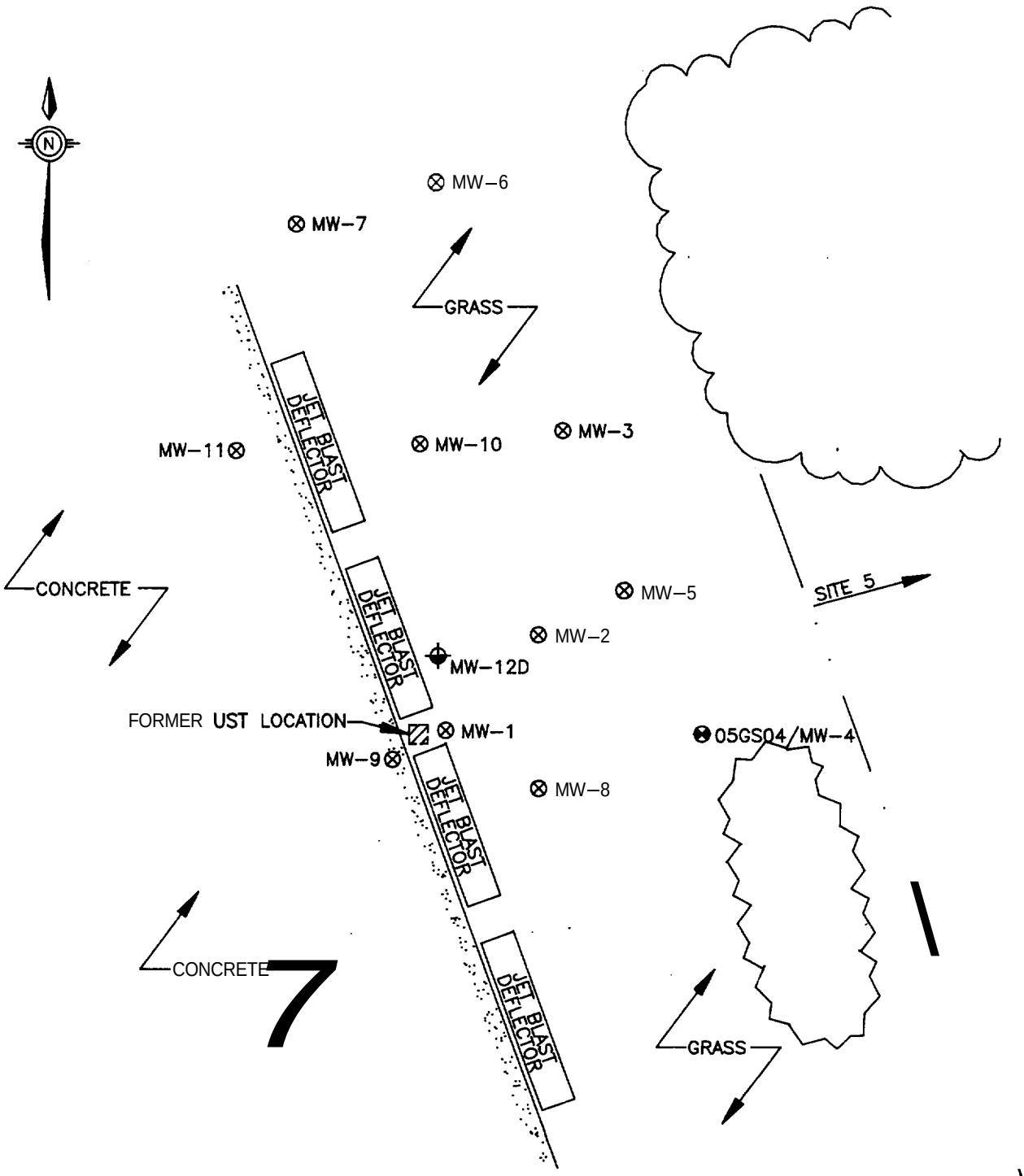
Notes:
All samples were collected on March 30, 1992.
Concentrations are in mg/kg w ppm.
ND — not detected at or above the method detection limit
NS — not sampled
PRG — preliminary remedial goal

[Bold items in brackets denote changes to the first draft of document.]

Table 2-2
Groundwater Sampling Results — UST Site 3221NE

Monitoring Well ID	Parameter												
	Methylene Chloride	1,2-DCE (total)	TCE	Ethyl-benzene	Toluene	Xylene	Total VOA	Acetone	Napthalene	1-Methyl-naphthalene	2-Methyl-naphthalene	Total napthalenes	TRPHs
MW-1	ND	ND	ND	ND	ND	ND	ND	79	ND	ND	ND	ND	ND
MW-2	8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4
MW-3	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4 Duplicate	39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-5	8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-6[1]	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-8	ND	ND	ND	ND	ND	ND	ND	53	ND	ND	ND	ND	ND
MW-8 Duplicate	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
MW-9[1]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	ND	3	5	40	1	30	71	ND	13	7	6	26	ND

[Bold items in brackets denote changes to the first draft of document.]



LEGEND

- ⊗ SHALLOW MONITORING WELL/ SOIL BORING LOCATION
- ⌖ INTERMEDIATE MONITORING WELL
- -- — DRAINAGE SWALE

40 0 40

SCALE FEET

PRELIMINARY SITE CHARACTERIZATION REPORT– SITE 5
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 2–3
MONITORING WELL AND SOIL BORING LOCATIONS
UST SITE 322INE

DWG DATE: 06/21/95 | DWG NAME: 970SAP23

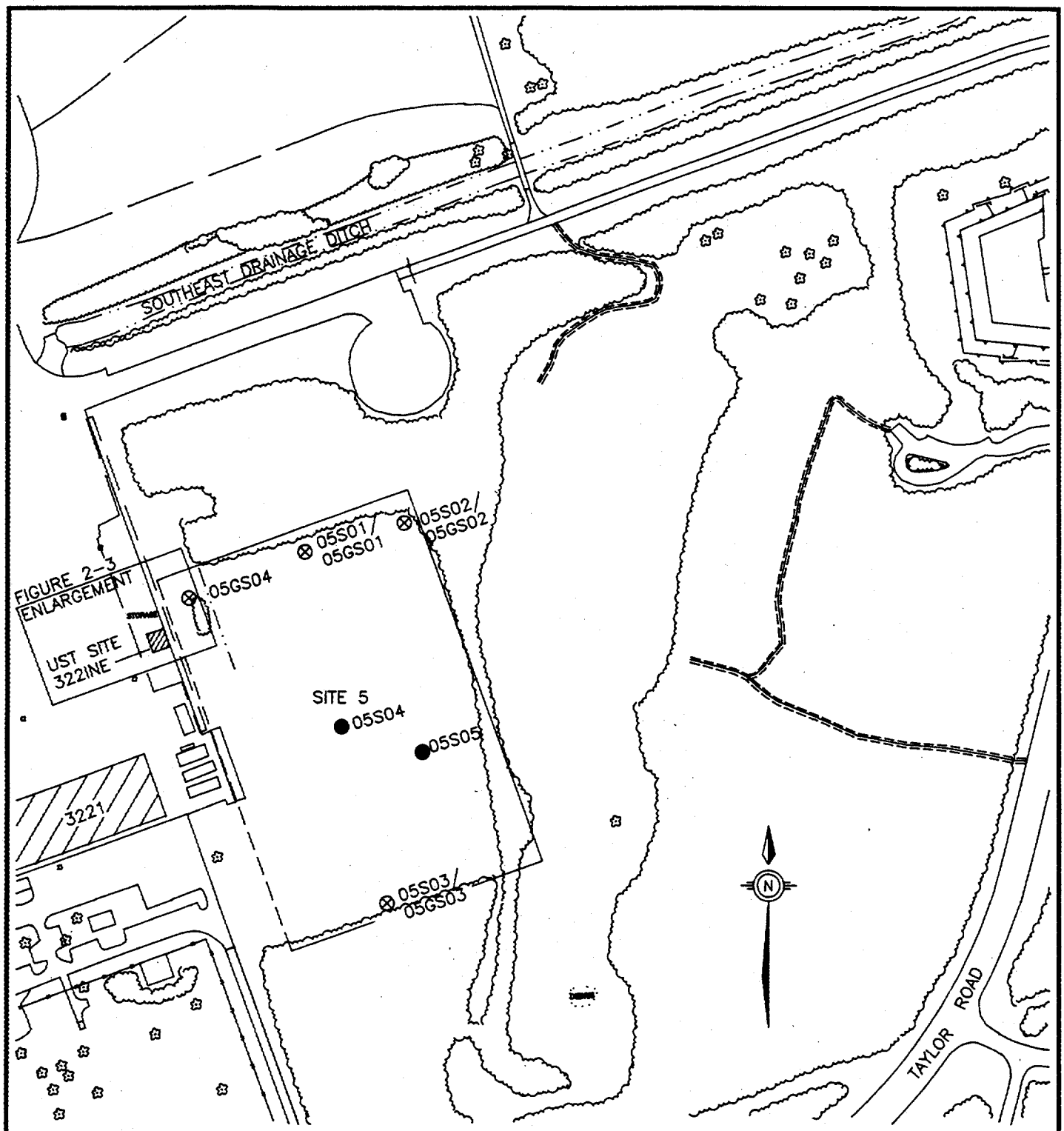
This page left blank intentionally.

In February 1992, ABB Environmental conducted **an** underground storage **tank (UST)** investigation at Site 3221NE, adjacent to the northwest comer of Site **5** (Figure 2-3). Site 3221NE had detected concentrations of petroleum constituents [in groundwater] including ethylbenzene, toluene, xylenes, napthalenes, and **Total** Recoverable Petroleum Hydrocarbons (TRPHs [ABB 19921). [These parameters are associated soley With Site **3221NE,** and will **be** addressed under the FDEP petroleum program.]

[On March **30, 1992, soil** samples collected adjacent to selected Site wells at **4** to **7** feet below land surface **(bls)** were submitted for analysis of arsenic, **cadmium,** chromium, and lead. Table **2-1 summarizes** the results. Arsenic and **cadmium** were not detected, and chromium and lead were detected only in **borings SB1/MW1** and **SB12/MW7.** Lead was detected in the sample and the duplicate sample collected at **SB1/MW1** at **16** and **25** mg/kg, respectively. Lead was **also** detected at **SB12/MW7** at **3.9 mg/kg. These** detected concentrations are below the USEPA guidance for lead of 400 mg/kg and below the state regulatory level under the UST program of **77** mg/kg. Chromium was **also** detected at **SB1/MW1** at **4.6** mg/kg, which **is** below the preliminary remedial goal (PRG) of **39.0** mg/kg and below the state regulatory standard under the **UST** program of **275 mg/kg.]**

Methylene chloride, acetone, 1,2-dichloroethene, and trichloroethene were detected in groundwater. Monitoring well 3221NE MW-10 was resampled on April 15, 1992, to confirm the detected concentrations. **Monitoring** wells 3221NE **MW-6,** MW-9, and **MW-11** were also resampled on April **15,** 1992, because holding times were exceeded at the laboratory for the February 1992 sampling event. The detected concentrations are presented in Table 2-2. ABB concluded the detected concentrations in soil and groundwater were not significant and would not affect local potable groundwater sources. Therefore, ABB recommended quarterly monitoring of the 3221NE monitoring wells ABB for one year (ABB 1992).

This page left blank intentionally.



LEGEND

- TREE LINE
- UNIMPROVED ROAD
- APPROXIMATE SITE BOUNDARY
- DRAINAGE SWALE
- ⊗ SHALLOW MONITORING WELL
- e SOIL BORING

300 0 300

SCALE FEET

PRELIMINARY SITE CHARACTERIZATION REPORT – SITE 5
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 2–2
SITE MAP

DWG DATE: 03/22/94 | DWG NAME: 970SAP22

This page left blank intentionally.

Table 2-2
Groundwater Sampling Results — UST Site 3221NE

Monitoring Well ID	Parameter												
	Methylene Chloride	1,2-DCE (total)	TCE	Ethyl-benzene	Toluene	Xylene	Total VOA	Acetone	Napthalene	1-Methyl-naphthalene	2-Methyl-naphthalene	Total napthalenes	TRPHs
MW-10[2] (4/15/92)	ND	ND	ND	44	ND	92	136	ND	16	7	6	29	ND
MW-11[1]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-12D	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FPDWS/ FSDWS	5	4.2	3	NS	NS	NS	50	700	6.8	NS	NS	100	5

Source: ABB 1992

Notes:
All samples were collected on February 27, 1992.
[1]Values represent resample analysis results from April 15, 1992 for U.S. EPA Method 624 parameters.
[2]Values represent resample analysis results from April 15, 1992 for all parameters.
Concentrations are in µg/L or ppb, except for TRPHs which is in mg/L or ppm.
Total VOA is the sum of benzene, ethylbenzene, toluene and xylene.

DCE — 1.2-Dichloroethene
TCE — Trichloroethene
NA — Not Analyzed
ND — Not Detected
NS — No Standard Established
TRPHs — Total Recoverable Petroleum Hydrocarbons
FPDWS — Florida Primary Drinking Water Standard
FSDWS — Florida Secondary Drinking Water Standard

[Bold items in brackets denote changes to the first draft of document.]

This page left blank intentionally.

3.0 ENVIRONMENTAL SETTING

3.1 Physiography

NAS Pensacola is located in the Gulf Coast lowlands on a peninsula bounded by Pensacola Bay to the south and east and Bayou Grande to the north. The main topographic feature is a bluff paralleling the southern and eastern shorelines of the peninsula. Landward of the bluff is a gently rolling upland with elevations up to 40 feet above msl (United States Geological Survey [USGS] 1970a and 1970b). In the eastern part of the base, a low and nearly level marine terrace lies east of the bluff with elevations of approximately 5 feet or less above msl comprising the areas of Chevalier Field and Magazine Point.

Sandy soil typifies the NAS Pensacola area. Consequently, most rainfall directly infiltrates the subsurface, resulting in few natural streams. **Those** streams which **occur** on base are generally man-made and channelized. Numerous natural wetlands occur in low lying areas.

3.2 Regional Stratigraphy and Hydrogeology

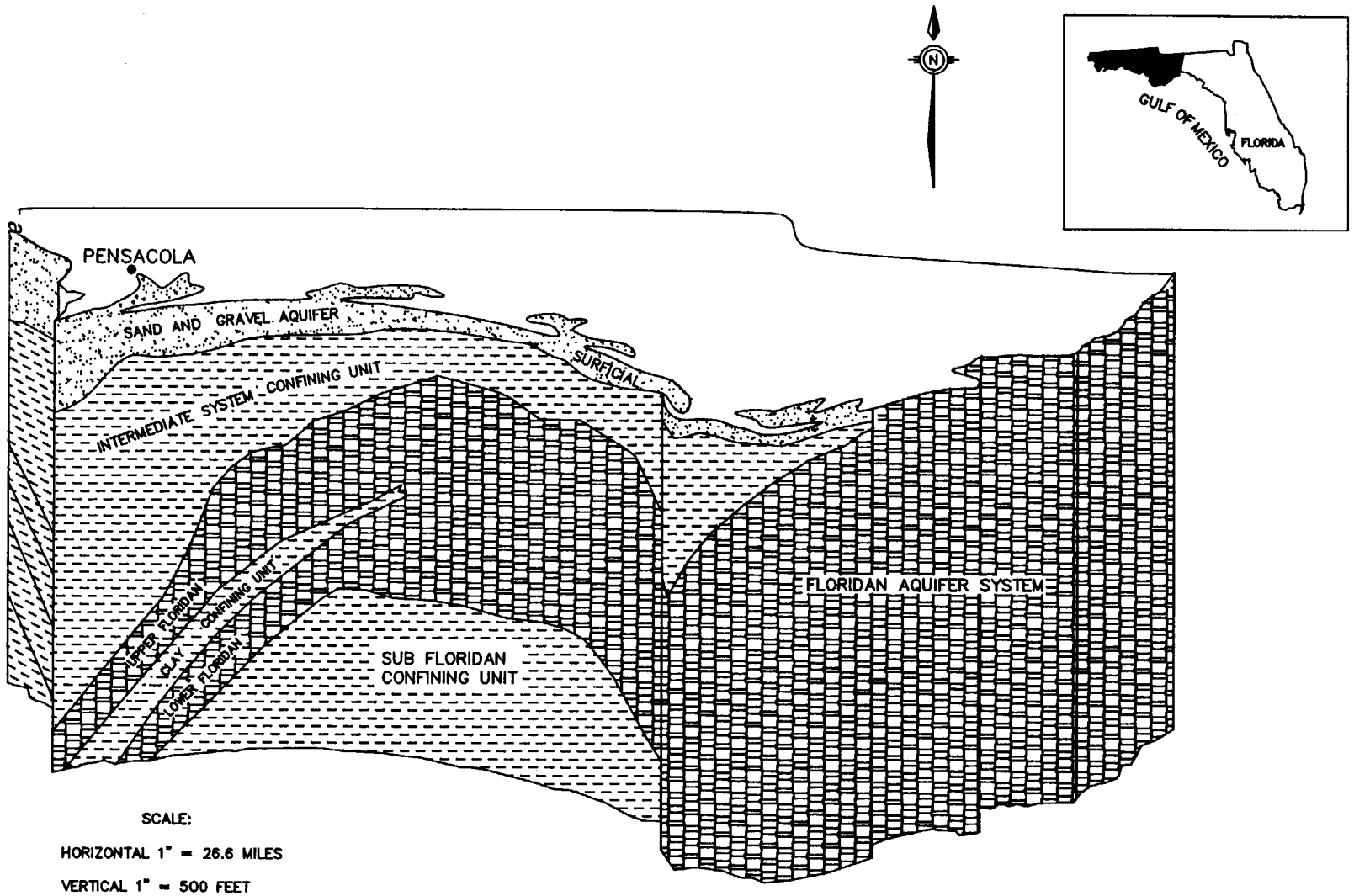
Stratigraphy beneath the Florida Panhandle generally consists of Quaternary terrace marine and fluvial deposits, underlain by a thick sequence of interlayered fine-grained clastic deposits and carbonate strata of Tertiary age (Southeastern Geological Survey [SEGS] 1986). Three main regional hydrogeologic units have been defined within this stratigraphic column (in descending order): the Surficial/Sand-and-Gravel Aquifer, the Intermediate System, and the Floridan Aquifer System. Figure 3-1 provides a generalized cross-section of these hydrogeologic units in northwest Florida.

Sand-and-Gravel Aquifer (Surficial Aquifer)

The Surficial Aquifer is composed of unconsolidated clastic deposits and is approximately 300 feet thick at NAS Pensacola. Geologically, the Surficial Aquifer correlates with Quaternary

[Bold items in brackets denote changes to the first draft of document.]

This page left blank intentionally.



SCALE:

HORIZONTAL 1" = 26.6 MILES

VERTICAL 1" = 500 FEET

VERTICAL EXAGGERATION = 281

SOURCE: E&E 1992c.

PRELIMINARY SITE
CHARACTERIZATION REPORT
NAS PENSACOLA
SITE 5

FIGURE 3-1
GENERALIZED GEOLOGIC CROSS-SECTION OF
HYDROGEOLOGIC UNITS IN
NORTHWEST FLORIDA

DATE: 03/22/94 | DWG NAME: 070SITGO

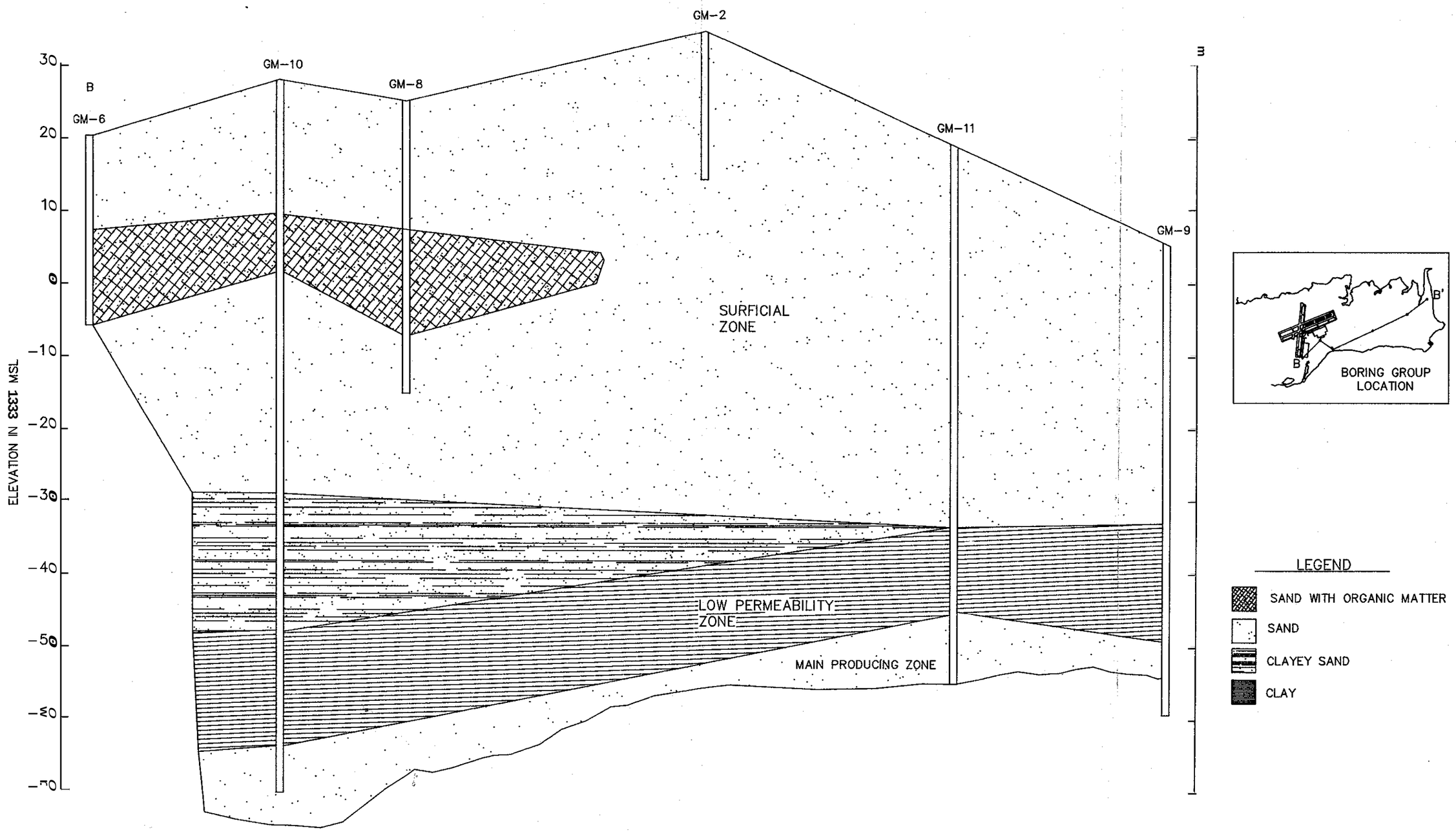
This page left blank intentionally

terrace marine and fluvial deposits near the surface, down to the Tertiary Citronelle Formation (SEGS **1986).** West of the Choctawhatchee River in northwest Florida, the Surficial Aquifer is referred to as the Sand-and-Gravel Aquifer, and is a major source of drinking water (SEGS **1986).** The Florida Department of Environmental Protection (FDEP) classification of the Sand-and-Gravel aquifer is G-1 with a United States Environmental Protection Agency (USEPA) classification of IIA. However, it should be noted in southern Escambia County the surficial zone is not generally used as a water supply. Because the Sand-and-Gravel Aquifer is the uppermost unit contiguous with land surface and receives recharge through direct infiltration, it is susceptible to contamination from surface activities. In the vicinity of NAS Pensacola, the unit has been subdivided into three distinct zones based on hydrogeologic differences (in descending order): the surficial zone, the lower permeability zone, and the main producing zone (Wilkins et al. **1985).** The upper (shallow depth) and basal (intermediate depth) portions of the surficial zone have been the focus of this investigation. A generalized cross-section of the Sand-and Gravel Aquifer produced by Geraghty & Miller **(G&M [1984]),** as shown in Figure 3-2, illustrates the stratigraphic relationship of these zones.

Surficial Zone

The surficial zone is contiguous with land surface and contains groundwater under water table or perched conditions. At NAS Pensacola, the surficial zone is approximately **40** to **60** feet thick and is generally composed of a poorly graded quartz sand (G&M **1984, 1986).** Beneath the western side of the base, a substantial stratum of sand with abundant organic matter within the surficial zone pinches out **to** the east. Depth to groundwater ranges from 0 to **20** feet depending on ground surface elevation. Aquifer tests have yielded high hydraulic conductivities, on the order of **15** to **62** feet/day **(G&M 1986).** Shallow groundwater flow is generally influenced by topography, usually resulting in flow toward and discharge to the nearest water body.

This page left blank intentionally.



SOURCE: GERAGHTY & MILLER, 1986

PRELIMINARY SITE CHARACTERIZATION REPORT
NAS PENSACOLA
SITE 5

FIGURE 3-2
GEOLOGICAL CROSS-SECTION OF THE SURFICIAL AQUIFER AT NAS PENSACOLA

DATE: 01/21/94 | DWG NAME: 070SITCS

Low Permeability Zone

The low permeability zone underlying the surficial zone is characterized by clay and silt-sized sediments. At NAS Pensacola, this zone is composed of gray to blue, sandy and silty marine clay with some shell fragments and clayey sands, with total thickness ranging from 8 to **40** feet (G&M **1984, 1986).** Studies at NAS Pensacola indicate this zone may be continuous beneath the facility, because the borings completed to the appropriate depth encountered the clays and silty clays. Beneath the western side of the base, the zone is interpreted to contain a substantial clayey sand layer above the clays, which pinches out eastward. Hydraulic conductivities of the low permeability zone are much lower than those of the overlying surficial zone, ranging between the orders of **4.25** x 10^{-5} feet/day for clays and **9.9** x 10^{-2} feet/day for clayey sands (G&M **1986).** Hence, the low permeability zone acts as a confining or semiconfining layer to inhibit groundwater flow between the overlying surficial and underlying main producing zone.

Main Producing Zone

The main producing zone underlies the low permeability zone and comprises the bottom portion of the Sand-and-Gravel Aquifer. Regionally, depth to the top of the zone ranges from **60** to **120** feet below land surface (bls). The zone is made up of sand and gravel with thin beds of silt and clay, and estimated to be approximately 300 feet thick at NAS Pensacola. Of the three zones in the Sand-and-Gravel Aquifer, this one is generally the most permeable and is the principal source of water supply for the Pensacola area (Wilkins et al. **1985).** Groundwater in **this** zone generally occurs under confined conditions, and in southern Escambia County, recharge to the zone occurs primarily by leakage through the low permeability zone. Regional groundwater flows generally east toward Pensacola Bay and south toward the Gulf of Mexico. Three supply wells at NAS Pensacola produce water from this zone, but due to a high iron content in the water, they **are** used only to supplement the base water supply and for fire

protection (G&M 1984, 1986). For potable water, NAS Pensacola depends on an offsite water source from main producing zone wells at Cony Field, approximately three miles to the north.

Intermediate System

The Intermediate System, a regionally and vertically extensive, laterally persistent hydrologic Unit, underlies the Surficial/Sand-and-Gravel Aquifer. The system is defined to coincide with fine-grained clastic units of Miocene age underlying the coarser-grained clastics of the Surficial Aquifer. In the vicinity of NAS Pensacola, depth to the top of the unit is approximately 300 feet with a thickness of approximately 1,100 feet (Wilkins et al. 1985, SEGS 1986). The system is regionally characterized by poor to non-water-bearing conditions. Permeabilities are much lower than those of the overlying Sand-and-Gravel Aquifer, and consequently the system functions as a confining Unit for the underlying Floridan Aquifer System (SEGS 1986).

Floridan Aquifer System

The Floridan Aquifer System underlies the Intermediate System at an approximate depth of 1,400 feet bls in the NAS Pensacola area. The unit is composed predominantly of limestone, but is separated into upper and lower units by a significant clay layer called the Bucatunna Clay (see Figure 3-1). Groundwater within the Floridan System is highly mineralized in the area of NAS Pensacola and is not used for water supply (Wagner et al. 1984). However, groundwater from the Upper Floridan Aquifer is used for water supply approximately 25 miles east of NAS Pensacola.

3.3 Ecological setting

3.3.1 Regional Setting

The Florida Panhandle contains a wide variety of surface waters and physiographic divisions, leading to an ecological diversity found in few other areas of the United States. Watersheds of

the Panhandle support a diverse array of habitats and vegetative communities. Bottomland hardwoods predominate in river floodplains and pines mixed with a variety of other shrubs prevail in upland areas. Wetlands are prevalent along the coastal fringe and river floodplains. Barrier islands support dune vegetation communities and saltmarshes. Bays support seagrass meadows, and oyster reefs are present in intertidal and subtidal areas (Wolfe et al. **1988).** Seven major rivers in the region discharge into seven bar-built estuaries formed at the mouths of the rivers. The Florida Panhandle is a crossroads where animals and plants from the Gulf Coastal Plain reach their eastward distributional limits, and where many northern species reach their southern limits. Many peninsular Florida species also reside there. Due to the wet, temperate climate of the region, the Panhandle area may support the highest diversity of species of any other similar-sized territory in the United States (Wolfe et al. **1988).**

The high annual rainfall and low, gently sloping terrain result in abundant wetlands. Bogs, swamps, marshes, wet prairies, and wet flatwoods provide a diversity of wetland types supporting a wide variety of flora and fauna. Terrestrial vegetation includes open pine woods and hardwood **forests;** most are second-growth forests of pines and encroaching hardwoods (Wolfe et al. **1988).**

The estuaries and nearshore marine habitats of the Florida Panhandle are some of the greatest natural and economic assets of the region. Important commercial organisms (such as oysters and fish) abound in these areas and contribute to the region's economy. Coastal saltmarsh habitats provide critical nursery, feeding, and refuge areas for these important commercial species. Seagrass beds within estuaries are also vital to the maintaining of the seafood industry (Wolfe et al. **1988).**

3.3.2 NAS Pensacola Setting

NAS Pensacola, which encompasses approximately 5,800 acres, is bounded by Bayou Grande to the north and Pensacola Bay to the east and south. On the west, the installation borders a less developed portion of Escambia County containing swampy low lands. Most of the eastern portion of NAS Pensacola is developed and contains military and industrial facilities and historical/cultural sites. Most of the installation's activities are on the eastern side of the base. The west, less developed, side of the base supports approximately 3,500 acres of natural or seminatural beach areas, forests, and wetlands.

NAS Pensacola is the setting for numerous and widely varied aquatic and terrestrial habitats from coastal strand and estuarine environments along the bay and bayou to inland pine flatwood communities. Wetlands include a broad spectrum of both estuarine and palustrine environments, as well as various disturbed habitats, many in states of recovery as they undergo reforestation or otherwise return to their natural condition.

Vegetation Communities

Natural vegetative communities on NAS Pensacola fall into several broad categories: (1) coastal dune scrub communities, (2) pine flatwoods communities, (3) hardwood/pine communities, (4) sand pine scrub communities, (5) bay swamps, (6) freshwater marshes, and (7) estuarine coastal marshes (U.S. Fish and Wildlife Service [USFWS] 1987).

Coastal dune scrub communities are associated with shorelines subject to high energy waves. The vegetation consists of salt-tolerant plants able to establish themselves in shifting sands. Pine flatwood communities in coastal lowlands are characterized by trees which can tolerate various soil moisture conditions. Tree species in flatwood communities are short, with a wide variety of small shrubs and herbaceous plants in the understory. Hardwood/pine communities consist

of a highly diverse mixture of hardwood trees and pines. Sand pine scrub communities occur on well drained sandy soil and include sand pines, oaks, and various shrubs. Bay swamps are wetlands, including titi and cypress swamps, containing permanent standing water and high accumulations of organic peat. Freshwater marshes occur as grass/sedge/rush/herb communities growing in areas with high soil saturation or standing water. Estuarine coastal marshes, including salt marshes, occur along low energy shorelines and in tidal bayous (USFWS **1987).**

Wildlife

The habitats at NAS Pensacola potentially provide for a wide variety of animal life. Animal species which can be found include deer, squirrel, opossum, raccoon, fox, beaver, and bobcat. The beaches along the station serve as resting, feeding, and nesting areas for various shorebirds. Ospreys have been observed nesting along undeveloped shoreline areas of the Big Lagoon southeast of the Forrest Sherman Airfield. Numerous small mammals, amphibians, and reptiles **also** inhabit the facility. The coastal marsh, submerged grass bed, and shallow water habitats associated with NAS Pensacola help support fishery communities within the Pensacola Bay estuarine complex. Approximately **180** species of bony fishes form the basis of the Pensacola Bay fish community (USFWS **1987).**

Threatened and Endangered Species

Table **3-1** references the rare, threatened and endangered species which may be found within the NAS Pensacola boundaries **and** in the adjacent Pensacola Bay. Investigations of different areas of NAS Pensacola by E/A&H personnel have thus **far** identified the presence of osprey, great blue heron (as well as other shorebirds), snapping turtle, Godfrey's golden aster, Carolina lilaeopsis, white-top pitcher plant, and spoon-leaved sundew. All are considered rare or endangered for Escambia County by the Florida Natural Areas Inventory (FNAI **[1988]).**

Table 3-1
Threatened and Endangered Flora and Fauna
Observed or Likely to Occur within or near Pensacola Bay

			State and Federal Status[b]		
Scientific Name	**Common Name**	**Base Status[a]**	**FGFWFC (or FDA)**	**USFWS (or NOAA)**	**Habitat**
Fish					
Acipenser oxyrhynchus	Atlantic sturgeon	M	SSC	UR 2	Gulf Coast, estuarine
Fundulus jenkinsi	Salt marsh topminnow	P	SSC		Salt, fresh, brackish waters
Lepisosteus spatula	Alligator gar	U	SSC		Brackish, fresh, salt water
Amphibians and Reptiles					
Alligator mississippiensis	American alligator	R	SSC	T	Swamps, marshes, ponds
Caretta caretta	Loggerhead turtle	M?	T	T	Marine, coastal
Chelonia melds	Green turtle	M?	E	E	Marine, coastal
Melds melds	Melds turtle	M	E	E	Marine, coastal
Eretmochelys imbricata	Hawksbill turtle	M?	E	E	Marine, coastal
Lepidochelys kempi	Atlantic ridley turtle	M?	E	E	Marine, coastal
Birds					
Charadrius melodus	Piping plover	P	T	T	Open, dry, sandy beaches
Charadrius alexandrinus	Snowy plover	P	T	UR2	Open, dry, sandy beaches
Haematopus palliatus	American oystercatcher	U	SSC		Coastal habitats
Egretta rufescens	Reddish egret	P-u	SSC	UR2	Freshwater/coastal wetlands

[Bold items in brackets denote changes to the first d[illegible] of document.]

Table 3-1
Threatened and Endangered Flora and Fauna
Observed or Likely to Occur within or near Pensacola Bay

			State and Federal Status[b]		
Scientific Name	**Common Name**	**Base Status[a]**	**FGFWFC (or FDA)**	**USFWS (or NOAA)**	**Habitat**
Birds					
Egretta caerulea	Little blue heron	P-u	SSC		Freshwaterlcoastal wetlands
Egretta thula	Snowy egret	P-u	SSC		Freshwaterlcoastal wetlands
Falco perigrinus tundrius	Arctic peregrin falcon	M	E	T	Winters on the coast
Haliaeetus leucocephalus	Bald eagle	P-u	T	E	Pine forestslcoastal
Pandion haliaetus	Osprey	R	SSC		Near water
Pelicanus occidentalis	Brown pelican	R	SSC	AC	Mangrove trees, coasts
Sterna antillarum	Least tern	U	T		Coastal habitats
Mammals					
Trichechus manatus latirostris	West Indian manatee	M	E	E	Atlantic and Gulf coasts
Tursiops truncatus	Atlantic bottlenose dolphin			SSC	Atlantic and Gulf coasts

Source: E&E 1992 after FNAI 1988

Notes:

NOAA = National Oceanic and Atmospheric Association
FDA = Florida Department of Agriculture
FGFWFC = Florida Game and Freshwater Fish Commission
USFWS = U. S. Fish and Wildlife Service

a = *Status of species on the NAS Pensacola facility:*
R = Resident
M = Migrant
SR = Suspected resident
P = Possible *resident* due to available habitat; survey required
U = Unknown; survey required

b = *State and Federal Status:*
SSC = Species of Special Concern
E = *Endangered*
T = Threatened
AC = Agency concern: not currently listed or a candidate for listing
UR 2 = Under review, insufficient biological data available

[Bold items in brackets denote changes to the first draft of document.]

3.4 Climate

NAS Pensacola has a mild, subtropical climate, with average annual temperatures ranging from 55°F in the winter to 81°F in the summer. Daily temperatures can be more extreme, ranging from less than 7°F in the winter to more than 102°F in the summer. Thunderstorms, which occur on approximately half the summer days, can cause a precipitous drop in temperature (up to 20" F) in a matter of minutes (E&E 1992b).

November is the driest month of the year, with an average rainfall of 3.2 inches, based on climatological data from 1962 to 1991. Annual rainfall averages approximately 60 inches per year, with the highest amounts in July and August when thunderstorms are an almost daily occurrence. Thunderstorms resulting in 3 to 4 inches of rain in an hour are common. Rainfall is lowest during spring and fall (4 inches average per month). In general, spring and fall rains are less intense, last longer, and produce less surface runoff, but result in higher rates of infiltration and net recharge (E&E 1992b).

Winds, which prevail from the north during the winter and the south during the summer, are generally moderate in velocity, except during thunderstorms. A difference in the ocean-land temperature produces a daily clockwise rotation in the direction of the surface wind near the coast known as the sea-breeze effect. Hurricanes and tornadoes can substantially damage the nearshore environment. Since 1980, six hurricanes have passed within 50 miles of Pensacola.

4.0 PRELIMINARY INVESTIGATIONS

4.1 Aerial Photograph Analysis

Aerial photographs from 1961 through 1989 were analyzed by E/A&H during the preliminary site characterization. In 1961, Site 5 was completely wooded. The eastern two-thirds of the site was wooded but the rest of the site was observed to be cleared on the aerial photographs during 1968, 1970, 1973, and 1976. In the 1981, 1983, 1986 and 1989 aerial photographs, the site was completely cleared. Vegetation across the site was sparse indicating the possibility of excavation during the period.

4.2 Site Reconnaissance

A visual reconnaissance of Site 5 was conducted the first day of the investigation, November 30, 1993. The site is a sandy, cleared area measuring approximately 500' x 800'. The area is bordered by trees to the north and south and by parking areas and Building 3221 to the west. On the east, Site 5 is bordered by the western tree boundary of Site 6, the Fort Redoubt Rubble Disposal Area.

Eleven monitoring wells installed during a 1992 ABB investigation of UST 3221NE were discovered immediately adjacent to the northwest comer of Site 5. The ABB investigation documented petroleum contamination in groundwater.

Site 5 has a depressional configuration with the borrow pit approximately 1 foot below natural grade. A moist drainage swale is located along the northwest boundary of the site. Based on the topography of area west of Site 5, the swale likely receives surface runoff from the Forrest Sherman field area. Although not observed during the investigation, surface runoff likely is retained in the pit because of the high permeability of the site soil. Pensacola Bay is approximately 0.5 miles south of Site 5. The southeast drainage ditch for Forrest Sherman Field

is approximately 750 feet north of Site 5. The ditch drains directly into Bayou Grande which is approximately 0.5 miles north of Site 5.

4.3 Contaminant Source Survey

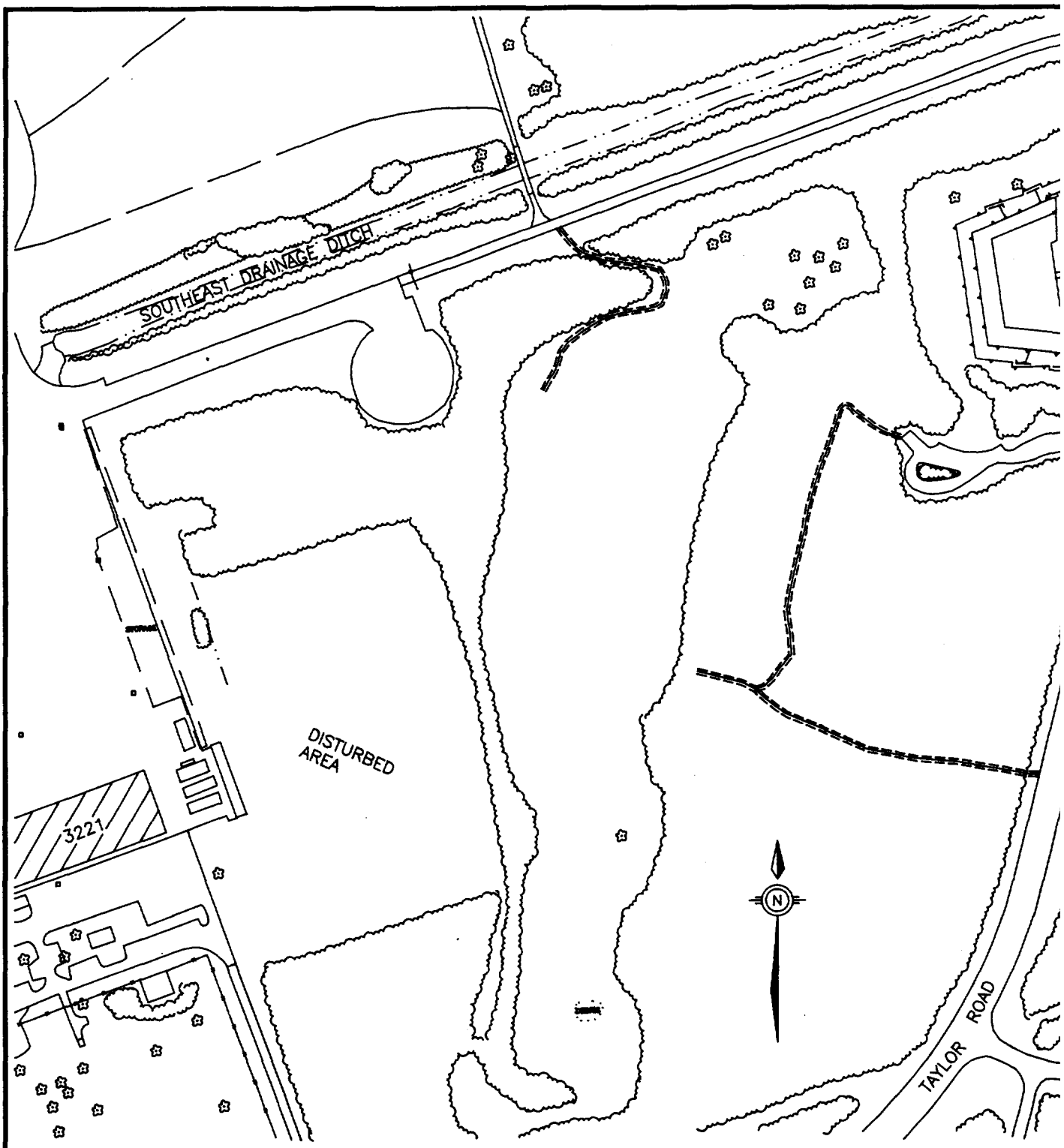
A contaminant source survey was conducted in an attempt to determine past and present site activities, or occurrences related to known or suspected releases of contamination to the environment, and to delineate areas of potential former and/or present sources of contamination. Components of a contaminant source survey include: review of previously reported site history, review of available documents and records of site activities, and interviews with NAS Pensacola employees involved in environmental coordination.

As discussed in Section 2, NEESA concluded soil removed from Site 5 was for use as landfill cover at Site 1 in 1976. However, according to Ron Joyner of the NAS Pensacola Facilities Management, the soil removed from Site 5 was used to build up the road to the back gate at the facility (Ron Joyner, *oral communication*, 1994). There is no evidence of disposal activities at Site 5 and there are no operational or utility plans for the site. Interviews with NAS Pensacola personnel provided no further information.

4.4 Habitat and Biota Survey

A Phase I habitat/biota survey for Site 5 was conducted by an E/A&H biologist following procedures outlined in Section 8 of the Comprehensive Sampling and Analysis Plan (CSAP [E/A&H 19931). The primary objective of the survey was to describe site habitats and support the development of the Ecological Risk Assessment.

Because of the borrowing activities at Site 5, the site is a disturbed area having been cleared of its vegetation in recent years (Figure 4-1). The site is bordered on the north, south, and east



LEGEND

- TREE LINE
- UNIMPROVED ROAD
- DRAINAGE SWALE

300 0 300

SCALE FEET

PRELIMINARY SITE CHARACTERIZATION REPORT – SITE 5
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 4–1
HABITAT COMMUNITY

DWG DATE: 03/22/94 | DWG NAME 970SAP41

This page left blank intentionally.

by secondary woods containing mixed pine and hardwood trees. The site is in an early stage of recovery and is covered with herbs, shrubs and scattered tree saplings.

The flora on Site **5** include saplings of longleaf pine *(Pinus palustris)*, sand pine *(Pinus clausa)*, and laurel oak *(Quercus hemisphaerica)*. These young trees stand approximately **5** feet tall. **A** moist drainage swale located at the site's northwest comer contains sweet bay magnolia *(Magnolia virginiana)*, and popcorn tree *(Sapium sebiferum)*. **Shrubs** on the site include mint rosemary *(Conradina canescens)*, and beach rosemary *(Ceratiola ericoides)*, with wax myrtle *(Myrica cerifera)* in the moist swale. Other plants include prickly pear *(Opuntia humifusa)*, dewberry *(Rubus trivialis)*, greenbrier *(Smilax bona-nox)* and club mosses *(Lycopodium sp.)*. Burrows and droppings suggest mammals (i.e., rodents and deer) inhabit or migrate across the site.

This **page left blank intentionally.**

5.0 FIELD INVESTIGATION AND METHODS

The USEPA- and FDEP-approved work plan (E&E 1992a) outlined a soil and groundwater investigation and sampling program for Site 5, which was intended to address the potential soil and groundwater contamination associated with the borrowing activities. The Site 5 Sampling and Analysis Plan is provided in Appendix A. The Sampling and Analysis Plan (SAP), in conjunction with the CSAP, provided guidance on sampling and analytical techniques used during the investigation and outlined proper documentation procedures.

Sampling locations were based upon the dimensions and topography of the site. Except where site conditions and field decisions warranted changes, the soil and groundwater sampling were conducted in accordance with the procedures outlined in the work plan, the Site 5 SAP, the CSAP, and the USEPA Region IV Standard Operating *Procedures/Quality Assurance Manual* (SOP/QAM [USEPA 1991a]). Specific procedures employed for each sampling and investigative task are organized and presented in Sections 5.1 and 5.2 of this report. General methods, sample handling, field quality assurance/quality control (QA/QC) and decontamination procedures are presented in Section 5.3. The rationale and methods of the hydrologic investigation performed at the site are discussed in Section 5.4.

Analytical Parameters

Samples of soil and groundwater were collected for contamination assessment. Selected samples were also collected for physical characterization. Contamination assessment samples provided a basis for delineating the nature and extent of site contamination. Physical characterization helped to determine specific subsurface migration pathways and properties of the site media for possible use in later remedial design, modeling, and/or migration studies, if needed. Samples designated for contamination assessment were analyzed by Pace Laboratory in Hampton, New Hampshire, in accordance with Contract Laboratory Procedures (CLP) for

Target Compound List (TCL) and Target Analyte List (TAL) parameters as shown in Table 5-1. Three soil samples and one groundwater sample were analyzed for hexavalent chromium using USEPA colorimetric Method 71%.

Table 5-1
Analytical Parameters — Contamination Assessment
Site 5, Borrow Pit

Media	Parameter	Method
Soil	TCL Volatile Organic Compounds (VOCs)	CLP
	TCL Semivolatile Organic Compounds (SVOCs)	CLP
	TCL Pesticides/Polychlorinated Biphenyls (PCBs)	CLP
	TAL Metals and Cyanide	CLP
	Hexavalent Chromium	USEPA 7196
Groundwater	TCL VOCs	CLP
	TCL SVOCs	CLP
	TCL Pesticides/PCBs	CLP
	TAL Metals - Unfiltered	CLP
	TAL Cyanide	CLP
	Hexavalent Chromium	USEPA 7196

Samples designated for physical characterization were analyzed for the selected physical and chemical-physical parameters shown in Table 5-2. Soil and groundwater samples analyzed for chemical-physical parameters were submitted to Savannah Laboratories in Mobile, Alabama.

Table 5-2
Analytical Parameters — Physical Characterization
Site 5, Borrow Pit

Media	Parameter	Method
Soil	**Physical:**	
	Particle Size	ASTM D 422
	Chemical-Physical[a]:	
	Total Phosphorus	USEPA 365.3
	Nitrate-N	USEPA 352.1
	Total Kjeldahl Nitrogen (TKN)	USEPA 351.4
	Heterotrophic Plate Count	SM 92156
	Total Organic Carbon	SW 846-9060
Groundwater	**Chemical-Physical[b]:**	
	Total Phosphorus	USEPA 365.3
	Nitrate-N	USEPA 352.1
	TKN	USEPA 351.4
	Heterotrophic Plate Count	SM 9215B
	5-day Biological Oxygen Demand (BOD)	USEPA 405.1
	Chemical Oxygen Demand (COD)	USEPA 410 (.1 to .3)
	Hardness	USEPA 200.7
	Total Suspended Solids (TSS)	USEPA 160.2
	Alkalinity	USEPA 310.1

Notes:

ASTM — American Society of Testing and Materials .

a — Chemical-Physical parameters for soil are also designated as Physical Parameters, Soil (PPS)

b — Chemical-Physical parameters for groundwater are also designated as Physical Parameters, Water (PPW)

Samples collected, analyses performed, date and time of sample collection, and QA/QC samples collected are summarized for each soil boring in Table 5-3 and for each monitoring well in Table 5-4.

[Bold items in brackets denote changes to the first draft of document.]

Table 5-3
Summary of Soil Sample Collection
Site 5, Borrow Pit

Soil Boring ID/Depth	Analyses Conducted	Date/ Time Collected	Additional QA/QC Samples Collected
05S0102	TAVTCL	12-1-9311605	
05S0104	TAVTCL, PPS	12-1-93/1615	
05S0106	TAL/TCL, Hex Chrome	12-1-93/1625	
05S0202	TAL/TCL, PPS	12-1-93/1130	
05S0204	TAL/TCL	12-1-93/1140	MS/MSD
05S0206	TAL/TCL, Hex Chrome	12-1-93/1150	
05S0302	TAL/TCL	12-2-93/1330	
05S0304	TAL/TCL	12-2-93/1340	
05S0306	TAL/TCL	12-2-93/1350	Duplicate
05S0308	TAL/TCL	12-2-93/1400	MS/MSD
05S0310	TAL/TCL, Hex Chrome	12-2-93/1410	
05S0402	TAL/TCL	11-30-93/1145	
05S0404	TAL/TCL	11-30-93/1150	
05S0406	TAL/TCL	11-30-93/1200	
05S0502	TAL/TCL	11-30-93/1458	Duplicate
05S0504	TAL/TCL	11-30-93/1505	
05S0506	TAL/TCL	11-30-93/1515	
05S0101 05S01012[a]	TAL/TCL TCL VOCs only	12-3-93/0850 1-26-94/1055	
05S0201 05S02012[a]	TAL/TCL TCL VOCs only	12-3-93/0900 1-26-94/1104	
05S0301 05S03012[a]	TAL/TCL TCL VOCs only	12-3-93/1125 1-26-94/1030	
05S0401 05S04012[a]	TAL/TCL TCL VOCs only	12-3-9310930 1-26-94/0940	

[Bold items in brackets denote changes to the first draft of document.]

Table 5-3
Summary of Soil Sample Collection
Site 5, Borrow Pit

Soil Boring ID/Depth	Analyses Conducted	Date/ Time Collected	Additional QA/QC Samples Collected
05S0501 05S05012[a]	TALITCL TCL VOCs only	12-3-93/0920 1-26-9411000	
05S0108	Grain Size	12-1-9311630	
0580208	Grain Size	12-1-9311155	
05S0316	Grain Size	12-2-9311440	

Notes:
a — Resampled because of suspected laboratory cross-contamination of original sample.
PPS — Total phosphorus, nitrate-N, TKN, heterotrophic plate count, total organic carbon, and cation exchange capacity.
MS — Matrix Spike
MSD — Matrix Spike Duplicate

Table 5-4
Summary of Groundwater Sample Collection
Site 5, Borrow Pit

Sample ID	Analyses Conducted	Date/Time of Collection	QA/QC Samples Collected
05GS0101	TALITCL	12114/93 0955	
05GS0201 05GS02M2	TALITCL Metals only	12114193 1100 12/14193 1139	
05GS0301 05GS03M2 05GS0301	TAL/TCL Metals Only, Hex Chrome, PPW	12114/93 1540 12/14/93 1641 12115/93 1425	MS/MSD
05GS0401 (ABB well 3221NE MW-4) 05GS04M2 05GS0401	TALITCL Metals Only PPW	12114/93 1250 12/14/93 1420 12/15/93 1500	Duplicate

Note:
PPW — 5-day biological oxygen demand, chemical oxygen demand, hardness, total suspended solids, alkalinity, total phosphorus, nitrate-N, TKN, and heterotrophic plate count

[Bold items in brackets denote changes to the first draft of document.]

Sample and Station Identification

The CSAP specifies an eight-digit sample identification code which was used in this investigation and appears throughout the text of this report.

- The first two digits denote the site where the sample was collected, as designated in the NAS Pensacola Site Management Plan (SMP [U.S. Navy 1993]). Samples for Site 05 were designated as "05."

- The third digit identifies the sampled medium:

  G — groundwater
  S — soil (including surface soil samples and soil brings)

- The fourth and fifth digits represent the sample station for soil brings. For groundwater, the fourth digit represents the monitoring well depth: S — Shallow. The fifth and sixth digits represent the monitoring well identification.

  Example:
  05S01 — Site 5/Soil boring 1
  05GS02 — Site 5/Groundwater/Shallow Monitoring Well 2

- The remaining digits are sample-specific. For soil samples, the digits represent the depth of collection in feet. Where the sample was collected from a depth interval (e.g., 2-foot soil interval), the number represents the base of the interval. Additional digits may designate a resampling event.

Example:

05S0404 Site **05/soil/boring** 4/2 to 4-foot depth

05S01012 Site **05/soil/boring** 1/0 to 1-foot depth/sampling event 2

For groundwater samples, the remaining digits may represent the sampling round, or **a** unique sample. The designation "M2" was used at Site **5** to identify a second metals sample collected.

Example:

05GS0301 Site 5/groundwater/shallow monitoring well 3/sampling round 1

05GS03M2 Site 5/groundwater/shallow monitoring well 3/second metals sample

- **Because** of the **constraints** of the 8-digit sample number system, the **7th** digit may **be a** QA/QC sample designation if collected:

T - trip blank
E - equipment **rinsate** sample
X - matrix spike sample
K - matrix spike duplicate sample
D - duplicate sample

Example:

05GS03X1 Site 5/Groundwater/Shallow monitoring well 3/Matrix spike sample/first sampling **round**

The identification code was **also** used to number the borings from which soil samples were collected. Hence, **the** first five digits of the code uniquely identify each station by site and sample medium.

5.1 Soil

In an effort to assess the extent of contaminati'on in soil above the water table, five soil borings were completed at Site 5 between November 31 and December 3,1993. Two soil borings were completed near the center of the site, two near the northern border of the site, and one near the southern border of the site. Soil borings (designated as 05S01 through 05S05) and their locations are presented in Figure 5-1.

Slightly deeper stratigraphic information was obtained during construction of monitoring wells between November 31 and December 3,1993. Soil samples were not collected below the water table for contamination assessment. Three of the soil borings were completed as shallow monitoring wells at depths of approximately 15 feet bls. Figure 5-1 also shows the locations of the brings completed as monitoring wells.

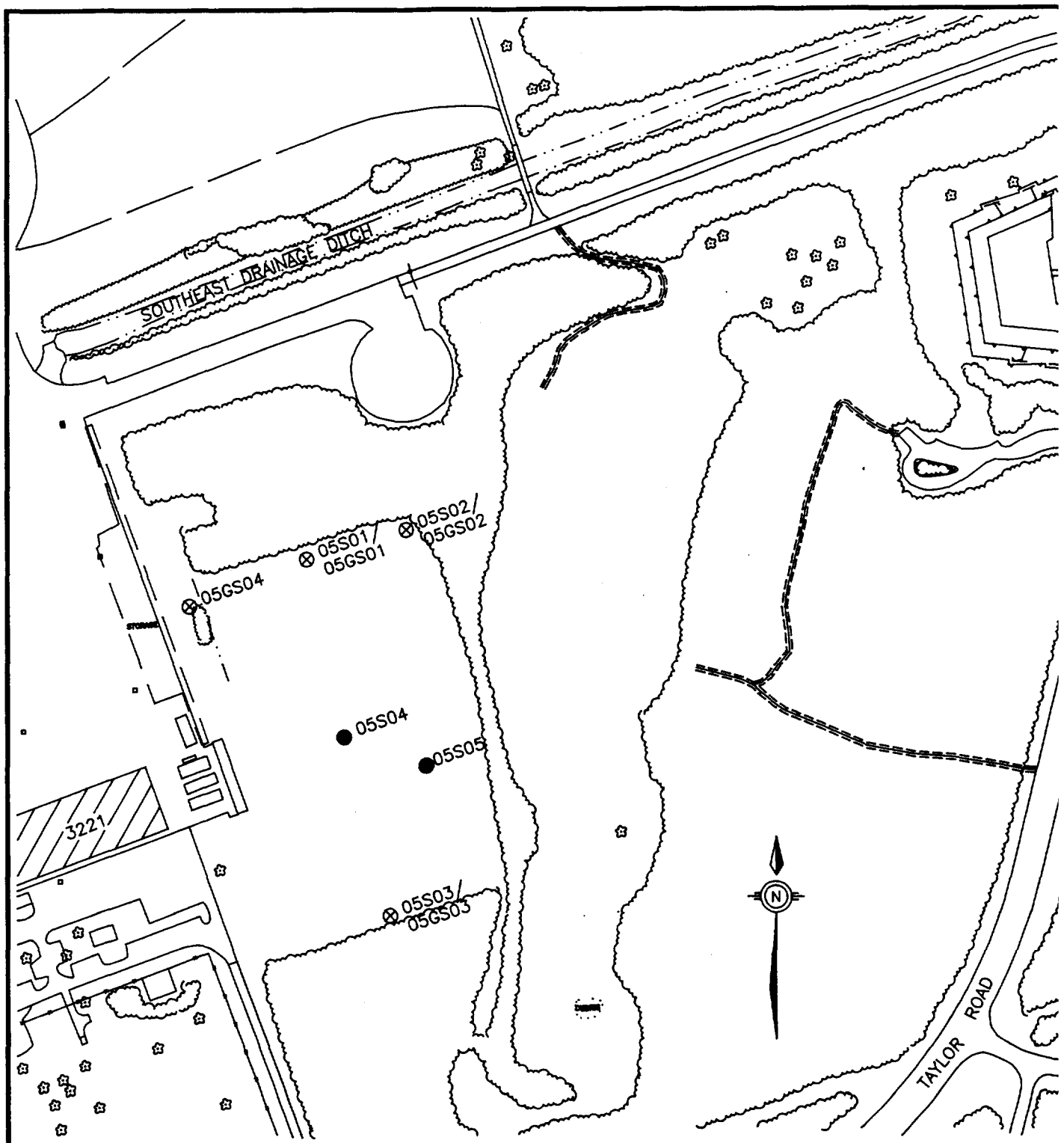
5.1.1 Contamination Assessment Sampling

Surface Soil

Surface soil samples submitted for laboratory analysis were collected from the 0 to 1-foot interval using a hand auger. Upon retrieval of the hand auger, the VOC sample was immediately collected from the hand auger.. The remaining soil was placed in a stainless steel bowl and homogenized with a stainless steel spoon. The homogenized mixture was then placed into the appropriate sample containers. Each sample container was immediately secured with the appropriate Teflon-lined cap, labeled, and preserved to 4° C.

Subsurface Soil

Subsurface soil samples were collected at 2-foot intervals until the water table was encountered. Soil samples were collected continuously using hollow-stem auger drilling methods with a split-barrel sampler. Following collection of the first soil sample (0 to 2 foot), the hollow-stem



LEGEND

TREE LINE

UNIMPROVED ROAD

05S01 SOIL BORING /ID

DRAINAGE SWALE

05GS01 SOIL BORING AND SHALLOW MONITORING WELL /ID

300 0 300

SCALE FEET

PRELIMINARY SITE CHARACTERIZATION REPORT – SITE 5
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 5–1
SOIL BORING & MONITORING WELL LOCATIONS

DWG DATE: 03/22/94 | DWG NAME: 970SAP51

This **page left blank intentionally.**

auger was advanced to the terminus of the sample depth, and the subsequent sample intervals were collected with a split-barrel sampler through the inside of the augers. The VOC sample was collected immediately upon sampler retrieval. The remaining soil was placed in a stainless steel bowl and homogenized with a stainless-steel spoon. The homogenized mixture was then placed into the appropriate sample containers. Each sample container was immediately secured with the appropriate Teflon-lined cap, labeled, and preserved to 4° C. Soil samples were processed as described in Section 5.3 and analyzed by the laboratory for CLP TCWTAL parameters. Soil samples 05S0106, 0580206, and 05S0310 were also analyzed for hexavalent chromium. Soil borings not completed as monitoring wells were abandoned with neat cement grout.

All soil samples were classified using the Unified Soil Classification System (USCS) and documented with other pertinent field information on boring logs. Boring logs for each borehole, measured photoionization detector (PID) concentrations, soil types, and other relevant field information are provided in Appendix B.

5.1.2 Physical Characterization Sampling

During the Preliminary Site Characterization, soil samples were also collected to obtain data for possible remedial design, modeling, and/or migration studies. Soil samples were collected from the screened interval for grain-size analysis at each monitoring well location. Samples for chemical-physical analysis were collected at borings 05S01 and 05S02 from the 2 to 4-foot and 0 to 2-foot intervals. The samples were handled and processed as described in Section 5.3 and shipped to Savannah Laboratories for chemical-physical analysis.

5.2 Groundwater

The groundwater investigation was conducted from December 6, 1993 to January 20, 1994. The investigation included developing four monitoring wells, purging the monitoring wells and

subsequently collecting groundwater samples, and a hydrologic investigation involving aquifer testing, potentiometric measurements, and a tidal influence study.

5.2.1 Monitoring Well Installation

Three monitoring wells were installed at Site 5 to characterize groundwater conditions beneath the site. One of the 10 monitoring wells installed *during* the investigation of UST 3221NE was also used for groundwater characterization (shown as 05GS04 in Figure 5-1). The monitoring wells were generally placed *at the* locations proposed in the *SAP* as shown in Figure 5-1. Monitoring well 05GS01 was moved midway between the ABB monitoring well (05GS04) and 05GS02 to provide better downgradient coverage. The three shallow monitoring wells, 05GS01 through 05GS03 were completed to screen the water table interface of the surficial aquifer. An anticipated background well was placed on the southern boundary of the site (05GS03) and two wells were placed downgradient on the northern boundary of site (05GS01 and 05GS02).

Drilling Methods

Borings for all monitoring wells and soil sampling were completed with a hydraulic-rotary drill rig operated by Layne Environmental of Pensacola, Florida. Health and safety conditions were continuously monitored for organic vapor concentrations with a PID and for explosivity levels with a combustible gas indicator. Drilling was performed using 4.25-inch inside diameter (ID) hollow-stem augers, and sampling was performed using 24-inch split-barrel samplers and a hand auger. As previously described, shallow monitoring well boreholes initially were sampled with split-banel samplers through *the* inside of the hollow-stem augers. Soil was sampled by advancing a split-barrel sampler through the annulus of the hollow-stem auger into the undisturbed soil ahead of *the* augers. The sampler was retrieved, the augers advanced an additional *24* inches, and the process repeated until reaching the terminal depth of the boring. The split-barrel samplers were decontaminated before each sample collection, as described in the decontamination procedures in Section *5.5*.

Monitoring Well Construction

Groundwater monitoring wells were constructed in accordance with applicable federal, state, and local agency regulations. Monitoring well construction, installation, and development were executed in compliance with the site-specific SAP for Site 5, the CSAP, and the USEPA Region IV SOP/QAM (USEPA 1991a).

Monitoring well construction materials consisted of 2-inch diameter, polyvinyl chloride (PVC) riser casing flush threaded to 10 feet of 0.010 continuous slot PVC screen. Monitoring well data are provided in Table 5-5 and well-specific construction details can be found on the well logs in Appendix C.

Table 5-5
Monitoring Well Construction Data
Site 5, Borrow Pit

Monitoring Well Identification	Construction Date	Total Depth (ft bls)	Screened Interval (ft bls)	Top of Casing Elevation (feet)
05GS01	12/01/93	15.0	4.5 - 14.5	23.37
05GS02	12/01/93 and 12/02/93	15.0	4.5 - 14.5	27.21
05GS03	12/02/93	18.0	7.5 - 17.5	33.87
05GS04 (ABB 3221NE MW-4)	1/09/92	15.0	5.0 - 15.0	20.55

Note:
ft bls = feet below land surface

A minimum borehole diameter of 8 inches for the 2-inch wells resulted in a 3-inch annulus around the screens and risers. Silica sand was used to backfill around the screened intervals and serve as a filter pack. In shallow wells, the sand was poured between the annulus of the well

pipe and the augers and extended 0.5 feet below the bottom of the well screen. Shallow well sand packs were completed 6 inches above the top of the well screens. A bentonite seal was placed above the sand pack to a thickness of approximately 2 feet. The bentonite pellets were hydrated according to manufacturer's specifications with 3 to 4 gallons of water. The remainder of the annulus above the bentonite was grout-sealed using a mixture of 6 gallons of water per 94-pound bag of Portland cement.

All wells were finished with a concrete surface pad that sealed the remaining annulus above the grout seal, measuring 3-foot square and 6 inches thick at the ground surface. Approximately 2.5 feet of riser stickup extended above the ground surface Each wellhead was covered with an outer protective steel casing placed approximately 2 feet into the ground and equipped with a locking cap. Well construction logs are provided in Appendix C.

well Development

Monitoring wells were developed by E/A&H through alternation of surging and pumping. All monitoring wells were developed using a pump and a PVC surge block. Discharge rate, pH, conductivity, temperature, and turbidity were monitored during development, which continued until turbidity, pH, conductivity, and temperature stabilized to within ± 10%. Monitoring well development is detailed in Appendix D.

5.2.2 Groundwater Sampling

Groundwater samples were collected from the three newly installed monitoring wells and one of the ABB monitoring wells on December 14, 1993. Before sampling, organic vapor concentrations were measured in each well's headspace through insertion of the PID probe beneath the wellcap. No measurable organic vapor concentrations were detected in the monitoring wells. Following headspace screening, water levels in each well were measured with

an electronic water level indicator. All monitoring wells were purged with peristaltic pumps and at least three well volumes were evacuated from each well. Water was considered stable and ready for sampling following three consecutive pH, specific conductivity, and temperature readings within ± 10%. All groundwater samples were collected with Teflon bailers. Sample containers for VOC analysis were filled first, taking precautions to minimize water disturbance, followed by semivolatile containers and the remaining sample containers. Weather conditions, initial water levels, purging and sampling times, purge volumes, and groundwater temperature, pH, specific conductance and turbidity were recorded in the field logbook during purging and sampling activities. Monitoring well purging and groundwater sampling are detailed in Appendix E.

Samples from all wells were collected for CLP TCL/TAL constituents, including cyanide. One groundwater sample was analyzed for hexavalent chromium (05GS03). E/A&H field personnel noted during development, if the wells were allowed to recover overnight, turbidity returned to predevelopment levels. To reduce turbidity significantly, large volumes of water were required to be removed. Therefore, after additional purging to reduce turbidity, an additional metals sample was collected from monitoring wells 05GS02, 05GS03, and 05GS04. Two shallow wells (05GS03 and 05GS04) were also sampled for physical characterization parameters, as described in Table 5-1.

5.3 sampling protocol

All sampling activities were conducted in accordance with the site-specific *SAP*, in conjunction with the *CSAP* (E/A&H 1993) and SOP/QAM (USEPA 1991a). Where warranted by field conditions, the approved procedures were deviated from and appropriately documented.

5.3.1 Sample Handling

Handling sampled materials was kept to a minimum. Where necessary to transfer material from sampling devices to containers, the operation was conducted immediately, in as clean an environment as possible. Plastic sheeting was laid over the sample area and new gloves were donned before collecting each sample. Empty containers were kept packaged until used, at which time they were immediately chilled and isolated in coolers. Sampling was not conducted in steady rain. Where sample aliquots were collected for separate analyses, those for volatile analyses were containerized first from unhomogenized material (soil) to minimize degassing.

5.3.2 Sample Containers and Reservation

Sample containers for chemical analyses were supplied pre-cleaned and certified by Pace Laboratory of Hampton, New Hampshire. Sample containers for chemical-physical analyses were provided by Savannah Laboratories of Mobile, Alabama. Sample preservation followed guidelines presented in the Site 5 SAP and the CSAP. Table 5-6 summarizes CLP TAL/TCL preservation requirements and Table 5-7 summarizes the preservation requirements for physical parameters.

Table 5-6
Sample Containers and Preservation as per Medium and Analysis — TAL/TCL
Site 5, Borrow Pit

Analysis	Sample Container	Preservative
Soil		
VOCS	(1) 25 ml glass jar	4°C
SVOCS Pesticides/PCBs	(1) 25-ml glass jar	—
Metals and Cyanide	(1) 125 ml Nalgene bottle	4°C

[Bold items in brackets denote changes to the first draft of document.]

Table 5-6
Sample Containers and Preservation as per Medium and Analysis — TAL/TCL
Site 5, Borrow Pit

Analysis	Sample Container	Preservative
Groundwater		
vocs	**(3)**40 ml glass vial	4°C — HCL, pH<2
CLP TCL SVOCs CLP TCL Pesticides/PCBs	**(3)**1 L. amber bottle	**4°C**
CLP TAL Metals-unfiltered	500 ml Nalgene bottle	4°C — HNO_3, pH<2
Cyanide	1 L. Nalgene bottle	4°C — NaOH, pH>10

Notes:
ml — milliliter
HCl — Hydrochloric Acid
L — Liter
HNO_3 — Nitric Acid
NaOH — Sodium Hydroxide

Table 5-7
Sample Containers and Preservation as per Medium and Analysis — Physical Parameters
Site 5, Borrow Pit

Analysis	Sample Container	Preservative
Soil		
Heterotrophic Plate Count	125-ml Sterile Nalgene	4oc
Total Phosphorous, Nitrate-N, TKN, TOC, Cation Ex. Cap	(2) 500-ml Nalgene	4°C
Particle Size	500-ml Nalgene	**4°C**

[Bold items in **brackets** denote changes to the first *draft* of document.]

Table 5-7
Sample Containers and Preservation as per Medium and Analysis — Physical Parameters
Site 5, Borrow Pit

Analysis	Sample Container	Preservative
Groundwater		
BOD, TSS, Alkalinity, Nitrogen	32-oz. Nalgene	4°C
COD, Phosphorous, TKN	500-ml Nalgene	4°C — H_2SO_4, pH<2
Hardness	250-ml Nalgene	4°C — HNO_3, pH<2
Heterotrophic Plate Count	200-ml Sterile Nalgene	4°C

Notes:
ml — milliliter
oz — ounce
TOC — Total Organic Carbon
H_2SO_4 — Sulfuric Acid
HNO_3 — Nitric Acid

533 QA/QC Samples

QA/QC samples were collected as quality checks on field and laboratory procedures. These samples were used to test the level of reproducibility attainable in the sampling and analytical process, quality of equipment decontamination, quality of source waters and materials, sample exposure to ambient contamination during handling, and level of laboratory precision. All field QA/QC samples were collected in accordance with the site-specific SAP and in conjunction with the CSAP. The samples collected are as follows.

Type and frequency:

- For each sampling task, &plicate samples were collected for every 10 samples.

- An equipment rinsate sample was collected from the sampling equipment specific to each task every day, and was analyzed every other day.

- Material blanks were collected for each material used in drilling and well construction (i.e., filter sand, bentonite, cement grout).

- One NEESA-defined field blank per week was collected from the deionized, organic removal water system at the E/A&H field trailer; one field blank per week was collected using the potable water source.

- One trip blank was submitted per cooler containing samples for VOC analysis.

- *One* matrix spike and matrix spike duplicate (MS/MSD) sample was collected for each 20 samples for soil and groundwater sampling tasks.

- QA/QC samples were analyzed for the same contamination assessment parameters as the associated environmental samples.

5.3.4 Sample Packaging and Shipment

Samples were individually bubble wrapped, bagged in sealable bags, and packed on sealed ice inside sturdy coolers. Samples were submitted to the laboratory the day of collection and arranged in coolers with sufficient volume to maintain uniform and appropriate preservation temperatures during shipment. Temperature blanks were placed in all coolers for laboratory verification of the coolers' temperature upon arrival. Trip blanks were placed in coolers containing samples for VOC analysis. Vermiculite was used as a packing material to completely fill voids, separate breakable containers, and cushion samples during shipment. Strict chain-of-

custody records were maintained at all times and a designated cooler was marked indicating the enclosed chain-of-custody. Cooler lids were secured with packing tape and sealed with signed custody seals.

The packaged samples were shipped overnight via express courier for next morning delivery. All sample batches were *shipped* to the laboratory on the day of collection. All sample *shipments* were reported to have arrived at the laboratory in good condition and at appropriate temperatures.

5.3.5 Chain-of-Custody

To ensure the integrity of the sample transfer process, a strict chain-of-custody procedure was implemented for all samples collected. This procedure was initiated in the field for each sampling event and conducted through custody transfer to the contract laboratory. A chain-of-custody form was completed for each batch of samples, itemizing sample numbers, containerization, preservatives, analyses requested, date and time of sampling, and airbill number. Custody transfers were recorded by signature, date and time of relinquishment, and receipt of custody by the parties involved.

5.4 Ancillary Data

Ancillary data pertinent to sampling activities were collected for each sampling event. Field information included identification of sampling personnel, time of sampling, description of location, weather conditions, equipment/sample containers used, sampling methods used, test equipment used, any physical/chemical parameters measured, soil lithology and stratigraphy, problems encountered, procedural deviations, etc. This information was recorded in the field logbook dedicated to the site.

5.5 Decontamination

Field equipment was decontaminated in accordance with guidelines set forth in the Site 5 SAP, the CSAP, and the SOP/QAM. All exploration and sampling equipment was decontaminated before use at each sampling station. Equipment coming in contact with the actual sampled material was decontaminated between each sample collection at each station. Decontamination was accomplished as follows.

Decontamination Procedures:

- Soap and water wash
- Tap water or analyte-free (deionized/organic-free) water rinse
- Analyte-free water rinse
- Two isopropyl alcohol rinses
- Analyte-free water rinse
- Air dry

Decontaminated sampling equipment was wrapped in aluminum foil if transported or stored before use. Large equipment was decontaminated at a dedicated decontamination area. The decontamination station was constructed of a wood frame and heavy plastic groundcover which funneled decontamination water into a collection sump. A pressure-washing machine was used to spray down the large equipment and drill rig with a hot water and soap solution. Small equipment was decontaminated either at the dedicated decontamination area or at the site using the procedures outlined above.

5.6 Investigation-Derived Wastes

Wastes derived from the field investigation included drill cuttings, well development and purge waters, decontamination water, used personal protective equipment, and well construction

material wrappings. Generated wastes were handled in a manner minimizing contact with the environment. Drilling spoils were placed on plastic sheeting or immediately placed inside a 55-gallon drum. Soil retrieved from hand-auger borings was placed on plastic sheeting or inside 55-gallon drums. Wastewater from activities at the dedicated decontamination area was contained within the plastic liner of the station and chaxmeled into a plastic-lined sump that was pumped out regularly. Wastewater from decontamination activities at the site was transported to the decontamination station for disposal.

Waste generated at each soil boring/monitoring well location and at the decontamination station was containerized in U.S. Department of Transportation (DOT)-approved 55-gallon drums and moved to an offsite location while pending proper disposal by the Navy. All drums were marked with the sample location (well number, etc.), date, and type of investigation-derived Waste.

Personal protective equipment was containerized in the drums along with the drill cuttings, etc., or disposed of in the E/A&H dumpster at the field trailer.

5.7 Rationale and Methods for Hydrologic Investigations

Hydrologic investigations conducted *during* the Preliminary Site Characterization included tidal influence studies, potentiometric surface mapping, and aquifer testing.

5.7.1 Potentiometric Surface Mapping

Potentiometric surface maps were constructed *to* investigate the direction of groundwater flow. *On* January *20,* 1994, water levels were measured to the nearest 0.01 foot at high and low tide using an electronic water level indicator. Water level was measured from a designated point on top of each well casing. Each depth-to-water measurement was subtracted from the top of the

well casing elevation to obtain the elevation of the potentiometric Surface. Potentiometric maps constructed for the monitoring wells during high and low tide **periods are** presented in Section 6.

5.7.2 Aquifer **Testing**

Single-well pumping **tests** (specific capacity tests) were not conducted at this site due to the inability of any of the wells to maintain constant yield. Therefore, rising-head slug tests were conducted on monitoring wells 05GS03 and 05GS04 on January **13,** 1994, to estimate the surficial zone's hydraulic conductivity. The slug consisted of a 4.075-foot long, 0.13-inch diameter Teflon cylinder. A Teflon rope tethered to the cylinder suspended the slug in the well below the water level. At the beginning of each test, the data logger was activated the instant the slug was either lowered into or removed from the water. When the slug was instantaneously introduced into the well, the water level and the time "T_0" were recorded. Periodically, water level/elapsed time measurements were recorded **as** the water level fell back to the original static level. Similarly, each rising head slug test was performed by removing the slug and recording water level/elapsed time measurements as the water level rose back to static level. The time required for each slug test was a function of the water level magnitude of change and the hydraulic conductivity of the aquifer.

Hydraulic conductivity (K) was computed with AQTESOLV (G&M Modeling Group 1989)using an equation developed by Bouwer and Rice (1976) for unconfined aquifers. Rising-head slug test data were plotted on semi-logarithmic graph paper as time (elapsed) versus displacement (change in water level). The AQTESOLV graphs and field data are presented in Appendix F. The slug test results are summarized and discussed in Section 6.

This page left blank intentionally

6.0 GEOLOGICAL AND HYDROLOGICAL RESULTS

6.1 Site-Specific Geological Interpretation

The soil boring investigation consisted of five soil borings limited to the surficial zone of the Sand-and-Gravel Aquifer. As described in Section 3.2, the upper surficial zone refers to the water table.

The subsurface stratigraphy at Site **5** is slightly different from that encountered during other studies at NAS Pensacola. A poorly graded fine-to-medium-grain quartz sand was encountered to the water table in each borings. However, as soil borings were advanced for installation of monitoring wells 05GS01 and 05GS02, a gray poorly graded sand with clay was encountered below the water table to approximately 15 feet depth, the terminus depth of the boring. It was not encountered in the soil boring advanced for installation of monitoring well 05GS03.

The gray sand with clay layer was also encountered in many of the soil borings advanced during the **ABB** investigation of **UST** 3221NE (**ABB** 1992). It ranged from 2.5' to 23' thick (3221NE MW-4 and 3221NE MW-6) and was encountered at depths ranging from 4 to 17 feet bls. **ABB** personnel observed peat and an organic odor in the layer (**ABB** 1992) which was not noted by the E/A&H geologist.

6.2 Groundwater Hydrologic Results

Tidal Influence

Water level measurements were collected from all the site's monitoring wells during high and low tide periods on January 20, 1994, to determine the effects tidal fluctuations may have on the site's groundwater levels and resulting flow dynamics. The groundwater elevations are presented in Table 6-1. Changes in groundwater elevations were not noted during high and low tides.

Table 6-1
Low and High Tide Groundwater Elevation Data
Site 5

Well Number	Top of Casing Elevation	Low Tide GW Elevation Time: 0748	High Tide GW Elevation Time: 1146	GW Elevation Time: 1658	Low-High Tide Water Level Change
05GS01	23.37	14.10	14.10	14.10	0.00
05GS02	27.21	13.04	13.04	13.04	0.00
05GS03	33.87	16.74	16.74	16.74	0.00
05GS04	20.55	12.42	12.42	12.42	0.00

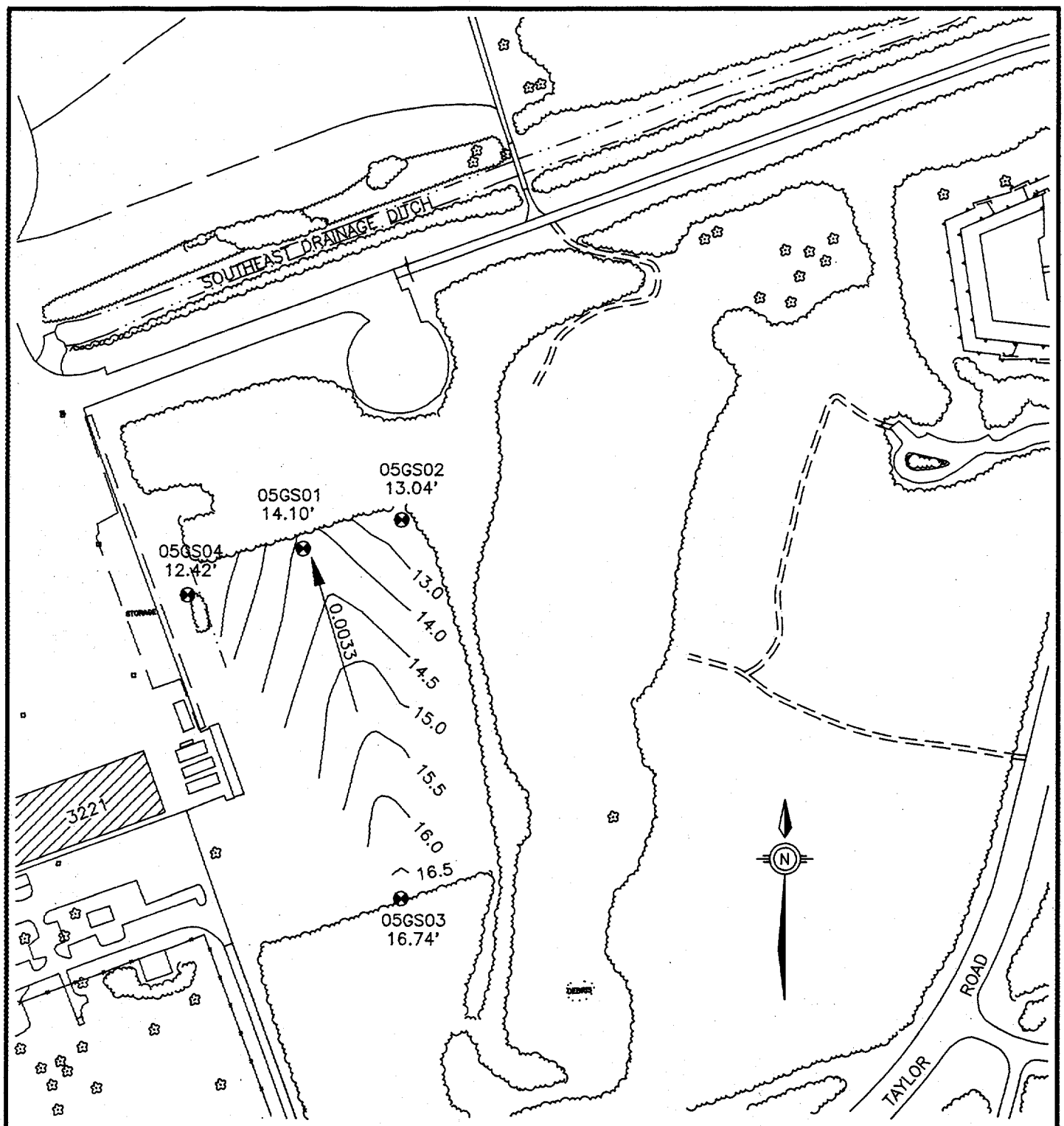
Note:
All elevations relative to msl

Groundwater Flow Direction and Gradient

On the basis of the groundwater elevations measured at the site, the direction of the shallow surficial zone appears to generally mimic the topography, flowing toward Bayou Grande. Flow at this site is characterized by a centrally located medial axial high, with elevations along the axis decreasing in a north-northwest direction. Flow from any point off of this axial high radiates to the northeast, north-northwest, and northwest. The potentiometric map constructed from groundwater elevations measured on January 10, 1994, indicates the water table lies between 6 and 15 feet bls and ranges from 12.42 to 16.74 feet above msl. The horizontal groundwater gradient along the medial axial was calculated to be 0.0033. A potentiometric map constructed from water levels collected on January 10, 1994, indicates a north-[northwesterly] groundwater flow of the upper surficial zone (see Figure 6-1).

Aquifer Characteristics

Rising head slug tests were conducted on two shallow depth monitoring wells following well sampling activities. Slug tests were not performed on wells 05GS02 and 05GS03 because of an



LEGEND

- UNIMPROVED ROAD
- TREE LINE
- 05GS03 16.74' — SHALLOW MONITORING WELL ID/ GROUNDWATER ELEVATION
- 3.0 — GROUNDWATER CONTOUR INTERVAL
- 0.0033 — HYDRAULIC GRADIENT
- DRAINAGE SWALE

300 0 300

SCALE FEET

PRELIMINARY SITE CHARACTERIZATION REPORT – SITE 5
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 6–1
POTENTIOMETRIC MAP

DWG DATE: 03/22/94 | DWG NAME: 970SAPB

This page left blank intentionally.

insufficient water column in the wells. The hydraulic conductivity calculated from the slug tests conducted on January **13, 1994,** were:

Monitoring Well	**Hydraulic Conductivity**
05GS01	**2.66** ft/day
05GS04	**3.96** Wday

The average hydraulic conductivity of the upper surficial zone across the site is **3.24** feet per day. This value is slightly lower than K values calculated for the upper surficial zone at other NAS Pensacola sites, and indicates Site **5** has lower permeabilities.

The horizontal groundwater velocity in the upper surficial zone was calculated to be 0.04 feet per day. The horizontal groundwater velocity was calculated using the following derivation of Darcy's **Law:**

$$V = Ki/n$$

where: K = mean hydraulic conductivity from slug tests
1 = groundwater gradient
n_{ef} = effective porosity of aquifer matrix

The calculated groundwater velocity is based on the average hydraulic conductivity found in **the** surficial zone, the average horizontal hydraulic gradient, and an effective porosity of **28%** for the surficial zone sands (Heath, **1989).**

6.3 Conclusions

The following conclusions are based on the geological and hydrogeological information gathered during this investigation.

- Boring logs indicate the presence of a gray poorly graded sand with clay layer in the northern portion of the site. The sand with clay layer was not encountered in a boring advanced in the southern portion of the site.

- Groundwater flows toward Bayou Grande in the upper surficial zone. The flow direction is consistent with the site topography.

- Tidal effects on water levels were not observed.

- Hydraulic conductivity (K) values derived from slug tests data indicate the average K for the upper surficial zone is 3.24 feet per day, indicating relatively low permeabilities compared to other NAS Pensacola sites.

- Using the hydraulic conductivity data and measured hydraulic groundwater gradients, a relatively low velocity regime was calculated at the site. The upper surficial zone has a calculated velocity of 0.04 feet per day.

7.0 NATURE AND EXTENT OF CONTAMINATION

7.1 Soil Analytical Results

Inorganic parameters, 4,4'-DDT, and trichloroethene were the only detected parameters in the site soil. Some of the detected parameters were isolated to particular areas of the site, while others were found across the entire site. The parameters detected at the site have been compared to reference soil samples for NAS Pensacola to determine if measured concentrations represent ambient soil conditions or indicate actual contamination. The soil reference data consist of 18 samples collected from two borings, 01S67 and 01S69 (designated in Figure 2-1 as reference monitoring wells GS-67 and GS-69). To assess whether contamination is present at the site, the detected parameters have been compared to twice the mean reference concentration detected for those parameters (i.e., reference standard). If the parameter was not detected in the reference samples, one-half of the instrument detection limit (IDL) was used as the reference concentration. Detected parameters were also compared **[to the lower of the]** USEPA Region III risk-based concentrations **[(RBCs) for residential soil] (USEPA 1994) [and the child resident or aggregate resident scenarios for the FDEP Cleanup Goals for the Military Sites in Florida (FDEP 1994).** These **values are called preliminary remedial goals or PRGs throughout the text.]** A database summary of the analytical data collected for Site 5 is provided in Appendix G. **[A database of the reference sample analytical results is presented in Appendix H].** The tables accompanying the discussion of the parameter group present the detected concentrations of the parameters and the applicable reference standards.

7.1.1 Metals

Concentrations of all detected inorganic parameters and twice the mean of the respective reference constituents measured at NAS Pensacola are provided in Table 7-1. **[Two]** metals (mercury and silver) were detected in the site's soil, but were not detected at the reference locations.

a

This page left blank intentionally.

Table 7-1
Summary of Detected Metals in Soil
Site 5, Borrow Pit
(mg/kg)

Sample ID/Depth*	Inorganic Parameter							
	Aluminum	Chromium	Copper	Iron	Magnesium	Mercury	Silver	Vanadium
05S0101	958.0	0.96 U	0.58 U	706.0	30.0 U	0.02 U	0.28 U	1.1 U
05S0102	707.0 J	1.3 U	0.26 U	337.0 J	19.7	0.02 U	0.38 U	0.77
05S0104	491.0 J	1.1 U	0.23 U	382.0 J	8.7	0.02 U	0.34 U	0.70
05S0106	225.0 J	1.7 U	0.23	170.0 J	8.4	0.02 U	0.38	0.63
05S0201	660.0	0.99 U	0.35 U	484.0	22.1 U	0.02 U	0.29 U	0.80 U
05S0202	1,020.0 J	1.2 U	0.16	789.0 J	21.1	0.03 U	0.24 U	1.40
05S0204	2,590.0 J	3.3 U	0.25 U	1,530.0 J	41.2	0.03 U	0.36 U	2.30
05S0206	291.0 J	1.8 U	0.22 U	202.0 J	8.6	0.02 U	0.32 U	0.67 U
05S0301	1,500.0	1.7 U	0.57 U	1,120.0	37.8 U	0.03 U	0.31 U	2.9 U
05S0302	983.0 J	1.7 U	0.25 U	359.0 J	24.4	**0.25**	0.37 U	1.2
05S0304	882.0 J	1.9 U	0.26 U	380.0 J	22.7	0.02 U	0.37 U	1.1
05S0306	459.0 J	2.8 U	0.40	405.0 J	15.3	0.02 U	0.35 U	0.8
05S0308	794.0 J	1.6 U	0.28	630.0 J	21.6	0.02 U	0.27 U	1.2
05S0310	182.0 J	1.7 U	0.25 U	166.0 J	5.5	0.02 U	0.37 U	0.75 U
05S0401	1,010.0	0.81 U	0.42 U	703.0	25.8 U	0.02 U	0.23 U	1.5 U
05S0402	429.0 J	1.4 U	0.23	202.0 J	9.8	0.03 U	0.34 U	0.69 U
05S0404	142.0 J	3.0 U	0.31	305.0 J	6.3	0.03 U	0.37	0.72 U

[Bold items in brackets denote *changes* to the first draft of document.]

Table 7-1 (Continued)
Summary of Detected Metals in Soil
Site 5, Borrow Pit
(mg/kg)

Sample ID/Depth[a]	Inorganic Parameter							
	Aluminum	Chromium	Copper	Iron	Magnesium	Mercury	Silver	Vanadium
05S0406	82.9 J	2.1 U	0.21 U	114.0 J	415	0.03 U	0.31 U	0.65
05S0501	1,140.0	1.1 U	0.40 U	690.0	26.8 U	0.08 U	0.28 U	1.6 U
05S0502	234.0 J	1.3	0.17 U	164.0 J	7.2	0.03 U	0.26 U	0.56
05S0504	127.0 J	1.7	0.16 U	104.0 J	4.8	0.02 U	0.24	0.49 U
05S0506	104.0 J	1.2	0.23 U	96.2 J	46	0.02 U	0.34 U	0.69 U
2 X Mean Reference Concentration[a]	3,833.36	6.13	6.74	2,746	133.33	0.10[c]	2.07[c]	6.83
PRG[b]	23,000[e]	39.0[d]	290.0[e]	NS	NS	2.3[e]	39.0[e]	66.0[e]

Notes:

mg/kg	—	Milligrams per kilogram or pertr per million (ppm)
•	—	The last two digitr of the rample ID designate the collection depth.
U	—	The compound was analyzed for, but war not detected above the reported rample quentitation limit.
J	—	Positively detected; howevar, reported concentration is conridered en estimated velue
UJ	—	Not detected ebove the reported rample quantitetion limit; however, the reported quantitetion limit is approximate and may or may not reprerent the actual limit of quantitation necerrery to accurately end preciraly mearure the compound in the sample.
a	—	Reference concontratione are from 18 soil samples collected at reference boring locations 01S67 end 01S69
b	—	Preliminary Remedial Goal
c	—	One-half the IDL was ueed as a reference etandard for silver end mercury because they were not detected in reference soil samples.
d	—	PRG is for hexavalent chromium. The PRG for trivalent chromium is 7,800 ppm.
e	—	USEPA Risk Bared Concentrations, March 18, 1994.
NS	—	No rtendard established

Detected concentrations in bold indicate the parameter exceeded two timer reference mean.

[Bold items in brackets denote changes to the first draft of document.]

Mercury was detected at a concentration of 0.25 **mg/kg** in the **0** to 2-foot depth interval of **soil boring 05S03**. The detected concentration exceeds twice the reference standard **[(0.1 mg/kg), but does not *exceed* the PRG of 23** mg/kg.]

7.1.2 Pesticides

4,4'-DDT was detected only in **soil boring 05S05** in the 0 to 1-foot depth interval at a concentration of **4.2 µg/kg**. The detected concentration did not exceed the [PRG] of 1,900 **µg/kg.**

7.1.3 Volatile Organic Compounds

Trichloroethene was detected in each of the 0 to 1-foot depth interval **soil** samples collected **from** the five **soil** borings. The detected concentrations **are summarized** in Table 7-2. **Because** the trichlomethene was detected in the 0 to 1-foot depth interval samples and not in the 0 to 2-foot depth samples collected **from** the same **boring,** trichlomethene may represent a laboratory artifact. Consequently, the 0 to 1-foot sample interval was resampled at each **boring** on **January** 26, 1994, for VOCs only. Tricblomethene was not detected in any of the samples analyzed.

Table 7-2
Summary of Detected Volatile Organic Compounds in Soil
Site 5, Borrow Pit (µg/kg)

Sample ID/Depth	Trichloroethene December 4, 1993	Trichloroethene January 26, 1994
05S0101	7.0 J	11.0 U
05S0201	5.0 J	10.0 U
05S0301	40.0	10.0 U

[Bold items in brackets denote **changes to** the **first draft of document.]**

Table 7-2
Summary of Detected Volatile Organic Compounds in Soil
Site 5, Borrow Pit (µg/kg)

Sample ID/Depth	Trichloroethene December 4, 1993	Trichloroethene January 26, 1994
05S0401	11.0	10.0 UJ
05S0501	20.0	10.0 UJ

Notes:

µg/kg	—	Micrograms per kilogram
U	—	The compound WOE analyzed for, but WOE not detected above the reported sample quantitation limit.
J	—	The compound WOE positively detected, however, the reported concentration is considered to approximate the concentration within the sample.
UJ	—	Tho compound was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the compound in the sample.

7.1.4 Interpretations and Conclusions

Based on the detected concentrations in the soil samples, theextent of **soil contaminati**on **appears** to be negligible. **No** inorganic detected **parameter** in soil exceeded its [PRG]. 4,4'-DDT was **detected** at only one **location and** did **not** exceed its [PRG. **and** is most **likely residual from pesticide applications]. Although trichloroethene** was detected in samples collected from 0 to 1-foot intervals, it was **not** detected when **the** five **soil** borings were resampled. Semivolatile organic **compounds** and PCBs were not **detected** in **any** of the **soil** samples **analyzed.**

7.2 Groundwater Analytical Results

Four **shallow monitoring** wells were sampled **as part** of the groundwater investigation **at** the site. **Groundwater purged from** the **shallow** wells had a clear, uncolored to yellow-tinted appearance. Monitoring well **purging is** detailed in Appendix **E. No** significant variation **between** groundwater pH was measured, with **the** pH values **ranging** between 3.79 and 4.96 **standard units.** Conductivity values varied **from** 0.000 **to** 0.020 **µmhos.** Temperatures were **between 15.0 and 22.8°C,** with **an** average temperature of 19.6°C.

Metals were the only parameters detected in the groundwater samples. Concentrations of these parameters measured at the site were initially compared to twice the measured mean reference concentrations, when applicable, to gauge whether detected parameters are naturally occurring. As previously mentioned in Section 7.1 and shown in Figure 2-1, two designated areas at NAS Pensacola were established as reference areas during the Site 1 investigation (E/A&H 1994). The reference areas contain two production wells (01GDSW50 and 01GDSW51, both tapping the main producing zone of the Sand-and-Gravel Aquifer), two shallow (01GS67 and 01GS69), and two intermediate depth wells (01GI68 and 01GI70). All wells at both locations were sampled to obtain reference groundwater data; however, data collected from the production wells were excluded from the reference data for Site 5 due to the absence of deep monitoring wells. [presented in the discussion below, where applicable, are the NAS Pensacola reference concentrations of the inorganics as determined from the two shallow (016567 and 016569) and two intermediate depth reference wells (016168 and 016170) from the July through August 1994 sampling event. These values were determined by taking the average concentration for each parameter and multiplying this number by two. The analytical results for the reference samples are presented in Appendix H.

Please note that due to differing sample collection techniques, the two data sets are not comparable. Site 5 samples were collected using standard bailing equipment and procedures. However, reference samples collected in July through August 1994 were collected using a quiescent technique, which causes less turbidity in samples. Metals data in the Site 5 data set may falsely appear higher than reference due to the differing techniques.] Concentrations were compared to applicable state and federal standards.

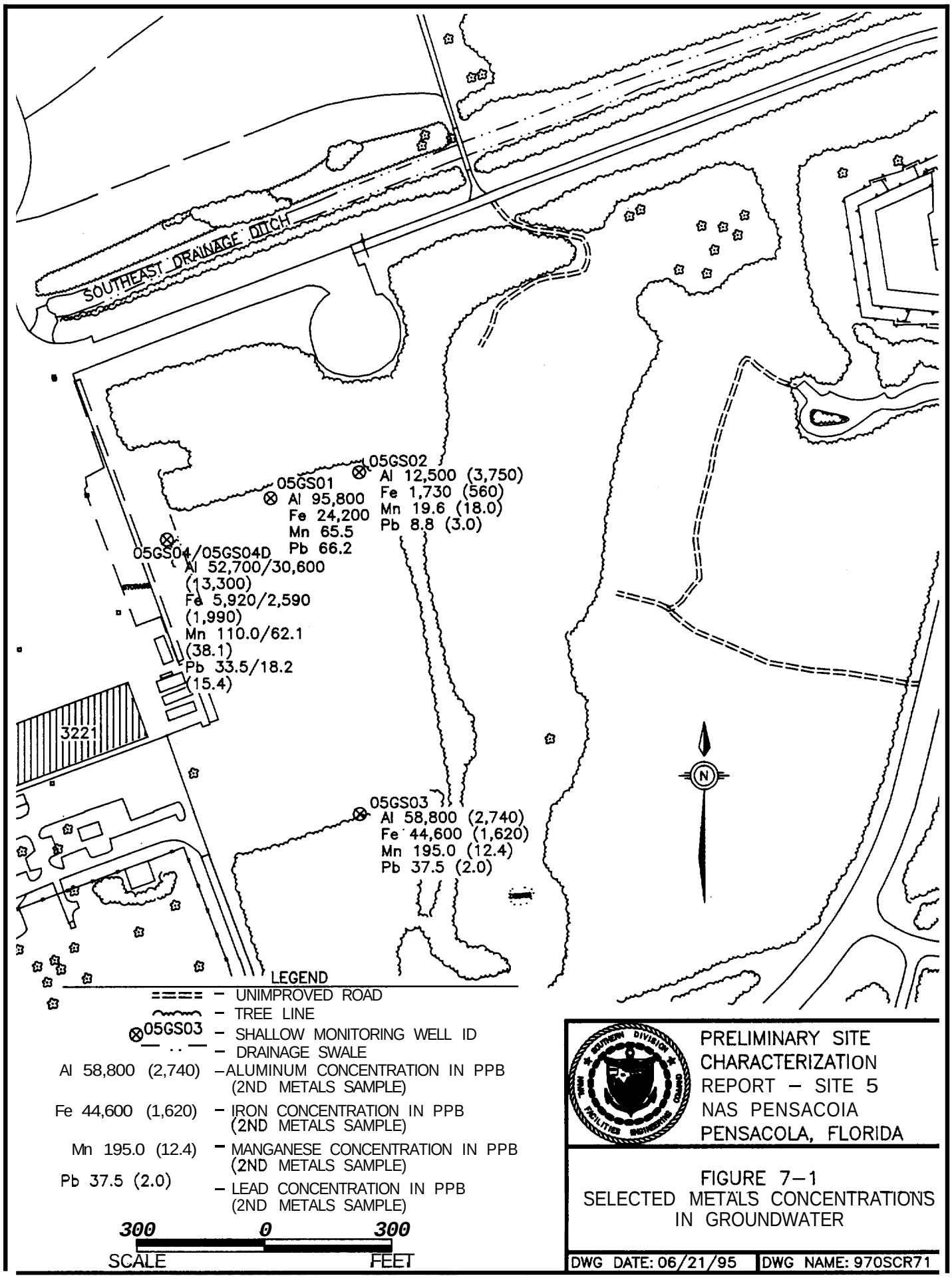
7.2.1 Metals

Table 7-3 summarizes the measured metals concentrations, and Figure 7-1 presents a map view of selected metals concentrations at the site. [Aluminum,] iron, lead, [and manganese] were detected above their respective Florida Primary Drinking Water Standard (FPDWS), Florida Secondary Drinking Water Standard (FSDWS), or the Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCLs), whichever is lower. However, as shown in Table 7-3 [aluminum and iron] have been identified in the reference groundwater samples at concentrations above their respective drinking water standards, indicating these metals are indigenous to the groundwater. In addition, [lead and manganese] concentrations generally decreased [to below the standards] in a second set of metals samples collected from the same monitoring wells after additional purging. [Monitoring well 05GS01 could not be sampled twice because the well went dry.]

[Aluminum was detected above its standard (50-200 µg/L) in all groundwater samples analyzed. However, aluminum 'concentrations decreased to below the reference concentration (3,882.86 µg/L) in the second metals sample collected after additional purging from 05GS02 (3,750 µg/L) and 05GS03 (2,740 µg/L).

Iron was also detected above its standard (300 µg/L) in all groundwater samples analyzed. However, iron concentrations decreased to below the reference concentration (1,707.8 µg/L) in the second metals sample collected after additional purging from 05GS02 (560 µg/L) and 05GS03 (1,620 µg/L). Manganese was detected in all groundwater samples analyzed. Manganese concentrations decreased to below the standard (50 µg/L) in the metals sample collected after additional purging from 05GS02 (19.6 µg/L), 05GS03 (12.4 µg/L), and 05GS04 (38.1 µg/L).]

[Bold items in brackets denote changes to the first draft of document.]


SOUTHEAST DRAINAGE DITCH
05GS01
Al 95,800
Fe 24,200
Mn 65.5
Pb 66.2
05GS02
Al 12,500 (3,750)
Fe 1,730 (560)
Mn 19.6 (18.0)
Pb 8.8 (3.0)
05GS04/05GS04D
Al 52,700/30,600
(13,300)
Fe 5,920/2,590
(1,990)
Mn 110.0/62.1
(38.1)
Pb 33.5/18.2
(15.4)
3221
05GS03
Al 58,800 (2,740)
Fe 44,600 (1,620)
Mn 195.0 (12.4)
Pb 37.5 (2.0)
N
LEGEND
UNIMPROVED ROAD
TREE LINE
05GS03 – SHALLOW MONITORING WELL ID
DRAINAGE SWALE
Al 58,800 (2,740) –ALUMINUM CONCENTRATION IN PPB (2ND METALS SAMPLE)
Fe 44,600 (1,620) – IRON CONCENTRATION IN PPB (2ND METALS SAMPLE)
Mn 195.0 (12.4) – MANGANESE CONCENTRATION IN PPB (2ND METALS SAMPLE)
Pb 37.5 (2.0) – LEAD CONCENTRATION IN PPB (2ND METALS SAMPLE)
300 0 300
SCALE FEET
PRELIMINARY SITE CHARACTERIZATION REPORT – SITE 5
NAS PENSACOIA
PENSACOLA, FLORIDA
FIGURE 7–1
SELECTED METALS CONCENTRATIONS IN GROUNDWATER
DWG DATE: 06/21/95
DWG NAME: 970SCR71

This page left blank intentionally.

Table 7-3
Summary of Detected Metals in Groundwater Site 5, Borrow Pit (µg/L)

Compound	Sample ID					2 X Reference Mean	Standard
	05GS01	05GS02	05GS02M2	05GS03	05GS03M2		
Aluminum	**95,800**	12,600 J	3,750 J	68,800 J	2,740 J	3,882.76	200*/ 50-200[b]
Arsenic	12.7 U	2.4 U	2.4 U	11.8 J	2.4 U	2.8	50
Barium	**144**	22.4 U	19.9 U	141	12.1 U	13.22	2,000
Beryllium	**2.4**	0.4 U	0.4 U	0.93 J	0.4 U	1.1	4
Calcium	6,250	1,140	1,180	4,670	1,460	17,560	NS
Chromium	**85.4** J	16.2	6.1	**55.5**	2.7 U	34.98	100
Copper	91.7	15.9	6.7 U	40.0	5.8 U	16.2	1,000*
Cyanide	0.95 U	0.95 U	NA	1.8	NA		200
Iron	24,200 J	**1,730**	560	**44,600**	1,620	1,707.8	300*
Lead	66.2 J	**8.8**	3.0	37.6	2.0	1.6	15
Magnesium	2,150.0	423.0	383.0	1,470.0	402	2,872.5	NS
Manganese	66.6 J	19.6	18.0	196.0	12.4	21.92	500'150'
Mercury	**0.79**	0.28	0.33	0.66	0.1 U	0.2	2
Nickel	24.3	8.4 U	8.4 U	16.2	8.4 U	39.9	100
Potassium	1,300	487.0 U	429.0 U	500.0 U	423.0	12,167.6	NS
Selenium	5.3 U	7.3 U	2.3 U	2.3 U	2.3 U	3.9	50
Sodium	1,950	1,630	1,880	1,810	1,870	18.345	160,000
Vanadium	80.6 J	14.1 U	3.9 U	97.9 U	6.8 U	9.58	NS
Zinc	36.0 J	8.9 U	12.7 U	33.3 J	13.3	153.2	5,000'

[Bold items in brackets denote changes to the first draft of document.]

Table 7-3 (Continued)
Summary of Detected Metals in Groundwater Site 5, Borrow Pit (µg/L)

Compound	Sample ID		2 X Reference Mean	Standard
	05GS04/05GS04D	05GS04M2		
Aluminum	**52,700/30,600 J**	**13,300 J**	3882.70	200[a]/50-200[b]
Arsenic	**3.9**/2.4 U	2.4 U	2.8	60
Barium	**139/82.7**	**42.0**	13.22	2,000
Beryllium	0.4310.4 U	0.4 U	1.1	4
Calcium	11,200/6,870	4,010	17,560	NS
Chromium	29.6110.0	8.2	34.98	100
Copper	**29.7/19.0**	**59.2**	16.2	1,000
Cyanide	0.95/0.95 U	NA		200
Iron	**5,920/2,590**	**1,990**	1707.8	300[a]
Led	33.6118.2	**15.4**	1.6	16
Magnesium	2,200/1,380	1.080	2872.6	NS
Manganere	110.0/62.1	38.1	21.92	500[a]/50[b]
Mercury	0.210.2	0.13	0.2	2
Nickel	8.5/8.4 U	8.4 U	39.9	100
Potarrium	762.01371.0	362.0	12.107.0	NS
Selenium	**4.8**/2.5	2.3 U	3.9	60
Sodium	5,350/4,640	6,620	18,346	160,000
Vanadium	**55.1/34.7**	14.0	9.68	NS
Zinc	26.119.7 U	32.0	163.2	5,000[a]

[Bold items in bra[illegible] denote changes to the first dr[illegible] document.]

Notes:

Unless noted, standard is the Florida Primary Drinking Water Standard or **MCL** whichever is lower.

µg/L	—	Micrograms per liter or parts per billion (ppb)
[a]FSDWS	—	Florida Secondary Drinking Water Standard
[b]SMCL	—	Secondary maximum contaminant level from SDWA
U	—	The compound was analyzed for, but was not detected above tha reported sample quantitation limit.
J	—	The compound was positively detected, however, the reported concentration is considered to approximate the concentration within the sample.
UJ	—	The compound was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the compound in the sample.
NS	—	No standard established

Bold face denotes reference concentration exceedance
Underline denotes standard exceedance
MCL/SMCL are presented only when their values differ from the FPDWS/FSDWS.

[Bold items in brackets denote changes to the first draft of document.]

7.3.3 Interpretations and Conclusions

Parameters detected in groundwater samples collected at Site 5 consisted only of metals. VOCs, pesticides, PCBs, and semivolatiles were not detected in any of the groundwater samples collected at the site. Co-ions of [aluminum], iron, lead, and manganese were detected above their respective drinking water standards. [Aluminum and iron] were identified in the reference groundwater samples at concentrations above their respective drinking water standards, indicating these metals are indigenous to the area. The detected concentrations for a majority of inorganic parameters decreased significantly in samples collected after additional purging, suggesting the high concentrations resulted from sorption of metals onto entrained fine sediment in the samples. In addition, the relatively low pH of the groundwater is likely causing the inorganic parameters to go into solution.

7.3 Material Blanks Analytical Results

Material blanks consisting of Portland cement, filter pack sand, and bentonite were collected and analyzed as part of this investigation to screen for false positives possibly introduced through these construction materials. Bentonite pellets (sample 05SN), grout (sample 05SO), and filter sand (sample 05SL) had detected concentrations of metals and trichloroethene. However, these samples were submitted and analyzed with the soil samples which appear to have been cross-contaminated at the laboratory with trichloroethene. Because it is likely the soil and material samples were stored and analyzed in the same area of the laboratory, it is believed the concentrations of trichloroethene resulted from laboratory cross-contamination. Toluene, a common laboratory artifact, was also detected at 7 μg/kg in the Portland cement sample.

Trichloroethene and toluene were not detected in groundwater samples collected from the monitoring wells constructed of these materials. The absence of these compounds in the groundwater samples likely indicates their presence in the construction materials were the result

of laboratory cross-contamination. However, if the detections were not the result of laboratory cross-contamination, the absence of the parameters in the groundwater samples indicates the concentrations do not adversely affect groundwater quality. Data validation and the analyzed blanks are discussed in Section 8.

This page left blank intentionally.

8.0 DATA VALIDATION

Data have **been** validated for all field and analytical data collected **from** the investigation of Site **5** at NAS Pensacola. The analytical work was primarily conducted by Pace New England, Inc., Hampton, New Hampshire. The analytical protocols were performed in accordance with the following guidance documents.

- USEPA Contract Laboratory Program, *Statement* of **Work** (SOW) *for Organic Analyses* **(CLP 3/90).**

- USEPA Contract Laboratory **Program,** *Statement* of **Work** *for Inorganic Analyses (CLP* **3/90).**

- NEESA Level D QA/QC guidelines **as stated** in the ***Sampling and Chemical Analysis Quality*** *Assurance Requirements for the Navy Installation and Restoration Program (NEESA 20.2-047B).*

8.1 Data Quality

The overall quality of the analytical work for Site **5** was satisfactory and the **data** are considered usable for site remediation **and risk** assessment with the appropriate data qualifiers based on data CLP **SOW** and contractual satisfaction. Sample collection for Site **5** at NAS Pensacola **was** performed under five Sample Delivery Groups (SDGs). The final SDG contained the re-analysis of several samples due to reported concentrations of trichloroethene found in the **initial** analysis. The second analysis of these same samples had no concentrations of trichloroethene present within the samples.

8.2 Organic Analysis

Each SDG was received by the laboratory in good condition with the proper custody documents and seals intact. Contractual holding times from the Verified Time of Sample Receipt (VTSR) until the time of sample extraction and/or analysis were found to be in compliance with contract requirements. However, in Case Pensa, SDG SIT01, initial semivolatile analysis of equipment blank 05SE03, deionized water blank 970FI1 and potable water blanks 05GP01 and 05GP02 were extracted and analyzed by the laboratory outside of holding times, due to equipment failure. (Note: A *case* is usually a finite predetermined number of samples collected over a given time from a particular site consisting of *one* or more SDGs.) Although, the laboratory indicated the data usability was unaffected, E/A&H used professional judgement in evaluating these samples and qualified tlk associated sample results with a J flag as estimated.

In Case Pensa SDG SIT02 the laboratory indicated two samples, GS0101RE and MM05SORE, *were* re-extracted due to low surrogate recoveries in the original analysis. The samples were received three days after sampling and extracted five days after receipt. Contractual holding times from the VTSR until the time of sample extraction and/or analysis were within contract requirements. However, the laboratory indicated a technical holding time of seven days from time of sampling to time of extraction. As a result, all associated sample results were qualified with a J flag as estimated.

8.2.1 Blanks

Blanks assist in determining the presence and magnitude of any contamination resulting from the laboratory or field. All associated sample results were evaluated to determine whether there are inherent variabilities in the data, or if a problem with the analytical results was an isolated occurrence and not really affecting the data. The blank data provided for the investigation of Site 5 indicated various concentrations of acetone and methylene chloride for volatiles. These

compounds are considered common laboratory artifacts and were evaluated and qualified based. on the action levels found in each **SDG,** however, no laboratory artifacts were found for semivolatiles.

Action levels are based on the highest positive sample concentration of any laboratory artifact found in each method blank(s) or QC sample above the Contract Required Quantitation Limit (CRQL). In other words, no positive sample result for a common laboratory artifact is reported unless the concentration of that particular artifact exceeds the action level of ten times (10X) the amount found in any blank(s). For compounds not considered common laboratory artifacts, the action level is five times (5X) the amount found in any associated blank or QC sample.

The following blanks **are** created in the laboratory. Each sample designation will be followed by a consecutive number unique to the blank. For example, the third volatile method blank would be designated "VBLK03."

Method Blank

VBLK	—	Volatile Method Blank
SBLK	—	Semivolatile Method Blank
PBLK	—	Pesticide/PCB Method Blank

These blanks **are** used by the laboratory to determine the levels of contamination associated with the processing and analysis of samples.

Instrument Blank

PIBLK	—	Pesticide/PCB Instrument Blank

An instrument blank is used by the laboratory to determine if any contamination is present before, *during,* and after pesticide/PCB sample analysis related to the gas chromatography instrument

During data validation of Case Pensa SDGs SIT01 and SIT02, the common volatile laboratory artifacts methylene chloride and acetone were identified above the CRQL in the associated method blanks and equipment blanks. The trip blanks, potable water blanks and deionized (DI) water *system* blanks for both SDGs were free of volatile and semivolatile target compounds and semivolatile laboratory artifacts. Acetone and methylene chloride are considered common laboratory artifacts, therefore, action levels were *calculated* and all associated sample data qualified according to the action levels calculated for each SDG.

Nontarget compounds identified by analysis are labeled as *Tentatively Identified Compounds* (TICs), and in CLP analyses, these compounds are reported for volatiles and semivolatiles. In the volatile analysis for SDGs SIT01 and SIT02, the laboratory reported 2-propanol and an unknown as the only two volatile TICs consistently for nearly each sample. The 2-propanol present in these samples is a result of decontamination procedures at Site 5 and is not considered a sample constituent. Semivolatile analysis of SDGs SIT01 and SIT02 indicated all identified "TICs were laboratory artifacts, unknowns, unknown hydrocarbons, cyclohexene and/or sulfur derivatives. [For sample 05S00308, a TIC was detected at 2,100 ppb which caused the laboratory to run the sample using the medium level analysis which raised the quantitation limits. The sample was not diluted.]

In evaluating the data provided by these QC samples, all frequencies and compliance requirements were found to be satisfactory. E/A&H believes these common laboratory artifacts and other blank contaminants are partially, if not all, a result of laboratory conditions at the time

of sample analysis. The trichloroethene reported for several samples in **SDGs SIT01** and **SIT02** were initially considered valid measurements. However, analytical data from the re-analysis in **SDG SIT05** indicated that the concentrations of trichloroethene reported were a result of laboratory contamination due to laboratory conditions at the time of analysis. Therefore, no conclusions or recommendations for Site **5** at **NAS** Pensacola **are** based on laboratory artifacts.

8.2.2 Calibration

Requirements for instrument calibration were established to ensure the data are qualitatively and quantitatively acceptable. The initial calibration measures the instrument's stability, which indicates its sensitivity **and** capabilities before the analytical **run.** Each continuing calibration standard analysis indicates the instrument's performance throughout and at the end of each subsequent analytical **run.** Historical performance data has indicated poor response and/or erratic behavior by those compounds that are considered common laboratory artifacts. Therefore, for review and data validation purposes, no contractual criteria exist for these compounds. All compounds, including laboratory artifacts, were flagged when the following criteria were **not** met.

- All target compounds and surrogates in the initial and continuing calibration standards must have relative response factors (RRFs) greater **than** or equal to ***0.05.***

- The percent relative standard deviation (%RSD) for each target compound must not exceed a positive or negative 30 percent in all initial calibrations.

- The percent difference (%D) for each target compound must not exceed a positive or negative **25** percent in all continuing calibrations.

Several volatile compounds, including methylene chloride, acetone and 2-butanone, consistently failed %RSD criteria *during* the initial calibration analysis for almost every organic SDG. Also, acetone, 2-butanone, 2-hexanone, chloromethane, 4-methyl-2-pentanone, 1,2-dichloroethane-d4, and vinyl chloride, each failed %D criteria during the continuing calibration analysis for both SDGs. However, the RRFs for each *compound* mentioned above was within CLP QC criteria.

In the *case* of semivolatile analysis, the *compounds* 2,2'-oxybis(1-chloropropane), 2-nitroaniline, hexachlorocyclopentadiene, hexachlorobutadiene and failed %D criteria because of poor response and/or frequent intervals of erratic behavior. Although, this was a systematic occurrence for nearly every SDG, these poor responders represent the large majority of compounds which failed both %D and %RSD for both SDGs. Also, the laboratory indicated several analytes in the initial and continuing calibrations for pesticide/PCB analysis were outside QC criteria because of a lack of linearity. (Note: Linearity is the ability of the gas chromatograph and electron capture detector [ECD] to show consistent sensitivity and resolution for every compound over an initial and/or *continuing* calibration. Compound sensitivity and resolution on the ECD must increase with increasing concentration for each calibration curve to be linear.) This linearity problem was noticed on one particular gas chromatograph assigned to analyze pesticide/PCB analysis. Therefore, if the %RSD was greater than 30 percent and elimination of either the high or low point on the initial calibration curve and recalculation did not restore the %RSD result *to* 30 percent or less, all associated positive sample results outside the linear portion of the initial calibration curve were qualified with a J flag. However, if this action restored the %RSD result to a value below 30 percent, no action was deemed necessary based on CLP QC protocols.

8.2.3 Recision

In each method used to analyze environmental samples, there are variations in the reported results possibly due to random differences in handling and analysis of the matrix. These

variations are referred to as the ***precision*** or the ***reproducibility*** of results. To demonstrate reproducibility, the CLP SOW specifies the addition of known quantities of several compounds to two separate aliquots of each sample matrix type. The "spiked" aliquots are referred to as the MS and the MSD. These samples can then be analyzed by applying the same preparation techniques and analytical methods used for all the samples of similar matrix types. Thus the MS and MSD *can* be used to detect matrix effects caused by contaminants during sample analysis that interfere with the compounds of interest.

MS/MSD results for volatiles, semivolatiles and pesticides/PCBs in SDG SIT01 were within QC criteria except for the compound g-BHC (Lindane). The laboratory indicated a recovery of 40 percent for g-BHC. Therefore, all associated sample results were qualified with a J flag. In SDG SIT02, all analytes for volatiles and pesticide/PCBs were within CLP criteria. However, the compounds 4-nitrophenol and pentachlorophenol exhibited high percent recoveries and the analyte pyrene indicated a high %RPD.

8.2.4 Accuracy

Accuracy is the degree to which a given result agrees with the ***true*** value. To check the accuracy in a volatile, semivolatile, pesticide and/or PCB analysis, the CLP SOW requires the addition of known amounts of surrogate *compounds*, or compounds which are not likely to be found in the actual samples. If, upon sample analysis, the percent recovered for the surrogate compounds is accurate (i.e., close to the known concentrations as defined within the limits set by the CLP), then the reported target compound concentrations are assumed to be accurate.

Also, the accuracy of the overall measurement system indicates any bias in the environmental laboratory and/or in the field sampling and analysis plan. Possible sources of error may include the sampling process, field and/or laboratory contamination, preservation, and handling or the

sample matrix itself. Other methods used to determine field inaccuracies include trip blanks, field blanks, and equipment rinsate blanks.

In SDG SIT01, the method blanks PBLK05, PBLK07 and PBLK08 failed Pesticide/PCB surrogate recovery criteria for decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCX) on both the primary and confirmation columns. The potable water blanks 05GP01 and 05GP02 failed surrogate recovery for DCB and TCX on both the primary and confirmation columns. Samples 05SE03, 970FI1, 05S0202, 05S0204, 05S0206, 05S0302, 05S0304, 05S0308, 05S0310, 05S0402, 05S0404, 05S0406, 05S0502, and 05S0502D failed pesticide/PCB surrogate recovery for TCX on both the primary and confirmation columns, except for of sample 0580308. Sample 05S0308 failed surrogate recovery for DCB on both the primary and confirmation columns. Other samples that failed pesticide/PCB surrogate recovery criteria for both DCB and TCX on both the primary and confirmation columns included 05S0506, 05S0204MS, 05S0204MSD, and LCSA67MSD. The laboratory reported that samples *0530504,* 05S0306D, LCSA67MS, LCSA68MS, and LCSA68MSD also failed surrogate recovery criteria for TCX on both the primary and confirmation columns. Although, CLP QC limits are advisory and no action is provided for samples with failing pesticide/PCB surrogate recoveries, the pesticide/PCB analytical data within this SDG are believed reliable and usable with the appropriate data qualifiers.

In SDG SIT02, sample 05GS0101 failed semivolatile surrogate recovery criteria for phenol-d5 and samples 05GS0101RE, 05GS0401, 05GS0401D, and 05GS0301MS failed surrogate recovery criteria for terphenyl-d14. The grout samples 05SO and 05SORE also failed semivolatile surrogate recovery criteria for 2,4,6-tribromophenol.

During pesticide/PCB analysis in SDG SIT02, the method blank PBLK09 and samples 05GE01 and 05GI02 indicated low surrogate recoveries for DCB and TCX on both the primary and

confiiationcolumns. Also, samples**05GS0101, 05GS0201, 05GS0301MS,** and 05GS0301MSD failed surrogate recovery criteria for DCB on both the primary and confirmation columns. Samples**05GS0301, 05GS0401, 05GS0401D, 05S0101, 05S0201, 05S0301, 05S0401, 05S0501,** 05SN, and 05SO failed surrogate recoveries for DCB and TCX on both the primary and confirmation columns. Method blanks PBLK10 and PBLK11 and bentonite sample 05SN indicated low surrogate recoveries for DCB on **both** the primary and confirmation columns and/or TCX on either the primary and confiiation columns.

However, as indicated earlier, the pesticide/PCB analytical data within each SDG was determined to be reliable and usable with the appropriate data qualifiers. This determination was based on the evaluation of all associated QC including surrogates, initial and continuing calibrations, retention time criteria and **%D** and %RSD criteria because CLP QC limits are advisory and no action is provided for samples with failing surrogate recoveries.

8.2.5 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent the characteristic of a population, parameter variations at a sampling point, or an environmental condition. Analysis of duplicate samples indicate overall field and laboratory precision. **A** greater variance should be expected for soil sample duplicates as compared to water sample duplicates due to the differences in matrix. In all cases, the duplicate results were found to closely agree with the original results since most variations **are** due mainly to common laboratory artifacts.

8.2.6 Completeness

Completeness is defined as the percentage of measurements made which are judged to be valid. Forty-five samples were initially analyzed for the investigation of Site 5. Ten of these samples, with reported positive trichloroethene sample results, were determined to be invalid. Seven of these positive samples for trichloroethene were re-analyzed and found to be clean. Therefore, the data meet the 90 percent completeness level.

8.2.7 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. All samples for Site 5 were collected using the USEPA Region IV SOPs and analyzed according to CLP SOW protocol.

8.3 Inorganic Analysis

The analytical methods were performed in accordance with the USEPA CLP SOW for Inorganics Analyses (3/90) guidelines. For hexavalent chromium analysis, the laboratory employed Method 7196A contained in *Test Methods for Evaluating Solid Wastes, SW-846, 3rd Edition*. Results were reported according to CLP format including forms listed under NEESA Level D guidelines.

8.3.1 Holding Times

SDGs were received by the laboratory in good condition with the proper custody documents and seals intact. From the date of collection to the date of sample digestion/preparation, sample holding times were within contractual requirements.

8.3.2 Calibration

The purpose of the initial and continuing calibration is to ensure that the instrument is capable of acceptable and quantitative performance at the beginning and throughout each analytical run. Initial and continuing calibrations were performed for the inorganics analysis within the criteria established by the USEPA CLP Inorganics SOW.

8.3.3 Blanks

Blank results are used to determine the presence and magnitude of any contamination problems. In review of the data, the preparation blank in SDG SIT01 contained low concentrations of calcium, lead, zinc, chromium and sodium at or above the instrument detection limit (IDL) and the calibration blanks in SDG SIT01 contained low concentrations of cyanide, manganese, potassium, arsenic and barium.

Also, in SDG SIT02, the preparation blanks indicated concentrations of chromium, calcium, iron, lead, sodium, thallium, vanadium, and zinc at or below the IDLs. The equipment blank for SDG SIT02 contained concentrations of the following analytes: aluminum, barium, calcium, copper, magnesium, manganese, mercury, sodium and, zinc above the IDLs. Sample 05GI02 indicated a significant amount of calcium and the calibration blanks reported concentrations of aluminum, arsenic, barium, cobalt, copper, magnesium, manganese, potassium, silver and selenium.

8.3.4 ICP Interference Check Sample Analysis

The inductive coupled plasma (ICP) interference check sample analysis (ICSA) checks the laboratory's instrument and the background correction factors. There were no indication of interferences. The ICSA was also found to satisfactorily meet the compliance requirements as stated under CLP.

8.3.5 Laboratory Control Sample Analyses

The laboratory control sample analysis (LCSA) monitors efficiency in all steps of analysis, including the digestion procedures. Laboratory control sample analyses and results for SDGs SIT01 and SIT02 reported low recoveries for aluminum and iron in both SDGs and associated sample results were qualified accordingly. All other LCS analyte recoveries were within contractual compliance requirements.

8.3.6 Duplicate/Spike

Duplicate samples are used to determine the precision of analytical methods for each parameter. In SDG SIT01, the original and field duplicate water samples 05S0502 and 05S0502D indicated that all analytes were within CLP control limits. However, in SDG SIT02 the original and duplicate samples 05GSS0401 and 05GS0401D reported analytes aluminum, calcium, iron, and sodium at significant concentrations with aluminum and iron at having %RPD greater than 50 percent. According to CLP protocols, all associated sample results were qualified as estimated, as indicated by the J flag.

Spike analysis of SDG SIT01 indicated the analyte antimony with a percent recovery of less than 50 percent. All positive sample results were qualified as estimated and all non-detected sample results were qualified as estimated at the detection limit with a UJ flag. Also, in SDG SIT02, the laboratory indicated that antimony showed a spike recovery of less than 30 percent. However, the laboratory spiked another sample and also performed a postdigestion spike for antimony and nickel. Both the second spike and the post-digestion spike were within CLP QA criteria. Initially, nickel was reported with a spike recovery of more than 130 percent; therefore, all associated positive sample results for antimony and nickel above the IDL were qualified as estimated with a J flag. All non-detected sample results for antimony were qualified as estimated at the detection limit with the UJ flag.

8.4 Validation Worksheets

As with every E/A&H validation project, worksheets detail the evaluation of the analytical data. On certain sheets, the validation procedures will be equivalent to the SOPs provided by the CLP ***National Functional Guidelines for Organic*** *and* ***Inorganic Data Review.*** Other sections will cover more subjective areas due to the complexities of the analytical methods and will only document actions taken by the data evaluator. The worksheets will be provided upon request or otherwise will become a part of the NAS Pensacola Site *5* ***Final Remedial Investigation Report.***

8.5 Data Assessment

The trip blanks, potable water blanks and DI system blanks contained compounds that are considered laboratory artifacts and were detected by the laboratory as contamination introduced during preparation, handling and/or analysis of the samples. Analysis of semivolatile blanks indicated no contamination by laboratory artifacts. Action levels were calculated for each compound and all associated sample results were qualified as required under CLP protocols.

As indicated earlier, the laboratory reported problems with the analysis of pesticide/PCB samples due to linearity problems associated with the initial and continuing calibrations on one gas chromatograph. The samples were analyzed by the laboratory at the same time the linearity problems were being experienced on the gas chromatograph, and E/A&H was not notified of the problem until after completion of sample analysis for Site 5. Although the affected compounds were not present in the associated samples, the associated sample data were qualified accordingly,

The laboratory analysis of volatiles indicated several samples contained trichloroethene at various concentrations. However, upon re-sampling and re-analysis of all the associated samples, these

same samples were found to be free of trichloroethene contamination. Also, pesticide/PCB analysis showed a number of samples that failed surrogate recovery for DCB and/or TCX on both the primary and confirmation columns. All the associated sample results were qualified as estimated according to CLP Protocols.

The project geologist indicated that the laboratory had truncated sample numbers because the laboratory's computer system could only handle six characters. *Also,* sample identification numbers designated with an L, N or, O *are* material blanks which were sampled from clay pellets or cement used in construction of monitoring wells.

In conclusion, the overall data quality of the analytical work for Site 5 at NAS Pensacola was considered satisfactory and usable for site remediation and risk assessment except for sample results qualified as *estimated at* the detection limit.

9.0 FATE AND TRANSPORT

9.1 Sources of Detected Parameters

The principal parameters identified in the site soil are metals. Inorganic parameters are ubiquitous across Site 5 except for sporadic detections of chromium, copper, mercury, silver, and vanadium. The only inorganic parameter to exceed twice the mean reference concentrations was mercury. Mercury was detected in only one sample and did not exceed its PRG.

The only pesticide concentration was detected within the surface-soil sample collected at 05S05 from the 0 to 1-foot depth interval at a concentration of 4.2 μg/kg, which is below the standard of 1,900 μg/kg. No other pesticides or PCBs were detected. Semivolatiles were not present in any of the soil samples analyzed. Trichloroethene was present in five surface soil samples collected, but resampling and analysis of the interval confirmed it was a laboratory contaminant.

9.2 Contaminant Migration

9.2.1 Leaching from Soil to Groundwater

Detected parameters in soil may be leached from the soil through downward percolation of rainwater toward the water table or through direct continual contact with groundwater during periods of elevated water table; however, the relative absence of most detected parameters in groundwater indicates partitioning of parameters from soil to groundwater is not substantial. Soil at the site is very permeable, resulting in quick infiltration and minimal contact time between percolating water and soil above the water table.

The potential for migration of metals depends highly on total organic carbon content, as well as pH, redox potential, and cation-exchange capacity of the soil. Cation-exchange capacities measured on soil from the two respective depth intervals are relatively low at *0.75* and 0.98 meq/100g. Physical analyses on soil samples from the 0- to 2-foot and 2- to 4-foot

[Bold items in brackets denote changes to the first draft of document.]

intends indicate relatively low total organic carbon contents of 510 and 290 mg/kg, respectively. The physical puameter analyses are presented in *Appendix* [I].

9.2.2 Surface Water Transport

The high permeability of the site soil limits any substantial transfer of detected parameters via surface water flow. One drainage swale is present near the western boundary of the site and the southeastern drainage ditch for Forrest Sherman field is *750* feet north of the site. It is believed *surface* water would be retained within the confines of the site during heavy rain.

93.3 Groundwater Transport

The detection of the parameters in hydraulically downgradient monitoring wells indicates detected parameters may be migrating with groundwater flow toward the southeast drainage ditch, approximately 750 feet south-southeast. Travel time for parameters being transported in the shallow zone to reach the ditch would be approximately 51 years based on the calculated groundwater velocity and assumes a conservative rate of contaminant migration equal to the groundwater velocity *(0.04* feet/day).

9.3 Current and Potential Affected Media

The primary [affected media] *at* the site is the surficial zone of the Sand-and-Gravel Aquifer. Only arsenic and *manganese* were detected above their respective PRGs in groundwater from the surficial zone. Arsenic was detected *at* concentrations above twice the reference standard and its standard in upgradient monitoring well 05GS03 and downgradient monitoring well 05GS04. The detected concentrations did not exceed the FPDWS. In addition, the detected concentrations of arsenic in 05GS03 and 05GS04 decreased to below the instrument detection limit in samples collected after additional purging to lower turbidity. Manganese, which was detected in monitoring well 05GS03 *at* a concentration above its standard, also decreased to

below the standard in samples collected after additional purging to lower turbidity. The general groundwater quality at NAS Pensacola has been shown to be highly turbid and it contains iron and manganese concentrations exceeding the FSDWS. Based on these natural qualities, the surficial zone of the Sand-and-Gravel Aquifer does not appear suitable as a drinking water supply.

Potential [affected media] of detected parameters are the main producing zone, a potable water source for Escambia County which underlies the surficial zone, and Bayou Grande, which is directly recharged by the surficial zone. A 12- to 15 foot-thick, low permeability clay layer encountered between the surficial and main producing zones, may preclude, but at the very least inhibit, any downward migration into the deeper groundwater below the clay.

Conservatively estimating the rate of contaminant migration to equal the groundwater velocity, the detected concentrations of metals, and the amount of the dilution they are likely to undergo before reaching the southeastern drainage ditch minimizes the potential impact to Bayou Grande. If metals detected in the shallow depth zone represent contamination associated with the site, they are also likely to become diluted before discharge. Potential ecological impacts on Bayou Grande will be addressed in a separate RI/FS for Bayou Grande (Site 40).

This page left blank intentionally.

10.0 CONCLUSIONS AND RECOMMENDATIONS

The objectives of this investigation were to identify the nature and extent of contaminants in soil and groundwater at Site 5, if present. The following section summarizes the findings and recommends no further action at the site.

Historical records yielded little information regarding the site. Interviews with Navy personnel indicated soil was removed from the site to build a road, and possibly to use as landfill cover. There is no record of filling the pit after the borrowing activities.

[In 1992, ABB conducted an underground storage tank investigation at Site 3221NE, adjacent to the northwest corner of Site 5. Groundwater at the site had detected concentrations of petroleum constituents including ethylbenzene, toluene, xylenes, napthalenes, and Total Recoverable Petroleum Hydrocarbon (TRPH). Chromium and lead were detected sporadically in soil below regulatory levels. Parameters detected are associated solely with Site 3221NE, not Site 5, and will be addressed under the Florida petroleum program.]

Specific metals identified in the site soil above twice the reference standard include manganese and mercury. The only organic compound detected in the site soil was 4,4'-DDT in the 0 to 1-foot interval at 05S05. No detected parameter exceeds its PRG.

Groundwater flows in a radial pattern across the site north to Bayou Grande. The calculated velocity of flow is 0.04 feet per day. Groundwater from the surficial zone of the Sand-and-Gravel Aquifer is not a potable water supply in southern Escambia County nor is it anticipated to be used for that purpose in the future. Furthermore, groundwater at the site and NAS Pensacola has been shown to contain ambient iron and manganese concentrations exceeding

the FSDWS. This is also very typical of the Sand-and-Gravel Aquifer as a whole. Based on these qualities, the aquifer does not appear to be suitable as a drinking water supply. Underlying the site's surficial zone at approximately 45 feet deep is the low permeability zone, consisting of clays and silt, which separates the upper surficial zone from the main producing zone (a potable water source). Previous investigations conducted at NAS Pensacola have shown the low permeability zone ranges from 12 to 17 feet thick, and contains hydraulic conductivities of 1.76×10^{-3} feet/day (6.224×10^{-7} cm/sec) to 2.065×10^{-5} feet/day (7.285×10^{-9} cm/sec). Hence, the potential for communication between the zones is considered minimal.

VOCs, SVOCs, pesticides and PCBs were not detected in groundwater. Inorganic parameters exceeding their respective [standards] were [aluminum, iron, lead,] and manganese. Overall, the concentrations of metals in the shallow groundwater may be attributed to metals partitioned onto suspended particulate matter in the groundwater sample. In groundwater samples collected after additional purging to lower turbidity, the [lead] and manganese concentrations decreased to below their respective [standards. Although aluminum and iron concentrations remained above the standards after additional purging, their concentrations did markedly decreased.]

The Navy recommends no further action at this site based on the concentrations of detected parameters.

[Bold items in brackets denote changes to the first draft of document.]

11.0 REFERENCES

ABB Environmental Services. (1992). *contamination Assessment Report for Site 3221NE, Naval Aviation Depot, Naval Air Station Pensacola, Florida,* ABB Environmental Services: Tallahassee, Florida.

Bouwer, H. and R. C. Rice. (1976). *A Slug Test Method for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells,* Water Resources Research, Vol. 12, No. 3, pp. 423-428.

Ecology & Environment, Inc. (1992a). *Remedial Investigation/Feasibility Study Work Plan-Group L, Naval Air Station, Pensacola, Florida,* Ecology & Environment, Inc.: Pensacola, Florida.

Ecology & Environment, Inc. (1992b). *Remedial Investigation/Feasibility Study Work Plan-Group O, Naval Air Station, Pensacola, Florida,* Ecology & Environment, Inc.: Pensacola, Florida.

EnSafe/Allen & Hoshall, Inc. (1994a). *Final Comprehensive Sampling and Analysis Plan,* EnSafe/Allen & Hoshall: Memphis, Tennessee.

EnSafe/Allen & Hoshall, Inc. (1994b). *Draft Remedial Investigation Report, Site 1, NAS Pensacola, Pensacola, Florida,* EnSafe/Allen & Hoshall: Memphis, Tennessee.

Florida Department of Environmental Regulation. (1988). *Water Quality Standards, Classification of Groundwater, Usage, Reclassification,* Chapter 17-3.403, Florida Administrative Code.

[Florida Department of Environmental Protection. (1994). *Groundwater Guidance Concentrations*. **Bureau of Drinking** Water and Ground Water **Resources.**

Florida **Department of Environmental** Prosection. **(1994).** *Cleanup Goals for the Military Sites in Florida*. July **5, 1994.]**

Florida Natural Areas Inventory. **(1988).** *Special Plants and Animals List, Escambia County, Florida.* **Tallahassee, Florida.**

Geraghty & Miller, **Inc.** **(1984).** *Verification Study, Assessment of Potential Ground-water Pollution at Naval Air Won, Pensacola, Florida.* Geraghty & Miller, Inc.: Tampa, **Florida.**

Geraghty & Miller, **Inc.** **(1986).** *Characterization Study, Assessment of Potential Ground-water Pollution at Naval Air Station, Pensacola, Florida.* Geraghty & Miller, Inc.: Tampa, **Florida.**

Geraghty and Miller Modeling Group. **(1989).** *AQTESOLV Aquifer Tests Solver Version 1.00 Documentation.* Geraghty & Miller, Inc.: Reston, Virginia.

Heath, R.C. **(1989).** *Baric Ground-Water Hydrology:* **U.S.** Geological Survey Water Supply Paper 2220, Washington, D.C.

Joyner, R. **(1994).** **NAS Pensacola** Facilities Management Division, Oral Communication.

Naval Energy and Environmental Support Activity. (1983). *Initial Assessment Study of Naval Air Station, Pensacola, Pensacola, Florida, NEESA 13-015*, Naval Energy and Environmental Support Activity: Port Hueneme, California.

Naval Energy and Environmental Support Activity. (1988). (NEESA 20.2-047B). *Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program.* Naval Energy and Environmental Support Activity: Port Hueneme, California.

Southeastern Geological Society. (1986). *Florida Hydrogeologic Units: Southeastem Geological Society Ad Hoc Committee on Florida Hydrostratigraphic Unit Definition (SEGS),* Florida Geologic Survey, Special Publication No. 28.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended.

U.S. Environmental Protection Agency. (1986). *Test Methods for Evaluating Solid Waste, Volume IA: Laboratory Manual, Physical/Chemical Methods,* SW-846.

U.S. Environmental Protection Agency. (1988). *National Functional Guidelines for Inorganic Data Review.*

U.S. Environmental Protection Agency. (1990a). *National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule.* EPA/540/1-89/002. December 1989. Federal Register V55:46 pg 8666-8865, March 8, 1990.

U.S. Environmental Protection Agency. (1990b). *Statement of Wonk for Organic Analyses.* contract Laboratory Program (CLP 3/90).

U.S. Environmental Protection Agency. (1990c). *Statement of Wonk for Inorganic Analyses.* Contract Laboratory Program (CLP 3/90).

U.S. Environmental Protection Agency. (1991a). *Standard Operation Procedures and Quality Assurance Manual. U. S.* Environmental Protection Agency: Athens, Georgia.

U.S. Environmental Protection Agency. (1991b). *National Functional Guidelines for Organic Data Review.*

[U.S. Environmental Protection *Agency.* (1994). *Risk-Based Concentration Table.* U.S. EPA Region III (March 18, 1994).

U.S. Environmental Protection *Agency.* (1994). *Drinking Water Regulations and Health Advisories.* U.S. EPA Office of Water: Washington, D.C.]

U.S. Fish and Wildlife Service. (1987). *Comprehensive Natural Resources Management Plan for NAS Pensacola and OLF Bronson, Pensacola, Florida. U.S.* Fish and Wildlife Service, Division of Ecological Services, Panama City, Florida.

U.S. Geological Survey. (1970a). 7 1/2 Minute Topographic Map, Fort Barrancas, Florida Quadrangle.

U.S. Geological Survey. (1970b). 7 1/2 Minute Topographic Map, West Pensacola, Florida Quadrangle, Photorevised 1987.

U.S. Navy. (1993). 1994 Site Management Plan (SMP) of the Installation Restoration Program for the Naval Air Station Pensacola, Pensacola, Florida.

Wagner, J. R., T. W. Allen, L. A. Clemens, and J. B. Dalton. (1984). *Ambient Ground Water Monitoring Program — Phase I:* Northwest Florida Management District, DER Contract Number WM65.

Wilkins, K.T., J. R. Wagner, and T. W. Allen. (1985). *Hydrogeologic Data for the Sand-and-Gravel Aquifer in southern Escambia County, Florida,* Northwest Florida Water Management District, Technical File Report 85-2.

Wolfe, S. H., J. A. Reidenauer, and D. B. Means. (1988). An *Ecological Characterization of the Florida Panhandle.* U.S. Fish and Wildlife Service, Biological Report 88(12); Minerals Management Service OCS Study\MMS 88-0063.

N:\WP51\ALD\PCOLA\CTO.970\SITES.RPT*.*

[Bold items in brackets denote changes to the first draft of document.]

This **page left blank intentionally.**

a

12.0 FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have read and approve of the Final *preliminary* Site Characterization Report for Site 5 — Borrow Pit and seal it in accordance with Chapter 492 of the Florida Statutes. In sealing this document, I certify that the geological information contained in it is true to the best of my knowledge and that the geological methods and procedures included in this plan are consistent with currently accepted geological practices.

Name:	Brian E. Caldwell
License Number:	1330
State:	Florida
Expiration Date:	July 31, 1996

B E Caldwell
Brian E. Caldwell

7/7/95
Date

[Bold items in brackets denote changes to the first draft of document.]

APPENDIX A
SAMPLING AND ANALYSIS PLAN

Table of Contents

1.0 INTRODUCTION A-1

2.0 BACKGROUND INFORMATION A-2
- 2.1 Site Description A-2
- 2.2 Site History A-2
- 2.3 Physical Setting A-4

3.0 PHYSICAL SURVEY A-4

4.0 FIELD SAMPLING PLAN A-5
- 4.1 Sampling Objectives A-5
- 4.2 Sampling and Analytical Requirements A-6
- 4.3 Sample Locations and Rationale A-8
- 4.4 Sampling Procedures A-10
  - 4.4.1 Soil Sampling A-11
  - 4.4.2 Monitoring Well Installation and Development A-11
  - 4.4.3 Groundwater Sampling A-12
- 4.5 Hydrologic Assessment A-12
- 4.6 Ecological Assessment A-12
- 4.7 Cadastral Survey A-12
- 4.8 Decontamination A-12
- 4.9 Investigation-Derived Wastes A-13
- 4.10 Field Quality Assurance/Quality Control A-13

5.0 QUALITY ASSURANCE PIAN A-13

6.0 DATAMANAGEMENTPIAN A-13

7.0 REFERENCES A-14

List of Figures

Figure 2-1 Site Map A-3
Figure 4-1 Proposed Sampling Locations A-9

List of Tables

Table 4-1 *Site 5 Sampling* and Analytical Requirements A-7

List of Abrreviations

The following list contains many of the acronyms, initialisms, abbreviations, and units of measure used in this report.

bls	Below Land Surface
BNAs	base-neutral/acid extractable organic compounds
CLEAN	Comprehensive Long-Tern Environmental Action Navy
CLP	Contract Laboratory Program
CSAP	Comprehensive Sampling and Analysis Plan
DQO	Data Quality Objective
E/A&H	EnSafe/Allen & Hoshall
E&E	Ecology & Environment, Inc.
FDEP	Florida Department of Environmental Protection
FS	Feasibility Study
FSA	Full Scan of Analysis
G&M	Geraghty and Miller, Inc.
GPS	Global Positioning System
GS	Grain Size
HEX	Hexavalent Chromium Analysis
IAS	Initial Assessment Study
IDR	Interim Data Report
IWTP	Industrial Wastewater Treatment Plant
msl	mean sea level
NAS Pensacola	Naval Air Station Pensacola
NEESA	Naval Energy and Environmental Support Activity
PAHs	polynuclear aromatic hydrocarbons
PCBs	Polychlorinated Biphenyls
ppm	Parts Per Million
PPS	Physical Parameters, Soil
PPS	Physical Parameters, Sediment and Soil
PPW	Physical Parameters, Water
QA/QC	Quality Assurance/Quality Control
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
SAP	Sampling and Analysis Plan
SOP/QAM	Standard Operating Procedures and Quality Assurance Manual
SOUTHNAVFACENGCOM	Southern Division, U.S. Navy, Naval Facilities Engineering Command
ST	Shelby Tube
TAL/TCL	Target Analyte List/Target Compound List
TAL	Target Analyte List
TCL	Target Compound List
TKN	Total Kjeldahl Nitrogen

TOC	top of casing
TRPHs	Total Recoverable Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

As part of the U.S. Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) Program, a Preliminary Site Characterization will be completed by EnSafe/Allen & Hoshall (E/A&H) at Site 5 — the Borrow Pit, located at the Naval Air Station Pensacola (NAS Pensacola), Pensacola, Florida. This Sampling and Analysis Plan (SAP) has been developed by E/A&H for this investigation, as tasked by the Southern Division, U.S. Navy, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) under Contract No. N62467-89-D-0318/970.

Primary references for this SAP include the *Comprehensive Sampling* and *Analysis Plan for Naval Air Station Pensacola* (CSAP) (E/A&H 1993), the United States Environmental Protection Agency (USEPA) Region IV *Standard Operating Procedures and Quality Assurance Manual* (SOP/QAM), and the *Contamination Assessment/Remedial Activities Investigation Work Plan* — Group *L* completed by Ecology & Environment, Inc. (E&E 1992). References to these documents are made throughout this plan. The investigation of Site 5 will be completed to fulfill requirements set forth in the E&E site work plan (1992) and this site-specific SAP. This investigation will be conducted in accordance with the SOP/QAM and *CSAP*.

The Site 5 Preliminary Characterization will assess the nature of any potential contamination identified during past and proposed field investigations. Before field activities begin, a well inventory, contaminant source survey, and a habitat and biota survey will be conducted. Field activities to be performed during the Preliminary Site Characterization include the completion of soil borings and monitoring wells, the collection of soil and groundwater samples, and a hydrologic assessment. Chemical analyses will be completed by a laboratory approved by the Naval Energy and Environmental Support Activity (NEESA) using Contract Laboratory Program (CLP) protocol. Field sampling, analytical methods, and reporting will be conducted at USEPA Level IV protocol.

Upon completion of the investigative work and laboratory analysis, a Preliminary Site Characterization Report will be submitted to the Navy, USEPA, and Florida Department of Environmental Protection (FDEP) summarizing the activities, results and conclusions of the investigation. The report will provide supporting data for the completion of a baseline risk assessment. If the results of the Preliminary Site characterization warrant a remedial investigation (RI), additional work, if required, will be performed and the Preliminary Site *characterization* Report will be expanded to fulfill RI requirements. A feasibility study report will also be completed concurrently with the RI report.

This *SAP*, in conjunction with the CSAP, will provide guidelines for sampling and analytical techniques to be used during the Preliminary Site Characterization and outline proper documentation procedures for the investigation.

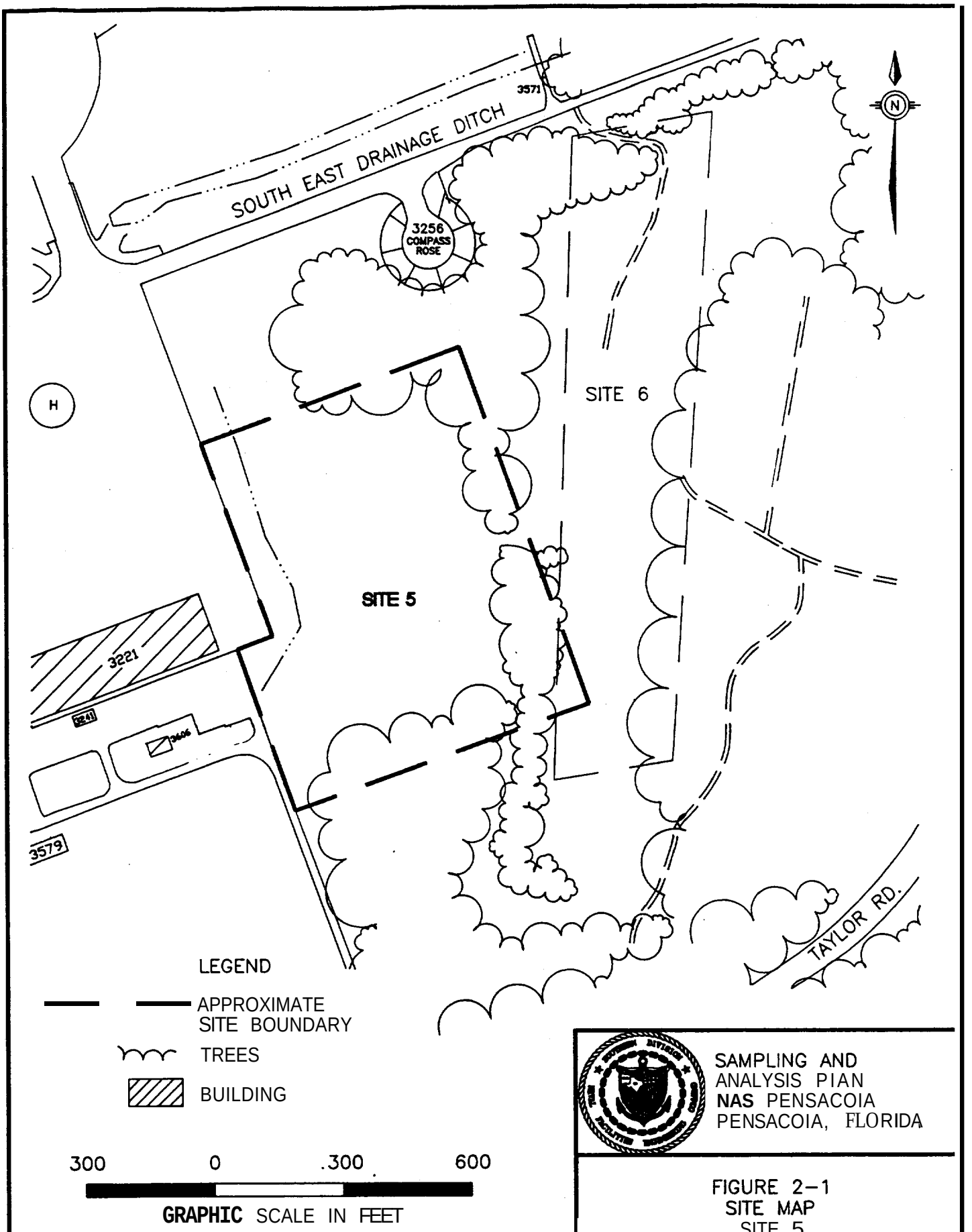
2.0 BACKGROUND INFORMATION

2.1 Site Description

Site 5 is situated southeast of the easternmost end of Forrest Sherman Field, immediately east of Building 3221 (see Figure 2-1). The site consists of an area approximately 650 feet by *800* feet bordered to the west by Building 3221 and parking facilities, to the north and south by wooded areas, and to the east by Site 6, the Fort Redoubt Rubble Disposal *Area*. The site is unpaved with a sandy, sparsely vegetated surface. Site *5* forms a shallow depression of approximately *one* foot below *grade* (E&E 1992). Elevation at the site is approximately 30 feet above mean *sea* level.

2.2 Site History

In 1976 soil was removed from Site *5* for use as cover material at the NAS Pensacola Sanitary Landfill — Site 1 (NEESA 1983). The area where soil had been removed is primarily unvegetated.



SAMPLING AND
ANALYSIS PIAN
NAS PENSACOIA
PENSACOIA, FLORIDA

FIGURE 2-1
SITE MAP
SITE 5

DWG DATE: 09/07/93 | DWG NAME: 70SAP52

An Initial Assessment Study of potentially contaminated sites at NAS Pensacola was conducted by NEESA in June 1983. Based on field inspection, review of historical records and interviews with NAS Pensacola personnel, NEESA concluded hazardous waste had not been disposed of at Site 5 and the site did not pose a threat to human health or the environment.

No field investigations involving the sampling of soil and/or groundwater have been performed at Site 5. No monitoring or production wells are known to exist in the vicinity of the site.

2.3 Physical Setting

Climatology, biological resources, surface water hydrology, physiography, and hydrogeology for Site 5 and NAS Pensacola are detailed in Sections 4 through 7 of the E&E site work plan (1992).

3.0 PHYSICAL SURVEY

Three physical surveys will be conducted before field activities begin: a well inventory survey, a contaminant source survey, and a habitat and biota survey.

Well Inventory

An inventory of existing monitoring wells will be completed in accordance with Section 3.1 of the CSAP.

Contaminant source survey

A contaminant source survey will be conducted to determine any potential sources and any present or past waste streams at the site. The survey will include a review of previous investigative reports, interviews with present and former NAS Pensacola personnel, aerial photo analysis and a utility survey.

The survey will include the identification of the following:

- Location of previous and current underground and overhead piping and utilities.
- Past and present chemicals used at the site.
- Locations of any known surface spills.
- Locations of any known historical outfalls.
- Locations and contents of any known present or former underground storage tanks.

Habitat and Biota Survey

A Phase I habitat and biota survey will be performed in accordance with Section 8 of the *CSAP*. Data obtained during the Site 5 Preliminary Characterization will also be used to help assess ecological risk to any onsite or surrounding terrestrial and aquatic habitats potentially affected by contaminant migration. If ecological impacts are suspected after the Phase I survey, Phase II sampling will be implemented as outlined in Section 8 of the *CSAP*.

4.0 FIELD SAMPLING PLAN

The field sampling plan describes the sampling and field measurement procedures to be used during the preliminary Site Characterization. The field investigation includes advancing soil borings, installing groundwater monitoring wells, and collecting soil and groundwater samples using various techniques. A hydrologic and ecological assessment will also be conducted for Site 5.

4.1 Sampling Objectives

The objectives of the field sampling effort are to:

- Identify potential sources of contamination.
- Assess the nature of identified contaminants.
- Delineate the extent of soil and groundwater contamination.
- Delineate migration pathways of the contaminants.

- Identify potential receptors of the contaminants.

4.2 Sampling and Analytical Requirements

The sampling and analytical requirements 'are summarized in Table 4-1 and discussed below. The proposed number of soil and groundwater samples is also listed in Table 4-1. The Navy, USEPA, and FDEP will be apprised of any changes in the number of samples collected.

Any additional sources or previously undetected contamination will be investigated by the collection of additional samples from any given media, sampling additional media not included in this site-specific SAP, installation of additional monitoring wells to delineate the extent and depth of contaminants, and performance of additional aquifer response tests to characterize subsurface hydrologic conditions. Before additional field activities begin, a field change request vvill be submitted to the Navy for approval with notification to the USEPA and FDEP.

The USEPA CLP Target Analyte List/Target Compound List (TAL/TCL) will be used to provide a legally defensible full spectrum of contaminant analysis. Soil and groundwater will be analyzed for the full TAL/TCL list with additional non-CLP analysis also being conducted when warranted.

Analyses proposed in this SAP have been organized differently than in the E&E site work plan (1992) which were subdivided into "Suites A through E." Proposed analytical parameters are now organized into the five basic groups listed below.

New Analytical Organization

- Full Scan of Analysis (FSA) — A full scan consists of analysis for TCL VOCs, TCL base-neutral acid extractable Organic compounds (BNAs), TCL pesticides, TCL polychlorinated biphenyls (PCBs), TAL metals (unfiltered), and TCL cyanide.

Table 4-1
Site 5 Sampling and Analytical Requirements

Medium	No. of Samples[a]	Analytical Parameter	DQO[b] Level
Soil[c]	25 (3) (2) (3)	FSA PPS GS HEX	IV IV IV IV
Groundwater[d]	3 (2) (1)	FSA PPW HEX	IV IV IV
TOTAL	28 (5) (2) (4)	FSA PPS/PPW GS HEX	IV IV IV IV

Source: Modified from Ecology and Environment, Inc., 1992.

Notes:

a The number of samples shown in parentheses will be analyzed for the additional parameters indicated.
b DQO = Data Quality Objective
c Total number of soil samples = 5 soil borings x 5 sample intervals = 25 samples.
d Total number of groundwater samples = 3 proposed shallow monitoring wells x 1 sample each = 3 samples.

FSA — Full Scan of Analysis
Target Compound List (TCL) volatile organic compounds (VOCs); TCL base-neutral/acid extractable organic compounds (BNAs); TCL pesticides; TCL polychlorinated biphenyls (PCBs), Target Analyte List (TAL) metals (unfiltered), and TCL cyanide.

PPS — Physical Parameters, Soil
Total phosphorus, nitrate-N, total Kjeldahl nitrogen (TKN), heterotrophic plate count, total organic carbon, and cation exchange capacity.

GS — Grain Size Analysis

PPW — Physical Parameters, Water
5-day biological oxygen demand, chemical oxygen demand, hardness, total suspended solids, alkalinity, total phosphorus, nitrate-N, TKN, and heterotrophic plate count.

HEX — Hexavalent Chromium Analysis

- **Physical Parameters, Soil (PPS)** — The parameters include total phosphorus, nitrate-N, total Kjeldahl nitrogen (TKN), heterotrophic plate count, total organic carbon, and cation exchange capacity. Additional sample volume will be collected for the PPS samples.

- **Grain Size Analysis (GS)**

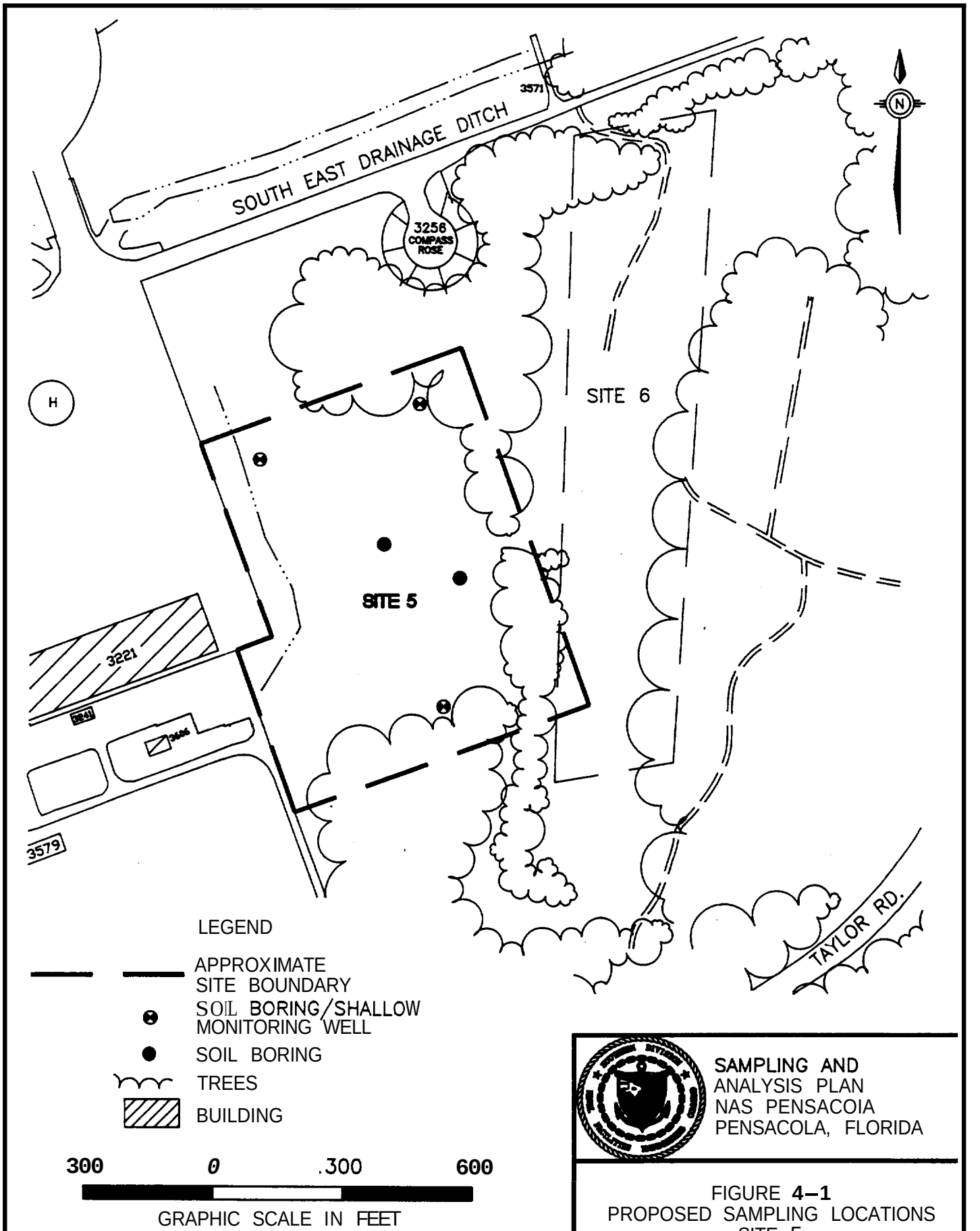
- **Physical Parameters,** Water (PPW) — The parameters include 5-day biological oxygen demand, chemical oxygen demand, hardness, total suspended solids, alkalinity, total phosphorus, nitrate-N, TKN, and heterotrophic plate count. Additional sample volume will be collected for the PPW samples.

- **Hexavalent** Chromium **Analysis (HEX)** — Additional sample volume will be collected for the HEX samples.

Modifications have also been made to the list of remedial/physical characteristic parameters proposed in the E&E site work plan (1992). Changes were made to the proposed analyses to address CERCLA rather than RCRA requirements (i.e., the omission of Appendix IX analyses) and to acquire additional information regarding the physical characteristics of site soil and groundwater if a feasibility study is required. Therefore, certain parameters have been omitted from this SAP because they are either redundant to the comprehensive TAL/TCL analytical methods, provide information that is not legally defensible, or have limited use.

4.3 Sample Locations and Rationale

Proposed sample locations are presented on Figure 4-1. A brief description of the sampling program and any proposed modifications to the E&E site work plan (1992) are described below.



SAMPLING AND ANALYSIS PLAN
NAS PENSACOIA
PENSACOLA, FLORIDA

FIGURE 4–1
PROPOSED SAMPLING LOCATIONS
SITE 5

DWG DATE: 10/04/93 | DWG NAME 70SAP54

Soil Samples — A FSA will be conducted on approximately 25 soil samples collected from five soil boring locations. All boring locations will be sampled at the following intervals: 0 to 1 feet below land surface (bls), 1 to 3 feet bls, 3 to 5 feet bls, etc. from the land surface to the depth of the water table. The depth to water in this area is not known; five sample depths are estimated for each boring.

PPS analyses will be conducted on three soil samples for the feasibility study. The PPS samples will be collected to represent both background and potentially contaminated conditions. GS analysis will be conducted on two soil samples representative of the screened interval of the shallow wells. Results of the GS analysis will be used to calculate recovery well specifications if a groundwater remediation program is required. Ten percent of the soil samples will also be analyzed for HEX to provide data for remediation and risk assessment purposes.

Except for GS samples, soil samples are not anticipated to be collected below the water table. If visual or olfactory evidence of contamination is observed below the water table, a sample will be collected for an FSA for characterization and delineation of potential contamination.

Groundwater Samples — A FSA will be conducted on groundwater samples collected from three shallow monitoring wells. The wells will be completed to a depth of approximately 8 feet bls. PPW analyses will be conducted on two groundwater samples collected for the feasibility study to represent both background and potentially contaminated conditions. Ten percent of the groundwater samples will also be analyzed for HEX to provide data for remediation and risk assessment purposes.

4.4 Sampling Procedures

Proposed sampling procedures are presented in Sections 4, 5, and 6 of the CSAP. General sampling requirements will be performed in accordance with Section 2.2 of the CSAP with

sample processing performed in accordance with Section 12. A brief description of the sampling procedures and any proposed procedure modifications to the *CSAP* or E&E site work plan (1992) are discussed below. All samples collected for HEX analysis will adhere to the following guideline.

Hexavalent Chromium Sampling Guideline

- Due to a 24-hour holding time, these samples will only be collected in the afternoon, Monday through Thursday.

4.4.1 Soil Sampling

Soil borings will be advanced using hollow-stem auger drilling techniques. Soil samples will be collected using stainless steel split-barrel samplers with stainless steel liners in accordance with Section 4.6.1 of the *CSAP*.

4.4.2 Monitoring Well Installation and Development

Monitoring well borings will be advanced using hollow-stem auger drilling techniques. The drilling methods and monitoring well installations will be in accordance with Sections 5.2 and 5.3 of the *CSAP*. In accordance with Florida Administrative Code Chapter 40A-3, neat cement grout is required in all monitoring well installations. Because of possible floating contaminants, shallow monitoring wells will be installed so the well screen brackets the water table.

At least 24 hours after monitoring well installation is complete, the monitoring wells will be developed in accordance with Section 5.4 of the CSAP. Monitoring well development will continue until the water withdrawn is free of turbidity based on the geology of the area and pH, temperature and specific conductivity have stabilized. These measurements will be recorded in accordance with Section 10.1 of the *CSAP*.

4.43 Groundwater Sampling

Groundwater sampling will be performed in accordance with Section 6 of the CSAP. Field measurements to be recorded during groundwater sampling include pH, temperature, specific conductance, groundwater level, and organic vapor detection, in accordance with Section 10.1 of the *CSAP*.

4.5 Hydrologic Assessment

A hydrologic assessment will be performed in accordance with Section 9.6 of the *CSAP*. Slug tests and/or specific *capacity* tests will be performed *at* selected monitoring wells sufficient for site characterization. If groundwater remediation is required, the results of the slug and/or specific capacity tests will be used to design the appropriate pumping tests. The Navy will accept technical responsibility for the design and implementation of these tests. The Navy, USEPA, and FDEP will be *kept* apprised of the investigation as it progresses, and will be notified before conducting full scale pumping tests. Pumping tests will be performed in accordance with the procedures provided in Section 9.6.2 of the *CSAP*.

4.6 Ecological Assessment

A minimum of a Phase I habitat and biota survey will be conducted in accordance with Section 8.1 of the *CSAP*.

4.7 Cadastral Survey

A cadastral survey will be performed as described in Section 3.4 of the *CSAP*. The wellhead survey measurements will be collected in accordance with Section 10.1 of the *CSAP*.

4.8 Decontamination

Decontamination procedures will be performed in accordance with Section 11 of the *CSAP*.

4.9 Investigation-Derived Wastes

Investigationderived wastes will be handled in accordance with Section 13 of the CSAP.

4.10 Field Quality Assurance/Quality Control

Field quality assurance/quality control (QNQC) samples will be collected in accordance with the frequency presented in Table 15-1 of the CSAP. QNQC procedures will be in accordance with Section 15.2 of the CSAP.

5.0 QUALITY ASSURANCE PLAN

The Quality Assurance Plan presented in Section 15 of the CSAP will be followed during the Site 5 Preliminary Characterization.

6.0 DATA MANAGEMENT PLAN

The Data Management Plan presented in Section 14 of the *CSAP* will be followed during the Site 5 Preliminary Characterization.

7.0 REFERENCES

Ecology and Environment, Inc. (1992). *Contamination Assessment/Remedial Activities Investigation Work Plan — Group L, Naval Air Station Pensacola, Pensacoh, Florida.* Ecology and Environment, Inc.: Pensacola, Florida.

EnSafe/Allen & Hoshall. (1993). *Comprehensive Sampling and Analysis Plan For Naval Air Station Pensacoh, Pensacoh, Florida — Draft Final.* EnSafe/Allen & Hoshall: Memphis, Tennessee.

Naval Energy and Environmental Support Activity (NEESA). (1983). *Initial Assessment Study of Naval Air Station, Pensacola, Florida.* NEESA 13-015

U.S. Environmental Protection Agency. (1991). *Environmental Compliance Branch Standard Operating Procedures and Quality Assurance Manual,* U.S. Environmental Protection Agency, Region IV: Athens, Georgia.

APPENDIX B
BORING LOGS

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	BLOWS/FT.	VAPOR CONCENTRATIONS (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
SURFACE CONDITIONS: BARE					
	SB	50	-	0.0	0–2' YELLOWISH BROWN POORLY GRADED SAND, SP, FINE TO MEDIUM, TRACE OF CLAY, MOIST
5	SB	83.3	-	0.1	2–4' AS ABOVE EXCEPT COLOR IS ORANGISH BROWN TO LIGHT BROWN
	SB	75	-	0.0	4–6' AS ABOVE
	SB	33.3	-	0.0	6–8' AS ABOVE, WET TO SATURATED
10					AT APPROX 10' BLS, BLACK ORGANIC–RICH POORLY GRADED SAND, SP, WITH CLAY, WET TO SATURATED
					MONITORING WELL SET AT 14.5'
15					
20					
25					
30					
35					
40					
45					
50					

PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 5
NAS PENSACOIA
PENSACOLA, FLORIDA

05S01/05GS01
SOIL BORING/MONITORING WELL

DATE: 02/07/94

DWG NAME: 970BOR1

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	BLOWS/FT.	VAPOR CONCENTRATIONS (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
SURFACE CONDITIONS: BARE					
	SB	50	-	0.0	0-2' YELLOWISH BROWN POORLY GRADED SAND, SP, FINE TO MEDIUM, TRACE OF CLAY, MOIST
	SB	100	-	0.0	2-4' AS ABOVE
5	SB	83.3	-	0.0	4-6' AS ABOVE EXCEPT LIGHT BROWN
	SB	50	-	0.0	6-8' AS ABOVE. WET TO SATURATED AT 7' BLS CHANGES TO GRAY POORLY GRADED SAND, SP,FINE TO MEDIUM, ORGANIC-RICH, SOME CLAY
10					MONITORING WELL SET AT 14.5'
15					
20					
25					
30					
35					
40					
45					
50					

PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 5
NAS PENSACOIA
PENSACOIA, FLORIDA

05S02/05GS02
SOIL BORING/MONITORING WELL

DATE: 02/07/94 | DWG NAME: 970BOR2

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	BLOWS/FT.	VAPOR CONCENTRATION PPM	DESCRIPTION OF SUBSURFACE MATERIALS
SURFACE CONDITIONS: BARE					
	SB	50	-	0.5	0–2' YELLOWISH BROWN POORLY GRADED SAND, SP, ORGANICS, TRACE OF CLAY, MOIST
5	SB	50	-	4.0	2–4' AS ABOVE, EXCEPT NO ORGANICS
	SB	66.6	-	7.0	4–6' AS ABOVE EXCEPT LIGHT YELLOWISH BROWN
	SB	50	-	1.0	6–8' AS ABOVE
	SB	50	-	0.5	8–10' AS ABOVE
10	SB	50	-	0.0	10–12' LIGHT YELLOWISH BROWN POORLY GRADED SAND, SP, FINE TO MEDIUM, WET TO SATURATED
15					
	SB	50	-	-	16–18' GRAIN SIZE ANALYSIS SAMPLE COLLECTED
					MONITORING WELL SET AT 18'
20					
25					
30					
35					
40					
45					
50					

PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 5
NAS PENSACOIA
PENSACOLA, FLORIDA

05503/05GS03
SOIL BORING/MONITORING WELL

DATE: 02/07/94

DWG NAME: 970BOR3

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	BLWS/FT.	VAPOR CONCENTRATIONS (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
SURFACE CONDITIONS: BARE					
	SB	75	-	0.0	0–2' YELLOWISH BROWN POORLY GRADED SAND, SP, FINE TO MEDIUM, TRACE OF ORGANICS, TRACE OF CLAY, MOIST
5	SB	75	-	12	2–4' AS ABOVE
	SB	50	-	1.4	4–6' AS ABOVE
	SB	50	-	0.8	6–8' AS ABOVE, WET TO SATURATED
10					END OF BORING. BACKFILLED WITH NEAT CEMENT GROUT
15					
20					
25					
30					
35					
40					
45					
50					

PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 5
NAS PENSACOM

PENSACOM, FLORIDA

05S04
SOIL BORING

DATE: 02/07/94

DWG NAME: 970BOR4

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	BLOWS/FT.	VAPOR CONCENTRATIONS (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
SURFACE CONDITIONS: BARE					
	SB	75	-	1.0	0-2' LIGHT YELLOWISH BROWN POORLY GRADED SAND, SP, TRACE OF CLAY AND ORGANICS, MOIST
5	SB	75	-	0.8	2-4' AS ABOVE, WITH GRAY CLAYEY SAND, SC AT 2.5' BLS 2" THICK
	SB	75	-	3.2	4-6' AS ABOVE
	SB	50	-	-	6-8' AS ABOVE, WET TO SATURATED
10					END OF BORING. BACKFILLED WITH NEAT CEMENT GROUT
15					
20					
25					
30					
35					
40					
45					
50					

PRELIMINARY SITE CHARACTERIZATION REPORT
SITE 5
NAS PENSACOLA
PENSACOLA, FLORIDA

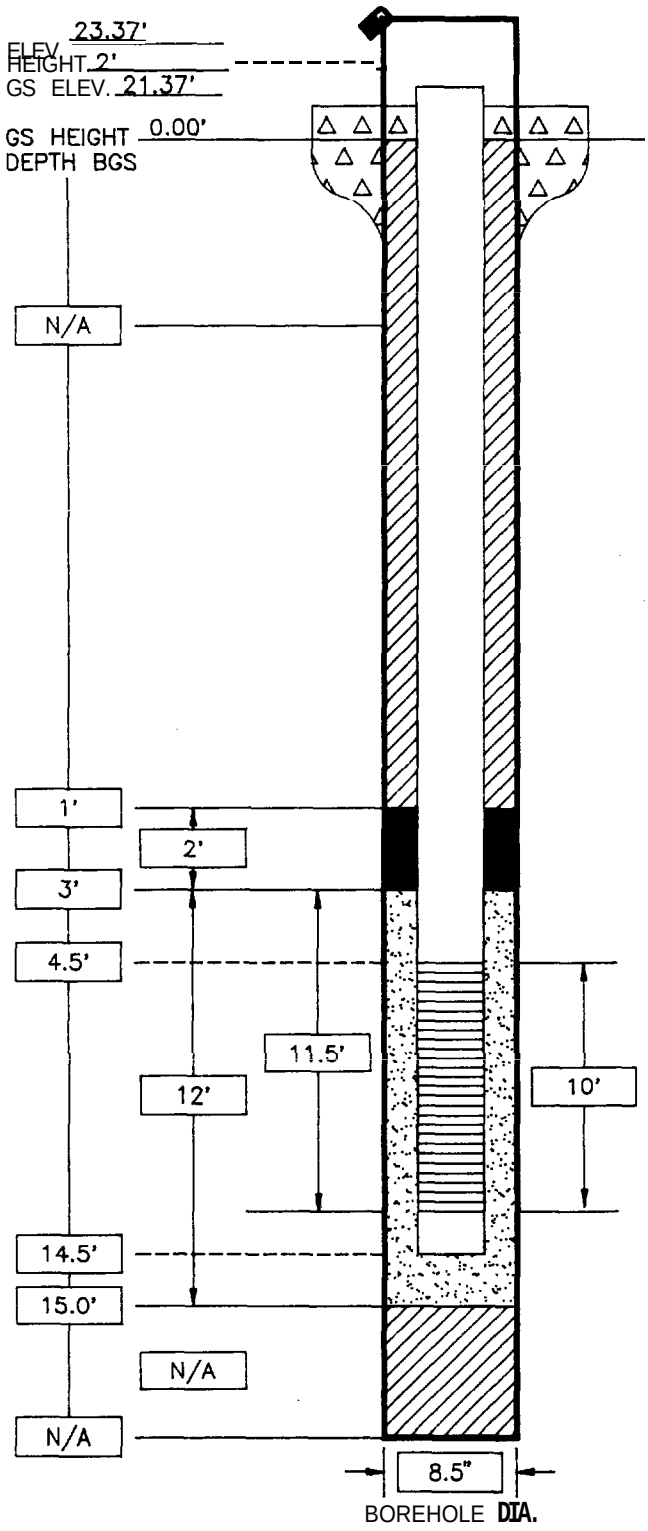
05S05
SOIL BORING

DATE: 02/07/94

DWG NAME 970BOR5

APPENDIX C
MONITORING WELL CONSTRUCTION LOGS

MONITORING WELL CONSTRUCTION LOG – **UNCONFINED AQUIFER**		
WELL NO.: 05GS01	INSTALLATION: 12/01/93–12/02/93	SITE: 5
PROJECT NO.: 0970	CLIENT/PROJECT: NAS PENSACOLA	
DRILLER: LAYNE		
GEOLOGIST: A. DENNEN		



PROTECTIVE CSG
MATERIAL/TYPE STEEL
DIAMETER 3"
DEPTH BGS 3' WEEP HOLE(Y/N)

GUARD POSTS (Y/N)
NO. 4 TYPE STEEL

SURFACE PAD
COMPOSITION & SIZE CEMENT

RISER PIPE
N P E PVC
DIAMETER 2"
TOTAL LENGTH(TOC to TOS) 6.5'
VENTILATED CAP (Y/N)

GROUT
COMPOSITION & PROPORTIONS N/A
TREMIED (Y/N)
INTERVAL BGS N/A

SEAL
BENTONITE
SOURCE BAROID
SETUP/HYDRATION TIME 1 DAY
VOL. FLUID ADDED 3 GALLONS
TREMIED (Y/N)

FILTER PACK
TYPE SAND
AMT. USED 6–50LB. BAGS
TREMIED (Y/N)
SOURCE PEARL SAND
GR. SIZE DIST. 20/30

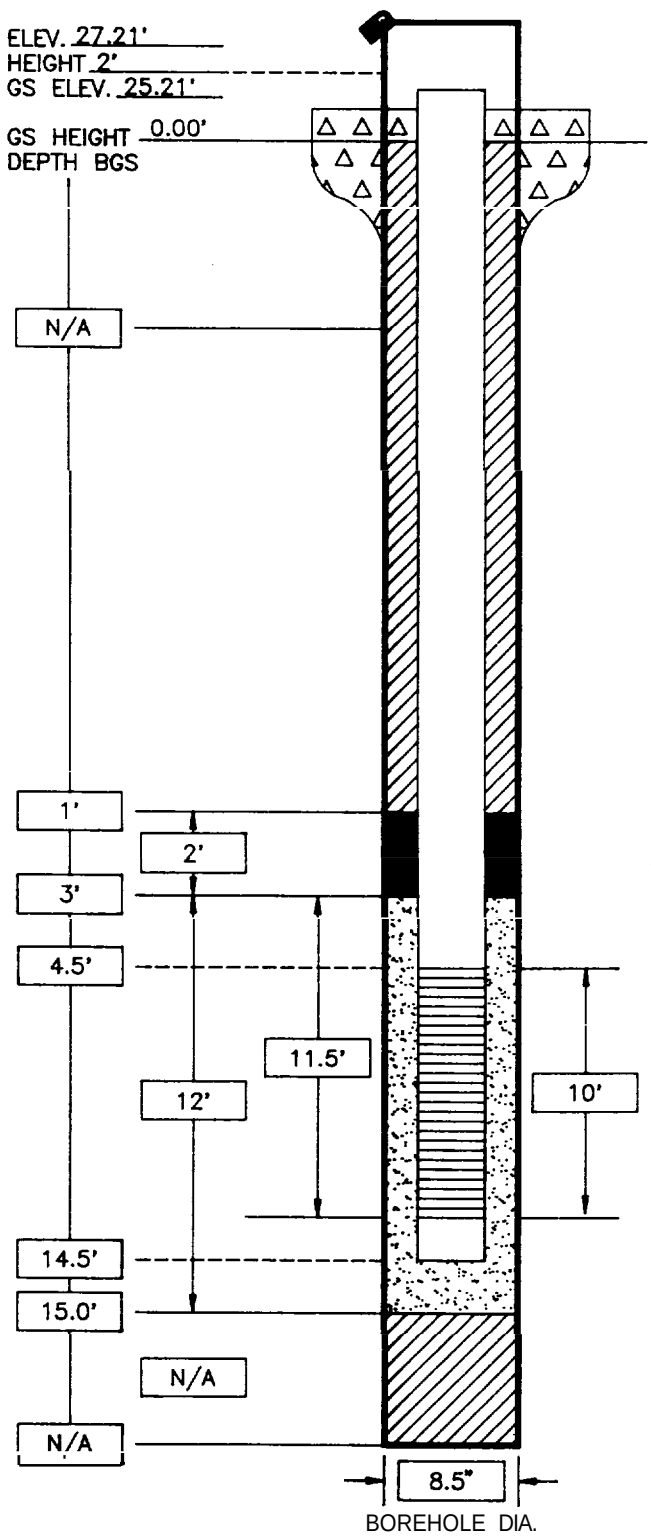
SCREEN
TYPE PVC
DIAMETER 2"
SLOT SIZE & M P E 0.01" CONTINUOUS

SUMP (Y/N)
INTERVAL BGS N/A LENGTH N/A
BOTTOM CAP (Y/N)

BACKFILL PLUG
MATERIAL N/A
SETUP/HYDRATION TIME N/A
TREMIED (Y/N)

970MWCL1

WELL NO.: 05GS02	INSTALLATION: 12/01 /93	SITE: 5
PROJECT NO.: 0970	CLIENT/ PROJECT: NAS PENSACOLA	
DRILLER: LAYNE		
GEOLOGIST: A. DENNEN		



PROTECTIVE CSG
MATERIAL/TYPE STEEL
DIAMETER 3"
DEPTH BGS 3' WEEP HOLE(Y/(N))

GUARD POSTS ((Y)/N)
NO. 4 TYPE STEEL

SURFACE PAD
COMPOSITION & SIZE CEMENT

RISER PIPE
TYPE PVC
DIAMETER 2"
TOTAL LENGTH(TOC to TOS) 6.5'
VENTILATED CAP (Y/(N))

GROUT
COMPOSITION & PROPORTIONS N/A

TREMIED (Y/N)
INTERVAL BGS N/A

SEAL
TYPE BENTONITE
SOURCE BAROID
SETUP/HYDRATION TIME 1 DAY
VOL. FLUID ADDED 3 GALLONS
TREMIED (Y/(N))

FILTER PACK
TYPE SAND
AMT. USED 6-50LB. BAGS
TREMIED
SOURCE ((Y)/N) SAND
GR. SIZE PEARL DIST. 20/30

SCREEN
TYPE PVC
DIAMETER 2"
SLOT SIZE & TYPE 0.01" CONTINUOUS

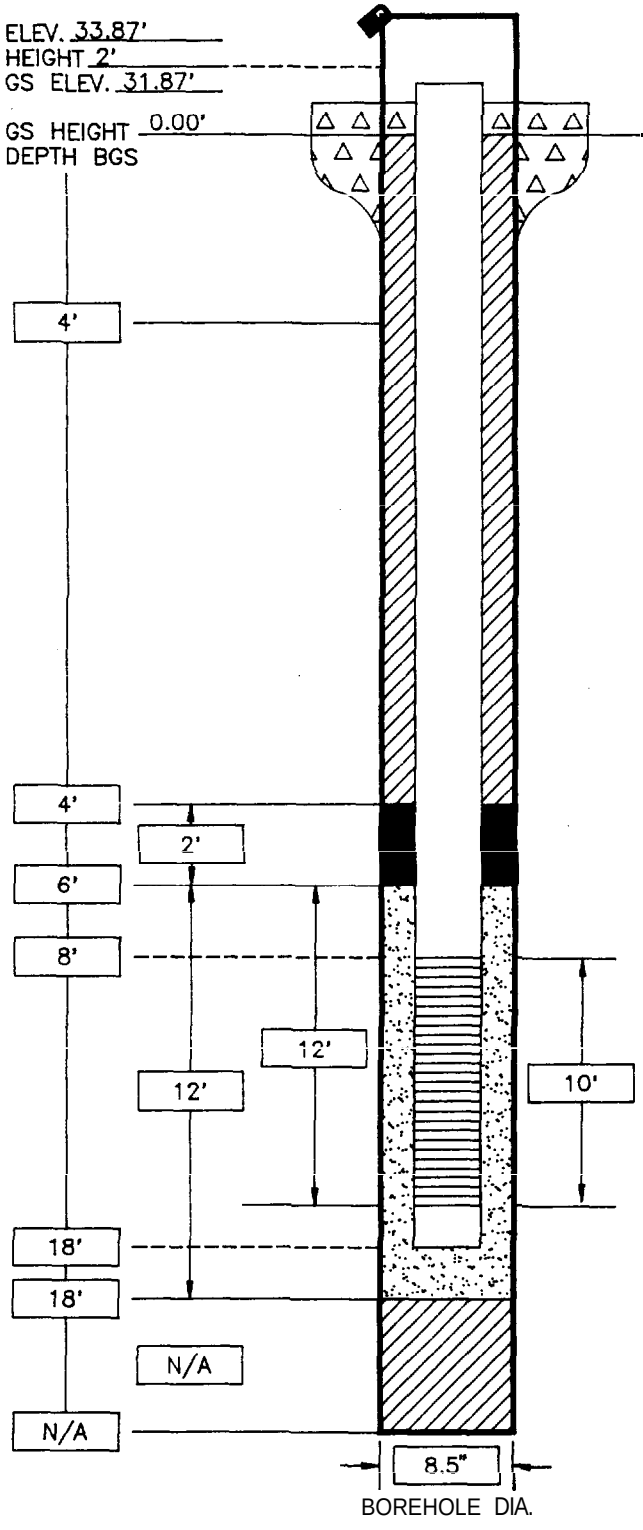
SUMP (Y/(N))
INTERVAL BGS LENGTH N/A
BOTTOM CAP ((Y)/N)

BACKFILL PLUG
MATERIAL N/A
SETUP/HYDRATION TIME N/A
TREMIED (Y/N)

970MWCL2

MONITORING WELL CONSTRUCTION LOG – **UNCONFINED AQUIFER**

PROJECT NO.: 0970	CLIENT/PROJECT: NAS PENSACOLA
DRILLER: LAYNE	
GEOLOGIST: A. DENNEN	



PROTECTIVE CSG
MATERIAL/TYPE STEEL
DIAMETER 3"
DEPTH BGS 3' WEEP HOLE(Y/N) N

GUARD POSTS (Y/N) Y
NO. 4 TYPE STEEL

SURFACE PAD
COMPOSITION & SIZE CEMENT

RISER PIPE
TYPE PVC
DIAMETER 2"
TOTAL LENGTH(TOC to TOS) 10'
VENTILATED CAP (Y/N) N

GROUT
COMPOSITION & PROPORTIONS 94LB. PORTLAND AND 6 GALLONS WATER
TREMIED (Y/N) N
INTERVAL BGS 0–4'

SEAL
TYPE BENTONITE
SOURCE BAROID
SETUP/HYDRATION TIME 1 DAY
VOL. FLUID ADDED 3 GALLONS
TREMIED (Y/N) N

FILTER PACK
TYPE SAND
AMT. USED 6–50LB. BAGS
TREMIED (Y/N) Y
SOURCE PEARL SAND
GR. SIZE DIST. 20/30

SCREEN
TYPE PVC
DIAMETER 2"
SLOT SIZE & TYPE 0.01" CONTINUOUS

SUMP (Y/N) N
INTERVAL BGS N/A LENGTH N/A
BOTTOM CAP (Y/N) Y

BACKFILL PLUG
MATERIAL N/A
SETUP/HYDRATION TIME N/A
TREMIED (Y/N)

970MWCL3

APPENDIX D
MONITORING WELL DEVELOPMENT

MONITORING WELL DEVELOPMENT

REVIEWED BY: A. Dennen

Personnel: P. Hardy/J. Pace

DEVELOPMENT DEVICE

Type Device? 4HP Centrifugal Pump

How was the device decontaminated? Liauinox, DI Rinae

How was the line decontaminated? Liauinox, DI Rinse

Which well was previously developed? NIA

SAMPLING DEVICE

Type Device? N/A

How was the device decontaminated? NIA

How was the line decontaminatad? N/A

Which well was previously sampled? N/A

INITIAL WELL VOLUME

Well diameter (in.) 2

Stickup (ft.) 2

Depth to bottom of well from TOC (ft.) 16.62

Depth to water surface from TOC (ft.) 9.96

Length of water (ft.) 6.66

Volume of water (ft.)

(gal.) 0.91

Amount of sediment at bottom of well (ft.)

3 Volumes of water (gal.) 2.72

DEVELOPING

Time started _____ Finished _____

Volume removed 25 aallons

Comments on Well Recovery Very Slow

Depth to water (ft.)

Completion

Additional Comment8 Initial PID readina = 4.4 ppm. Remain8 turbid after 25 gallons

Sample Collected: Start N/A

Finish N/A

IN-SITU TESTING

Date:	12/8/93						
Time:	1536						
	1	2	3	4	5	6	7
Well Volume Removed (gal.)	26 gallons removed. Still Turbid. No readings collected.						
Turbidity							
Odor							
OVA (ppm)							
pH (unit.)							
Conductivity (µmho)							
Water Temperature (°C)							
TDS (mg/l)							
Depth to water (ft.)							

NOTES: 1 ft. length of 4" = 0.087 ft^3 or 0.65 gal. 1 ft. length 2' = 0.022 ft^3 or 0.16 gal.

Turbidity chokes: clear, turbid, opaque

Revision Date: 6/6/92

MONITORING WELL DEVELOPMENT

PROJECT NAME Site 5 — Burrow Pit, NAS Pensacola JOB NO: 970-0030 DATE: 12/6/93

WELL NO. 05GS02 LOCATION Site 6

WEATHER CONDITIONS Clear AMBIENT TEMP: 70° F

REVIEWED BY: A. Dennen Personnel: P. Hardy/J. Paca

DEVELOPMENT DEVICE

Type Device? 4HP Centrifugal Pump

How was the device decontaminated? Liquinox, DI Rinse

How was the line decontaminated? Liquinox, DI R. i

Which well was previously developed?

SAMPLING DEVICE

Type Device? N/A

How was the device decontaminated? N/A

How was the line decontaminated? N/A

Which well was previously sampled? N/A

INITIAL MU VOLUME

Well diameter (in.) 2

Stickup (ft.) 1.07

Depth to bottom of well from TOC (ft.) 18.33

Depth to water surface from TOC (ft.) 14.64

Length of water (ft.) 1.69

Volume of water (ft.)

(gal.) 0.27

Amount of sediment at bottom of well (ft.)

3 Volumes of water (gal.) 0.811

DEVELOPING

Time started Finished

Volume removed 16 gallons

Comments on Well Recovery

Depth to water (ft.)

Completion

Additional Comments Initial PID: 2.8 ppm

Sample Collected: Start N/A

Finish N/A

IN-SITU TESTING

	1	2	3	4	5	6	7
Date:	12/6/93	12/6/93	12/6/93	12/8/93			
Time:	1200	1211	1218	1220			
Well Volume Removed (gal.)	3.0	7.0	12.0	15.0			
Turbidity	19			3.0			
Odor	—	—	—	—			
OVA (ppm)	2.8			1.2			
pH (units)	5.10	4.99	4.96	4.94			
Conductivity (µmho)	0.022	0.022	0.022	0.022			
Water Temperature (°C)	21.0	21.6	23.2	23.3			
TDS (mg/l)							
Depth to water (ft.)		16.67	16.39	16.76			

Nons.

1 ft. length of 4" = 0.067 ft³ or 0.65 gal.

Turbidity choices: clear, turbid, opaque

1 ft. length 2" = 0.022 ft³ or 0.16 gal.

Revision Date: 8/5/92

MONITORING WELL DEVELOPMENT

PROJECT NAME Site 6 — Burrow Pit, NAS Pensacola JOB NO: 970-0030 DATE: 1216103

WELL NO. 05GS03 LOCATION Site 6

WEATHER CONDITIONS Clear AMBIENT TEMP: 60° F

REVIEWED BY: A. Dennen Personnel: P. Hardy/J. Paca

DEVELOPMENT DEVICE

Type Device? 4HP Centrifugal Pump

How was the device decontaminated? Liquinox, DI Rinse

How was the line decontaminated? Liquinox, DI Rinse

Which well was previously developed? 05GS04

SAMPLING DEVICE

Type Device? N/A

How was the device decontaminated? N/A

How was the line decontaminated? N/A

Which well was previously sampled? N/A

INITIAL WELL VOLUME

Well diameter (in.) 2

Stickup (ft.)

Depth to bottom of well from TOC (ft.) 20.10

Depth to water surface from TOC (ft.) 17.29

Length of water (ft.) 2.81

Volume of water (ft.)

(gal.) 0.46

Amount of sediment at bottom of well (ft.)

3 Volumes of water (gal.) 1.36

DEVELOPING

Time started 1660 — 12/7/04 Finished 0832 — 12/8/94

Volume removed 182 gallons

Comments on Well Recovery

Depth to water (ft.)

Completion

Additional Comments

Sample Collected: Start

Finish

IN-SITU TESTING

Date:	12/7/03	12/7/03	12/7/03	12/7/93	12/8/03	12/8/03	12/8/93
Time:	1609	1616	1624	1630	0816	0830	0832
	1	2	3	4	5	6	7
Well Volume Removed (gal.)	56	70	90	110	136	176	182
Turbidity	410	212	96	67	44	10	2
Odor	None	None	None	None	None	None	None
OVA (ppm)						0.1	
pH (units)	6.26	6.00	6.0	4.87	4.06	3.00	3.07
Conductivity (µmho)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water Temperature (°C)	18.0	17.2	18.6	18.4	16.6	17.2	17.7
TDS (mg/l)							
Depth to water (ft.)							

NOTES: 1 ft. length of 4" = 0.087 ft^3 or 0.66 gal. 1 ft. length 2 = 0.022 ft^3 or 0.16 gal.

Turbidity choices: clear, turbid. opaque

Revision Date: 8/5/92

MONITORING WELL DEVELOPMENT

PROJECT NAME Site 6 — Burrow Pit, NAS Pensacola JOB NO: 970-0030 DATE: 12/7/93

WELL NO. 05GS04 LOCATION Site 6

WEATHER CONDITIONS Clear, Cool AMBIENT TEMP: 60° F

REVIEWED BY: A. Dennen Personnel: P. Hardy/J. Pace

DEVELOPMENT DEVICE

Type Device? 4HP Centrifugal Pump

How was tha device decontaminated? Liquinox, DI Rime

How was tha *line* decontaminated? Liquinox, DI Rinse

Which well was previously developed? 05GS01 — 12/7/93
05GS03 — 12/8/93

SAMPLWG DEVICE

Type Device? *N/A*

How was the device decontaminated? *N/A*

How was the lina decontaminated? *N/A*

Which well was previously sampbd? N/A

INITIAL WELL VOLUME

Well diameter (in.) 2

Stickup (ft.) flush mount

Depth to bottom of well from TOC (ft.) 14.36

Depth to water surface from TOC (ft.) 8.63

Length of water (ft.) 6.73

Volume of water (ft.)

(gal.) 0.02

Amount of sediment at bottom of well (ft.)

3 Volumes of water (gal.) 2.78

DEVELOPING

T i started 1100 12/7/93 Finished 0950 12/8/03

Volume removed 182 gallons

Comments on Well Recovery

Depth to water (ft.)

Completion

Additional Comments

Sample Collected: Start N/A

Finish *N/A*

IN-SITU TESTING

Date:	12/7/93	12/7/03	12/7/03	12/7/03	12/7/03	12/7/93	12/7/93
T i :	1114	1120	1126	1131	1140	1400	1439
	1	2	3	4	6	6	7
Well Volume Removed (gal.)	7.0	18.0	26.0	35.0	48.0	90	118
Turbidity	~~>999~~	~~>999~~	~~>999~~	~~>999~~	~~>999~~	~~850~~	~~>999~~
Odor	Sulfur	Sub	Sulfur	Sulfur	Sub	Sulfur	Sulfur
OVA (ppm)	1.2	1.3	1.3	1.4	1.6	0.1	0.2
pH (units)	3.83	3.00	3.98	4.00	3.06	3.98	3.79
Conductivity (µmho)	0.20	0.12	0.10	0.11	0.10	0.10	0.11
Water Temperature (°C)	22.4	23.0	22.8	21.5	21.2	19.6	18.3
TDS (mg/l)							
Depth to water (ft.)							

NOTES 1 ft. length of 4" = 0.087 ft³ or 0.65 gal. 1 ft. length 2" = 0.022 ft³ or 0.16 gal.

Turbidity choices: clear, turbid, opaque

Revision Date: 8/5/92

MONITORING WELL DWELOPMENT

PROJECT NAME Site 5 — Burrow Pit, NAS Pensacola JOB NO: 970-0030 DATE: 12/7/93

WELL NO. 05GS04 LOCATION Site 6

REVIEWED BY: A. Dennen Personnel: P. Hardy/J. Pace

DEVELOPMENT DEVICE	SAMPLING DEVICE
Type Device? 4HP Centrifugal Pump	Type Device? Teflon Bailer
How was the device decontaminated? Liauinox, DI Rinse	How was the device decontaminated? 7 Step Decontamination Procedure
How we8 the line decontaminated? Liauinox, DI Rime	How was the line decontaminated?
Whiih well was previously developed? 05GS01 — 12/7/03 05GS03 — 12/8/03	Which well was previously sampled?

INITIAL WELL VOLUME	DEVELOPING
Well diameter (in.) 2	Time started 1100 Finished
Stickup (ft.) flush mount	Volume removed 182 gallons
Depth to bottom of well from TOC (ft.) 14.36	Comment. on Well Recovery
Depth to water surface from TOC (ft.) 8.63 Length of water (ft.) 6.73	
Volume of water (ft.)	Depth to water (ft.)
(gal.) 0.02	Completion
Amount of sediment at bottom of well (ft.)	Additional Comments
3 Volumes of water (gal.) 2.76	Sample Collected: Start Finish

IN-SITU TESTING	Date:	12/7/03	12/7/93	12/7/93	12/7/93	12/7/93	12/7/03	
	Time:	1447	1452	1457	1459	1506	1515	
		1	2	3	4	5	6	7
Well Volume Removed (gal.)		145	165	188	190	201	220	
Turbidity		652	274	157	134	74	47	
Odor		Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	
OVA (ppm)		0.0	0.6	0.5	1.1			
pH (units)		3.84	3.87	3.02	3.06	4.0	4.02	
Conductivity (µmho)		0.011	0.010	0.010	0.010	0.009	0.009	
Water Temperature (°C)		18.0	18.0	20.0	19.4	21.6	23.8	
TDS (mg/l)								
Depth to water (ft.)								

MOTES 1 ft. length of 4" = 0.087 ft^3 or 0.65 gal. 1 it. length 2" = 0.022 ft^3 or 0.16 gal.
Turbidity choices: clear, turbid, opaque Revision Date: 8/5/92

MONITORING WELL DEVELOPMENT

PROJECT NAME Site 5 — Burrow Pit, NAS Pensacola JOO NO: 970-0030 DATE: 12/7/93

WELL NO. 05GS04 LOCATION Site 6

WEATHER CONDITIONS Clear, Cool AMBIENT TEMP: 60° F

REVIEWED BY: A. Dennen Personnel: P. Hardy/J. Pace

DEVELOPMENT DEVICE

Type Device? 4HP Centrifugal Pump

How was the device decontaminated? Liquinox, DI Rinse

How was the line decontaminated? Liquinox, DI Rinse

Which well was previously developed? 05GS01 — 12/7/93
05GS03 — 12/8/93

SAMPLING DEVICE

Type Device? Teflon Bailer

How was the device decontaminated? 7 Step Decontamination Procedure

How was the line decontaminated?

Which well was previously sampled?

INITIAL WELL VOLUME

Well diameter (in.) 2

Stickup (ft.) flush mount

Depth to bottom of well from TOC (ft.) 14.36

Depth to water surface from TOC (ft.) 8.63

Length of water (ft.) 6.73

Volume of water (ft.)

(gal.) 0.92

Amount of sediment at bottom of well (ft.)

3 Volumes of water (gal.) 2.76

DEVELOPING

Time started 1100 Finished

Volume removed 182 gallons

Comments on Well Recovery

Depth to water (ft.)

Completion

Additional C

Sampb Collected: Start

Finish

IN-SIN TESTING

Date:	12/8/93	1218183	1218183	12/8/93	12/8/93	12/8/93	12/8/93
Time:	0909	0916	0918	0924	0928	0942	0946
	1	2	3	4	5	6	7
Well Volume Removed (gal.)	1	20	26	40	66	91	110
Turbidity	>999	300	210	96	77	28	20
Odor	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur
OVA (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pH (units)	3.86	3.87	3.90	3.87	3.86	3.95	3.9
Conductivity (μmho)	0.011	0.011	0.011	0.010	0.010	0.010	0.011
Water Temperature (°C	16.1	16.3	17.6	18.3	19.8	20.2	20.5
TDS (mg/l)							
Depth to water (ft.)							

NOTES: 1 ft. length of 4" = 0.087 ft^3 or 0.65 gal. 1 ft. length 2' = 0.022 ft^3 or 0.16 gal.
Turbidity choices: clear, turbid, opaque Revision Date: 8/5/92

APPENDIX E
MONITORING WELL PURGING AND GROUNDWATER SAMPLING

GROUNDWATER SAMPLING

Sample ID: 05GS01

RMEWED BY: A. Dennen

Personnel: P. Hardy/J. Hegan

PURGING DEVICE

Type Device? Peristaltic Pump with Teflon Hose

How was the device decontaminated?

How was the line decontaminated? 7 Step Decontamination Procedures

Which well was previously purged? N/A

SAMPLING DEVICE

Type Device? Teflon Bailer

How was the device decontaminated? 7 Step Decontamination Procedure

How was the line decontaminated?

Which well was previously sampled?

INITIAL WELL VOLUME

Well diameter (in.) 2

Stickup (ft.) 2

Depth to bottom of well from TOC (ft.) 16.82

Depth to water surface from TOC (ft.) 10.18

Length of water (ft.) 5.44

Volume of water (ft.) 0.87

(gal.)

Amount of sediment at bottom ot well (ft.)

3 Volumes of water (gal.) 2.61 = 3 volumes; 4.36 = 6 volumes

PURGING

Time started 0028 Finished 0062

Volume purged 4.36

Comments on Well Recovery

Depth to water (ft.)

Completion

Additional Comments Very Turbid

Sample Collected: Start 0066

Finish 1016

Time:	0028	0030	0037	0041	0046	0062	
	1	2	3	4	6	6	7
Well Volume Purged (gal.)	0.26	0.60	2.0	3.0	4.0	4.36	
Turbidity	999	999	999	999	999	BOO	
Odor	—	—	—	—	—	—	
OVA (ppm)	—	—	—	—	—	—	
pH (units)	4.21	4.08	4.06	4.08	4.80	4.76	
Conductivity (µmho)	0.040	0.008	0.002	0.002	0.000	0.000	
Water Temperature (°C)	20.8	20.8	26.2	28.4	22.4	22.8	
TDS (mg/l)							
Depth to water (ft.)							

NOTES: 1 ft. length of 4" = 0.087 ft^3 or 0.65 gal. 1 ft. length 2" = 0.022 ft^3 or 0.16 gal.

Turbidity choices: clear, turbid, opaque

Revision Date: 8/5/92

GROUNDWATER SAMPLING

Sample ID: 05GS02

PROJECT NAME Site 5 — Burrow Pit, NAS Pensacola JOB NO: 970-0030 DATE: 12/14/93

WELL NO. 05GS02 LOCATION Site 6

WEATHER CONDITIONS Clear AMBIENT TEMP: 70° F

REVIEWED BY A. Dennen Personnel: P. Hardy/J. Hagan

PURGING DEVICE

Type Device? Peristaltic Pump with Teflon Hose

How was the device decontaminated?

How was the line decontaminated? 7 Step Decontamination Procedures

Which well was previously purged? 05GS01

SAMPLING DEVICE

Type Device? Teflon Bailer

How was the device decontaminated? 7 Step Decontamination Procedure

How was the line decontaminated?

Which well was previously sampled?

INITIAL WELL VOLUME

Well diameter (in.) 2

Stickup (ft.) 2

Depth to bottom of well from TOC (ft.) 16.33

Depth to water surface from TOC (ft.) 14.65

Length of water (ft.) 1.68

Volume of water (ft.)

(gal.) 0.27

Amount of sediment at bottom of well (ft.)

3 Volumes of water (gal.) 0.811

PURGING

Time started 1045 Finished 1053

Volume purged 1.0 gallons

Comments on Well Recovery

Depth to water (ft.)

Completion

Additional Comments Additional volume removed before collecting second metals sample

Sample Collected: Start 1100/Second Metal Sample Collected 1139

Finish 1126

IN-SITU TESTING

Date:	12/14/03	12/14/93	12/14/03	12/14/03	12/14/03	12/14/03	12/14/03
Time:	1048	1050	1053	1137			
	1	2	3	4	5	6	7
Well Volume Purged (gal.)	0.3	0.5	0.9	2.1			
Turbidity	10	3	9	7			
Odor	—	—	—				
OVA (ppm)	—	—	—				
pH (units)	4.7	4.62	4.59				
Conductivity (µmho)	0.10	0.003	0.002				
Water Temperature (°C)	25.8	23.6	22.8				
(mg/l)							
Depth to water in.)							

NOTES: 1 ft. length of 4" = 0.087 ft³ or 0.65 gd. 1 ft. length 2" = 0.022 ft³ or 0.16 gal.

Turbidity choices: clear, turbid, opaque

Revision Date: 8/5/92

GROUNDWATER SAMPLING

Sample ID: 05GS03

PROJECT NAME She 6 — Burrow Pit, NAS Pensacola JOB NO: 970-0030 DATE: 12/14/93

WELL NO. 05GS03 LOCATION Site 6

WEATHER CONDITIONS Overcast AMBIENT TEMP 65° F

RMEWED BY: A. Dennen Personnel: P. Hardy/J. Hagan

PURGING DEVICE

Type Device? Peristaltic Pump with Teflon Hose

How was the device decontaminated?

How was the line decontaminated? 7 Step Decontamination Procedures

Which well was previously purged? 05GS04

SAMPLING DEVICE

Type Device? Teflon Bailer

How was the device decontaminated? 7 Step Decontamination Procedure

How was the line decontaminated?

Which well was previously sampled? 05GS04

INITIAL WELL VOLUME

Well diameter (in.) 2

Stickup **(ft.)** 2

Depth to bottom of well from TOC **(ft.)** 20.10

Depth to water surface from TOC **(ft.)** 17.47

Length of water **(ft.)** 2.81

Volume of water (ft.)

(gal.) 0.46

Amount of sediment at bottom of well (ft.)

3 Volumes of water **(gal.)** 3 = 1.36; 6 = 2.26

PURGING

Time started 1610 Finished 1622

Volume purged 2.26 gallons

Comments on Well Recovery

Depth to water **(ft.)**

Completion

Additional Comments **Approximately** 60 gallons removed befom collecting second metals sample

Sample Collected: Start 1540/Second Metal **Sample** Collected 1641

Finish 1645

IN-SITU TESTING

Date:	12/14/93	12/14/93	12/14/93	12/14/93	12/14/93	12/14/93	
Time	1510	1612	1616	1619	1620	1622	
	1	2	3	4	5	6	7
Well Volume Purged (gal.)	0.26	0.6	0.76	1.6	2.0	2.26	
Turbidity	39	23	21	38	20	12	
Odor	—	—	—				
OVA (ppm)	—	—	—				
pH (units)	3.93	3.83	3.80	3.80	3.79	3.79	
Conductivity (µmho)	0.00	0.00	0.00	0.00	0.00	0.00	
Water Temperature (°C)	16.2	16.4	16.6	14.6	16.2	16.0	
TDS (mg/l)							
Depth to water (ft.)							

NOTES: 1 ft. length of 4" = 0.087 ft^3 or 0.06 gal. 1 ft. length 2" = 0.022 ft^3 or 0.16 gal.

Turbidity choices: clear, turbid, opaque

Revision Date: 8/6/02

GROUNDWATER SAMPLING

Sample ID: 05GS04

PROJECT NAME Site 5 — Burrow Pit, NAS Pensacola JOB NO: 970-0030 DATE: 12/14/93

WELL NO. 05GS04 LOCATION Site 5

WEATHER CONDITIONS Clear/Partly Cloudy AMBIENT TEMP: 65° F

REVIEWED BY: A. Dennen Personnel: P. Hardy/J. Hagan

PURGING DEVICE

Type Device? Peristaltic Pump with Teflon Hose

How was the device decontaminated?

How was the line decontaminated? 7 Step Decontamination Procedures

Which well was previously purged? 05GS02

SAMPLING DEVICE

Type Device? Teflon Bailer

How was the device decontaminated? 7 Step Decontamination Procedure

How was the line decontaminated?

Which well was previously sampled? 05GS02

INITIAL WELL VOLUME

Well diameter (in.) 2

Stickup (ft.) 2

Depth to bottom of well fmm TOC (ft.) 14.36

Depth to water surface from TOC (ft.) 8.59

Length of water (ft.) 6.77

Volume of water (ft.)

(gal.) 0.92

Amount of wdiint at bottom of well (ft.)

3 Volumes of water (gal.) 3 = 2.78: 6 = 4.8

PURGING

Time started 1210 Finished 1242

Volume purged 4.78 gallons

Comment. on Well Recovery

Depth to water (ft.)

Completion

Additional Comment. Additional volume removed before collecting second metals sample

Sample Collected: Start 1250/Second Metal Sample Collected 1400

Finish 1316

IN-SITU TESTING

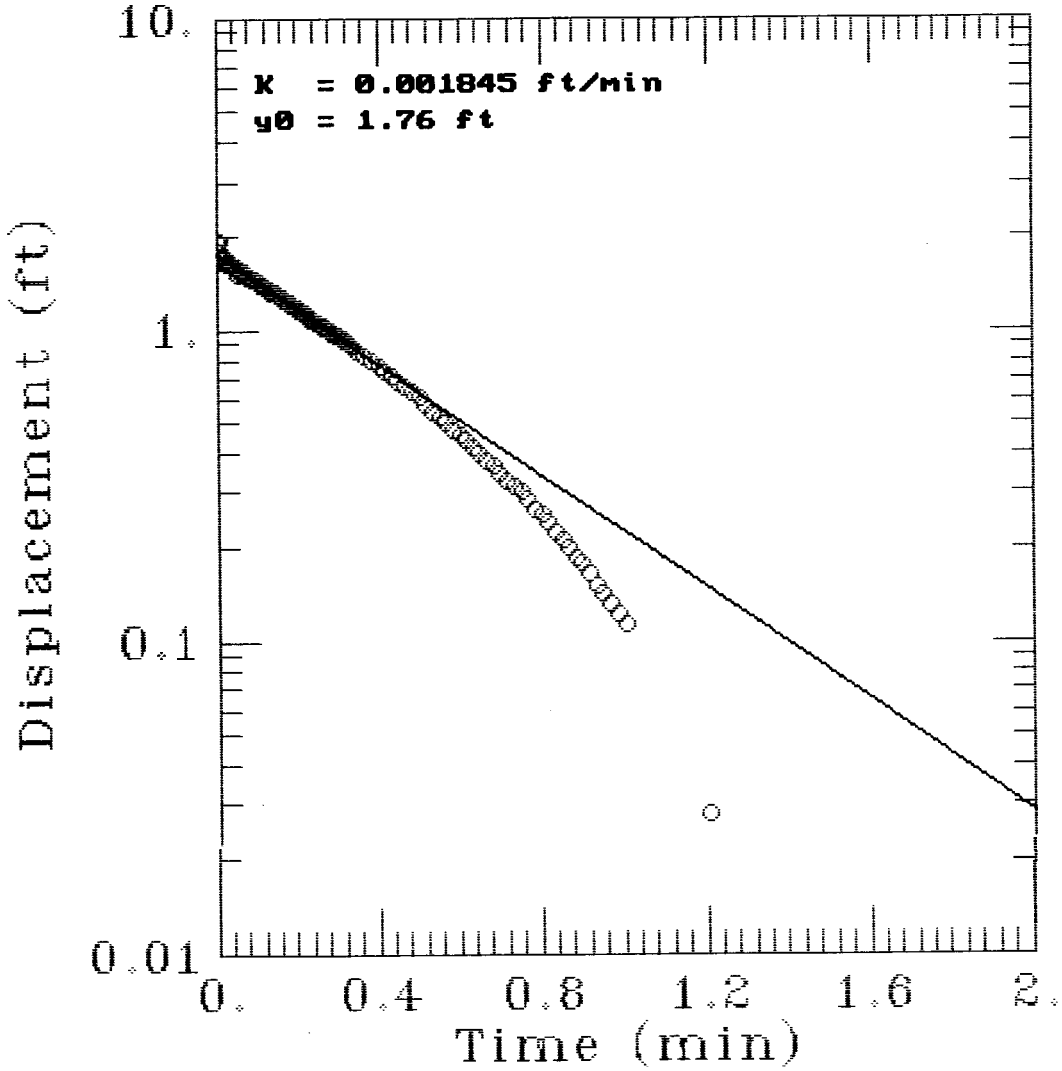
Date:	12/14/03	12/14/03	12114103	12114103	12/14/03	12114103	
Time:	1222	1227	1233	1236	1240	1400/M2	
	1	2	3	4	5	6	7
Well Volume Purged (gal.)	0.26	1.6	2.6	3.0	4.0	104	
Turbidity	>OS@	>999	>999	>999	>999	28	
Odor	—	—	—	—	—		
OVA (ppm)	—	—	—	—	—		
pH (units)	4.88	4.98	4.92	4.89	4.83		
Conductivity (μmho)	0.027	0.2	0.16	0.015	0.014		
Water Temperature (°C)	16.7	17.2	17.2	17.6	18.0		
TDS (mg/l)							
Depth to water (ft.)							

NOTES: 1 ft. length of 4" = 0.087 ft^3 or 0.65 gal. 1 ft. length 2" = 0.022 ft^3 or 0.16 gal.

Turbidity choices: clear, turbid, opaque Revision Date: 8/5/92

APPENDIX F
AQTESOLV GRAPHS AND FIELD DATA

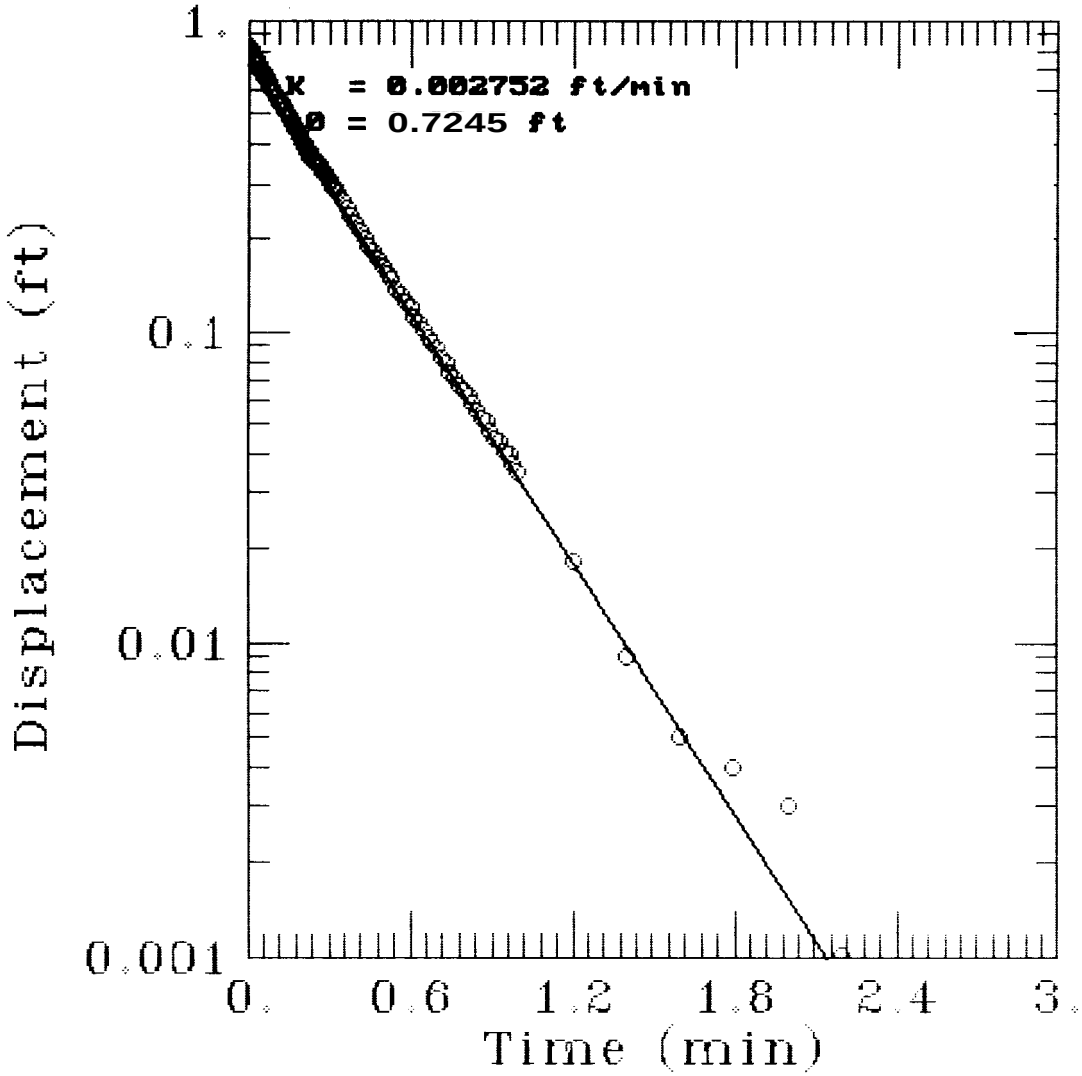
05GS01 Rising Head Slug Test



AQTESOLV

GERAGHTY & MILLER, INC.
Modeling Group

05GS04 RISING HEAD SLUG TEST



AQTESOLV

GERAGHTY & MILLER. INC.

Modeling Group

APPENDIX G
DATABASE SUMMARY OF *ANALYTICAL* DATA

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05S01012	05S02012	05S02012MS	05S02012MSD	05S03012	05S04012
	LAB ID:	39135-1	39135-2	39135-2MS	39135-2MSD	39135-3	39135-4
	LAB RCVD:	01/27/94	01/27/94	01/27/94	01/27/94	01/27/94	01/27/94
PARAMETER	UNITS						
V 1,1,1-Trichloroethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,1,2,2-Tetrachloroethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,1,2-Trichloroethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,1-Dichloroethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,1-Dichloroethene	UG/KG	11.0000 U	10.0000 U	52.0000	54.0000	10.0000 U	10.0000 U
V 1,2-Dichloroethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,2-Dichloroethene (total)	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,2-Dichloropropane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10,0000 U
V 2-Butanone	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 2-Hexanone	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 4-Methyl-2-Pentanone	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Acetone	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Benzene	UG/KG	11.0000 U	10.0000 U	51.0000	54.0000	10.0000 U	10.0000 U
V Bromodichloromethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Bromoform	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Bromomethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Carbon Disulfide	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Carbon Tetrachloride	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Chlorobenzene	UG/KG	11.0000 U	10.0000 U	56.0000	60.0000	10.0000 U	10.0000 U
V Chloroethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Chloroform	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Chloromethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Dibromochloromethane	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Ethylbenzene	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Methylene Chloride	UG/KG	5.0000 U	5.0000 U	6.0000 U	5.0000 U	5.0000 U	5.0000 U
V Styrene	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Tetrachloroethene	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Toluene	UG/KG	11.0000 U	10.0000 U	53.0000	56.0000	10.0000 U	10.0000 U
V Trichloroethene	UG/KG	11.0000 U	10.0000 U	48.0000	51.0000	10.0000 U	10.0000 U
V Vinyl Chloride	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Xylene (total)	UG/KG	11.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U

PENSACOLA SITE OS
SOIL SAMPLES

Key prorented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05S01012	05S02012	05S02012MS	05S02012MSD	05S03012	05S04012
	LAB ID:	39135-1	39135-2	39135-2MS	39135-2XSD	39135-3	39135-4
	LAB BCVD:	01/27/94	01/27/94	01/27/94	01/27/94	01/27/94	01/27/94
PARAMETER	UNITS						
V cis-1,3-Dichloropropene	UG/KG	11.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V trans-1,3-Dichloropropene	UG/KG	11.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u

V-Volatile, S-Semivolatile, P-Pesticide, I-Inorganic, R-Remediation

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05505012	550101	5S0101MS	5S0101MSD	550102	5S0104
	LAB ID:	39135-5	38636-017	38636-1MS	38636-1MSD	38602-037	38602-038
	LAB RCVD:	01/27/94	12/04/93	12/04/93	12/04/93	12/02/93	12/02/93
PARAMETER	UNITS						
I Aluminum	MG/KG	.	958.0000	.	.	707.0000 J	491.0000 J
I Antimony	MG/KG	.	2.4000 U	.	.	3.3000 UJ	3.0000 UJ
I Arsenic	MG/KG	.	0.3500 U	.		0.4800 U	0.4300 U
I Barium	MG/KG	.	1.1000 U	.	.	1.1000 U	1.4000 U
I Beryllium	MG/KG	.	0.0600 U	.	.	0.0800 U	0.0700 U
I Cadmium	MG/KG	.	0.3300 U	.	.	0.4600 U	0.4200 U
I Calcium	MG/KG	.	47.5000 U	.		42.3000 U	18.2000 U
I Chromium	MG/KG	.	0.9600 U	.	.	1.3000 U	1.1000 U
I Cobalt	MG/KG	.	0.2800 U	.	.	0.3800 U	0.3400 U
I Copper	MG/KG	.	0.5800 U	.	.	0.2600 U	0.2300 U
I Cyanide	MG/KG	.	0.0900 U	.	.	0.1300 U	0.1300 U
I Iron	MG/KG	.	706.0000	.	.	337.0000 J	382.0000 J
I Lead	MG/KG	.	1.1000 U	.	.	1.3000 U	0.8600 U
I Magnesium	MG/KG	.	30.0000 U	.	.	19.7000 U	8.7000
I Manganese	MG/KG	.	1.9000 U	.	.	1.6000 U	1.9000 U
I Mercury	MG/KG	.	0.0200 U	.	.	0.0200 U	0.0200 U
I Nickel	MG/KG		1.2000 U	.	.	1.7000 U	1.5000 U
I Potassium	MG/KG	.	35.3000 U	.	.	110,0000 U	36.4000 U
I Selenium	MG/KG	.	0.3300 U	.	.	0.4600 U	0.4200 U
I Silver	MG/KG	.	0.2800 U	.	.	0.3800 U	0.3400 U
I Sodium	MG/KG		7.2000 U	.	.	13.7000 U	8.5000 U
I Thallium	MG/KG	.	0.3200 U	.	.	0.4400 U	0.4000 U
I Vanadium	MG/KG	.	1.1000 U	.	.	0.7700	0.7000
I Zinc	MG/KG	.	1.3000 U	.	.	1.0000 U	0.7300 U
P 4,4'-DDD	UG/KG	.	3.3000 U	.	.	3.4000 U	3.3000 U
P 4,4'-DDE	UG/KG	.	3,3000 U	.	.	3.4000 U	3.3000 U
P 4,4'-DDT	UG/KG	.	3.3000 U	.	.	3.4000 U	3.3000 U
P Aldrin	UG/KG	.	1.7000 U	.	.	1.7000 U	1.7000 U
P Aroclor 1016	UG/KG		33.0000 U	.	.	34.0000 U	33.0000 U
P Aroclor 1221	UG/KG	.	67.0000 U	.	.	69.0000 U	68.0000 U
P Aroclor 1232	UG/KG		33.0000 U	.	.	34.0000 U	33.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key prerented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05805012	5S0101	5S0101MS	5S0101MSD	550102	550104
	LAB ID:	39135-5	38636-9	38636-1MS	38636-1MSD	38602-24	38602-25
	LAB RCVD:	01/27/94	12/04/93	12/04/93	12/04/93	12/02/93	12/02/93
PARAMETER	UNITS						
P Aroclor 1242	UG/KG	. .	33.0000 U	.	.	34.0000 U	33.0000 U
P Aroclor 1248	UG/KG		33.0000 U	.	.	34.0000 U	33.0000 U
P Aroclor 1254	UG/KG		33.0000 U	.	.	34.0000 U	33.0000 U
P Aroclor 1260	UG/KG		33.0000 U	.	.	34.0000 U	33.0000 U
P Dieldrin	UG/KG		3.3000 U	.	.	3.4000 U	3.3000 U
P Endosulfan I	UG/KG		1.7000 U	.	.	1.7000 U	1.7000 U
P Endosulfan II	UG/KG		3.3000 U	.	.	3.4000 U	3.3000 U
P Endosulfan sulfate	UG/KG	. .	3.3000 U	.	.	3.4000 U	3.3000 U
P Endrin	UG/KG		3.3000 U	.	.	3.4000 U	3.3000 U
P Endrin aldehyde	UG/KG		3.3000 U	.	.	3.4000 U	3.3000 U
P Endrin ketone	UG/KG		3.3000 U	.	.	3.4000 U	3.3000 U
P Heptachlor	UG/KG		1.7000 U	.	.	1.7000 U	1.7000 U
P Heptachlor epoxide	UG/KG		1.7000 U	.	.	1.7000 U	1.7000 U
P Methoxychlor	UG/KG		17.0000 U	.	.	17.0000 U	17.0000 U
P Toxaphene	UG/KG		170.0000 U	.	.	170.0000 U	170.0000 U
P alpha-BHC	UG/KG		1.7000 U	.	.	1.7000 U	1.7000 U
P alpha-Chlordane	UG/KG		1.7000 U	.	.	1.7000 U	1.7000 U
P beta-BHC	UG/KG		1.7000 U	.	.	1.7000 U	1.7000 U
P delta-BHC	UG/KG		1.7000 U	.	.	1.7000 U	1.7000 U
P gamma-BHC (Lindane)	UG/KG		1.7000 U	.	.	1.7000 U	1.7000 U
P gamma-Chlordane	UG/KG		1.7000 U	.	.	1.7000 U	1.7000 U
S 1,2,4-Trichlorobenzene	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S 1,2-Dichlorobenzene	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S 1,3-Dichlorobenzene	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S 1,4-Dichlorobenzene	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S 2,4,5-Trichlorophenol	UG/KG		800.0000 U	.	.	820.0000 U	810.0000 U
S 2,4,6-Trichlorophenol	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S 2,4-Dichlorophenol	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S 2,4-Dimethylphenol	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S 2,4-Dinitrophenol	UG/KG		800.0000 U	.	.	820.0000 U	810.0000 U
S 2,4-Dinitrotoluene	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S 2,6-Dinitrotoluene	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05S05012	5S0101	5S0101MS	5S0101MSD	5S0102	5S0104
	LAB ID:	39135-5	38636-9	38636-1MS	38636-1MSD	38602-24	38602-25
	LAB RCVD:	01/27/94	12/04/93	12/04/93	12/04/93	12/02/93	12/02/93
PARAMETER	UNITS						
S 2-Chloronaphthalene	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S 2-Chlorophenol	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S 2-Methylnaphthalene	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S 2-Methylphenol	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S 2-Nitroaniline	UG/KG	.	800.0000 U	.	.	820.0000 U	810.0000 U
S 2-Nitrophenol	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S 3,3'-Dichlorobenzidine	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S 3-Nitroaniline	UG/KG	.	800.0000 U	.	.	820.0000 U	810.0000 U
S 4,6-Dinitro-2-methylphenol	UG/KG	.	800.0000 U	.	.	820.0000 U	810.0000 U
S 4-Bromophenyl-phenylether	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S 4-Chloro-3-methylphenol	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S 4-Chloroaniline	UG/KG	.	330.0000 U		.	340.0000 U	330.0000 U
S 4-Chlorophenyl-phenylether	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S 4-Methylphenol	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S 4-Nitroaniline	UG/KG	.	800.0000 U	.	.	820.0000 U	810.0000 U
S 4-Nitrophenol	UG/KG	.	800.0000 U	.	.	820.0000 U	810.0000 U
S Acenaphthene	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Acenaphthylene	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S Anthracene	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Benzo(a)anthracene	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Benzo(a)pyrene	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Benzo(b)fluoranthene	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S Benzo(g,h,i)perylene	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Benzo(k)fluoranthene	UG/KG		330.0000 U	.	.	340.0000 U	330.0000 U
S Butylbenzylphthalate	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Carbazole	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Chrysene	UG/KG	.	330.0000 U		.	340.0000 U	330.0000 U
S Di-n-butylphthalate	UG/KG	.	330.0000 U		.	340.0000 U	330.0000 U
S Di-n-octylphthalate	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Dibenz(a,h)anthracene	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Dibenzofuran	UG/KG	.	330.0000 U	.	.	340.0000 U	330.0000 U
S Diethylphthalate	UG/KG	.	330.0000 U		.	340.0000 U	330.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05605012	5S0101	5S0101MS	5S0101MSD	5S0102	5S0104
	LAB ID:	39135-5	38636-9	38636-1MS	38636-1MSD	38602-24	38602-25
	LAB RCVD:	01/27/94	12/04/93	12/04/93	12/04/93	12/02/93	12/02/93
PARAMETER	UNITS						
S Dimethylphthalate	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S Fluoranthene	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S Fluorene	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S Hexachlorobenzene	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S Hexachlorobutadiene	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S Hexachlorocyclopentadiene	UG/KG		330.0000 U	.		340.0000 U	330.0000 U
S Hexachloroethane	UG/KG	.	330.0000 U			340.0000 U	330.0000 U
S Indeno(1,2,3-cd)pyrene	UG/KG		330.0000 U	.		340.0000 U	330.0000 U
S Isophorone	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S N-Nitroso-di-n-propylamine	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S N-Nitrosodiphenylamine	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S Naphthalene	UG/KG		330.0000 U	.		340.0000 U	330.0000 U
S Nitrobenzene	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S Pentachlorophenol	UG/KG		800.0000 U			820.0000 U	810.0000 U
S Phenanthrene	UG/KG		330.0000 U	.		340.0000 U	330.0000 U
S Phenol	UG/KG		330.0000 U	.		340.0000 U	330.0000 U
S Pyrene	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S bis(2-Chloroethoxy)methane	UG/KG	.	330.0000 U			340.0000 U	330.0000 U
S bis(2-Ethlyhexy)phthalate	UG/KG	.	330.0000 U	.		340.0000 U	330.0000 U
S bis(2-chloroethyl)ether	UG/KG		330.0000 U			340.0000 U	330.0000 U
S bis(2-chloroisopropyl)ether	UG/KG		330.0000 U			340.0000 U	330.0000 U
V 1,1,1-Trichloroethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,1,2,2-Tetrachloroethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,1,2-Trichloroethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,1-Dichloroethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,1-Dichloroethene	UG/KG	10.0000 U	10.0000 U	52.0000	60.0000	11.0000 U	10.0000 U
V 1,2-Dichloroethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,2-Dichloroethene (total)	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,2-Dichloropropane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V 2-Butanone	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V 2-Hexanone	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V 4-Methyl-2-Pentanone	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05505012	5S0101	5S0101MS	5S0101MSD	5S0102	5S0104
	LAB ID:	39135-5	38636-1	38636-lMS	38636-lMSD	38602-11	38602-12
	LAB RCVD:	01/27/94	12/04/93	12/04/93	12/04/93	12/02/93	12/02/93
PARAMETER	UNITS						
V Acetone	UG/KG	10.0000 U	10.0000 U	10.0000 U	25.0000 U	51.0000 U	89.0000 U
V Benzene.	UG/KG	10.0000 U	10.0000 U	53.0000	54.0000	11.0000 U	10.0000 U
V Bromodichloromethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Bromoform	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Bromomethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Carbon Disulfide	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Carbon Tetrachloride	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Chlorobenzene	UG/KG	10.0000 U	10.0000 U	53.0000	56.0000	11.0000 U	10.0000 U
V Chloroethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Chloroform	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Chloromethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Dibromochloromethane	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Ethylbenzene	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Methylene Chloride	UG/KG	5.0000 U	12.0000 U	13.0000 U	14.0000 U	10.0000 U	11.0000 U
V Styrene	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Tetrachloroethene	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Toluene	UG/KG	10.0000 U	10.0000 U	53.0000	55.0000	11.0000 U	10.0000 U
V Trichloroethene	UG/KG	10.0000 U	7.0000 J	62.0000	61.0000	11.0000 U	10.0000 U
V Vinyl Chloride	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V Xylene (total)	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V cis-1,3-Dichloropropene	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U
V trans-1,3-Dichloropropene	UG/KG	10.0000 U	10.0000 U	10.0000 U	10.0000 U	11.0000 U	10.0000 U

V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic, R=Remediation

PENSACOLA SITE 05
SOIL SAMPLES

Kay prerented at end of Appendix. Data not shown in significant digits,

PARAMETER	UNITS						
ENSAFE ID:		550106	5S0201	560202	5S0204	5SO204MS	5S0204MSD
LAB ID:		38602-039	38636-018	38602-034	38602-035	38602-22MS	38602-22MSD
LAB RCVD:		12/01/93	12/04/93	12/02/93	12/02/93	12/02/93	12/02/93
H Hexavalent Chromium	UG/KG	0.1000 u					
I Aluminum	MG/KG	225.0000 J	660.0000	1020.0000 J	2590.0000 J		
I Antimony	MG/KG	2.6000 UJ	2.5000 U	2.0000 UJ	3.1000 UJ		
I Arsenic	MG/KG	0.3800 U	0.3600 U	0.3000 U	0.4500 U		
I Barium	MG/KG	0.8100 U	1.0000 u	2.6000 U	6.3000 U		
I Beryllium	MG/KG	0.0600 U	0.0600 U	0.0500 U	0.0800 U		
I Cadmium	MG/KG	0.3700 U	0.3500 U	0.2900 U	0.4300 U		
I Calcium	MG/KG	26.0000 U	35.0000 U	34.3000 U	29.8000 U		
I Chromium	MG/KG	1.7000 U	0.9900 u	1.2000 u	3.3000 U		
I Cobalt	MG/KG	0.3000 U	0.2900 U	0.2400 U	0.3600 U		
I Copper	MG/KG	0.2300	0.3500 U	0.1600	0.2500 U		
I Cyanide	MG/KG	0,0800 U	0.0900 u	0.0900 u	0.2200 u		
I Iron	MG/KG	170.0000 J	484.0000	789.0000 J	1530.0000 J		
I Lead	MG/KG	0.5900 U	0.8200 U	1.6000 U	1.4000 U		
I Magnesium	MG/KG	8.4000	22.1000 u	21.1000	41.2000		
I Manganese	MG/KG	1.2000 u	2.2000 u	2.0000 u	1.6000 U		
I Mercury	MG/KG	0.0200 u	0.0200 u	0.0300 U	0.0300 U		
I Nickel	MG/KG	1.3000 U	1.3000 U	1.0000 u	1.6000 U		
I Potassium	MG/KG	35.2000 U	48.4000 U	25.0000 U	90.3000 U		
I Selenium	MG/KG	0.3700 U	0.3500 U	0.2900 U	0.4300 U		
I Silver	MG/KG	0.3800	0.2900 U	0.2400 U	0.3600 U		
I Sodium	MG/KG	9.4000 U	33.8000	6.8000 U	6.5000 U		
I Thallium	MG/KG	0.3500 U	0.3300 U	0.2700 U	0.4200 U		
I Vanadium	MG/KG	0.6300	0.8000 U	1.4000	2.3000		
I Zinc	MG/KG	0.9000 U	1.6000 U	1.7000 U	1.6000 U		
P 4,4'-DDD	UG/KG	3.4000 U	3.3000 U	3.6000 U	3.9000 U	3.9000 U	3.9000 U
P 4,4'-DDE	UG/KG	3.4000 U	3.3000 U	3.6000 U	3.9000 U	3.9000 U	3.9000 U
P 4,4'-DDT	UG/KG	3.4000 U	3.3000 U	3.6000 U	3.9000 U	21.0000	17,0000
P Aldrin	UG/KG	1.8000 U	1.7000 U	1.8000 U	2.0000 U	10.0000	8.7000
P Aroclor 1016	UG/KG	34.0000 U	33.0000 U	36.0000 U	39.0000 U	39.0000 U	39.0000 U
P Aroclor 1221	UG/KG	69.0000 U	68.0000 U	72.0000 U	79.0000 U	79.0000 U	80.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	5S0106 / 38602-26 / 12/02/93	5S0201 / 38636-10 / 12/04/93	550202 / 38602-21 / 12/02/93	580204 / 38602-22 / 12/02/93	5S0204MS / 38602-22MS / 12/02/93	5S0204MSD / 38602-22MSD / 12/02/93
P Aroclor 1232	UG/KG	34.0000 U	33.0000 U	36.0000 U	39.0000 U	39.0000 U	39.0000 U
P Aroclor 1242	UG/KG	34.0000 U	33.0000 U	36.0000 U	39.0000 U	39.0000 U	39.0000 U
P Aroclor 1248	UG/KG	34.0000 U	33.0000 U	36.0000 U	39.0000 U	39.0000 U	39.0000 U
P Aroclor 1254	UG/KG	34.0000 U	33.0000 U	36.0000 U	39.0000 U	39.0000 U	39.0000 U
P Aroclor 1260	UG/KG	34.0000 U	33.0000 U	36.0000 U	39.0000 U	39.0000 U	39.0000 U
P Dieldrin	UG/KG	3.4000 U	3.3000 U	3.6000 U	3.9000 U	20.0000	17.0000
P Endosulfan I	UG/KG	1.8000 U	1.7000 U	1.8000 U	2.0000 U	2.0000 U	2.0000 U
P Endosulfan II	UG/KG	3.4000 U	3.3000 U	3.6000 U	3.9000 U	3.9000 U	3.9000 U
P Endosulfan sulfate	UG/KG	3.4000 U	3.3000 U	3.6000 U	3.9000 U	3.9000 U	3.9000 U
P Endrin	UG/KG	3.4000 U	3.3000 U	3.6000 U	3.9000 U	23.0000	19.0000
P Endrin aldehyde	UG/KG	3.4000 U	3.3000 U	3.6000 U	3.9000 U	3.9000 U	3.9000 U
P Endrin ketone	UG/KG	3.4000 U	3.3000 U	3.6000 U	3.9000 U	3.9000 U	3.9000 U
P Heptachlor	UG/KG	1.8000 U	1.7000 U	1.8000 U	2.0000 U	9.8000	8.6000
P Heptachlor epoxide	UG/KG	1.8000 U	1.7000 U	1.8000 U	2.0000 U	2.0000 U	2.0000 U
P Methoxychlor	UG/KG	18.0000 U	17.0000 U	18.0000 U	20.0000 U	20.0000 U	20.0000 U
P Toxaphene	UG/KG	180.0000 U	170.0000 U	180.0000 U	200.0000 U	200.0000 U	200.0000 U
P alpha-BHC	UG/KG	1.8000 U	1.7000 U	1,8000 U	2.0000 U	2.0000 U	2.0000 U
P alpha-Chlordane	UG/KG	1.8000 U	1.7000 U	1.8000 U	2.0000 U	2.0000 U	2.0000 U
P beta-BHC	UG/KG	1.8000 U	1.7000 U	1.8000 U	2.0000 U	2.0000 U	2.0000 U
P delta-BHC	UG/KG	1.8000 U	1.7000 U	1.8000 U	2.0000 U	2.0000 U	2.0000 U
P gamma-BHC (Lindane)	UG/KG	1.8000 U	1.7000 U	1.8000 U	2.0000 U	9.5000	7.9000
P gamma-Chlordane	UG/KG	1.8000 U	1.7000 U	1.8000 U	2.0000 U	2.0000 U	2.0000 U
S 1,2,4-Trichlorobenzene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	1000.0000	950.0000
S 1,2-Dichlorobenzene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 1,3-Dichlorobenzene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 1,4-Dichlorobenzene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	910.0000	820.0000
S 2,4,5-Trichlorophenol	UG/KG	820.0000 U	810.0000 U	870.0000 U	950.0000 U	950.0000 U	950.0000 U
S 2,4,6-Trichlorophenol	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 2,4-Dichlorophenol	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 2,4-Dimethylphenol	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 2,4-Dinitrophenol	UG/KG	820.0000 U	810.0000 U	870.0000 U	950.0000 U	950.0000 U	950.0000 U
S 2,4-Dinitrotoluene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	1000.0000	1000.0000

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	ENSAFE ID: 5S0106	5S0201	550202	550204	5S02043s	5S0204MSD
	LAB ID:	38602-26	38636-10	38602-21	38602-22	38602-22MS	38602-22MSD
	LAB RCVD:	12/02/93	12/04/93	12/02/93	12/02/93	12/02/93	12/02/93
S 2,6-Dinitrotoluene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 2-Chloronaphthalene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 2-Chlorophenol	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	1400.0000	1300.0000
S 2-Methylnaphthalene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 2-Methylphenol	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 2-Nitroaniline	UG/KG	820.0000 U	810.0000 U	870.0000 U	950.0000 U	950.0000 U	950.0000 U
S 2-Nitrophenol	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 3,3'-Dichlorobenzidine	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 3-Nitroaniline	UG/KG	820.0000 U	810.0000 U	870.0000 U	950.0000 U	950.0000 U	950.0000 U
S 4,6-Dinitro-2-methylphenol	UG/KG	820.0000 U	810.0000 U	870.0000 U	950.0000 U	950.0000 U	950.0000 U
S 4-Bromophenyl-phenylether	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 4-Chloro-3-methylphenol	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	1600.0000	1500.0000
S 4-Chloroaniline	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 4-Chlorophenyl-phenylether	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 4-Methylphenol	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S 4-Nitroaniline	UG/KG	820.0000 U	810.0000 U	870.0000 U	950.0000 U	950.0000 U	950.0000 U
S 4-Nitrophenol	UG/KG	820.0000 U	810.0000 U	870.0000 U	950.0000 U	1900.0000	1900.0000
S Acenaphthene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	1100.0000	1100.0000
S Acenaphthylene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Anthracene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Benzo(a)anthracene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Benzo(a)pyrene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Benzo(b)fluoranthene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Benzo(g,h,i)perylene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Benzo(k)fluoranthene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Butylbenzylphthalate	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Carbazole	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Chrysene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Di-n-butylphthalate	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Di-n-octylphthalate	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Dibenz(a,h)anthracene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Dibenzofuran	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	5S0106	5S0201	5S0202	5S0204	5S0204MS	5S0204MSD
	LAB ID:	38602-26	38636-10	38602-21	38602-22	38602-22MS	38602-22MSD
	LAB RCVD:	12/02/93	12/04/93	12/02/93	12/02/93	12/02/93	12/02/93
PARAMETER	UNITS						
S Diethylphthalate	UG/KG	340,0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Dimethylphthalate	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Fluoranthene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Fluorene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Hexachlorobenzene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Hexachlorobutadiene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Hexachlorocyclopentadiene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Hexachloroethane	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Indeno(1,2,3-cd)pyrene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Isophorone	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S N-Nitroso-di-n-propylamine	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	1100.0000	1000.0000
S N-Nitrosodiphenylamine	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Naphthalene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Nitrobenzene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Pentachlorophenol	UG/KG	820.0000 U	810.0000 U	870.0000 U	950.0000 U	2000.0000	2000.0000
S Phenanthrene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S Phenol	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	1400.0000	1300.0000
S Pyrene	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	1200.0000	1100.0000
S bis(2-Chloroethoxy)methane	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S bis(2-Ethlyhexy)phthalate	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S bis(2-chloroethyl)ether	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
S bis(2-chloroisopropyl)ether	UG/KG	340.0000 U	340.0000 U	360.0000 U	390.0000 U	390.0000 U	390.0000 U
V 1,1,1-Trichloroethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V 1,1,2,2-Tetrachloroethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V 1,1,2-Trichloroethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V 1,1-Dichloroethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V 1,1-Dichloroethene	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	67.0000	70.0000
V 1,2-Dichloroethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V 1,2-Dichloroethene (total)	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V 1,2-Dichloropropane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V 2-Butanone	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V 2-Hexanone	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	550106	5S0201	550202	550204	5S0204MS	5S0204MSD
	LAB ID:	38602-13	38636-2	38602-8	38602-9	38602-9MS	38602-9MSD
	LAB RCVD:	12/02/93	12/04/93	12/02/93	12/02/93	12/02/93	12/02/93
PARAMETER	UNITS						
V 4-Methyl-2-Pentanone	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Acetone	UG/KG	81.0000 U	10.0000 U	320.0000 U	1100.0000 U	310.0000 U	290.0000 U
V Benzene	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	63.0000	66.0000
V Bromodichloromethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Bromoform	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Bromomethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Carbon Disulfide	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Carbon Tetrachloride	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Chlorobenzene	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	66.0000	67.0000
V Chloroethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Chloroform	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Chloromethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Dibromochloromethane	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Ethylbenzene	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Methylene Chloride	UG/KG	12.0000 U	13.0000 U	24.0000 U	63.0000 U	44.0000 U	42.0000 U
V Styrene	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Tetrachloroethene	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Toluene	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	64.0000	66.0000
V Trichloroethene	UG/KG	10.0000 U	5.0000 J	19.0000 U	54.0000 U	64.0000	64,0000
V Vinyl Chloride	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V Xylene (total)	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V cis-1,3-Dichloropropene	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U
V trans-1,3-Dichloropropene	UG/KG	10.0000 U	10.0000 U	19.0000 U	54.0000 U	11.0000 U	12.0000 U

V-Volatile, S-Semivolatile, P-Pesticide, I-Inorganic, R-Remediation

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	ENSAFE ID: 560206	560301	560302	550303	560304	560306
		LAB ID: 38602-036	38636-019	38625-013	38636-11	38625-014	38625-015
		LAB RCVD: 12/01/93	12/04/93	12/03/93		12/03/93	12/03/93
H Hexavalent Chromium	UG/KG	0.1000 U					
I Aluminum	MG/KG	291.0000 J	1500.0000	983.0000 J		882.0000 J	459.0000 J
I Antimony	MG/KG	2.8000 UJ	2.6000 U	3.2000 UJ		3.2000 UJ	3.0000 UJ
I Arsenic	MG/KG	0.4100 U	0.3900 U	0.4700 U		0.4700 U	0.4400 U
I Barium	MG/KG	1.3000 U	2.1000 U	1.5000 U		2.7000 U	0.9500 U
I Beryllium	MG/KG	0.0700 U	0.0600 U	0.0800 U		0.0800 U	0.0700 U
I Cadmium	MG/KG	0.3900 U	0.3700 U	0.4500 U		0.4500 U	0.4200 U
I Calcium	MG/KG	22.5000 U	353.0000 U	102.0000 U		149.0000 U	24.0000 U
I Chromium	MG/KG	1.8000 U	1.7000 U	1.7000 U		1.9000 U	2.8000 U
I Cobalt	MG/KG	0.3200 U	0.3100 U	0.3700 U		0.3700 U	0.3500 U
I Copper	MG/KG	0.2200 U	0.5700 U	0.2500 U		0.2600 U	0.4000
I Cyanide	MG/KG	0.1100 U	0.0900 U	0.0900 U		0.0800 U	0.0900 U
I Iron	MG/KG	202.0000 J	1120.0000	359.0000 J		380.0000 J	405.0000 J
I Lead	MG/KG	0.5100 U	2.1000 U	0.8300 U		1.0000 U	0.7000 U
I Magnesium	MG/KG	8.6000	37.8000 U	24.4000		22.7000	15.3000
I Manganese	MG/KG	0.6700 U	5.3000 U	1.3000 U		2.1000 U	2.0000 U
I Mercury	MG/KG	0.0200 U	0.0300 U	0,2500		0.0200 U	0.0200 U
I Nickel	MG/KG	1.4000 U	1.4000 U	1.6000 U		1.6000 U	1.5000 U
I Potassium	MG/KG	34.4000 U	54.8000 U	39.2000 U		68.4000 U	63.1000 U
I Selenium	MG/KG	0.3900 U	0.3700 U	0.4500 U		0.4500 U	0.4200 U
I Silver	MG/KG	0.3200 U	0.3100 U	0.3700 U		0.3700 U	0.3500 U
I Sodium	MG/KG	8.2000 U	34.4000 U	17.4000 U		12.7000 U	7.8000 U
I Thallium	MG/KG	0.3800 U	0.3600 U	0.4300 U		0.4300 U	0.4100 U
I Vanadium	MG/KG	0.6700 U	2.9000 U	1.2000		1.1000	0.8000
I Zinc	MG/KG	0.8800 U	1.4000 U	1.0000 U		4.2000 U	1.1000 U
P 4,4'-DDD	UG/KG	3.4000 U	3.4000 U	3.3000 U	3.4000 U	3.3000 U	3.4000 U
P 4,4'-DDE	UG/KG	3.4000 U	3.4000 U	3.3000 U	3.4000 U	3.3000 U	3.4000 U
P 4,4'-DDT	UG/KG	3.4000 U	3.4000 U	3.3000 U	3.4000 U	3.3000 U	3.4000 U
P Aldrin	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
P Aroclor 1016	UG/KG	34.0000 U	34.0000 U	33.0000 U	34.0000 U	33.0000 U	34.0000 U
P Aroclor 1221	UG/KG	69.0000 U	68.0000 U	67.0000 U	68.0000 U	68.0000 U	69.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	5S0206	5S0301	5S0302	5S0303	5S0304	5S0306
ENSAFE ID:		5S0206	5S0301	5S0302	5S0303	5S0304	5S0306
LAB ID:		38602-23	38636-11	38625-7	38636-11	38625-8	38625-9
LAB RCVD:		12/02/93	12/04/93	12/03/93	.	12/03/93	12/03/93
P Aroclor 1232	UG/KG	34.0000 U	34.0000 U	33.0000 U	34.0000 U	33.0000 U	34.0000 U
P Aroclor 1242	UG/KG	34.0000 U	34.0000 U	33.0000 U	34.0000 U	33.0000 U	34.0000 U
P Aroclor 1248	UG/KG	34.0000 U	34.0000 U	33.0000 U	34.0000 U	33.0000 U	34.0000 U
P Aroclor 1254	UG/KG	34.0000 U	34.0000 U	33.0000 U	34.0000 U	33.0000 U	34.0000 U
P Aroclor 1260	UG/KG	34.0000 U	34.0000 U	33.0000 U	34.0000 U	33.0000 U	34.0000 U
P Dieldrin	UG/KG	3.4000 U	3.4000 U	3.3000 U	3.4000 U	3.3000 U	3.4000 U
P Endosulfan I	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
P Endosulfan II	UG/KG	3.4000 U	3.4000 U	3.3000 U	3.4000 U	3.3000 U	3.4000 U
P Endosulfan sulfate	UG/KG	3.4000 U	3.4000 U	3.3000 U	3.4000 U	3.3000 U	3.4000 U
P Endrin	UG/KG	3.4000 U	3.4000 U	3.3000 U	3.4000 U	3.3000 U	3.4000 U
P Endrin aldehyde	UG/KG	3.4000 U	3.4000 U	3.3000 U	3.4000 U	3.3000 U	3.4000 U
P Endrin ketone	UG/KG	3.4000 U	3.4000 U	3.3000 U	3.4000 U	3.3000 U	3.4000 U
P Heptachlor	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
P Heptachlor epoxide	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
P Methoxychlor	UG/KG	18.0000 U	17.0000 U	17.0000 U	17.0000 U	17.0000 U	18.0000 U
P Toxaphene	UG/KG	180.0000 U	170.0000 U	170.0000 U	170.0000 U	170.0000 U	180.0000 U
P alpha-BHC	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
P alpha-Chlordane	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
P beta-BHC	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
P delta-BHC	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
P gamma-BHC (Lindane)	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
P gamma-Chlordane	UG/KG	1.8000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.8000 U
S 1,2,4-Trichlorobenzene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S 1,2-Dichlorobenzene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S 1,3-Dichlorobenzene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S 1,4-Dichlorobenzene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S 2,4,5-Trichlorophenol	UG/KG	830.0000 U	830.0000 U	820.0000 U		820.0000 U	830.0000 U
S 2,4,6-Trichlorophenol	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S 2,4-Dichlorophenol	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S 2,4-Dimethylphenol	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S 2,4-Dinitrophenol	UG/KG	830.0000 U	830.0000 U	820.0000 U		820.0000 U	830.0000 U
S 2,4-Dinitrotoluene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	ENSAFE ID: 560206	550301	560302	560303	560304	560306
	LAB ID:	38602-23	38636-11	38625-7	38636-11	38625-8	38625-9
	LAB RCVD:	12/02/93	12/04/93	12/03/93		12/03/93	12/03/93
S 2,6-Dinitrotoluene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 2-Chloronaphthalene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 2-Chlorophenol	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S 2-Methylnaphthalene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S 2-Methylphenol	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 2-Nitroaniline	UG/KG	830.0000 U	830.0000 U	820.0000 U	.	820.0000 U	830.0000 U
S 2-Nitrophenol	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 3,3'-Dichlorobenzidine	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 3-Nitroaniline	UG/KG	830.0000 U	830.0000 U	820.0000 U	.	820.0000 U	830.0000 U
S 4,6-Dinitro-2-methylphenol	UG/KG	830.0000 U	830.0000 U	820.0000 U	.	820.0000 U	830.0000 U
S 4-Bromophenyl-phenylether	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 4-Chloro-3-methylphenol	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 4-Chloroaniline	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 4-Chlorophenyl-phenylether	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 4-Methylphenol	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S 4-Nitroaniline	UG/KG	830.0000 U	830.0000 U	820,0000 U	.	820.0000 U	830.0000 U
S 4-Nitrophenol	UG/KG	830.0000 U	830.0000 U	820.0000 U		820.0000 U	830.0000 U
S Acenaphthene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Acenaphthylene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Anthracene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Benzo(a)anthracene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Benzo(a)pyrene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Benzo(b)fluoranthene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Benzo(g,h,i)perylene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Benzo(k)fluoranthene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Butylbenzylphthalate	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Carbazole	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Chrysene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340,0000 U
S Di-n-butylphthalate	UG/KG	340.0000 U	340,0000 U	340.0000 U		340.0000 U	340.0000 U
S Di-n-octylphthalate	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Dibenz(a,h)anthracene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Dibenzofuran	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	5S0206	5S0301	5S0302	5S0303	560304	5S0306
ENSAFE ID:		5S0206	5S0301	5S0302	5S0303	560304	5S0306
LAB ID:		38602-23	38636-11	38625-7	38636-11	38625-8	38625-9
LAB RCVD:		12/02/93	12/04/93	12/03/93		12/03/93	12/03/93
S Diethylphthalate	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Dimethylphthalate	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Fluoranthene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Fluorene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Hexachlorobenzene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Hexachlorobutadiene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Hexachlorocyclopentadiene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Hexachloroethane	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Indeno(1,2,3-cd)pyrene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Isophorone	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S N-Nitroso-di-n-propylamine	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S N-Nitrosodiphenylamine	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Naphthalene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Nitrobenzene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Pentachlorophenol	UG/KG	830.0000 U	830.0000 U	820.0000 U	.	820.0000 U	830.0000 U
S Phenanthrene	UG/KG	340.0000 U	340.0000 U	340.0000 U		340.0000 U	340.0000 U
S Phenol	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S Pyrene	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S bis(2-Chloroethoxy)methane	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S bis(2-Ethlyhexy)phthalate	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S bis(2-chloroethyl)ether	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
S bis(2-chloroisopropyl)ether	UG/KG	340.0000 U	340.0000 U	340.0000 U	.	340.0000 U	340.0000 U
V 1,1,1-Trichloroethane	UG/KG	11.0000 u	10.0000 u	17.0000 U	.	51.0000 U	10.0000 u
V 1,1,2,2-Tetrachloroethane	UG/KG	11.0000 u	10.0000 u	17.0000 U	.	51.0000 U	10.0000 u
V 1,1,2-Trichloroethane	UG/KG	11.0000 u	10.0000 u	17.0000 U	.	51.0000 U	10.0000 u
V 1,1-Dichloroethane	UG/KG	11.0000 u	10.0000 u	17,0000 U		51.0000 U	10.0000 u
V 1,1-Dichloroethene	UG/KG	11.0000 u	10.0000 u	17.0000 U	.	51.0000 U	10.0000 u
V 1,2-Dichloroethane	UG/KG	11.0000 u	10.0000 u	17.0000 U	.	51.0000 U	10.0000 u
V 1,2-Dichloroethene (total)	UG/KG	11.0000 u	10.0000 u	17.0000 U	.	51.0000 U	10.0000 u
V 1,2-Dichloropropane	UG/KG	11.0000 u	10.0000 u	17.0000 U	.	51.0000 U	10.0000 u
V 2-Butanone	UG/KG	11.0000 u	10.0000 u	17.0000 U	.	51.0000 U	10.0000 u
V 2-Hexanone	UG/KG	11.0000 u	10.0000 u	17.0000 U		51.0000 U	10.0000 u

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	560206	560301	560302	560303.	560304	5S0306
	LAB ID:	38602-10	38636-3	38625-1	38636-11	38625-2	38625-3
	LAB RCVD:	12/02/93	12/04/93	12/03/93		12/03/93	12/03/93
PARAMETER	UNITS						
V 4-Methyl-2-Pentanone	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Acetone	UG/KG	62.0000 U	72.0000 U	200.0000 U	.	910.0000 U	130.0000 U
V Benzene	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Bromodichloromethane	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Bromoform	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Bromomethane	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Carbon Disulfide	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Carbon Tetrachloride	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Chlorobenzene	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Chloroethane	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Chloroform	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Chloromethane	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Dibromochloromethane	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Ethylbenzene	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Methylene Chloride	UG/KG	9.0000 U	14.0000 U	17.0000 U	.	55.0000 U	12.0000 U
V Styrene	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Tetrachloroethene	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Toluene	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Trichloroethene	UG/KG	11.0000 U	40.0000	17.0000 U	.	51.0000 U	10.0000 U
V Vinyl Chloride	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V Xylene (total)	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V cis-1,3-Dichloropropene	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U
V trans-1,3-Dichloropropene	UG/KG	11.0000 U	10.0000 U	17.0000 U	.	51.0000 U	10.0000 U

V=Volatile, S=Semivolatile, P=Pesticide, I-Inorganic, R=Remediation

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	5S0308	5S0308MS	5S0308MSD	550310	5S0401	550402
	LAB ID:	38625-016	38625-4MS	38625-4MSD	38625-017	38636-020	38602-027
	LAB RCVD:	12/03/93	12/03/93	12/03/93	12/02/93	12/04/93	12/02/93
PARAMETER	UNITS						
H Hexavalent Chromium	UG/KG	.	.	.	0.1000 u		
I Aluminum	MG/KG	794.0000 J	.		182.0000 J	1010.0000	429.0000 J
I Antimony	MG/KG	2.3000 UJ	.	.	3.2000 UJ	2.0000 u	2.9000 UJ
I Arsenic	MG/KG	0.3400 U	.	.	0.4600 U	0.3000 U	0.4300 U
I Barium	MG/KG	1.2000 u	.	.	0.6700 U	1.1000 u	5.8000 U
I Beryllium	MG/KG	0.0600 U	.		0.0800 U	0.0500 U	0.0700 U
I Cadmium	MG/KG	0.3200 U	.	.	0.4400 U	0.2800 U	0.4100 U
I Calcium	MG/KG	68.0000 U	.		18.9000 U	15.7000 U	30.3000 U
I Chromium	MG/KG	1.6000 U	.	.	1.7000 U	0.8100 U	1.4000 U
I Cobalt	MG/KG	0.2700 U	.	.	0.3700 U	0.2700 U	0.3400 U
I Copper	MG/KG	0.2800	.	.	0.2500 U	0.4200 U	0.2300
	MG/KG	0.0800 U	.	.	0.0900 u	0.0900 u	0.1500 U
	MG/KG	630.0000 J	.	.	166.0000 J	703.0000	202.0000 J
	MG/KG	0.8000 U	.	.	0.3700 U	0.8800 U	0.7700 U
	MG/KG	21.6000	.	.	5.5000	25.8000 U	9.8000
	MG/KG	1.9000 u	.	.	0.6700 U	2.2000 u	1.5000 U
	MG/KG	0.0200 u	.	.	0.0200 u	0.0200 U	0.0300 U
	MG/KG	1.2000 u	.	.	1.6000 U	1.0000 U	1.5000 U
	MG/KG	51.1000 U	.	.	46.1000 U	24.8000 U	35.8000 U
	MG/KG	0.3200 U	.	.	0.4400 U	0.2800 U	0.4100 U
	MG/KG	0.2700 U	.	.	0.3700 U	0.2300 U	0.3400 U
	MG/KG	5.8000 U	.	.	5.6000 U	6.4000 U	9.8000 U
	MG/KG	0.3100 U	.	.	0.4200 U	0.2700 U	0.3900 U
	MG/KG	1.2000	.	.	0.7500 U	1.5000 U	0.6900 U
	MG/KG	0.7600 U	.	.	0.4500 U	1.4000 U	0.9700 U
	UG/KG	3.4000 U	.	.	3.4000 U	3.3000 U	3.4000 U
	UG/KG	3.4000 U	.	.	3.4000 U	3.3000 U	3.4000 U
	UG/KG	3.4000 U	.	.	3.4000 U	3.3000 U	3.4000 U
	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
	UG/KG	34.0000 U	.	.	34.0000 U	33.0000 U	34.0000 U
	UG/KG	68.0000 U	.	.	69.0000 U	68.0000 U	69.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	580308 / 38625-10 / 12/03/93	5S0308MS / 38625-4MS / 12/03/93	5S0308MSD / 38625-4MSD / 12/03/93	5S0310 / 38625-11 / 12/03/93	5S0401 / 38636-12 / 12/04/93	560402 / 38602-14 / 12/02/93
P Aroclor 1232	UG/KG	34.0000 U	.	.	34.0000 U	33.0000 U	34.0000 U
P Aroclor 1242	UG/KG	34.0000 U	.	.	34.0000 U	33.0000 U	34.0000 U
P Aroclor 1248	UG/KG	34.0000 U	.	.	34.0000 U	33.0000 U	34.0000 U
P Aroclor 1254	UG/KG	34.0000 U	.	.	34.0000 U	33.0000 U	34.0000 U
P Aroclor 1260	UG/KG	34.0000 U	.	.	34.0000 U	33.0000 U	34.0000 U
P Dieldrin	UG/KG	3.4000 U	.	.	3.4000 U	3.3000 U	3.4000 U
P Endosulfan I	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
P Endosulfan II	UG/KG	3.4000 U	.	.	3.4000 U	3.3000 U	3.4000 U
P Endosulfan sulfate	UG/KG	3.4000 U	.	.	3,4000 U	3.3000 U	3.4000 U
P Endrin	UG/KG	3.4000 U	.	.	3.4000 U	3.3000 U	3.4000 U
P Endrin aldehyde	UG/KG	3.4000 U	.	.	3.4000 U	3.3000 U	3.4000 U
P Endrin ketone	UG/KG	3.4000 U	.	.	3.4000 U	3.3000 U	3.4000 U
P Heptachlor	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
P Heptachlor epoxide	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
P Methoxychlor	UG/KG	17.0000 U	.	.	18.0000 U	17.0000 U	17.0000 U
P Toxaphene	UG/KG	170.0000 U	.	.	180.0000 U	170.0000 U	170.0000 U
P alpha-BHC	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
P alpha-Chlordane	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
P beta-BHC	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
P delta-BHC	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
P gamma-BHC (Lindane)	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
P gamma-Chlordane	UG/KG	1.7000 U	.	.	1.8000 U	1.7000 U	1.7000 U
S 1,2,4-Trichlorobenzene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 1,2-Dichlorobenzene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 1,3-Dichlorobenzene	UG/KG	340.0000 U		.	340.0000 U	330.0000 U	340.0000 U
S 1,4-Dichlorobenzene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 2,4,5-Trichlorophenol	UG/KG	820.0000 U	.	.	830.0000 U	810.0000 U	820.0000 U
S 2,4,6-Trichlorophenol	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340,0000 U
S 2,4-Dichlorophenol	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 2,4-Dimethylphenol	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 2,4-Dinitrophenol	UG/KG	820.0000 U	.	.	830.0000 U	810.0000 U	820.0000 U
S 2,4-Dinitrotoluene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	5S0308	5S0308MS	5S0308MSD	5S0310	5S0401	5S0402
	LAB ID:	38625-10	38625-4MS	38625-4MSD	38625-11	38636-12	38602-14
	LAB RCVD:	12/03/93	12/03/93	12/03/93	12/03/93	12/04/93	12/02/93
PARAMETER	UNITS						
S 2,6-Dinitrotoluene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 2-Chloronaphthalene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 2-Chlorophenol	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 2-Methylnaphthalene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 2-Methylphenol	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 2-Nitroaniline	UG/KG	820.0000 U	.	.	830.0000 U	810.0000 U	820.0000 U
S 2-Nitrophenol	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 3,3'-Dichlorobenzidine	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 3-Nitroaniline	UG/KG	820.0000 U	.	.	830.0000 U	810.0000 U	820.0000 U
S 4,6-Dinitro-2-methylphenol	UG/KG	820.0000 U	.	.	830.0000 U	810.0000 U	820.0000 U
S 4-Bromophenyl-phenylether	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 4-Chloro-3-methylphenol	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 4-Chloroaniline	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 4-Chlorophenyl-phenylether	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 4-Methylphenol	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S 4-Nitroaniline	UG/KG	820.0000 U	.	.	830.0000 U	810.0000 U	820.0000 U
S 4-Nitrophenol	UG/KG	820.0000 U	.	.	830.0000 U	810.0000 U	820.0000 U
S Acenaphthene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Acenaphthylene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Anthracene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Benzo(a)anthracene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Benzo(a)pyrene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Benzo(b)fluoranthene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Benzo(g,h,i)perylene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Benzo(k)fluoranthene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Butylbenzylphthalate	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Carbazole	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Chrysene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Di-n-butylphthalate	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Di-n-octylphthalate	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Dibenz(a,h)anthracene	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U
S Dibenzofuran	UG/KG	340.0000 U	.	.	340.0000 U	330.0000 U	340.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	580308	5S0308MS	5S0308MSD	5S0310	5S0401	560402
	LAB ID:	38625-10	38625-4MS	38625-4MSD	38625-11	38636-12	38602-14
	LAB RCVD:	12/03/93	12/03/93	12/03/93	12/03/93	12/04/93	12/02/93
PARAMETER	UNITS						
S Diethylphthalate	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Dimethylphthalate	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Fluoranthene	UG/KG	340.0000 U	.		340.0000 U	330.0000 U	340.0000 U
S Fluorene	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Hexachlorobenzene	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Hexachlorobutadiene	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Hexachlorocyclopentadiene	UG/KG	340.0000 U	.		340.0000 U	330.0000 U	340.0000 U
S Hexachloroethane	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Indeno(1,2,3-cd)pyrene	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Isophorone	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S N-Nitroso-di-n-propylamine	UG/KG	340.0000 U	.		340.0000 U	330.0000 U	340.0000 U
S N-Nitrosodiphenylamine	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Naphthalene	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Nitrobenzene	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Pentachlorophenol	UG/KG	820.0000 U	.		830.0000 U	810.0000 U	820.0000 U
S Phenanthrene	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Phenol	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
S Pyrene	UG/KG	340.0000 U	.		340.0000 U	330.0000 U	340.0000 U
S bis(2-Chloroethoxy)methane	UG/KG	340.0000 U	.		340.0000 U	330.0000 U	340.0000 U
S bis(2-Ethlyhexy)phthalate	UG/KG	340.0000 U	.		340.0000 U	330.0000 U	340.0000 U
S bis(2-chloroethyl)ether	UG/KG	340.0000 U	.		340.0000 U	330.0000 U	340.0000 U
S bis(2-chloroisopropyl)ether	UG/KG	340.0000 U			340.0000 U	330.0000 U	340.0000 U
V 1,1,1-Trichloroethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V 1,1,2,2-Tetrachloroethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V 1,1,2-Trichloroethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V 1,1-Dichloroethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V 1,1-Dichloroethene	UG/KG	1200.0000 U	6400.0000	6700.0000	11.0000 U	10.0000 U	11.0000 U
V 1,2-Dichloroethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V 1,2-Dichloroethene (total)	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V 1,2-Dichloropropane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V 2-Butanone	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V 2-Hexanone	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	580308	5S0308MS	5S0308MSD	5S0310	580401	550402
ENSAFE ID:		580308	5S0308MS	5S0308MSD	5S0310	580401	550402
LAB ID:		38625-4	38625-4MS	38625-4MSD	38625-5	38636-4	38602-1
LAB RCVD:		12/03/93	12/03/93	12/03/93	12/03/93	12/04/93	12/02/93
V 4-Methyl-2-Pentanone	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Acetone	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	130.0000 U	29.0000 U	87.0000 U
V Benzene	UG/KG	1200.0000 U	6400.0000	7000.0000	11.0000 U	10.0000 U	11.0000 U
V Bromodichloromethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Bromoform	UG/KG	~200.0000U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Bromomethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Carbon Disulfide	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Carbon Tetrachloride	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Chlorobenzene	UG/KG	1200.0000 U	6800.0000	6900.0000	11.0000 U	10.0000 U	11.0000 U
V Chloroethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Chloroform	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Chloromethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Dibromochloromethane	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Ethylbenzene	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Methylene Chloride	UG/KG	1400.0000 U	1500.0000 U	1200.0000 U	16.0000 U	12.0000 U	38.0000 U
V Styrene	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Tetrachloroethene	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Toluene	UG/KG	1200.0000 U	6000.0000	6200.0000	11.0000 U	10.0000 U	11.0000 U
V Trichloroethene	UG/KG	1200.0000 U	6400.0000	6900.0000	11.0000 U	11.0000	11.0000 U
V Vinyl Chloride	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V Xylene (total)	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V cis-1,3-Dichloropropene	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U
V trans-1,3-Dichloropropene	UG/KG	1200.0000 U	1200.0000 U	1200.0000 U	11.0000 U	10.0000 U	11.0000 U

V=Volatile, S=Semivolatile, P-Pesticide, I-Inorganic, R-Remediation

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	5S0404	550406	5S0501	5S0502	580504	550506
	LAB ID:	38602-028	38602-029	38636-021	38602-030	38602-031	38602-032
	LAB RCVD:	12/02/93	12/02/93	12/04/93	12/02/93	12/02/93	12/02/93
PARAMETER	UNITS						
I Aluminum	MG/KG	142.0000 J	82.9000 J	1140.0000	234.0000 J	127.0000 J	104.0000 J
I Antimony	MG/KG	3.0000 UJ	2.6000 UJ	2.4000 U	2.1000 UJ	2.1000 UJ	2.9000 UJ
I Arsenic	MG/KG	0.4400 U	0.3900 U	0.3600 U	0.3100 U	0.3000 U	0.4300 U
I Barium	MG/KG	0.5500 U	0.2900 U	1.3000 U	0.5000 U	0.3500 U	0.4300 U
I Beryllium	MG/KG	0.0700 U	0.0600 U	0.0600 U	0.0500 U	0.0500 U	0.0700 U
I Cadmium	MG/KG	0.4200 U	0.3700 U	0.3400 U	0.3000 U	0.2900 U	0.4100 U
I Calcium	MG/KG	22.8000 U	17.4000 U	18.8000 U	11.2000 U	12.8000 U	17.5000 U
I Chromium	MG/KG	3.0000 U	2.1000 U	1.1000 U	1.3000	1.7000	1.2000
I Cobalt	MG/KG	0.3500 U	0.3100 U	0.2800 U	0.2500 U	0.2400 U	0.3400 U
I Copper	MG/KG	0.3100	0.2100 U	0.4000 U	0.1700 U	0.1600 U	0.2300 U
I Cyanide	MG/KG	0.1000 U	0.1000 U	0.0900 U	0.0900 U	0.0900 U	0.0800 U
I Iron	MG/KG	305.0000 J	114.0000 J	690.0000	164.0000 J	104.0000 J	95.2000 J
I Lead	MG/KG	0.3400 U	0.2100 U	1.2000	0.4100 U	0.2900 U	0.3700 U
I Magnesium	MG/KG	6.3000	4.5000	25.8000 U	7.2000	4.8000	4.6000
I Manganese	MG/KG	1.6000 U	0.4800 U	2.0000 U	0.4200 U	0.4600 U	0.4900 U
I Mercury	MG/KG	0.0300 U	0.0300 U	0.0800 U	0.0300 U	0.0200 U	0.0200 U
I Nickel	MG/KG	1.5000 U	1.4000 U	1.2000 U	1.1000 U	1.1000 U	1.5000 U
I Potassium	MG/KG	45.1000 U	74.9000 U	50.5000 U	26.2000 U	38,8000 U	35.8000 U
I Selenium	MG/KG	0.4200 U	0.3700 U	0.3400 U	0.3000 U	0.2900 U	0.4100 U
I Silver	MG/KG	0.3700	0.3100 U	0.2800 U	0.2500 U	0.2400	0.3400 U
I Sodium	MG/KG	9.1000 U	5.5000 U	7.8000 U	4.2000 U	5.3000 U	10.4000 U
I Thallium	MG/KG	0.4000 U	0.3500 U	0.3300 U	0.2900 U	0.2800 U	0.3900 U
I Vanadium	MG/KG	0.7200 U	0.6500	1.6000 U	0.5600	0.4900 U	0.6900 U
I Zinc	MG/KG	0.9300 U	0.6800 U	1.4000 U	0.4600 U	0.4200 U	1.0000 U
P 4,4'-DDD	UG/KG	3.8000 U	3.8000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U
P 4,4'-DDE	UG/KG	3.8000 U	3.8000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U
P 4,4'-DDT	UG/KG	3.9000 U	3.8000 U	4.2000	3.3000 U	3.3000 U	3.3000 U
P Aldrin	UG/KG	1.9000 U	2.0000 U	1.8000 U	1.7000 U	1.7000 U	
P Aroclor 1016	UG/KG	38.0000 U	38.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1221	UG/KG	76.0000 U	77,0000 U	70.0000 U	68.0000 U	67.0000 U	67.0000 U
P Aroclor 1232	UG/KG	38.0000 U	38.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U

PENSACOLA SITE OS
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	ENSAFE ID: 550404	550406	5S0501	550502	550504	5S0506
	LAB ID:	38602-15	38602-16	38636-13	38602-17	38602-18	38602-19
	LAB RCVD:	12/02/93	12/02/93	12/04/93	12/02/93	12/02/93	12/02/93
P Aroclor 1242	UG/KG	38.0000 U	38.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1248	UG/KG	38.0000 U	38.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1254	UG/KG	38.0000 U	38.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1260	UG/KG	38.0000 U	38.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U
P Dieldrin	UG/KG	3.8000 U	3.8000 U	3.4000 U	3.3000 U	3.3000 U	3,3000 U
P Endosulfan I	UG/KG	1.9000 u	2.0000 u	1.8000 U	1.7000 U	1.7000 U	1.7000 U
P Endosulfan II	UG/KG	3.8000 U	3.8000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U
P Endosulfan sulfate	UG/KG	3.8000 U	3.8000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U
P Endrin	UG/KG	3.8000 U	3.8000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U
P Endrin aldehyde	UG/KG	3.8000 U	3.8000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U
P Endrin ketone	UG/KG	3.8000 U	3.8000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U
P Heptachlor	UG/KG	1.9000 u	2.0000 u	1.8000 U	1.7000 U	1.7000 U	1.7000 U
P Heptachlor epoxide	UG/KG	1.9000 u	2.0000 u	1.8000 U	1.7000 U	1.7000 U	1.7000 U
P Methoxychlor	UG/KG	19.0000 u	20.0000 u	18.0000 U	17.0000 U	17.0000 U	17.0000 U
P Toxaphene	UG/KG	190.0000 u	200.0000 u	180.0000 U	170.0000 U	170.0000 U	170.0000 U
P alpha-BHC	UG/KG	1.9000 u	2.0000 u	1.8000 U	1.7000 U	1.7000 U	1.7000 U
P alpha-Chlordane	UG/KG	1.9000 u	2.0000 u	1.8000 U	1.7000 U	1.7000 U	1.7000 U
P beta-BHC	UG/KG	1.9000 u	2.0000 u	1.8000 U	1.7000 U	1.7000 U	1.7000 U
P delta-BHC	UG/KG	1.9000 u	2.0000 u	1.8000 U	1.7000 U	1.7000 U	1.7000 U
P gamma-BHC (Lindane)	UG/KG	1.9000 u	2.0000 u	1.8000 U	1.7000 U	1.7000 U	1.7000 U
P gamma-Chlordane	UG/KG	1.9000 u	2.0000 u	1.8000 U	1.7000 U	1.7000 U	1.7000 U
S 1,2,4-Trichlorobenzene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 1,2-Dichlorobenzene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 1,3-Dichlorobenzene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 1,4-Dichlorobenzene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 2,4,5-Trichlorophenol	UG/KG	920.0000 U	940.0000 U	830.0000 U	810.0000 U	810.0000 U	820.0000 U
S 2,4,6-Trichlorophenol	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 2,4-Dichlorophenol	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 2,4-Dimethylphenol	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 2,4-Dinitrophenol	UG/KG	920.0000 U	940.0000 U	830.0000 U	810.0000 U	810.0000 U	820.0000 U
S 2,4-Dinitrotoluene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 2,6-Dinitrotoluene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	560404	580406	550501	560502	5S0504	550506
	LAB ID:	38602-15	38602-16	38636-13	38602-17	38602-18	38602-19
	LAB RCVD:	12/02/93	12/02/93	12/04/93	12/02/93	12/02/93	12/02/93
PARAMETER	UNITS						
S 2-Chloronaphthalene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 2-Chlorophenol	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 2-Methylnaphthalene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 2-Methylphenol	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 2-Nitroaniline	UG/KG	920.0000 U	940.0000 U	830.0000 U	810.0000 U	810.0000 U	820.0000 U
S 2-Nitrophenol	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 3,3'-Dichlorobenzidine	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 3-Nitroaniline	UG/KG	920.0000 U	940.0000 U	830.0000 U	810.0000 U	810.0000 U	820.0000 U
S 4,6-Dinitro-2-methylphenol	UG/KG	920.0000 U	940.0000 U	830.0000 U	810.0000 U	810.0000 U	820.0000 U
S 4-Bromophenyl-phenylether	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 4-Chloro-3-methylphenol	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 4-Chloroaniline	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 4-Chlorophenyl-phenylether	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 4-Methylphenol	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S 4-Nitroaniline	UG/KG	920.0000 U	940.0000 U	830.0000 U	810.0000 U	810.0000 U	820.0000 U
S 4-Nitrophenol	UG/KG	920.0000 U	940.0000 U	830.0000 U	810.0000 U	810.0000 U	820.0000 U
S Acenaphthene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Acenaphthylene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Anthracene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Benzo(a)anthracene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Benzo(a)pyrene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Benzo(b)fluoranthene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Benzo(g,h,i)perylene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Benzo(k)fluoranthene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Butylbenzylphthalate	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Carbazole	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Chrysene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Di-n-butylphthalate	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330,0000 U	340.0000 U
S Di-n-octylphthalate	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Dibenz(a,h)anthracene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Dibenzofuran	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Diethylphthalate	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits

PARAMETER	UNITS	5S0404	5S0406	5S0501	5S0502	5S0504	5S0506
ENSAFE ID:		5S0404	5S0406	5S0501	5S0502	5S0504	5S0506
LAB ID:		38602-15	38602-16	38636-13	38602-17	38602-18	38602-19
LAB RCVD:		12/02/93	12/02/93	12/04/93	12/02/93	12/02/93	12/02/93
S Dimethylphthalate	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Fluoranthene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Fluorene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Hexachlorobenzene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Hexachlorobutadiene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Hexachlorocyclopentadiene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Hexachloroethane	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Indeno(1,2,3-cd)pyrene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Isophorone	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S N-Nitroso-di-n-propylamine	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S N-Nitrosodiphenylamine	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Naphthalene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Nitrobenzene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Pentachlorophenol	UG/KG	920.0000 U	940.0000 U	830.0000 U	810.0000 U	810.0000 U	820.0000 U
S Phenanthrene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Phenol	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S Pyrene	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S bis(2-Chloroethoxy)methane	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S bis(2-Ethlyhexy)phthalate	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S bis(2-chloroethyl)ether	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
S bis(2-chloroisopropyl)ether	UG/KG	380.0000 U	390.0000 U	340.0000 U	340.0000 U	330.0000 U	340.0000 U
V 1,1,1-Trichloroethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,1,2,2-Tetrachloroethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,1,2-Trichloroethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,1-Dichloroethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,1-Dichloroethene	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,2-Dichloroethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,2-Dichloroethene (total)	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 1,2-Dichloropropane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 2-Butanone	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 2-Hexanone	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V 4-Methyl-2-Pentanone	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	5S0404	5S0406	5S0501	5S0502	5S0504	5S0506
	LAB ID:	38602-2	38602-3	38636-5	38602-4	38602-5	38602-6
	LAB RCVD:	12/02/93	12/02/93	12/04/93	12/02/93	12/02/93	12/02/93
PARAMETER	UNITS						
V Acetone	UG/KG	93.0000 U	60.0000 U	47.0000 U	110.0000 U	46.0000 U	140.0000 U
V Benzene	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Bromodichloromethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Bromoform	UG/KG	11,0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Bromomethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Carbon Disulfide	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Carbon Tetrachloride	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Chlorobenzene	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Chloroethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Chloroform	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Chloromethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Dibromochloromethane	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Ethylbenzene	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Methylene Chloride	UG/KG	35.0000 U	28.0000 U	14.0000 U	36.0000 U	27.0000 U	13.0000 U
V Styrene	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Tetrachloroethene	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Toluene	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Trichloroethene	UG/KG	11.0000 U	11.0000 U	20.0000	10.0000 U	11.0000 U	10.0000 U
V Vinyl Chloride	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V Xylene (total)	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V cis-1,3-Dichloropropene	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U
V trans-1,3-Dichloropropene	UG/KG	11.0000 U	11.0000 U	11.0000 U	10.0000 U	11.0000 U	10.0000 U

V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic, R=Remediation

PENSACOLA SITE 05
SOIL *SAMPLES*

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	D5S502 / 38602-033 / 12/02/93	DS0306 / 38625-018 / 12/03/93	LCSA67MS / SP3080 / 12/08/93	LCSA67MSD / SP3081 / 12/08/93	LCSA68MS / SP3084 / 12/08/93	LCSA68MSD / SP3085 / 12/08/93
I Aluminum	MG/KG	270.0000 J	428.0000 J		.	.	.
I Antimony	MG/KG	3.1000 UJ	2.5000 UJ		.	.	.
I Arsenic	MG/KG	0.4500 U	0.3600 U		.	.	.
I Barium	MG/KG	0.7400 U	1.0000 U		.	.	.
I Beryllium	MG/KG	0.0700 U	0.0600 U			.	
I Cadmium	MG/KG	0.4300 U	0.3400 U		.	.	.
I Calcium	MG/KG	16.8000 U	26.4000 U			.	.
I Chromium	MG/KG	1.6000	2.8000		.	.	.
I Cobalt	MG/KG	0.3600 U	0.2800 U				.
I Copper	MG/KG	0.2400 U	0.1900 u		.		
I Cyanide	MG/KG	0.0900 U	0.0900 u			.	.
I Iron	MG/KG	187.0000 J	417.0000 J		.	.	.
I Lead	MG/KG	0.4000 U	0.5800 U			.	.
I Magnesium	MG/KG	9.5000	14.6000		.	.	
I Manganese	MG/KG	0.5600 U	2.0000 u		.		.
I Mercury	MG/KG	0.0300 U	0.0200 U			.	.
I Nickel	MG/KG	1.6000 U	1.3000 U		.	.	.
I Potassium	MG/KG	37.7000 U	32.9000 U		.		.
I Selenium	MG/KG	0.4300 U	0.3400 U		.	.	.
	MG/KG	0.3600 U	0.2800 U		.		.
	MG/KG	12.4000 U	6.8000 U		.	.	.
	MG/KG	0.4100 U	0.3300 U		.		.
	MG/KG	0.7300 U	0.8500		.		
	MG/KG	0.6900 U	0.6800 U				
	UG/KG	3.3000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
	UG/KG	3.3000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
	UG/KG	3.4000 U	3.5000 U	24.0000	18.0000	18.0000	21.0000
	UG/KG	1.7000 U	1.7000 U	11.0000	8.1000	8.2000	10.0000
	UG/KG	33.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U
	UG/KG	67.0000 U	69.0000 U	67.0000 U	67.0000 U	67.0000 U	67.0000 U
	UG/KG	33.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	D5S502	DS0306	LCSA67MS	LCSA67MSD	LCSA68MS	LCSA68MSD
	LAB ID:	38602-20	38625-12	SP3080	SP3081	SP3084	SP3085
	LAB RCVD:	12/02/93	12/03/93	12/08/93	12/08/93	12/08/93	12/08/93
PARAMETER	UNITS						
P Aroclor 1242	UG/KG	33.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1248	UG/KG	33.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1254	UG/KG	33.0000 U	34.0000 U	95.0000 J	80.0000	84.0000	95.0000
P Aroclor 1260	UG/KG	33.0000 U	34.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U
P Dieldrin	UG/KG	3.3000 U	3.4000 U	24.0000 J	18.0000 J	20.0000 J	23.0000 J
P Endosulfan I	UG/KG	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P Endosulfan II	UG/KG	3.3000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Endosulfan sulfate	UG/KG	3.3000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Endrin	UG/KG	3.3000 U	3.4000 U	31.0000	22.0000	24.0000	28.0000
P Endrin aldehyde	UG/KG	3.3000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Endrin ketone	UG/KG	3.3000 U	3.4000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Heptachlor	UG/KG	1.7000 U	1.7000 U	11.0000	8.0000	8.1000	10.0000
P Heptachlor epoxide	UG/KG	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P Methoxychlor	UG/KG	17.0000 U	17.0000 U	17.0000 U	17.0000 U	17.0000 U	17,0000 U
P Toxaphene	UG/KG	170.0000 U	170.0000 U	170.0000 U	170.0000 U	170.0000 U	170.0000 U
P alpha-BHC	UG/KG	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P alpha-Chlordane	UG/KG	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P beta-BHC	UG/KG	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P delta-BHC	UG/KG	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P gamma-BHC (Lindane)	UG/KG	1.7000 U	1.7000 U	11.0000	7.8000	7.8000	9.7000
P gamma-Chlordane	UG/KG	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
S 1,2,4-Trichlorobenzene	UG/KG	340.0000 U	340.0000 U				
S 1,2-Dichlorobenzene	UG/KG	340.0000 U	340.0000 U				
S 1,3-Dichlorobenzene	UG/KG	340.0000 U	340.0000 U				
S 1,4-Dichlorobenzene	UG/KG	340.0000 U	340.0000 U				
S 2,4,5-Trichlorophenol	UG/KG	810.0000 U	830.0000 U				
S 2,4,6-Trichlorophenol	UG/KG	340.0000 U	340.0000 U				
S 2,4-Dichlorophenol	UG/KG	340.0000 U	340.0000 U				
S 2,4-Dimethylphenol	UG/KG	340.0000 U	340.0000 U				
S 2,4-Dinitrophenol	UG/KG	810.0000 U	830.0000 U				
S 2,4-Dinitrotoluene	UG/KG	340.0000 U	340.0000 U				
S 2,6-Dinitrotoluene	UG/KG	340.0000 U	340.0000 U				

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	D5S502	DS0306	LCSA67MS	LCSA67MSD	LCSA68MS	LCSA68MSD
ENSAFE ID:		D5S502	DS0306	LCSA67MS	LCSA67MSD	LCSA68MS	LCSA68MSD
LAB ID:		38602-20	38625-12	SP3080	SP3081	SP3084	SP3085
LAB RCVD:		12/02/93	12/03/93	12/08/93	12/08/93	12/08/93	12/08/93
S 2-Chloronaphthalene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 2-Chlorophenol	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 2-Methylnaphthalene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 2-Methylphenol	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 2-Nitroaniline	UG/KG	810.0000 U	830.0000 U	.	.	.	.
S 2-Nitrophenol	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 3,3'-Dichlorobenzidine	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 3-Nitroaniline	UG/KG	810.0000 U	830.0000 U	.	.	.	.
S 4,6-Dinitro-2-methylphenol	UG/KG	810.0000 U	830.0000 U	.	.	.	.
S 4-Bromophenyl-phenylether	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 4-Chloro-3-methylphenol	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 4-Chloroaniline	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 4-Chlorophenyl-phenylether	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 4-Methylphenol	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S 4-Nitroaniline	UG/KG	810.0000 U	830.0000 U	.	.	.	.
S 4-Nitrophenol	UG/KG	810.0000 U	830.0000 U	.	.	.	.
S Acenaphthene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Acenaphthylene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Anthracene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Benzo(a)anthracene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Benzo(a)pyrene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Benzo(b)fluoranthene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Benzo(g,h,i)perylene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Benzo(k)fluoranthene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Butylbenzylphthalate	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Carbazole	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Chrysene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Di-n-butylphthalate	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Di-n-octylphthalate	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Dibenz(a,h)anthracene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Dibenzofuran	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Diethylphthalate	UG/KG	340.0000 U	340.0000 U	.	.		.

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	D5S502	DS0306	LCSA67MS	LCSA67MSD	LCSA68MS	LCSA68MSD
	LAB ID:	38602-20	38625-12	SP3080	SP3081	SP3084	SP3085
	LAB RCVD:	12/02/93	12/03/93	12/08/93	12/08/93	12/08/93	12/08/93
PARAMETER	UNITS						
S Dimethylphthalate	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Fluoranthene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Fluorene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Hexachlorobenzene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Hexachlorobutadiene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Hexachlorocyclopentadiene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Hexachloroethane	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Indeno(1,2,3-cd)pyrene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Isophorone	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S N-Nitroso-di-n-propylamine	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S N-Nitrosodiphenylamine	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Naphthalene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Nitrobenzene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Pentachlorophenol	UG/KG	810.0000 U	830.0000 U	.	.	.	.
S Phenanthrene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Phenol	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S Pyrene	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S bis(2-Chloroethoxy)methane	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S bis(2-Ethlyhexy)phthalate	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S bis(2-chloroethyl)ether	UG/KG	340.0000 U	340.0000 U	.	.	.	.
S bis(2-chloroisopropyl)ether	UG/KG	340.0000 U	340.0000 U	.	.	.	.
V 1,1,1-Trichloroethane	UG/KG	10.0000 u	10.0000 u	.	.	.	.
V 1,1,2,2-Tetrachloroethane	UG/KG	10.0000 u	10.0000 u	.	.	.	.
V 1,1,2-Trichloroethane	UG/KG	10.0000 u	10.0000 U	.	.	.	.
V 1,1-Dichloroethane	UG/KG	10.0000 u	10.0000 u	.	.	.	.
V 1,1-Dichloroethene	UG/KG	10.0000 u	10.0000 u	.	.	.	.
V 1,2-Dichloroethane	UG/KG	10.0000 u	10.0000 u	.	.	.	.
V 1,2-Dichloroethene (total)	UG/KG	10.0000 u	10.0000 u	.	.	.	.
V 1,2-Dichloropropane	UG/KG	10.0000 u	10.0000 u	.	.	.	.
V 2-Butanone	UG/KG	10.0000 u	10.0000 u	.	.	.	.
V 2-Hexanone	UG/KG	10.0000 u	10.0000 u	.	.	.	.
V 4-Methyl-2-Pentanone	UG/KG	10.0000 u	10.0000 u	.	.	.	.

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at and of Appendix. Data not shown in significant digits.

	ENSAFE ID:	D5S502	DS0306	LCSA67MS	LCSA67MSD	LCSA68MS	LCSA68MSD
	LAB ID:	38602-7	38625-6	SP3080	SP3081	SP3084	SP3085
	LAB RCVD:	12/02/93	12/03/93	12/08/93	12/08/93	12/08/93	12/08/93
PARAMETER	UNITS						
V Acetone	UG/KG	77.0000 U	150.0000 U	.	.	.	.
V Benzene	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Bromodichloromethane	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Bromoform	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Bromomethane	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Carbon Disulfide	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Carbon Tetrachloride	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Chlorobenzene	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Chloroethane	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Chloroform	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Chloromethane	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Dibromochloromethane	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Ethylbenzene	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Methylene Chloride	UG/KG	37.0000 U	17.0000 U	.	.	.	.
V Styrene	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Tetrachloroethene	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Toluene	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Trichloroethene	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Vinyl Chloride	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V Xylene (total)	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V cis-1,3-Dichloropropene	UG/KG	10.0000 U	10.0000 U	.	.	.	.
V trans-1,3-Dichloropropene	UG/KG	10.0000 U	10.0000 U	.	.	.	.

V-Volatile, S=Semivolatile, P-Pesticide, I-Inorganic, R-Remediation

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	LCSB1MS S-A1785	LCSB1MSD S-A1786	MM05S0 38636-14 12/04/93	MM05S0RE 38636-14RE 12/04/93	MM05SL 38636-023 12/04/93	MM05SN 38636-024 12/04/93
		.	.	.	.		
I Aluminum	MG/KG	.	.	.	.	70.0000	3500.0000 J
I Antimony	MG/KG	.	.	.	.	2.8000 U	1.8000 U
I Arsenic	MG/KG	.	.	.	.	0.4100 U	9.0000 J
I Barium	MG/KG	.	.	.	.	1.1000 U	100.0000 J
I Beryllium	MG/KG	.	.	.	.	0.0700 U	1.4000 J
I Cadmium	MG/KG	.	.	.	.	0.4000 U	0.2600 U
I Calcium	MG/KG	.	.	.	.	25.4000 U	1180.0000 J
I Chromium	MG/KG	.	.	.		0.5600 U	0.3000 U
I Cobalt	MG/KG	.	.	.	.	0.4100 U	0.5600 U
I Copper	MG/KG	.	.	.		0.2500 U	1.5000 U
I Cyanide	MG/KG	.	.	.	.	0.1000 U	0.0900 U
I Iron	MG/KG	.	.	.		100.0000 J	1470.0000 J
I Lead	MG/KG	.	.	.	.	0.4200 U	31.5000 J
I Magnesium	MG/KG	.	.	.		4.3000 U	523.0000 U
I Manganese	MG/KG	.	.	.	.	1.1000 u	12.7000 J
I Mercury	MG/KG	.	.	.		0.0300 U	0.0200 U
I Nickel	MG/KG		.	.	.	1.4000 U	0.9400 U
I Potassium	MG/KG	.	.	.		34.6000 U	1250.0000 U
I Selenium	MG/KG	.	.	.	.	0.4000 U	0.2600 U
I Silver	MG/KG	.	.	.	.	0.3300 U	0.2100 U
I Sodium	MG/KG		.	.	.	23.1000 U	19500.0000 J
I Thallium	MG/KG	.	.	.		0.3800 U	0.2500 U
I Vanadium	MG/KG	.	.	.	.	0.6700 U	0.4300 U
I Zinc	MG/KG	.	.	.	.	0.9700 U	87.1000 J
P 4,4'-DDD	UG/KG	.	.	.	.	3.9000 U	3.7000 U
P 4,4'-DDE	UG/KG	.	.	.		3.9000 U	3.7000 U
P 4,4'-DDT	UG/KG	.	.	.	.	3.9000 U	3.7000 U
P Aldrin	UG/KG	.	.	.	.	2.0000 u	1.9000 u
P Aroclor 1016	UG/KG	.	.	.		39.0000 U	37.0000 U
P Aroclor 1221	UG/KG	.	.	.		79.0000 U	76.0000 U
P Aroclor 1232	UG/KG	.	.	.		39.0000 U	37.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	LCSB1MS / S-A1785 / .	LCSD1MSD / B-A17[illegible] / .	MM05S0 / 38636-10 / 12/04/93	MM05S0RE / 38636-14RE / 12/04/93	MM05SL / 38636-15 / 12/04/93	MM05SN / 38636-16 / 12/04/93
P Aroclor 1242	UG/KG	.	.	.	.	39.0000 U	37.0000 U
P Aroclor 1248	UG/KG	.	.	.	.	39.0000 U	37.0000 U
P Aroclor 1254	UG/KG	.	.	.	.	39.0000 U	37.0000 U
P Aroclor 1260	UG/KG	.	.	.	.	39.0000 U	37.0000 U
P Dieldrin	UG/KG	.	.	.	.	3.3000 U	3.7000 U
P Endosulfan I	UG/KG	.	.	.	.	2.0000 U	1.9000 U
P Endosulfan II	UG/KG	.	.	.	.	3.3000 U	3.7000 U
P Endosulfan sulfate	UG/KG	.	.	.	.	3.9000 U	3.7000 U
P Endrin	UG/KG	.	.	.	.	3.9000 U	3.7000 U
P Endrin aldehyde	UG/KG	.	.	.	.	3.9000 U	3.7000 U
P Endrin ketone	UG/KG	.	.	.	.	3.9000 U	3.7000 U
P Heptachlor	UG/KG	.	.	.	.	2.0000 U	1.9000 U
P Heptachlor epoxide	UG/KG	.	.	.		2.0000 U	1.9000 U
P Methoxychlor	UG/KG	.	.	.	.	20.0000 U	19.0000 U
P Toxaphene	UG/KG	.	.	.	.	200.0000 U	190.0000 U
P alpha BHC	UG/KG	.	.	.	.	2.0000 U	1.9000 U
P alpha-Chlordane	UG/KG	.	.	.		2.0000 U	1.9000 U
P beta-BHC	UG/KG	.	.	.	.	2.0000 U	1.9000 U
P delta-BHC	UG/KG	.	.	.	.	2.0000 U	1.9000 U
P gamma-BHC (Lindane)	UG/KG	.	.	.	.	2.0000 U	1.9000 U
P gamma-Chlordane	UG/KG	.	.	.	.	2.0000 U	1.9000 U
S 1,2,4-Trichlorobenzene	UG/KG	710.0000	880.0000	330.0000 U	400.0000 U	390.0000 U	370.0000 U
S 1,2-Dichlorobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U	400.0000 U	390.0000 U	370.0000 U
S 1,3-Dichlorobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 1,4-Dichlorobenzene	UG/KG	640.0000	800.0000	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 2,4,5-Trichlorophenol	UG/KG	800.0000 U	800.0000 U	800.0000 U	1200.0000 U	940.0000 U	910.0000 U
S 2,4,6-Trichlorophenol	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 2,4-Dichlorophenol	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 2,4-Dimethylphenol	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 2,4-Dinitrophenol	UG/KG	800.0000 U	800.0000 U	800.0000 U	1200.0000 U	940.0000 U	910.0000 U
S 2,4-Dinitrotoluene	UG/KG	760.000	960.000	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 2,6-Dinitrotoluene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	LCSB1MS	LCSB1MSD	MM05S0	MM05S0RE	MM05SL	MM05SN
	LAB ID:	S-A1785	S-A1786	38636-14	38636-14RE	38636-15	38636-16
	LAB RCVD:	.	.	12/04/93	12/04/93	12/04/93	12/04/93
PARAMETER	UNITS						
S 2-Chloronaphthalene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 2-Chlorophenol	UG/KG	1000.0000	1200.0000	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 2-Methylnaphthalene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 2-Methylphenol	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 2-Nitroaniline	UG/KG	800.0000 U	800.0000 U	800.0000 U	1200.0000 U	940.0000 U	910.0000 U
S 2-Nitrophenol	UG/KG	330.0000 U	330,0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 3,3'-Dichlorobenzidine	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 3-Nitroaniline	UG/KG	800.0000 U	800.0000 U	800.0000 U	1200.0000 U	940.0000 U	910.0000 U
S 4,6-Dinitro-2-methylphenol	UG/KG	800.0000 U	800.0000 U	800.0000 U	1200.0000 U	940.0000 U	910.0000 U
S 4-Bromophenyl-phenylether	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 4-Chloro-3-methylphenol	UG/KG	1200.0000	1400.0000	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 4-Chloroaniline	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 4-Chlorophenyl-phenylether	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 4-Methylphenol	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S 4-Nitroaniline	UG/KG	800.0000 U	800.0000 U	800.0000 U	1200.0000 U	940.0000 U	910.0000 U
S 4-Nitrophenol	UG/KG	1300.0000	1600.0000	800.0000 U	1200.0000 U	940.0000 U	910.0000 U
S Acenaphthene	UG/KG	800.0000	950.0000	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Acenaphthylene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Anthracene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Benzo(a)anthracene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Benzo(a)pyrene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Benzo(b)fluoranthene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Benzo(g,h,i)perylene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Benzo(k)fluoranthene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Butylbenzylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Carbazole	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Chrysene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Di-n-butylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Di-n-octylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Dibenz(a,h)anthracene	UG/KG	330.0000 U	330.0000 U	330,0000 U	480.0000 U	390.0000 U	370.0000 U
S Dibenzofuran	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Diethylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	LCSB1MS	LCSB1MSD	MM05S0	MM05S0RE	MM05SL	MM05SN
ENSAFE ID:		LCSB1MS	LCSB1MSD	MM05S0	MM05S0RE	MM05SL	MM05SN
LAB ID:		S-A1785	S-A1786	38636-14	38636-14RE	38636-15	38636-16
LAB RCVD:				12/04/93	12/04/93	12/04/93	12/04/93
S Dimethylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Fluoranthene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Fluorene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Hexachlorobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Hexachlorobutadiene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Hexachlorocyclopentadiene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Hexachloroethane	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Indeno(1,2,3-cd)pyrene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Isophorone	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S N-Nitroso-di-n-propylamine	UG/KG	710.0000	890.0000	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S N-Nitrosodiphenylamine	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Naphthalene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370,0000 U
S Nitrobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Pentachlorophenol	UG/KG	1300.0000	1500.0000	800.0000 U	1200.0000 u	940.0000 U	910.0000 U
S Phenanthrene	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Phenol	UG/KG	1100.0000	1300.0000	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S Pyrene	UG/KG	1000.0000	1100.0000	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S bis(2-Chloroethoxy)methane	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S bis(2-Ethlyhexy)phthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S bis(2-chloroethyl)ether	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
S bis(2-chloroisopropyl)ether	UG/KG	330.0000 U	330.0000 U	330.0000 U	480.0000 U	390.0000 U	370.0000 U
V 1,1,1-Trichloroethane	UG/KG			9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 1,1,2,2-Tetrachloroethane	UG/KG	.		9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 1,1,2-Trichloroethane	UG/KG	.		9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 1,1-Dichloroethane	UG/KG			9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 1,1-Dichloroethene	UG/KG		.	9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 1,2-Dichloroethane	UG/KG		.	9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 1,2-Dichloroethene (total)	UG/KG	.	.	9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 1,2-Dichloropropane	UG/KG	.	.	9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 2-Butanone	UG/KG	.	.	9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 2-Hexanone	UG/KG		.	9.0000 U	10.0000 u	11.0000 u	11.0000 u
V 4-Methyl-2-Pentanone	UG/KG		.	9.0000 U	10.0000 u	11.0000 u	11.0000 u

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	LCSB1MS S-A1785 .	LCSB1MSD S-A1786 .	MM05S0 38636-6 12/04/93	MM05S0RE 38636-6RE 12/04/93	MM05SL 38636-7 12/04/93	MM05SN 38636-8 12/04/93
V Acetone	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Benzene	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Bromodichloromethane	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Bromoform	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Bromomethane	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Carbon Disulfide	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Carbon Tetrachloride	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Chlorobenzene	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Chloroethane	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Chloroform	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Chloromethane	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Dibromochloromethane	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Ethylbenzene	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Methylene Chloride	UG/KG	.	.	20.0000 U	10.0000 U	15.0000 U	27.0000 U
V Styrene	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Tetrachloroethene	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V Toluene	UG/KG	.	.	7.0000 J	5.0000 J	11.0000 U	11.0000 U
V Trichloroethene	UG/KG	.	.	62.0000	95.0000	9.0000 J	22.0000 J
V Vinyl Chloride	UG/KG	.	.	9.0000 U	10.0000 U	11,0000 U	11.0000 U
V Xylene (total)	UG/KG	.	.	5.0000 J	10.0000 U	11.0000 U	11.0000 U
V cis-1,3-Dichloropropene	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U
V trans-1,3-Dichloropropene	UG/KG	.	.	9.0000 U	10.0000 U	11.0000 U	11.0000 U

V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic, R=Remediation

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	MM05SNRE	MM05S0	PBLK07	PBLK08	PBLK10	PBLK11
	LAB ID:	38636-8RE	38636-022	BP2654	BP2657	BP2654B	BP2657B
	LAB RCVD:	12/04/93	12/04/93				
PARAMETER	UNITS						
I Aluminum	MG/KG	.	24600.0000 J			.	.
I Antimony	MG/KG	.	23.4000 U			.	.
I Arsenic	MG/KG	.	9.4000 U			.	.
I Barium	MG/KG	.	81.3000 J			.	.
I Beryllium	MG/KG	.	0.5700 U				.
I Cadmium	MG/KG	.	3.3000 U			.	.
I Calcium	MG/KG	.	439000.000 J			.	.
I Chromium	MG/KG	.	48.7000 J			.	.
I Cobalt	MG/KG	.	8.1000 U			.	.
I Copper	MG/KG	.	10.6000 U				.
I Cyanide	MG/KG	.	0.0800 U			.	.
I Iron	MG/KG	.	25300.0000 J				.
I Lead	MG/KG	.	9.1000 J			.	.
I Magnesium	MG/KG	.	5940.0000 J				.
I Manganese	MG/KG	.	137.0000 J			.	.
I Mercury	MG/KG	.	0.0300 U				.
I Nickel	MG/KG	.	12.0000 U			.	.
I Potassium	MG/KG	.	2700.0000 J				.
I Selenium	MG/KG	.	1.5000 U			.	.
I Silver	MG/KG	.	2.7000 U				.
I Sodium	MG/KG	.	532.0000 J			.	
I Thallium	MG/KG	.	0.4300 U				
I Vanadium	MG/KG	.	54.9000 J				
I Zinc	MG/KG	.	28.0000 J				
P 4,4'-DDD	UG/KG	.	3.3000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P 4,4'-DDE	UG/KG	.	3.3000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P 4,4'-DDT	UG/KG	.	3.3000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Aldrin	UG/KG	.	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P Aroclor 1016	UG/KG	.	33.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1221	UG/KG	.	67.0000 U	67.0000 U	67.0000 U	67.0000 U	67.0000 U
P Aroclor 1232	UG/KG	.	33.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	MM05SNRE 38636-8RE 12/04/93	MM05SO 38636-14 12/04/93	PBLK07 BP2654	PBLK08 BP2657	PBLK10 BP2654B	PBLK11 BP2657B
P Aroclor 1242	UG/KG	.	33.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1248	UG/KG	.	33.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1254	UG/KG	.	33.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U
P Aroclor 1260	UG/KG	.	33.0000 U	33.0000 U	33.0000 U	33.0000 U	33.0000 U
P Dieldrin	UG/KG	.	3.3000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Endosulfan I	UG/KG		1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P Endosulfan II	UG/KG	.	3.3000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Endosulfan sulfate	UG/KG	.	3.3000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Endrin	UG/KG	.	3.3000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Endrin aldehyde	UG/KG		3.3000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Endrin ketone	UG/KG	.	3,3000 U	3.3000 U	3.3000 U	3.3000 U	3.3000 U
P Heptachlor	UG/KG	.	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P Heptachlor epoxide	UG/KG	.	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P Methoxychlor	UG/KG	.	17.0000 U	17.0000 U	17.0000 U	17.0000 U	17.0000 U
P Toxaphene	UG/KG	.	170.0000 U	170.0000 U	170.0000 U	170.0000 U	170.0000 U
P alpha-BHC	UG/KG		1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P alpha-Chlordane	UG/KG	.	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P beta-BHC	UG/KG		1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P delta-BHC	UG/KG	.	1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P gamma-BHC (Lindane)	UG/KG		1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
P gamma-Chlordane	UG/KG		1.7000 U	1.7000 U	1.7000 U	1.7000 U	1.7000 U
V 1,1,1-Trichloroethane	UG/KG	11.0000 U	.	.	.	.	.
V 1,1,2,2-Tetrachloroethane	UG/KG	11.0000 U	.	.	.	.	.
V 1,1,2-Trichloroethane	UG/KG	11.0000 U	.	.	.	.	.
V 1,1-Dichloroethane	UG/KG	11.0000 U	.	.	.	.	.
V 1,1-Dichloroethene	UG/KG	11.0000 U		.	.	.	.
V 1,2-Dichloroethane	UG/KG	11.0000 U	.	.	.	.	.
V 1,2-Dichloroethene (total)	UG/KG	11.0000 U	.	.	.	.	.
V 1,2-Dichloropropane	UG/KG	11.0000 U		.	.	.	.
V 2-Butanone	UG/KG	11.0000 U	.	.	.	.	.
V 2-Hexanone	UG/KG	11.0000 U	.	.	.	.	.
V 4-Methyl-2-Pentanone	UG/KG	11.0000 U	.	.	.	.	.

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	MM05SNRE	MM05SO	PBLK07	PBLK08	PBLK10	PBLK11
	LAB ID:	38636-8RE	38636-022	BP2654	BP2657	BP2654B	BP2657B
	LAB RCVD:	12/04/93	12/04/93	.	.	.	.
PARAMETER	UNITS						
V Acetone	UG/KG	11.0000 u	.	.	.	.	.
V Benzene	UG/KG	11.0000 u	.	.	.	.	.
V Bromodichloromethane	UG/KG	11.0000 u	.	.	.	.	.
V Bromoform	UG/KG	11.0000 u	.	.	.	.	.
V Bromomethane	UG/KG	11.0000 u	.	.	.	.	.
V Carbon Disulfide	UG/KG	11.0000 u	.	.	.	.	.
V Carbon Tetrachloride	UG/KG	11.0000 u	.	.	.	.	.
V Chlorobenzene	UG/KG	11.0000 u	.	.	.	.	.
V Chloroethane	UG/KG	11.0000 u	.	.	.	.	.
V Chloroform	UG/KG	11.0000 u	.	.	.	.	.
V Chloromethane	UG/KG	11.0000 u	.	.	.	.	.
V Dibromochloromethane	UG/KG	11.0000 u	.	.	.	.	.
V Ethylbenzene	UG/KG	11.0000 u	.	.	.	.	.
V Methylene Chloride	UG/KG	21.0000 u	.	.	.	.	.
V Styrene	UG/KG	11.0000 u	.	.	.	.	.
V Tetrachloroethene	UG/KG	11.0000 u	.	.	.	.	.
V Toluene	UG/KG	11.0000 u	.	.	.	.	.
V Trichloroethene	UG/KG	26.0000	.	.	.	.	.
V Vinyl Chloride	UG/KG	11.0000 u	.	.	.	.	.
V Xylene (total)	UG/KG	11.0000 u	.	.	.	.	.
V cis-1,3-Dichloropropene	UG/KG	11.0000 u	.	.	.	.	.
V trans-1,3-Dichloropropene	UG/KG	11.0000 u	.	.	.	.	

V=Volatile, S=Semivolatile, P-Pesticide, I-Inorganic, R=Remediation

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

ENSAFE ID:		SBLKFL	SBLKFM	SBLKHV	VBLKCI	VBLKDB	VBLKDC
LAB ID:		B-A1281	B-A1286	B-A1306	BC012794B	BD120693A	BD120993A
LAB RCVD:							
PARAMETER	UNITS						
S 1,2,4-Trichlorobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 1,2-Dichlorobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 1,3-Dichlorobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 1,4-Dichlorobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 2,4,5-Trichlorophenol	UG/KG	800.0000 U	800.0000 U	800.0000 U			
S 2,4,6-Trichlorophenol	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 2,4-Dichlorophenol	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 2,4-Dimethylphenol	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 2,4-Dinitrophenol	UG/KG	800.0000 U	800.0000 U	800.0000 U			
S 2,4-Dinitrotoluene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 2,6-Dinitrotoluene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 2-Chloronaphthalene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 2-Chlorophenol	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 2-Methylnaphthalene	UG/KG	330,0000 U	330.0000 U	330.0000 U			
S 2-Methylphenol	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 2-Nitroaniline	UG/KG	800.0000 U	800.0000 U	800.0000 U			
S 2-Nitrophenol	UG/KG	33.0.0000 U	330.0000 U	330.0000 U			
S 3,3'-Dichlorobenzidine	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 3-Nitroaniline	UG/KG	800.0000 U	800.0000 U	800.0000 U			
S 4,6-Dinitro-2-methylphenol	UG/KG	800.0000 U	800.0000 U	800.0000 U			
S 4-Bromophenyl-phenylether	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 4-Chloro-3-methylphenol	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 4-Chloroaniline	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 4-Chlorophenyl-phenylether	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 4-Methylphenol	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S 4-Nitroaniline	UG/KG	800.0000 U	800.0000 U	800.0000 U			
S 4-Nitrophenol	UG/KG	800.0000 U	800.0000 U	800.0000 U			
S Acenaphthene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S Acenaphthylene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S Anthracene	UG/KG	330.0000 U	330.0000 U	330.0000 U			
S Benzo(a)anthracene	UG/KG	330.0000 U	330.0000 U	330.0000 U			

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	SBLKFL	SBLKFM	SBLKHV	VBLKCI	VBLKDB	VBLKDC
	LAB ID:	B-A1281	B-A1286	B-A1306	BC012794B	BD120693A	BD120993A
	LAB RCVD:	.	.	.	.	.	.
PARAMETER	UNITS						
S Benzo(a)pyrene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Benzo(b)fluoranthene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Benzo(g,h,i)perylene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Benzo(k)fluoranthene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Butylbenzylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Carbazole	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Chrysene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Di-n-butylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Di-n-octylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Dibenz(a,h)anthracene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Dibenzofuran	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Diethylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Dimethylphthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Fluoranthene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Fluorene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Hexachlorobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Hexachlorobutadiene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Hexachlorocyclopentadiene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Hexachloroethane	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Indeno(1,2,3-cd)pyrene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Isophorone	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S N-Nitroso-di-n-propylamine	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S N-Nitrosodiphenylamine	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Naphthalene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Nitrobenzene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Pentachlorophenol	UG/KG	800.0000 U	800.0000 U	800.0000 U	.	.	.
S Phenanthrene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Phenol	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S Pyrene	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S bis(2-Chloroethoxy)methane	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S bis(2-Ethlyhexy)phthalate	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.
S bis(2-chloroethyl)ether	UG/KG	330.0000 U	330.0000 U	330.0000 U	.	.	.

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits,

	ENSAFE ID:	SBLKFL	SBLKFM	SBLKHV	VBLKCI	VBLKDB	VBLKDC
	LAB ID:	B-A1281	B-A1286	B-A1306	BC012794B	BD120693A	BD120993A
	LAB RCVD:	.	.	.	.	.	.
PARAMETER	UNITS						
S bis(2-chloroisopropyl)ether	UG/KG	330.0000 U	330.0000 U	330.0000 U			
V 1,1,1-Trichloroethane	UG/KG			.	10.0000 U	10.0000 U	10.0000 U
V 1,1,2,2-Tetrachloroethane	UG/KG			.	10.0000 U	10.0000 U	10.0000 U
V 1,1,2-Trichloroethane	UG/KG			.	10.0000 U	10.0000 U	10.0000 U
V 1,1-Dichloroethane	UG/KG			.	10.0000 U	10.0000 U	10.0000 U
V 1,1-Dichloroethene	UG/KG			.	10.0000 U	10.0000 U	10.0000 U
V 1,2-Dichloroethane	UG/KG	.			10.0000 U	10.0000 U	10.0000 U
V 1,2-Dichloroethene (total)	UG/KG				10.0000 U	10.0000 U	10.0000 U
V 1,2-Dichloropropane	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V 2-Butanone	UG/KG			.	10.0000 U	10.0000 U	10.0000 U
V 2-Hexanone	UG/KG	.			10.0000 U	10.0000 U	10.0000 U
V 4-Methyl-2-Pentanone	UG/KG	.			10.0000 U	10.0000 U	10.0000 U
V Acetone	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Benzene	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Bromodichloromethane	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Bromoform	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Bromomethane	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Carbon Disulfide	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Carbon Tetrachloride	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Chlorobenzene	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Chloroethane	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Chloroform	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Chloromethane	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Dibromochloromethane	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Ethylbenzene	UG/KG	.		.	10.0000 U	10.0000 U	10,0000 U
V Methylene Chloride	UG/KG	.		.	4.0000 J	14.0000 J	4.0000 J
V Styrene	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Tetrachloroethene	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Toluene	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Trichloroethene	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Vinyl Chloride	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U
V Xylene (total)	UG/KG	.		.	10.0000 U	10.0000 U	10.0000 U

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	SBLKFL	SBLKFM	SBLKHV	VBLKCI	VBLKDB	VBLKDC
	LAB ID:	B-A1281	B-A1286	B-A1306	BC012794B	BD120693A	BD120993A
	LAB RCVD:	.	.	.	.	.	.
PARAMETER	UNITS						
V cis-1,3-Dichloropropene	UG/KG		.		10.0000 U	10.0000 U	10.0000 U
V trans-1,3-Dichloropropene	UG/KG		.		10.0000 U	10.0000 U	10.0000 U

V-Volatile, S-Semivolatile, P-Pesticide, I-Inorganic, R-Remediation

PENSACOLA SITE 05
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	VBLKDD	VBLKDE	VBLKEM			
ENSAFE ID:		VBLKDD	VBLKDE	VBLKEM			
LAB ID:		BD121093A	BD121393A	MB121393A			
LAB RCVD:		.	.	.	.	.	.
V 1,1,1-Trichloroethane	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V 1,1,2,2-Tetrachloroethane	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V 1,1,2-Trichloroethane	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.		
V 1,1-Dichloroethane	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V 1,1-Dichloroethene	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.		.
V 1,2-Dichloroethane	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V 1,2-Dichloroethene (total)	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	
V 1,2-Dichloropropane	UG/KG	10.0000 U	10.0000 U	1200.0000 U		.	.
V 2-Butanone	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V 2-Hexanone	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V 4-Methyl-2-Pentanone	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Acetone	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.		
V Benzene	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Bromodichloromethane	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Bromoform	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Bromomethane	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.		.
V Carbon Disulfide	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Carbon Tetrachloride	UG/KG	10.0000 U	10.0000 U	1200.0000 U		.	.
V Chlorobenzene	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Chloroethane	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.		.
V Chloroform	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Chloromethane	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Dibromochloromethane	UG/KG	10.0000 U	10,0000 U	1200.0000 U	.		.
V Ethylbenzene	UG/KG	10.0000 U	10.0000 U	1200.0000 U			.
V Methylene Chloride	UG/KG	4.0000 J	10.0000 U	1300.0000 J	.	.	.
V Styrene	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Tetrachloroethene	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Toluene	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.		.
V Trichloroethene	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.
V Vinyl Chloride	UG/KG	10.0000 U	10.0000 U	1200.0000 U			
V Xylene (total)	UG/KG	10.0000 U	10.0000 U	1200.0000 U	.	.	.

PENSACOLA SITE OS
SOIL SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	VBLKDD	VBLKDE	VBLKEM
ENSAFE ID:		VBLKDD	VBLKDE	VBLKEM
LAB ID:		BD121093A	BD121393A	MB121393A
LAB RCVD:				
V cis-1,3-Dichloropropene	UG/KG	10.0000 U	10.0000 U	1200.0000 U
V trans-1,3-Dichloropropene	UG/KG	10.0000 U	10.0000 U	1200.0000 U

V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic, R=Remediation

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05GE01	05GI02	05GP01	05GP02	05GT01	05SE01
	LAB ID:	38765-021	38765-022	38625-030	38625-031	38765-8	38602-044
	LAB RCVD:	12/15/93	12/15/93	12/03/93	12/03/93	12/15/93	12/02/93
PARAMETER	UNITS						
I Aluminum	UG/L	20.4000 J	14.3000 U	28.0000 J	39.3000 J	.	15.1000 J
I Antimony	UG/L	16.4000 U	16.4000 U	16.4000 UJ	16.4000 UJ	.	16.4000 UJ
I Arsenic	UG/L	2.4000 U	2.4000 U	2.4000 U	2.4000 U	.	2.4000 U
I Barium	UG/L	1.9000 J	1.7000 J	11.0000 U	23.5000 U	.	3.6000 U
I Beryllium	UG/L	0.4000 U	0.4000 U	0.4000 U	0.4000 U	.	0.4000 U
I Cadmium	UG/L	2.3000 U	2.3000 U	2.3000 U	2.3000 U	.	2.3000 U
I Calcium	UG/L	214.0000 J	110.0000 J	2290.0000 J	20700.0000 J	.	370.0000 J
I Chromium	UG/L	2.7000 U	2.7000 U	2.7000 U	3.2000 U	.	4.0000 U
I Cobalt	UG/L	1.9000 u	1.9000 u	1.9000 U	1.9000 u	.	1.9000 u
I Copper	UG/L	2.8000 J	1.3000 U	3.0000 J	6.1000 J	.	1.5000 J
I Cyanide	UG/L	0.9500 U	0.9500 U	0.9500 U	0.9500 U	.	0.9500 U
I Iron	UG/L	4.8000 U	4.8000 U	787.0000 J	841.0000 J	.	4.8000 U
I Lead	UG/L	1.3000 U	1.3000 U	2.8000 U	2.6000 U	.	1.3000 U
I Magnesium	UG/L	22.4000 J	20.0000 J	1070.0000 J	1600.0000 J	.	26.5000 J
I Manganese	UG/L	1.6000 J	1.1000 J	20.1000 J	12.6000 J	.	3.3000 U
I Mercury	UG/L	0.1600 J	0.1000 u	0.1000 U	0.1100 J	.	0.1700 J
I Nickel	UG/L	8.4000 U	8.4000 U	8.4000 U	8.4000 U	.	8.4000 U
I Potassium	UG/L	202.0000 U	202.0000 U	316.0000 U	800.0000 U	.	226.0000 U
I Selenium	UG/L	2.3000 U	2.3000 U	2.3000 U	2.3000 U	.	2.3000 U
I Silver	UG/L	1.9000 U	1.9000 u	1.9000 U	1.9000 u	.	1.9000 J
I Sodium	UG/L	57.2000 J	21.4000 J	10100.0000 J	3670.0000 J	.	92.0000 J
I Thallium	UG/L	2.2000 u	2.2000 u	2.2000 U	2.2000 u	.	2.2000 u
I Vanadium	UG/L	3.9000 U	3.9000 U	3.9000 U	3.9000 U	.	3.9000 U
I Zinc	UG/L	23.2000 J	3.8000 J	44.5000	34.6000	.	2.6000 U
P 4,4'-DDD	UG/L	0.1100 u	0.1200 u	0.1000 u	0.1100 u	.	0.1000 u
P 4,4'-DDE	UG/L	0.1100 u	0.1200 u	0.1000 U	0.1100 u	.	0.1000 u
P 4,4'-DDT	UG/L	0.1100 u	0.1200 u	0.1000 u	0.1100 u	.	0.1000 u
P Aldrin	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
P Aroclor 1016	UG/L	1.1000 u	1.2000 u	1.0000 U	1.1000 u	.	1.0000 U
P Aroclor 1221	UG/L	2.2000 u	2.4000 U	2.1000 u	2.1000 u	.	2.1000 u
P Aroclor 1232	UG/L	1.1000 u	1.2000 u	1.0000 U	1.1000 u	.	1.0000 u

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	05GE01	05GI02	05GP01	05GP02	05GT01	05SE01
ENSAFE ID:		05GE01	05GI02	05GP01	05GP02	05GT01	05SE01
LAB ID:		38765-14	38765-15	38625-26	38625-27	38765-8	38602-43
LAB RCVD:		12/15/93		12/03/93	12/03/93	12/15/93	12/02/93
P Aroclor 1242	UG/L	1.1000 U	1.2000 U	1.0000 U	1.1000 U		1.0000 U
P Aroclor 1248	UG/L	1.1000 U	1.2000 U	1.0000 U	1.1000 U	.	1.0000 U
P Aroclor 1254	UG/L	1.1000 U	1.2000 U	1.0000 U	1.1000 U	.	1.0000 U
P Aroclor 1260	UG/L	1.1000 U	1.2000 U	1.0000 U	1.1000 U	.	1.0000 U
P Dieldrin	UG/L	0.1100 U	0.1200 U	0.1000 U	0.1100 U	.	0.1000 U
P Endosulfan I	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
P Endosulfan II	UG/L	0.1100 U	0.1200 U	0.1000 U	0.1100 U	.	0.1000 U
P Endosulfan sulfate	UG/L	0.1100 U	0.1200 U	0.1000 U	0.1100 U	.	0.1000 U
P Endrin	UG/L	0.1100 U	0.1200 U	0.1000 U	0.1100 U	.	0.1000 U
P Endrin aldehyde	UG/L	0.1100 U	0.1200 U	0.1000 U	0.1100 U	.	0.1000 U
P Endrin ketone	UG/L	0.1100 U	0.1200 U	0.1000 U	0.1100 U	.	0.1000 U
P Heptachlor	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
P Heptachlor epoxide	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
P Methoxychlor	UG/L	0.5400 U	0.5900 U	0.5200 U	0.5300 U	.	0.5200 U
P Toxaphene	UG/L	5.4000 U	5.9000 U	5.2000 U	5.3000 U	.	5.2000 U
P alpha-BHC	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
P alpha-Chlordane	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
P beta-BHC	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
P delta-BHC	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
P gamma-BHC (Lindane)	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
P gamma-Chlordane	UG/L	0.0540 U	0.0590 U	0.0520 U	0.0530 U	.	0.0520 U
S 1,2,4-Trichlorobenzene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 1,2-Dichlorobenzene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
S 1,3-Dichlorobenzene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
S 1,4-Dichlorobenzene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 2,4,5-Trichlorophenol	UG/L	26.0000 U	29.0000 U	25.0000 U	25.0000 U	.	26.0000 U
S 2,4,6-Trichlorophenol	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 2,4-Dichlorophenol	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 2,4-Dimethylphenol	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 2,4-Dinitrophenol	UG/L	26.0000 U	29.0000 U	25.0000 U	25.0000 U	.	26.0000 U
S 2,4-Dinitrotoluene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
S 2,6-Dinitrotoluene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	05GE01	05GI02	05GP01	05GP02	05GT01	05SE01
ENSAFE ID:		05GE01	05GI02	05GP01	05GP02	05GT01	05SE01
LAB ID:		38765-14	38765-15	38625-26	38625-27	38765-8	38602-43
LAB RCVD:		12/15/93	12/15/93	12/03/93	12/03/93	12/15/93	12/02/93
S 2-Chloronaphthalene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 2-Chlorophenol	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 2-Methylnaphthalene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 2-Methylphenol	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 2-Nitroaniline	UG/L	26,0000 U	29.0000 U	25.0000 U	25.0000 U	.	26.0000 U
S 2-Nitrophenol	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 3,3'-Dichlorobenzidine	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 3-Nitroaniline	UG/L	26.0000 U	29.0000 U	25.0000 U	25.0000 U	.	26.0000 U
S 4,6-Dinitro-2-methylphenol	UG/L	26.0000 U	29.0000 U	25.0000 U	25.0000 U	.	26.0000 U
S 4-Bromophenyl-phenylether	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 4-Chloro-3-methylphenol	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 4-Chloroaniline	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 4-Chlorophenyl-phenylether	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 4-Methylphenol	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S 4-Nitroaniline	UG/L	26.0000 U	29.0000 U	25.0000 U	25.0000 U	.	26.0000 U
S 4-Nitrophenol	UG/L	26.0000 U	29.0000 U	25.0000 U	25.0000 U	.	26.0000 U
S Acenaphthene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Acenaphthylene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Anthracene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Benzo(a)anthracene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Benzo(a)pyrene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Benzo(b)fluoranthene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Benzo(g,h,i)perylene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Benzo(k)fluoranthene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Butylbenzylphthalate	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Carbazole	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Chrysene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Di-n-butylphthalate	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Di-n-octylphthalate	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Dibenz(a,h)anthracene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Dibenzofuran	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Diethylphthalate	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05GE01	05GI02	05GP01	05GP02	05GT01	05SE01
	LAB ID:	38765-14	38765-15	38625-26	38625-27	38765-8	38602-43
	LAB RCVD:	12/15/93	12/15/93	12/03/93	12/03/93	12/15/93	12/02/93
PARAMETER	UNITS						
S Dimethylphthalate	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Fluoranthene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
S Fluorene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
S Hexachlorobenzene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Hexachlorobutadiens	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Hexachlorocyclopentadiene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Hexachloroethane	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
S Indeno(1,2,3-cd)pyrene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
S Isophorone	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S N-Nitroso-di-n-propylamine	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S N-Nitrosodiphenylamine	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Naphthalene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Nitrobenzene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Pentachlorophenol	UG/L	26.0000 U	29.0000 U	25.0000 U	25.0000 U	.	26.0000 U
S Phenanthrene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S Phenol	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
S Pyrene	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S bis(2-Chloroethoxy)methane	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S bis(2-Ethlyhexy)phthalate	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U	.	10.0000 U
S bis(2-chloroethyl)ether	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
S bis(2-chloroisopropyl)ether	UG/L	11.0000 U	12.0000 U	10.0000 U	10.0000 U		10.0000 U
V 1,1,1-Trichloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,1,2,2-Tetrachloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,1,2-Trichloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,1-Dichloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,1-Dichloroethene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,2-Dichloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,2-Dichloroethene (total)	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 1,2-Dichloropropane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 2-Butanone	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 2-Hexanone	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V 4-Methyl-2-Pentanone	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	ENSAFE ID: 05GE01	05GI02	05GP01	05GP02	05GT01	05SE01
	LAB ID:	38765-7	38765-1	38625-21	38625-22	38765-8	38602-40
	LAB RCVD:	12/15/93	12/15/93	12/03/93	12/03/93	12/15/93	12/02/93
V Acetone	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Benzene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Bromodichloromethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Bromoform	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Bromomethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Carbon Disulfide	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Carbon Tetrachloride	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Chlorobenzene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Chloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Chloroform	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Chloromethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Dibromochloromethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Ethylbenzene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Methylene Chloride	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	5.0000 J	10.0000 U
V Styrene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Tetrachloroethene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Toluene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Trichloroethene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Vinyl Chloride	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V Xylene (total)	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V cis-1,3-Dichloropropene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U
V trans-1,3-Dichloropropene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U	10.0000 U

V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic, R=Remediation

PENSACOLA SITE OS
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	056303	05SE05	05ST02	05ST03	05ST04	05ST05
	LAB ID:	38625-029	39135-6	38602-41	38602-42	38625-20	38625-24
	LAB RCVD:	12/03/93	01/27/94	12/02/93	12/02/93	12/03/93	12/03/93
PARAMETER	UNITS						
I Aluminum	UG/L	14.3000 U	.	.	.	.	.
I Antimony	UG/L	16.4000 UJ	.	.	.	.	.
I Arsenic	UG/L	2.4000 U	.	.	.	.	.
I Barium	UG/L	1.9000 U	.	.	.	.	
I Beryllium	UG/L	0.4000 U	.	.	.	.	.
I Cadmium	UG/L	2.3000 U	.	.	.	.	
I Calcium	UG/L	147.0000 U	.	.	.	.	
I Chromium	UG/L	2.9000 U	.	.	.	.	.
I Cobalt	UG/L	1.9000 U	.	.	.	.	.
I Copper	UG/L	1.3000 U	.	.	.	.	.
I Cyanide	UG/L	0.9500 U	.	.	.	.	.
I Iron	UG/L	4.8000 U	.	.	.	.	.
I Lead	UG/L	1.3000 U	.	.	.	.	.
I Magnesium	UG/L	13.3000 U	.	.	.	.	.
I Manganese	UG/L	1.7000 U	.	.	.	.	
I Mercury	UG/L	0.1000 U	.	.	.	.	.
I Nickel	UG/L	8.4000 U	.	.	.	.	.
I Potassium	UG/L	202.0000 U	.	.	.	.	.
I Selenium	UG/L	2.3000 U	.	.	.	.	.
I Silver	UG/L	1.9000 U	.	.	.	.	.
I Sodium	UG/L	48.6000 J	.	.	.	.	.
I Thallium	UG/L	2.2000 U	.	.	.	.	.
I Vanadium	UG/L	3.9000 U	.	.	.	.	
I Zinc	UG/L	2.1000 U	.	.	.	.	.
P 4,4'-DDD	UG/L	0.1000 U	.	.	.	.	.
P 4,4'-DDE	UG/L	0.1000 U	.	.	.	.	
P 4,4'-DDT	UG/L	0.1000 U	.	.	.	.	.
P Aldrin	UG/L	0.0520 U	.	.	.	.	.
P Aroclor 1016	UG/L	1.0000 U	.	.	.	.	.
P Aroclor 1221	UG/L	2.1000 U	.	.	.	.	.
P Aroclor 1232	UG/L	1.0000 U	.	.	.	.	.

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	05SE03	05SE05	05ST02	05ST03	05ST04	05ST05
ENSAFE ID:		05SE03	05SE05	05ST02	05ST03	05ST04	05ST05
LAB ID:		38625-25	39135-6	38602-41	38602-42	38625-20	38625-24
LAB RCVD:		12/03/93	01/27/94	12/02/93	12/02/93	12/03/93	12/03/93
P Aroclor 1242	UG/L	1.0000 U	.	.	.	.	.
P Aroclor 1248	UG/L	1.0000 U	.	.	.	.	.
P Aroclor 1254	UG/L	1.0000 U	.	.	.	.	.
P Aroclor 1260	UG/L	1.0000 U	.	.	.		.
P Dieldrin	UG/L	0.1000 U		.	.	.	.
P Endosulfan I	UG/L	0.0520 U	.	.	.	.	.
P Endosulfan II	UG/L	0.1000 U	.	.	.	.	.
P Endosulfan sulfate	UG/L	0.1000 U	.	.	.	.	.
P Endrin	UG/L	0.1000 U		.	.	.	.
P Endrin aldehyde	UG/L	0.1000 U	.	.	.	.	.
P Endrin ketone	UG/L	0.1000 U	.	.	.		.
P Heptachlor	UG/L	0.0520 U	.	.	.	.	.
P Heptachlor epoxide	UG/L	0.0520 U		.	.		.
P Methoxychlor	UG/L	0.5200 U	.	.	.	.	.
P Toxaphene	UG/L	5.2000 U	.	.	.	.	.
P alpha-BHC	UG/L	0.0520 U	.	.	.	.	.
P alpha-Chlordane	UG/L	0.0520 U	.	.	.		
P beta-BHC	UG/L	0.0520 U	.	.	.	.	.
P delta-BHC	UG/L	0.0520 U	.	.	.	.	.
P gamma-BHC (Lindane)	UG/L	0.0520 U		.	.		.
P gamma-Chlordane	UG/L	0.0520 U	.	.	.	.	
S 1,2,4-Trichlorobenzene	UG/L	10.0000 U	.	.	.	.	.
S 1,2-Dichlorobenzene	UG/L	10.0000 U	.	.	.	.	.
S 1,3-Dichlorobenzene	UG/L	10.0000 U	.	.	.	.	
S 1,4-Dichlorobenzene	UG/L	10.0000 U		.	.		.
S 2,4,5-Trichlorophenol	UG/L	25.0000 U	.	.	.	.	.
S 2,4,6-Trichlorophenol	UG/L	10.0000 U	.	.	.	.	.
S 2,4-Dichlorophenol	UG/L	10.0000 U		.	.	.	
S 2,4-Dimethylphenol	UG/L	10.0000 U	.		.		.
S 2,4-Dinitrophenol	UG/L	25.0000 U	.	.	.	.	.
S 2,4-Dinitrotoluene	UG/L	10.0000 U	.	.	.		.
S 2,6-Dinitrotoluene	UG/L	10.0000 U		.	.		

PARAMETER	UNITS	ENSAFE ID: 05SE03 LAB ID: 38625-25 LAB RCVD: 12/03/93	05SE05 39135-6 01/27/94	05ST02 38602-41 12/02/93	05ST03 38602-42 12/02/93	05ST04 38625-20 12/03/93	05ST05 38625-24 12/03/93
S 2-Chloronaphthalene	UG/L	10.0000 U	.	.	.	.	.
S 2-Chlorophenol	UG/L	10.0000 U	.	.	.	.	.
S 2-Methylnaphthalene	UG/L	10.0000 U	.	.	.	.	.
S 2-Methylphenol	UG/L	10.0000 U	.	.	.	.	.
S 2-Nitroaniline	UG/L	25.0000 U	.	.	.	.	.
S 2-Nitrophenol	UG/L	10.0000 U	.	.	.	.	.
S 3,3'-Dichlorobenzidine	UG/L	10.0000 U	.	.	.	.	.
S 3-Nitroaniline	UG/L	25.0000 U	.	.	.	.	.
S 4,6-Dinitro-2-methylphenol	UG/L	25.0000 U	.	.	.	.	.
S 4-Bromophenyl-phenylether	UG/L	10.0000 U	.	.	.	.	.
S 4-Chloro-3-methylphenol	UG/L	10.0000 U	.	.	.	.	.
S 4-Chloroaniline	UG/L	10.0000 U	.	.	.	.	.
S 4-Chlorophenyl-phenylether	UG/L	10.0000 U	.	.	.	.	.
S 4-Methylphenol	UG/L	10.0000 U	.	.	.	.	.
S 4-Nitroaniline	UG/L	25.0000 U	.	.	.	.	.
S 4-Nitrophenol	UG/L	25.0000 U	.	.	.	.	.
S Acenaphthene	UG/L	10.0000 U	.	.		.	.
S Acenaphthylene	UG/L	10.0000 U	.	.	.	.	.
S Anthracene	UG/L	10.0000 U	.	.	.	.	.
S Benzo(a)anthracene	UG/L	10.0000 U	.	.		.	.
S Benzo(a)pyrene	UG/L	10.0000 U	.	.	.	.	.
S Benzo(b)fluoranthene	UG/L	10.0000 U	.	.		.	.
S Benzo(g,h,i)perylene	UG/L	10.0000 U	.	.	.	.	.
S Benzo(k)fluoranthene	UG/L	10.0000 U	.	.		.	.
S Butylbenzylphthalate	UG/L	10.0000 U	.	.		.	.
S Carbazole	UG/L	10.0000 U	.	.		.	.
S Chrysene	UG/L	10.0000 U	.	.		.	.
S Di-n-butylphthalate	UG/L	10.0000 U	.	.		.	.
S Di-n-octylphthalate	UG/L	10.0000 U	.	.	.	.	.
S Dibenz(a,h)anthracene	UG/L	10.0000 U	.	.		.	.
S Dibenzofuran	UG/L	10.0000 U	.	.		.	.
S Diethylphthalate	UG/L	10.0000 U	.	.		.	.

PENSACOLA SITE 05
WATERSAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05SE03	05SE05	05ST02	05ST03	05ST04	05ST05
	LAB ID:	38625-25	39135-6	38602-41	38602-42	38625-20	38625-24
	LAB RCVD:	12/03/93	01/27/94	12/02/93	12/02/93	12/03/93	12/03/93
PARAMETER	UNITS						
S Dimethylphthalate	UG/L	10.0000 u	.	.	.		.
S Fluoranthene	UG/L	10.0000 u		.	.	.	
S Fluorene	UG/L	10.0000 u	.	.	.		
S Hexachlorobenzene	UG/L	10.0000 u	.	.	.	.	.
S Hexachlorobutadiene	UG/L	10.0000 u	.	.	.		.
S Hexachlorocyclopentadiene	UG/L	10.0000 u	.	.	.		.
S Hexachloroethane	UG/L	10.0000 u	.	.	.		
S Indeno(1,2,3-cd)pyrene	UG/L	10.0000 u	.	.	.	.	.
S Isophorone	UG/L	10.0000 u	.	.	.		.
S N-Nitroso-di-n-propylamine	UG/L	10.0000 u	.	.	.		.
S N-Nitrosodiphenylamine	UG/L	10.0000 u	.		.	.	.
S Naphthalene	UG/L	10.0000 u	.	.	.	.	.
S Nitrobenzene	UG/L	10.0000 U	.		.	.	.
S Pentachlorophenol	UG/L	25.0000 U	.	.	.		.
S Phenanthrene	UG/L	10.0000 u	.	.	.		.
S Phenol	UG/L	10.0000 u	.	.	.	.	.
S Pyrene	UG/L	10.0000 u	.	.	.	.	.
S bis(2-Chloroethoxy)methane	UG/L	10.0000 u	.	.	.	.	.
S bis(2-Ethlyhexy)phthalate	UG/L	10.0000 u	.	.	.	.	.
S bis(2-chloroethyl)ether	UG/L	10.0000 u	.	.	.	.	.
S bis(2-chloroisopropyl)ether	UG/L	10.0000 u					
V 1,1,1-Trichloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 U	10.0000 u
V 1,1,2,2-Tetrachloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V 1,1,2-Trichloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 U	10.0000 u
V 1,1-Dichloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V 1,1-Dichloroethene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V 1,2-Dichloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V 1,2-Dichloroethene (total)	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V 1,2-Dichloropropane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V 2-Butanone	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 U	10.0000 u	10.0000 u
V 2-Hexanone	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V 4-Methyl-2-Pentanone	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	05SE03	05SE05	05ST02	05ST03	05ST04	05ST05
ENSAFE ID:		05SE03	05SE05	05ST02	05ST03	05ST04	05ST05
LAB ID:		38625-19	39135-6	38602-41	38602-42	38625-20	38625-24
LAB RCVD:		12/03/93	01/27/94	12/02/93	12/02/93	12/03/93	12/03/93
V Acetone	UG/L	23.0000 J	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Benzene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Bromodichloromethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Bromoform	UG/L	10.0000 u	10.0000 U	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Bronomethane	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 u	10.0000 u	10.0000 u
V Carbon Disulfide	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 U
V Carbon Tetrachloride	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 U	10.0000 U
V Chlorobenzene	UG/L	10.0000 U	10.0000 u	10.0000 u	10.0000 u	10.0000 U	10.0000 u
V Chloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10,0000 u	10.0000 U	10.0000 u
V Chloroform	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Chloromethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Dibromochloromethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Ethylbenzene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Methylene Chloride	UG/L	10.0000 u	3.0000 U	10.0000 U	10.0000 u	10.0000 u	10.0000 u
V Styrene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Tetrachloroethene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Toluene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 U	10.0000 u	10.0000 u
V Trichloroethene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 u
V Vinyl Chloride	UG/L	10.0000 U	10.0000 U	10.0000 u	10.0000 u	10.0000 U	10.0000 u
V Xylene (total)	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	10.0000 U	10.0000 u
V cis-1,3-Dichloropropene	UG/L	10.0000 U	10.0000 u	10.0000 u	10.0000 u	10.0000 U	10.0000 u
V trans-1,3-Dichloropropene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 u	10.0000 u	10.0000 u

V-Volatile, S-Semivolatile, P-Pesticide, I-Inorganic, R-Remediation

PENSACOLA SITE 05
. WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05ST06	05ST07	970FI1	GS0101	GS0101RE	GS0201
	LAB ID:	38636-25	39135-7	38625-032	38756-9	38765-9RE	38756-10
	LAB RCVD:	12/04/93	01/27/94	12/03/93	.	12/15/93	.
PARAMETER	UNITS						
I Aluminum	UG/L	.	.	20.2000 J	95800.0000		12500.0000 J
I Antimony	UG/L	.	.	16.4000 UJ	16.4000 U		16.4000 U
I Arsenic	UG/L	.	.	2.4000 U	12.7000 U		2.4000 U
I Barium	UG/L	.	.	2.1000 U	144.0000		22.4000 U
I Beryllium	UG/L	.	.	0.4000 U	2.4000		0.4000 U
I Cadmium	UG/L	.	.	2.3000 U	2.3000 U		2.3000 U
I Calcium	UG/L	.	.	103.0000 U	6250.0000		1140.0000
I Chromium	UG/L	.	.	3.4000 J	85.4000 J		16.2000
I Cobalt	UG/L	.	.	1.9000 u	7.6000 U		1.9000 u
I Copper	UG/L	.	.	1.8000 J	91.7000		15.9000
I Cyanide	UG/L	.	.	0.9500 U	0.9500 U		0.9500 U
I Iron	UG/L	.	.	4.8000 U	24200.0000 J	.	1730.0000
I Lead	UG/L	.	.	1.3000 U	66.2000 J		8.8000
I Magnesium	UG/L	.	.	13.3000 U	2150.0000		423.0000
I Manganese	UG/L	.	.	1.0000 u	65.5000 J		19.6000
I Mercury	UG/L	.		0.1000 u	0.7900		0.2800
I Nickel	UG/L	.	.	8.4000 U	24.3000		8.4000 U
I Potassium	UG/L	.	.	284.0000 U	1300.0000		487.0000 U
I Selenium	UG/L	.	.	2.3000 U	5.3000 U		7.3000 U
I Silver	UG/L	.		1.9000 u	1.9000 u		1.9000 u
I Sodium	UG/L		.	42.3000 U	1950.0000		1630.0000
I Thallium	UG/L	.	.	2.2000 u	2.2000		2.2000 u
I Vanadium	UG/L		.	3.9000 U	80.5000 J		14.1000 U
I Zinc	UG/L	.		2.3000 U	36.0000 J		8.9000 U
P 4,4'-DDD	UG/L			0.1100 u	0.1100 u		0.1000 u
P 4,4'-DDE	UG/L	.		0.1100 u	0.1100 u		0.1000 u
P 4,4'-DDT	UG/L		.	0.1100 u	0.1100 U		0.1000 U
P Aldrin	MG/L	.	.	0.0570 U	0.0530 U		0.0500 U
P Aroclor 1016	UG/L		.	1.1000 u	1.1000 U		1.0000 U
P Aroclor 1221	UG/L	.	.	2.3000 U	2.1000 u		2.0000 u
P Aroclor 1232	UG/L		.	1.1000 u	1.1000 u		1.0000 U

PENSACOLA SITE 05
WATER SAMPLES

Key presented at and of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	ENSAFE ID: 05ST06	05ST07	970FI1	GS0101	GS0101RE	GS0201
	LAB ID:	38636-25	39135-7	38625-28	38765-9	38765-9RE	38765-10
	LAB RCVD:	12/04/93	01/27/94	12/03/93	12/15/93	12/15/93	12/15/93
P Aroclor 1242	UG/L	.	.	1.1000 U	1.1000 U	.	1.0000 U
P Aroclor 1248	UG/L		.	1.1000 U	1.1000 U	.	1.0000 U
P Aroclor 1254	UG/L	.	.	1.1000 U	1.1000 U	.	1.0000 U
P Aroclor 1260	MG/L	.	.	1.1000 U	1.1000 U	.	1.0000 U
P Dieldrin	MG/L	.	.	0.1100 U	0.1100 U		0.1000 U
P Endosulfan I	MG/L	.	.	0.0570 U	0.0530 U	.	0.0500 U
P Endosulfan II	MG/L	.	.	0.1100 U	0.1100 U	.	0.1000 U
P Endosulfan sulfate	MG/L	.		0.1100 U	0.1100 U	.	0.1000 U
P Endrin	MG/L	.	.	0.1100 U	0.1100 U		0.1000 U
P Endrin aldehyde	MG/L	.	.	0.1100 U	0.1100 U	.	0.1000 U
P Endrin ketone	MG/L	.	.	0.1100 U	0.1100 U		0.1000 U
P Heptachlor	MG/L	.	.	0.0570 U	0.0530 U	.	0.0500 U
P Heptachlor epoxide	MG/L	.	.	0.0570 U	0.0530 U	.	0.0500 U
P Methoxychlor	UG/L	.	.	0.5700 U	0.5300 U		0.5000 U
P Toxaphene	MG/L	.		5.7000 U	5.3000 U	.	5.0000 U
P alpha-BHC	UG/L	.	.	0.0570 U	0.0530 U	.	0.0500 U
P alpha-Chlordane	MG/L	.		0.0570 U	0.0530 U	.	0.0500 U
P beta-BHC	MG/L	.	.	0.0570 U	0.0530 U		0.0500 U
P delta-BHC	MG/L	.		0.0570 U	0.0530 U	.	0.0500 U
P gamma-BHC (Lindane)	MG/L	.	.	0.0570 U	0.0530 U		0.0500 U
P gamma-Chlordane	MG/L	.		0.0570 U	0.0530 U		0.0500 U
S 1,2,4-Trichlorobenzene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 1,2-Dichlorobenzene	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 1,3-Dichlorobenzene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 1,4-Dichlorobenzene	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 2,4,5-Trichlorophenol	UG/L	.		25.0000 U	27.0000 U	27.0000 U	29.0000 U
S 2,4,6-Trichlorophenol	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 2,4-Dichlorophenol	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 2,4-Dimethylphenol	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 2,4-Dinitrophenol	UG/L	.	.	25.0000 U	27.0000 U	27.0000 U	29.0000 U
S 2,4-Dinitrotoluene	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 2,6-Dinitrotoluene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	05ST06	05ST07	970FI1	GS0101	GS0101RE	GS0201
ENSAFE ID:		05ST06	05ST07	970FI1	GS0101	GS0101RE	GS0201
LAB ID:		38636-25	39135-7	38625-28	38765-9	38765-9RE	38765-10
LAB RCVD:		12/04/93	01/27/94	12/03/93	12/15/93	12/15/93	12/15/93
S 2-Chloronaphthalene	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 2-Chlorophenol	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 2-Methylnaphthalene	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 2-Methylphenol	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 2-Nitroaniline	UG/L	.	.	25.0000 U	27.0000 U	27.0000 U	29.0000 U
S 2-Nitrophenol	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 3,3'-Dichlorobenzidine	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 3-Nitroaniline	UG/L	.	.	25.0000 U	27.0000 U	27.0000 U	29.0000 U
S 4,6-Dinitro-2-methylphenol	UG/L	.	.	25.0000 U	27.0000 U	27.0000 U	29.0000 U
S 4-Bromophenyl-phenylether	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 4-Chloro-3-methylphenol	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 4-Chloroaniline	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 4-Chlorophenyl-phenylether	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 4-Methylphenol	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S 4-Nitroaniline	UG/L	.	.	25.0000 U	27.0000 U	27.0000 U	29.0000 U
S 4-Nitrophenol	UG/L	.	.	25.0000 U	27.0000 U	27.0000 U	29.0000 U
S Acenaphthene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Acenaphthylene	UG/L	.	.	10,0000 U	11.0000 U	11.0000 U	12.0000 U
S Anthracene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Benzo(a)anthracene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Benzo(a)pyrene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Benzo(b)fluoranthene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Benzo(g,h,i)perylene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Benzo(k)fluoranthene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Butylbenzylphthalate	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Carbazole	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Chrysene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Di-n-butylphthalate	UG/L	.		10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Di-n-octylphthalate	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Dibenz(a,h)anthracene	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Dibenzofuran	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U
S Diethylphthalate	UG/L	.	.	10.0000 U	11.0000 U	11.0000 U	12.0000 U

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05ST06	05ST07	970FI1	GS0101	GS0101RE	GS0201
	LAB ID:	38636-25	39135-7	38625-28	38765-9	38765-9RE	38765-10
	LAB RCVD:	12/04/93	01/27/94	12/03/93	12/15/93	12/15/93	12/15/93
PARAMETER	UNITS						
S Dimethylphthalate	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Fluoranthene	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Fluorene	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Hexachlorobenzene	UG/L		.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Hexachlorobutadiene	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Hexachlorocyclopentadiene	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Hexachloroethane	UG/L		.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Indeno(1,2,3-cd)pyrene	UG/L		.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Isophorone	UG/L		.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S N-Nitroso-di-n-propylamine	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S N-Nitrosodiphenylamine	UG/L		.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Naphthalene	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Nitrobenzene	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Pentachlorophenol	UG/L	.	.	25.0000 U	27.0000 U	27.0000 U	29.0000 U
S Phenanthrene	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Phenol	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S Pyrene	UG/L	.		10.0000 u	11.0000 u	11.0000 u	12.0000 u
S bis(2-Chloroethoxy)methane	UG/L	.	.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S bis(2-Ethlyhexy)phthalate	UG/L		.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S bis(2-chloroethyl)ether	UG/L		.	10.0000 u	11.0000 u	11.0000 u	12.0000 u
S bis(2-chloroisopropyl)ether	UG/L			10.0000 u	11.0000 u	11.0000 u	12.0000 u
V 1,1,1-Trichloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V 1,1,2,2-Tetrachloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V 1,1,2-Trichloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u		10.0000 u
V 1,1-Dichloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V 1,1-Dichloroethene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V 1,2-Dichloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V 1,2-Dichloroethene (total)	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V 1,2-Dichloropropane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V 2-Butanone	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V 2-Hexanone	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V 4-Methyl-2-Pentanone	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	05ST06	05ST07	970FI1	GS0101	GS0101RE	GS0201
	LAB ID:	38636-25	39135-7	38625-23	38765-2	38765-9RE	38765-3
	LAB RCVD:	12/04/93	01/27/94	12/03/93	12/15/93	12/15/93	12/15/93
PARAMETER	UNITS						
V Acetone	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Benzene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u		10.0000 u
V Bromodichloromethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Bromoform	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u		10.0000 u
V Bromomethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Carbon Disulfide	UG/L	10.0000 U	10.0000 u	10.0000 u	10.0000 u		10.0000 u
V Carbon Tetrachloride	UG/L	10.0000 U	10.0000 U	10.0000 u	10.0000 u	.	10.0000 u
V Chlorobenzene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u		10.0000 u
V Chloroethane	UG/L	10.0000 u	10.0000 u	10.0000 U	10.0000 u	.	10.0000 u
V Chloroform	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Chloromethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Dibromochloromethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Ethylbenzene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Methylene Chloride	UG/L	10.0000 u	4.0000 U	10.0000 u	10.0000 u	.	10.0000 u
V Styrene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Tetrachloroethene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Toluene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Trichloroethene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 U	.	10.0000 u
V Vinyl Chloride	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V Xylene (total)	UG/L	10.0000 U	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V cis-1,3-Dichloropropene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u
V trans-1,3-Dichloropropene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	10.0000 u

V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic, R=Remediation

PENSACOLA SITE 05
. WATERSAMPLW

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	GS0201MS	GS0201MSD	GS02M2	GS0301	GS0301MS	GS0301MSD
	LAB ID:	38765-3MS	38765-3MSD	38765-023	38756-11	38765-11MS	38765-11MSD
	LAB RCVD:	12/15/93	12/15/93	12/15/93			12/15/93
PARAMETER	UNITS						
H Hexavalent Chromium	mg/L	.	.		0.0100 u	.	.
I Aluminum	UG/L	.	.	3750.0000 J	58800.0000 J	.	.
I Antimony	UG/L	.		16.4000 U	16.4000 U	.	.
I Arsenic	UG/L	.	.	2.4000 U	11.8000 J	.	.
I Barium	UG/L	.	.	19.9000 u	141.0000	.	.
I Beryllium	UG/L	.		0.4000 U	0.9300 J	.	.
I Cadmium	UG/L	.	.	2.3000 U	2.3000 U	.	.
I Calcium	UG/L	.	.	1180.0000	4670.0000	.	.
I Chromium	UG/L	.	.	6.1000	55.5000	.	.
I Cobalt	UG/L	.		2.0000 u	5.5000 U	.	.
I Copper	UG/L	.	.	6.7000 U	40.0000	.	.
I Cyanide	UG/L	.			1.8000	.	.
I Iron	UG/L	.	.	560.0000	44600.0000		.
I Lead	UG/L	.		3.0000	37.5000	.	.
I Magnesium	UG/L	.	.	383.0000	1470.0000	.	
I Manganese	UG/L	.		18.0000	195.0000	.	.
I Mercury	UG/L	.	.	0.3300	0.5600		.
I Nickel	UG/L	.		8.4000 U	15.2000	.	.
I Potassium	UG/L	.	.	429.0000 U	500.0000 U	.	.
I Selenium	UG/L	.		2.3000 U	2.3000 U		.
I Silver	UG/L			1.9000 u	1.9000 u		
I Sodium	UG/L			1880.0000	1810.0000	.	.
I Thallium	UG/L	.	.	2.2000 u	2.2000 u	.	.
I Vanadium	UG/L	.		3.9000 U	97.9000 U		.
I Zinc	UG/L			12.7000 U	33.3000		
P 4,4'-DDD	UG/L	.	.		0.1100 u	0,1100 u	0.1100 u
P 4,4'-DDE	UG/L	.	.	.	0.1100 u	0.1100 u	0.1100 u
P 4,4'-DDT	UG/L	.	.		0.1100 u	0.4700 U	0.5600
P Aldrin	UG/L	.	.		0.0550 U	0.2500	0.3000
P Aroclor 1016	UG/L		.		1.1000 u	1.1000 u	1.1000 U
P Aroclor 1221	UG/L	.	.	.	2.2000 u	2.2000 U	2.2000 U

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	GS0201MS	GS0201MSD	GS02M2	GS0301	GS0301MS	GS0301MSD
ENSAFE ID:		GS0201MS	GS0201MSD	GS02M2	GS0301	GS0301MS	GS0301MSD
LAB ID:		38765-3MS	38765-3MSD	38765-023	38765-11	38765-11MS	38765-11MSD
LAB RCVD:		12/15/93	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93
P Aroclor 1232	UG/L	.	.	.	1.1000 u	1.1000 u	1.1000 u
P Aroclor 1242	UG/L	.	.	.	1.1000 u	1.1000 u	1.1000 u
P Aroclor 1248	UG/L	.	.	.	1,1000 u	1.1000 u	1.1000 u
P Aroclor 1254	UG/L	.	.	.	1.1000 u	1.1000 u	1.1000 u
P Aroclor 1260	UG/L	.	.	.	1.1000 u	1.1000 u	1.1000 u
P Dieldrin	UG/L	.	.	.	0.1100 u	0.7700	0.8300
P Endosulfan I	UG/L	.	.	.	0.0550 U	0.0540 U	0.0550 U
P Endosulfan II	UG/L	.		.	0.1100 u	0.1100 u	0.1100 u
P Endosulfan sulfate	UG/L	.	.	.	0.1100 u	0.1100 u	0.1100 u
P Endrin	UG/L	.	.	.	0.1100 u	0.8700	0.9700
P Endrin aldehyde	UG/L	.	.	.	0.1100 u	0.1100 u	0.1100 u
P Endrin ketone	UG/L	.		.	0.1100 u	0.1100 u	0.1100 u
P Heptachlor	UG/L	.	.	.	0.0550 U	0.2900	0.3200
P Heptachlor epoxide	UG/L	.	.	.	0.0550 U	0.0540 U	0.0550 U
P Methoxychlor	UG/L	.	.	.	0.5500 U	0.5400 U	0.5500 U
P Toxaphene	UG/L	.	.	.	5.5000 U	5.4000 U	5.5000 U
P alpha-BHC	UG/L	.	.	.	0.0550 U	0.0540 U	0.0550 U
P alpha-Chlordane	UG/L	.	.	.	0.0550 U	0.0540 U	0.0550 U
P beta-BHC	UG/L	.	.	.	0.0550 U	0.0540 U	0.0550 U
P delta-BHC	UG/L	.	.	.	0.0550 U	0.0540 U	0.0550 U
P gamma-BHC (Lindane)	UG/L	.	.	.	0.0550 U	0.3800	0.4100
P gamma-Chlordane	UG/L	.	.	.	0.0550 U	0.0540 U	0.0550 U
S 1,2,4-Trichlorobenzene	UG/L	.	.	.	11.0000 u	42.0000	42.0000
S 1,2-Dichlorobenzene	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S 1,3-Dichlorobenzene	UG/L		.		11.0000 u	11.0000 u	11.0000 u
S 1,4-Dichlorobenzene	UG/L	.	.	.	11.0000 u	30.0000	31.0000
S 2,4,5-Trichlorophenol	UG/L	.	.	.	28.0000 U	29.0000 U	28.0000 U
S 2,4,6-Trichlorophenol	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S 2,4-Dichlorophenol	UG/L		.	.	11.0000 u	11.0000 u	11.0000 u
S 2,4-Dimethylphenol	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S 2,4-Dinitrophenol	UG/L	.	.	.	28.0000 U	29.0000 U	28.0000 u

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	GS0201MS	GS0201MSD	GS02M2	GS0301	GS0301MS	GS0301MSD
ENSAFE ID:		GS0201MS	GS0201MSD	GS02M2	GS0301	GS0301MS	GS0301MSD
LAB ID:		38765-3MS	38765-3MSD	38765-023	38765-11	38765-11MS	38765-11MSD
LAB RCVD:		12/15/93	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93
S 2,4-Dinitrotoluene	UG/L	.		.	11.0000 U	49.0000	52.0000
S 2,6-Dinitrotoluene	UG/L	.		.	11.0000 U	11.0000 U	11.0000 U
S 2-Chloronaphthalene	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S 2-Chlorophenol	UG/L	.		.	11.0000 U	68.0000	71.0000
S 2-Methylnaphthalene	UG/L		.	.	11.0000 U	11.0000 U	11.0000 U
S 2-Methylphenol	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S 2-Nitroaniline	UG/L		.	.	28.0000 U	29.0000 U	28.0000 U
S 2-Nitrophenol	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S 3,3'-Dichlorobenzidine	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S 3-Nitroaniline	UG/L	.	.	.	28.0000 U	29.0000 U	28.0000 U
S 4,6-Dinitro-2-methylphenol	UG/L	.	.	.	28.0000 U	29.0000 U	28.0000 U
S 4-Bromophenyl-phenylether	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S 4-Chloro-3-methylphenol	UG/L	.	.	.	11.0000 U	74.0000	72.0000
S 4-Chloroaniline	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S 4-Chlorophenyl-phenylether	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S 4-Methylphenol	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S 4-Nitroaniline	UG/L	.	.	.	28.0000 U	29.0000 U	28.0000 U
S 4-Nitrophenol	UG/L	.	.	.	28,0000 U	85.0000	85.0000
S Acenaphthene	UG/L	.	.	.	11.0000 U	45.0000	47.0000
S Acenaphthylene	UG/L	.	.	.	11.0000 U	11.0000 U	11,0000 U
S Anthracene	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S Benzo(a)anthracene	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S Benzo(a)pyrene	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S Benzo(b)fluoranthene	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S Benzo(g,h,i)perylene	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S Benzo(k)fluoranthene	UG/L	.			11.0000 U	11.0000 U	11.0000 U
S Butylbenzylphthalate	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S Carbazole	UG/L	.		.	11.0000 U	11.0000 U	11.0000 U
S Chrysene	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S Di-n-butylphthalate	UG/L	.			11.0000 U	11.0000 U	11.0000 U
S Di-n-octylphthalate	UG/L	.	.	.	11.0000 U	11.0000 U	11.0000 U
S Dibenz(a,h)anthracene	UG/L	.			11.0000 U	11.0000 U	11.0000 U

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	GS0201MS	GS0201MSD	GS02M2	GS0301	GS0301MS	GS0301MSD
	LAB ID:	38765-3MS	38765-3MSD	38765-023	38765-11	38765-11MS	38765-11MSD
	LAB RCVD:	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93
PARAMETER	UNITS						
S Dibenzofuran	UG/L	.	.		11.0000 u	11.0000 u	11.0000 u
S Diethylphthalate	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S Dimethylphthalate	UG/L	.	.		11.0000 u	11.0000 u	11.0000 u
S Fluoranthene	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S Fluorene	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S Hexachlorobenzene	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S Hexachlorobutadiene	UG/L	.	.		11.0000 u	11.0000 u	11.0000 u
S Hexachlorocyclopentadiene	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S Hexachloroethane	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S Indeno(1,2,3-cd)pyrene	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S Isophorone	UG/L	.		.	11.0000 u	11.0000 u	11.0000 u
S N-Nitroso-di-n-propylamine	UG/L		.	.	11.0000 u	49.0000	51.0000
S N-Nitrosodiphenylamine	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S Naphthalene	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S Nitrobenzene	UG/L			.	11.0000 u	11.0000 u	11.0000 u
S Pentachlorophenol	UG/L	.	.	.	28.0000 U	83.0000	88.0000
S Phenanthrene	UG/L	.		.	11.0000 u	11.0000 u	11.0000 u
S Phenol	UG/L	.	.	.	11.0000 u	62.0000	61.0000
S Pyrene	UG/L		.	.	11.0000 u	24.0000	35.0000
S bis(2-Chloroethoxy)methane	UG/L	.	.	.	11.0000 u	11,0000 u	11.0000 u
S bis(2-Ethlyhexy)phthalate	UG/L		.	.	11.0000 u	11.0000 u	11.0000 u
S bis(2-chloroethyl)ether	UG/L	.	.	.	11.0000 u	11.0000 u	11.0000 u
S bis(2-chloroisopropyl)ether	UG/L			.	11.0000 u	11.0000 u	11.0000 u
V 1,1,1-Trichloroethane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V 1,1,2,2-Tetrachloroethane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V 1,1,2-Trichloroethane	UG/L	10.0000 u	10.0000 u		10.0000 u	10.0000 u	10.0000 u
V 1,1-Dichloroethane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V 1,1-Dichloroethene	UG/L	48.0000	52.0000	.	10.0000 u	55.0000	55.0000
V 1,2-Dichloroethane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V 1,2-Dichloroethene (total)	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V 1,2-Dichloropropane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V 2-Butanone	UG/L	10.0000 u	10.0000 u	.	10,0000 u	10.0000 u	10.0000 u

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	UNITS	GS0201MS	GS0201MSD	GS02M2	GS0301	GS0301MS	GS0301MSD
ENSAFE ID:		GS0201MS	GS0201MSD	GS02M2	GS0301	GS0301MS	GS0301MSD
LAB ID:		38765-3MS	38765-3MSD	38765-023	38765-4	38765-4MS	38765-4MSD
LAB RCVD:		12/15/93	12/15/93	12/15/93	12/15/93	12/15/93	12/15/93
V 2-Hexanone	UG/L	10.0000 u	10.0000 U	.	10.0000 u	10.0000 U	10.0000 u
V 4-Methyl-2-Pentanone	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 U	10.0000 u
V Acetone	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 U	10.0000 u
V Benzene	UG/L	51.0000	51.0000	.	10.0000 u	52.0000	53.0000
V Bromodichloromsthane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Bromoform	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Bromomethane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Carbon Disulfide	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Carbon Tetrachloride	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Chlorobenzene	UG/L	53.0000	*54.0000*	.	10.0000 u	56.0000	*57.0000*
V Chloroethane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Chloroform	UG/L	10.0000 U	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Chloromethane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Dibromochloromethane	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Ethylbenzene	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Methylene Chloride	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	5.0000 J
V Styrene	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Tetrachloroethene	UG/L	10.0000 U	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Toluene	UG/L	*48.0000*	49.0000	.	10.0000 u	51.0000	52.0000
V Trichloroethene	UG/L	46.0000	*47.0000*	.	10.0000 u	47.0000	48.0000
V Vinyl Chloride	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V Xylene (total)	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V cis-1,3-Dichloropropene	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u
V trans-1,3-Dichloropropene	UG/L	10.0000 u	10.0000 u	.	10.0000 u	10.0000 u	10.0000 u

V=Volatile, S=Semivolatile, P-Pesticide, I-Inorganic, R=Remediation

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	GS03M2	650401	GS04D1	GS04M2	PBLK05	PBLK06
	LAB ID:	38765-024	38756-12	38756-13	38765-025	BP2645	BP2649
	LAB RCVD:	12/15/93			12/15/93		
PARAMETER	UNITS						
I Aluminum	UG/L	2740.0000 J	52700.0000 J	30600.0000 J	13300.0000 J		
I Antimony	UG/L	16.4000 U	16.4000 U	16.4000 U	16.4000 U		
I Arsenic	UG/L	2.4000 U	3.9000	2.4000 U	2.4000 U		
I Barium	UG/L	12.1000 u	139.0000	82.7000	42.0000		
I Beryllium	UG/L	0.4000 U	0.4300	0.4000 U	0.4000 U		
I Cadmium	UG/L	2.3000 U	2.3000 U	2.3000 U	2.3000 U		
I Calcium	UG/L	1460.0000	11200.0000	6870.0000	4010.0000		
I Chromium	UG/L	2.7000 U	29.6000	16.0000	8.2000		
I Cobalt	UG/L	2.2000 u	4.5000 U	3.0000 U	1.9000 u		
I Copper	UG/L	5.8000 U	29.7000	19.0000	59.2000		
I Cyanide	UG/L		0.9500 U	0.9500 u			
I Iron	UG/L	1620.0000	5920.0000	2590.0000	1990.0000		
I Lead	UG/L	2.0000	33.5000	18.2000	15.4000		
I Magnesium	UG/L	402.0000	2200.0000	1380.0000	1080.0000		
I Manganese	UG/L	12.4000	110.0000	62.1000	38.1000		
I Mercury	UG/L	0.1000 U	0.2000	0.2000	0.1300		
I Nickel	UG/L	8.4000 U	8.5000 U	8.4000 U	8.4000 U		
I Potassium	UG/L	423.0000	762.0000 U	371.0000	352.0000		
I Selenium	UG/L	2.3000 U	4.8000	2.5000	2.3000 U		
I Silver	UG/L	1.9000 u	1.9000 u	1.9000 U	1.9000 u		
I Sodium	UG/L	1870.0000	5350.0000	4640.0000	5620.0000		
I Thallium	UG/L	2.2000 U	2.2000 u	2.2000 U	2.2000 u		
I Vanadium	UG/L	6.8000 U	55.1000	34.7000	14.0000 U		
I Zinc	UG/L	13.3000	26.1000	9.7000 U	32.0000		
P 4,4'-DDD	UG/L	.	0.1100 u	0.1100 u		0.1000 u	0.1000 u
P 4,4'-DDE	UG/L	.	0.1100 u	0.1100 u	.	0.1000 u	0.1000 u
P 4,4'-DDT	UG/L	.	0.1100 u	0.1100 u		0.1000 u	0.1000 u
P Aldrin	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
P Aroclor 1016	UG/L	.	1.1000 u	1,1000 u		1.0000 u	1,0000 u
P Aroclor 1221	UG/L	.	2.1000 u	2.1000 u	.	2.0000 u	2.0000 u
P Aroclor 1232	UG/L	.	1.1000 u	1.1000 u		1.0000 u	1.0000 u

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	GS03M2	GS0401	GS04D1	GS04M2	PBLK05	PBLK06
	LAB ID:	38765-024	38756-12	38765-13	38765-025	BP2645	BP2649
	LAB RCVD:	12/15/93		12/15/93	12/15/93		
PARAMETER	UNITS						
P Aroclor 1242	UG/L	.	1.1000 u	1.1000 u	.	1.0000 u	1.0000 u
P Aroclor 1248	UG/L	.	1.1000 u	1.1000 u	.	1.0000 u	1.0000 u
P Aroclor 1254	UG/L	.	1.1000 u	1.1000 u	.	1.0000 u	1.0000 u
P Aroclor 1260	UG/L	.	1.1000 u	1.1000 u	.	1.0000 u	1.0000 u
P Dieldrin	UG/L	.	0.1100 u	0.1100 u	.	0.1000 u	0.1000 u
P Endosulfan I	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
P Endosulfan II	UG/L	.	0.1100 u	0.1100 u	.	0.1000 u	0.1000 u
P Endosulfan sulfate	UG/L	.	0.1100 u	0.1100 u	.	0.1000 u	0.1000 u
P Endrin	UG/L	.	0.1100 u	0.1100 u	.	0.1000 u	0.1000 u
P Endrin aldehyde	UG/L	.	0.1100 u	0.1100 u	.	0.1000 u	0.1000 u
P Endrin ketone	UG/L	.	0.1100 u	0.1100 u	.	0.1000 u	0.1000 u
P Heptachlor	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
P Heptachlor epoxide	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
P Methoxychlor	UG/L	.	0.5300 U	0.5300 U	.	0.5000 u	0.5000 U
P Toxaphene	UG/L	.	5.3000 U	5.3000 U	.	5.0000 U	5.0000 U
P alpha-BHC	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
P alpha-Chlordane	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
P beta-BHC	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
P delta-BHC	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
P gamma-BHC (Lindane)	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
P gamma-Chlordane	UG/L	.	0.0530 U	0.0530 U	.	0.0500 U	0.0500 U
S 1,2,4-Trichlorobenzene	UG/L	.	11.0000 u	11.0000 u	.	.	
S 1,2-Dichlorobenzene	UG/L	.	11.0000 u	11.0000 u	.	.	
S 1,3-Dichlorobenzene	UG/L	.	11.0000 u	11.0000 u	.	.	
S 1,4-Dichlorobenzene	UG/L	.	11.0000 u	11.0000 u	.	.	
S 2,4,5-Trichlorophenol	UG/L	.	28.0000 U	27.0000 U	.	.	
S 2,4,6-Trichlorophenol	UG/L	.	11.0000 u	11.0000 u	.	.	
S 2,4-Dichlorophenol	UG/L	.	11.0000 u	11.0000 u	.	.	
S 2,4-Dimethylphenol	UG/L	.	11.0000 u	11.0000 u	.	.	
S 2,4-Dinitrophenol	UG/L	.	28.0000 U	27.0000 U	.	.	
S 2,4-Dinitrotoluene	UG/L	.	11.0000 u	11.0000 u	.	.	
S 2,6-Dinitrotoluene	UG/L	.	11.0000 u	11.0000 u	.	.	

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	GS03M2	GS0401	GS04D1	GS04M2	PBLK05	PBLK06
	LAB ID:	38765-024	38765-12	38765-13	38765-025	BP2645	BP2649
	LAB RCVD:	12/15/93	12/15/93	12/15/93	12/15/93	.	.
PARAMETER	UNITS						
S 2-Chloronaphthalene	UG/L		11.0000 U	11.0000 U	.	.	.
S 2-Chlorophenol	UG/L	.	11.0000 U	11.0000 U	.		.
S 2-Methylnaphthalene	UG/L	.	11.0000 U	11.0000 U	.	.	.
S 2-Methylphenol	UG/L	.	11.0000 U	11.0000 U	.		.
S 2-Nitroaniline	UG/L		28.0000 U	27.0000 U	.	.	.
S 2-Nitrophenol	UG/L	.	11.0000 U	11.0000 U	.		.
S 3,3'-Dichlorobenzidine	UG/L	.	11.0000 U	11.0000 U	.	.	.
S 3-Nitroaniline	UG/L	.	28.0000 U	27.0000 U	.	.	.
S 4,6-Dinitro-2-methylphenol	UG/L	.	28.0000 U	27.0000 U	.	.	.
S 4-Bromophenyl-phenylether	UG/L	.	11.0000 U	11.0000 U	.		.
S 4-Chloro-3-methylphenol	UG/L	.	11.0000 U	11.0000 U	.	.	.
S 4-Chloroaniline	UG/L	.	11.0000 U	11.0000 U	.	.	.
S 4-Chlorophenyl-phenylether	UG/L		11.0000 U	11.0000 U	.	.	.
S 4-Methylphenol	UG/L	.	11.0000 U	11.0000 U	.	.	.
S 4-Nitroaniline	UG/L	.	28.0000 U	27.0000 U	.	.	.
S 4-Nitrophenol	UG/L	.	28.0000 U	27.0000 U	.	.	.
S Acenaphthene	UG/L		11.0000 U	11.0000 U	.	.	.
S Acenaphthylene	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Anthracene	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Benzo(a)anthracene	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Benzo(a)pyrene	UG/L		11.0000 U	11.0000 U	.	.	.
S Benzo(b)fluoranthene	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Benzo(g,h,i)perylene	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Benzo(k)fluoranthene	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Butylbenzylphthalate	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Carbazole	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Chrysene	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Di-n-butylphthalate	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Di-n-octylphthalate	UG/L		11.0000 U	11.0000 U	.	.	.
S Dibenz(a,h)anthracene	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Dibenzofuran	UG/L	.	11.0000 U	11.0000 U	.	.	.
S Diethylphthalate	UG/L	.	11.0000 U	11.0000 U	.	.	.

PENSACOLA SITE 05
WATERSAMPLES

Key presented at end of Appendix. Data not shorn in significant digits.

	ENSAFE ID:	GS03M2	GS0401	GS04D1	GS04M2	PBLK05	PBLK06
	LAB ID:	38765-024	38765-12	38765-13	38765-025	BP2645	BP2649
	LAB RCVD:	12/15/93	12/15/93	12/15/93	12/15/93	.	.
PARAMETER	UNITS						
S Dimethylphthalate	UG/L	.	11.0000 u	11.0000 u	.	.	.
S Fluoranthene	UG/L	.	11.0000 u	11.0000 u	.	.	.
S Fluorene	UG/L	.	11.0000 u	11.0000 u	.	.	.
S Hexachlorobenzene	UG/L		11.0000 u	11.0000 u	.	.	.
S Hexachlorobutadiene	UG/L	.	11.0000 u	11.0000 u	.	.	.
S Hexachlorocyclopentadiene	UG/L	.	11.0000 u	11.0000 u	.	.	.
S Hexachloroethane	UG/L	.	11,0000 u	11.0000 u	.	.	.
S Indeno(1,2,3-cd)pyrene	UG/L		11.0000 u	11.0000 u	.	.	.
S Isophorone	UG/L	.	11.0000 u	11.0000 u	.	.	.
S N-Nitroso-di-n-propylamine	UG/L	.	11.0000 u	11.0000 u	.	.	.
S N-Nitrosodiphenylamine	UG/L	.	11.0000 u	11.0000 u	.	.	.
S Naphthalene	UG/L	.	11.0000 u	11.0000 u	.	.	.
S Nitrobenzene	UG/L	.	11.0000 u	11.0000 u	.		.
S Pentachlorophenol	UG/L	.	28.0000 U	27.0000 U	.	.	.
S Phenanthrene	UG/L		11.0000 u	11.0000 u	.		.
S Phenol	UG/L	.	11.0000 u	11.0000 u	.	.	.
S Pyrene	UG/L		11.0000 u	11.0000 u	.		.
S bis(2-Chloroethoxy)methane	UG/L	.	11.0000 u	11.0000 u	.	.	
S bis(2-Ethlyhexy)phthalate	UG/L		11.0000 u	11.0000 u	.		.
S bis(2-chloroethyl)ether	UG/L	.	11.0000 U	11.0000 u	.		
S bis(2-chloroisopropyl)ether	UG/L		11.0000 u	11.0000 u	.		
V 1,1,1-Trichloroethane	UG/L		10.0000 u	10.0000 u	.		
V 1,1,2,2-Tetrachloroethane	UG/L	.	10.0000 u	10.0000 u	.		.
V 1,1,2-Trichloroethane	UG/L	.	10.0000 u	10.0000 u			.
V 1,1-Dichloroethane	UG/L	.	10.0000 u	10.0000 u	.		.
V 1,1-Dichloroethene	UG/L	.	10.0000 u	10.0000 u		.	.
V 1,2-Dichloroethane	UG/L	.	10.0000 u	10.0000 u	.		.
V 1,2-Dichloroethene (total)	UG/L	.	10.0000 u	10.0000 u			
V 1,2-Dichloropropane	UG/L	.	10.0000 u	10.0000 u			
V 2-Butanone	UG/L	.	10.0000 u	10.0000 u		.	.
V 2-Hexanone	UG/L	.	10.0000 u	10.0000 u		.	.
V 4-Methyl-2-Pentanone	UG/L	.	10.0000 u	10.0000 u		.	.

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	GS03M2	GS0401	GS04D1	GS04M2	PBLK05	PBLK06
	LAB ID:	38765-024	38765-5	38765-6	38765-025	BP2645	BP2649
	LAB RCVD:	12/15/93	12/15/93	12/15/93	12/15/93	.	.
PARAMETER	UNITS						
V Acetone	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Benzene	UG/L	.	10.0000 u	10.0000 u	.		.
V Bromodichloromethane	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Bromoform	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Bromomethane	UG/L	.	10.0000 u	10.0000 u	.		
V Carbon Disulfide	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Carbon Tetrachloride	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Chlorobenzene	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Chloroethane	UG/L	.	10.0000 u	10.0000 u	.		.
V Chloroform	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Chloromethane	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Dibromochloromethane	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Ethylbenzene	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Methylene Chloride	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Styrene	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Tetrachloroethene	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Toluene	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Trichloroethene	UG/L	.	10.0000 u	10.0000 u	.	.	.
V Vinyl Chloride	UG/L	.	10.0000 u	10.0000 u		.	
V Xylene (total)	UG/L	.	10.0000 u	10.0000 u	.	.	.
V cis-1,3-Dichloropropene	UG/L	.	10.0000 u	10.0000 u		.	.
V trans-1,3-Dichloropropene	UG/L	.	10.0000 u	10.0000 u	.	.	.

V=Volatile, S=Semivolatile, P-Pesticide, I=Inorganic, R=Remediation

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	PBLK09 / BP2669	PIBLKA1 / PIBLKA1	PIBLKA2 / PIBLKA2	PIBLKA3 / PIBLKA3	PIBLKA4 / PIBLKA4	PIBLKA5 / PIBLKA5
P 4,4'-DDD	UG/L	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U
P 4,4'-DDE	UG/L	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U
P 4,4'-DDT	UG/L	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U
P Aldrin	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P Aroclor 1016	UG/L	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U
P Aroclor 1221	UG/L	2.0000 U	2.0000 U	2.0000 U	2.0000 U	2.0000 U	2.0000 U
P Aroclor 1232	UG/L	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U
P Aroclor 1242	UG/L	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U
P Aroclor 1248	UG/L	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U
P Aroclor 1254	UG/L	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U
P Aroclor 1260	UG/L	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U	1.0000 U
P Dieldrin	UG/L	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U
P Endosulfan I	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P Endosulfan II	UG/L	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U
P Endosulfan sulfate	UG/L	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U
P Endrin	UG/L	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U
P Endrin aldehyde	UG/L	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U
P Endrin ketone	UG/L	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U	0.1000 U
P Heptachlor	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P Heptachlor epoxide	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P Methoxychlor	UG/L	0.5000 U	0.5000 U	0.5000 U	0.5000 U	0.5000 U	0.5000 U
P Toxaphene	UG/L	5.0000 U	5.0000 U	5.0000 U	5.0000 U	5.0000 U	5.0000 U
P alpha-BHC	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P alpha-Chlordane	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P beta-BHC	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P delta-BHC	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P gamma-BHC (Lindane)	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P gamma-Chlordane	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U

V-Volatile, S-Semivolatile, P-Pesticide, I-Inorganic, R-Remediation

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	PIBLKA6 / PIBLKA6 / .	PIBLKB1 / PIBLKB1 / .	PIBLKB2 / PIBLKB2 / .	PIBLKB3 / PIBLKB3 / .	PIBLKB4 / PIBLKB4 / .	PIBLKB5 / PIBLKB5 / .
P 4,4'-DDD	UG/L	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u
P 4,4'-DDE	UG/L	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u
P 4,4'-DDT	UG/L	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u
P Aldrin	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P Aroclor 1016	UG/L	1.0000 u	1.0000 U	1.0000 u	1.0000 u	1.0000 u	1.0000 u
P Aroclor 1221	UG/L	2.0000 u	2.0000 u	2.0000 u	2.0000 u	2.0000 u	2.0000 u
P Aroclor 1232	UG/L	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u
P Aroclor 1242	UG/L	1.0000 u	1.1000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u
P Aroclor 1242	UG/L	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u
P Aroclor 1248	UG/L	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u
P Aroclor 1254	UG/L	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u
P Aroclor 1260	UG/L	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u	1.0000 u
P Dieldrin	UG/L	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u
P Endosulfan I	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P Endosulfan II	UG/L	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u
P Endosulfan sulfate	UG/L	0.1000 u	0.1000 U	0.1000 u	0.1000 u	0.1000 u	0.1000 u
P Endrin	UG/L	0.1000 u	0.1000 u	0.1000 U	0.1000 u	0.1000 u	0.1000 u
P Endrin aldehyde	UG/L	0.1000 u	0.1000 u	0,1000 u	0.1000 u	0.1000 u	0.1000 u
P Endrin ketone	UG/L	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u	0.1000 u
P Heptachlor	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P Heptachlor epoxide	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P Methoxychlor	UG/L	0.5000 U	0.5000 U	0.5000 U	0.5000 U	0.5000 U	0.5000 U
P Toxaphene	UG/L	5.0000 U	5.0000 U	5.0000 U	5.0000 U	5.0000 U	5.0000 U
P alpha-BHC	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P alpha-Chlordane	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P beta-BHC	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P delta-BHC	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P gamma-BHC (Lindane)	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U
P gamma-Chlordane	UG/L	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U

V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic, R=Remediation

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

PARAMETER	ENSAFE ID: / LAB ID: / LAB RCVD: / UNITS	SBLKFN B-A1278	SBLKFO B-A1287	SBLKFP B-A1291	SBLKHU B-A1307	VBLKCD BC122793B	VBLKCE BC122893A
						.	.
S 1,2,4-Trichlorobenzene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	.
S 1,2-Dichlorobenzene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	.
S 1,3-Dichlorobenzene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	.
S 1,4-Dichlorobenzene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	.
S 2,4,5-Trichlorophenol	UG/L	25.0000 U	25.0000 U	25.0000 U	25.0000 U	.	.
S 2,4,6-Trichlorophenol	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	.
S 2,4-Dichlorophenol	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	.
S 2,4-Dimethylphenol	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	
S 2,4-Dinitrophenol	UG/L	25.0000 U	25.0000 U	25.0000 U	25.0000 U	.	.
S 2,4-Dinitrotoluene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	
S 2,6-Dinitrotoluene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	
S 2-Chloronaphthalene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	
S 2-Chlorophenol	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	.
S 2-Methylnaphthalene	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	
S 2-Methylphenol	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U	.	.
S 2-Nitroaniline	UG/L	25.0000 U	25.0000 U	25.0000 U	25.0000 U	.	.
S 2-Nitrophenol	UG/L	10.0000 U	10.0000 U	10.0000 U	10,0000 U	.	
S 3,3'-Dichlorobenzidine	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		
S 3-Nitroaniline	UG/L	25.0000 U	25.0000 U	25.0000 U	25.0000 U	.	
S 4,6-Dinitro-2-methylphenol	UG/L	25.0000 U	25.0000 U	25.0000 U	25.0000 U		
S 4-Bromophenyl-phenylether	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		
S 4-Chloro-3-methylphenol	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		.
S 4-Chloroaniline	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		
S 4-Chlorophenyl-phenylether	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		
	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		
	UG/L	25.0000 U	25.0000 U	25.0000 U	25.0000 U		.
	UG/L	25.0000 U	25.0000 U	25.0000 U	25.0000 U		.
	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		.
	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		
	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		.
	UG/L	10.0000 U	10.0000 U	10.0000 U	10.0000 U		

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	SBLKFN	SBLKFO	SBLKFP	SBLKHU	VBLKCD	VBLKCE
	LAB ID:	B-A1278	B-A1287	B-A1291	B-A1307	BC122793B	BC122893A
	LAB RCVD:	.	.	.	.	.	.
PARAMETER	UNITS						
S Benzo(a)pyrene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	
S Benzo(b)fluoranthene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Benzo(g,h,i)perylene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u		.
S Benzo(k)fluoranthene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Butylbenzylphthalate	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	
S Carbazole	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	
S Chrysene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	
S Di-n-butylphthalate	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	
S Di-n-octylphthalate	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Dibenz(a,h)anthracene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Dibenzofuran	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Diethylphthalate	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Dimethylphthalate	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Fluoranthene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Fluorene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Hexachlorobenzene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Hexachlorobutadiene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Hexachlorocyclopentadiene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Hexachloroethane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Indeno(1,2,3-cd)pyrene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Isophorone	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S N-Nitroso-di-n-propylamine	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S N-Nitrosodiphenylamine	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Naphthalene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	
S Nitrobenzene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Pentachlorophenol	UG/L	25.0000 U	25.0000 U	25.0000 U	25.0000 U	.	.
S Phenanthrene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Phenol	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S Pyrene	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S bis(2-Chloroethoxy)methane	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S bis(2-Ethlyhexy)phthalate	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u	.	.
S bis(2-chloroethyl)ether	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u		.

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	SBLKFN	SBLKFO	SBLKFP	SBLKHU	VBLKCD	VBLKCE
	LAB ID:	B-A1278	B-A1287	B-A1291	B-A1307	BC122793B	BC122893A
	LAB RCVD:						
PARAMETER	UNITS						
S bis(2-chloroisopropyl)ether	UG/L	10.0000 u	10.0000 u	10.0000 u	10.0000 u		
V 1,1,1-Trichloroethane	UG/L					10.0000 u	10.0000 u
V 1,1,2,2-Tetrachloroethane	UG/L					10.0000 u	10.0000 u
V 1,1,2-Trichloroethane	UG/L					10.0000 u	10.0000 u
V 1,1-Dichloroethane	UG/L					10.0000 u	10.0000 u
V 1,1-Dichloroethene	UG/L					10.0000 u	10,0000 u
V 1,2-Dichloroethane	UG/L					10.0000 u	10.0000 u
V 1,2-Dichloroethene (total)	UG/L					10.0000 u	10.0000 u
V 1,2-Dichloropropane	UG/L					10.0000 u	10.0000 u
V 2-Butanone	UG/L					10.0000 u	10.0000 u
V 2-Hexanone	UG/L					10.0000 u	10.0000 u
V 4-Methyl-2-Pentanone	UG/L					10.0000 u	10.0000 u
V Acetone	UG/L					10.0000 u	10.0000 u
V Benzene	UG/L					10.0000 u	10.0000 u
V Bromodichloromethane	UG/L					10.0000 u	10.0000 u
V Bromoform	UG/L					10.0000 u	10.0000 u
V Bromomethane	UG/L					10.0000 u	10.0000 u
V Carbon Disulfide	UG/L					10.0000 u	10.0000 u
V Carbon Tetrachloride	UG/L					10.0000 u	10.0000 u
V Chlorobenzene	UG/L					10.0000 u	10.0000 u
V Chloroethane	UG/L					10.0000 u	10.0000 u
V Chloroform	UG/L					10.0000 u	10.0000 u
V Chloromethane	UG/L					10.0000 u	10.0000 u
V Dibromochloromethane	UG/L					10.0000 u	10.0000 u
V Ethylbenzene	UG/L					10.0000 u	10.0000 u
V Methylene Chloride	UG/L					6.0000 J	10.0000 u
V Styrene	UG/L					10.0000 u	10.0000 u
V Tetrachloroethene	UG/L					10.0000 u	10.0000 u
V Toluene	UG/L					10.0000 u	10.0000 u
V Trichloroethene	UG/L					10.0000 u	10.0000 u
V Vinyl Chloride	UG/L					10.0000 u	10.0000 u
V Xylene (total)	UG/L					10.0000 u	10.0000 u

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	SBLKFN	SBLKFO	SBLKFP	SBLKHU	VBLKCD	VBLKCE
	LAB ID:	B-A1278	B-A1287	B-A1291	B-A1307	BC122793B	BC122893A
	LAB RCVD:	.	.	.	.	.	.
PARAMETER	UNITS						
V cis-1,3-Dichloropropene	UG/L		.	.		10.0000 U	10.0000 U
V trans-1,3-Dichloropropene	UG/L		.	.		10.0000 U	10.0000 U

V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic, R=Remediation

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	VBLKEI	VBLKEJ
	LAB ID:	BE120693A	BE120793A
	LAB RCVD:		
PARAMETER	UNITS		
V 1,1,1-Trichloroethane	UG/L	10.0000 U	10.0000 U
V 1,1,2,2-Tetrachloroethane	UG/L	10.0000 U	10.0000 U
V 1,1,2-Trichloroethane	UG/L	10.0000 U	10.0000 U
V 1,1-Dichloroethane	UG/L	10.0000 U	10.0000 U
V 1,1-Dichloroethene	UG/L	10.0000 U	10.0000 U
V 1,2-Dichloroethane	UG/L	10.0000 U	10.0000 U
V 1,2-Dichloroethene (total)	UG/L	10.0000 U	10.0000 U
V 1,2-Dichloropropane	UG/L	10.0000 U	10.0000 U
V 2-Butanone	UG/L	10.0000 U	10.0000 U
V 2-Hexanone	UG/L	10.0000 U	10.0000 U
V 4-Methyl-2-Pentanone	UG/L	10.0000 U	10.0000 U
V Acetone	UG/L	10.0000 U	10.0000 U
V Benzene	UG/L	10.0000 U	10.0000 U
V Bromodichloromethane	UG/L	10.0000 U	10.0000 U
V Bromoform	UG/L	10.0000 U	10.0000 U
V Bromomethane	UG/L	10.0000 U	10.0000 U
V Carbon Disulfide	UG/L	10.0000 U	10.0000 U
V Carbon Tetrachloride	UG/L	10.0000 U	10.0000 U
V Chlorobenzene	UG/L	10.0000 U	10.0000 U
V Chloroethane	UG/L	10.0000 U	10.0000 U
V Chloroform	UG/L	10.0000 U	10.0000 U
V Chloromethane	UG/L	10.0000 U	10.0000 U
V Dibromochloromethane	UG/L	10.0000 U	10.0000 U
V Ethylbenzene	UG/L	10.0000 U	10.0000 U
V Methylene Chloride	UG/L	6.0000 J	10.0000 U
V Styrene	UG/L	10.0000 U	10.0000 U
V Tetrachloroethene	UG/L	10.0000 U	10.0000 U
V Toluene	UG/L	10.0000 U	10.0000 U
V Trichloroethene	UG/L	10.0000 U	10.0000 U
V Vinyl Chloride	UG/L	10.0000 U	10.0000 U
V Xylene (total)	UG/L	10.0000 U	10.0000 U

PENSACOLA SITE 05
WATER SAMPLES

Key presented at end of Appendix. Data not shown in significant digits.

	ENSAFE ID:	VBLKEI	VBLKEJ					
	LAB ID:	BE120693A	BE120793A					
	LAB RCVD:	.	.	.	.	.	.	.
PARAMETER	UNITS							
V cis-1,3-Dichloropropene	UG/L	10.0000 U	10.0000 U			.	.	
V trans-1,3-Dichloropropene	UG/L	10.0000 U	10.0000 U			.	.	.

V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic, R=Remediation

SAMPLE NUMBERING SYSTEM

The following sample-numbering system was developed for the identification of sample locations and matrices. Sample number 05GS01 is used as an example and is explained below.

The first two characters of the sample number indicate the site number. Therefore, the 05 in 05GS01 indicates that the sample came from Site 05.

The third character indicates the matrix where the sample was collected. At Site 05, samples were collected from the soil (S) and groundwater (G). For example, sample 05GS01 was collected from the groundwater. The fourth character indicates whether the groundwater sample was collected from a shallow well (S) or an intermediate depth well (I).

The fifth character indicate the sample station number (i.e., soil boring or monitoring well identification) which may be shown on an accompanying map or figure. For example, sample 05GS01 was collected from monitoring well station 01. The station number is unique at a particular site.

The fourth character is also used for QNQC samples and indicates the type of QNQC sample that was collected in the field. This character will not be found for non-QNQC samples. Each type of QNQC sample is listed below and is explained in the next section.

D	Duplicate
E	Equipment Rinsate
X	Matrix Spike
K	Matrix Spike Duplicate
T	Trip Blank
I	Field Blank (DI Water)
P	Field Blank (Potable Water)

For example, sample 05GT01 is a trip blank submitted with groundwater samples, while sample 05ST01 is a trip blank submitted with soil samples.

The sixth and seventh characters are generally numbers. Sample 05S05004 was a soil sample collected from boring 5 at a depth of four feet.

Some samples will have up to three additional characters used for QNQC samples only. These indicate a QNQC sample created and assigned in the laboratory instead of in the field. The QNQC abbreviations are listed below and are explained in the next section.

MS	Matrix Spike
MSD	Matrix Spike Duplicate
DL	Dilution
RE	Sample rerun
REMS	Re-extracted matrix spike/matrix spike duplicate

Other specific exceptions are described below:

05SO01	Site 05 Grout QNQC sample
05SL01	Site 05 Filter Sand QNQC sample
05SNO1	Site 05 Bentonite QA/QC sample

Data Qualifier And Sample Identification Qualifier Definitions

Data qualifiers are listed adjacent to the data and indicate any special circumstances involved after analysis of the sample, usually assigned during the data validation process. They are explained below:

Data Qualifier Definitions

U The compound was analyzed for, but was not detected above the reported sample quantitation limit.

J The compound was positively detected, however, the reported concentration is considered to approximate the concentration within the sample.

UJ The compound was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the compound in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the compound cannot be verified.

Sample Identification Qualifier Definitions

These are always listed next to the actual sample number. They refer to special procedures that were performed before the sample was analyzed.

MS Matrix Spike: The laboratory injects a known amount of a certain compound into the sample to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. It is used to help determine the accuracy of the entire analytical process.

MSD Matrix Spike Duplicate: The laboratory injects a known amount of a certain compound into the sample with the matrix spike as a means of comparing the accuracy with the matrix spike.

DL Dilution: The sample contained too high a concentration of a compound to be detected on the instrument and had to be diluted.

RE Sample rerun: If a problem was suspected during the original analysis, the sample was analyzed a second time.

REMS Reextracted matrix spike/matrix spike duplicate: The original sample was re-extracted and had a matrix spike or a matrix spike duplicate analyzed.

Other Sample Designations

The following blanks are created in the laboratory. Each sample designation will be followed by a consecutive number unique to the blank. For example, the third volatile method blank would be designated "VBLK03."

Method Blank

VBLK	—	Volatile Method Blank
SBLK	—	Semivolatile Method Blank
PBLK	—	Pesticide/PCB Method Blank

The above listed blanks are used by the laboratory to determine the levels of contamination associated with the processing and analysis of samples.

Instrument Blank

PIBLK	—	Pesticide/PCB Instrument Blank

The above listed blank is used by the laboratory to determine if any contamination is present before, *during* and *after* pesticide/PCB sample analysis related to the gas chromatograph.

APPENDIX H

DATABASE SUMMARY OF REFERENCE SAMPLES

PENSACOLA SITE 5
PENSACOLA REFERENCE SAMPLES

METAL											
		SAMPLE ID ------->	001-G-GI68-00		001-G-GI70-00		001-G-GS67-00		001-G-GS69-00		
		ORIGINAL ID ----->	01GI68		01GI70		01GS67		01GS69		
		LAB SAMPLE ID --->	622850		622852		622849		622851		
		ID FROM REPORT -->	MAC011		MAC012		MAC016		MAC017		
		SAMPLE DATE ----->	07/01/94		07/01/94		07/01/94		07/01/94		
		MATRIX ---------->	Water		Water		Uater		Water		
		UNITS ---------->	UG/L		UG/L		UG/L		UG/L		
CAS #	Parameter		93820	VAL	93820	VAL	93820	VAL	93820	VAL	
CN	Cyanide		NR		NR		NR		NR		
AL	Aluminum		293.	U	218.	U	4240.		3270.		
SB	Antimony		30.2	U	30.2	U	30.2	U	30.2	U	
AS	Arsenic		2.8	U	2.8	U	2.8	U	2.8	U	
BA	Barium		13.5	U	9.5	U	11.	U	18.9	U	
BE	Beryllium		1.1	U	1.1	U	1.1	U	1.1	U	
CD	Cadmium		3.4	U	3.4	U	3.4	U	3.4	U	
CA	Calcium		5670.		5350.		17800.		6300.		
CR	Chromium		5.2	U	5.2	U	9.7	U	59.9		
CO	Cobalt		4.1	U	4.1	U	4.1	U	4.1	U	
CU	Copper		10.8	U	10.8	U	10.8	U	16.2		
FE	Iron		942.		53.3	U	677.		1770.		
PB	Lead		1.6	UJ	1.6	UJ	1.6	UJ	1.6	UJ	
MG	Magnesium		1330.	U	3030.		1590.	U	2510.	U	
MN	Manganese		8.9		3.1	U	6.7		26.7		
HG	Mercury		02	U	0.2	U	0.2	U	0.2	U	
NI	Nickel		39.9	U	39.9	U	39.9	U	39.9	U	
K	Potassium		2550.	U	3200.		13300.		6560.		
SE	Selenium		3.9	U	3.9	U	3.9	U	3.9	UJ	
AG	Silver		4.	U	4.	U	4.	U	4.	U	
NA	Sodium		8350.		9810.		10700.		7830.		
TL	Thallium		3.6	UJ	3.6	UJ	3.6	UJ	3.6	UJ	
V	Vanadium		7.5	U	7.5	U	7.9		7.5	U	
ZN	Zinc		7.8	U	7.5	U	17.5	U	290.		

*** Validation Complete ***

DATALCP3
07/07/95

PENSACOLA SITE 05
PENSACOLA REFERENCE SAMPLES

Time: 09:27

METAL													
	SAMPLE ID ------->	001-S-0067-01		001-6-0067-03		001-S-0067-05		001-S-0067-07		001-S-0067-09		001-S-0067-11	
	ORIGINAL ID ----->	01S6701		01S6703		01S6705		01S6707		01S6709		0156711	
	LAB SAMPLE ID --->	553146		553153		553155		553156		553157		553158	
	ID FROM REPORT -->	01S6701		01S6703		01S6705		01S6707		01S6709		01S6711	
	SAMPLE DATE ----->												
	MATRIX ---------->	Soil		Soi1		Soil		Soi1		Soi1		Soil	
	UNITS ---------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	731446	VAL	731446	VAL	731446	VAL	731446	VAL	731446	VAL	731446	VAL
AG	Silver	2.	U	2.	U	2.	U	2.1	U	2.1	U	2.1	U
AL	Aluminum	12400.		1800,		9050.		1320.		932.		574.	
AS	Arsenic	2.4	J	0.61	UJ	1.7	J	0.62	UJ	0.62	UJ	0.62	UJ
BA	Barium	5.8		1.6		10.1		1.8		1.8		1.2	
BE	Beryllium	0.4	U	0.41	U	0.4	U	0.42	U	0.42	U	0.41	U
CA	Calcium	421.		227.		6740.		113.		78.7		67.	
CD	Cadmium	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
CN	Cyanide	0.51	U	0.51	U	0.5	U	0.52	U	0.52	U	0.52	U
CO	Cobalt	1.8	U	1.8	U	1.8	U	1.9	U	1.9	U	1.9	U
CR	Chromium	11.8		2.	U	6.		2.1	U	2.1	U	2.1	U
CU	Copper	5.1		5.1	U	5.1		5.2	U	5.2	U	5.2	U
FE	Iron	9180.		1450.		4790.		1140.		866.		525.	
HG	Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
K	Potassium	452.	U	458.	U	450.	U	466.	U	466.	U	464.	U
MG	Magnesium	96.3	U	97.4	U	365.		99.2	U	99.2	U	98.8	U
MN	Manganese	63.7		3.7		63.6		3.8		4.4		5.7	
NA	Sodium	116.	U	87.5	U	112.	U	111.	U	135.	U	98.	U
NI	Nickel	6.3	U	6.3	U	6.2	U	6.5	U	6.5	U	6.4	U
PB	Lead	20.1		1.3		28.		1.2		0.53		0.41	U
SB	Antimony	9.3	U	9.4	U	9.3	U	9.6	U	9.6	U	9.5	U
SE	Selenium	0.61	U	0.61	U	0.6	U	0.62	U	0.62	U	0.62	U
TL	Thallium	0.81	U	0.82	U	0.81	U	0.83	U	0.83	U	0.83	U
V	Vanadium	20.6		2.6		12.5		2.		1.6		1.5	U
ZN	Zinc	10.9		3.	U	29.		2.8	U	3.3		7.2	

+++ Validation Complete +++

PENSACOLA SITE 05
PENSACOLA REFERENCE SAMPLES

METAL																		
		SAMPLE ID ------->	001-S-0067-13		001-C-0067-17		001-S-0067-21		001-C-0067-21		001-S-0067-23		001-S-0069-01	
		ORIGINAL ID ----->	01S6713		01S6717D		01S6721		01S6721D		01S6723		01S6901	
		LAB SAMPLE ID --->	553160		553168		553169		553171		553173		553861	
		ID FROM REPORT -->	01S6713		01S6717D		01S6721		01S6721D		01S6723			
		SAMPLE DATE ----->												
		MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
		UNITS ---------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter		731446	VAL	731446	VAL	731446	VAL	731446	VAL	731446	VAL	731446	VAL
AG	Silver		2.1	U	2.1	U	2.1	U	2.1	U	2.1	U	2.	U
AL	Aluminum		502.		318.		156.		141.		95.2		1240.	
AS	Arsenic		0.62	UJ	1.3	J	0.62	UJ	0.63	UJ	0.62	UJ	0.61	UJ
BA	Barium		1.	U	1.	U	1.	U	1.	U	1.	U	5.9	
BE	Beryllium		0.42	U	0.41	U	0.41	U	0.42	U	0.41	U	0.41	U
CA	Calcium		50.6		37.3		35.7		46.8		36.5		162.	
CD	Cadmium		1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
CN	Cyanide		0.52	U	0.52	U	0.51	U	0.52	U	0.52	U	0.51	U
CO	Cobalt		1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.8	U
CR	Chromium		2.1	U	2.1	U	2.1	U	2.1	U	2.1	U	2.	U
CU	Copper		5.2	U	5.2	U	5.1	U	5.2	U	5.2	U	5.1	U
FE	Iron		482.		367.		237.		243.		225.		911.	
HG	Mercury		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
K	Potassium		464.	U	463.	U	460.	U	467.	U	463.	U	453.	U
MG	Magnesium		98.9	U	98.6	U	97.9	U	99.4	U	98.7	U	96.6	U
MN	Manganese		5.7		3.7		1.7		2.2		1.7		3.7	
NA	Sodium		93.9	U	91.5	U	108.	U	101.	U	101.	U	101.	U
NI	Nickel		6.4	U	6.4	U	6.4	U	6.5	U	6.4	U	6.3	U
PB	Lead		0.44		0.61		0.41	U	0.42	U	0.41	U	6.7	
SB	Antimony		9.6	U	9.5	U	9.5	U	9.6	U	9.5	U	9.3	U
SE	Selenium		0.62	U	0.62	U	0.62	U	0.63	U	0.62	U	0.61	U
TL	Thallium		0.83	U	0.83	U	0.82	U	0.84	U	0.83	U	0.81	U
V	Vanadium		1.5	U	1.4	U	1.4	U	1.5	U	1.5	U	2.5	
ZN	Zinc		7.3		6.7		19.9		20.6		17.2		8.2	

*** Validation Complete ***

PENSACOLA SITE 05
PENSACOLA REFERENCE SAMPLES

METAL													
		SAMPLE ID	001-S-0069-03		001-S-0069-05		001-S-0069-07		001-S-ow-09		001-S-0069-11		001-S-0069-13
		ORIGINAL ID	01S6903		01S6905		01S6907		01S6909		01S6911		01S6913
		LAB SAMPLE ID	552867		552868		552869		552870		552871		552872
		ID FROM REPORT	01S6903		01S6905		01S6907		01S6909		0156911		01S6913
		SAMPLE DATE											
		MATRIX	Soil		Soil		soil		soil		soil		Soil
		UNITS	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG
CAS #	Parameter		731446	VAL	731446	VAL	731446	VAL	731446	VAL	731446	VAL	731446	VAL
AG	Silver		2.	U	2.1	U	2.1	U	2.	U	2.1	U	2.1	U
AL	Aluminum		1430.		1550.		991.		820.		293.		695.	
AS	Arsenic		0.61	UJ	0.62	UJ	0.62	UJ	0.61	UJ	0.62	UJ	0.62	UJ
BA	Barium		3.		2.4		1.7		1.6		1.	U	1.8	
BE	Beryllium		0.41	U	0.42	U	0.41	U	0.41	U	0.41	U	0.42	U
CA	Calcium		71.4		50.8		32.3	U	31.9	U	32.3	U	45.4	
CD	Cadmium		1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
CN	Cyanide		0.51	U	0.52	U	0.52	U	0.51	U	0.52	U	0.52	U
CO	Cobalt		1.8	U	1.9	U	1.9	U	1.8	U	1.9	U	1.9	U
CR	Chromium		3.5		2.4		3.3		3.5		5.4		4.6	
CU	Copper		5.1	U	5.2	U	5.2	U	5.1	U	5.2	U	5.2	U
FE	Iron		1010.		963.		697.		595.		205.		497.	
HG	Mercury		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
K	Potassium		456.	U	465.	U	463.	U	457.	U	463.	U	466.	U
MG	Magnesium		97.1	U	99.	U	98.7	U	97.2	U	98.7	U	99.2	U
MN	Manganese		3.7		3.7		4.6		3.7		3.4		5.7	
NA	Sodium		99.6	U	109.	U	103.	U	118.	U	97.2		91.3	U
NI	Nickel		6.3	U	6.4	U	6.4	U	6.3	U	6.4	U	6.5	U
PB	Lead		2.9		0.79		0.56		0.49		0.41	U	0.59	
SB	Antimony		9.4	U	9.6	U	9.5	U	9.4	U	9.5	U	9.6	U
SE	Selenium		0.61	U	0.62	U	0.62	U	0.61	U	0.62	U	0.62	U
TL	Thallium		0.82	U	0.83	U	0.83	U	0.82	U	0.83	U	0.83	U
V	Vanadium		1.7		1.6		1.5	U	1.4	U	1.5	U	1.5	U
ZN	Zinc		4.6		3.6	U	2.	U	2.4	U	1.6	U	3.	U

*** Validation Complete ***

SAMPLE NUMBERING SYSTEM

The following sample-numbering system was developed for the identification of sample locations and matrices. Sample number 05GS01 is used as an example and is explained below.

The first two characters of the sample number indicate the site number. Therefore, the 05 in 05GS01 indicates that the sample came from Site 05.

The third character indicates the matrix where the sample was collected. At Site 05, samples were collected from the soil (S) and groundwater (G). For example, sample 05GS01 was collected from the groundwater. The fourth character indicates whether the groundwater sample was collected from a shallow well (S) or an intermediate depth well (I).

The fifth character indicate the sample station number (i.e., soil boring or monitoring well identification) which may be shown on an accompanying map or figure. For example, sample 05GS01 was collected from monitoring well station 01. The station number is unique at a particular site.

The fourth character is also used for QNQC samples and indicates the type of QA/QC sample that was collected in the field. This character will not be found for non-QA/QC samples. Each type of QNQC sample is listed below and is explained in the next section.

D	Duplicate
E	Equipment Rinsate
X	Matrix Spike
K	Matrix Spike Duplicate
T	Trip Blank
I	Field Blank (DI Water)
P	Field Blank (Potable Water)

For example, sample 05GT01 is a trip blank submitted with groundwater samples, while sample 05ST01 is a trip blank submitted with soil samples.

The sixth and seventh characters are generally numbers. Sample 05S05004 was a soil sample collected from boring 5 at a depth of four feet.

Some samples will have up to three additional characters used for QNQC samples only. These indicate a QNQC sample created and assigned in the laboratory instead of in the field. The QNQC abbreviations are listed below and are explained in the next section.

MS	Matrix Spike
MSD	Matrix Spike Duplicate
DL	Dilution
RE	Sample rerun
REMS	Re-extracted matrix spike/matrix spike duplicate

Other specific exceptions are described below:

05SO01	Site 05 Grout QNQC sample
05SL01	Site 05 Filter Sand QNQC sample
05SNO1	Site 05 Bentonite QNQC sample

Data Qualifier And Sample Identification Qualifier Definitions

Data qualifiers are listed adjacent to the data and indicate any special circumstances involved after analysis of the sample, usually assigned during the data validation process. They are explained below:

Data Qualifier Definitions

U The compound was analyzed for, but was not detected above the reported sample quantitation limit.

J The compound was positively detected, however, the reported concentration is considered to approximate the concentration within the sample.

UJ The compound was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the compound in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the compound cannot be verified.

Sample Identification Qualifier Definitions

These are always listed next to the actual sample number. They refer to special procedures that were performed before the sample was analyzed.

MS Matrix Spike: The laboratory injects a known amount of a certain compound into the sample to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis, It is used to help determine the accuracy of the entire analytical process.

MSD Matrix Spike Duplicate: The laboratory injects a known amount of a certain compound into the sample with the matrix spike as a means of comparing the accuracy with the matrix spike.

DL Dilution: The sample contained too high a concentration of a compound to be detected on the instrument and had to be diluted.

RE Sample rerun: If a problem was suspected during the original analysis, the sample was analyzed a second time.

REMS Re-extracted matrix spike/matrix spike duplicate: The original sample was re-extracted and had a matrix spike or a matrix spike duplicate analyzed.

Other Sample Designations

The following blanks are created in the laboratory. Each sample designation will be followed by a consecutive number unique to the blank. For example, the third volatile method blank would be designated "VBLK03."

Method Blank

VBLK	—	Volatile Method Blank
SBLK	—	Semivolatile Method Blank
PBLK	—	Pesticide/PCB Method Blank

The above listed blanks are used by the laboratory to determine the levels of contamination associated with the processing and analysis of samples.

Instrument Blank

PIBLK	—	Pesticide/PCB Instrument Blank

The above listed blank is used by the laboratory to determine if any contamination is present before, during and after pesticide/PCB sample analysis related to the gas chromatograph.

APPENDIX I
PHYSICAL PARAMETERS ANALYTICAL RESULTS

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES. INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205)666-6633 • Fax (205)666-6696

RECEIVED
JAN 27 1994

LOG NO: M3-15877

Received: 16 DEC 93

Purchase Order: E-0179/93

Requisition: CTO-0097

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Sampled By: P.B. Hardy

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15877-1	05GS0301	12-15-93	EAH015
15877-2	05GS0401	12-15-93	EAH015

PARAMETER	15877-1	15877-2
Biochemical Oxygen Demand (SM507)		
5 Day BOD (SM 507), mg/1	<1.0	1.9
Date Analyzed	12.17.93	12.17.93
Ana1yst	MS	MS
Total Suspended Solids (EPA 160.2)		
TSS (EPA 160.2), mg/1	290	180
Date Analyzed	12.2111130	12.2111130
Analyst	CE	CE
Total Alkalinity as CaCO3 (EPA 310.1)		
Alkalinity as CaCO3, mg/1	4.0	17
Date Analyzed	12.16.93	12.16.93
Analyst	CG	CG
Nitrate as N (EPA 353.2)		
Nitrate-N, mg/1	1.3	1.5
Sample Preparation	12.17.93	12.17.93
Date Analyzed	12.17.93	12.17.93
Analyst	BB	BB
Chemical Oxygen Demand (SM508)		
Chemical Oxygen Demand, mg/1	410	1800
Date Analyzed	12.20.93	12.21.93
Analyst	MS	MS
Total Kjeldahl Nitrogen as N (351.2)		
Kjeldahl Nitrogen-N, mg/1	3.0	8.4
Sample Preparation	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94
Analyst	BB	BB

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES. INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205)666-6633 • Fax (205)666-6696

LOG NO: M3-15877

Received: 16 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: E-0179/93

Requisition: CTO-0097

Sampled By: P.B. Hardy

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15877-1	05GS0301	12-15-93	EAH015
15877-2	05GS0401	12-15-93	EAH015

PARAMETER	15877-1	15877-2
Total Phosphorus (EPA 365.4)		
Phosphorus, Total, mg/l	1.4	0.65
Sample Preparation	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94
Analyst	BB	BB
Hardness (SM314A)		
Hardness, as CaCO3, mg/l	14	24
Sample Preparation	12.27.93	12.27.93
Date Analyzed	12.29.93	12.29.93
Analyst	PC	PC
Heterotrophic Plate Count (SM 907A)		
Standard Plate Count, No/ml	42000	4300
Date Analyzed	12.16.93	12.16.93
Analyst	CE	CE

SL *SAVANNAH LABORATORIES*
& ENVIRONMENTAL SERVICES. INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205)666-6633 • Fax (205)666-6696

LOG NO: M3-15877

Received: 16 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: E-0179193

Requisition: CTO-0097

Sampled By: P.B. Hardy

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
15877-3	Quantitation Limit
15877-4	Accuracy (% Recovery for LCS/LCSD)
15877-5	Precision (Relative % Difference)

PARAMETER	15877-3	15877-4	15877-5
5 Day BOD (SM 507), mg/l	1.0	92/81 %	13 %
TSS (EPA 160.2), mg/l	1.0	102/98 %	4.0 %
Alkalinity as CaCO3, mg/l	1.0	100/100 %	0.0 %
Nitrate-N, mg/l	0.10	89/88 %	0 %
Chemical Oxygen Demand, mg/l	20	101/98 %	3.0 %
Kjeldahl Nitrogen-N, mg/l	0.10	90/88 %	2.2 %
Phosphorus, Total, mg/l	0.050	106/106 %	0 %
Hardness, as CaCO3, mg/l	1.5	100/100 %	0 %
Standard Plate Count, NO/ml	1	---	---

Michele H. Lersch

Michele H. Lersch

Final Page Of Report

15877

NAVY CLEAN
ENSAFE/ALLEN & HOSHALL
(901) 383-9115

CHAIN OF CUSTODY RECORD

PHYSICAL PARAMETERS ANALYSIS: Savannah Laboratories
900 Lakeside Drive
Mobile, Alabama 36691-0248
Attention: Michelle Lersch
1-205-666-6633

PAGE 1 OF 1

WENT EnSafe/Allen & Hoshall
ADDRESS 5724 Summer Trees
Memphis, TN. 38134
PROJECT NAME/NUMBER CTO 970

PROXCT MANAGER Henry Beiro
TELEPHONE NO. (901) 372-7962
FAX. NO. (901) 372-2454
SAMPLERS: (SIGNATURE), PB Hardy

FIELD SAMPLE NUMBER	DATE	TIME	SAMPLE TYPE	TYPE/SIZE OF CONTAINER	PRESERVATION TEMP.	PRESERVATION CHEMICAL	NO. OF CONTAINERS	BOD, TSS, Alk, NITRATE-N	COD, TKN, TOTAL PHOSP.	HARDNESS	HETEROTROPHIC PLATE COUNT	TOTAL PHOSP. NITRATE-N, TKN	TOC, CATION EX. CAP.			REMARKS
05GS0301	12/15/93	1425	H2O	32 oz Plastic	4°C	—	1	X								1 sample
05GS0301	" "	" "	" "	500ml Poly	"	H2SO4	1		X							
05GS0301	" "	" "	" "	250ml poly	"	HNO3	1			X						
05GS0301	" "	" "	" "	200ml Poly	"	—	1				X					
05GS0401	" "	1500	" "	32 oz Plastic	"	—	1	%								1 sample
05GS0401	" "	1500	" "	500ml Poly	"	H2SO4	1		X							
05GS0401	"	1500	" "	250ml Poly	"	HNO3	1			X						
05GS0401	" "	1500	" "	200ml Poly	"		1				X					

RELINQUISHED BY:	DATE	RECEIVED BY:	DATE	RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
SIGNATURE PB Hardy	12/15 1993	SIGNATURE D. Hale	12/16/93	SIGNATURE		SIGNATURE	
PRINTED PB Hardy		PRINTED D. Hale		PRINTED		PRINTED	
COMPANY E/A&H	TIME	COMPANY Savannah	TIME	COMPANY		COMPANY	TIME
REASON ANALYSIS	1700	REASON Vusting	1120	REASON		REASON	

METHOD OF SHIPMENT: FEDEX
SHIPMENT NO. 7242359121
SPECIAL INSTRUCTION: PRIORITY

COMMENTS: COOLER TEMPERATURE REC'D @ 2.5

AFTER ANALYSIS, SAMPLES ARE TO BE
- ☐ DISPOSED OF (ADDITIONAL FEE)
- ☐ STORED (90 DAYS MAX)
- ☐ STORED OVER 90 DAYS (ADDITIONAL FEE)
- ☐ RETURNED TO CUSTOMER

059COCR1

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES. INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205)666-6633 • Fax (205)666-6696

RECEIVED
JAN 10 1994

LOG NO: M3-15562

Received: 02 DEC 93

Purchase Order: #E-0179/93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Project: CTO 09700030
Sampled By: A. Dennen

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15562-1	0550202	12-01-93	EAH016
15562-2	0550104	12-01-93	EAH016

PARAMETER	15562-1	15562-2
Heterotrophic Plate Count (SM 907A)		
Standard Plate Count, No/ml	200000	700000
Date Analyzed	12.06.93	12.06.93
Analyst	CE	CE
Total Phosphorus (EPA 365.4)		
Phosphorus, Total, mglkg dw	15	18
Sample Preparation	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93
Analyst	BB	BB
Nitrate as N (EPA 353.2)		
Nitrate-N, mglkg dw	<2.0	<2.0
Sample Preparation	12.03.93	12.03.93
Date Analyzed	12.03.93	12.03.93
Ana1yst	BB	BB
Total Kjeldahl Nitrogen as,N (351.2)		
Kjeldahl Nitrogen-N, mglkg dw	63	34
Sample Preparation	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93
Analyst	BB	BB
Total Organic Carbon (EPA 415.1)		
Organic Carbon, mg/kg dw	510	290
Sample Preparation	12.14.93	12.14.93
Date Analyzed	12.15.93	12.15.93
Analyst	SR	SR

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES. INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205)666-6633 • Fax (205)666-6696

LOG NO: M3-15562

Received: 02 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO 09700030
Sampled By: A. Dennen

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15562-1	0550202	12-01-93	EAH016
15562-2	0550104	12-01-93	EAH016

PARAMETER	15562-1	15562-2
Cation Exchange Capacity (EPA 9081)		
Cation Exchange Capacity, mEq/100g	0.98	0.75
Date Extracted	12.10.93	12.14.93
Date Analyzed	12.13.93	12.15.93
Analyst	PC	PC

SL *SAVANNAH LABORATORIES*
& ENVIRONMENTAL SERVICES, INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205)666-6633 • Fax (205)666-6696

LOG NO: M3-15562

Received: 02 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO 09700030
Sampled By: A. Dennen

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
15562-3	0550208	12-01-93
15562-4	0550108	12-01-93

PARAMETER	15562-3	15562-4
Grain Size (ASTM D421/422/1140)		
% Passing sieve No.4	*	*

*See attached TET Reports

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205) 666-6633 • Fax (205)666-6696

LOG NO: M3-15562

Received: 02 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: RE-0179193

Project: CTO 09700030
Sampled By: A. Dennen

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
15562-5	Quantitation Limit
15562-6	Accuracy (% Recovery for LCS/LCSD)
15562-7	Precision (Relative % Difference for LCS /LCSD)

PARAMETER	15562-5	15562-6	15562-7
Standard Plate Count, NO/g	100	N/A	N/A
Phosphorus, Total, mg/kg	10	97/96 %	1.0 %
Nitrate-N, mg/kg	2.0	97/98 %	1.0 %
Kjeldahl Nitrogen-N, mg/kg	20	91/93 %	2.2 %
Organic Carbon, mg/kg	50	95/94 %	1.1 %
Cation Exchange Capacity, meq/100g	0.050	101/97 %	4.0 %

Michele H. Lersch

Michele H. Lersch

Final Page Of Report

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 2

Date: 12/20/93
Project No.: P93136
Project: SAVANNAH #: M3-15562-3

Sample Data

Location of Sample: 0550208
Sample Description 1: MEDIUM TO FINE SAND
Sample Description 2:
USCS Class: (SP) Liquid limit: - - Plasticity index: - -

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Data Sheet No.: 2

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	97.97	95.82
Tare =	0.00	0.00
Dry sample weight =	97.97	95.82

Minus #200 from wash= 2.2 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.02	100.0
# 40	16.41	83.2
# 60	80.34	18.0
# 100	95.34	2.7
# 200	95.82	2.2

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 97.97
Calculated biased weight= 97.97
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 1
Specific gravity of solids= 2.65
Specific gravity correction factor= 1.000

Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 X Rm

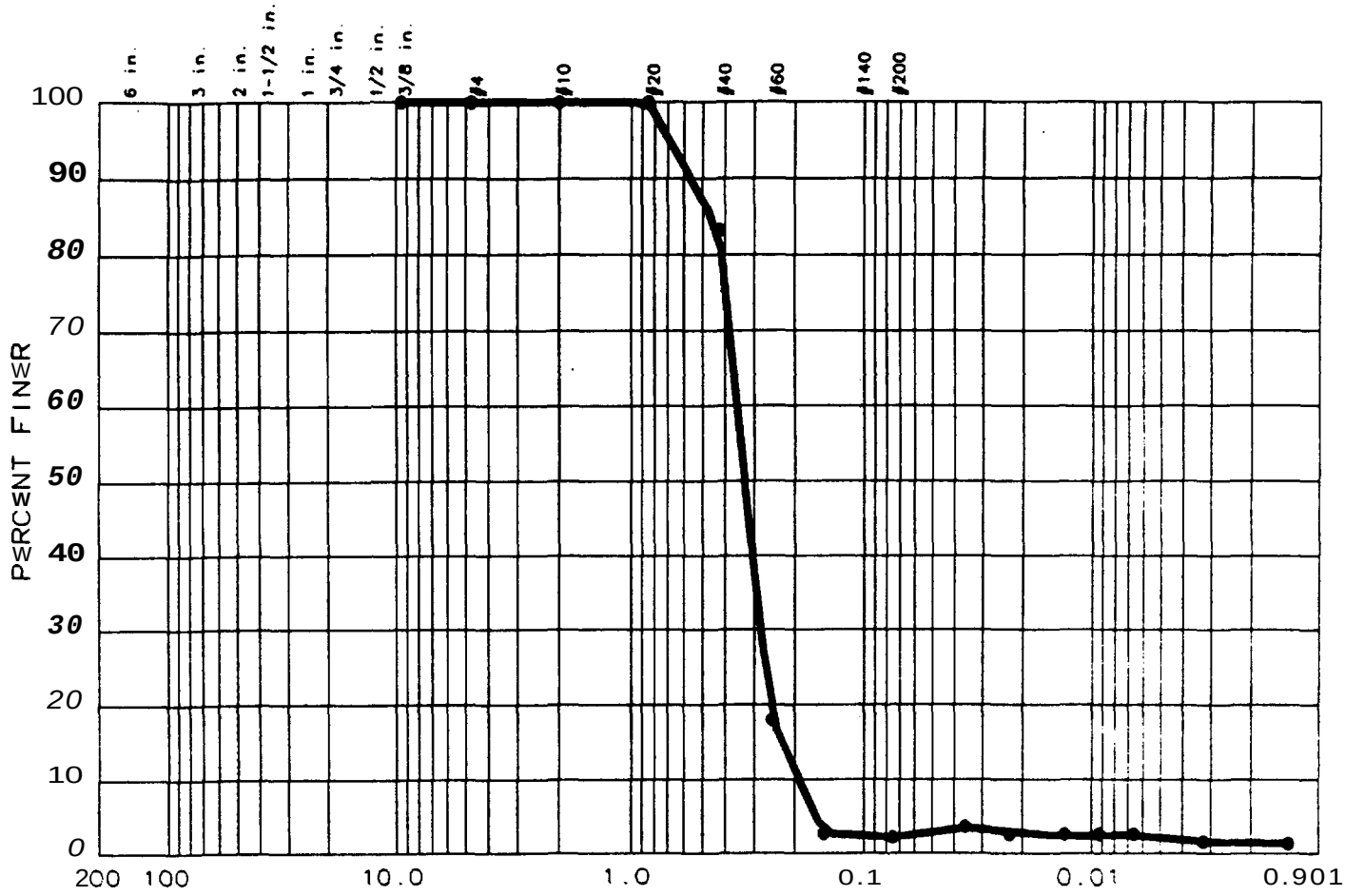
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	9.0	3.5	0.0132	10.0	14.7	0.0358	3.6
5.0	22.5	8.0	2.5	0.0132	9.0	14.8	0.0228	2.6
15.0	22.6	8.0	2.6	0.0132	9.0	14.8	0.0131	2.6
30.0	22.6	8.0	2.6	0.0132	9.0	14.8	0.0093	2.6
60.0	22.6	8.0	2.6	0.0132	9.0	14.8	0.0066	2.6
250.0	22.6	7.0	1.6	0.0132	8.0	15.0	0.0032	1.6
1440.0	21.6	7.0	1.3	0.0134	8.0	15.0	0.0014	1.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 97.8
% SILT = 0.1 % CLAY = 2.1

D85= 0.46 D60= 0.355 D50= 0.329
D30= 0.2802 D15= 0.22516 D10= 0.19143
Cc = 1.1548 Cu = 1.8557

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	0.0	97.8	0.1	2.1	(SP)	- -	- -

SIEVE inches size	PERCENT FINER ●		
0.375	100.0		
	GRAIN SIZE		
D_{60}	0.36		
D_{30}	0.28		
D_{10}	0.19		
	COEFFICIENTS		
C_c	1.15		
C_u	1.9		

SIEVE number size	PERCENT FINER ●
4	100.0
10	100.0
20	100.0
40	83.2
60	18.0
100	2.7
200	2.2

Sample information:

● 0550208

MEDIUM TO FINE SAND

Remarks:

CLIENT: SAVANNAH LABORATORIES

THOMPSON ENGINEERING

Project No.: P93136

Project: SAVANNAH #: M3-15562-3

Date: 12/20/93

Data Sheet No. 2

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 1

Date: 12/20/93
Project No.: P93136
Project: SAVANNAH #: M3-15562-4

Sample Data

Location of Sample: 0550108
Sample Description 1: MEDIUM TO FINE *SAND*
Sample Description 2:
USCS Class: (SP) Liquid limit: - - Plasticity index: - -

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Data Sheet No.: 1

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	99.40	97.36
Tare -	0.00	0.00
Dry sample weight =	99.40	97.36

Minus #200 from wash= 2.1 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.00	100.0
# 40	15.02	84.9
# 60	79.11	20.4
# 100	96.27	3.1
# 200	93.36	2.1

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 99.4
Calculated biased weight= 99.40
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 1
Specific gravity of solids= 2.65
Specific gravity correction factor= 1.000

Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 X Rm

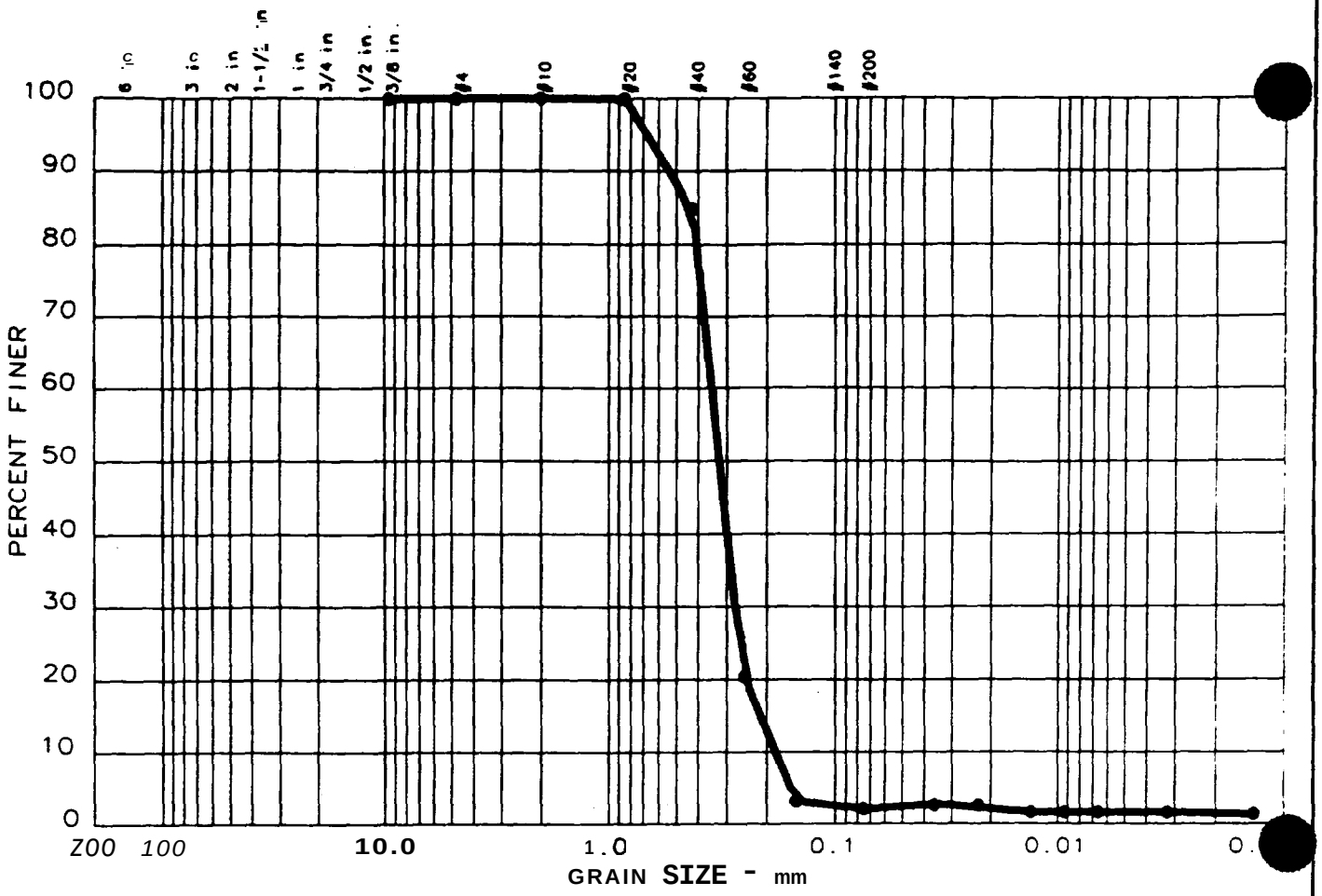
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	8.0	2.5	0.0132	9.0	14.8	0.0360	2.5
5.0	22.5	8.0	2.5	0.0132	9.0	14.8	0.0228	2.5
15.0	22.6	7.0	1.6	0.0132	8.0	15.0	0.0132	1.6
30.0	22.6	7.0	1.6	0.0132	8.0	15.0	0.0093	1.6
60.0	22.6	7.0	1.6	0.0132	8.0	15.0	0.0066	1.6
250.0	22.6	7.0	1.6	0.0132	8.0	15.0	0.0032	1.6
1440.0	21.6	7.0	1.3	0.0134	8.0	15.0	0.0014	1.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 97.9
% SILT = 0.5 % CLAY = 1.6

D85= 0.43 D60= 0.350 D50= 0.324
D30= 0.2745 D15= 0.21281 D10= 0.18323
Cc = 1.1749 Cu = 1.9099

PARTICLE SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	0.0	0.0	97.9	0.5	1.6	(SP)	- -	- -

SIEVE inches size	PERCENT FINER		
	0		
0.375	100.0		
GRAIN SIZE			
D_{60}	0.35		
D_{30}	0.27		
D_{10}	0.18		
COEFFICIENTS			
C_c	1.17		
C_u	1.9		

SIEVE number size	PERCENT FINER		
	0		
4	100.0		
10	100.0		
20	100.0		
40	84.9		
60	20.4		
100	3.1		
200	2.1		

Sample information:
● 0550108
MEDIUM TO FINE SAND

Remarks:
CLIENT: SAVANNAH LABORATORIES

THOMPSON ENGINEERING

Project No.: P93136
Project: SAVANNAH #: M3-15562-4

Date: 12/20/93 Data Sheet No. 1

15562

NAVY CLEAN
ENSAFE/ALLEN & HOSHALL
(901) 383-9115

CHAIN OF CUSTODY RECORD

PHYSICAL PARAMETERS ANALYSIS
Savannah Laboratories
900 Lakeside Drive
Mobile, Alabama 36691-0248
Attention: Michelle Lersch
1-205-666-6633

PAGE 1 OF 1

CLIENT: EnSafe/Allen & Hoshall
ADDRESS: 5724 Summer Trees, Memphis, TN 38134
PROJECT NAME/NUMBER: 09700030
PROJECT MANAGER: Henry Beiro
TELEPHONE NO.: (901) 372-7967
FAX NO.: (901) 372-2454
SAMPLERS: (SIGNATURE) Allison Dennen

FIELD SAMPLE NUMBER	DATE	TIME	SAMPLE TYPE	TYPE/SIZE OF CONTAINER	PRESERVATION TEMP.	PRESERVATION CHEMICAL	NO. OF CONTAINERS	~~BOD, TSS, AIK, NITRATE-N~~	~~BIOLOGICAL TOTAL PHOS~~	~~HARDNESS 4P~~	HETEROTROPHIC PLATE COUNT	TOTAL PHOSP. NITRATE-N, TKN	TOC, CATION EX. CAP.	GRAIN SIZE		REMARKS
0550202	12/1	1130	SOIL	125ml Poly	4°C	NONE	1				X					
"	"	"	"	500 ml Poly	"	"	1					X	X			
0550208 AD	"	1155	"	" "	"	"	1							X		
~~0550203~~	~~"~~	~~1815~~					~~2~~									~~TRIP BLANK~~ AD
0550104	"	1615	"	125ml Poly	"	"	1				X					
"	"	"	"	500ml Poly	"	"	1					X	X			
0550108	"	1630	"	500ml Poly	"	"	1							X		

RELINQUISHED BY:	DATE	RECEIVED BY:	DATE	RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
SIGNATURE Allison Dennen	12/1	SIGNATURE D. Hale		SIGNATURE		SIGNATURE	
PRINTED Allison Dennen	1993	PRINTED D. Hale		PRINTED		PRINTED	
COMPANY E/A&H	TIME	COMPANY Savannah	TIME	COMPANY	TIME	COMPANY	TIME
REASON ANALYSIS	1500	REASON Testing		REASON		REASON	

METHOD OF SHIPMENT: FEDEX
SHIPMENT NO. 9978263002
SPECIAL INSTRUCTION: PRIORITY

COMMENTS:
COOLER TEMPERATURE
REC'D @ 1.7

AFTER ANALYSIS, SAMPLES ARE TO BE:
- ☐ DISPOSED OF (ADDITIONAL FEE)
- ☐ STORED (90 DAYS MAX)
- ☐ STORED OVER 90 DAYS (ADDITIONAL FEE)
- ☐ RETURNED TO CUSTOMER

SL SAVANNAH LABORATORIES
6 ENVIRONMENTAL SERVICES, INC.

☐ 5102 LaRoche Avenue, Savannah, GA 31404 Phone: (912) 354-7858 Fax (912) 352-0165
☐ 2846 Industrial Plaza Drive, Tallahassee, FL 32301 Phone: (904) 878-3994 Fax (904) 878-8504
☐ 414 Southwest 12th Avenue, Deerfield Beach, FL 33442 Phone: (305) 421-7400 Fax (305) 421-2581
☐ 900 Lakeside Drive, Mobile, AL 36693 Phone: (205) 666-6633 Fax (205) 666-6696
☐ 6712 Benjamin Road, Suite 100, Tampa, FL 33634 Phone: (813) 885.7427 Fax (813) 885-7049

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

PROJECT NUMBER: M3-15562
PROJECT NAME: Ensafe
PAGE: OF

CLIENT NAME: Sav / Mob
CLIENT ADDRESS:
CLIENT PROJECT MANAGER: Michele Lersch

☐ EXPEDITED TAT *

MATRIX TYPE: AQUEOUS MATRIX / NONAQUEOUS MATRIX / OIL MATRIX / AIR MATRIX

REQUIRED ANALYSES: Density, Moisture, Specific Gravity, Grain size (Sieve), Hydrometer

NUMBER OF CONTAINERS SUBMITTED

DATE	TIME		AQUEOUS MATRIX	NONAQUEOUS MATRIX	OIL MATRIX	AIR MATRIX	Density	Moisture	Specific Gravity	Grain size (Sieve)	Hydrometer						
12/1/93		0550108		X					1								
12/1/93		0550208		X					1								

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
Kenlie Hammac	12/2/93	2:50						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RELINQUISHED BY (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY (SIGNATURE)**	**DATE**	**TIME**

FOR SAVANNAH LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	S.L. LOG NO.
[illegible]	12/6/93	2:50	☑ YES ☐ NO		M3-15562

LABORATORY REMARKS

ORIGINAL

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES. INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205)666-6633 • Fax (205)666-6696

LOG NO: M3-15589

Received: 03 DEC 93

Purchase Order: #E-0179/93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

RECEIVED
JAN 10 1994

Project: 970-0030
Sampled By: B. Mulhearn

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
15589-1	05S0316	12-02-93

PARAMETER	15589-1
Grain Size (ASTM D421/422/1140) % Passing sieve No.4	*

*See attached TET Report

Michele H. Lersch

Michele H. Lersch

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 1

Date: 12/20/93
Project No.: P93139
Project: SAVANNAH #: M3-15589-1

Sample Data

Location of Sample: 05 503 AD 6
Sample Description 1: MEDIUM TO FINE SAND
Sample Description 2:
USCS Class: (SP) Liquid limit: - - Plasticity index: - -

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Data Sheet No. : 1

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	108.94	106.48
Tare =	0.00	0.00
Dry sample weight =	108.94	106.48

Minus #200 from wash= 2.3 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.03	100.0
# 40	23.52	78.4
# 60	94.92	12.9
# 100	105.98	2.7
# 200	106.48	2.3

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 108.94
Calculated biased weight= 108.94
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 1
Specific gravity of solids= 2.65
Specific gravity correction factor= 1.000

Hydrometer type: **152H** Effective depth **L= 16.294964 - 0.164 X Rm**

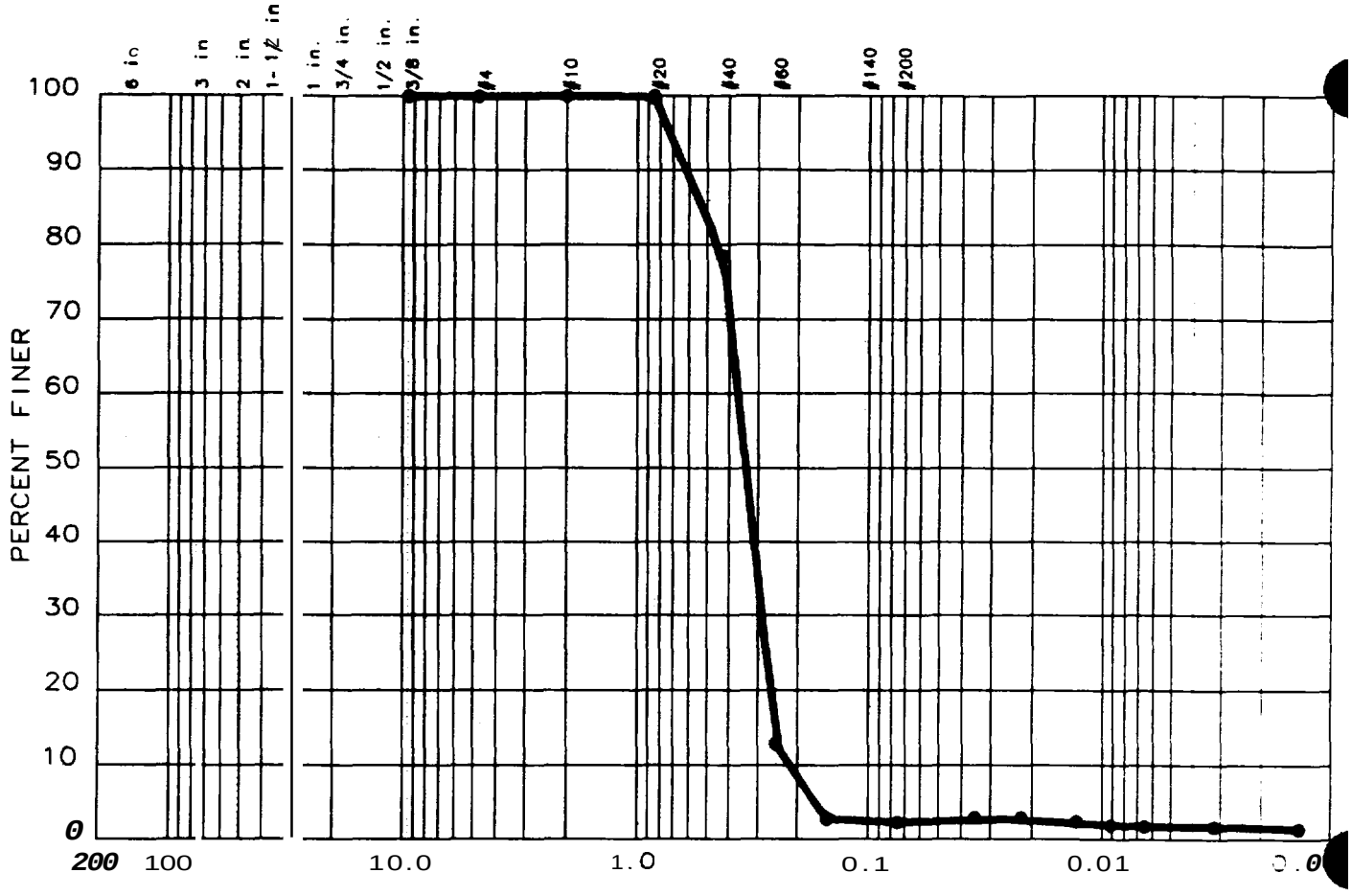
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	24.7	8.0	3.2	0.0129	9.0	14.8	0.0351	2.9
5.0	24.7	8.0	3.2	0.0129	9.0	14.8	0.0222	2.9
15.0	24.5	7.5	2.6	0.0129	8.5	14.9	0.0129	2.4
30.0	24.3	7.0	2.0	0.0130	8.0	15.0	0.0092	1.9
60.0	23.9	7.0	1.9	0.0130	8.0	15.0	0.0065	1.8
250.0	23.6	7.0	1.8	0.0131	8.0	15.0	0.0032	1.7
1440.0	22.3	7.0	1.5	0.0133	8.0	15.0	0.0014	1.4

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 97.7
% SILT = 0.5 % CLAY = 1.8

D85= 0.52 D60= 0.366 D50= 0.337
D30= 0.2871 D15= 0.25410 D10= 0.21627
Cc = 1.0411 Cu = 1.6924

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	0.0	97.7	0.5	1.8	(SP)	- -	- -

SIEVE inches size	PERCENT FINER		
0.375	100.0		
	GRAIN SIZE		
D_{60}	0.37		
D_{30}	0.29		
D_{10}	0.21		
	COEFFICIENTS		
C_c	1.04		
C_u	1.7		

SIEVE number size	PERCENT FINER		
4	100.0		
10	100.0		
20	100.0		
40	78.4		
60	12.9		
100	2.7		
200	2.3		

Sample information:
005 503 AD 6
MEDIUM TO FINE SAND

Remarks:
CLIENT: SAVANNAH LABORATORIES

THOMPSON ENGINEERING

Project No.: P93139-
Project. SAVANNAH #: M3-15589-1

Date: 12/20/93 Data Sheet No 1

15589

NAVY CLEAN
ENSAFE/ALLEN & HOSHALL
(901) 383-9115

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT: EnSafe/Allen + Hoshall
PROJECT MANAGER: Henry Beiro
ADDRESS: 5724 Summer Trees Memphis TN 38134
TELEPHONE NO.: (901) 372-7962
PROJECT NAME/NUMBER: 970-0050
FAX. NO.: (901) 372-2454
MEDIA STATUS: (A, B, OR C)
SAMPLERS: (SIGNATURE) B Mulhern

FIELD SAMPLE NUMBER	DATE	TIME	SAMPLE TYPE	TYPE/SIZE OF CONTAINER	PRESERVATION TEMP.	PRESERVATION CHEMICAL	NO. OF CONTAINERS	Grain size							REMARKS
0550316	12/2/93	1440	Soil	500ml poly	4°C	—	1	X							particle size

RELINQUISHED BY:	DATE	RECEIVED BY:	DATE	RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
SIGNATURE: B Mulhern	12/3	SIGNATURE: D Hale		SIGNATURE:		SIGNATURE:	
PRINTED: B Mulhern		PRINTED: D Hale		PRINTED:		PRINTED:	
COMPANY: EnSafe/A+H	TIME	COMPANY: Savannah	TIME	COMPANY:	TIME	COMPANY:	
REASON: Analysis	1700	REASON: Testing		REASON:		REASON:	

METHOD OF SHIPMENT: Fedex
SHIPMENT NO.: 7243359305
SPECIAL INSTRUCTION: priority

COMMENTS: in ice chest
No temp. blank

AFTER ANALYSIS, SAMPLES ARE TO BE:
- ☐ DISPOSED OF (ADDITIONAL FEE)
- ☐ STORED (90 DAYS MAX)
- ☐ STORED OVER 90 DAYS (ADDITIONAL FEE)
- ☐ RETURNED TO CUSTOMER

036CUST1