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Final Remedial Investigat
Site 39
NAS Pensacola
Pensacola, Florida

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Prepared for:

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

Prepared by:

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April 1995

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19. Abstract

A remedial investigation was conducted for Site 39, the Oak Grove Campground at the Naval Air Station (NAS) Pensacola. The purpose of this investigation was to identify the nature and extent of contaminants in soil and groundwater associated with stained soil at the site. The following summary and recommendations are based on the findings of this investigation.

- Historical records provided little information regarding the nature of the source of the stained soil located at the Oak Grove campground. Interviews with naval personnel indicated several possible sources, including disposal of construction debris from Building 29 demolition (evidenced today by tha brick, concrete, nails, and glass at the site), former stockpiling of railroad ties, and used motor oil dumping by campers using the campground.

- Analytical results from previous investigations indicate the stain is petroleum-based. Contaminant effects to biota are not expected to be a concern. However, specific effects to overall biota within the affected area are unknown. This is compounded by the lack of available data on acute and chronic toxicity in soil for the chemicals of concern discussed. Instead of attempting to quantify these effects, it was determined that the most cost-effective and environmentally and aesthetically beneficial remedy was to simply remove and properly dispose of the contaminated soil and replace it with clean fill material.

- Between July 25 and July 29, 1994 NAS Pensacola's Public Works Center Environmental Department removed 864 tons of stained soil from Site 39. The soil was tested for the full Toxicity Characteristic Leaching Procedure analysis by the Environmental Department's Laboratory and was negative for all contaminants. The stained soil was disposed of at the Escambia County Solid Waste Department's Perdido Landfill, 13009 Beulah Rod, Cantonment, Florida. The excavated soil was replaced with clean fill from NAS Pensacola's backfill stockpile. An analysis of this soil showed that it was free of any metals above the preliminary remediation goals and did not contain any volatiles, semivolatiles, or pesticides/polychlorinated biphenyls.

- The human health risk associated with exposure to environmental media at NAS Pensacola Site 39 was assessed for future site residents. The exposure media considered in this assessment included only groundwater, since clean backfill material comprises the 0- to 1-foot soil depth interval. The combined shallow/intermediate groundwatar pathway hazard index was found to be 2.0 for the future child resident and 0.9 for the adult. The potential carcinogenic risk was computed to be 1.3E-04. Arsenic and aluminum, the major contributors to this risk are potentially related to suspended particulate in samples and are likely not site-related. In addition, the arsenic and tetrachlorethene exposure point concentrations (and maximum concentrations) were below the corresponding drinking water standards concentrations.

- Based on the ecological risk assessment, the soil, groundwater, or surface water at Site 39 pose no threat to the environment or biological receptors.

In conclusion, due to the limited nature of the contamination found in this investigation and the removal of the stained soil, the site does not warrant the detailed evaluation of remedial alternatives associated with a feasibility study. Because the site presents no current threat to human health and the environment, E/A&H recommends no further action for Site 39. Therefore, a proposed plan recommendin ; no further action should be completed leading to a interim record of decision for Site 39.

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List of Abbreviations

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

°C	Degrees Celsius
°F	Degrees Fahrenheit
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
% RSD	Percent Relative Standard Deviation
%D	Percent Difference
1,1-DCA	1,1-Dichloroethane
1,1-DCE	1,1-dichloroethylene
1,1,1-TCA	1,1,1-trichloroethane
1,1,2-TCA	1,1,2-trichlorethane
95% UCL mean	95 percent upper confidence level
AOC	Area of Concern
AQTESOLV	Aquifer Test Solver
ASTM	American Society of Testing and Materials
ARARs	Applicable Rules and Regulations
bls	Below Land Surface
BNAs	base-acid neutral extractables
BRA	Baseline Risk Assessment
CDE	Chronic Daily Exposure
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CG	Cleanup Goal
CH_2Cl_2	Methylene Chloride
$CHCl_3$	Chloroform
CLEAN	Comprehensive Long-Term Environmental Action Navy
CLP	Contract Laboratory Program
cm/s	Centimeters per second
COCs	Contaminants of Concern
CRQL	Contract Required Quantification Limit
D	Duplicate
DOT	Department of Transportation
E/A&H	EnSafe/Allen & Hoshall
E&E	Ecology & Environment, Inc.
ECAO	Environmental Criteria and Assessment Office
ECD	Electron Capture Detection
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FID	Flame Ionization Detector

FNAI	Florida Natural Areas Inventory
FPDWS	Florida Primary Drinking Water Standard
FS	Feasibility Study
FSDWS	Florida Secondary Drinking Water Standard
G&M	Geraghty and Miller, Inc.
GC	Gas Chromatograph
gpm	Gallons per minute
GTI	Groundwater Technology, Inc.
H_2SO_4	Sulfuric Acid
HCl	Hydrochloric Acid
HEAST	Health Effects Assessment Summary Tables
HNO_3	Nitric Acid
ICSA	Interference Check Sample Analysis
ID	Inside Diameter
IDL	Instrument Detection Limit
IDW	Investigation Derived Waste
IRIS	Integrated Risk Information System
K	Hydraulic Conductivity
LCSA	Laboratory Control Sample Analysis
LEL	Lower Explosive Limit
MCLs	Maximum Contaminant Level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
msl	Mean Sea Level
NaOH	Sodium Hydroxide
NAS	Naval Air Station
NAVAIREWORKFAC	Naval Air Rework Facility
NCP	National Contingency Plan
NEESA	Naval Energy and Environmental Support Activity
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
NWFWMD	Northwest Florida Water Management District
OVA	Organic Vapor Analyzer
PAHs	Polyaromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PCE	Perchloroethylene
PID	Photoionization Detector
PNAs	Polynuclear Aromatic Hydrocarbons
ppb	parts per billion
ppm	Parts per million
PRG(s)	Preliminary Remediation Goals
PVC	Polyvinyl Chloride
QA/QC	Quality Assurance/Quality Control
RAGS	Risk Assessment Guidance for Superfund: Volume 1 - Human Health Evaluation Manual (Part A)
RBC	Risk-Based Concentration

RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RfD(s)	Reference Dose(s)
RI	Remedial Investigation
RME	Reasonable Maximum Exposure
RRFs	Relative Response Factors
S	Storativity
SAP	Sampling and Analysis Plan
SDG(s)	Sample Delivery Group(s)
SEGS	southeastern Geological Society
SF	Slope Factor
SMP	Site Management Plan
SOP/QAM	Standard Operating Procedure/Quality Assurance Manual
SOW	Statement of Work
SVOCS	Semivolatile Organic Compounds
T	Transmissivity
TAL	Target Analyte List
TCE	Trichloroethylene
TCL	Target Compound List
TRPHs	Total Recoverable Petroleum Hydrocarbons
UCL	Upper Confidence Limit
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOCS	Volatile Organic Compounds
VTSR	Verified Time of Sample Receipt

FOREWORD

This final RI report represents a revision of the Draft Site 39 RI report ma& in response to the USEPA and FDEP comments to the *draft* RI report. Changes to the text are denoted by [bold and bracketed] text, except for Section 10 which was totally revised since the draft RI report. The following tables and figures were also revised but changes were not denoted so as not to detract from the appearance of the figures and tables:

Table 5-1	Table 5-2	Table 7-1	Table 7-2
Table 7-3	Table 7-4	Table 7-6	Table 7-7
Figure 5-1	Figure 6-2	Figure 7-1	Figure 7-2
Figure 7-3	Figure 7-4	Figure 7-5	Figure 7-6

The presence of heavily stained soil at Site 39 and the potential groundwater contamination warranted the following remedial investigation. Due to the limited nature of the contamination and the removal of the stained soil no further action is recommended at Site 39. This less-than-1-acre site contained most of the contamination in the upper 12 inches of soil and does not warrant the detailed evaluation of remedial alternatives associated with a feasibility study. It is further recommended that a "no action" proposed plan be completed for Site 39 leading to a record of decision.

EXECUTIVE SUMMARY

The following remedial investigation was conducted for Site 39, the Oak Grove Campground at the Naval Air Station (NAS) Pensacola. The purpose of this investigation was to identify the nature and extent of contaminants in soil and groundwater associated with stained soil at the site. The following summary and recommendations are based on the findings of this investigation.

- Historical records provided little information regarding the nature of the source of the stained soil located at the Oak Grove campground. Interviews with naval personnel indicated several possible sources, including disposal of construction debris from Building 29 demolition (evidenced today by the brick, concrete, nails, and glass at the site), former stockpiling of railroad ties, and used motor oil dumping by campers using the campground.

- Analytical results from previous investigations indicate the stain is petroleum-based. Contaminant effects to biota are not expected to be a concern. However, specific effects to overall biota within the affected area are unknown. This is compounded by the lack of available data on acute and chronic toxicity in soil for the chemicals of concern discussed. Instead of attempting to quantify these effects, it was determined that the most cost-effective, environmentally and aesthetically beneficial remedy was to simply remove and properly dispose of the contaminated soil and replace it with clean fill material.

- Between July 25 and July 29,1994 NAS Pensacola's Public Works Center Environmental Department removed 864 tons of stained soil from Site 39. The soil was tested for the full Toxicity Characteristic Leaching procedure analysis by the Environmental Department's Laboratory and was negative for all contaminants. The stained soil was disposed of at the Escambia County Solid Waste Department's Perdido Landfill, 13009 Beulah Road, Cantonment, Florida. The excavated soil was replaced with clean fill from NAS Pensacola's backfill stockpile. An analysis of this soil showed that it was

free of any metals above the preliminary remediation goals and did not contain any volatiles, semivolatiles, or pesticides/polychlorinated biphenyls.

- The human health risk associated with exposure to environmental media at NAS Pensacola Site 39 was assessed for future site residents. The exposure media considered in this assessment included only groundwater, since clean backfill material comprises the 0- to 1-foot soil depth interval. The combined shallow/intermediate groundwater pathway hazard index was found to be 2.0 for the future child resident and 0.9 for the adult. The potential carcinogenic risk was computed to be 1.3E-04. Arsenic and aluminum, the major contributors to this risk are potentially related to suspended particulate in samples and are likely not site-related. In addition, the arsenic and tetrachloroethene exposure point concentrations (and maximum concentrations) were below the corresponding drinking water standards concentrations.

- Based on the ecological risk assessment the soil, groundwater, and surface water at Site 39 pose no threat to the environment or biological receptors.

In conclusion, due to the limited nature of the contamination found in the remedial investigation and the removal of the stained soil, the site does not warrant the detailed evaluation of remedial alternatives associated with a feasibility study. Because the site presents no current threat to human health or the environment, E/A&H recommends no further action for Site 39. Therefore, a proposed plan recommending no further action should be completed leading to a record of decision for Site 39.

1.0 INTRODUCTION

As part of the U.S. Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) program, a Remedial Investigation (RI) and Removal Action (RA) have been completed at the Site 39 — *Oak* Grove Campground, located at the Naval Air Station (NAB) Pensacola, Florida. The investigation was undertaken 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, subsequent removal action and the resulting findings and conclusions. The report also documents data collection and analytical methods used during the investigation and removal action. The objectives of this investigation are outlined below.

Objectives of the Remedial Investigation

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

- To facilitate the evaluation of human health and ecological risk posed by contaminated media onsite through the baseline risk assessment (BRA) process.

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

Project Organization

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

- A preliminary field investigation including a surface emissions survey, a radiation survey, soil-gas survey, and habitat and biota survey data to help characterize field

conditions in the study area and identify areas of concern for optimal soil boring and monitoring well locations.

- A field investigation describing the completion of soil borings and monitoring wells; sampling of soil, sediment, and groundwater for laboratory analysis; the geological and hydrogeological conditions at the site; the removal action, disposal of contaminated soil and subsequent sampling and analysis of remaining soil; the nature and extent of soil and groundwater contamination at the site; and the baseline risk assessment.

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

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

Site 39 is a circular area approximately 300 feet in diameter littered with broken brick, concrete, tile, glass, coal, and nails. Within this area lies a zone of darkly stained soil and stressed vegetation measuring approximately 60 feet x 80 feet. Surrounding the darkly stained area is a 130' x 200' area of lesser staining and distressed vegetation.

The site is in the southwestern portion of NAS Pensacola, approximately 2,500 feet south of Forrest Sherman Field and 520 feet northwest of the Pensacola Bay shoreline, as shown on Figure 2-1. The site is a clearing with sandy soil covered by some grass and brush growth and surrounded by trees. As shown in Figure 2-2, Site 39 is approximately 200 feet south of the Oak Grove trailer campground. Prior to this investigation, no groundwater monitoring wells existed in the vicinity of Site 39.

2.2 Facility History and Previous Investigations

2.2.1 Site History

Little is known about the history of Site 39. There are no records concerning the source(s) of the debris and stained soil there. Reportedly, at one time a boiler-powered sawmill was located in the vicinity of Site 39; however, this could not be confirmed (Ecology & Environment [E&E] 1992a). During this investigation, further efforts were ma& to determine the site history, but little additional information was obtained. Mr. Ron Joyner from Facilities Management Division at NAS Pensacola stated there had not been a sawmill at Site 39. Rather, the site was a disposal area for debris from the demolition of Building 29. Mr. Joyner hypothesized that the stained area may have been caused by campers dumping used motor oil onto the ground. Mr. Jim Tucker, caretaker for the Whitehouse Point Oak Grove Rental, stated railroad ties were once believed to have been stockpiled at the site.

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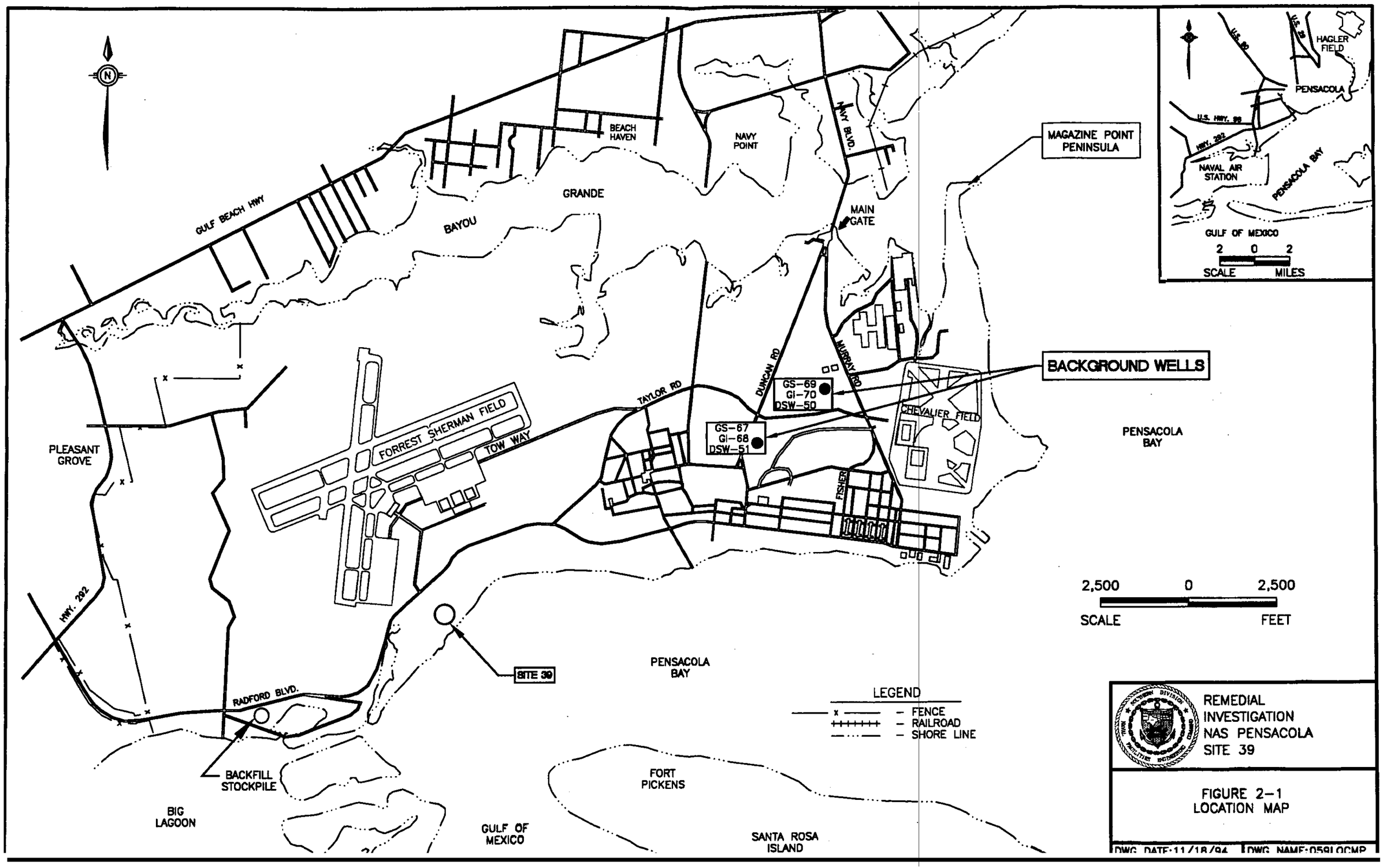
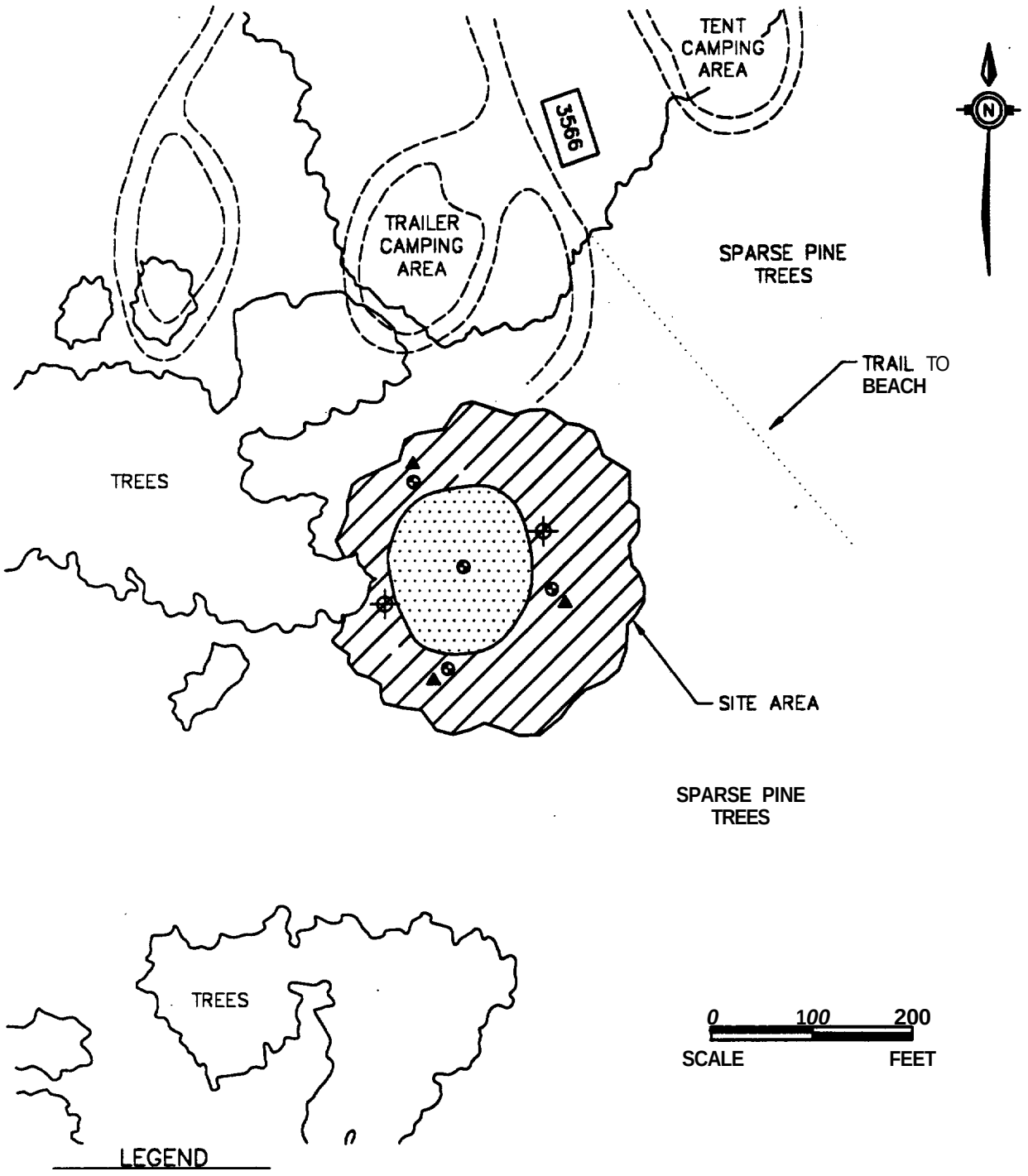

GULF BEACH HWY
BEACH HAVEN
NAVY POINT
NAVY BLVD.
GRANDE
BAYOU
MAIN GATE
MAGAZINE POINT PENINSULA
BACKGROUND WELLS
GS-69
GI-70
DSW-50
GS-67
GI-68
DSW-51
DUNCAN RD
MURRAY RD
TAYLOR RD
CHEVALIER FIELD
FISHER
FORREST SHERMAN FIELD
TOW WAY
PLEASANT GROVE
PENSACOLA BAY
HWY. 292
RADFORD BLVD.
SITE 39
BACKFILL STOCKPILE
BIG LAGOON
GULF OF MEXICO
FORT PICKENS
SANTA ROSA ISLAND
2,500 0 2,500
SCALE FEET
LEGEND
FENCE
RAILROAD
SHORE LINE
HAGLER FIELD
PENSACOLA
U.S. HWY. 98
U.S. 29
HWY. 292
NAVAL AIR STATION
PENSACOLA BAY
GULF OF MEXICO
2 0 2
SCALE MILES
REMEDIAL INVESTIGATION
NAS PENSACOLA
SITE 39
FIGURE 2-1
LOCATION MAP
DWG DATE:11/18/94
DWG NAME:059LOCMP



LEGEND

- SOIL BORING
- e SOIL BORING AND SHALLOW MONITORING WELL
- ▲ 'INTERMEDIATE WELL
- UNPAVED ROAD
- 3566 BUILDING
- AREA OF SCATTERED DEBRIS & LIGHT VEGETATION
- AREA OF STAINED SOILS

SOURCE E&E 1991

REMEDIAL INVESTIGATION
NAS PENSACOLA
SITE 39

FIGURE 2-2
SITE MAP

DATE: 11/18/94 | DWG NAME: 059SITMP

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2.2.2 Previous Investigations

In the spring of 1990, campers reported stained soil with a hydrocarbon odor south of the campground. NAS Facilities Management personnel collected two grab samples from a depth of 0 to 7 inches below land surface (bls) from the stained soil area at Site 39. The samples were analyzed for United States Environmental Protection Agency (USEPA) hazardous wastes F001 through F005 (solvents), total recoverable petroleum hydrocarbons (TRPH), and polychlorinated biphenyls (PCBs). According to analytical results, the following were detected:

TRPH	9,834 ppm
methanol	9,390 ppb
tetrachloroethylene	70 ppb
toluene	40 ppb
xylene	60 ppb

No PCBs were detected in the samples (E&E 1992a). In December 1992, as part of this project, E/A&H conducted a soil-gas survey at Site 39. The survey results are discussed in Section 4. These are the only sampling events/investigations conducted at Site 39 prior to the RI performed in May 1993 by E/A&H.

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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 peninsula's southern and eastern shorelines. Landward of the bluff is a gently rolling upland with elevations up to 40 feet above mean sea level (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 occurring on base are generally man made and channelized. Several natural wetlands occur in low-lying areas.

3.2 Stratigraphy and Hydrogeology

3.2.1 Regional Characterization

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, comprised primarily of unconsolidated siliciclastic sediments is approximately 300 feet thick at NAS Pensacola. These sediments belong to undifferentiated

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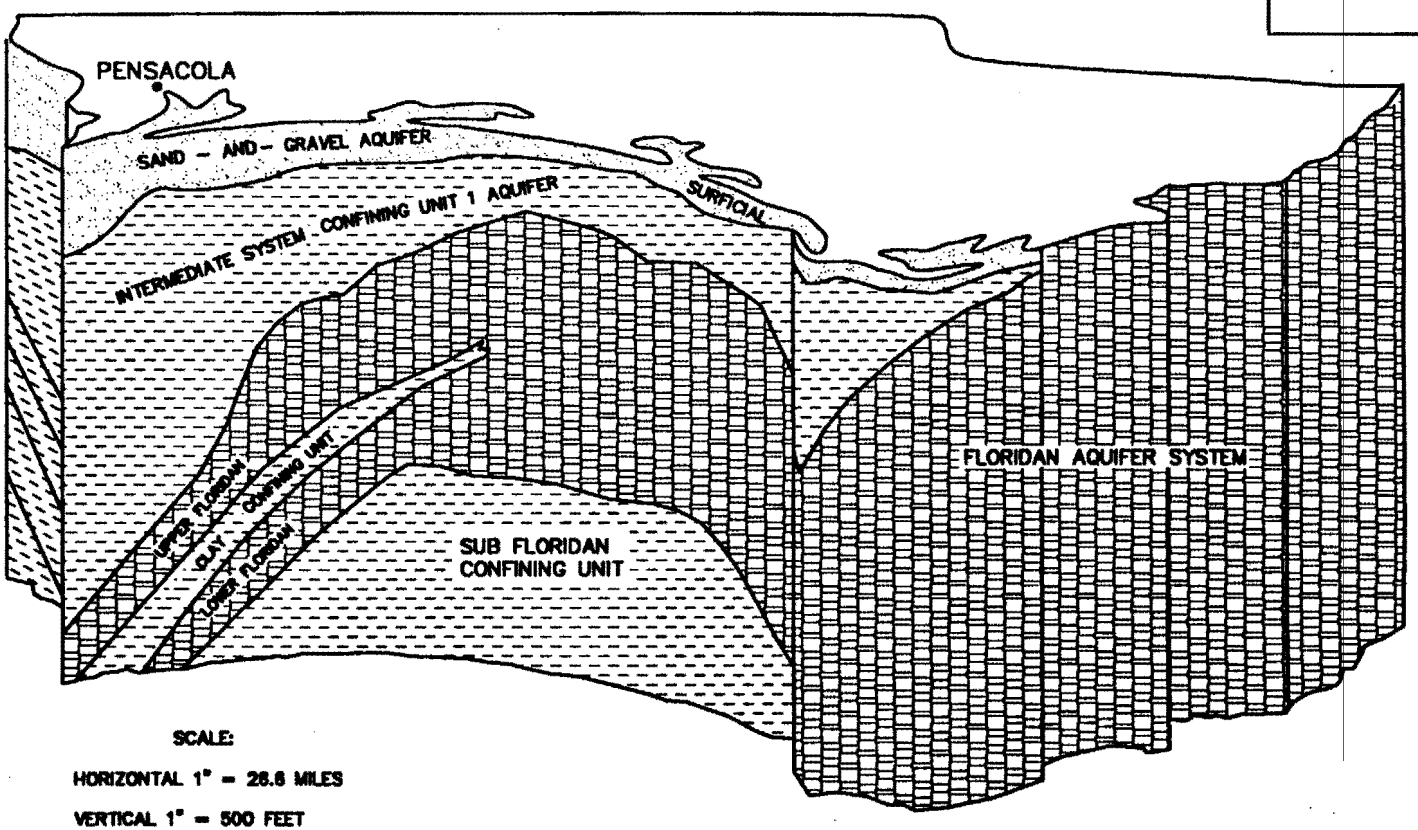

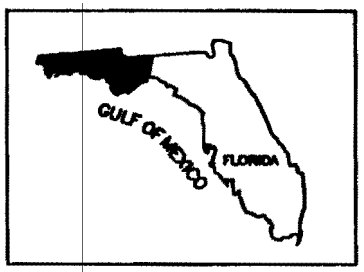

SCALE:

HORIZONTAL 1" = 26.6 MILES

VERTICAL 1" = 500 FEET

VERTICAL EXAGGERATION = 281

SOURCE: E&E 1992c.

SITE 38
REMEDIAL INVESTIGATION
NAS PENSACOLA
PENSACOLA, FLORIDA

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

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Pleistocene-Holocene terrace deposits, the Pliocene Citronelle formation, and underlying Miocene coarse clastics (Wilkins et al. 1985). 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 Regulation (FDEP) classification of the surficial aquifer is G-1 with a USEPA classification of IIA. 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). This investigation focuses on the upper (shallow depth) and basal (intermediate depth) portions of the surficial zone. 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 occurs within the zone and 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 10^{+1} to 10^{+2} feet/day (E&E 1990e). The lower contact with the low permeability zone is transitional, resulting in increased clay content in the lower portion of the surficial zone proper. This more clayey zone is thicker (on the order of 5-15 feet thick) to the west, and thins to the east. This increased clay content in the transition from surficial to the low permeability zone is responsible for lower hydraulic conductivities measured in the base of the

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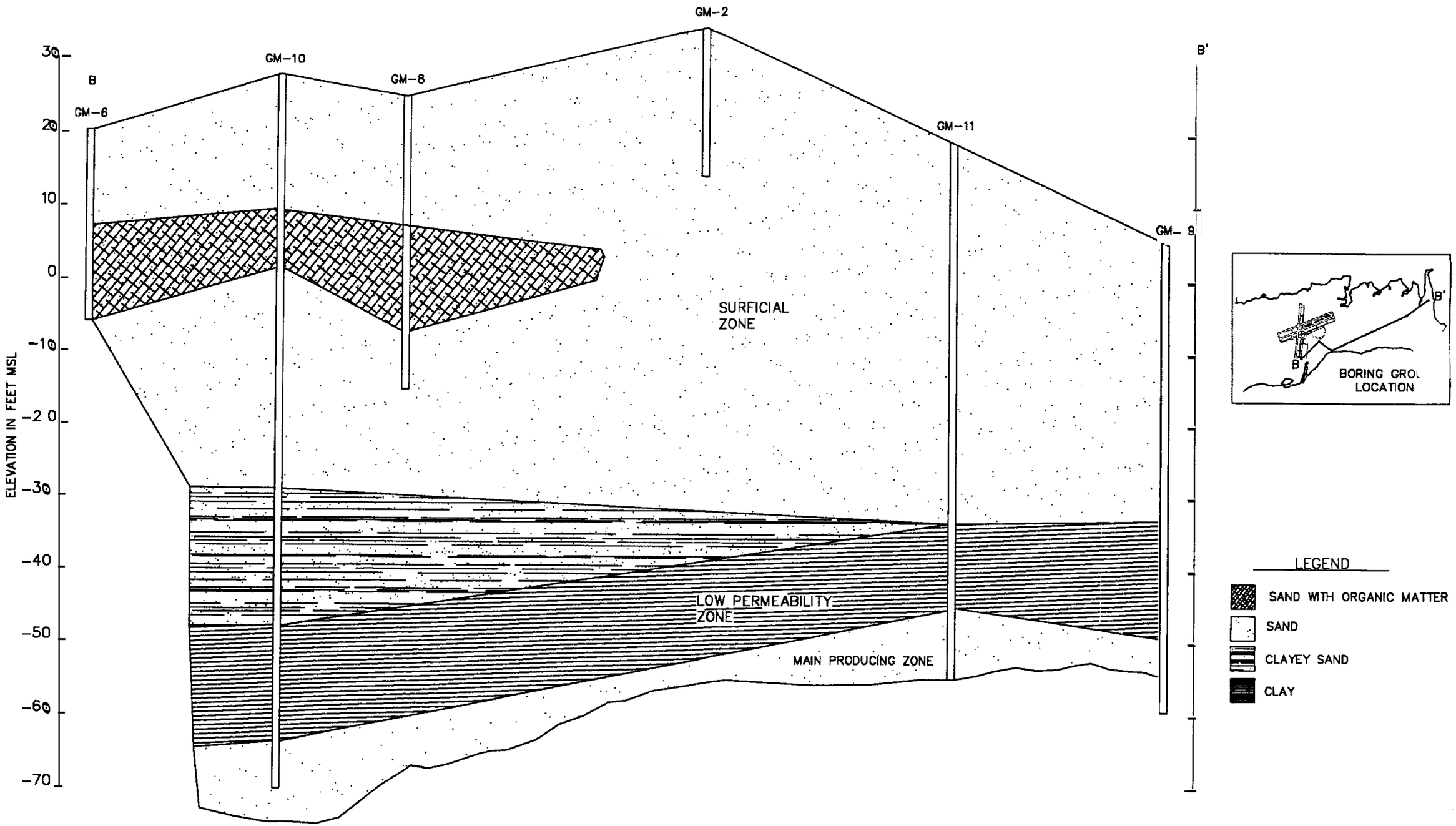


SOURCE: GERAGHTY & MILLER, 1986

SITE 39
REMEDIAL INVESTIGATION
NAS PENSACOLA
PENSACOLA, FLORIDA

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

DATE: 11/21/94 | DWG NAME: 059SITCS

surficial. Shallow groundwater flow is generally influenced by topography, usually flowing toward and discharging to the nearest surface water body.

Low *Permeability* Zone

The low permeability zone underlies the surficial zone and 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). The upper contact is transitional with the overlying surficial zone; however, the top of the low permeability zone is marked by the first occurrence of a stiff blue-gray clay. Studies at NAS Pensacola indicate the low permeability zone is continuous beneath the air station, given that the limited number of borings completed to the appropriate depth encountered the clays and silty clays. Hydraulic conductivities of the low permeability zone are much lower than the overlying surficial zone, ranging between the orders of 10^{-4} feet/day for clays and 10^{+0} 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. The zone is composed of sand and gravel with thin beds of silt and clay, and is estimated to be approximately 300 feet thick at NAS Pensamla. 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 is confined, and in southern Escambia County it recharges primarily by leakage through the low permeability zone supplemented by direct recharge in the northern parts of the county where it is present at the surface. Regional groundwater flows generally east toward Pensacola Bay and south toward the Gulf of Mexico. Three supply wells at NAS Pensacola produce water from

are used only as a supplement to the base water supply and fire protection due to the water's high iron content (G&M 1984, 1986). For potable water, NAS Pensacola depends on an offsite water source provided from main producing zone wells at Corry 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 comprised of fine-grained clastic units of Miocene age (Pensacola clay, Alum Bluff Group) that lie beneath coarse Clastics of the overlying Sand-and-Gravel 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 .the underlying Floridan Aquifer System, 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 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 as close as 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 regions, 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 *are* distributed there. Due to the wet, temperate climate of the region, the panhandle area may support the highest diversity of species of any other similar-size territory in the United States (Wolfe et al. 1988).

The high annual rainfall and low, gently sloping terrain causes wetlands to abound in the region. 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 of which 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 also are vital to maintaining the seafood industry (Wolfe et al. 1988).

3.3.2 NAS Pensacola Setting

NAS Pensamla, 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 abuts a less developed portion of Escambia County containing swampy low lands. Most of NAS Pensacola's eastern portion is developed, containing 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 flatwoods 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 vegetation 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 occur in coastal lowlands and are characterized by trees which can tolerate various soil moisture conditions. Tree species in flatwoods 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 that include titi and cypress swamps, and contain 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 located 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

Appendix D of the Group Q work plan refers to the rare, threatened and endangered species which may potentially be found within the NAS Pensacola boundaries (E&E 1992a). Investigations of different areas of the NAS Pensacola facility by E/A&H personnel have thus far identified the presence of osprey, great blue heron (as well as other shorebirds), alligator, 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]).

3.4 Climate

NAS Pensacola has a mild, subtropical climate, with average annual temperature 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 degrees) in a matter of minutes (E&E 1992a).

November is the driest month of the year, with an average rainfall of 3.2 inches, based on climatological data from 1962 to 1991. Rainfall averages approximately 60 inches per year, with the highest amounts in July and *August* when thunderstorms occur almost daily. 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 1992a).

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 1951 through 1989 were preliminarily analyzed by E&E while preparing the 1992 work plan. Photographs taken in 1961 and 1964 showed the development of the Oak Grove Campground. Unpaved roads in the campground area were identified on these photographs. A photograph dated 1968 indicates the area designated as Site 39 had been cleared and graded. An area of disturbed soil was identified in the cleared area south of the Oak Grove Campground (Site 39) in a 1970 photograph. The disturbed area began at a roadway near the campground and extended south toward the bay. Aerial photographs taken since 1970 showed progressively increased vegetation covering the disturbed area at Site 39 (E&E 1992a).

During the RI, E/A&H reviewed aerial photographs from the same time and reached the same conclusions as E&E. The scale of the aerial photographs and the small size of Site 39 make it difficult to draw significant conclusions concerning previous activity at the site from aerial photograph analysis.

4.2 Site Reconnaissance

A visual reconnaissance of Site 39 was conducted the first day of the investigation, May 24, 1993. The site is a cleared area measuring approximately 345 feet x 220 feet with scattered grass and brush. The soil is sandy and the surface is littered with construction type debris including broken brick, concrete, tile, glass, coal, nails, and reinforcing steel. An area approximately 60 feet x 80 feet is darkly stained, with an oily smell and texture. Trees surround the area located between the Oak Grove trailer campground and Pensacola Bay.

The site has a subtle south-southeastward downward slope toward Pensacola Bay, with the lowest areas being north-south trending swales south/southeast of the site proper. No areas of surface water ponding onsite were noted during the reconnaissance, but were during the habitat and biota

survey (Section 4.4). It is probable that most precipitation drains directly into the sandy soil with no significant runoff occurring except during intense rainfall.

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 contamination, and interviews with NAS Pensacola employees involved in environmental coordination or with a history of the site. As discussed in Section 2, little is known about past activities at Site 39. It appears to have been the disposal site for debris from the demolition of Building 29 and a place where used motor oil may have been dumped. Railroad ties may have once been stored at the site. There is no record of contamination for Site 39 and no operational and utility plans for the site (no utilities on-site). Interviews with NAS Pensacola personnel provided no further information.

4.4 Habitat and Biota Survey

4.4.1 Data Review

Site 39 is a cleared area south of the recreational vehicle camping area of the Oak Grove campground. Major features near the site include the campground to the north, Pensacola Bay to the south, and Sherman's Inlet to the southwest.

Analysis of aerial photographs dating to 1961 show the site cleared with nearly the same dimensions as the current ones. Thin bands of heavy woods existed to the north, northwest, and northeast. Approximately 250 feet west of the site, Sherman's Inlet extended into what is now known as Wetland 56A (Parsons and Pruitt 1991). A large *Juncus sp.* marsh (a part of it exists today as wetland 56B [parsons and Pruitt 1991]) is southwest of the site toward the main part

of Sherman's Inlet. South of the site, a wide, sparsely vegetated sandy beach separates it from the Pensacola Bay.

A 1968 aerial photograph shows both the site and a large part of the surrounding area were stripped clear of vegetation and scraped by earth-moving equipment. The bare area extended from the current location of the Oak Grove campground south to Pensacola Bay's shoreline. It also extended from a point within the Sherman Inlet marshes to one approximately 2,300 feet to the east. By 1973, photographs show the site was in a continuing state of ecological recovery, with the establishment of scrub-shrub vegetation. By 1981, trees had begun to re-establish themselves, forming the secondary woods now in the wooded areas adjacent to the site. The work plan does not relate this vegetation clearing to activities associated with site contamination; however, this occurrence is relevant to the site's current biological condition.

Terrain Analysis and Associated Vegetative Habitats

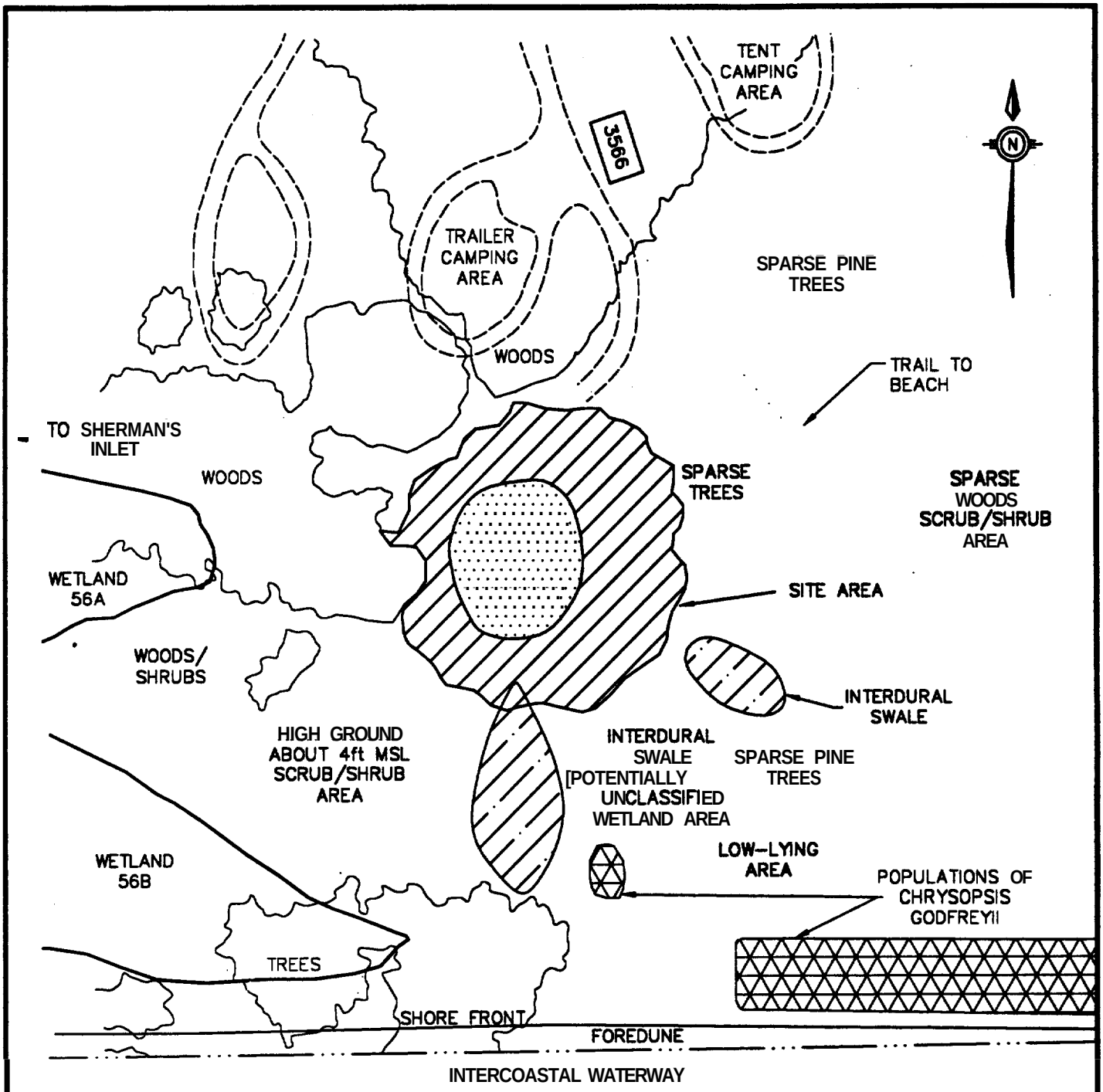
The site center is about 6 feet above msl, approximately 520 feet inland (north) of the Intercoastal Waterway (Pensacola Bay) shoreline. The terrain gently slopes downgradient in a south/southeasterly direction for about 330 feet, where it begins to rise, approaching the foredune of the beach. South of the foredune, the terrain descends a moderately steep, narrow beach face to the water. Between the site and the foredune, the terrain also forms a series of north/south oriented low-rising dunes and shallow swales. These extend east from Sherman's Inlet across the backshore of the beach. A large teardrop-shaped swale, approximately 230 feet by 100 feet and 3 to 4 feet deep is about 110 feet south of the site. A second, shallower 125-foot-by-60-foot swale is 200 feet southeast of the site center. E/A&H personnel noted that during heavy precipitation, surface water flows across the site to the south/southeast into these swales and the area in between. Though not currently classified as wetlands, these swales contain rushes and meadow grasses typically associated with wetlands. They also contain dark, moist soil, and were noted to have standing water after a heavy rain. Surface runoff does not flow from the site to the shoreline. Wolfe, Reidenauer, and Means

(1988) discuss how interdunal depressions retain water after heavy rains and conduct water vertically into the soil. This phenomenon occurs in surface water flowing off the site. Higher ground southwest of the site forms a wide dune about 4 feet high between the larger swale and the east end of Sherman's Inlet. The terrain begins to flatten out southeast of the site. Surface features and habitat communities are shown in Figure 4-1.

To the north, a narrow band of secondary woods separates the site from the campground. A 200-foot-wide band of secondary woods west of the site separates it from Wetland 56A. These woods contain a mixed overstory of hardwoods and pines. Sand live oak *(Quercus geminata)* and slash pine *(Pinus elliottii)* dominate the overstory, which also contains isolated examples of laurel oak *(Quercus hemisphaerica)* and sand pine *(Pinus clausa)*. The shrubby understory includes myrtle oak *(Quercus myrtifolia)*, yaupon *(Ilex vomitoria)*, inkberry *(Ilex glabra)*, saw palmetto *(Serenoa repens)*, and wax myrtle *(Myrica cerifera)*. Woody vines sprawl over much of the understory shrubbery, and over the ground in clearings between trees. These vines include catbrier *(Smilax* sp.), muscadine *(vitis rotundifolia)*, and dewberry (Rubus *sp.)*. Pennywort *(Hydrocotyle sp.)* grows low to the ground in and around the shrubbery. The woods west of the site also contain a large amount of old concrete slabs and other concrete debris, possibly remnants of Building 29 demolition debris.

Approximately 185 feet east of the site is a young, 30-foot-wide stand of slash pines, near which a dirt trail leads from the campground to the beach. Directly east of the trail is an approximately 400 foot by 700 foot cleared area largely devoid of trees, but containing a dense shrub zone dominated by mint rosemary *(Conradina canescens)*, and rosemary *(Ceratiola ericoides)*. A few slash pine saplings are found emerging from the shrubbery.

Sparse woods exist south of the site, with the overstory changing from mixed hardwoods and pines to slash pine only. The sparse understory contains wax myrtle, yaupon, and mint



LEGEND

- UNPAVED ROAD
- STATE IMPERILED SPECIES FOR FLORIDA
- AREA OF SCATTERED DEBRIS & UGHT VEGETATION
- AREA OF STAINED SOILS

SOURCE E&E 1991

REMEDIAL INVESTIGATION SITE 39 NAS PENSACOLA

FIGURE 4-1
HABITAT COMMUNITIES & SURFACE FEATURES

DATE 11/21/94 DWG NAME: 5939HCSF

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rosemary. Approaching the shoreline, the woods give way to a mint rosemary and rosemary-dominated shrub zone containing isolated small slash pines. Another large mint rosemary/rosemary-dominated shrub zone with sparse trees is situated on the higher ground southwest of the site, between it and Wetland 56B. Sea oats *(Unionola paniculata)* grow throughout the shoreline's foredune area.

The east end of Sherman's Inlet contains wetlands 56A/B, as classified by Parsons and Pruitt (1991). Wetland 56A, a palustrine emergent wetland at the northeast end of Sherman's Inlet, about 200 feet due west of the site, is dominated by a dense thicket of sawgrass *(Cladium jamaicense)*. The shoreline surrounding this wetland contains slash pines, yaupon, inkberry, wax myrtle, red maple *(Acer rubrum)*, and sweet bay magnolia *(Magnolia virginiana)*. Wetland 56B, a large estuarine emergent wetland at the southeast end of Sherman's Inlet, is approximately 500 feet southwest of the site center. It is dominated by black needle rush *(Juncus roemenanus)*, and the surrounding shoreline contains slash pines and yaupon.

4.4.2 Animals

Wolfe, Reidinauer, and Means (1988) discuss how coastal strand environments of the Florida Panhandle are well-endowed with reptiles; such as the garter snake *(Thamnophis sirtalis)*, black racer *(Coluber constrictor)*, coachwhip *(Masticophis flagellum)*, cottonmouth *(Agkistrodon piscivorus)*, and rattle snake *(Sistrurus sp.)*. Possible mammals include the eastern mole *(Scalopus aquaticus)*, shrews, beach mice *(Peromyscus polionotus sbspp.)*, rice rat *(Oryzomys palustris)*, cotton rat *(Sigmodon hispidus)*, cottontail *(Sylvilagus floridanus)* (noted during the survey of the site area), and marsh rabbit *(S. palustris)* (Wolfe, Reidenauer, and Means 1988). Additionally, the wetland areas adjacent to the site and nearby Sherman's Inlet provide habitat for a host of fish and birds. Wolfe, Reidenauer, and Means (1988) describe 12 common fish and 60 bird species inhabiting panhandle saltmarshes. Many of the birds and some of the fish species are threatened or endangered species.

4.4.3 Threatened and Endangered Species

Two populations of Godfrey's golden aster (*Chrysopsis godfreyii*) live southeast of the site (shown in Figure 4-1). *Chrysopsis godfreyii* is listed by the FNAI as a state imperiled species. One aster population can be found about 340 feet downgradient of the site. This population is approximately 55 feet x 40 feet in area, and contains about 120 individual plants. Another larger population north of the shoreline foredune, (several hundred individuals) extends 500 feet east-west along the shoreline and is about 75 feet wide.

4.4.4 Potential Evidence of Adverse Impact

No vegetation grows in the area containing the stained soil, and the surrounding vegetation is mostly weedy plants and woody vines. One small pine tree, a small oak tree, and a small saw palmetto grow within the clearing. Of the larger plants, the palmetto is closest to the center of the site (about 55 feet west), and looks very stunted with yellow-green leaves. There is no evidence of stressed vegetation in the woodlands upgradient, or downgradient past the clearing. It should be emphasized that the area south of the site is currently recovering after deforestation more than 25 years ago. The tract is similar to other areas of NAS Pensacola that have been cleared and left to revegetate.

The clearing itself may remain devoid of vegetation partly due to contamination. However, the earliest available aerial photographs show the clearing in roughly the same state at least 30 years before contamination was first reported. When the site was clear-cut circa 1968 or before, reforestation occurred such that the original clearing was largely preserved.

4.5 Field Screening Surveys

Site 39's ground surface was systematically surveyed to identify areas emitting trace concentrations of certain indicator contaminants to the atmosphere or soil-gas. The results of these surveys were to be used to target areas of potential soil or groundwater contamination in the subsequent phase of field investigation. Two techniques were used.

- Surface emission surveys of volatile organic compounds (VOCs) and radiation emitted into the above-ground atmosphere used to screen for the possibility of surface or near-surface contamination, were performed May 24, 1993.

- A soil-gas and groundwater survey to screen for the possibility of soil and groundwater contamination was performed November 19, 1992.

The screening nature of these surveys necessarily limits their results to qualitative interpretation of actual field conditions and does not replace the laboratory analyses of soil and groundwater samples. Neither do these screening techniques track the presence or absence of non-volatile, non-radioactive contaminants such as heavy metals and pesticides.

4.5.1 Grid System

To systematize the screening surveys, E/A&H superimposed a grid system in the field across Site 39 in May 1993. During the survey to set up the grid system, stakes were placed around the site's perimeter at 100-foot intervals. The grid system was used for the VOCs and radiation surveys. The soil-gas survey was performed with the soil-gas survey at Operable Unit (OU) 10 before this grid system was laid out. While several points were located in what appeared to be the most impacted area of staining, most of the soil-gas survey points were located to provide relatively unbiased coverage of the site relative to the central stained area.

4.5.2 Surface Volatile Emissions Survey

A surface volatile emissions survey was conducted across Site 39 at 50-foot intervals measured from the perimeter grid system on May 24, 1993. A Photovac MicroTIP photoionization detector (PID) was used to detect organic vapor concentrations. Total surface emission readings were taken at each station at approximately 1 inch and 3 feet above the ground surface.

Results of the surface volatile emission survey indicated no measurable quantities of volatiles emanating from the surface soil. PID responses were non-detect or negligible (less than 1 ppm), within instrument drift, and were identical 'to general background conditions in the area. Importantly, the stained area's surface emissions were no greater than those of the surrounding non-stained area.

4.5.3 Radiation Survey

A radiation survey was d u c t e d simultaneously to screen for gamma and beta radioactivity; readings were collected at the same stations and heights as the surface emissions survey. Gamma emissions were screened with a Victoreen 190 "pancake" radiation meter and taken at each station approximately 1 inch and 3 feet above the ground surface over 30-second cumulative intervals for each height. The gamma radiation readings collected over the site are shown in Figure 4-2.

The radiation emission survey results indicated gamma radiation at background levels expected to occur naturally in the Pensacola area soil. The highest radiation level recorded on the site was 12 micro-REMs (Roentgen equivalent man) per hour (μR/h). Importantly, the stained area did not exhibit gamma emissions greater than did the surrounding non-stained area.

4.5.4 Soil-Gas Survey

Target Environmental Services, Inc., conducted a soil-gas extraction and analysis at Site 39 on November 19, 1992. The procedure is documented in detail in *Appendix* A. Succinctly, soil-gas samples were collected from a plunger-driven hole in the soil through a probe and tubing.

Samples were collected to within 6 inches of the water table. Depth-to-water was measured at various stations throughout the site either by observing a moisture mark on the retrieved plunger

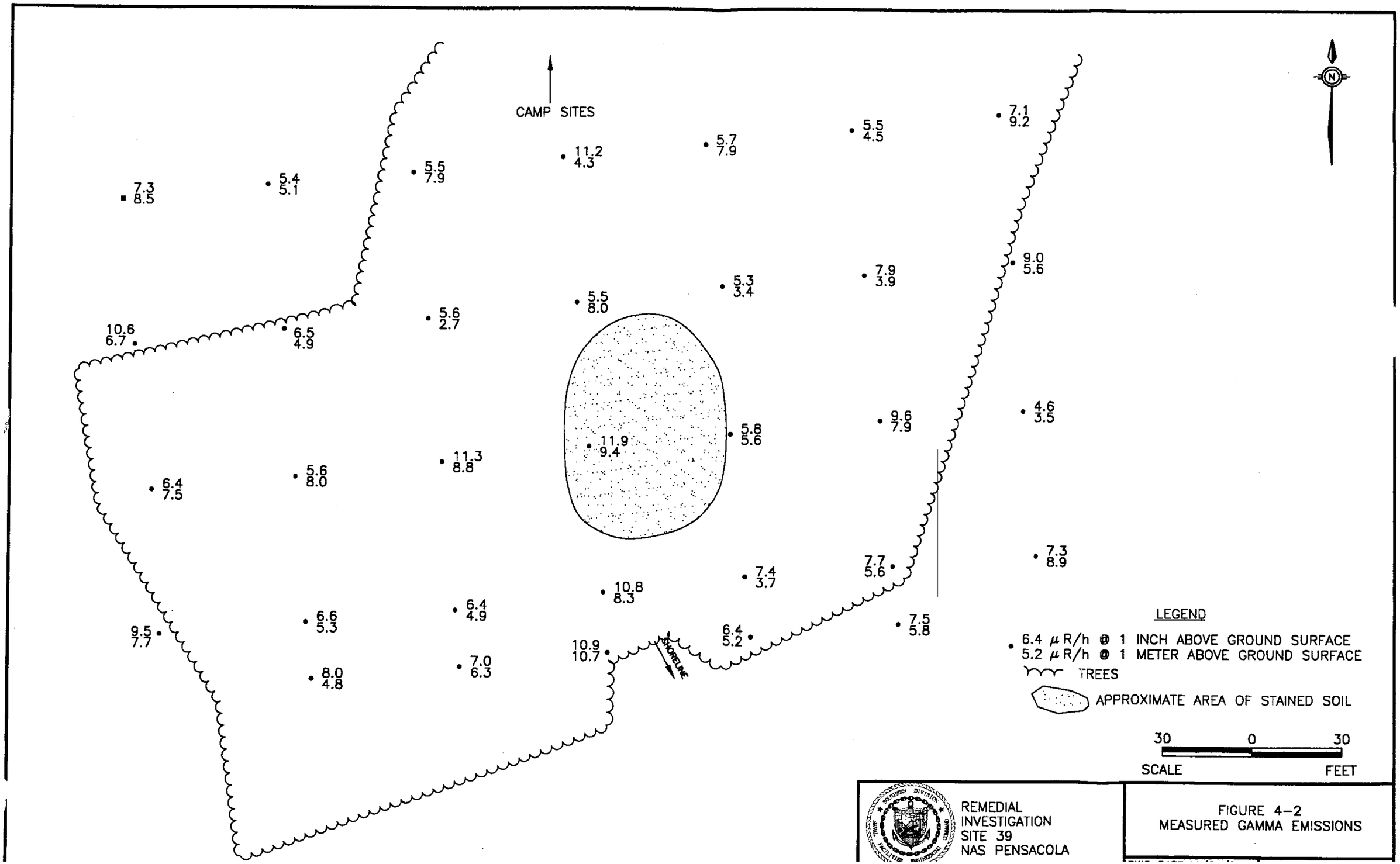

FIGURE 4-2
MEASURED GAMMA EMISSIONS

bar or by over-inserting the soil-gas probe through to groundwater and noting water filling the clear intake hose when suction was applied. Depths to groundwater were typically 5 to 7 feet bls.

To assess the accuracy and representativeness of the soil-gas survey, field Quality Assurance/Quality Control (QA/QC) samples were taken, including duplicates (D) and equipment rinses (ER) for every 20 samples. Field control blanks (BL) were collected for every 10 samples, as well as at the beginning and end of the survey.

The soil-gas and QA/QC samples were analyzed on the same day of sampling with a portable gas chromatograph in the E/A&H field trailer. Samples were analyzed by electron capture detection (GC/ECD) and flame ionization detection (GC/FID).

During the survey, readings were taken at 15 soil organic vapor (SOV) points. Three points, two in the source area and one in a downgradient area, also were sampled for groundwater headspace analysis; a duplicate of one was sent to a laboratory for confirmatory analysis. Soil-gas sampling locations are provided in Figure 4-3 and the soil-gas and groundwater headspace readings are included in Appendix A. The soil-gas analyses results yielded no detectable concentrations of VOCs from either the stained area or the downgradient area. Only SOV sample point OG2, upgradient approximately 100 feet north-northeast of the stained soil area, yielded any detectable VOC with a trace concentration of tetrachloroethylene (PCE) at 1.2 μg/L. No VOCs were detected in the groundwater headspace analyses, and the laboratory confirmation sample yielded only what appear to be laboratory artifacts (acetone 5 μg/L and methylene chloride 2 μg/L). The SOV detection of PCE is therefore considered a false positive error.

None of the preliminary surveys provided a focus for locating optimal sampling points; therefore a logical approach biased toward the stained area and topography was employed.

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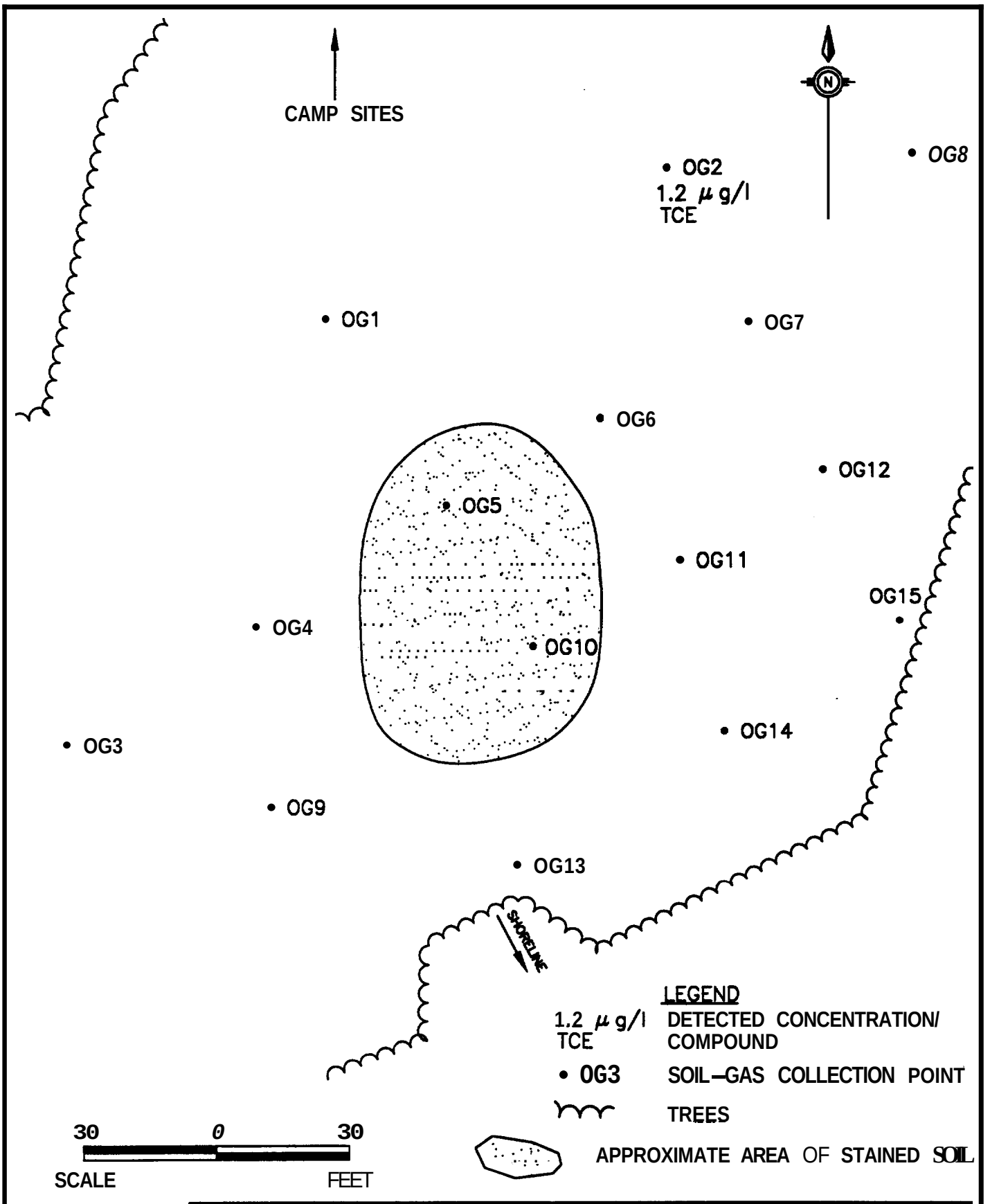

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 4–3
SOIL–GAS STATIONS

DWG DATE: 11/21/94 | DWG NAME: 5939SGS

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5.0 FIELD INVESTIGATION AND METHODOLOGY

The USEPA- [and FDEP-]approved work plan and Sampling and Analysis Plan (SAP) outlined a specific soil and groundwater investigation and sampling program for Site 39, to address the potential soil and groundwater contamination from the stained soil at the Oak Grove campground.

Sampling locations were based upon the geometry and dimensions of the stained soil and the site's topography. The soil and groundwater sampling tasks performed during the investigation were conducted in accordance with the procedures outlined in the work plans for Site 39, except where site conditions and field decisions warranted changes. After completion of field work, geodetic positions were determined using a differential global positioning system (GPS) according to the NAS Pensacola CSAP. 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 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. The removal action that was carried in accordance with procedures outlined in the *Final Removal* Action *Work Plan For Naval Air Station Pensacoh Site 39, Oak Grove Campground, Pensacoh, Florida* is described in Section 5.5.

Analytical Parameters

Samples of soil and groundwater media were collected for contamination assessment, confirmation of clean-up, or physical characterization. Contamination assessment samples provided a basis for determining the nature and extent of site contamination. Confirmation samples were taken after soil excavation and removal to verify "clean" status of the site after removal of stained soil. Physical characterization aided in determining 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 and confirmation were analyzed by CompuChem Laboratory in Research Triangle Park,

North Carolina, in accordance with full Contract Laboratory Procedures (CLP) for Target Compound List (TCL) and Target Analyte List (TAL) parameters as shown in Tables 5-1 and 5-2. Two soil samples and one groundwater sample were analyzed for hexavalent chromium using USEPA colorimetric Method 71%. Samples designated for physical characterization were analyzed for the selected physical and chemical-physical parameters shown in Table 5-1. Soil and groundwater samples analyzed for chemical-physical parameters were submitted to Savannah Laboratories in Mobile, Alabama. Soil samples analyzed for physical parameters were submitted to Thompson Engineering, and Testing, Inc., Mobile, Alabama.

Table 5-1
Analytical Parameters
Contamination Assessment and Confirmation of Clean-up

Media	Parameter	# of Samples	Method
Soil	TCL Volatiles TCL Semivolatiles TCL Pesticides/PCBs TAL Metals and Cyanide	28	CLP CLP CLP CLP
Groundwater	TCL Volatiles TCL Semivolatiles TCL Pesticides/PCBs TAL Metals - Unfiltered TAL Cyanide	16	CLP CLP CLP CLP CLP

Note:
QA/QC samples were not included in the number of samples.

Sample and Station Identification

The Site 39 *SAP* specifies an eight-digit sample identification code that was used in this investigation and appears throughout this report.

- The first two digits denote the site where the sample was taken, as designated in the NAS Pensacola Site Management Plan (SMP). Samples for Site 39 were designated as "39."

Table 5-2
Analytical Parameters
Chemical/Physical Characterization

Media	Parameter	[Number of Samples]	Method
Soil	Physical:	[2]	
	Permeability		ASTM D2434 (for rand)
	Porosity		ASTM D5084 (for clay)
	Particle Size		ASTM D 422
	Bulk Density		ASTM 4253
	Specific Gravity		ASTM D 854
	Moisture Content		ASTM 2216
	Chernical-Physical:		
	Total Phosphorus		EPA 365.3
	Nitrate-N		EPA 352.1
	Total Kjeldahl Nitrogen		EPA 351.4
	Heterotrophic Plate Count		SM 9215B
	Total Organic Carbon		SW 846-9060
Groundwater	Total Phosphorus	[2]	EPA 365.3
	Nitrate-N		EPA 352.1
	Total Kjeldahl Nitrogen		EPA 351.4
	Heterotrophic Plate Count		SM 9215B
	5-day Biological Oxygen Demend		EPA 405.1
	Chemical Oxygen Demand		EPA 410 (.1 to .3)
	Iiardness		EPA 200.7
	Total Suspended Solids		EPA 160.2
	Alkalinity		EPA 310.1

- The third digit identifies the sampled medium:

  G - groundwater

  S - soil (including surface soil samples and soil borings)

- The fourth and fifth digits represent the sample station, which were numbered in sequence of completion. For groundwater, they represent the monitoring well, also numbered in sequence of completion.

- The sixth digit identifies and designates any QA/QC samples:

  T - trip blank
  E - equipment rinsate sample
  D - duplicate sample
  M - matrix spike sample
  S - matrix spike duplicate sample

- The last two digits are sample specific. For soil samples, the two digits represent the depth of collection in feet. Where the sample was taken from a depth interval (e.g., a 2-foot soil interval), the number represents the interval's base.

Examples:

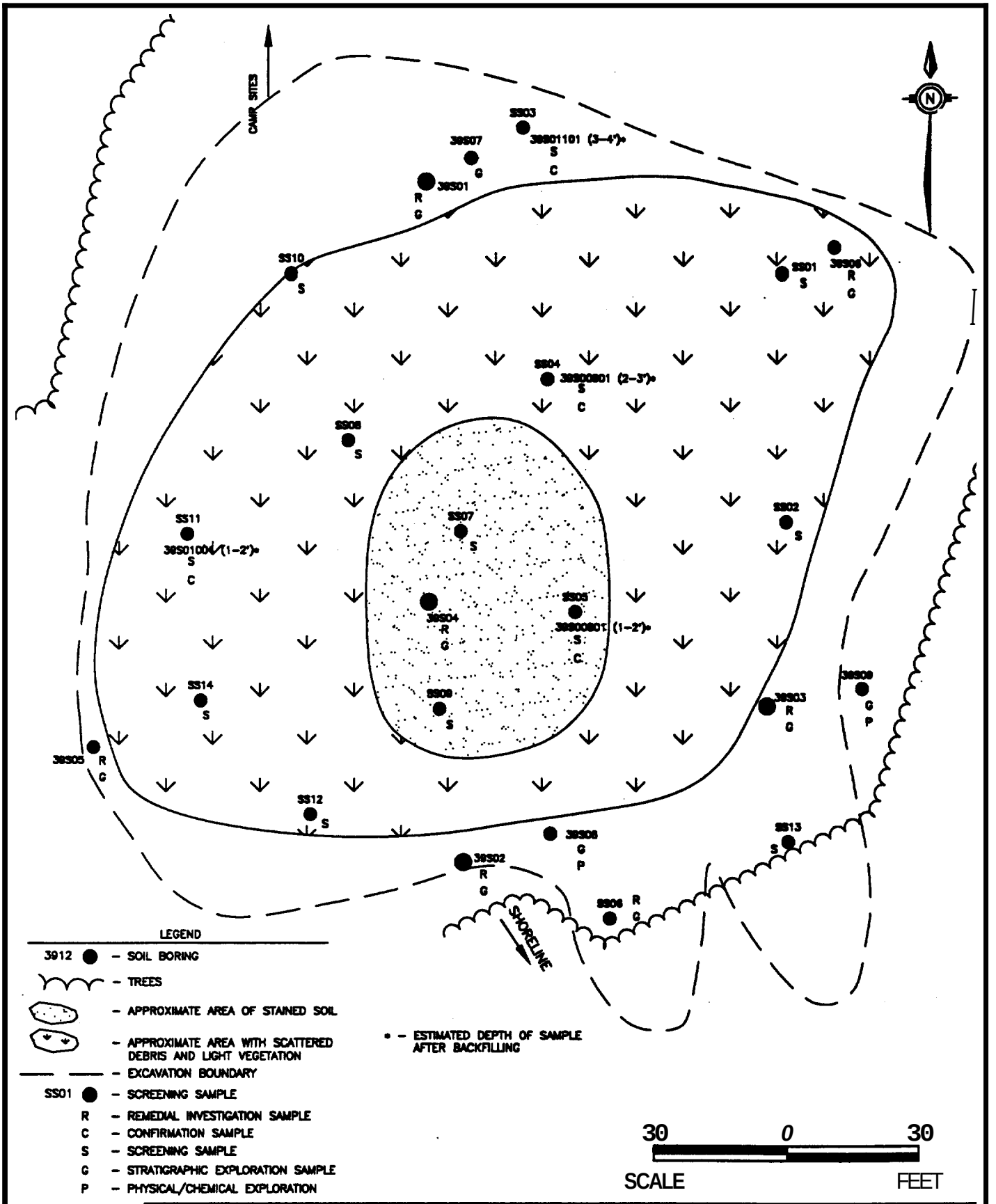
39S0404	Site 39/soil/fourth boring/2 to 4-foot depth
39GS01	Site 39/groundwater/shallow well 01
39GI05	Site 39/groundwater/intermediate well 05

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

5.1 Soil

5.1.1 Contamination Assessment Sampling

To assess the extent of contamination in soil above the water table, six shallow soil brings were completed at Site 39 between May 24 and May 26, 1993. One soil boring was placed in the center of the identified stain, two sidegradient east and west of the stain, two topographically downgradient from the stain, and one upgradient of the stain. Soil borings used to assess soil contamination are designated as 39S01 through 39S06 and their locations are presented in Figure 5-1.



REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 5-1
SOIL BORING LOCATIONS USED FOR ASSESSMENT OF SOIL QUALITY

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Soil samples submitted for laboratory analysis were sampled from the 0- to 1-foot interval and at 2-foot intervals thereafter until the water table was reached. Soil samples were collected continuously using a hand auger and hollow-stem augers. After the first soil sample was collected (0 to 1 foot) with the hand auger, the hollow-stem auger was advanced to the terminus of the sample depth, and the subsequent sample intervals (1 to 3 feet; 3 to 5 feet, etc.), were collected through the inside of the augers. Soil samples were collected and processed as described in Section 5.3 and analyzed by the laboratory for CLP TAL/TCL parameters. Two soil samples (39S0505 and 39S0601) also were analyzed for hexavalent chromium. A portion of each soil sample was placed in a 1-quart Ziploc bag and allowed to equilibrate for approximately 10 minutes before screening for headspace analysis. The screening was accomplished by placing the PID probe into the soil headspace and measuring any organic vapor concentrations in the soil. The manufacturer states the PID's probe sensitivity is 1 ppm.

All soil samples were classified in the field by an E/A&H geologist in accordance with the Unified Soil Classification System (USCS) and documented with other pertinent field information on individual boring logs. Boring logs for each borehole recorded measured PID concentrations, soil types, and other relevant field information, and are provided in Appendix B.

5.1.2 Post-Removal Soil Screening and Confirmation Sampling

To confirm contaminant removal from Site 39 following removal of stained soil from the site, four discrete samples for laboratory analysis and 19 screening samples were collected from the soil that remained beneath the excavation. Sampling was completed between July 27 and July 28, 1994. Screening was accomplished by performing a headspace analysis of soil samples using a flame ionization detector (FID). All laboratory samples collected were submitted for TAL/TCL analyses using CLP protocol. All laboratory samples and analyses were performed to meet Data Quality Objective Level IV.

Samples were collected using a decontaminated stainless steel spoon and bowl from the surface to 1 foot bls. Screening samples were collected directly into 16-ounce wide mouth glass jars. Approximately half-filled sample jars were immediately sealed with aluminum foil, labeled, and placed into an icewater bath to cool. Once sample temperature stabilized between 20 and 32 degrees centigrade (approximately 5 to 15 minutes after collection), each sample's headspace was measured for organic vapor with a calibrated Foxboro Model 128 organic vapor analyzer (OVA). The five excavation screening samples were taken during the final stages of excavation to aid in determining where additional excavation was needed.

Twelve postexcavation screening samples were placed in a rough grid after excavation for a complete coverage of the excavated area, while screening samples 13 and 14 were placed near the area of darkest staining. The general locations and the postexcavation screening samples are illustrated in Figure 5-1. Sample time, temperature, location, and readings were recorded for each sample.

Four confirmation samples were collected concurrently with the screening samples. One eight ounce and one four ounce jar was collected from each sampling location. The locations were chosen to coincide with the screening locations beneath areas of darkest staining. One sample, 0390007, was taken from the backfill material which was used to backfill the site after excavation [see Figure 2-1 for backfill stockpile location.]

5.1.3 Stratigraphic Exploration/Monitoring Well Boreholes

The soil contamination assessment borings at Site 39 provided stratigraphic idomation for soil above the shallow water table. Deeper stratigraphic information was obtained during monitoring well construction between May 27 and June 2, 1993. Four shallow borings were completed below the water table at depths of approximately 14 feet below grade and three intennediate depth brings (39S07, 39S08, and 39S09) were completed to the base of the surficial zone (approximately 45 feet) near the interface with the underlying clay of the low permeability zone.

Figure 5-1 also shows the locations of the borings completed during monitoring well construction. The soil investigation for the shallow borings included split-spoon sampling in addition to hand-augering to the water table. The soil investigation for the intermediate depth borings consisted of split-spoon sampling and observation of cuttings brought to the surface as drilling proceeded below the water table, resulting in approximate correlations of logged stratigraphic changes with depth.

5.1.4 Physical Characterization Sampling

During the RI, soil samples were collected to obtain data for use in possible remedial design, modeling, and/or migration studies. One Shelby tube was collected for physical characterization of near-surface soil (0- to 2-foot interval) in the vicinity of boring 39S09 on June 2, 1993. The Shelby tube was fully retrieved, sealed in place, capped, and processed for shipment and analysis of physical characteristics. Shelby tubes also were driven at boring 39S08 to determine the permeability of the clay underlying the surficial zone and to explore the potential connection between the surficial zone and the main producing zone. However, after two unsuccessful attempts to collect Shelby tubes from the clay zone at depths of 43 feet and 45 feet, further efforts were abandoned. Therefore, no site-specific permeability data were collected from the underlying clay zone at the site. The lack of recovery in the retrieved Shelby tubes is attributed to sample collection within the transition silt-clay zone reportedly above the confining clay unit. Although no site-specific data was collected, data is available from other sites at NAS Pensacola (i.e., OU 10) at which the lithology appears fairly consistent with Site 39.

Composite samples for chemical-physical analysis were collected at boring 39S08 on May 28, 1993. The samples were collected from the auger flights at depth intervals corresponding with the 5- to 10-foot and 30- to 35-foot drilling depth intervals. The composite 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 May 24 to September 13,1993. This task included installing four shallow and three intermediate depth monitoring wells, collecting two rounds of groundwater samples, and conducting a hydrologic investigation involving aquifer testing, potentiometric measurements, and a tidal influence study.

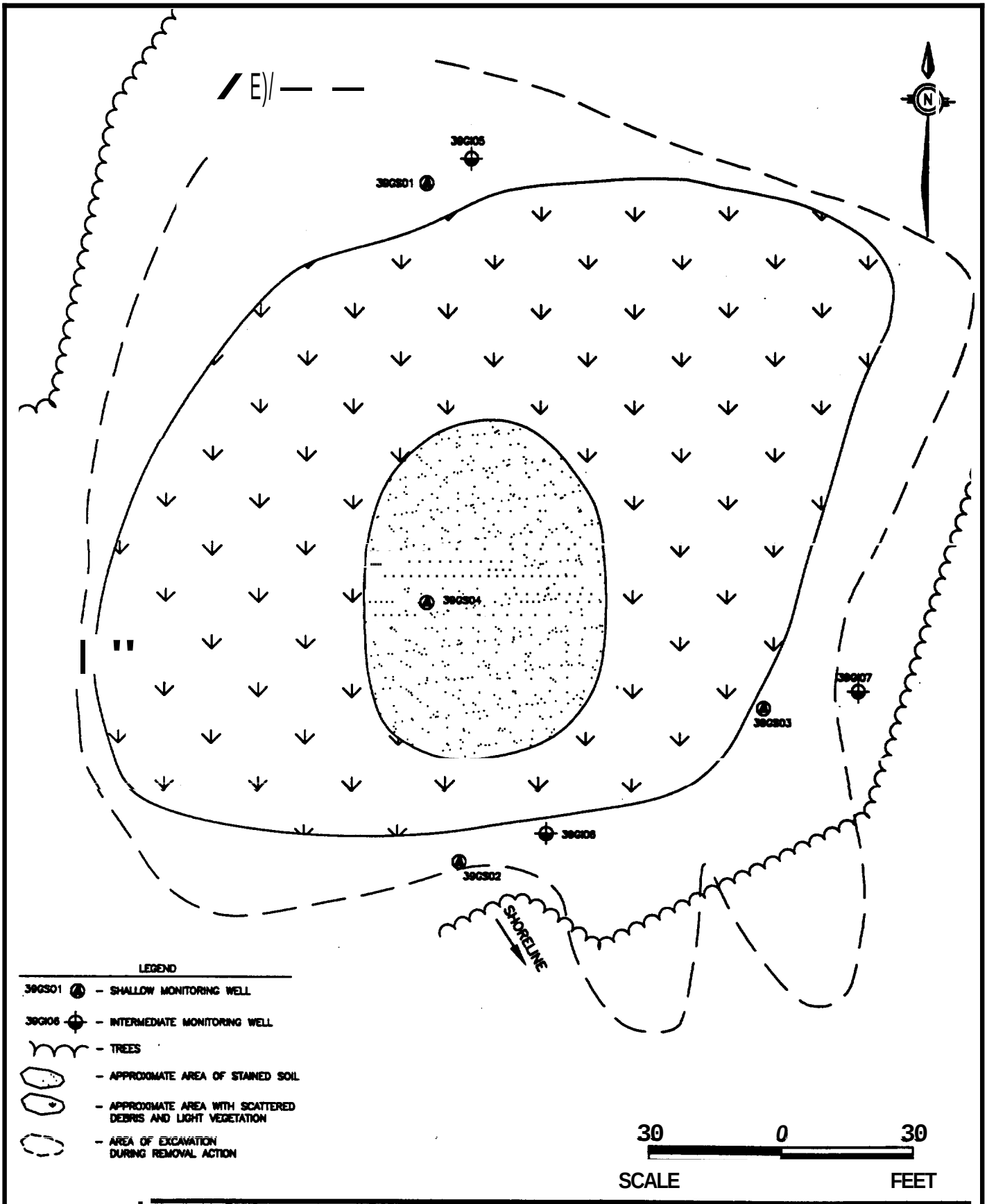
5.2.1 Monitoring Well Installation

seven' monitoring wells were installed at Site 39 to characterize groundwater conditions beneath it. The site had no monitoring wells before this investigation. The wells generally were placed at the locations proposed in the work plan, as shown in Figure 5-2. Four shallow monitoring wells, designated as 39GS01 through 39GS04, were completed near the water table, screening the upper level of the surficial aquifer. An anticipated background well was placed topographically upgradient from the stained area (39GS01), two wells were placed downgradient from the stain (39GS02 and 39GS03), and one well was placed inside the *stained* area (39GS04). **[Monitoring well 39GS04 was abandoned and removed during the removal of stained soil from Site 39].**

Three intermediate depth wells were completed at the base of the surficial zone, screened 10 feet above the underlying low permeability zone, and designated as 39GI05 through 39GI07. Intermediate monitoring wells were paired with the shallow upgradient well and the two shallow downgradient wells.

Drilling Methods

Borings for all monitoring wells and soil sampling were completed with a hydraulic-rotary drill rig operated by Kelly Environmental. 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



PRELIMINARY SITE CHARACTERIZATION
SITE 39
NAS PENSACOLA

FIGURE 5-2
MONITORING WELL LOCATIONS

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sampling was performed using 24-inch split-spoons and a hand auger. As previously described, shallow monitoring well boreholes initially were sampled to the water table (approximately 5 to 7 feet) with a hand auger through the inside of 4.25-inch hollow-stem augers. Soil sampling below the soil/water interface was performed by advancing a split-spoon 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-spoon samplers were cleaned before each sample collection, as described in the decontamination procedures in Section 5.3.

Split-spoon sampling at intermediate-depth boreholes generally was discontinued at depths between 15 and 20 feet due to flowing sands entering the lead auger, preventing in-situ sample collection in front of the augers. As previously discussed, stratigraphy below this depth was determined by examining soil cuttings brought to the surface by drilling. To prevent drilling through the underlying clay-confining unit (the low permeability zone), careful attention was paid to the drilling rate from a depth of 30 feet to the boring's termination. A change in drilling speed commonly indicates a change in lithology. Following such a change, the driller was instructed to ream the borehole for several minutes to bring auger cuttings to the surface and note whether the clay aquitard had been encountered. The clay's high plasticity resulted in cuttings adhering to the auger flights and not reaching the surface; hence, augers were retrieved from the borehole and the lead auger was visually examined to determine the approximate location of the clay zone. Clay cuttings observed on the lead auger consisted of a soft, very plastic blue-grey clay to a green sandy-silty clay. All pertinent drilling and sampling information was recorded in the field logbook and/or the individual boring logs maintained for the site. The boring logs are included in Appendix B.

Monitoring Well Construction

Groundwater monitoring wells were constructed to comply with applicable federal, state, and local agency regulations. Well construction, installation, and development were executed in

compliance with the site-specific SAP for Site 39, the draft CSAP, with reference to the USEPA Region IV Standard operating Procedures and Quality Assurance Manual (SOP/QAM) (USEPA 1991b).

Well materials consisted of 2-inch diameter, flush threaded, PVC riser Casing mated to 10 feet of 0.010 slot PVC screen. The choice of screen size was suitable for the aquifer matrix based on grain-size analyses performed at other sites across the NAS Pensacola (Appendix C). Monitoring well data are provided in Table 5-3 and well-specific construction details can be found on the well logs in Appendix D.

After determining the approximate depth of the top of the clay unit, the joints between the 4.25-inch ID hollow-stem augers were wrapped with Teflon tape and a PVC or Teflon plug was placed at the end of the lead auger to prevent flowing sands from entering the augers during borehole redrilling. Redrilling continued until the estimated depth of the clay zone was reached. At this point, the plug was knocked out of the lead auger and monitoring well construction proceeded through the inside of the augers.

A minimum borehole diameter of 8 inches for 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 annuli of the well pipes and the augers, while in intermediate wells the sand was installed using PVC tremie pipe and potable water from the campground. All intermediate wells were sand packed at least 2 feet above the screened intervals. Shallow well sand packs were completed 1 inch to 12 inches above the screens because the water table was so close to the surface. A seal consisting of 0.25-inch bentonite pellets was placed above the sand pack to a thickness of approximately 2 feet or greater for intermediate wells, and between 7 and 12 inches for the shallow wells. Again, the shallow water table did not allow placement of the standard 24-inch bentonite seal.

Table 5-3
Monitoring Well Data
Site 39, Oak Grove Campground
NAS Pensacola

Monitoring Well Identification	Construction Date	Total Depth (ft bls)	Well Diameter (inches)	Screened Interval (ft bls)	Measuring Point Elevation (feet)
39GS01	5/25/93	14.0	2	4.0 - 14.0	12.54
39GS02	5/25/93	13.0	2	3.0 - 13.0	8.70
39GS03	5/26/93	12.8	2	2.8 - 12.8	8.54
39GS04	5/27/93	12.3	2	2.3 - 12.3	9.74
39GI05	5/27-28/93	44.0	2	34.0 - 44.5	12.44
39GI06	6/1-2/93	43.0	2	33.0 - 43.0	8.70
39GI07	6/2/93	43.0	2	33.0 - 43.0	8.54

Note:
ft bls = feet below land surface

Where they were above the water table, bentonite pellets were hydrated according to manufacturer's specifications with 3 to 4 gallons of potable 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 concrete surface pads sealing the remaining annuli above the grout seals, measuring 3-feet square and 6 inches thick at the ground surface. Approximately 2.5 feet of riser stickup was left above the ground surface. Each wellhead was covered with an outer protective steel casing approximately 2 feet into the ground and quipped with a locking cap.

Monitoring well 39GS04, within the stained area, was constructed inside a 12-inch outer diameter PVC protective casing to prevent potentially contaminated surface soil from migrating downward during the drilling process. The casing originally was set 4 feet bls using

hollow-stem augers and a post hoe hand-tool; however, after constructing the well and removing the lead auger from the borehole, the casing inadvertently was dislodged and removed from the borehole. The casing was shortened to 2 feet and regrouted into the borehole. This shorter casing length was used to accommodate potential chges in the water table and to allow unrestricted flow of groundwater to the well screen. Well construction logs are provided in Appendix D.

5.2.2 Well Development

Monitoring wells were developed by E/A&H through alternation of surging, bailing, and pumping. All shallow wells were developed using a hand bailer. Intermediate wells were developed with a Grundfos pump in conjunction with a PVC surge block. Discharge rate, pH, conductivity, temperature, and visual water quality were monitored during development, which continued until bailed/pumped groundwater reached a consistent state of turbidity, and pH, conductivity, and temperature stabilized. Intermediate wells yielded from 55 to 110 gallons of water (seven to 14 well volumes) during development, and wells consistently yielded a dark grey water containing a very high concentration of grey suspended material. Development of shallow monitoring wells consisted of evacuating at least 5 gallons (four well volumes) through dedicated Teflon bailers. After development, groundwater in shallow wells was uncolored to yellow-tinted with very little suspended mated.

5.2.3 Groundwater Sampling

Groundwater samples were collected from the seven newly installed monitoring wells for the first round of sampling on June 3, 7, and 8, 1993. Before sampling, organic vapor concentrations were measured in each well's headspace by inserting the PID probe beneath the well cap. No measurable organic vapor concentrations were detected in the monitoring wells. Following headspace screenings, water levels in each well were measured with an electronic-water level indicator. All monitoring wells were purged with dedicated Teflon bailers and at least four well volumes were evacuated from each. Water was considered stable and

ready for sampling following three consecutive pH, specific conductivity, and temperature readings within ± 0.5 (standard units), ± 5%, and ± 1°C standard units, respectively. 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, and specific conductance were recorded in the field logbook during purging and sampling activities.

Samples from all wells were collected for CLP TCUTAL constituents, including cyanide. One groundwater sample was analyzed for hexavalent chromium (39GS01). One shallow well (39GS04) and one intermediate well (39GI07) were sampled for physical characterization parameters, as described in Table 5-1. Groundwater samples 39GS20, 39GS21, and 39GS22 were USEPA blind samples given to E/A&H by USEPA's oversight contractor, Dynamac Corporation, for analysis by the CLP laboratory.

5.2.4 Groundwater Resampling

Groundwater samples were collected from the seven existing monitoring wells for the second round of sampling on June 13, 15, and 17, 1994. Before sampling, organic vapor concentrations were measured in each well's headspace by inserting the PID probe beneath the well cap. No measurable organic vapor concentrations were detected in the monitoring wells. Following headspace screenings, water levels in each well were measured with an electronic-water level indicator. Before sample collection, a minimum of three well volumes were purged from each well using a peristaltic pump and decontaminated Teflon tubing. Purging was performed at slow, controlled (approximately .25 gallons per minute or less) pumping rate while field parameters and turbidity levels were monitored. Field parameter stabilization and turbidity readings of approximately 10 NTUs or less were obtained within four volumes at each well.

Groundwater samples were collected immediately after well purging. Using the same peristaltic pump and Teflon tubing, groundwater was collected under low vacuum pressure via an in-line collection/transfer bottle apparatus. This apparatus consisted of a two-aperture Teflon cap attached to a 300 series laboratory-certified, 80-ounce glass container (using a clean container and cap for each well). Teflon tubing from the well was attached to one aperture while the tubing from the peristaltic pump was attached to the second. The vacuum created by the pump was sufficient to lift groundwater from the well, filling the collection/transfer bottle at a low controlled flow rate (approximately 380 milliliters per minute). This technique allowed groundwater with minimal turbidity to be collected and transferred to the appropriate containers. Sample volumes for VOC analysis were collected by removing the Teflon tubing from the well and transfer cap, and allowing the unagitated groundwater volume retained in the line to flow backward into 40-ml volatile organic analysis (VOA) vials.

5.3 Sampling Protocol

All sampling activities adhered to the site-specific SAP and in conjunction with the CSAP with reference to the SOP/QAM (USEPA 1991b). Where warranted by field conditions, deviations from the approved procedures were conducted and appropriately documented.

Sample Handling

Handling sampled materials was kept to a minimum. Where necessary to transfer material from sampling devices to containers, the operation was conducted expediently, 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.

QA/QC Samples

QNQC samples were collected as quality checks on field and laboratory procedures. QA/QC 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 *QNQC* samples were collected in accordance with the site-specific *SAP* and in conjunction with the CSAP. The samples taken are as follows.

Type and Frequency:

- For each sampling task, duplicate samples were collected for every 10 samples.
- Equipment rinsate samples were collected from the sampling equipment specific to each task at a frequency of one per 20 collected samples.
- Material blanks were collected once for each of the accessory materials used in drilling and well construction (bentonite powder, filter sand, bentonite pellets, cement).
- One Naval Energy and Environmental Support Activity (NEESA)-defined field blank per week was collected from the deionized, organic removal water system at the E/A&H field trailer, and one field blank per week was collected using the potable water source at Site 39.
- 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.

Sample Containers and Preservation

Sample containers for chemical analyses were supplied pre-cleaned and certified by CompuChem Laboratories, Inc. Sample containers for chemical-physical analyses were provided by Savannah Laboratories in Mobile, Alabama. Sample preservation followed guidelines presented in the Site 39 SAP (see Table 5-4).

Sample Packaging and Shipment

Samples were individually bubble wrapped, bagged in Ziploc bags, and packed on sealed ice inside sturdy coolers. Samples were submitted to the laboratory the day of collection and arranged in iced 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 provide a cushion 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 Federal Express Corporation priority service for next-morning delivery. The receiving laboratory was notified to expect a next-day delivery, and a follow-up call verified the shipment's arrival. 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 goad condition and at appropriate temperatures. Groundwater sample 39GS01, specified for hexavalent chromium analysis, exceeded its 24-hour holding time due to an early morning sample collection. E/A&H field personnel were notified by the laboratory and an

Table 5-4
Sample Containers and Preservation as per Medium and Analysis

Analysis	Sample Container	Preservative
Soil		
CLP TAL TCL	8 oz. glass jar 4 oz. glass jar (VOC only)	4°C
Physical parameters	Shelby tube	—
Chemical-physical parameters	1 L. Nalgene bottle	4°C
Groundwater		
CLP TCL VOCs	40 ml glass vial	4°C - HCL, pH<2
CLP TCL SVOCs CLP TCL Pesticides/PCBs	1 L. amber bottle	4°C
CLP TAL Metals-unfiltered	1 L. Nalgene bottle	4°C - HNO_3, pH<2
Cyanide	1 L. amber bottle	4°C - NaOH, pH > 10
BOD, TSS, Alkalinity, Nitrogen	1 L. Nalgene bottle	4oc
COD, Phosphorous, TKN	1 L. Nalgene bottle	4°C - H_2SO_4, pH<2
Hardness	1 L. Nalgene bottle	4°C - HNO_3, pH<2
Heterotrophic Plate Count	40 ml glass vial	4oc

Notes:
SVOC = Semivolatile Organic Compound
TSS = Total Suspended Solids
BOD = Biological Oxygen Demand
COD = Chemical Oxygen Demand

additional sample was collected the following afternoon, submitted, and analyzed by the laboratory within the 24-hour holding time.

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 Federal Express shipment number. Custody transfers were recorded by signature, date, and time of relinquishment, and receipt of custody by the parties involved.

Auxiliary Data

Auxiliary data pertinent to sampling activities were collected for each sampling event. Field information included identifying of sampling personnel, sampling time, location description, 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.

Decontamination

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

Decontamination Procedures

- Non-phosphate detergent 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 that 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 detergent rinse. Small equipment was decontaminated either at the dedicated decontamination area or at the site using the procedure outlined above.

Investigation-Derived Wastes

Wastes derived from the field investigation included drill cuttings, well development and purge waters, decontamination water, used personal protective equipment (PPE), and well construction material wrappings. Generated wastes were handled so as to minimize contact with the environment. Soil retrieved from hand-auger borings was placed on plastic sheeting or inside plastic bags. During drilling, plastic ground cover was placed over the boring locations to contain drilling spoils. Wastewater from activities at the dedicated decontamination area was contained within the plastic liner of the station and channeled into a plastic-lined sump that was pumped out regularly. Wastewater from decontamination activities was stored onsite in a 55-gallon drum.

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.

Drill cuttings from the shallow hand-auger borings (39305 and 39S06) were replaced into the boreholes. PPE and well construction material wrapping were containerized in the drums along with the drill cuttings, etc., or disposed of in the E/A&H dumpster at Site 1 or the field trailer.

5.4 Rationale and Methods for Hydrologic Investigations

Hydrologic investigations conducted during the RI included piezometric surface mapping (including a tidal influence study), and aquifer testing. Tidal influence studies were done to assess the marine influence on co[redacted]t transport. Piezometric measurement and mapping assesses the flow and gradient of groundwater. Aquifer testing was conducted to provide basic information on aquifer capacity and yield.

5.4.1 Piezometric Surface Mapping

Piezometric surface maps were constructed during low and high tides to investigate the direction of groundwater flow and determine the effects tidal fluctuations may have on groundwater levels. On September 12, 1993, water level was measured to the nearest 0.01 foot during peak high and low tide at 0900 hours and 01900 hours, respectively, 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 piezometric surface. Piezometric maps constructed for the shallow and intermediate depth wells during high and low tide periods are presented in Section 6.

5.4.2 Aquifer Testing

Specific capacity tests were conducted on November 17,1993, to calculate first-estimates of the site-specific surficial zone transmissivity and hydraulic conductivity. Drawdown of the well being pumped was monitored with a water-level indicator, the drawdown and duration of pumping were entered into a computer program (described below) with other variables that characterize the aquifer and the pumping system. The program output includes estimates of specific capacity, transmissivity, and hydraulic conductivity. Copies of the input and output information for each tested well are presented in Appendix E.

Aquifer parameters were calculated from the specific capacity test data using a computer program developed by Bradbury and Rothschild (1985), which is based on equations presented

in Lohman (1972). This program, unlike the Lohman equations, does provide for well loss correction. The two assumed variables entered into the specific capacity program were the storage coefficient and well-loss coefficient. A storage coefficient of 0.25 was estimated for unconfined fine- to medium-grain sand aquifers from Todd (1980) and a well-loss coefficient of 0.75 (also from Todd, 1980) was used to approximate the well efficiency. The specific capacity test results are summarized and discussed in Section 6.

5.5 Removal Action

At the request of the Navy, E/A&H prepared a removal work plan to address removal of the stained soil at Site 39 (E/A&H 1994). This removal work plan was subsequently approved by USEPA and FDEP. Between July 25 and July 29, 1994 NAS Pensacola's Public Works and Construction (PWC) Environmental Department executed the work plan for the removal of stained soil from Site 39 at the Oak Grove Campground. In accordance with the work plan, PWC removed over 864 tons of stained soil from the site. The soil was excavated using a bulldozer to excavate and stockpile the soil and a front-end loader to load the soil on dump-trucks. The Navy acted as the primary removal contractor with Clark Sand Company acting as a subcontractor. Clark Sand Company *transported* the stained soil to the Escambia County Solid Waste Department's Perdido Landfill at 13009 Beulah Road, Cantonment, Florida.

PWC used the analytical data from the RI investigation and a Full TCLP analysis which they performed in their Environmental Department's laboratory to profile the waste as non-hazardous. The analytical data and other pertinent documents from the removal action are contained in Appendix G.

E/A&H provided personnel to perform field screening and sample collection after the excavation was completed. Screening samples were taken from the excavated area and the headspace of the samples was analyzed as outlined in FDER's publication "Guidelines for Assessment and Remediation of Petroleum Contaminated Soils" and Section 5.1.2 of this document

(see Figure 5-1). Initially five excavation screening samples were taken based on changes in the color of the soil, all samples registered zero except for one sample, which registered 5 ppm. Approximately one more foot of soil was removed from this area. An additional foot of soil was removed from a near-by area based on similarity in soil color with the 5 ppm sample. These areas were resampled and registered zero.

When the excavation was complete, 14 post-excavation screening samples were taken on a rough grid for headspace analysis to confirm removal of all *contaminated* soil. None of the samples registered greater than 1 ppm. At four of the locations, duplicate samples were collected and analyzed for full TCL/TAL parameters at a CLP laboratory. The results of these samples are presented in Section 7.

Approximately 1 foot of soil was removed on the south side of the site and the excavation gradually deepened to 3 feet on the north side. A soil sample of the backfill material from the [backfill stockpile], located approximately one mile west of the site [see Figure 2-1], was analyzed for full TAL/TCL parameters. Upon receipt of analytical results from both the confirmation samples and the backfill sample, the excavation was backfilled with soil from the [backfill stockpile] to approximately the same grade that existed at the site prior to the removal action.

6.0 GEOLOGICAL AND HYDROLOGICAL RESULTS

6.1 Site-Specific Geological Interpretation

The soil boring investigation consisted of nine soil borings limited to the surficial zone of the Sand-and-Gravel Aquifer. Six shallow borings were terminated in the upper portion of the surficial zone and three intermediate depth borings were advanced through the full thickness of the surficial zone to the top of the underlying low permeability zone. Discussion in this section will refer to the surficial zone as the upper (shallow depth) and lower (intermediate depth) surficial zones. As described in Section 3.2, the upper surficial zone refers to the water table and lower surficial zone refers to the basal portion of the surficial zone immediately above the low permeability zone at the site.

The subsurface stratigraphy at Site 39 is consistent with previous studies conducted at NAS Pensacola. Geologic cross-sections illustrating the subsurface stratigraphy prepared using data from this investigation are provided in Figure 6-1. Cross-section A-A' has been drawn north-south across the site and cross-section B-B' has been drawn approximately east-west, paralleling the Pensacola Bay shoreline. A fine- to medium-grain quartz sand was encountered at the surface to approximately 43 to 45 feet bls. A Shelby tube collected from the 0- to 2-foot interval indicates this sand unit contains a vertical hydraulic conductivity of 1.995×10^{-2} cm/sec (56.55 feet/day) and a porosity of 40.43 percent. Cuttings from the intermediate depth borings indicated a dark brown, apparently organic-rich pore water within the sands at a depth of approximately 25 feet. The high organic content in groundwater may represent an eastward extension of the organic sand horizon that occurs within the surficial zone beneath the western portion of the air station, as documented by G&M (1984). The base of the surficial zone is underlain by a low permeability zone consisting of either a soft blue/gray clay or a green silty clay. The three intermediate depth brings indicate the top of the low permeability zone to be at 43 to 45 feet bls and continuous beneath the site. Hydraulic conductivity values from the site's low permeability zone were not obtained; however, hydraulic conductivity data collected from the same zone at Operable Unit 10 indicate values ranging between 2.065×10^{-5} feet/day

(7.285 x 10^{-9} cm/sec) and 1.764 x 10^{-3} feet/day (6.224 x 10^{-7} cm/sec) (E/A&H, 1993b). Thickness of this unit reportedly varies between 12 and 17 feet. Sediments with hydraulic conductivity values of less than 10^{-5} cm/sec generally are considered a confining unit (Fetter 1988). The extremely low hydraulic conductivity found in the clay layer and its laterally continuous nature beneath the site indicates the *site-specific* potential for groundwater movement through the clay and into the underlying main producing zone to be extremely low.

6.2 Groundwater Hydrologic Results

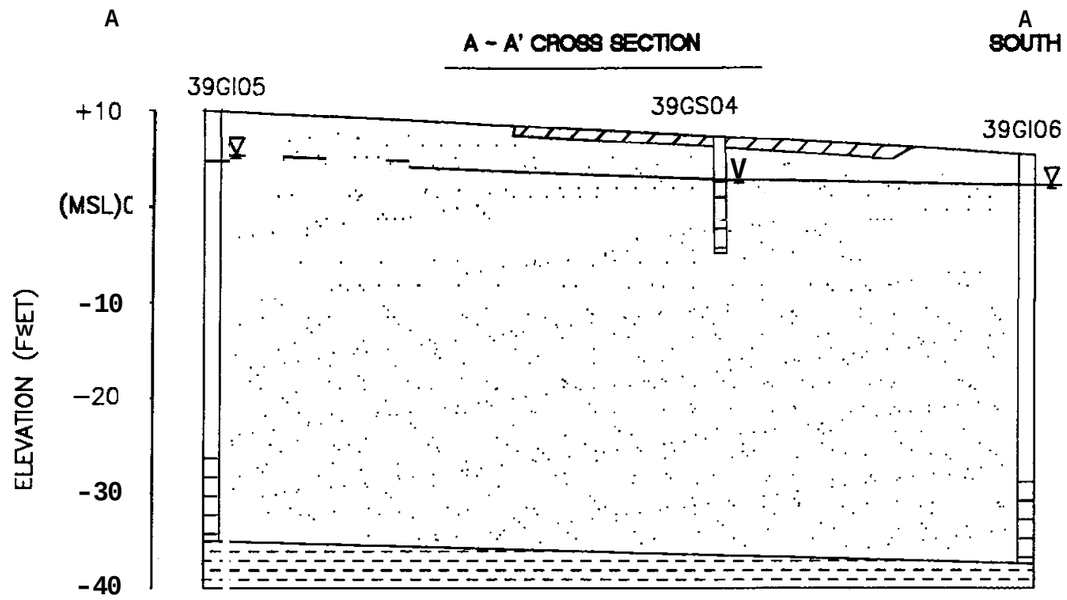
6.2.1 Tidal Influence

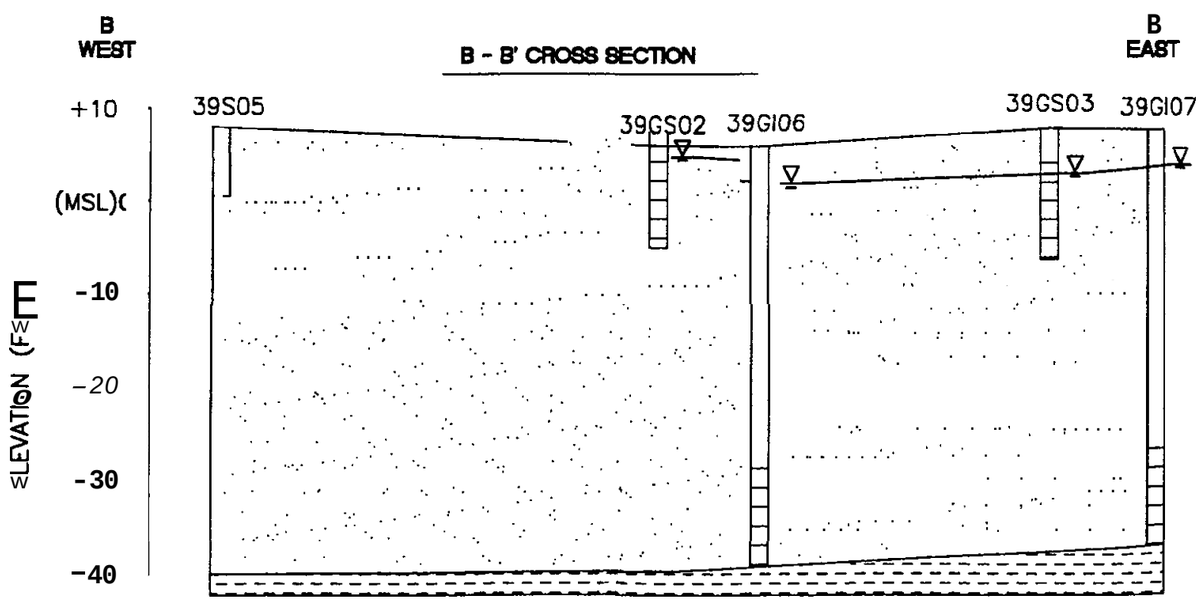
Water level measurements were collected from all the site's monitoring wells during peak high and low tides on September 14, 1993, to determine the effects tidal fluctuations may have on the site's groundwater levels and resulting flow dynamics. As shown in Table 6-1 and Figure 6-2, groundwater elevations were noted to rise and fall during peak high and low tides, consistent with the rise and fall of the tides.

Table 6-1
Low and High Tide Groundwater Elevation Data (in feet)
Site 39

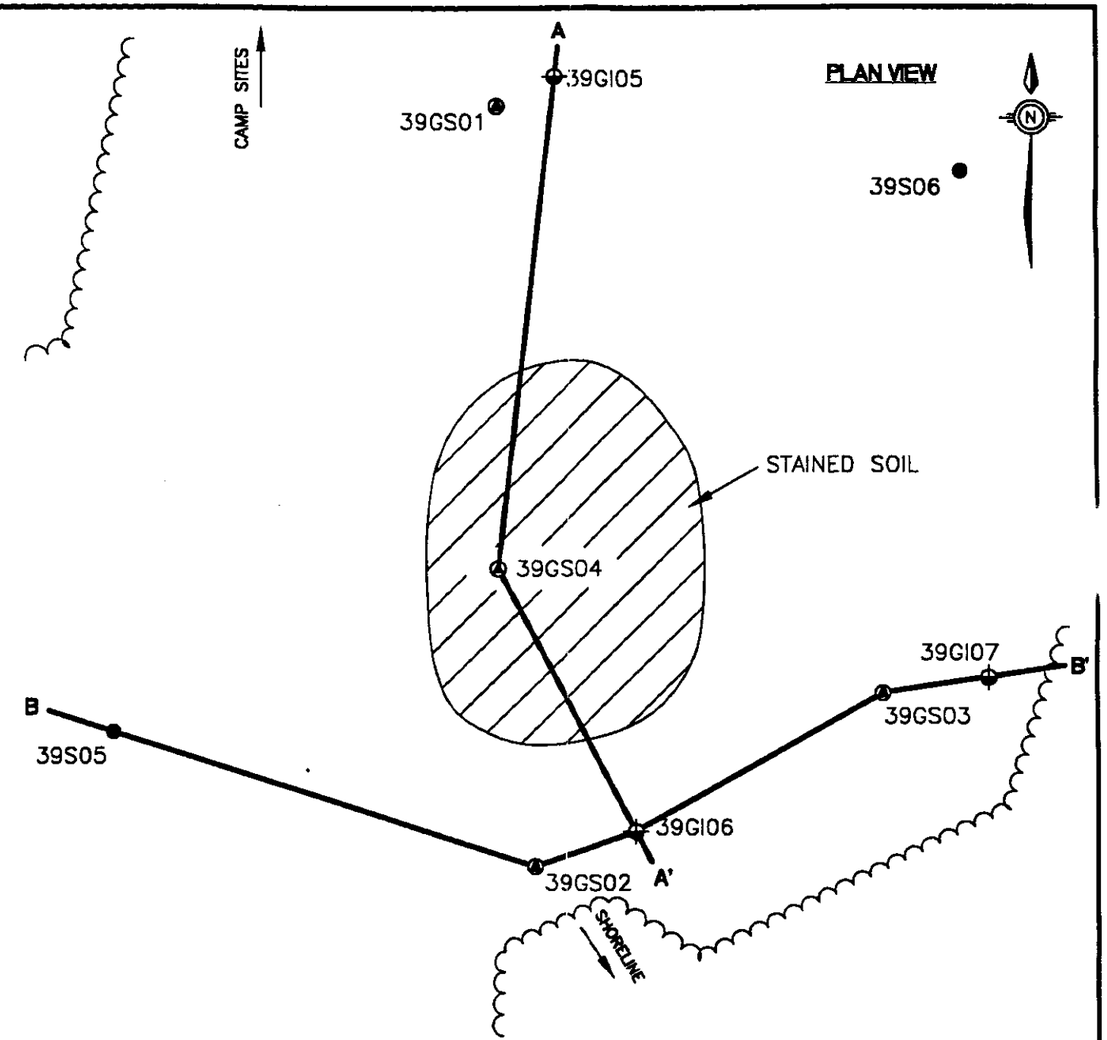
Well Number	Top of Casing Elevation	Low Tide GW Elevation	High Tide GW Elevation	Low-High Tide Water Level Change
39GS01	12.54	3.50	3.62	+0.02
39GS02	8.70	2.98	2.98	0.00
39GS03	8.54	3.00	3.01	+0.01
39GS04	9.74	3.20	3.21	+0.01
39GI05	12.44	4.94	4.98	+0.04
39GI06	8.70	3.71	3.75	+0.04
39GI07	8.54	3.93	3.98	+0.05

Note:
All elevations relative to msl low and high tide readings collected respectively at 1915 and 0855 on 9/14/93.





HORIZONTAL SCALE 1"=30'
VERTICAL SCALE: 1"=16'



LEGEND

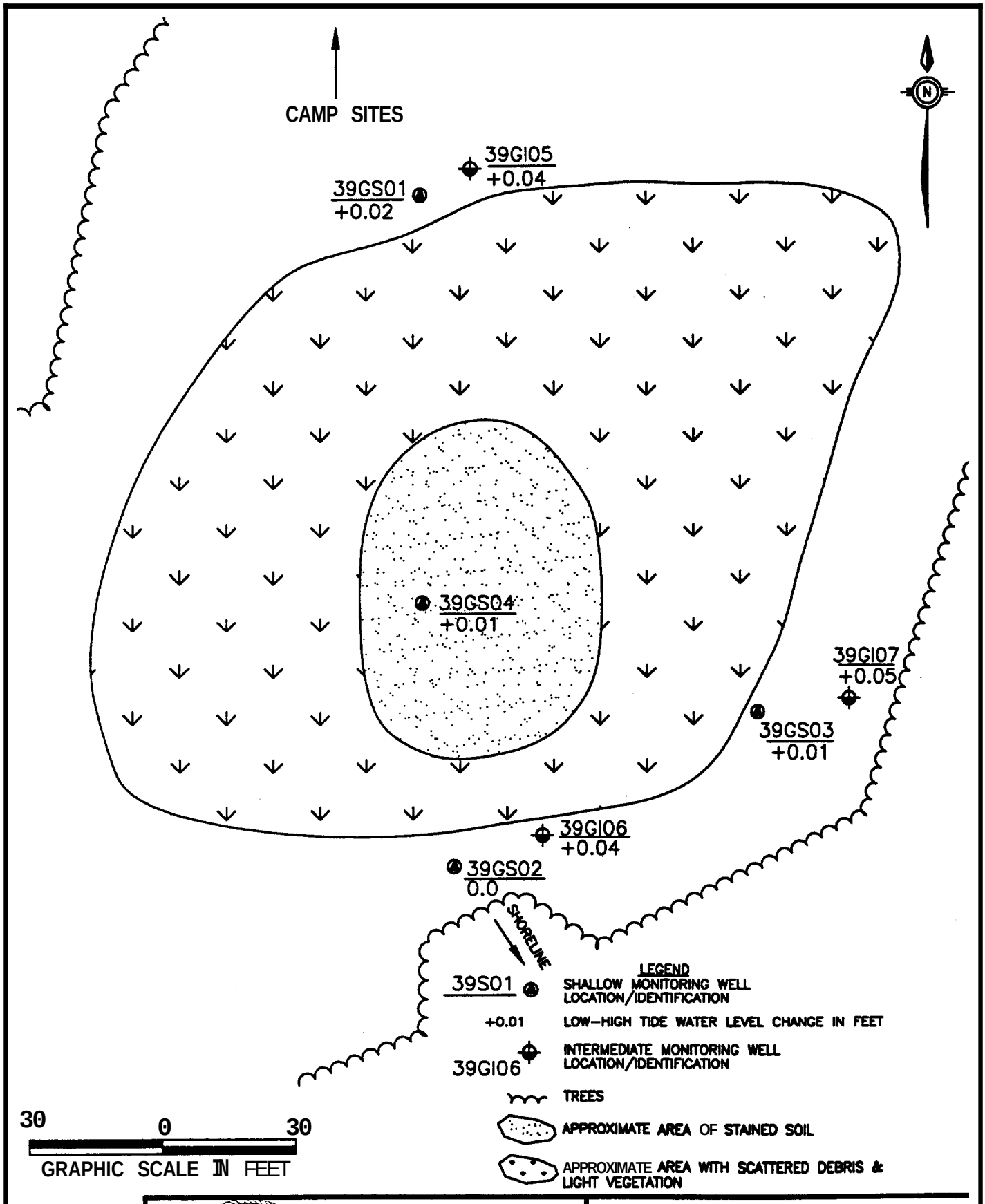
- FINE GRAINED POORLY GRADED Qtz SAND
- GREYISH BLUE SANDY CLAY OR GREEN SILTY CLAY
- AREA CONTAINING STAINED SOIL
- GROUNDWATER ELEVATION ON 08/14/93
- 39GS01 SHALLOW MONITORING WELL LOCATION/IDENTIFICATION
- 39GI06 INTERMEDIATE MONITORING WELL LOCATION/IDENTIFICATION
- 39S05 SOIL BORING LOCATION/IDENTIFICATION
- TREES

30 0 30
GRAPHIC SCALE IN FEET

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 6-1
GEOLOGIC CROSS SECTIONS A-A', B-B' AND MAP LOCATIONS

DWG DATE: 11/29/94 | DWG NAME: 5939GCS



REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 6-2
WATER LEVEL CHANGES IN SHALLOW & INTERMEDIATE WELLS FROM LOW TO HIGH TIDE ON 9/14/93

DWG DATE: 11/21/94 | DWG NAME: 5939WLHT

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Changes in water levels ranged from 0.00 to 0.05 feet with the most pronounced changes occurring in the intermediate depth monitoring wells. Overall, the changes are relatively insignificant and did not affect groundwater flow directions in either the shallow or intermediate depths. Based on this data, there is no correlation between water level changes and distance of the wells from Pensacola Bay, probably due to the relatively close spacing between wells and their similar distance from the bay. It is also possible a time lag may exist between peak high and low tides and the maximum change in groundwater elevations. However, given that the water levels were measured at both peak high and low tides, the effect of a time lag would be equal on both measurements, and the relative changes in water level should be accurate. Several factors may affect this lag time, including distance from the bay, the tidal period, and the storage capacity and transmissivity of the aquifer.

6.2.2 Groundwater Flow Direction and Gradient

On the basis of the groundwater elevations measured at the site, the flow direction of the surficial zone (both shallow and intermediate depths) appears to generally mimic the topography, flowing south-southeast toward Pensacola Bay. Piezometric maps constructed from low and high tide groundwater elevations measured on September 14, 1993, indicate the water table lies between 3 and 7 feet bls and ranges in elevation from 3.9 to 2.9 feet above msl. Horizontal groundwater gradients within the upper portion of the surficial zone were calculated to range from 0.0035 to 0.0036 during low tides. During high tides, groundwater gradients only slightly increased, with calculated values ranging from 0.0036 to 0.0037. Piezometric maps constructed during low and high tides indicate a southeasterly groundwater flow of the upper surficial zone (see Figures 6-3 and 6-4).

The lower portion of the surficial zone contains a steeper horizontal groundwater gradient than its shallow counterpart, with low and high tide gradients ranging respectively from 0.0069 to 0.0081 and 0.0073 to 0.0081. Piezometric maps constructed during low and high tides indicate

e.

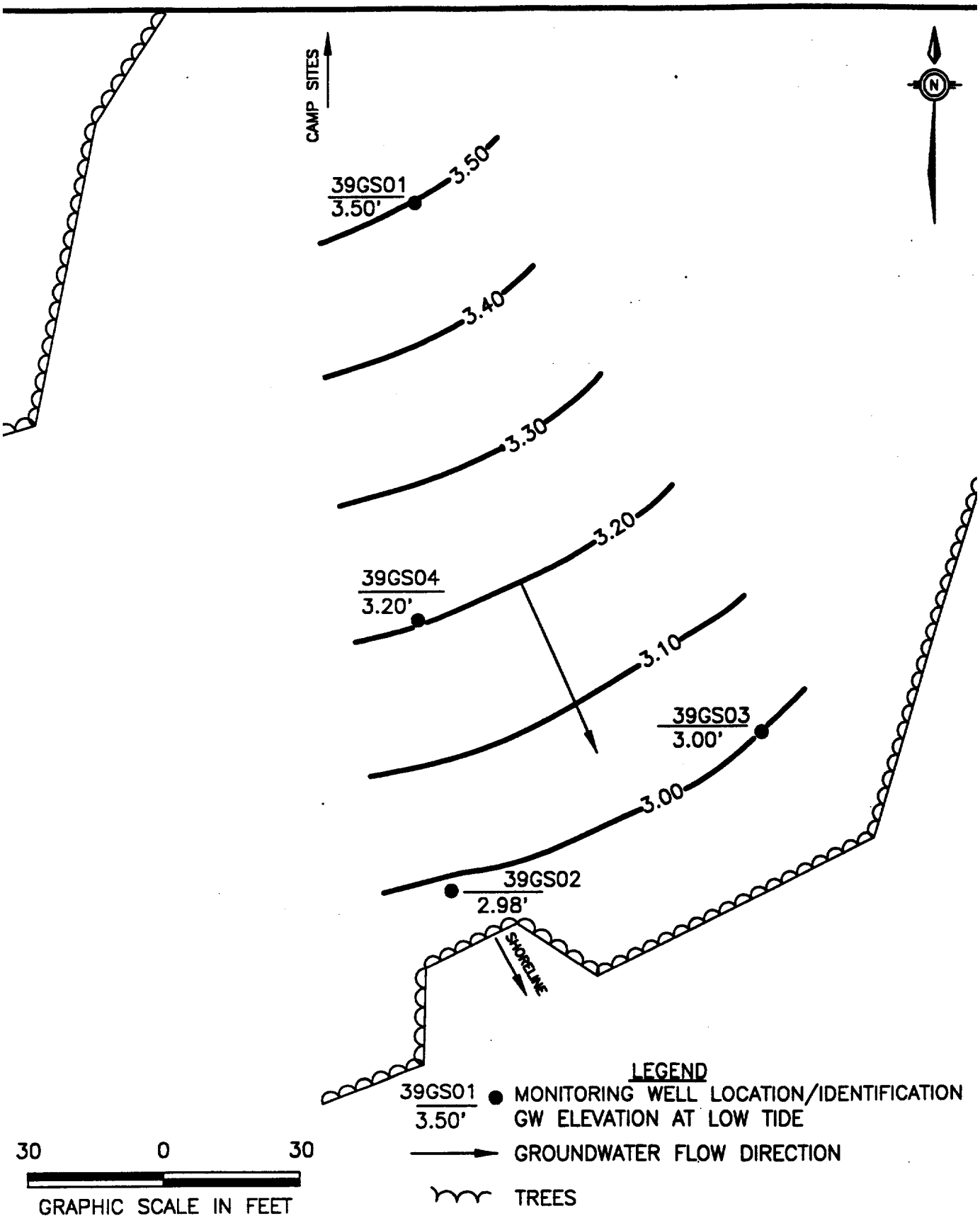
a southerly groundwater flow in the lower surficial zone; they are provided in Figures 6-5 and 6-6.

Relative groundwater elevations between the shallow wells and the paired intermediate depth wells indicate an upward potential component of flow between the lower and upper surficial zones. As shown in Table 6-2, an upward vertical gradient ranges from 0.024 to 0.049 between the lower and upper portions of the surficial zone. Again, the overall tidal effects on the vertical groundwater gradient appear minimal, but potentially could be greater than measured. This is consistent with the fact that the variation of water levels attributed to low and high tides for both depth intervals is minor. However, because the shallow and intermediate zones would be similarly affected if a lag time does exist between maximum water level and peak tide changes, the relative groundwater flow directions and gradients should remain similar to those described above.

Table 6-2
Vertical Hydraulic Gradient
Site 39

Well Pair	Well Depths (feet)	Difference Between Water Levels (feet); Shallow-Intermediate		Vertical Hydraulic Gradient (feet/feet)	
		Low Tide	High Tide	Low Tide	High Tide
GI05/GS01	14/44	1.44	1.46	0.048	0.049
GI06/GS02	13/43	0.73	0.77	0.024	0.026
GI07/GS03	13/43	0.93	0.97	0.031	0.032

Note:
Vertical hydraulic gradient equals the difference in the well pairs' water levels divided by the difference in well pairs' screen length.



REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 6-3
LOW TIDE PIEZOMETRIC MAP OF UPPER SURFICIAL ZONE

DWG DATE: 11/21/94 | DWG NAME: 5939LTS2

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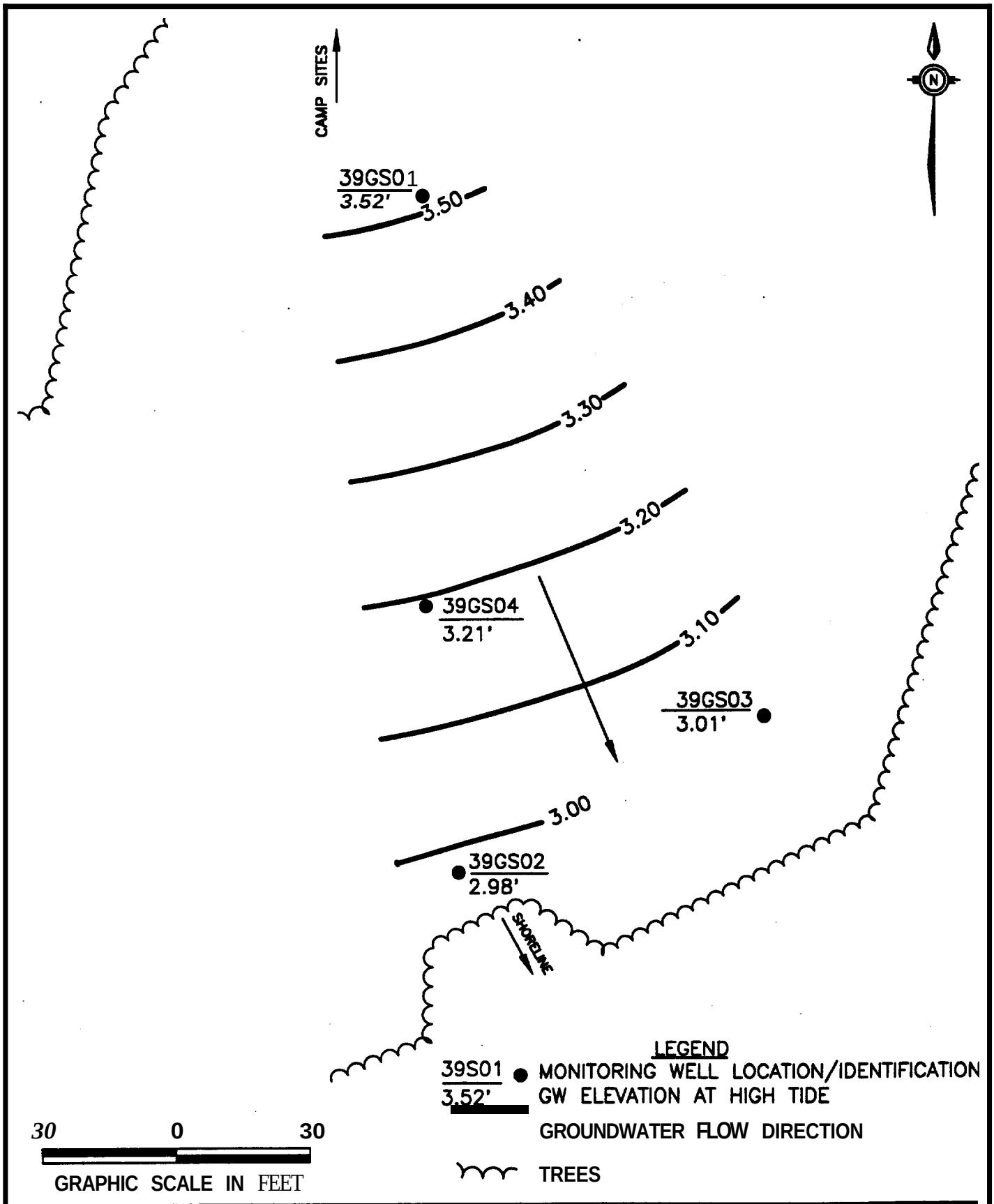

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 6–4
HIGH TIDE PIEZOMETRIC MAP OF UPPER SURFICIAL ZONE

DWG DATE: 11/21/94 | DWG NAME: 5939HTS2

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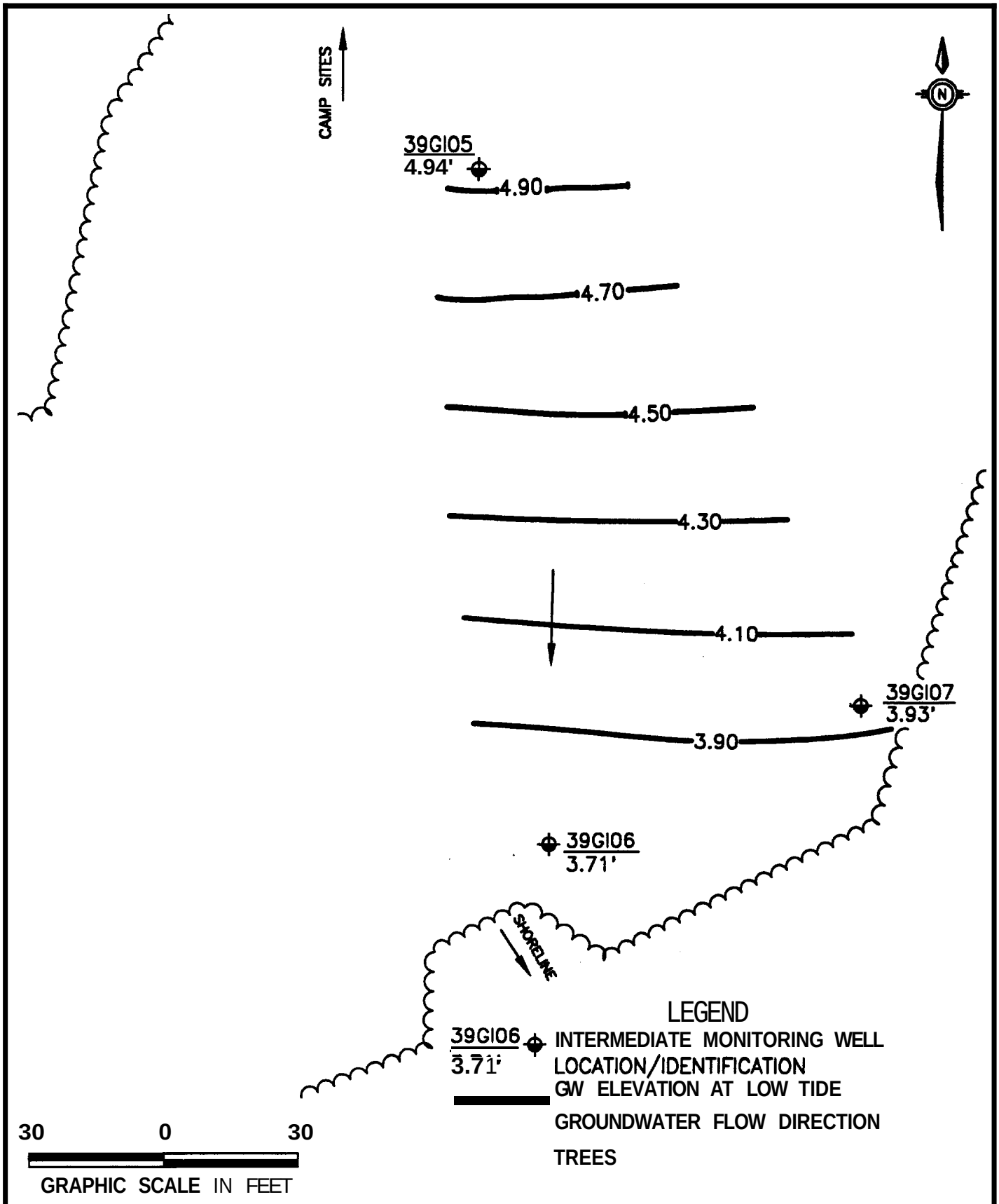

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 6-5
LOW TIDE PIEZOMETRIC MAP OF LOWER SURFICIAL ZONE

DWG DATE: 01/10/94 | DWG NAME: 5939LTLZ

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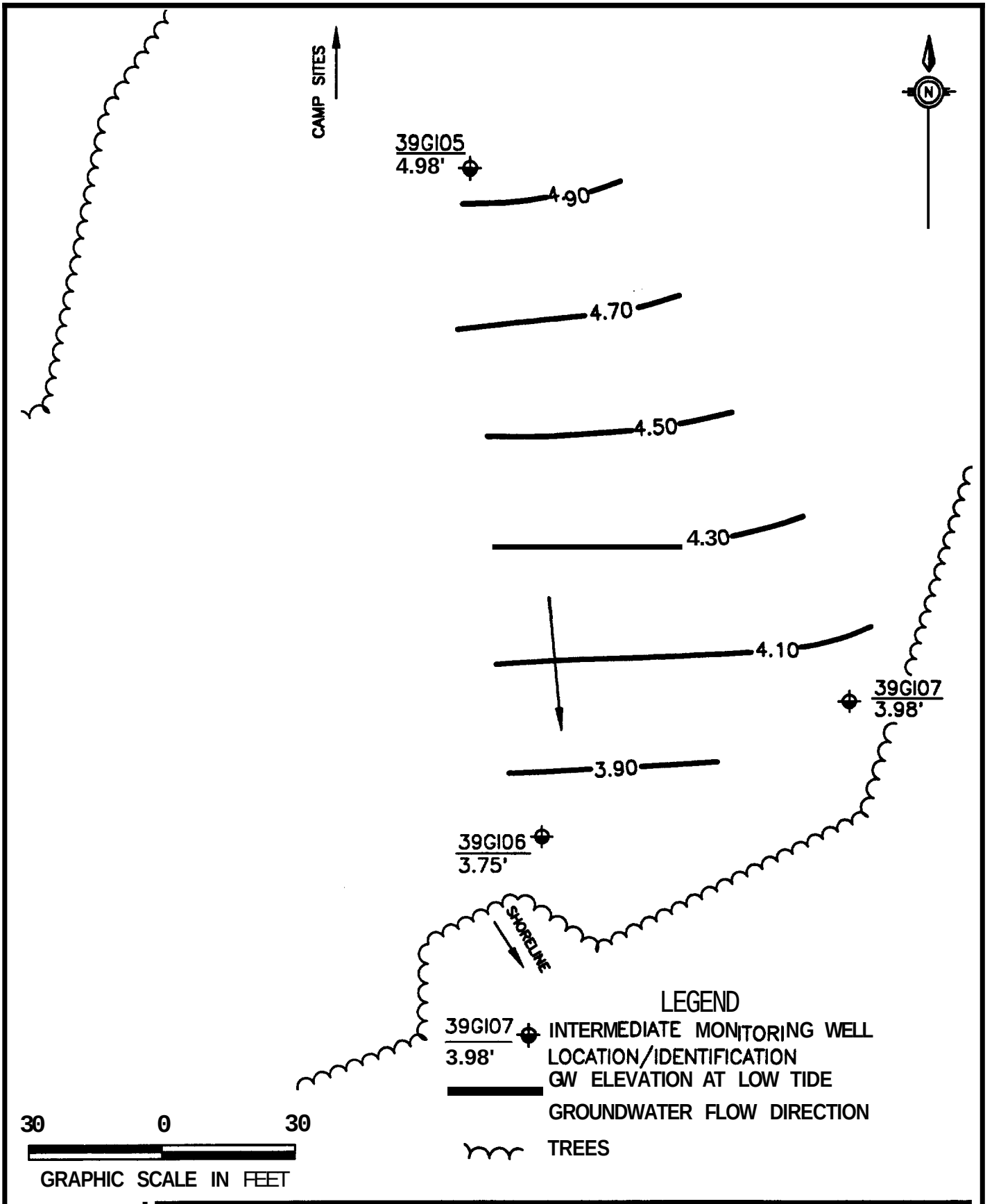

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 6-6
HIGH TIDE PIEZOMETRIC MAP OF LOWER SURFICIAL ZONE

DWG DATE: 01/10/94 | DWG NAME: 5939HTLZ

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6.2.3 Aquifer Characteristics

Specific capacity tests were conducted on three shallow and two intermediate depth monitoring wells following sampling. The specific capacity and hydraulic conductivity determined at each tested well are provided in Table 6-3.

Table 6-3
Aquifer Characteristics
Site 39

Monitoring Well	Well Depth (feet)	Specific Capacity (gpm/ft)	Hydraulic Conductivity (ft/day)
39GS01	14	16.69	327.49
39GS02	13	10.35	149.84
39GS04	13	16.60	266.15
39GI05	44	1.79	24.59
39GI06	43	0.87	11.67

Note:
Specific capacity tests were conducted on September 14, 1993.

Specific capacity measures the well's productivity, defined as the ratio between the rate of pumping and the drawdown (or change in head) in the well. Knowing the specific capacity and the aquifer thickness, the hydraulic conductivity of the aquifer also can be determined. Aquifer thickness was calculated by subtracting the elevation of the bottom of the intermediate depth wells from the static water level elevation. The most pronounced variation found in the aquifer characteristics is the difference in values between the upper and lower portions of the surficial zone. As shown in Table 6-3, specific capacity values and hydraulic conductivity values in the upper surficial zone are greater than in the lower surficial zone by approximately one order of magnitude. The hydraulic conductivities of the upper surficial zone range from 149 to 327 feet per day, while the hydraulic conductivities in the lower surficial zone range from 11 to 24 feet

per day. This vertical variation of aquifer characteristics may be attributed to subtle lithological changes at the base of the surficial zone (i.e., lower permeable sands, small clay/silt lenses not detected in the auger cuttings). Horizontal groundwater velocities in the upper surficial zone have been calculated to range from 2.17 to 2.29 feet per day while horizontal groundwater velocities in the deeper surficial zone are significantly less, ranging from 0.31 to 0.37 feet per day. The horizontal groundwater velocities were calculated using the following derivation of Darcy's Law:

$$V = Ki/n$$

where:

K = hydraulic conductivity from specific capacity tests

i = groundwater gradient

n = effective porosity of aquifer matrix

Calculated groundwater velocities are based on the range of hydraulic conductivity values found in each portion of the surficial zone, the lowest and highest horizontal groundwater gradients determined within each zone, and an effective porosity of 28 percent 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 surficial zone of the Sand-and-Gravel Aquifer is underlain by a low permeability zone between 43 and 45 feet bls, consisting of a clay, silty-clay unit which appears laterally continuous across the site.

- Groundwater flows within the upper and lower surficial zones southeast and south, respectively, toward Pensacola Bay. The flow direction is consistent with the site

topography; the lower surficial zone contains a steeper horizontal gradient (0.0069 to 0.0081 at low tide) in comparison to the upper surficial zone (0.0035 to 0.0036 at low tide).

- The vertical groundwater gradients measured between paired wells indicate an upward potential component of flow from the lower surficial zone to the upper surficial zone ranging from 0.032 to 0.049 during high tide. This upward potential component of flow coupled with the low permeability zone underlying the site minimizes the potential hydraulic communication between the surficial zone and the main producing zone underlying the low permeability zone.

- Tidal effects on water levels vary from 0.00 to 0.05 feet, and possibly more, with the most substantial effect observed on the intermediate depth monitoring wells. Groundwater level changes are consistent with the direction of tidal changes. The overall groundwater flow directions and gradients are minimally affected by the tidal fluctuations.

- Hydraulic conductivity (K) values derived from specific capacity data indicate significantly different K values in the upper and lower portions of the surficial zone. The average K for the upper surficial zone was 247 feet per day, indicating high permeabilities, while the average K for the lower surficial zone was 18 feet per day, indicating fairly low permeabilities.

- Using the hydraulic conductivity data with the lowest and highest measured groundwater gradients velocity regimes were calculated at the site. The upper surficial zone has a calculated velocity range from 2.17 to 2.29 feet per day while the lower surficial zone has a calculated velocity range from 0.31 to 0.37 feet per day.

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7.0 NATURE AND EXTENT OF CONTAMINATION

In this section the nature and extent of contamination at Site 39 will be discussed. Due to the removal of stained soil from the site prior to this report it is important to understand the difference in site conditions that exist at the site today compared to the pre-removal conditions. To help distinguish between pre-removal and post-removal conditions, each discussion will be divided into pre-removal and post-removal Sections.

7.1 Soil Analytical Results

Analytical results indicate detectable concentrations of volatiles, semivolatiles, pesticides, PCBs, metals, and cyanide in the site soil. Some compound groups are isolated to particular areas of the site (and are exclusive to the stained area), while others were found across the entire site. The concentrations of contaminants found at the site have been compared to the USEPA Region III Risk-Based Concentration (RBC) for residential soil and the FDEP Clean-up Goals (CG) for Department of Defense sites. The values of either of these used for comparison were the lower of the aggregate resident scenario or child resident scenario for non-carcinogens. In addition to the RBCs and CGs the inorganic contaminants found at the site have been compared to the reference concentration for NAS Pensacola to determine if measured concentrations represent ambient soil conditions or indicate actual contamination. The soil background data consist of 18 samples collected from two borings, 01S67 and 01S69, during the Site 1 RI (locations designated in Figure 2-1 as background monitoring wells GS-67 and GS-69 respectively). To gauge whether contamination is present at the site, the detected parameters have been compared to twice the average background concentration detected for those parameters (i.e., reference concentration). A database summary of this analytical data is provided in Appendix F. Tables accompanying the discussion of each contaminant group present the detected concentrations of contaminants, the PRGs, and the applicable reference concentration. Figures for each contaminant group showing the concentration values detected for each boring demonstrate the areal concentration distribution of the contaminants.

Headspace screening conducted with a PID indicated measurable organic vapor concentrations in three of the six brings. Organic vapor concentrations above background levels were detected at brings 39S01, 39S02, and 39S04 with concentrations of 6.5, 2.4, and 4.8 ppm, respectively. Comparison between analytical results and measured Organic vapor concentrations indicates that no correlation exists between the two. Headspace screening results are shown on the boring logs in Appendix B.

7.1.1 Volatile Organic Compounds

Pre-Removal

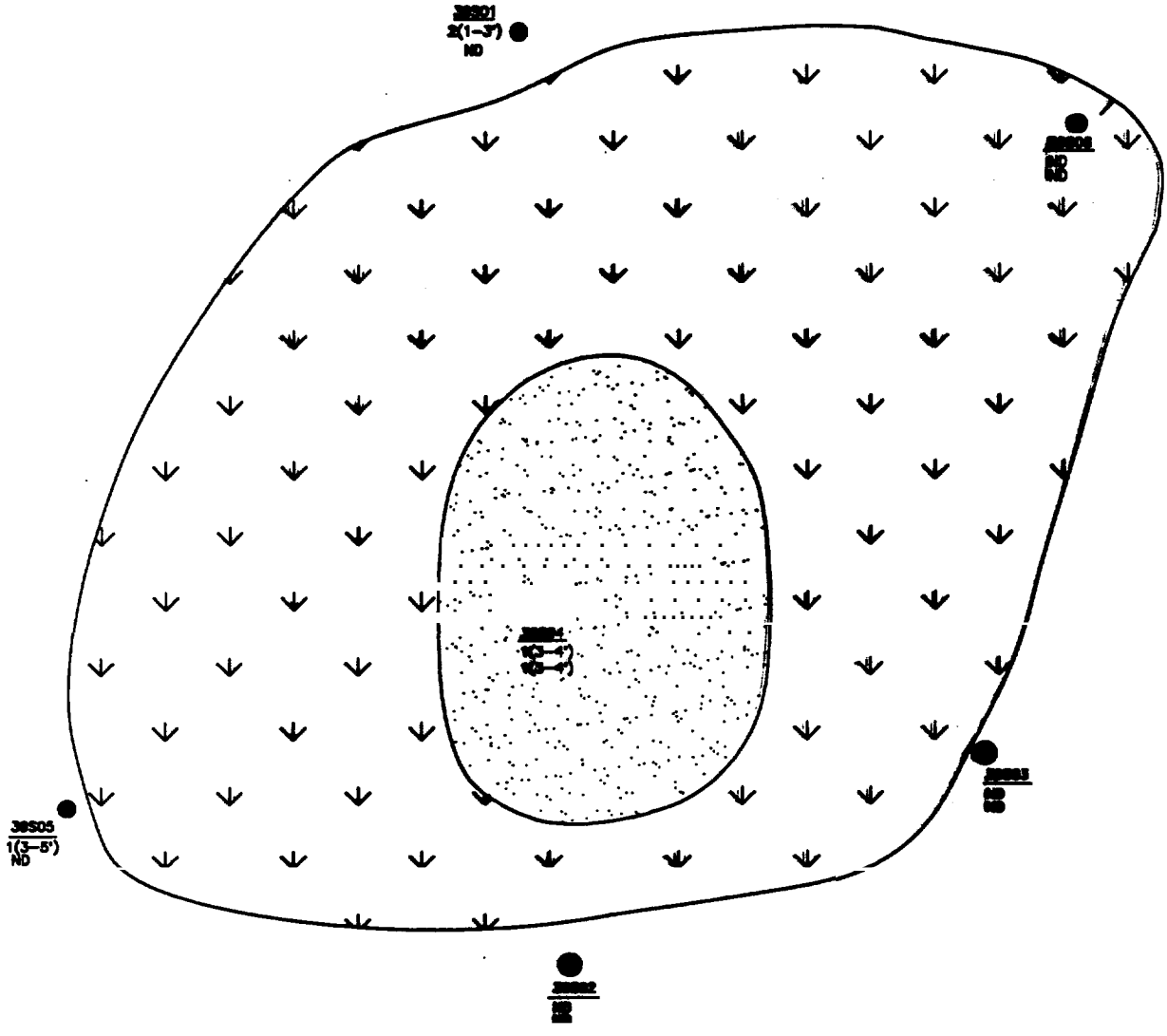
The VOCs toluene and trichloroethene were detected in three soil samples at Site 39 prior to the removal of soil. These compounds were detected at low concentrations in three separate brings and at three different depths. Toluene concentrations *ranged* from non-detect to 2 ppb; trichloroethene concentrations ranged from non-detect to 1 ppb. A summary of the measured VOC concentrations is provided in Table 7-1 and the locations of the measured concentrations are illustrated in Figure 7-1. Toluene was detected in the trip blanks, potable water blanks, and deionized system blanks. It was also in a sample delivery group (SDG) *separate* from analyzed soil samples, indicating this compound may be attributed to laboratory contamination.

Table 7-1
Summary of Volatile Organic Compounds in Soil
Site 39
(µg/kg)

Compound	Sample ID/Depth Interval			USEPA-RBC	FDEP-CG
	39S0103[a]	39S0404	39S0505		
Toluene	2J	1J	1J	1,600,000	NA
Trichloroethene	ND	1J	ND	47,000	12000

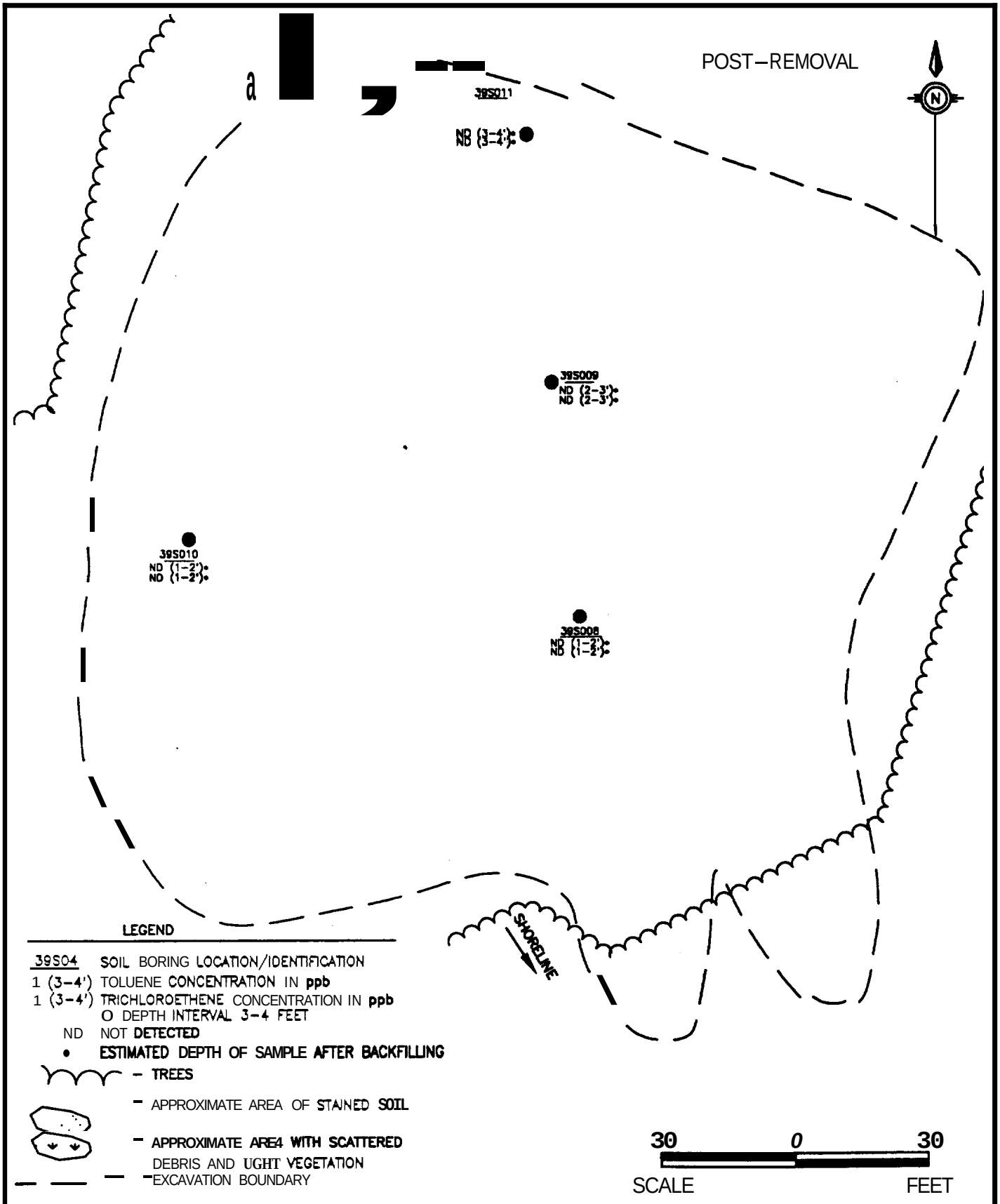
Note:
µg/kg = Micrograms per kilogram or parts per billion (ppb).
ND = Compound not detected.
J – Reported concentration considered an estimated value.
a – Soil interval estimated to have been removed during the removal action.

PRE-REMOVAL



OVERLAY FIGURE 7-1

DWG NAME: 5939MVCA



REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 7–1
GREATEST MEASURED VOLATILE ORGANIC COMPOUNDS IN SOIL

DWG DATE: 11/22/94 | DWG NAME: 5939MVOC

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Post-Removal

No VOCs were detected in any of the samples **collected** after the removal action.

7.1.2 Semivolatile Organic Compounds

Pre-Removal

Sixteen semivolatile organic compounds **(SVOCs)** were **detected at** the site pnor to the removal of soil. Low concentrations, generally in the ppb range, were **detected** in **all soil** borings except 39S02, which exhibited no detectable concentrations.

Benzo(a)-pyrene exceeded the **PRGs;** in boring 3980103 **[(570ppb, removed during removal action)]** and 3980403 (360ppb) the concentrations exceeded both the **FDEP** CG (148ppb) and the **USEPA** RBC (99ppb). Dibenz(a,h)anthracene exceeded both the **USEPA RBC** (88ppb) and the **FDEP** CG (148ppb) in sample 3980103 **[(210ppb, removed during removal action)]. This** was the only sample in which Dibenz(a,h)anthracene was detected and it was estimated ("J" qualified). During the removal action the soil down to three feet bls was removed in the vicinity of boring 39S01.

Detected **SVOCs** *are* listed in Table **7-2,** and distribution of **SVOC** concentrations exceeding **PRGs** and the intervals in which they were detected are illustrated in Figure **7-2. Total SVOC** concentrations ranged from non-detect at boring 39802, to **5,205** ppb at boring 39S01 **[(2- to 3-foot interval, removed during removal action)].** The surface sample **collected** from the **stained area [(39S0401, removed during removal action)]** contained a **total** semivolatile concentration of **2,220** ppb and concentrations diminished consistently with depth, down to 151 ppb at the **4-** to 5-foot interval (immediately above the water table). Pyrene was the dominant semivolatile in the sample 39S0401, **and** its concentration also **decreased** with depth (900 ppb at surface, **[removed during removal action,]** to **58** ppb at 4-5'). **This** is the only

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Table 7-2
Summary of **Semivolatile Organic** Compounds in **Soil**
Site 39
(µg/kg)

Compound	Sample ID/Depth						Preliminary Remediation Goals	
	39S01 01*	39S01 03*	39S01 05	39S03 03	39S04 01*	39S04 03	USEPA - RBC	FDEP CG
Acenaphthylene	ND	73J	ND	ND	ND	39J	NA	NA
Anthracene	ND	38J	ND	ND	ND	ND	NA	18,300,000
Benzo(a)anthracene	ND	580	44J	ND	ND	150J	880	1480
Benzo(a)pyrene	ND	[570]	36J	ND	ND	[360]	88	148
Benzo(b+k)fluoranthene	ND	1200	77J	ND	320J	170J	NA	NA
Benzo(g,h,i)perylene	59J	310J	ND	ND	ND	ND	NA	NA
Butylbenzyl-phthalate	ND	ND	ND	ND	ND	ND	16,000,000	15,300,000
Chrysene	ND	440	ND	ND	ND	200J	88000	14800
Dibenz(a,h)anthracene	ND	[210J]	ND	ND	NO	ND	88	148
Fluoranthene	ND	410	63J	ND	ND	100J	NA	2,990,000
Indeno(1,2,3-cd)pyrene	ND	460	ND	ND	ND	ND	880	1480
4-Nitrophenol	84J	ND	ND	ND	ND	ND	4,800,000	NA
Phenol	NO	ND	ND	ND	ND	ND	47,000,000	NA
Phenanthrene	ND	37J	39J	ND	ND	53J	NA	NA
Pyrene	46J	950	64J	37J	1900	570	2,300,000	2,240,000
Pentachloro-phenol	42J	ND	ND	ND	ND	ND	5300	9620

Table 7-2
Summary of Semivolatile Organic Compounds In Soil
Site 39
(µg/kg)

Compound	Sample ID/Depth						Preliminary Remediation Goals	
	39S04 04	39S04 05	39S05 01*	39S05 05/05D	39S06 01/01D*	39S06 03*	USEPA - RBC	FDEP CG
Acenaphthylene	ND	ND	ND	ND	ND	ND	NA	NA
Anthracene	ND	ND	ND	ND	ND	ND	NA	18,300,000
Benzo(a)anthracene	64J	ND	ND	ND	100J/120J	ND	880	1480
Benzo(a)pyrene	69J	ND	34J	ND	120J/110J	ND	88	148
Benzo(b+k)fluoranthene	110J	51J	51J	ND	190J/210J	64J	NA	NA
Benzo(g,h,i)perylene	ND	ND	ND	ND	46J/71J	ND	NA	NA
Butylbenzyl-phthalate	ND	ND	ND	ND	ND	ND	16,000,000	15,300,000
Chrysene	79J	42J	ND	ND	80J/92J	35J	88000	14800
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	88	148
Fluoranthene	67J	ND	ND	ND	110J/120J	48J	NA	2,990,000
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	76J/88J	ND	880	1480
4-Nitrophenol	ND	ND	ND	ND	ND	ND	4,800,000	NA
Phenol	ND	ND	ND	ND	ND	ND	47,000,000	NA
Phenanthrene	39J	ND	ND	ND	34J/34J	ND	NA	NA
Pyrene	180J	68J	42J	ND	140J/150J	49J	2,300,000	2,240,000
Pentachloro-phenol	ND	ND	ND	ND	ND	ND	6300	9620

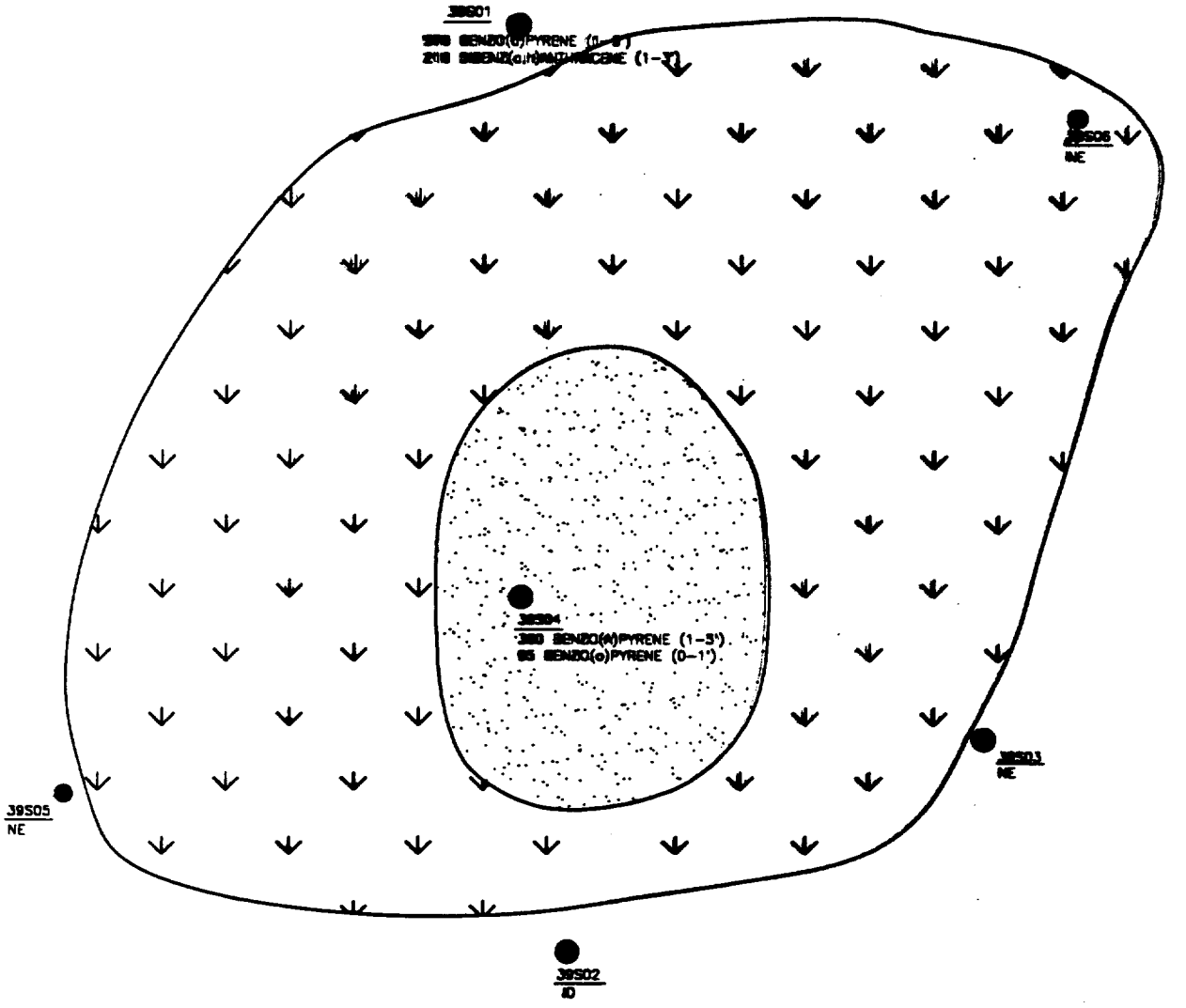
Table 7-2
Summary of Semivolatile Organic Compounds in *Soil*
Site 39
(µg/kg)

Compound	Sample ID/Depth						Preliminary Remediation Goals	
	39S007[b] 01	395008' 01	39S009[b] 01	39C009[b] 01	39S010[b] 01	398011[b] 01	USEPA - RBC	FDEP CG
Acenaphthylene	ND	ND	ND	ND	ND	ND	NA	NA
Anthracene	ND	ND	ND	ND	ND	ND	NA	18,300,000
Benzo(a)anthracene	ND	ND	75J	59J	95J	ND	880	1480
Benzo(a)pyrene	ND	[150J]	82J	62J	[95J]	ND	88	148
Benzo(b)fluoranthene	ND	97J	150J	130J	310J	48J	880	1480
Benzo(g,h,i)perylene	ND	ND	64J	49J	46J	ND	NA	NA
Benzo(k)fluoranthene	ND	89J	230J	190J	280J	69J	8800	1470
Butylbenzyl-phthalate	ND	ND	ND	ND	ND	ND	16,000,000	15,300,000
Chrysene	ND	53J	84J	68J	110J	45J	88000	14800
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	88	148
Fluoranthene	ND	ND	99J	82J	150J	ND	NA	2,990,000
Indeno(1,2,3-cd)pyrene	ND	ND	51J	43J	62J	ND	880	1480
4-Nitrophenol	ND	ND	ND	ND	ND	ND	4,800,000	NA
Phenol	ND	ND	ND	ND	ND	ND	47,000,000	NA
Phenanthrene	ND	ND	53J	45J	48J	ND	NA	NA
Pyrene	ND	110J	120J	92J	130J	87J	2,300,000	2,240,000
Pantachloro-phenol	ND	ND	ND	ND	ND	ND	5300	9620

Notes:

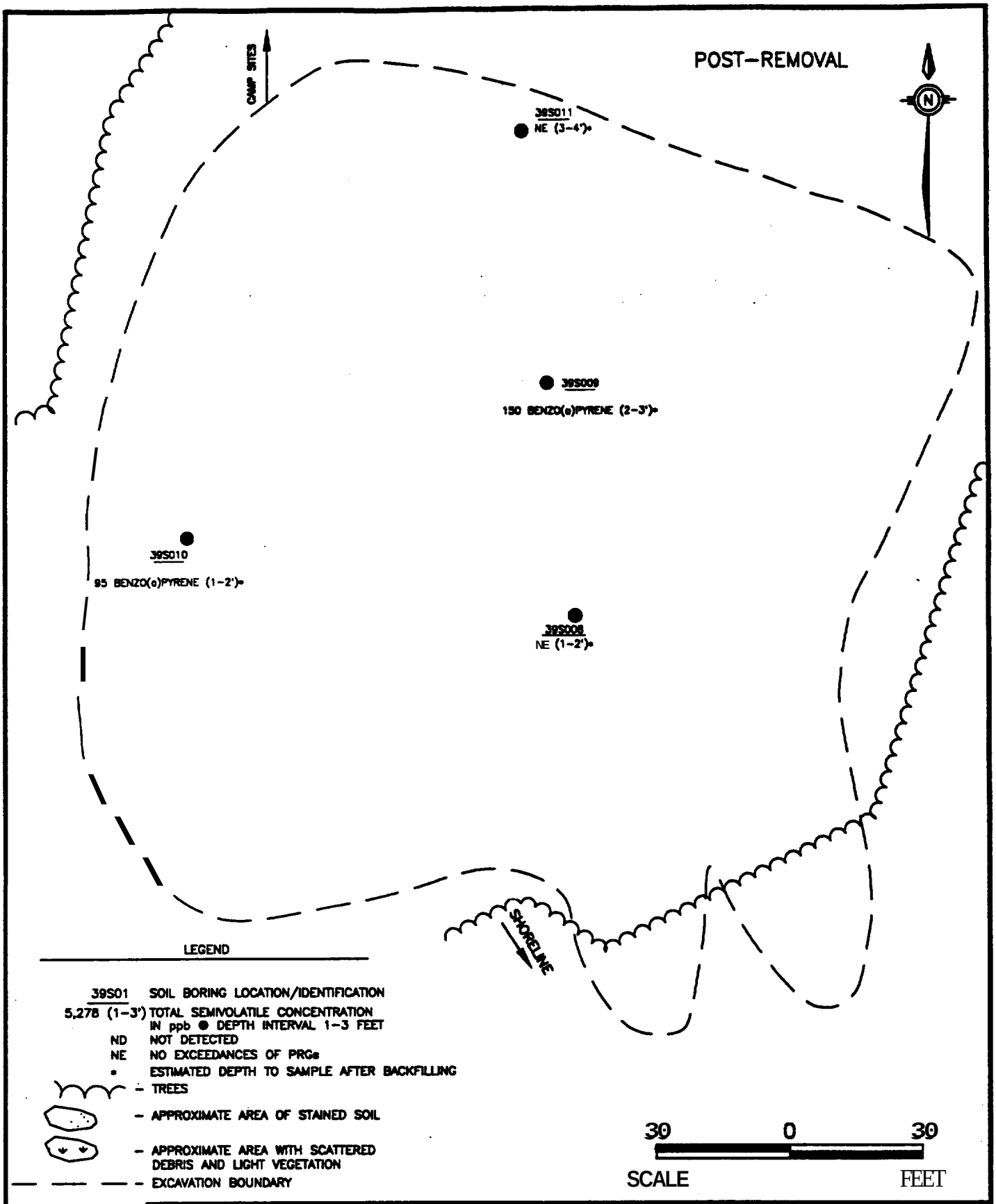
µg/kg	=	Microgramr per kilogram or parts per billion (ppb).
ND	=	Compound not detected.
J	=	Reported concentration is conridered an ertimated value.
NA	=	Concentration not available.
(Bold)	=	Bold and bracket item exceed at least one PRG.
a	=	Soil interval ertimated to have been removed during the removal action.
b	=	Confirmation samples taken after the removal action.

PRE-REMOVAL



OVERLAY FIGURE 7-2

DWG NAME: 5939MSCA



REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 7-2
MEASURED SEMIVOLATILES EXCEEDING PRGs IN SOIL

DWG DATE: 11/29/94 | DWG NAME: 5939MSCS

boring demonstrating a consistent decrease in contaminant concentrations with depth, indicating a possible surface spill as the source of contamination. Notably, pyrene is commonly used as a wood-preserving agent and is found in used motor oil, gasoline, and coal tar.

Post-Removal

After the removal of soil only 10 SVOCs were found in all of the confirmation samples. Total SVOCs ranged from 249 ppb at location 39S01101 **[(presently at 3-4' bls)]** to 1326 ppb at 39S01001 **[(presently at 1-2' bls)]**. Two samples contained concentrations of benzo(a)pyrene which exceeded the PRGs: concentrations in sample 39800801 (150ppb) **[(presently at 1-2' bls)]** exceeded both the FDEP CG (148ppb) and the USEPA RBC (88ppb) and concentrations in sample 39S01001 (95 ppb) **[(presently at 1-2' bls)]** exceeded only the USEPA RBC. The post-removal SVOC concentrations all indicated an improvement of the site.

7.1.3 Pesticides and PCBs

Pre-Removal

Pesticides were detected in all soil samples. Seventeen pesticide compounds were detected at the site with total concentrations ranging from 0.18 ppb to 1,185.5 ppb. Pesticide analytical results are summarized in Table 7-3. The pesticide concentrations exceeding PRGs and their respective boring locations/depth intervals are shown in **Figure 7-3.** The highest total pesticide concentration at the site was found in the surface soil sample collected in the immediate stained area (39S0401, **[removed** during **removal action]).**

Post-Removal

After the removal action total pesticides in samples ranged from 1.58 ppb to 11.25 ppb and no pesticide exceeded the USEPA RBCs or the FDEP CGs.

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Table 7-3
Summary of **Pesticides/PCBs** Analytical **Results** In **Soil**
site 39
(µg/kg)

Compound	Sample ID/Depth						Preliminary Remediation Goals	
	39S01 01*	39S01 03*	39S01 05	39S01 07	39S02 01*	39S02 03	USEPA - RBC	FDEP CG
4,4-DDD	ND	540J	3.8	2.0J	3.3J	2.7J	2700	4740
4,4-DDE	ND	2.8J	ND	ND	ND	0.07J	1900	3340
4,4-DDT	ND	1.8J	0.69J	0.26J	ND	ND	1900	3180
Aldrin	ND	ND	ND	ND	ND	ND	38	NA
Aroclor 1254	ND	ND	ND	ND	ND	ND	NA	NA
Aroclor 1260	ND	ND	ND	ND	ND	ND	NA	NA
Dieldrin	0.09J	ND	0.19J	ND	ND	ND	40	71.2
Endosulfan I	ND	ND	ND	ND	ND	ND	NA	NA
Endosulfan II	ND	ND	ND	ND	ND	ND	NA	NA
Endosulfan sulfate	ND	ND	ND	ND	0.19J	ND	NA	NA
Endrin	ND	3.7	ND	ND	0.13J	ND	23000	22900
Endrin aldehyde	0.26J	ND	ND	ND	ND	ND	NA	NA
Endrin ketone	ND	ND	ND	ND	ND	ND	NA	NA
Methoxychlor	ND	ND	ND	ND	ND	ND	390,000	NA
Toxaphene	ND	ND	ND	ND	ND	ND	680	35.9
alpha-BHC	ND	ND	ND	ND	ND	ND	100	NA
alpha-Chlordane	ND	ND	ND	ND	0.075	ND	NA	869
delta-BHC	ND	ND	ND	ND	ND	ND	NA	NA
gamma-Chlordane	0.09J	ND	ND	ND	0.145	ND	NA	869

Table 7-3
Summary of Pesticides/PCBs Analytical Results in Soil
Site 39
(µg/kg)

Compound	Sample ID/Depth						Preliminary Remediation Goals	
	39802 05	39803 01*	39803 03	39803 06	39804 01*	39804 03	USEPA - RBC	FDEP Ca
4,4-DDD	9.4	ND	ND	ND	ND	ND	2700	4740
4,4-DDE	0.64J	0.25J	0.51J	1.10J	24.0J	1.20R	1900	3340
4,4-DDT	ND	ND	ND	ND	24.0J	ND	1900	3180
Aldrin	ND	ND	ND	ND	ND	ND	38	NA
Aroolor 1264	ND	ND	ND	5.4J	ND	46.0R	NA	NA
Aroolor 1260	ND	3.5J	ND	ND	ND	ND	NA	NA
Dieldrin	ND	0.17J	ND	ND	26.0J	ND	40	71.2
Endosulfan I	ND	ND	ND	ND	ND	0.44R	NA	NA
Endosulfan II	ND	ND	0.22J	0.18J	ND	2.4R	NA	NA
Endosulfan sulfate	ND	ND	ND	ND	ND	2.5R	NA	NA
Endrin	ND	ND	0.06J	ND	17.0J	0.47R	23000	22900
Endrin aldehyde	ND	ND	0.38J	ND	7.6J	4.40R	NA	NA
Endrin ketone	ND	ND	0.11J	ND	32.0J	1.3R	NA	NA
Methoxychlor	ND	ND	0.62J	1.0J	62.0J	4.8R	390,000	NA
Toxaphene	ND	ND	ND	ND	[920.0J]	ND	580	35.9
alpha-BHC	ND	ND	ND	ND	ND	ND	100	NA
alpha-Chlordane	ND	0.08J	0.34J	0.11J	42.0	2.9	NA	869
delta-BHC	ND	ND	ND	ND	1.9J	ND	NA	NA
gamma-Chlordane	ND	0.09J	0.33J	ND	29.0	ND	NA	869

Table 7-3
Summary of Pesticides/PCBs Analytical Results in Soil
site 39
(µg/kg)

Compound	Sample ID/Depth						Preliminary Remediation Goals	
	39804 04	39504 06	39S05 01'	39505 03	39S05 061060	39506 01/01D*	USEPA - RBC	FDEP CG
4.4-DDD	ND	0.25J	ND	ND	ND	ND	2700	4740
4.4-DDE	0.72J	0.54J	0.41J	ND	0.17J/0.21J	0.15J/ND	1900	3340
4,4-DDT	ND	ND	ND	ND	ND/0.48J	0.25J/ND	1900	3180
Aldrin	ND	ND	0.31J	ND	ND	ND	38	NA
Aroclor 1254	ND	ND	ND	ND	ND	ND	NA	NA
Aroclor 1260	ND	ND	ND	ND	ND	ND	NA	NA
Dieldrin	0.38J	ND	0.35J	ND	0.07J/ND	ND	40	71.2
Endosulfan I	ND	ND	ND	ND	ND	ND	NA	NA
Endosulfan II	ND	ND	ND	ND	ND	ND	NA	NA
Endosulfan sulfate	ND	0.693	ND	ND	ND	0.32J/0.30R	NA	NA
Endrin	0.29J	ND	1.10J	ND	0.27J/0.25J	ND	23000	22900
Endrin aldehyde	ND	0.11J	ND	0.18J	ND	0.21/ND	NA	NA
Endrin ketone	0.69J	ND	1.6J	ND	ND	ND	NA	NA
Methoxychlor	2.7J	ND	6.1J	ND	2.4J/2.9J	ND	390,000	NA
Toxaphene	[120.0J]	ND	[110.0J]	ND	22J/ND	ND	580	35.9
alpha-BHC	ND	ND	0.05J	ND	ND	ND	100	NA
alpha-Chlordane	1.4J	0.52J	0.55J	ND	ND/0.11J	ND	NA	869
delta-BHC	0.14J	ND	0.07J	ND	ND	ND	NA	NA
gemma-Chlordane	0.76J	ND	0.295	ND	0.06J/ND	ND	NA	869

Table 7-3
Summary of **Pesticides/PCBs Analytical** Results in Soil
Site 39
(µg/kg)

Compound	Sample ID/Depth						Preliminary Remediation Goals	
	39S06 03[a]	39S06 05	30S007[a] 01	39S008[b] 01	39S009[b] 01	30C009[b] 61	USEPA - RBC	FDEP CG
4,4-DDD	ND	16.0	ND	ND	ND	ND	2700	4740
4,4-DDE	ND	0.98J	ND	.70J	.30J	0.18J	1900	3340
4,4-DDT	0.38J	ND	ND	ND	ND	ND	1900	3180
Aldrin	0.36J	0.17J	ND	ND	ND	ND		
Aroolor 1264	ND	ND	ND	ND	ND	ND		
Aroolor 1260	ND	ND	ND	ND	ND	ND		NA
Dieldrin	ND	ND	ND	.33J	ND	ND	40	71.2
Endorulfsn I	ND	ND	ND	ND	ND	ND	NA	NA
Endorulfsn II	ND	ND	ND	.19J	ND	ND	NA	NA
Endosulfan sulfate	ND	ND	ND	ND	ND	0.22J	NA	NA
Endrin	ND	ND	ND	1.2J	.10J	0.33J	23000	22900
Endrin aldehyde	ND	ND	ND	7.0	1.7J	1.3J	NA	NA
Endrin ketone	ND	ND	ND	ND	ND	ND	NA	NA
Methoxychlor	ND	0.93J	ND	ND	1.1J	.79J	390,000	NA
Toxaphene	ND	ND	ND	ND	ND	ND	580	35.9
alpha-BHC	ND	ND	ND	ND	ND	ND	100	NA
alpha-Chlordane	ND	ND	ND	1.1J	.51J	0.47J	NA	869
delta-BHC	ND	ND	ND	ND	ND	ND	NA	NA
gamma-Chlordane	ND	ND	ND	.73J	ND	ND	NA	869

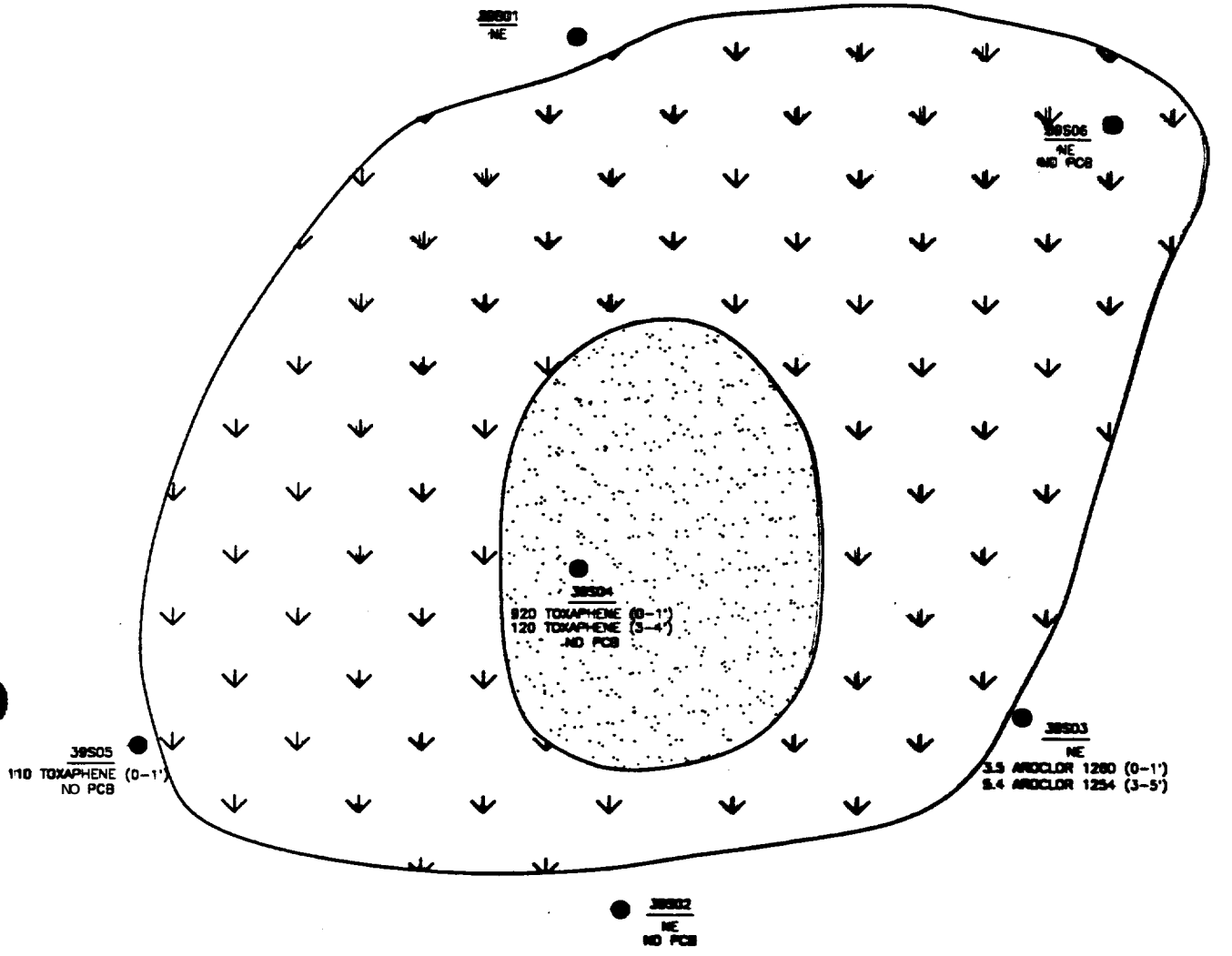
Table 7-3
Summary of Pesticides/PCBs Analytical Results in Soil
site 39
(µg/kg)

Compound	Sample ID/Depth						Preliminary Remediation Goals	
	39S010[b] 01	39S011[b] 01					USEPA - RBC	FDEP CG
4,4-DDD	ND	ND					2700	4740
4,4-DDE	ND	0.36J					1900	3340
4,4-DDT	ND	ND					1900	3180
Aldrin	ND	ND					38	NA
Aroclor 1254	ND	ND					NA	NA
Aroclor 1260	ND	ND					NA	NA
Dieldrin	ND	ND					40	71.2
Endosulfan I	ND	ND					NA	NA
Endosulfan II	ND	ND					NA	NA
Endosulfan sulfate	0.36J	ND					NA	NA
Endrin	0.12J	0.69J					23000	22900
Endrin aldehyde	0.42J	1.9J					NA	NA
Endrin ketone	ND	ND					NA	NA
Heptachlor epoxide	ND	0.16J					70	43.4
Methoxychlor	0.56J	ND					390,000	NA
Toxaphene	ND	ND					580	35.9
alpha-BHC	ND	ND					100	NA
alpha-Chlordane	0.12J	0.72J					NA	869
delta-BHC	ND	ND					NA	NA
gemma-Chlordane	ND	ND					NA	869

Notes:

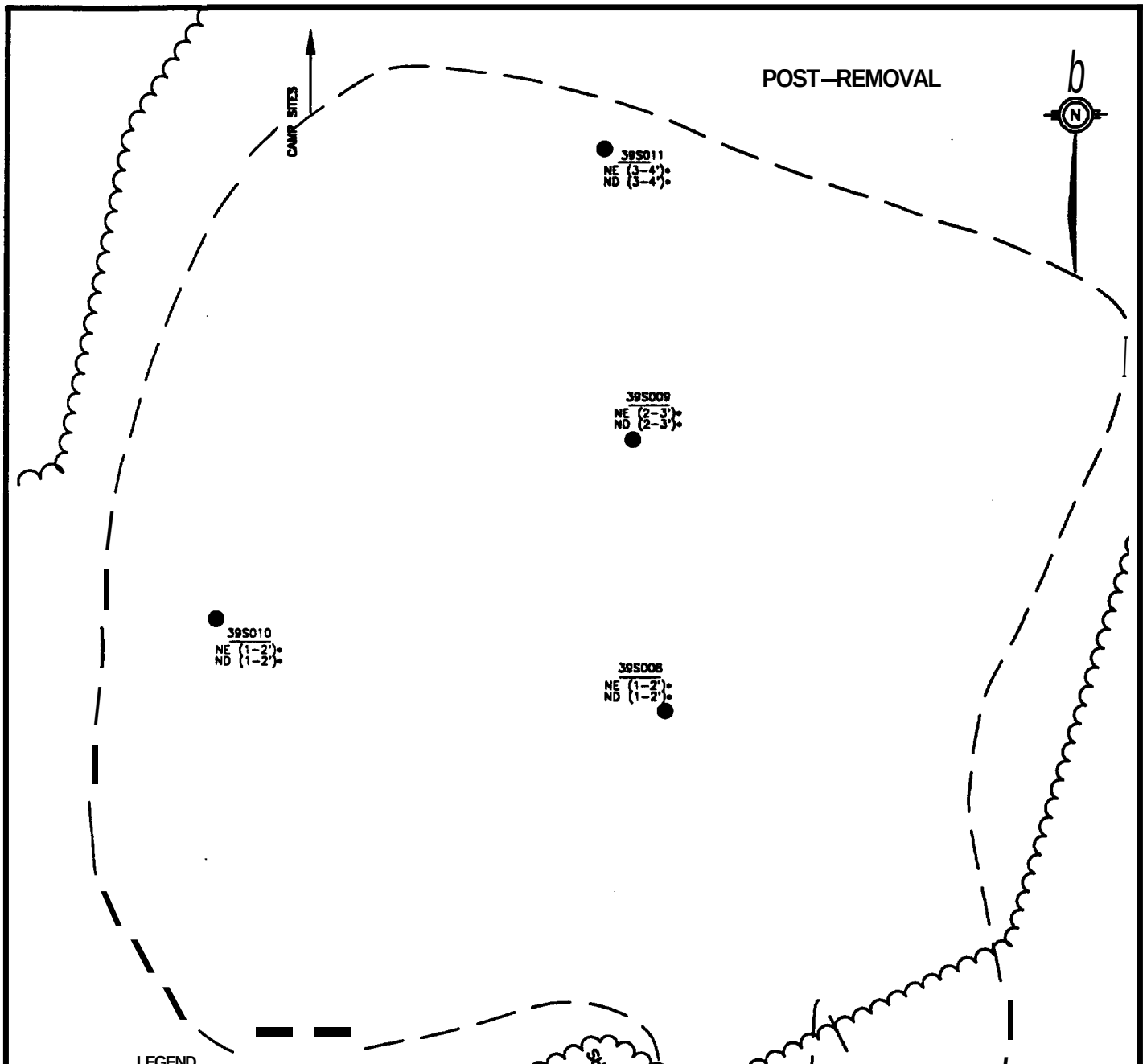
µg/kg	=	Micrograms per kilogram or parts per billion (ppb).
NA	=	Concentration not available.
ND	=	Not detected.
J	=	Poritively detected: however, reported concentration is considered an estimated value.
Bold and Bracket	=	Sample concentration exceeds at least one PRO.
USEPA-RBC	=	United Stater Environmental Protection Agency - Rirk Bared Concentration
FDEP-CO	=	Florida Department of Environmental Protection Clean-up Godr for Military Siter
a	=	Backfill sample
b	=	Confirmation samples taken after the removal action.
c	=	Soil interval ertimated to have been removed during the removal aation

PRE-REMOVAL



OVERLAY FIGURE 7-3

DWG NAME: 5939MPSA



LEGEND

39S01	SOIL BORING LOCATION/IDENTIFICATION
548.3(1–3')	PESTICIDES CONCENTRATION IN ppb O DEPTH INTERVAL 1–3 FEET
5.4	TOTAL PCBs CONCENTRATION IN ppb
ND	NOT DETECTED
*	ESTIMATED DEPTH OF SAMPLE AFTER BACKFILLING
	– TREES
	– APPROXIMATE AREA OF STAINED SOIL
	– APPROXIMATE *AREA* WITH SCATTERED DEBRIS AND LIGHT VEGETATION
	– EXCAVATION BOUNDARY
NE	– NO MCEEDANCES OF PRGs

30 0 30

SCALE FEET

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 7–3
MEASURED PESTICIDES AND PCBs IN SOIL EXCEEDING PRGs

DWG DATE: 11/29/94 | DWG NAME: 5939MPPS

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Pre-Removal

The PCB compounds Arochlor 1254 and 1260 were detected in samples from two borings within the stained area and southeast of it. The highest reported PCB concentration was 5.4 ppb (39S0305). PCB concentrations are summarized in Table 7-3 and shown in Figure 7-3 with the respective boring locations.

Post-Removal

No PCBs were detected in the samples after the removal action.

Metals and Cyanide

Pre-Removal

Arsenic was the only metal at the site to exceed the USEPA RBC (.37 ppm) and FDEP CG (.711 ppm). These PRGs were exceeded in samples 3980103 (.89 ppm, [removed during removal action]), 3930105 (2.2 ppm), 3930201 (.85 ppm, [removed during removal action]), 39S0401 (.84 ppm, [removed during removal action]), 39S0403 (1.2 ppm), 3980404 (2.0 ppm), 3930601 (1.6 ppm, [removed during removal action]), and 39S0603 (2.2 pprn), Only the USEPA RBC was exceeded in samples 39S0405 (.69 ppm), 3980501 (.68 ppm, [removed during removal action]), and 3980301 (.62 ppm, [removed during removal action]). The metal and cyanide concentrations and background concentrations at NAS Pensacola are provided in Table 7-4. Figure 7-4 illustrates the location of the [metal concentrations in soil that exceeded PRGs]. In addition to arsenic, four metals that do not have PRGs have been identified in the site's soil at concentrations above their respective reference concentration. The following briefly describes these metals; (samples that exceeded reference concentrations but are below their respective USEPA RBCs and FDEP CGs are not discussed).

Table 7-4
Summary of Metals and Cyanide Concentrations in Soil
Site 39
(mg/kg)

Compound	Sample ID/Depth					Preliminary Remediation Goals		
	39S01 01*	39S01 03*	39S01 05	39S01 07	39S02 01*	USEPA - RBCS	FDEP - CGS	Reference Concentration - RC
Aluminum	274	1910	6460	454	249	NA	NA	3833.6
Arsenic	ND	[0.89J]	[2.2]	ND	[0.85J]	.37	.711	1.56
Barium	4.5	17.6	11.8	2.3	4.4	5500	NA	4.63
Beryllium	ND	ND	ND	ND	ND	0.15	NA	0.41
Cadmium	8.5J	13.8J	ND	ND	5.1J	39	37.5	1.00
Calcium	87.5	552	1570	138	148	NA	NA	912.37
Chromium	32.6	11.7	9.1	3.0	17.8	78000	68200	6.13
Cobalt	ND	ND	ND	ND	ND	4700	NA	1.87
Copper	34.4	77.7	11.1	ND	28.6	2900	2880	5.74
Cyanide	4.1	ND	ND	ND	ND	1600	NA	0.52
Iron	766J	2470J	[3610J]	270J	638J	NA	NA	2745
Lead	34.9J	131J	28.3	5.0	45.0J	NA	NA	7.32
Magnesium	10.6	368	122	ND	ND	NA	NA	133.33
Manganese	ND	347	19.0	3.0	7.2	390	5710	21.38
Mercury	ND	0.13	ND	ND	ND	23	NA	0.10
Nickel	ND	6.8	ND	ND	ND	1600	1510	6.38
Potarrium	ND	ND	ND	ND	ND	NA	NA	460.67
Silver	ND	ND	ND	ND	ND	390	NA	2.07
Sodium	ND	ND	ND	ND	ND	NA	NA	107.86
Vanadium	ND	3	9.9	ND	ND	550	501	5.83
Zinc	51.2J	170J	25.6	6.7J	36.6J	23000	23300	18.87

Table 7 4
Summary of Metals and Cyanide Concentrations m Soil
site 39
(mg/kg)

Compound	Sample ID/Depth					Preliminary Remediation Goals		
	39S02 03	39S02 05	39S03 01*	39S03 03	39S03 05	USEPA - RBCS	FDEP - CGS	Reference Concentration - RC
Aluminum	924	1450	248	953	1210	NA	NA	3833.6
Arsenic	ND	ND	[0.62]	ND	ND	.37	.711	1.56
Barium	3.0	2.1	5.4	3.1	3.1	5500	NA	4.63
Beryllium	ND	ND	ND	ND	ND	0.15	NA	0.41
Cadmium	1.4J	ND	9.9J	1.7J	1.8J	39	37.5	1.00
Calcium	60.3	48.9	151	116	110	NA	NA	912.37
Chromium	ND	ND	18.7	5.1	4.7	78000	68200	6.13
Cobalt	ND	ND	ND	ND	ND	4700	NA	1.87
Copper	ND	ND	167	5.3	6.8	2900	2880	5.74
Cyanide	ND	ND	0.76	ND	ND	1600	NA	0.52
Iron	473J	735J	692J	647J	858J	NA	NA	2745
Led	3.6	1.8	65J	9.0	9.9	NA	NA	7.32
Magnesium	ND	ND	ND	ND	ND	NA	NA	133.33
Manganese	4.2	3.8	9.2	3.7	6.5	390	5710	21.36
Mercury	ND	ND	ND	ND	ND	23	NA	0.10
Nickel	ND	ND	ND	ND	ND	1600	1510	6.38
Potaeeium	ND	ND	ND	ND	ND	NA	NA	460.67
Silver	ND	ND	ND	ND	ND	390	NA	2.07
Sodium	ND	ND	ND	ND	ND	NA	NA	107.85
Vanadium	ND	1.6	ND	ND	ND	550	501	5.83
Zinc	6.1J	3.0J	41.8J	9.3J	12.6J	23000	23300	16.87

Table 7-4
Summary of Metals and Cyanide Concentrations In Soil
Site 39
(mg/kg)

Compound	Sample ID/Depth					Preliminary Remediation Goals		
	39S04 01*	39S04 03	39S04 04	39S04 05	39S05 01*	USEPA - RBCS	FDEP - CGS	Reference Concentration - RC
Aluminum	192	816	986	872	281	NA	NA	3833.0
Arsenic	[0.84]	[1.2]	[2.0]	[0.69J]	[0.68]	.37	.711	1.60
Barium	6.6	23.3	32.3	6.3	0.8	5500	NA	4.03
Beryllium	ND	ND	ND	ND	ND	0.15	NA	0.41
Cadmium	2.7J	4.8J	5.4J	ND	15.4J	39	37.6	1.00
Calcium	94.0	3340	6620	1070	143	NA	NA	912.37
Chromium	46.2	13.2	0.8	ND	31.2	78000	68200	6.13
Cobalt	ND	ND	ND	ND	ND	4700	NA	1.87
Copper	619	761	93.3	17.0	44.5	2900	2880	5.74
Cyanide	0.83	0.61	ND	ND	3.4	1600	NA	0.52
Iron	901J	2390J	2700J	870J	964J	NA	NA	2745
Lead	49.5J	141J	136J	44.5J	55.5J	NA	NA	7.32
Magnesium	ND	428	548	161	ND	NA	NA	133.33
Manganese	15.6	36.6	07.9	10.0	12.2	390	5710	21.36
Mercury	ND	0.15	0.17	ND	ND	23	NA	- 0.10
Nickel	ND	ND	ND	ND	ND	1600	1510	6.38
Poterrium	ND	ND	ND	ND	ND	NA	NA	460.67
Silver	ND	ND	ND	ND	ND	390	NA	2.07
Sodium	ND	ND	ND	ND	ND	NA	NA	107.86
Vanadium	ND	2.4	1.8	ND	ND	550	501	6.83
Zinc	40.5J	166J	110J	22.2J	57.3J	23000	23300	10.87

Table 7-4
Summary of Metals and Cyanide Concentrations in Soil
site 39
(mg/kg)

Compound	Sample ID/Depth					Preliminary Remediation Goals		
	39806 03	39S05 05	39S06 01'	39806 03"	39806 05	USEPA - RBCS	FDEP - CGS	NASP - Background
Aluminum	731	513	1080	1380	1220	NA	NA	3833.6
Arsenic	ND	ND	[1.6]	[2.2J]	ND	.37	.711	1.56
Barium	6.6	6.1	16.0	27.2	2.7	5500	NA	4.63
Beryllium	ND	ND	ND	ND	ND	0.15	NA	0.41
Cadmium	10.4J	6.7J	6.0J	1.9	ND	39	37.5	1.00
Calcium	125	181	1800	3960	174	NA	NA	912.37
Chromium	12.4	9.3	9.3	4.4	ND	78000	68200	8.13
Cobalt	ND	ND	ND	ND	ND	4700	NA	1.87
Copper	15.6	16.0	88.7	112	ND	2900	2880	5.74
Cyanide	ND	0.68	0.91	0.55	ND	1600	NA	0.52
Iron	7295	7375	1800J	2190	829	NA	NA	2746
Lead	21.9	35.9	135J	162	2.8	NA	NA	7.32
Magnesium	ND	ND	334	521	ND	NA	NA	133.33
Manganese	5.8	6.1	30.0	56.8	3.9	390	6710	21.36
Mercury	ND	ND	0.19	0.20	ND	23	NA	0.10
Nickel	ND	ND	ND	ND	ND	1600	1510	6.38
Potassium	ND	ND	ND	ND	ND	NA	NA	460.67
Silver	ND	ND	ND	ND	ND	390	NA	2.07
Sodium	ND	ND	ND	ND	ND	NA	NA	107.85
Vanadium	ND	ND	2.0	2.3	2.1	550	501	5.83
Zinc	23.8J	26.65	94.75	97.5	3.8	23000	23300	16.87

Table 7-4
Summary of Metals and Cyanide Concentrations in Soil
Site 39
(mg/kg)

Compound	Sample ID/Depth					Preliminary Remediation Goals		
	39S007[a] 01	39S008[b] 01	39S009[b] 01	39C009[b] 01	39S010[b] 01	USEPA - RBCS	FDEP - CGS	Reference Concentration - RC
Aluminum	10SJ	200J	722J	726J	434J	NA	NA	3833.0
Arsenic	ND	ND	[1.1]	[1.2]	ND	.37	.711	1.66
Barium	.21	6.0	31.0	22.7	7.1	5500	NA	4.63
Beryllium	ND	ND	ND	ND	ND	0.15	NA	0.41
Cadmium	ND	5.0J	8.5J	9.7J	2.1J	39	37.6	1.00
Cdcium	1090	223	1780	2270	327	NA	NA	912.37
Chromium	ND	19.4	14.6	11.0	3.4	78000	68200	6.13
Cobalt	ND	ND	1.7	ND	ND	4700	NA	1.87
Copper	ND	26.7J	108J	143J	37.3J	2900	2880	6.74
Cyanide	ND	.55	.82	.79	1.3	1600	NA	0.62
Iron	156J	764J	2130J	2220J	1200J	NA	NA	2746
Lead	ND	32.0	219	2705	44.0	NA	NA	7.32
Magnesium	26.3	49.2	284	291	70.9	NA	NA	133.33
Manganese	1.1	7.0	32.9	31.7	11.6	390	6710	21.30
Mercury	ND	ND	ND	.15	ND	23	NA	0.10
Nickel	ND	ND	ND	ND	ND	1600	1510	6.38
Potassium	ND	ND	156J	ND	ND	NA	NA	480.67
Silver	ND	ND	ND	ND	ND	390	NA	2.07
Sodium	126	101	139J	142J	126	NA	NA	107.86
Vanadium	ND	ND	2.2	2.1	1.0	550	501	5.83
Zinc	ND	32.2	166	142	35.0	23000	23300	10.87

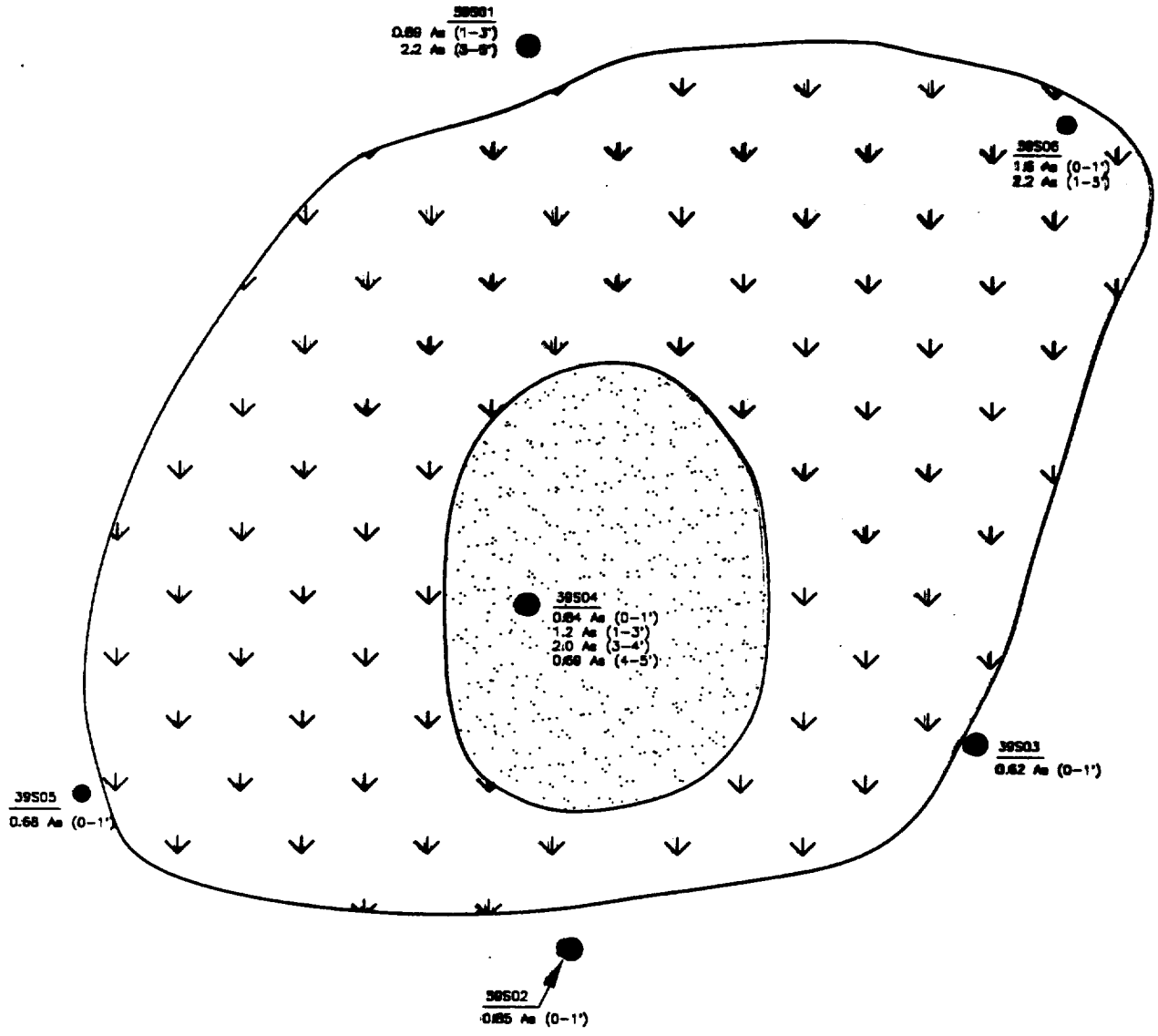
Table 7-4
Summary of Metals and Cyanide Concentrations in Soil
Site 39
(mg/kg)

Compound	Sample ID/Depth					Preliminary Remediation Goals		
	39S011 01					USEPA - RBCS	FDEP - CGS	Reference Concentration - RC
Aluminum	392J					NA	NA	3833.6
Arsenic	ND					.37	.711	1.56
Barium	8.8					5500	NA	4.63
Beryllium	ND					0.15	NA	0.41
Cadmium	10.3J					39	37.5	1.00
Calcium	218					NA	NA	912.37
Chromium	25.6					78000	68200	6.13
Cobalt	ND					4700	NA	1.87
Copper	41.3J					2900	2880	5.74
Cyanide	2.1					1600	NA	0.52
Iron	1420J					NA	NA	2745
Lead	70.2					NA	NA	7.32
Magnesium	74.8					NA	NA	133.33
Manganese	12.9					390	5710	21.36
Mercury	ND					23	NA	0.10
Nickel	ND					1600	1510	6.38
Potassium	ND					NA	NA	460.67
Silver	2.2					390	NA	2.07
Sodium	99.6					NA	NA	107.85
Vanadium	1.2					550	501	5.83
Zinc	49.3					23000	23300	16.87

Notes:

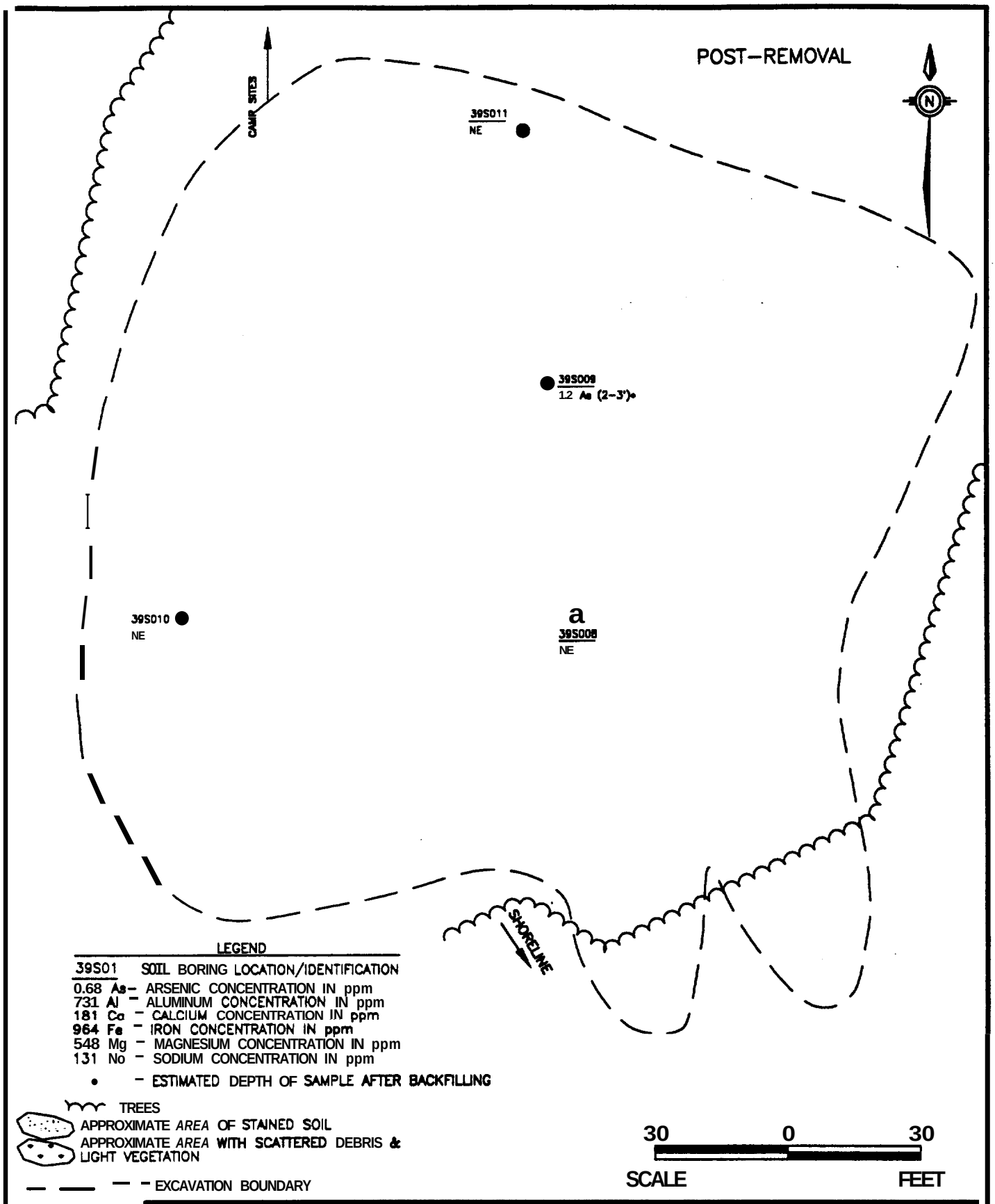
mg/kg	=	Milligrams per kilogram or parts per million (ppm).
ND	a	Not detected.
NA	=	Concentration not available.
J	=	Poritively detected; however, reported concentretion is considered an ertimeted value.
Bold and Bracket	=	Sample concentration exceedr at least one PRG.
USEPA-RBC	=	United States Environmental Protection Agency - Risk Based Concentration
FDEP-CG	=	Florida Department of Environmental Protection Clean-up Goals for Military Siter
NASP-Reference	=	Two timer the average concentration of contaminant in the samples from the background borings.
a	=	Backfill sample
b	=	Confirmation samples taken after the removal action.
c	=	Soil interval estimated to have been removed during the removal action

PRE-REMOVAL



OVERLAY FIGURE 7-4

DWG NAME: 5939M74A



REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 7-4
MEASURED METAL CONCENTRATIONS IN SOIL EXCEEDING PRGs

DWG DATE: 11/29/94 | DWG NAME: 5939MM74

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An aluminum concentration above the NASP reference concentration (3833.6 ppm), was identified in samples 3980105 (6460 ppm). Calcium concentrations above the NASP referenceconcentration (912.37 ppm), were identified in six samples ranging from 1,070 ppm to 5620 ppm. Samples containing the highest calcium concentrations, in descending order, are 39S0404, 39S0603, and 39S0403. An iron concentration above the NASP reference concentration (2745 ppm), was identified in sample 39S0105 (3610 ppm). Magnesium concentrations above the NASP background standard (133.33 ppm) were detected in six samples ranging from 161 ppm to 548 ppm. Samples containing the highest magnesium concentrations, in descending order, are 39S0404, 3980603, and 3980403.

The two samples submitted for hexavalent chromium analysis contained 23.9 ppb (3980505) and 34.0 ppb (39S0601, [removed during removal action]), well below the background hexavalent chromium reference concentration of 156 ppb.

Post-Removal

Arsenic exceeded the USEPA RBC (.37 ppm) and FDEP CG (.711 ppm) in one of four post-removal sample [locations]. Collocated samples 39S00901/39C00901 [(presently at 2-3')] exceeded the standard with a concentration of 1.1/1.2 ppm; however, these concentrations are below the [NASP] reference concentration [of 1.56 ppm].

Four] metals were identified in the site's soil after the removal action that exceeded the NASP reference concentrations and had no applicable PRGs. Calcium concentrations above the NASP reference concentration (912.37 ppm), were detected in collocated samples 39S00901/39C00901 (1090/2270 ppm [presently at 2-3' bls]). Magnesium concentrations exceeded the NASP reference concentration (133.33 ppm) in collocated samples, 39S00901/39C00901 (284/291 ppm, [presently at 2-3' bls]). Sodium concentrations above the NASP reference concentration (107.85), were detected in two sample locations, 39S00901/39C00901 (139/142 ppm, [presently at 2-3']) and 39S01001 (126 ppm, [presently at 1-2' bls]). [Lead concentrations exceeded the

NASP reference concentration in all four sampling locations, ranging **from a low in 39S00801 (32.6 ppm, presently at 1-2' bls) to a high in collocated samples, 39S00901/39C00901 (212/270J ppm, presently at 2-3' bls). All** *detected* **lead concentrations were well below the proposed EPA screening concentration of 400 ppm.]**

The lower metal concentrations in the remaining soil at Site 39 after the removal action indicate an improvement in site conditions. The backfill soil used at Site 39 did not exceed any PRGs for metals. The calcium concentration in the backfill (1090 ppm) was slightly higher than the reference concentration of 912.37 ppm.

Interpretations and Conclusions

Based on the analyzed pre-removal soil samples, the extent of soil contamination appears to be minimal. Low-level concentrations of VOCs, consisting of 2 ppb toluene and 1 ppb trichloroethene, that were identified in the site soil were not detected in the site groundwater samples (see Section 7.2).

A variety of semivolatile compounds were detected across the site at various depths, at low concentrations. Only two soil samples exceeded one ppm for total semivolatile compounds, one being the surface Sample in the stained soil area and the other at the 1- to 3-foot interval from a boring located to the north of the stained area. The soil from both of these areas was removed during the removal action. The higher concentrations of the semivolatile compound pyrene (compared to the other detected semivolatiles) in the stained area supports the possibility that the site formerly was a railroad tie storage area or that waste oil was disposed there.

Pesticide compounds in the ppb range were detected at the site prior to the removal action. The highest concentrations were detected within the stained soil area where a total pesticide concentration of 1,185 ppb [(removed during removal action)] was measured. With the exception of this one area, pesticide concentrations appear relatively consistent across the site.

These sitewide low concentrations [are similar to those detected elsewhere at NASP, and] probably can be attributed to previous pesticide applications [residue]. After the removal action the highest total pesticide concentration in any sample was 11.25 ppb, consistent with what would be expected from periodic application.

PCB detections were limited to one boring (located southeast of the stained area) prior to the removal action. These detections were in low concentrations, with the highest being 5.4 ppb. After the removal action, no PCBs were detected in the confirmation samples.

Numerous metals were detected at the site prior to the removal action. Arsenic concentrations exceeded the USEPA RBC, the FDEP CG, and the NASP reference concentrations. In addition, aluminum, calcium, iron, and magnesium concentrations exceeded applicable NASP reference concentration prior to the removal action.

Before the removal action Low-level concentrations of pesticides, semivolatiles, and metals were present sitewide; however, the highest concentrations consistently have been found near borings 39S01 and 39S04. The stained area (boring 39804) consistently yielded higher metals, pesticide, and semivolatile concentrations compared to the rest of the site. However, elevated concentrations of the compound groups also have been found in boring 39S01, located topographically upgradient of the stained area, during the removal action an area of stained soil was uncovered in this area and subsequently removed.

During the removal action, all the stained soil was removed from the site. During the excavation of the site it was noted that there were scattered areas of staining other than the one noted prior to the removal. The other areas of staining were generally not on the surface and were predominantly on the northern half of the site. All of these additional areas of staining that were discovered were removed. Confirmation samples were collected to confirm removal of

contaminated soil. The excavation, which ranged in depth from one to three feet, was then filled with clean material consistent in texture with the surrounding natural soil.

Following the removal action, arsenic was detected only slightly above the RBCs and the CGs, but below the NASP reference concentration. Additionally, the site was covered with one to three feet of fill that did not contain any arsenic. Four metals were detected in the post-removal soil samples above the NASP reference concentrations, calcium, lead, magnesium, and sodium. In the post-removal samples, the total SVOC and total pesticide concentrations were greatly reduced. Again, the site was covered with one to three feet of fill that contained no pesticides or semivolatiles.

7.2 Groundwater Analytical Results

Four shallow wells and three intermediate depth wells were sampled as part of the groundwater investigation at the site. These wells were first sampled during the initial field effort, and again immediately prior to the execution of the removal action. The second round of sampling employed the quiescent sampling methodology, designed to eliminate problems associated with sample turbidity. During the first round of sampling groundwater purged from the shallow wells had a clear, uncolored to yellow-tinted appearance, and groundwater purged from intermediate depth wells was dark gray and highly turbid. During the second round of sampling groundwater purged from both shallow and intermediate wells had a clear uncolored appearance. Final stabilized temperature, pH, turbidity, and conductivities measured during purging each well before sampling are presented in Table 7-5.

No significant variation between groundwater pH within the upper and basal portions of the aquifer were measured, with the pH values ranging between 5.36 and 6.41 (standard units). During the initial sampling conductivity values varied widely between the upper and basal portion of the surficial zone, with respective values ranging from 195 to 418 μmhos and 98 to

Table 7-5
Stabilization Parameters - Final Readings
Site 39

Well ID	pH Units 1st/2nd	Conductivity (µmhos) 1st/2nd	Temperature (°C) 1st/2nd	Turbidity (NTU) 2nd only
39GS01	5.60/6.25	229/418	22.7/23.5	0
39GS02	6.41/6.38	195/300	24.4/24.0	9
39GS03	6.12/NA	196/NA	23.5/NA	NA
39GS04	6.08/6.37	213/334	23.3/26.2	2
39GI05	5.56/5.36	756/113	23.0/24.8	2
39GI06	6.07/6.19	687/113	23.6/22.9	0
39GI07	5.62/5.97	620/98	23.0/22.6	1

756 pmhos. The large disparity between conductivity values may be attributable to the greater turbidity encountered in the intermediate depth wells. During the second round of groundwater sampling conductivity was lower in the basal portion of the surficial zone, ranging from 98 pmhos, than in the upper portion which ranged from 300 to 418 pmhos. Temperatures were between 22.6 and 26.2°C, with an average temperature of 23.7°C.

Volatiles and metals were the only parameters detected in the groundwater samples. The contaminants found in the groundwater beneath the site have been compared to the USEPA Maximum Contaminant Levels (MCLs), Florida *Primary* Drinking Water Standards (FPDWS), USEPA Secondary Maximum Contaminant Levels (SMCL), Florida Secondary Drinking Water Standards (FSDWS), and the Florida Groundwater Guidance Concentrations (FGGCs) to determine if significant contamination exists. Concentrations of the inorganic parameters at the site have also been compared to the NASP reference concentration, when applicable, to gauge whether contaminants occur naturally. As previously mentioned in Section 7.1 and shown in Figure 2-1, two designated areas at NAS Pensacola have been established as background areas.

Each one of the two background areas contains one potable water well (01GDSW50 and 01GDSW51 , both tapping the main producing zone of the Sand-and-Gravel Aquifer), one shallow (01GS67 and 01GS69), and one intermediate depth well (01GI68 and 01GI70). All three wells at both locations were sampled to obtain background groundwater data; however, data collected from the production wells were excluded from the background data due to the absence of deep monitoring wells at Site 39. Presented in the discussion below, where applicable, are the NASP reference concentrations of the inorganics as determined from the two shallow (01GS67 and 01GS69) and two intermediate depth background wells (01GI68 and 01GI70). These were determined by taking the average concentration for each parameter and multiplying this number by two.

Volatile Organic Compounds

Table 7-6 summarizes the VOC compounds detected at each monitoring well and Figure 7-5 shows the location of the monitoring wells and their respective detected VOC concentrations. Concentrations of VOCs were detected in the four shallow monitoring wells during the initial sampling and limited specifically to tetrachloroethene and/or 1,1-dichloroethane. The highest concentrations consisted of 2 and 3 ppb, respectively, and both were measured in the groundwater sample collected from monitoring well 39GS02, downgradient of the stained area. No VOC concentrations were detected in the intermediate depth wells. The measured concentrations of tetrachloroethene were below the Florida Primary Drinking Water Standards (FPDWS) (3 ppb) and the USEPA- maximum contaminant level (USEPA-MCL)(5 ppb). No MCL or FPDWS is available for 1,1-dichloroethane, however it is well below the Florida Groundwater Guidance Concentration (FGGC) (700 ppb).

During the second round of groundwater sampling in June 1994, [only tetrachloroethene] was detected in the sample from shallow well 39GS01 located upgradient of the site center. Its concentration of 2 ppb [was below the Florida Primary Drinking Water Standards (FPDWS) (3 ppb) and the USEPA- maximum contaminant level (USEPA-MCL) (5 ppb).]

Table 7-6
Summary of Volatile Organic Compounds in Water
Site 39
(µg/l)

Sample ID	Tetrachloroethene 1st Round	1,1-Dichloroethane 1st Round	Tetrachloroethene 2nd Round
39GS01	1.0J	1.0J	2.0J
39GS02	2.0J	3.0J	ND
39GS03	1.0J	ND	ND
39GS04	1.0J	1.0J	ND
396105	ND	ND	ND
39GI06	ND	ND	ND
39GI07/07D	ND/ND	ND/ND	ND
FPDWS MCL	3 5	7 NA	3 5

Notes:
µg/l = Micrograms per liter or parts per billion (ppb).
NA = Concentration not available.
ND = Compound not detected.
J = Reported concentration considered an estimated value.

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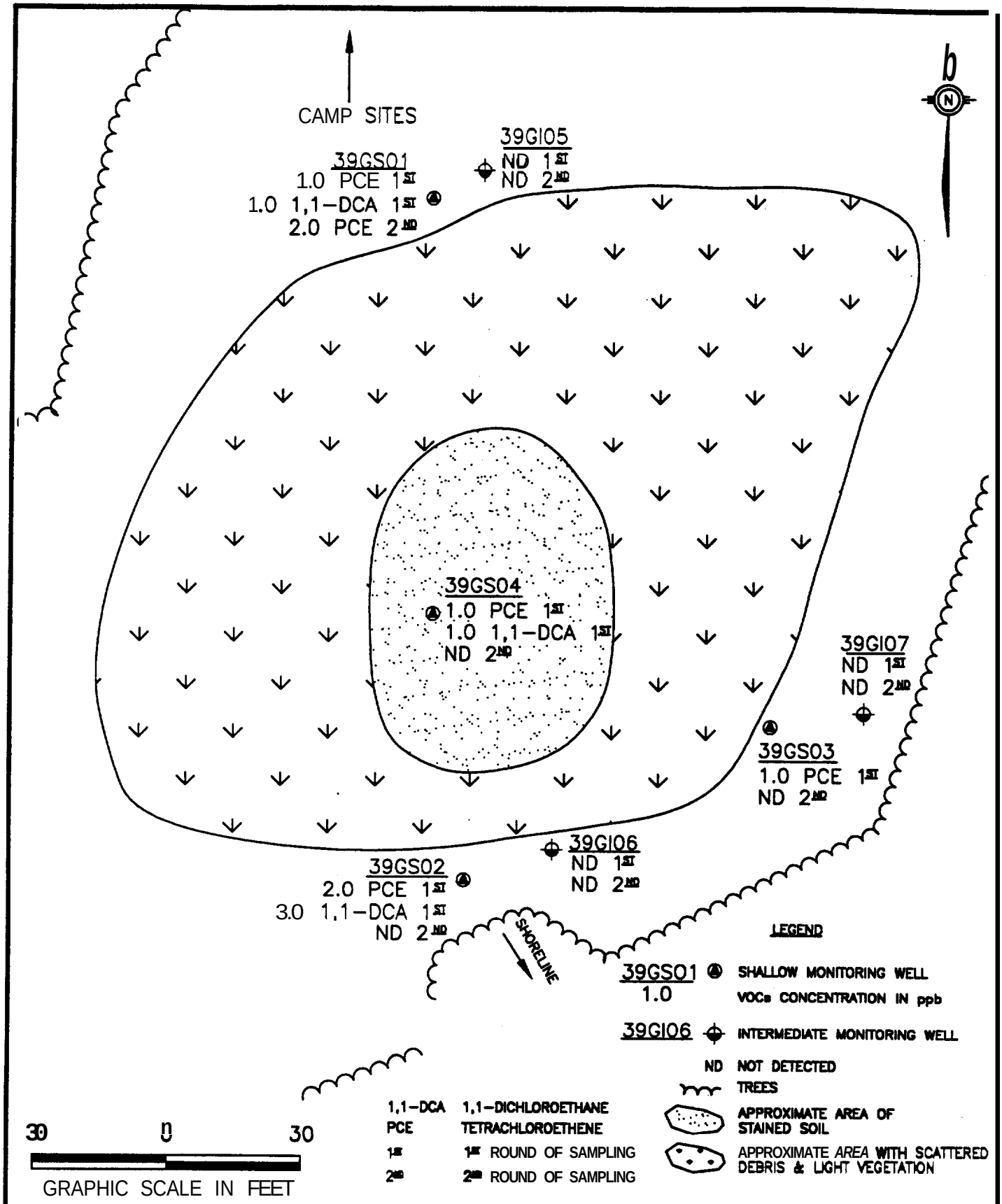

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 7-5
MEASURED VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

DWG DATE: 11/29/94 | DWG NAME: 5939VOC

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Metals and Cyanide

Ten metal concentrations, including aluminum, antimony, arsenic, beryllium, chromium, iron, lead, manganese, nickel, and vanadium exceeded at least one standard concentration during the first round of groundwater sampling. Six additional metals exceeded the NASP reference concentrations but were below the standard concentrations. The majority of these metals were found in the intermediate depth wells, with only aluminum, iron, and lead exceeding the standard concentrations in samples from the shallow wells. The elevated metal concentrations of the first round of sampling is likely attributable to the high turbidity of the samples. Additional evidence for this is suggested by the TSS concentration: the intermediate groundwater samples contained 2,100 ppm TSS while the shallow groundwater sample contained 40 ppm. This is consistent and correlative with the higher metals concentrations present in intermediate groundwater samples as compared to shallow.

Due to the high turbidity in the first round of groundwater samples, inorganic results are suspect. The second round of sampling, due to reduction in turbidity, is considered to be more representative of the groundwater beneath the site. Table 7-7 summarizes the metals and cyanides detected at each monitoring well and Figure 7-6 shows the [detected metal concentrations at each monitoring well that exceeded standards in the second round of sampling] and illustrates the areal distribution of the contaminants. The results from the second round are in the following paragraphs.

In the second-round of sampling a low flow sampling method was used with a marked decrease in the turbidity of the wells (Table 7-6). Only aluminum and iron exceeded standard concentrations during the second round of water sampling. However arsenic, barium, calcium, lead, magnesium, and vanadium exceeded their respective NASP reference concentrations.

Table 7-7
Summary of Metals in Groundwater
Site 39
(µg/L)

Compound	Sample ID				Preliminary Remediation Goals					NASP - Reference Concentration
	39GS01	39GS02	39GS03	39GS04	EPA MCLs	FPDWS	EPA SMCLs	FSDWS	FGGC	
Aluminum	[3080]	[14901	[5920]	[45.10]	NA	NA	50-200	200	NA	3882.8
Antimony	ND	ND	ND	ND	6	6	NA	NA	NA	30.2
Arrenic	ND	ND	ND	ND	50*	50	NA	NA	NA	2.8
Barium	8.2	7.1	16	18.6	2000	2000	NA	NA	NA	13.2
Beryllium	ND	ND	ND	ND	4	4	NA	NA	NA	1.1
Cdcium	32900	28300	22900	33400	NA	NA	NA	NA	NA	17660.0
Chromium	ND	ND	ND	11.7	100	100	NA	NA	NA	36
Cobdt	ND	ND	ND	ND	NA	NA	NA	NA	NA	4.1
Copper	6.4	ND	10.6	44.1	NA	NA	1000	1000	NA	16.2
Iron	[1300]	[917]	[39801	[2630]	NA	NA	300	300	NA	1707.8
Lead	ND	ND	[16.2]	[56.6]	15*	16	NA	NA	NA	1.6
Magnesium	1680	2360	2380	2450	NA	NA	NA	NA	NA	2872.6
Manganese	ND	ND	34	17.7	NA	NA	60	50	NA	22.0
Mercury	ND	ND	ND	ND	2	2	NA	NA	NA	0.2
Nickel	ND	ND	ND	ND	100	100	NA	NA	NA	39.9
Potassium	ND	1480	1650	ND	NA	NA	NA	NA	NA	12167.6
Sodium	5370	7270	8580	8210	NA	160,000	NA	NA	NA	18345.0
Vanadium	6.7	7.0	11.0	12.6	NA	NA	NA	NA	49	9.6
Zinc	56.8J	36.8J	80.2J	88.2J	NA	NA	5000	5000	NA	153.20

Table 7-7
Summary of Metals in Groundwater
site 39
(µg/L)

Compound	Sample ID				Preliminary Remediation Gods					
	39GI05	39GI06	39GI07/07D	39GI0520[d]	€PA MCLs	FPDWS	EPA SMCLs	FSDWS	FGGC	NASP Reference Concentration
Aluminum	I640001	[161,000]	[138K/125K]	11.3J	NA	NA	50-200	200	NA	3882.8
Antimony	ND	ND	[36.0R/37.4J]	ND	6	6	NA	NA	NA	30.2
Arsenic	42.8	[229]	[186/153]	ND	50'	50	NA	NA	NA	2.8
Barium	131.0	363	2591243	ND	2000	2000	NA	NA	NA	13.2
Beryllium	3.2	[10.2]	[9.3/9.5]	ND	4	4	NA	NA	NA	1.1
Calcium	8270	28600	18500/18900	3230J	NA	NA	NA	NA	NA	17560.0
Chromium	[1761	[476]	[358/354]	ND	100	100	NA	NA	NA	35
Cobalt	23.1	42.2	27.7/27.7	ND	NA	NA	NA	NA	NA	4.1
Copper	33.0	111	53.6/52.4	ND	NA	NA	1000	1000	NA	16.2
Iron	[39000]	[127,000]	[89100/90100]	[1050J]	NA	NA	300	300	NA	1707.8
Lead	129.11	166.211	[30.5J/30.6J]	ND	15'	15	NA	NA	NA	1.6
Magnesium	6020	14900	11800/11600	980	NA	NA	NA	NA	NA	2872.6
Manganese	[146]	[369]	I34313441	8.8	NA	NA	50	50	NA	22.0
Mercury	ND	0.33	ND/ND	ND	2	2	NA	NA	NA	0.2
Nickel	33.4	[114]	76.7178	ND	100	100	NA	NA	NA	39.9
Potassium	5270	11200	9870/9130	ND	NA	NA	NA	NA	NA	12167.6
Sodium	7360	4810	518014800	7830	NA	160,000	NA	NA	NA	18345.0
Vanadium	[232]	[621]	I44914471	ND	NA	NA	NA	NA	49	9.6
Zinc	291J	622	2991296	11.5J	NA	NA	5000	5000	NA	153.20

Table 7-7
Summary of Metals in Groundwater
site 39
(µg/L)

Compound	Sample ID				Preliminary Remediation Goals					NASP - Reference Concentration
	39010620'	39610720'	39GS0120[d]	39GS0220[d]	EPA MCLs	FPDWS	EPA SMCLs	FSDWS	FGGC	
Aluminum	ND	ND	ND	ND	NA	NA	50-200	200	NA	3882.8
Antimony	ND	ND	ND	ND	6	6	NA	NA	NA	30.2
Arsenic	ND	ND	ND	6.3	50*	50	NA	NA	NA	2.8
Barium	ND	ND	ND	1315	2000	2000	NA	NA	NA	13.2
Beryllium	ND	ND	ND	ND	4	4	NA	NA	NA	1.1
Calcium	5930J	4970J	40800	25600	NA	NA	NA	NA	NA	17560.0
Chromium	ND	ND	ND	ND	100	100	NA	NA	NA	36
Cobalt	ND	ND	ND	ND	NA	NA	NA	NA	NA	4.1
Copper	ND	ND	ND	ND	NA	NA	1000	1000	NA	16.2
Iron	[2020J]	[1720J]	51.2J	[2430J]	NA	NA	300	300	NA	1707.8
Lead	ND	ND	ND	2.6	15*	16	NA	NA	NA	1.6
Magnesium	1130	976	2670	2300	NA	NA	NA	NA	NA	2872.6
Manganese	8.8	8.8	ND	8.8	NA	NA	60	60	NA	22.0
Mercury	ND	ND	ND	ND	2	2	NA	NA	NA	0.2
Nickel	ND	ND	ND	ND	100	100	NA	NA	NA	39.9
Potassium	ND	ND	ND	ND	NA	NA	NA	NA	NA	12167.6
Sodium	5000	6260	6480	9880	NA	160,000	NA	NA	NA	18346.0
Vanadium	ND	ND	ND	10	NA	NA	NA	NA	49	9.6
Zinc	8.0J	8.4J	4.3J	62.6J	NA	NA	5000	5000	NA	153.20

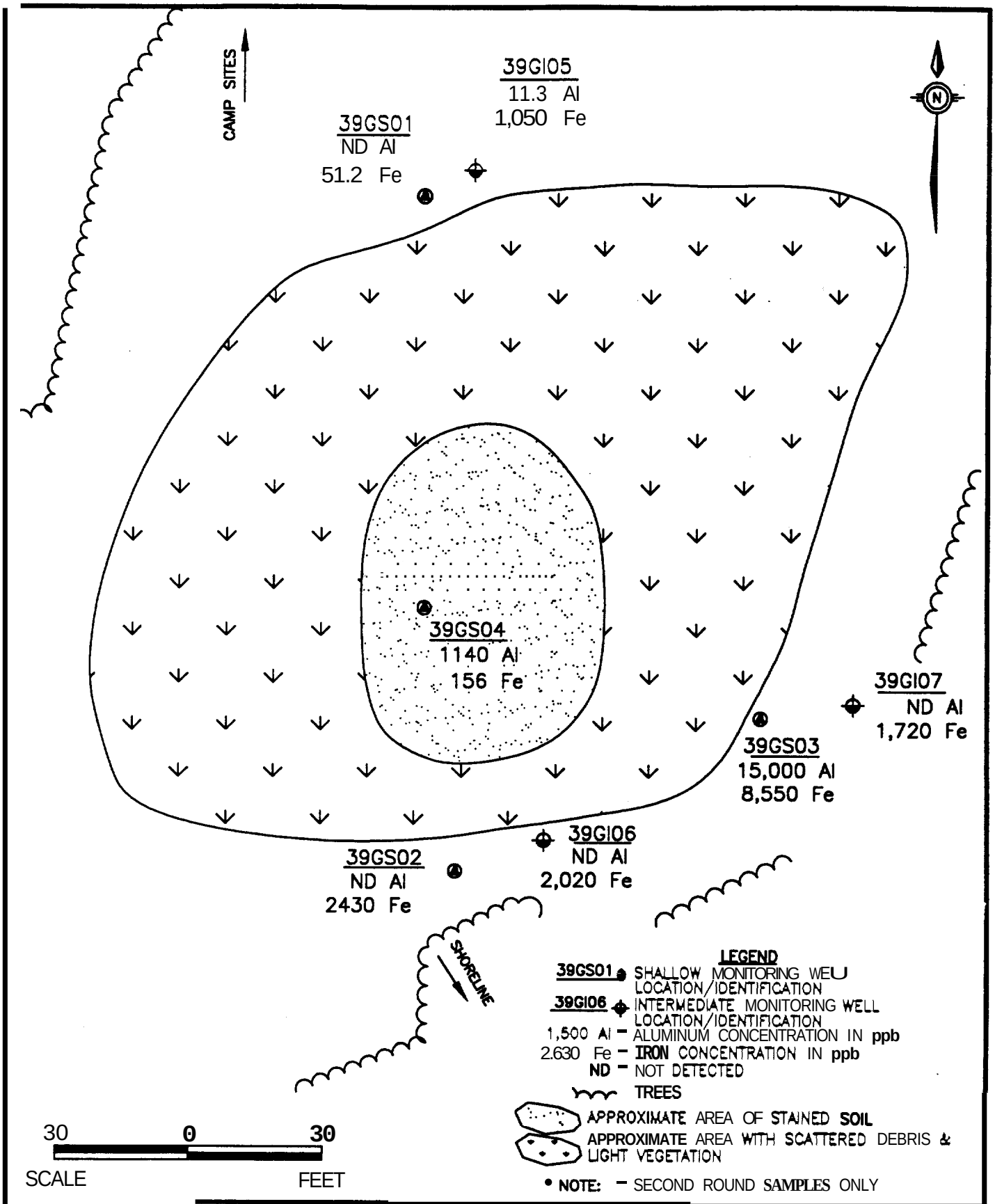
Table 7-7
Summary of Metals in Groundwater
Site 39
(µg/L)

Compound	Sample ID				Preliminary Remediation Goals					NASP - Reference Concentration
	39GS0320[d]	39GS0420[d]			EPA MCLs	FPDWS	EPA SMCLs	FSDWS	FGGC	
Aluminum	[15000]	[1140J]			NA	NA	50-200	200	NA	3882.8
Antimony	ND	ND			6	6	NA	NA	NA	30.2
Arsenic	4.3	ND			50*	50	NA	NA	NA	2.8
Barium	15.5J	ND			2000	2000	NA	NA	NA	13.2
Beryllium	ND	ND			4	4	NA	NA	NA	1.1
Calcium	22600	26500			NA	NA	NA	NA	NA	17560.0
Chromium	8.8	ND			100	100	NA	NA	NA	35
Cobalt	ND	ND			NA	NA	NA	NA	NA	4.1
Copper	ND	ND			NA	NA	1000	1000	NA	16.2
Iron	[8550J]	156J			NA	NA	300	300	NA	1707.8
Lead	5.2	ND			15*	15	NA	NA	NA	1.6
Magnesium	1850	3350			NA	NA	NA	NA	NA	2872.6
Manganese	17.7	ND			NA	NA	50	50	NA	22.0
Mercury	ND	ND			2	2	NA	NA	NA	0.2
Nickel	ND	ND			100	100	NA	NA	NA	39.9
Potassium	ND	ND			NA	NA	NA	NA	NA	12167.6
Sodium	6180	12900			NA	160,000	NA	NA	NA	18345.0
Vanadium	24.4	ND			NA	NA	NA	NA	49	9.6
Zinc	40.6J	5.4J			NA	NA	5000	5000	NA	153.20

Notes:

µg/L	=	Micrograms per liter (ppb).
ND	=	Not detected.
J	=	Positively detected; however, reported concentration ie considered an estimated value.
Bold end Bracket	=	Sample exceede a preliminary remediation goal.
Bold	=	Sample exceeds a NAS Pensacola Reference Concentretion.
NASP-Reference Concentration	=	Two times the overage concentration of contaminant in the samples from the background boringr.
EPA MCL	=	U.S. Environmental Protection Agency Maximum Contaminant Level
FPDWS	=	Florida Primary Drinking Water Standard
EPA SMCL	=	U.S. Environmental Protection Agency Secondary Maximum Conteminent Level
FSDWS	=	floride Secondery Drinking Water Standard
FGGC	=	Florida Groundwater Guidance Concentration
a	=	Under EPA Review
b	=	EPA proposed MCL
c	=	Action level
d	=	Second round of sampling of monitoring wells conducted in June 1994.

Any metals that were not detected in any of the Site 39 groundwater samples were omitted from Table 7-7.



REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

FIGURE 7-6
MEASURED METALS CONCENTRATIONS IN GROUNDWATER EXCEEDING STANDARDS IN 2nd SAMPLING ROUND

DWG DATE: 11/29/94 | DWG NAME 5939MM76

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Iron exceeded the USEPA-SMCL (300 ppb) and FSDWS (300 ppb) in the samples from all three intermediate depth wells and in two out of four shallow wells. Iron concentrations ranged from 51.2 ppb in well 39GS01 to 8550 ppb in well 39GS03. The NASP reference concentration for iron is 1707.8 ppb.

Aluminum exceeded both the USEPA-SMCL (50-200 ppb) and the FSDWS (200 ppb) in two out of four shallow depth wells, 39GS03 (15,000 ppb) and 39GS04 (1140 ppb). Standard concentrations for aluminum were not exceeded in samples from the intermediate depth wells.

Arsenic exceeded NASP reference concentration (2.8 ppb) in two wells: 39GS02 (5.4 ppb) and 39GS03 (4.3 ppb). Its highest concentration was almost ten times less than the USEPA-MCL (50 ppb) and the FPDWS (50 ppb).

Barium exceeded the NASP reference concentration (13.2 ppb) in one well 39GS03 (15.5 ppb). The highest detected concentration was 129 times less than the USEPA-MCL (2000 ppb) and the FPDWS (2000 ppb).

Calcium exceeded the NASP reference concentration (17,560 ppb) in samples from all four shallow wells. The sample concentrations range from 3230 ppb in well 39GI05 to 40,800 ppb in well 39GS01. Calcium did not exceed the reference concentration in any intermediate depth well.

Lead exceeded the NASP reference concentration (1.6 ppb) in two out of four shallow wells, 39GS02 (2.5 ppb) and 39GS03 (5.2 ppb). Lead did not exceed the reference concentration in any intermediate depth well. The highest detected concentration was less than half the USEPA-[treatment technique action level (TTAL)] (15 ppb) and the FPDWS (15 ppb).

Magnesium exceeded the NASP reference concentration (2872.6 ppb) in only one well, 39GS04 (3350 ppb).

Vanadium exceeded the NASP reference concentration (9.6 ppb) in two out of four shallow wells, 39GS02 (10 ppb) and 39GS03 (24.4 ppb). Vanadium did not exceed the reference concentration in any intermediate depth well.

Conclusions and Discussion

Detected parameters in groundwater at the site consisted of VOCs and metals; no pesticides, PCBs, or semivolatiles were detected. First-round analytical results indicated the presence of low concentrations of tetrachloroethene (2 ppb), and 1,1-dichloroethane (3 ppb) in the shallow surficial groundwater, with the highest detections located downgradient of the stained soil area. These concentrations were below standards concentrations. Second round results indicate the presence of a low concentration of [tetrachloroethene] (2 ppb) in the shallow groundwater located upgradient of this site proper. The detected concentration [was below the standards concentrations.] None of these VOCs were detected in any soil samples collected at Site 39.

Based on second-round sampling, aluminum and iron are the only metals in the groundwater to exceed standards concentrations, while arsenic, barium, calcium, lead, magnesium, and vanadium exceeded their respective NASP reference concentrations. It should be noted that reference concentrations of aluminum and iron detected in the background wells also exceeded standards concentrations, indicating these metals occur naturally at relatively high concentrations in surficial groundwater at NAS Pensacola.

7.3 Materials Blanks Analytical Results

Materials blanks consisting of Portland cement, filter pack sand, and bentonite pellets were collected and analyzed as part of this investigation to screen for false positives possibly introduced through these construction materials. Bentonite pellets (sample 39SN02) contained

low concentrations of pesticides, specifically aldrin (0.05 ppb), dieldrin (4.2 ppb), heptachlor epoxide (0.15 ppb), alpha-chlordane (1.3 ppb), 4,4'-DDD (0.16 ppb), 4,4'-DDT (2.3 ppb) and gamma-chlordane (1.5 ppb). Aldrin was also present in the filter pack sand (sample 39SL01) at a concentration of 0.19 ppb. The PCB compound Aroclor 1260 was present in the bentonite pellets at a concentration of 4.2 ppb. Phenol was the only semivolatile compound present in the construction blanks. The Portland cement (sample 39SO01) contained a phenol concentration of 5,900 ppb. Toluene also was detected at 2 ppb in the Portland cement. Toluene was the only volatile compound detected in the construction materials and as previously mentioned, toluene was also detected in the trip blanks, potable water blanks, and DI system blanks, indicating this compound may be a laboratory artifact.

The absence of these compounds in the analyzed groundwater samples indicates their presence in the construction materials are not at significant concentrations that may leach appreciable amounts and adversely affect groundwater quality. Data validation and the analyzed blanks are discussed in Section 8.

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8.0 DATA VALIDATION

Data validation has been performed for all field and analytical data collected from the investigation of Site 39 at NAS Pensacola. The analytical work was primarily conducted by CompuChem Laboratories Inc., Research Triangle Park, North Carolina. In addition to the initial investigational work done at Site 39, a second phase of sampling was also performed in June of 1994. All analytical work was performed in accordance with the following guidance documents and laboratory protocols.

- USEPA Contract Laboratory Program, *Statement of work for Organic Analyses (CLP* 3/90).
- USEPA Contract Laboratory Program, *Statement of work for Inorganic Analyses (CLP* 3/90).
- Determination of Hexavalent Chromium in soil and aqueous samples based on Method 7196A, contained in *Test Methods for Evaluating Solid Wastes (SW-846, 3rd Edition).*
- 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 data received for Site 39 remediation and risk assessment has been validated with the appropriate data qualifiers based on data usability and contractual satisfaction. Sample collection for Site 39 at NAS Pensacola was performed under 15 Sample Delivery Groups (SDGs). This includes the two additional SDGs produced from the second phase of sampling.

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, the initial analysis of pesticide/PCB sample 39S0403 and semivolatile and pesticide/PCB fraction for samples 39S0208, 3980309, 39804, 39305 and 39806 in Case #27314, SDG #375 exceeded contractual holding time requirements. Also, the re-analysis of sample 39S0601D in Case #27314, SDG #1 exceeded contractual holding time criteria.

The laboratory indicated that severe matrix interferences were encountered during pesticide/PCB analysis of sample 39S0403, which made it very difficult to accurately identify and quantitate the surrogate decachlorobiphenyl. However, the laboratory gave no explanation as to why the initial analysis for sample 39S0403 was perfomed 25 days after VTSR. Therefore, data validation procedures for sample 39S0403 resulted in all positive results for the initial pesticide/PCB extract analysis being qualified as unusable (R-flag).

Also, the laboratory indicated that surrogate recoveries were not met in the initial pesticide/PCB analysis for sample 39S0601D due to possible extraction problems. Although, surrogate recoveries were greater than the laboratory's internal minimum acceptance criteria limit of 20 percent, the sample 39S0601D was re-extracted and analyzed 25 days after VTSR.

The initial pesticide/PCB analysis of sample 39S0601D indicated a positive result for the compound heptachlor at a concentration well below the instrument detection limit (IDL). However, the second analysis indicated only endosulfan sulfate present at a concentration well below the IDL. Therefore, due to the second extraction being performed 15 days outside of holding time, all positive sample results associated with the second analysis were qualified as unusable. Also, the initial semivolatile and pesticide/PCB extraction for samples 3930208, 3980309, 39804, 39S05, and 39S06 were each perfomed one day beyond contractual required

holding times. Therefore, all associated sample results were qualified as estimated values, as indicated by a J flag because the data are not believed to be adversely affected by the lapse of one day.

8.2.1 Blanks

Blanks assist in determining the existence and magnitude of any contamination resulting from the laboratory or field. All associated data were evaluated to determine whether there is an inherent variability in the data, or if the problem is an isolated occurrence and does not affect the data. The blank data provided for the investigation of Site 39 indicated various concentrations of acetone, 2-butanone and, methylene chloride for volatiles and several phthalate esters for semivolatiles. These compounds are considered common laboratory artifacts and were evaluated and qualified based on the action levels found for each SDG.

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.

During data validation of Case #27314, SDGs #1, #17, #32, #120, #142, #310 and #375, the common volatile laboratory artifacts methylene chloride, acetone and 2-butanone were identified above the CRQL in the associated method blanks, trip blanks and field blanks. (Note: field blanks were designated as deionized (DI) system blanks and associated potable water blanks). The volatile target analytes toluene, chloroform, bromodichloromethane and dibromochloromethane were detected in trip blank 39ST03 and the Labpure sample for SDG #17. Volatile analysis of Case 28861, SDG 00001 indicated that trip blanks 39GT20, 39GT21, 39GT23, 39GT24, 39GT25, 39GT29, and 39GT30 reported concentrations of acetone

and methylene chloride between 2 and 3 ppb. In addition, equipment blank 39GE20 contained acetone at a concentration of 54 ppb which gave an action level of 540 ppb. The trip blanks, potable water blanks and DI system blanks for SDG #142 contained several volatile target compounds such as toluene, bromodichloromethane, dibromochloromethane, bromoform, chloroform and carbon disulfide. Although these compounds are not considered common laboratory artifacts, action levels were calculated and all associated sample data was qualified accordingly.

In the case of semivolatile analysis, common laboratory artifacts bis(2-ethylhexyl)phthalate, butylbenzylphthalate, diethylphthalate, and di-n-butylphthalate were present at low concentrations in the method blanks for SDGs #1, #17, #120, #142 and #375. Also, several of these contaminants were reported in equipment rinsate blanks 39SE01 and 39SE02 for SDG #17, and in potable water blank 39GP03 for SDG #142. Semivolatile analysis of sample 39GE20 in SDG 00001 reported contamination for bis(2-ethylhexyl)phthalate at 5 ppb. Phenol and pentachlorophenol are other semivolatile compounds not considered common laboratory artifacts, but were reported at low concentrations in equipment rinsate blank 39SE02 and other accompanying QC samples for SDG #17. Phenol was also detected in potable water blank 39GP03 for SDG #142. All associated sample results were qualified accordingly.

During pesticide/PCB analysis, the laboratory reported low concentrations of various pesticides/PCBs in the method blanks of several organic SDGs. For instance, the method blanks PBLK13 and PBLK14 for SDG #1 each contained low concentrations of the target analyte heptachlor, while method blank PBLK61 indicated a small amount of 4,4'-DDT contamination. A low concentration of methoxychlor contamination was also detected in instrument blank PIBLKL2. For SDG #32, the pesticide 4,4'-DDD was reported at a low concentration in method blank PBLK23, while dieldrin and a-BHC contamination was indicated in QC samples for SDG #142. Also, low concentrations of heptachlor and arochlor-1260 contamination were

detected in method blank PBLK95 for SDG #375. SDG 00001 reported no pesticide or PCB contamination in the equipment rinsate blanks and/or de-ionized system blanks.

None of the target pesticide/PCB analytes is considered to be a common laboratory artifact. E/A&H believes that the associated QA/QC blank sample contamination was introduced by the laboratory at the time of sample preparation, dilution and/or sample analysis. Therefore, action levels were calculated based on analyte concentrations indicated for each SDG and all associated sample results were qualified accordingly.

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 SDG #1, the laboratory reported a single TIC, detected in three samples, as a common laboratory artifact. Many of the TICs reported in volatile samples for SDG #17 were characterized as chlorinated benzenes and laboratory artifacts.

Volatile analysis of SDG #32 indicated that a TIC identified as a laboratory artifact and/or an alcohol was detected in several samples, while method blank VBLKX8 contained one TIC identified as a common laboratory artifact. There were no TICs reported in any of the volatile samples for SDG #120, #142. TICs detected in many of the samples for SDG #310 could be characterized as alcohols and laboratory artifacts, while samples for SDG #375 contained only one TIC each. Since the spectra of these TICs for SDG #375 indicated the presence of methylene chloride along with an unknown, they were identified as an unknown and a TCL analyte. Also, volatile analysis of samples in SDG 00001 showed no TICs present in any of the samples.

TICs found in all the samples for SDG #1 were characterized as unknowns, laboratory artifacts, aldol condensation reaction products, and blank contaminants; however, they were not considered sample constituents. *Also,* several TICs detected in samples for SDG #17 were

characterized as blank contaminants, laboratory artifacts, aldols, chlorinated hydrocarbons, and unknowns, while TICs found in SDG #32 were identified as hydrocarbons, carboxylic acids, tetrachloroethane, acid esters, and unknowns. The TICs found in SDG #120 could be characterized as unknowns, hydrocarbons, and substituted hydrocarbons and were not considered to be sample constituents. Semivolatile analysis of SDG 00001 reported TICs that were characterized as unknowns, alcohols, glycols, substituted alcohols, and laboratory artifacts.

TICs found in 11 samples for SDG #142 were identified as laboratory artifacts and blank contaminants, hydrocarbons and unknowns, while TICs reported for SDG #310 were characterized as blank contaminants, laboratory artifacts, aldols, siloxanes, phthalate esters, polyaromatic hydrocarbons, TCL pesticides, and unknowns. Also, 2 to 23 TICs were detected in the semivolatile samples for SDG #375. These could be characterized as unknowns, unknown phthalates, blank contaminants, aldol condensation products and laboratory artifacts.

In evaluating the data provided by these quality control samples, all frequencies and compliance requirements were found to be satisfactory. E/A&H believes that these common laboratory artifacts and other blank contaminants are partially, if not all, a result of laboratory conditions at the time of sample analysis. Therefore, no conclusions or recommendations for Site 39 at NAS Pensacola are based on laboratory artifacts.

8.2.2 Calibration

Requirements for instrument calibration were established to ensure that the 10/01/92 - 03/31/93 data are qualitatively and quantitatively acceptable. The initial calibration measures the instrument's stability which indicates of its sensitivity and capabilities before the analytical run. Continuing calibration indicates the instrument's performance throughout and at the end of each subsequent analytical run. Historical performance data indicate poor response and/or erratic behavior by those compounds known as *common* laboratory artifacts. Because no contractual criteria for these compounds exist, for review and data validation purposes, all compounds

including the common laboratory artifacts were considered for qualification when the following criteria were not met.

- Initial/continuing calibration standard relative response factors (RRFs) for all target compounds and surrogates must be equal to or greater than 0.05.

- Percent relative standard deviation (%RSD) must not exceed ± 30 percent March 31, 1993 calibration.

- Percent difference (%D) not exceeding ± 25 percent in the continuing calibration.

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, 1,2-dichloroethane and the surrogate 1,2-dichloroethane-d5 each failed %D criteria during the continuing calibration analysis for several SDGs. However, the RRFs for each of the compounds mentioned above was within CLP QC criteria.

In the case of semivolatile analysis, the compounds 2,2'-oxybis(1-chloropropane), 2-nitroaniline, di-n-octylphthalate, bis(2-ethylhexyl)phthalate, hexachlorobutadiene and the surrogate 2,4,6-tribromophenol failed %D criteria because of poor response and/or frequent intervals of erratic behavior. Although, this was a systematic occurrence, these poor responders represent the large majority of compounds which failed both %D and %RSD for nearly each SDG. Therefore, if the %RSD was greater than 30 percent and elimination of either the high point or low point on the initial calibration curve and recalculating did not restore the %RSD result to less than or equal to 30 percent. Then all associated positive sample results outside the linear portion of the initial calibration curve were qualified with a J flag. However, if this action did

restore the %RSD result to a value below 30 percent, no action is deemed necessary based on CLP QC protocols.

8.2.3 Precision

In each method used to *analyze* environmental samples, there are variations in the reported results that may be due to random differences in *the* handling and analysis of that 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 matrix spike (MS) and the matrix spike duplicate (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 that may be caused by contaminants during sample analysis that interfere with the compounds of interest.

MS/MSD results for SDG #1 were within QC criteria while the laboratory indicated that due to low sample volume for SDG #17 duplicate blank spikes were prepared and analyzed instead of a matrix spike and matrix spike duplicate. Compounds 4-chloro-3-methylphenol, 4-nitrophenol, and pentachlorophenol in the MSD exhibited high percent recoveries, which *can* be attributed to the more efficient recoveries generally obtained when pure deionized water is used instead of the actual samples. Also, because no matrix interferences or effects are shown when blank spikes and blank spike duplicates are analyzed, E/A & H believes that these samples should not be used in the evaluation and qualification of the associated sample data. Volatile analysis of sample 39GS0220MSD showed that the analytes trichloroethene and benzene had high percent RPD's that were outside QC limits.

For SDG #32, phenol exhibited a high percent recovery during semivolatile MSD analysis while during pesticide/PCB analysis failure of either the percent recovery or %RPD in the MSD was

reported for compounds g-BHC, heptachlor, aldrin, dieldrin, endrin, and 4,4'-DDT. Also, in SDG #120, the compounds 4,4'-DDT, g-BHC, heptachlor, dieldrin, and endrin failed percent recovery criteria for MS and/or MSD analysis, In SDG 00001, all MS/MSD spiked analytes were found to be within QC control limits for semivolatiles and pesticides/PCBs.

Semivolatile analysis for SDG #142, indicated high percent recoveries for compounds 4-chloro-3-methylphenol and 4-nitrophenol during MS/MSD analysis, while pyrene exhibited a low percent recovery within the same MSD. Semivolatile analysis of the MS/MSD for SDG #310 showed phenol and 4-chloro-3-methylphenol with high percent recoveries, while phenol, 4-chloro-3-methylphenol and pentachlorophenol had high percent recoveries in the MS for SDG #375. Also, compounds 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, 4-chloro-3-methylphenol, acenaphthene and pyrene each failed %RPD criteria for MS/MSD analysis in SDG #375.

E/A&H believes that the MS/MSD results indicate the effect of sample matrix on the associated sample data, including the MS/MSD samples themselves. This can be acknowledged by consistent high percent recoveries when deionized water was analyzed, and the inconsistent percent recoveries and %RPDs reported when soil samples were analyzed. As a general rule, no action is taken on MS/MSD data alone. However, the MS and MSD results were used with other QC criteria such as surrogate recoveries, internal standard area QC requirements, and comparison of %RSD results for non-spiked compounds using the original sample result and MS/MSD. If any one or combination of these criteria were not met, then all associated sample results were qualified as estimated according to CLP protocols.

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 from the sample matrix itself. other methods used to determine field inaccuracies include trip blanks and the preparation and analysis of field blanks and equipment rinsate blanks.

Semivolatile surrogate spike analysis for SDG #17, indicated low recoveries for nitrobenzene-d5, 2-fluorobiphenyl, phenol-d5, and 2-fluorophenol in sample 39SP01. Sample 39SP02RE contained a high surrogate recovery for nitrobenzene-d5 and no recovery of phenol-d5, while samples 39SP01RE and 39SP02 each indicated a low recovery for the surrogate phenol-d5. Analysis of semivolatile sample 39S001 indicated low surrogate recoveries of 2-fluorobiphenyl, 2,4,6-tribromophenol, and the advisory sumgate 2-chlorophenol-d4 in SDG #120. However, semivolatile analytical data within each SDG are not believed to have been affected since CLP data validation guidelines suggest that no action be taken unless two or more semivolatile surrogates within the same fraction (i.e., base neutral or acid fraction), are outside of compliance criteria. Surrogate recoveries for volatiles and semivolatiles in SDG 00001 were all within QC limits.

In SDG #1, pesticide/PCB surrogate recovery criteria for decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCX) were not met for samples 39S0101 and 3980503 on both the primary and confirmation columns. *Also,* the method blank PBLK61 and samples 39S0403, 39S0501 and 39S0601D each failed advisory QC limits for TCX on both the primary and confirmation columns, while several more samples failed sumgate recoveries for DCB and/or TCX on either the primary and/or confirmation columns. CLP QC limits are advisory and no

action is provided for samples with failing surrogate recoveries. The pesticide/PCB analytical data within this SDG are believed to be reliable and usable with the appropriate data qualifiers.

Furthermore, in SDG #17 the method blank PBLK82 and samples 39SE01, 39SE02, 39SI01, 01P01, 39SP01, 39SP02, 39GS20, and 39GS21 each failed QC advisory limits for pesticide/PCB surrogate recoveries of DCB on both the primary and confirmation columns. Sample 39GS21 also exhibited a low recovery for TCX on the confirmation column while in SDG #32, method blank PBLK15 and sample 39S0605 contained low surrogate recoveries for TCX on the primary column. Also, sample 39S001 in SDG #120 failed Surrogate recovery for TCX on the confiiation column while sample 39SL01 failed percent recovery for DCB on both the primary and confiiation columns. In SDG 00001, samples 39GI0720, 39GI0320, 39GS0220MS, and 39GS0220MSD failed surrogate recovery for DCB on both the primary and confirmation columns and samples 39GS0320, 39GI0520, and 39GS0220 failed surrogate recovery for DCB on either the primary or confirmation column. All associated sample results were qualified accordingly using informed professional judgment since CLP QC limits for pesticide/PCB surrogates are advisory only.

For SDG #142, samples 39GS01, 39GS02, 39GS03, 39GS04, 39GI05, 39GI06, 39GI06MS, 39GI06MSD, 39GI07, and 39GI07D each failed DCB surrogate recovery on both the primary and confirmation columns. In addition, sample 39GI05 also failed surrogate recovery for TCX on the confiiation column. In SDG #375, samples 39804, 39S05 and 39S06 each failed surrogate recovery for DCB and TCX on both the primary and/or confirmation columns and method blank PBLK94 failed surrogate recovery for DCB and TCX on both 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 such as surrogates, initial and continuing calibrations, retention time criteria and %D and %RSD criteria since 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. The duplicate indicate overall field and laboratory precision. A greater variance should be expected for soil sample duplicates 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. All 71 samples were analyzed for the investigation of Site 39 and only two sample results were determined to be invalid. 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 39 were collected using the EPA Region IV SOPs and analyzed according to CLP SOW protocol.

8.3 Inorganic Analysis

The analytical methods were performed in accordance with the EPA 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 found to be 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 EPA 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 #273142 contained low concentrations of aluminum, iron and sodium at or above the instrument detection limit (IDL,) while the preparation blank in SDG #314135 contained low concentrations of aluminum and sodium. Also, in SDGs #314217 and #314376 the preparation blanks indicated levels of aluminum, calcium and, zinc at or below the IDLs while the prepamtion blank for SDG #731418 contained concentrations of aluminum, calcium, lead, manganese and, zinc above the IDLs for each analyte. In SDG 288615, the preparation blank indicated contamination for aluminum, calcium, sodium, and zinc above the IDLs and below the CRDLs for each compound. The continuing calibration blank also showed barium and beryllium contamination above the IDLs but below the CRDLs for both analytes.

Finally, in SDG #731446 the preparation blank indicated levels of aluminum, sodium and zinc below the IDLs for each analyte. As required under CLP *QC* guidelines all associated sample results were qualified based on the calculated action levels determined from the concentration of blank contaminants found in each SDG.

8.3.4 ICP Interference Check Sample Analyses

The inductive coupled plasma (ICP) interference check sample analysis (ICSA) is performed to check the laboratory's instrument and the background correction factors. The ICSA was found to have been analyzed without any 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 were found to be 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 #314135, the sample duplicate 27S0106D failed CLP control limits for the metals barium, calcium, lead, manganese, and zinc, while the metals arsenic, chromium, copper, lead, and manganese failed duplicate analysis for sample 27S0904D in SDG #314376. In SDG 288615, the sample duplicate 39GS0220D failed duplicate QC control limits for zinc. All associated sample results were qualified as estimated according to CLP protocols.

The spiked samples are designed to provide information about the effects of the sample matrix on digestion and measurement methodology. For instance, the matrix spike sample recovery for antimony was less than 30 percent in SDG #314135, and all associated sample results were below the IDL. Therefore, according to CLP protocols, all associated non-detected sample results for antimony were to be qualified as unusable, as indicated by an R *flag.*

In SDG #314217, the metals antimony, lead, selenium, and thallium each failed matrix spike sample recoveries, but to a different degree. Because this is probably due to the sodium wavelength interference produced during analysis and *caused* by the high concentrations of

sodium also found in the samples, informed professional judgment was used in the data evaluation and qualification. Antimony and selenium exhibited spike recoveries below 30 percent, thallium less than 75 percent, and lead greater than 125 percent. As a result and according to CLP guidelines, all associated non-detected sample results for antimony and selenium were qualified as unusable while non-detected sample results for thallium were qualified as approximates at the reported quantitation limit, as indicated by a UJ flag. Finally, all associated sample results for lead were qualified as estimated.

The metals thallium and cyanide each failed matrix spike recovery in SDG #731418. Because spike recovery for thallium was below 50 percent, all associated nondetected sample results were qualified as approximates at the reported quantitation limit. However, spike recovery for cyanide was below 30 percent; therefore, all associated non-detected sample results were qualified as unusable. In SDG #731446, the spike analysis for arsenic indicated a recovery of less than 75 percent. In SDG 288615, spike analysis for aluminum, iron, thallium, and cyanide indicated recoveries of less than 72 percent for each compound except for cyanide, which had a recovery of 14 percent. The laboratory performed a post-digestion spike analysis for aluminum, iron and cyanide and the recoveries were all above 93 percent. Again, all associated sample results were qualified according to CLP QC guidelines as estimated values.

8.3.7 Validation Worksheets

As with every EnSafe/Allen & Hoshall validation project, worksheets are used which 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 39 Final Remedial Investigation.

8.3.8 Data Assessment

The trip blanks, potable water blanks and DI system blanks contained several volatile target compounds which were detected by the laboratory as contamination introduced during preparation, handling and/or analysis of the samples. These analytes include toluene, dibromochloromethane, chloroform, bromodichloromethane, bromoform, and carbon disulfide. Also, analysis of semivolatile method blanks, equipment rinsate blanks and potable water blanks indicated low levels of bis(2-ethylhexyl)phthalate, butylbenzylphthalate, diethylphthalate, and di-n-butylphthalate contamination in several SDGs. 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 samples 39S0403 and 39S0601D, but failed to explain why the initial analysis was performed 25 days after the validated time of sample receipt. Therefore, all sample results were qualified as unusable. Also, the initial semivolatile and pesticide/PCB extractions of samples 39S0208, 3930309, 39S04, 39S05, and 39S06 exceeded holding times by one day. However, samples 39S04, 39S05 and 39S06 were submitted for TCLP analyses but analyzed for the full TCL/TAL list of compounds. For this reason and the possibility of field contamination, they were not included with the analytical data presented in Appendix F of this report. All other associated sample data were qualified as estimated according to CLP protocols.

Discussion with the project geologist indicated that sample 39GS21, 396520, 39G521, and 396522 were EPA QA spikes. Also, sample identification numbers designated with an L, N, or, O are material blanks which were sampled from clay pellets or cement used in the construction of monitoring wells.

Several metals failed duplicate and/or spike recoveries during inorganic analysis. However, the most evident were antimony and selenium which showed very low spike recoveries in SDG #314217, and cyanide and thallium which exhibited poor recoveries in SDG #731418. As

indicated earlier, the poor recoveries of some of these analytes may be attributed to interference caused by the high sodium content found in the samples and in some the blanks. In SDG 288615, aluminum, iron, thallium, and cyanide showed low spike recoveries in the initial spike sample analysis. Therefore, post-digestion spike was conducted for aluminum, iron, and cyanide and all were within QC criteria. No post-digestion spike was performed for thallium because of interferences caused by the sample matrix itself. Therefore, all associated sample data for these analytes were qualified as estimated.

In conclusion, the overall data quality of the analytical work done for Site 39 at NAS Pensacola, was considered satisfactory and usable for site remediation and risk assessment except for those sample results that were qualified as unusable.

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9.0 CONTAMINANT FATE AND TRANSPORT

9.1 Sources of Contamination

The principal soil contaminants identified at the site are total petroleum hydrocarbons (TPH) (from previous analytical work), semivolatiles, pesticides, and metals. Relative to the remaining portions of the site, the highest measured contaminants from each group were within the stained soil or outside the north (39S01) and east (39S06) perimeters of the stained area. The compound classes identified at the site are at relatively low concentmtions.

Semivolatile compounds consisting of benzo(b+k)-fluoranthene (3930103 at 1,200 ppb, **[removed during removal aciton]**) and pyrene (39S0401 at 1,900 ppb, **[removed during removal action])** were the only identified compounds above 1,000 ppb and were found, respectively, in the boring north of the stained area and within it. Benzo (a)-pyrene was the only SVOC that exceeded an applicable PRG value and was also detected north of the stained area and within it. The north area had the top three feet of soil removed during the removal action, while within the stained area just over one foot of soil was removed.

The highest pesticide concentrations were found within the surface-soil sample from the stained soil area (sample 39S0401, **[removed during removal action]),** where a total pesticide concentration of 1,185.5 ppb was measured. All the remaining soil samples contained total pesticide concentrations less than 1,000 ppb with a total average less than 100 ppb. Toxaphene was the highest detected pesticide species in the stained soil area, at a concentration of 920 ppb and was the only one to exceed an applicable PRG. Removal of the stained soil significantly reduced pesticide concentrations. In the post-removal confirmation samples the highest total detected pesticides was 11.25 ppb.

Numerous metals were detected at the site prior to the removal action, including arsenic, which exceeded the USEPA RBC, the FDEP CG, and the NAS Pensacola reference concentration. Aluminum, calcium, iron, and magnesium exceeded their applicable NAS Pensacola reference

standard prior to the removal action. The metal concentrations were consistently higher at three borings: within the stained soil area (39S04), and in the borings north (30S01) and northeast (39306) of it. In the post-removal confirmation samples one detection of arsenic was above the USEPA RBC and the FDEP CG but below the NAS Pensacola reference concentration. In addition, calcium, [lead], magnesium, and sodium exceeded their respective NAS Pensacola reference concentration.

After the removal action the excavation was filled with one to three feet of clean fill that did not exhibit any parameter concentrations of note.

9.2 Contaminant Migration

9.2.1 Leaching to Groundwater

Contaminants identified in soil may be leached from it 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 contaminants in groundwater indicates partitioning of contaminants 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 presence of tetrachloroethene, 1,1-dichloroethane, and 1,1,2,2-tetrachloroethane in groundwater suggests that a sample area of contaminated soil may be releasing (or has released) volatile compounds at rates substantial enough to detectably impact groundwater; however, it should be noted that none of these compounds were detected in Site 39 soil. It should also be noted that the presence of these compounds in site groundwater was not consistent from the first- to second-round of sampling. The semivolatiles and pesticides compounds generally are considered to have limited to very limited potential for migration due to their low solubility and high affinity for soil particles and total organic carbon. The lack of pesticide and semivolatile compounds in groundwater suggests these compound groups are effectively adsorbed to the soil across the site.

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 bearing soil. Cation-exchange capacities measured on soil from the two respective depth intervals are relatively low at 0.22 and 0.14 meq/100g. Physical analyses on soil samples from the 0- to 5 and 5- to 10-foot intervals indicate relatively low total organic carbon contents of 250 and 240 mg/kg, respectively. The metals identified in soil are believed to be retained to soil and not leaching due to their relatively low concentrations in the groundwater.

9.2.2 Surface Water Transport

The high permeability of the site soil limits any substantial transfer of contamination via surface water flow. The site has no drainage ditches or surface expressions, however, during heavy precipitation, surface water flows south/southeast across the site toward two swales 110 feet and 200 feet south and southeast, respectively. Though these swales are not classified as wetlands, they do contain rushes and meadow grasses typically associated with wetlands; none of the flora appeared stressed at the time of the habitat and biota survey.

9.2.3 Groundwater Transport

Contaminants could potentially migrate with groundwater flow toward Pensacola Bay, approximately 520 feet south-southeast. Travel time for contaminants in the shallow zone to reach Pensacola Bay would be approximately 227 days, based on the calculated groundwater velocities and assuming the rate of contaminant migration is equal to the groundwater velocity (2.29 feet/day). Assuming the bay floor contains a slope of 2° (consistent with typical bay/barrier island scenarios) and the basal portion of the surficial zone [(Le., intermediate depth)] discharges at a depth of 35 feet (i.e., flow is essentially radial), travel time would be approximately 11 years. This again assumes the migration rate is equal to the groundwater flow velocity (0.37 feet/day) for the intermediate depth zone.

9.3 Current and Potential Receiving Water Bodies

The primary groundwater [zone] impacted at the site is the surficial zone of the Sand-and-Gravel Aquifer. The general groundwater quality at NAS Pensacola is naturally highly turbid and contains iron and aluminum at relatively high concentration. Based on these natural qualities, the surficial zone of the Sand-and-Gravel Aquifer does not appear suitable as a drinking water supply, particularly when better quality water is readily available from the main-producing zone.

Potential [receiving water bodies for contamination] are the main producing zone, which is used as a potable water source in Escambia County and underlies the surficial zone, and Pensacola Bay, which is directly recharged by the surficial zone. The upward vertical gradient within the surficial zone and the 12- to 15-foot-thick, low permeability clay layer between the surficial and main producing zones, however, may preclude, or at the very least inhibit, any downward contaminant migration into the deeper groundwater below the clay.

The coastal waters of Pensacola Bay have been classified by the Florida Department of Environmental Protection as Class II water, indicating use for recreation and maintaining a well-balanced fish and wildlife population. Conservatively estimating the rate of contaminant migration to equal the groundwater velocity, the low concentrations of the volatiles, and the amount of the dilution they are likely to undergo before reaching Pensacola Bay minimizes their potential impact to the bay. If metals detected in the groundwater represent contamination associated with the site, they also are likely to be diluted and naturally filtered before reaching the bay. In summary, given the myriad of processes that contribute to attenuation, and the low concentrations of detected parameters, it is highly unlikely adverse impacts to Pensacola Bay have or are occurring. Potential ecological impacts on Pensacola Bay will be addressed in a separate upcoming RI/FS for Pensacola Bay (Site 42).

10.0 BASELINE RISK ASSESSMENT

10.1 Introduction

A baseline risk assessment (BRA) analyzes the potential adverse effects on actual or hypothetical human receptors that could arise from exposures to hazardous substances released from a site if no remedial actions are taken to reduce the extent of present environmental contamination. The baseline risk at Site 39, the Oak Grove Campground at the NAS Pensacola, is the risk to human receptors (real or hypothetical) that may result under various scenarios if no remedial actions are taken to reduce the extent of environmental contamination. The following BRA was prepared in accordance with the guidelines set forth in:

- *Risk Assessment Guidance for Superfund, Volume I — Human Health Evaluation Manual, Part A*, U.S. Environmental Protection Agency (USEPA)/Office of Emergency and Remedial Response (OERR) EPA/540/1-89/002, December 1989 (Interim). (RAGS Part A).

- *RAGS, Volume I — Human Health Evaluation Manual, (Part B, Development of Risk-based Preliminary Remediation Goals)*, EPA/OERR, EPA/540/R92/003, December 1991 (Interim). (RAGS Part B).

- *RAGS, Volume I — Human Health Evaluation Manual, Supplemental Guidance- Standard Default Exposure Factors — Interim Final*, EPA/OERR, OSWER Directive: 9285.6-03, March 25, 1991. (RAGS Supplement).

- *RAGS, Volume I — Human Health Evaluation Manual, supplemental Guidance-Dermal Risk Assessment — Interim Guidance*, EPA/OERR, August 18, 1992. (Supplemental Dermal Guidance).

- Supplemental Guidance to RAGS: Region IV Bulletin, *Development of Health based Preliminary Remediation Goals, Remedial Goal Options (RGO)* and *Remediation Levels* (Supplemental RGO Guidance).

- Supplemental Guidance to RAGS: Region IV Bulletin, *Exposure to Volatile Organic Compounds (VOCs) during Domestic Water Use: Contributions from Ingestion, Showering,* and *Other Uses* (Supplemental Groundwater VOC Guidance).

- Supplemental Guidance to RAGS: Region IV Bulletin, Provisional *Guidance of Quantitative Risk Assessment of PAHs* (USEPA Document EPA/600/R-93-089 July 1993).

- USEPA Region III *Selecting* Exposure *Routes and Contaminants of Concern by Risk-Based Table*, March 18, 1994, (Roy L. Smith); (RBC Screening Tables).

10.1.1 Objectives

The objectives of the baseline risk assessment are to:

- Characterize the source media and determine the chemicals of potential concern (COPCs) for Site 39 at NAS Pensacola;

- Identify potential receptors and quantify potential exposures under current and future conditions;

- Qualitatively and quantitatively evaluate the adverse effects associated with the site-specific COPCs;

- Characterize the potential baseline risks associated with Site 39 at NAS Pensacola under current and future conditions; and

- Evaluate the uncertainties related to exposure predictions, toxicological data, and resultant carcinogenic risk and non-carcinogenic hazard predictions.

The value of the risk assessment as a basis for making remedial decisions and determining whether detected site concentrations pose the potential for any toxic effects or increased cancer risk depends on an adequate characterization of chemical contamination. Variables considered in characterizing the study'area and its associated risk are the amount, type, and location of sources; the pathways of exposure (media type and migration routes); and the type, sensitivities, exposure duration, and dynamics of the exposed populations (receptors). The RI presented in previous chapters provided the site characterization data used in this assessment.

The focus of the investigation at Site 39 was the assessment of darkly stained soil and stressed vegetation resulting from unknown disposal practices on environmental media on and near the site. The initial risk assessment performed on Site 39 determined that detected concentrations of chemicals in the surface soil and groundwater posed no excess cancer risk to recreational users near the site. However, the risk assessment results revealed that under potential future residential conditions, potentially significant risk was posed by site soil (pre-removal) and groundwater. In addition, significant potential hazard was determined to be posed by groundwater if used as a potable source. This risk assessment for Site 39 represents a follow-up effort after the excavation and removal of the top layer (0 to 1 foot minimum) of stained soil. Grab soil samples from the surface and various depths were collected and analyzed for the TCL and TAL using CLP March 1990 Statement of Work methods. In addition, groundwater samples were collected from monitoring wells. Groundwater was analyzed for the same list of parameters as soil samples.

10.1.2 Site Background

NAS Pensacola is five miles southwest of the City of Pensacola, on a peninsula in southern Escambia County. Site 39, a circular area approximately 300 feet in diameter, is south of the

recreational vehicle camping area of the Oak Grove Campground, north of Pensacola Bay, and northeast of Sherman's Inlet. Before excavating approximately 500 cubic yards of soil that made up the top 1-foot (minimum) layer of soil from Site 39, the site was described as a clearing surrounded by trees, with sandy soil covered by some grass and brush growth that was littered with broken brick, concrete, tile, glass, coal, and nails. Soil at Site 39 was excavated in response to a zone of stained soil and stressed vegetation.

No specific accounts on the history and past land use of Site 39 have been reported. Several hypotheses have been given in previous reports and by NAS personnel. Ecology & Environment reported that a boiler-powered sawmill had previously been located in the vicinity of Site 39 (E&E 1992). According to Mr. Ron Joyner of the Facilities Management Division at NAS Pensacola, the site was a disposal area for debris from the demolition of Building 29, not a sawmill. Mr. Joyner indicated that the stained area of soil may have resulted from campers dumping used motor oil on the ground.

10.1.3 Organization

A human health risk assessment, as defined by RAGS Part A, includes the following steps:

- Site characterization: data regarding site geography, geology, hydrogeology, climate, and demographics in the area are evaluated.

- Data collection: samples of environmental media, including reference samples, are analyzed.

- Data evaluation: the analytical data are analyzed statistically to identify the nature and extent of contamination and establish a preliminary list of COPCs that will subsequently be refined to identify chemicals of concern (COCs).

- Exposure assessment: potential receptors are identified under current and future conditions, potential exposure pathways are identified, and exposure point concentrations and chemical intakes are quantified.

- Toxicity assessment: the adverse effects of the COPCs are qualitatively evaluated, and quantitative estimates of the relationship between exposure and severity or probability of effect are made.

- Risk characterization: the output of the exposure assessment and the toxicity assessment are combined to quantify the total non-cancer and cancer risk to the hypothetical receptors.

- Uncertainty: discuss and evaluate the areas of recognized uncertainty in human health risk assessments in addition to medium- and exposure pathway-specific influences.

- Risk/Hazard Summary: presentation and discussion of the results of the quantification of exposure (risk and hazard) for the potential receptors and their exposure pathways identified under the current and future conditions.

- Remedial Goal Options: quantification of exposure concentrations within the USEPA and FDEP target risk of 10^{-6} for carcinogenic COCs and 0.1, 1, and 10 for non-carcinogenic COCs.

10.2 Identification of Chemicals of Potential Concern

When performing a BRA, data for environmental media are compiled to determine potential site-related chemicals and exposures for each medium as outlined in RAGS Part A. Site 39 is considered one area of investigation, and this BRA addresses the potential risks posed by chemicals detected in media there.

10.2.1 Data sources

E/A&H performed a RI of Site 39 during May and through October 1993. As part of the site investigation, soil and groundwater samples were collected and analyzed to delineate the sources, nature, magnitude, and extent of any soil and groundwater contamination.

From May 24 through May 26, 1993, soil data were gathered during sampling efforts at Site 39. Six shallow borings were completed there (borings 39S01 through 39S06). Soil was sampled from the 0- to 1-foot range and at 2-foot intervals thereafter until the water table was reached.

From May 24 through September 13, 1993, four shallow and three intermediate depth monitoring wells (MWs) were installed for the groundwater investigation at Site 39. Before this no wells existed at Site 39. Four shallow monitoring wells (39GS01 to 39GS04) were completed near the water table, screening the upper level of the surficial aquifer. Three intermediate depth MWs were completed at the base of the surficial zone, screened 10 feet above the underlying low-permeability zone, and designated as 39GI05 to 39GI07.

On July 25, 1994, 864 tons of soil (approximately 500 cubic yards) were excavated from Site 39. As part of the post-excavation effort, four confirmatory soil samples were taken from the Site 39 soil layer at the base of the excavation (0- to 1-foot layer). Table 10-1 lists the identification numbers of the samples gathered during the post-excavation effort (borings 39S0008, 39S0009, 39S0010, and 39S0011). In addition to the soil sampling conducted within Site 39, one composite sample was taken from the backfill (clean sandy soil) before it was placed as excavation backfill. No further action was recommended by USEPA for NAS Pensacola Site 39 soil, and USEPA also requested that the soil exposure pathways not be addressed in this BRA because Site 39 surface soil now consists exclusively of clean backfill material.

Table 10-1
Sample Identification Numbers For Surface Soil Samples
NAS Pensacola, Sie 39
Pensacola, Florida

Sample Identification Number	Sample Location
0398000701	Backfill material
039S000801	Post excavation soil at base
039S000901	Post excavation soil at base
039S001001	Post excavation soil at base
039S001101	Post excavation soil at base

Note:
E/A&H collected four discrete soil samples from the base of the excavated area at a depth interval of 0 to 1 foot. In addition, one composite soil sample was collected from the backfill material prior to placement.

Groundwater at Site 39 was further investigated by E/A&H due in part to the high turbidity observed in the onsite monitoring wells (especially at the intermediate depth) which may have been a source of the elevated metal concentrations during the initial sampling phase. From June 15 through June 17, 1994, a second round of groundwater samples was collected at Site 39 using low-flow purge and sample methods to reduce turbidity. Each of the previously installed monitoring wells was resampled. Sample results gathered during the June 1994 sampling round were used in the risk/hazard evaluation of the shallow and intermediate groundwater. Sample identification numbers associated with the resampling effort and this risk assessment are listed in Table 10-2.

10.2.2 Data Validation

Data validation is an after-the-fact, independent, systematic process of evaluating data and comparing them to preestablished criteria to confirm that they are of the technical quality

Table 10-2
Sample Identification Numbers For Shallow and Intermediate Samples
NAS Pensacola, Site 39
Pensacola, Florida

Sample Identification Number	Sample Depth
039GS00120	Shallow
039GS00220	Shallow
039GS00320	Shallow
039GS00420	Shallow
039GI00520	Intermediate
039GI00620	Intermediate
0396100720	Intermediate

Note:
Shallow and intermediate well results were combined to evaluate shallow groundwater exposure. Second-round sampling data were used exclusively in the risk assessment.

necessary to support the decisions made in the remedial investigation/feasibility study (RI/FS) process. Specific parameters associated with the data are reviewed to determine whether they meet the stipulated data quality objectives. The quality objectives address five principal parameters: precision, accuracy, completeness, comparability, and representativeness. To verify that these objectives are met, field measurements, sampling and handling procedures, laboratory analysis and reporting, and non-conformances and discrepancies in the data are examined to determine compliance with appropriate and applicable procedures. The procedures and criteria for validation are defined in the *RI/FS Data Validation Program Guidelines*, which are based on the *USEPA* National Functional *Guidelines for Data Review* (EPA 1988a; EPA 1988b). For further discussion of data validation, please refer to Section 8 of the RI.

10.2.3 Management of Site-Related Data

All environmental sampling data were evaluated for suitability for use in the quantitative BRA. Data obtained via the following methods were not considered appropriate for the quantitative BRA:

- Analytical methods that are not specific for a particular chemical, such as total organic carbon or total organic halogen.

- Field screening instruments including total organic vapor monitoring units (HNu) and organic vapor analyzers.

Once the dataset was complete, statistical methods were used to evaluate the RI analytical results to (1) identify chemicals of potential concern (COPCs) and (2) establish exposure point concentrations of potential receptor locations. The statistical methods used in data evaluation are discussed below. The rationale used to develop this methodology and the statistical techniques are based on the following sources:

- **RAGS Part A**
- *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987)

The Statistical Analysis Software (SAS) and Quattro Pro were used to perform most of the statistical calculations. For each set of data used to describe the concentration of chemicals in a contaminated area, the following information was tabulated: frequency of detection, range of detected values, distribution of the data (normal, lognormal, or other); mean concentrations; and upper confidence limit (UCL) on the mean of the concentration. Due to the limited number of samples, the calculated UCL concentrations were greater than the maximum reported concentrations. Therefore, maximum reported concentrations were used in exposure quantification and risk calculations.

10.2.4 Selection of Chemicals of Potential Concern

The objective of this section of the BRA is to screen information that is available on the substances detected at Site 39 (chemicals present in site samples or CPSSs) in order to develop a list or group of COPCs. The information, as discussed herein, consists of both federal and State of Florida cleanup criteria and standards for groundwater. COPCs are those chemicals selected in consideration of their comparison to screening concentrations (risk-based and reference), intrinsic toxicological properties, persistence, fate and transport characteristics, and cross-media transfer potential. Any COPC that is carried through the risk assessment process and found to contribute to a pathway that exceeds a lob risk or hazard index (I-HI) greater than 1 for any of the exposure scenarios evaluated in this risk assessment and has an incremental lifetime cancer risk (ILCR) greater than 10^{-6} or hazard quotient (HQ) greater than 0.1 is referred to as a chemical of concern (COC).

Prior to evaluating the potential risks/hazards at Site 39, it was first necessary to determine the nature and extent of the contamination at the site. This was accomplished by noting the chemicals detected in each medium. These chemicals represent the CPSSs for Site 39. The nature and extent of CPSSs was discussed in detail in Section 7 of the RI. In order to reduce the list of CPSSs, the following tasks were performed.

Comparison of Site-Related Data to *screening* Concentrations

The maximum concentrations of CPSSs detected during the June 1994 groundwater sampling round were compared to RBCs for tap water as listed in the RBC screening table, maximum contaminant levels (MCLs), secondary maximum contaminant levels (SMCLs), and Florida Drinking Water Standards (FDWS). As *stated* in the text of the USEPA Region III document referenced in this BRA, the target hazard quotient of 0.1 and the risk goal of 10^{-6} were used by USEPA Region III to calculate screening concentrati'cm for non-carcinogens and carcinogens, respectively. The maximum detected concentrations in shallow and intermediate depth groundwater for the CPSSs were compared to the lowest of the four groundwater screening

criteria. CPSSs with maximum detected concentrations exceeding their corresponding concentrations, goals, levels, and/or standards were retained for further evaluation and reference screening in the risk assessment.

Site 39 surface soil has been removed and replaced with clean fill material. Therefore, soil exposure pathways were excluded from this BRA in accordance with USEPA Region IV's recommendations (USEPA Region IV February 9, 1995, Comments on the Draft Remedial Investigation for NAS Pensacola Site 39).

Comparison of Site-Related Data to Reference Concentrations

Reference data for Site 39 consist of groundwater results for inorganic chemicals. Table 10-3 lists the results of samples numbered 01GS67, 01GI68, 01GS69, and 01GI70, which identify reference (background) concentrations for inorganic chemicals detected in shallow groundwater.

Groundwater CPSSs exceeding screening concentrations, goals, levels, and/or standards were compared to reference concentrations established for Site 39. The procedure for comparing the concentrations of inorganic chemicals onsite with those in reference samples is referred to as the "twice reference criterion," or two times the reference concentration. Inorganic CPSSs from

Site 39 whose maximum detected concentrations exceeded corresponding reference concentrations were retained for further consideration for inclusion as a COPC in the BRA. This comparison assists in accounting for naturally occurring chemicals that are ubiquitous in nature such as aluminum.

Table 10-3
Reference Concentrations — Shallow Groundwater
NAS Pensacola, Site 39
Pensacola, floride

Chemical	01GS67 (µg/L)	01GI68 (µg/L)	01GS69 (µg/L)	01GI70 (µg/L)	Average Concentration (µg/L)	2X Average Concentration (µg/L)
Aluminum	*4,240*	146.5 U	*3,270*	109 U	*1,941.4*	*3882.8*
Arsenic	1.4 U	1.4 U	1.4 U	1.4 U	1.4	2.8
Barium	5.5 U	6.75 U	9.45 U	4.75 U	6.6	13.2
Cadmium	1.7 U	1.7 U	1.7 U	1.7 U	1.7	3.4
Calcium	17,800	5,670	6,300	5,350	8,780	17,560
Chromium	4.85 U	2.6 U	59.9	2.6 U	16.9	34
Cobalt	2.05 U	2.05 U	2.05 U	2.05 U	2.05	4.1
Copper	5.4 U	5.4 U	16.2	5.4 U	8.1	16.2
Iron	*677*	*942*	*1,770*	26.65	*853.9*	*1,707.8*
Lead	0.8 U	0.8 U	0.8 U	0.8 U	0.8	1.6
Magnesium	795 U	665 U	1,255 U	3,030	1,256.25	2,512.5
Manganese	5.7	8.9	26.7	1.55 U	11.0	22
Mercury	0.1 U	0.1 U	0.1 U	0.1 U	0.1	0.2

Table 10-3
Reference **Concentrations** — Shallow Groundwater
NAS Pensacola, Site 39
Pensacola, Florida

Chemical	**01GS67 (µg/L)**	**01GI68 (µg/L)**	**01GS69 (µg/L)**	**01GI70 (µg/L)**	**Average** Concentration **(µg/L)**	**2X Average** Concentration **(µg/L)**
Nickel	19.95 U	19.95 U	19.95 U	19.95 U	19.95	39.9
Potassium	13,300	1,275 U	6,560	3,200	6,083.8	12,167.6
Sodium	10,700	8,350	7,830	9,810	9,172.5	18,345
Vanadium	7.9	3.75 U	3.75 U	3.75 U	4.8	9.6
Zinc	8.75 U	3.9 U	290	3.75 U	75.3	150.6

Notes:

µg/L – Micrograms per liter.
U – Chemical not detected, value reported equals one-half detection limit.
Bold Italics = The reported value exceeds the Florida Secondary Drinking Water Standard (FSDWS).

- One-half the lowest reported detection limit or the lowest positive detection, whichever was lower, was used in the calculation of the average concentration.
- Shallow and intermediate well results were combined to evaluate shallow groundwater reference. Monitoring wells 01GS67 and 01GS69 (shallow depth) and 01GI68/69 and 01GI70 (intermediate depth) were resampled using low-flow purge methods to reduce turbidity suspected to have been a source for elevated metal concentrations in the initial groundwater reference sampling round.

For organic CPSSs, the twice reference criterion *can* be applied to eliminate chemicals from the risk assessment. However, it is assumed that organic chemicals are not present in reference samples. Deviations from this assumption are discussed in the Risk Characterization Section. Those chemicals with maximum concentrations less than two times reference *are* not considered further in this risk assessment unless deemed appropriate based on chemical-specific characteristics.

Comparison of Essential Elements to U.S. Recommended Daily Allowances

In accordance with RAGS Part A, essential elements such as sodium, potassium, calcium, magnesium, and iron that are potentially toxic only at extremely high concentrations may be eliminated from further consideration as COPCs in a risk assessment. Specifically, an essential nutrient may be screened out of a risk assessment if it is shown to be present at concentrations that *are* not associated with adverse health effects. In accordance with USEPA Region IV's recommendations, essential nutrients were not evaluated in this BRA.

Calculation of Risk and Hazard

Those CPSSs with chemical-specific exceedances of RBCs, FSCGs, MCL SMCLs, FDWS, and reference concentrations *are* considered COPCs. The final *step* in identifying COCs from the refined list of CPSSs involves calculating chemical-specific cancer risks and HQs for COPCs, and evaluating frequency and consistency of detection and relative chemical toxicity.

A COC is defined by FDEP as any chemical having an incremental lifetime excess cancer risk (ILCR) greater than 1E-6 or a HI greater than 1.0. *As* previously discussed, the identification of COCs is a two-phase process. First, exposure pathways which exceed the criteria established by FDEP *are* identified. Those COPCs which individually exceed 1E-6 ILCR or a HQ greater than 0.1 in a pathway of concern are retained as COCs. Section 10.4, Toxicity Assessment, provides a more detailed discussion of *cancer* risk thresholds and non-cancer toxicity.

10.2.5 COPCs in Groundwater

Table 10-4 lists the maximum detected concentrations of CPSSs in shallow and intermediate depth groundwater with their corresponding chemical-specific concentrations/standards for groundwater and twice reference criteria. COPCs identified in groundwater, CPSSs that exceed the lowest of the four groundwater criteria and reference concentrations, are denoted with the symbol "*" next to the chemical name. CPSSs eliminated from further consideration in this risk assessment due to their maximum detected concentrations falling below the lower of the four groundwater criteria, reference concentrations, and/or existing as essential elements are denoted in the tables by the numerical symbols of "3," "4," and "5," respectively.

As indicated in Table 10-4, aluminum, tetrachloroethene, and arsenic were identified as COPCs. These chemicals will be further evaluated in this risk assessment. Iron and magnesium were the only essential nutrients with maximum detected concentrations of 8.6 mg/L and 3.4 mg/L, respectively, which exceeded both the groundwater criteria and reference concentrations. At the 2 Uday groundwater ingestion rate for a hypothetical future site resident exposure scenario (RAGS Part A) and the maximum detected Site 39 concentrations, 17.2 mg of iron would be ingested per day which is 96 percent of the U.S. Recommended Daily Allowance (USRDA). For magnesium at the same ingestion rate, 6.8 mg of magnesium would be ingested per day, which is 0.017 percent of the USRDA.

10.3 Exposure Assessment

The purpose of this section of the BRA is to determine the magnitude of contact that a potential receptor may have with site-related COPCs. Exposure assessment involves four stages:

- Characterizing the physical setting and land use of the site
- Identifying COPC release and migration pathways

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Table 10-4
Chemicals Samples in Shallow and Intermediate Groundwater Shallow and Intermediate Water-Bearing Zones
NAS Pensacola, Site 39
Pensacola. Florida

Chemical	Frequency of Detection[1]	Default Value 121 (mg/L)	Range of Detected Concentrations (mg/L)	Mean of Detected Concentrations (mg/L)	Screening Value (mg/L)	Source	Reference Value (mg/L)	Notes
*Aluminum	2 / 7	0.106	1.140 - 15.000	5.38	0.05 - 0.2	SMCL	3.88	
*Arsenic	2 / 7	0.0013	0.0043 - 0.0053	0.0048	0.000038	RBC	0.0028	
Barium	3 / 7	0.00265	0.0155 - 0.131	0.073	0.26	RBC	0.0132	3,4
Calcium	7 / 7	NA	4.97 - 40.8	18.5	NA	NA	17.56	
Chromium	1 / 7	0.0033	0.0088	0.0088	0.1	FPDWS/M	0.034	3,4
Iron	7 / 7	NA	0.0512 - 8.550	2.28	1.095	RBC	1.71	5
Lead	2 / 7	0.0009	0.0025 - 0.0052	0.0039	0.015	TTMCL	0.0016	3,4
Magnesium	7 / 7	NA	0.975 - 3.350	1.88	NA	NA	2.51	5
Manganese	6 / 7	0.00315	0.0088 - 0.0177	0.011	0.018	RBC	0.022	3,4
Sodium	7 / 7	NA	5.000 - 12.900	7.65	124.1	RBC	18.3	3,4
*Tetrachloroethene	1 / 7	0.001	0.002	0.002	0.0011	RBC	NA	
Vanadium	2 / 7	0.00265	0.010 - 0.0244	0.017	0.026	RBC	0.0096	3.4
Zinc	7 / 7	NA	0.0043 - 0.0626	0.020	1.1	RBC	0.151	3.4

Not..:

The shallow and intermediate groundwater sample identification numbers summarized in the table are 039GI00620, 039GI00520, 039GI00720, 039GS00120, 039GS00220, 039GS00320, and 039GS00420. Tetrachloroethene (PCE) was detected in both first and second phases of groundwater sampling. PCE was detected in four samples at either 1 or 2 µg/L (i.e., monitoring wells 1 through 4 in the first phaee of sampling), and the data shown in the Table 10-4 are the second phare data. The maximum concentration detected in either phases ir 2 µg/L, which was used as EPC.

•	=	Indicates a chemical of potential concern (COPC).
1		Number of positively detected concentrations/Total number of samples.
2	=	The lesser of either one-half the quantitation limit or one-half the lowest reported detaction was used as the default value for all non-detects.
3	=	The screening value war not exceeded by the maximum concentration detected.
4	=	The reference concentration war not exceeded by the maximum concentration detected.
5	=	The chemical is considered to be an essential nutrient that is potentially toxic only at very high doses.
mg/L	=	Milligrams per liter.
NA	=	Not available.
FPDWS/M	=	florida primary drinking water rtandard and federal maximum contaminant level (MCLI.
RBC	=	USEPA Region III risk-based rcreening concsntrationr for tap water; USEPA RBCs were celculatad based on e target hazard quotient of 0.1 and target risk of 1E-6.
SMCL	=	The Federal Secondary Maximum Contaminant Level for drinking water.
TTMCL	=	The treatment technique action level was used as a screening value for lead.

- Identifying the potential receptors, under various land use or site condition scenarios, and the pathways by which they might be exposed

- Quantifying of intakes, or contact rates, of COPCs.

10.3.1 Characterization of Exposure Setting

10.3.1.1 Physical Setting

NAS Pensacola is a 5,800-acre facility on the western edge of the Florida panhandle, on a peninsula bounded by Pensacola Bay to the east and Bayou Grande to the west. Site 39 is in the southwestern portion of NAS Pensacola. Site 39 is approximately 2,500 feet south of Sherman Field and 520 feet northwest of the Pensacola Bay shoreline.

On July 25, 1994, 864 tons of soil from the top 0- to 3-foot range were removed from Site 39 and replaced with approximately 500 cubic yards of backfill (sand from another location at NAS Pensacola) as part of a removal action. Before to the removal action, Site 39 consisted of a circular area approximately 300 feet in diameter littered with broken brick, concrete, tile, glass, coal, and nails. Two areas of stained soil were identified within Site 39 — a smaller zone of darkly stained soil and stressed vegetation surrounded by a larger area of lightly stained soil and slightly distressed vegetation.

Climate

NAS Pensacola has a mild, subtropical climate, with average annual temperature ranging from 55°F in the winter to 81°F in the summer. Extremes in temperatures can range from less than 7°F in the winter to more than 102°F in the summer. 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, with the highest amounts in July and August. During the spring and fall, rainfall is the lowest (an average of 4 inches per month).

Winds originate from the north during the winter and the south during the summer. Hurricanes and tornadoes can substantially damage the nearshore environment. According to recorded history, six hurricanes have passed within 50 miles of Pensacola.

Hydrogeology

Three main regional hydrogeologic units have been identified within the stratigraphy beneath the Florida Panhandle. In descending order the units are the Sand-and-Gravel Aquifer, the Intermediate System, and the Floridan Aquifer System. The surficial aquifer comprises unconsolidated clastic deposits approximately 300 feet thick at NAS Pensacola. It is referred to as the Sand-and-Gravel Aquifer and is used as a major source of drinking water in the region (SEGS 1986). Due to the Sand-and-Gravel Aquifer being the uppermost unit contiguous with land surface and receiving recharge through direct infiltration, it is susceptible to contamination from surface activities. The Sand-and-Gravel Aquifer is not used within Site 39 as a potable water source. Investigations at Site 39 have been limited to the upper portion (surficial zone) of the Sand-and-Gravel Aquifer.

The groundwater zones defined at Site 39 are the shallow and intermediate groundwater zones. These zones refer to two general depths at which monitoring wells have been completed at Site 39. The two monitoring well depths are present within the Sand-and-Gravel Aquifer, with shallow and intermediate depth monitoring wells completed within the surficial zone. The shallow wells monitor conditions near the water table, whereas the intexmediate wells monitor conditions at the base of the surficial zone immediately above the underlying clays and silts of the low-permeability zone.

Groundwater flow studies at the site have indicated that groundwater flows within the upper and lower surficial zones southeast and south, respectively, toward the Pensacola Bay. The flow direction is consistent with the site topography. Piezometric maps constructed from the low- and high-tide groundwater elevations measured on September 14,1993, indicate the water table lies

between 3 and 7 feet below the surface and ranges in elevation from 3.9 to 2.9 feet above mean sea level.

The vertical groundwater gradients measured between paired wells indicate an upward potential component of flow from the lower surficial zone to the upper surficial zone. The potential communication between the surficial zone and the underlying main producing zone is minimized due to this upward potential component of flow coupled with the presence of a low-permeability zone underlying the site between the two water-bearing zones.

Tidal effects on water levels are considered to be minimal, but appear most substantial on the intermediate depth monitoring wells, varying from 0.00 to 0.05 feet or more. The overall groundwater flow directions and gradients are minimally affected by the tidal fluctuations.

10.3.1.2 Potentially Exposed Populations

Site 39 is approximately 150 feet south of the Oak Grove Campground, which is used by individuals who camp in the area, walk their dogs, and engage in other varied recreational activities. Officials at the campground have indicated that retirees, individuals between the ages of 50 and 80 years old, comprise a major portion of the camp population, especially during the winter.

Under current land use conditions at Site 39, access to the area of concern is not restricted, but portions of it are roped off. There are reported plans to use the area as an extension of the campground's vehicle trailer grounds. As a result, existing recreational exposure scenarios may continue unaltered for the foreseeable future.

Since clean backfill material comprises the 0- to 1-foot soil depth interval,, the potential risk/hazard posed by the soil pathways has not been assessed. Potential risk/hazard posed by groundwater pathways has been assessed assuming a future residential exposure scenario. This

approach was selected to provide a conservative but reasonable evaluation of potential future risk within Site 39.

10.3.2 Identification of Exposure Pathways

The potential pathways of exposure to COPCs identified in the shallow and intermediate groundwater are listed in Table 10-5. Details regarding the rationale for exposure pathway selection/rejection for both the soil and groundwater media are also provided in Table 10-5 and detailed in the following paragraphs.

10.3.2.1 Soil

Based on USEPA recommendations, the soil exposure pathway was not addressed in this BRA. Surface soil composed of clean backfill material. Because subsurface soil is not typically addressed, USEPA recommended no further action for Site 39 soils.

10.3.2.2 Groundwater

Shallow and intermediate monitoring well data were combined to assess the potential future residential well scenario which could include both water-bearing zones. This approach assumes that each water-bearing depth studied has the same potential viability as a potable water source. Although none of the aquifers studied currently serves as a source of potable water at Site 39, this approach is consistent with the NCP, which calls for protecting groundwater to allow for its maximum beneficial use. There are no plans to initiate use of onsite groundwater for potable or industrial purposes. The ingestion of COPCs were addressed in this BRA, and the inhalation exposure pathway was included for incidental inhalation of VOCs during groundwater use.

10.3.2.3 Air

Fugitive dust exposure was considered as a potential exposure pathway for the potential future site worker since the individual would be engaged in excavation trenching and general construction activities. Because the diameter of sand grains at Site 39 have been approximated

Table 10-5
Exposure Pathways Summary
NAS Pensacola Site 39
Pensacola, Florida

Potentially Exposed Population	Medium and Exposure Pathway	Pathway Selected for Evaluation?	Reason for Selection or Exclusion
Current Land Uses			
Recreational Residents (Child and Adult)	Air, Inhalation of gaseous contaminants emanating from soil	No	The gaseous air pathway is not considered due to the absence of significant volatile chemicals in soil. USEPA recommends excluding post-removal soil from this BRA.
	Air, Inhalation of chemicals entrained in fugitive dust	No	The sand grains, described as fine-medium grain quartz, are not respirable. USEPA recornmends excluding post-removal soil from this BRA.
	Groundwater, Ingestion of contaminants during potable or general use	No	Groundwater is not currently used as a source of potable or industrial water at Site 39.
	Groundwatar, Inhalation of volatilized groundwater contaminants	No	Groundwater is not currently used as a source of potable or industrial water at Site 39.
	Soil, Incidental ingestion	No	USEPA recommends excluding post-removal soil from this BRA.
	Soil, Dermal contact	No	USEPA recommends excluding post-removal soil from this BRA.
Infrequent Child Trespasser	Air, Inhalation of gaseous contaminants emanating from soil	No	The gaseous air pathway is not considered due to the absence of significant volatile chemicals in soil. USEPA recommends excluding post-removal soil from this BRA.
	Air, Inhalation of chemicals entrained in fugitive dust	No	The sand grains, described as fine-medium grain quartz, are not respirable. USEPA recornmends excluding post-removal soil from this BRA.
	Soil, Incidental ingestion	No	USEPA recommends excluding post-removal soil from this BRA.
	Soil, Dermal contact	No	USEPA recommends excluding post-removal soil from this BRA.

Table 10-5
Exposure Pathways Summary
NAS Pensacola Site 39
Pensacola, Florida

Potentially Exposed Population	Medium and Exposure Pathway	Pathway Selected for Evaluation?	Reason for Selection or Exclusion
Future Land Uses			
Future Site Residents (Child and **Adult)**	Air, Inhalation of gaseous contaminants emanating from soil	No	The gaseous air pathway is not considered due to the absence of significant volatile chemicals in soil. USEPA recommends excluding post-removal soil from this BRA.
	Air, Inhalation of chemicals entrained in fugitive dust	No	The sand grains, described as fine-medium grain quartz, ere not respirable. USEPA recommends excluding post-removal soil from this BRA.
	Groundwater, Ingestion of contaminants during potable or general use	Yes	The combined shallow and intermediate depth water-bearing zones could hypothetically be used as a residential water source.
	Groundwater, Inhalation of volatilized contaminants during domestic use	Yes	Groundwater is neither currently used as a source of potable or industrial water et Site 39, nor is this groundwater projected for such uses. However, one volatile contaminant was addressed for the inhalation exposure pathway.
	Soil, Incidental ingestion	No	USEPA recommends excluding post-removal soil from this BRA.
	Soil, Dermal contact	No	USEPA recommends excluding post-removal soil from this BRA.
	Wild game or domestic enimds, Ingestion of tissue impacted by media contamination	No	Hunting/taking of game and/or raising livestock is prohibited et ell naval bases and air stations.
	Fruits and vegetables, Ingestion of plant tissues grown in contaminated media	No	The potential for significant exposure via this pathway is low; the primary soil contaminants in the potential root zone are gone since the excavation and removal effort

Table 10-5
Exposure Pathways Summary
NAS Pensacola Site 39
Pensacola, Florida

Potentially Exposed Population	Medium and Exposure Pathway	Pathway Selected for Evaluation?	Reason for Selection or Exclusion
Site Worker	Air, Inhalation of gaseous contaminants emanating from soil	No	The gaseous air pathway is not considered due to the absence of volatile chemicals in soil. USEPA recommends excluding post-removal soil from this BRA.
	Air, Inhalation of chemicals entrained in dust resulting from construction activities such as digging	No	The sand grains, described as fine-medium grain quartz, are not respirable USEPA recommends excluding post-removal roil from thir BRA.
	Groundwater, Ingestion of contaminants during potable or general use	No	The combined shallow and intermediate depth water-bearing zones are not likely to be used as en occupational water source.
	Soil, Incidental ingestion	No	USEPA recommends excluding post-removal soil from this BRA.
	Soil, Dermal contact	No	USEPA recommends excluding post-removal soil from this BRA.

Note:
Based on the recommendations of USEPA, Region IV, dermal contact exposure pathways for aqueous media were not considered viable.

at 200 μm, exposure via the fugitive dust pathway is not likely since particles greater than 20 μm are not respirable. As reported in *Industrial Toxicology, Safety and Health Applications in the Workplace,* the upper air passages are efficient in removing large particles from theinspired air, and almost all particles greater than 20 μm in diameter are filtered by the nasopharyngeal region (Williams, 1985). In addition, since the 0- to 1-foot depth soil consists of clean backfill material, no complete or potential exposure pathway exists.

10.3.3 Exposure Point Concentrations

The exposure point concentration is the concentration of a contaminant in an exposure medium that will be contacted by a real or hypothetical receptor. Determining the exposure point concentration depends on factors such as:

- Availability of data
- Amount of data available to perform *statistical* analysis
- Reference concentrations not attributed to site impacts
- Location of the potential receptor

USEPA Region IV guidance *calls* for assuming lognormal distributions for environmental data and the calculation of 95 percent of the UCL mean for use in exposure quantification. Applying the UCL is generally inappropriate when the number of samples is less than 10, but it was calculated to show the calculated concentrations are equal to or greater than the maximum concentrations detected. Because of the uncertainty associated with characterizing potentially non-homogeneous areas, both the mean (natural log transformed) and the UCL on the mean for a lognormal distribution *are* reported for each COPC identified in Site 39 media. In general, outliers have been included in calculating of the UCL because high values seldom appear as outliers for a lognormal distribution. Including outliers increases the overall uncertainty of the calculated risks and increases the estimate of the risk in a conservative manner.

The UCL was calculated for a lognormal distribution as follows:

$$\left(\bar{a}+0.5s_a^2 + \frac{H_{0.95} \times s_a}{\sqrt{n-1}}\right)$$

$$\text{UCL} = e$$

where:

$\bar{a}$	=	$\Sigma a/n$ = sample arithmetic mean of the log-transformed data, $a = \ln(x)$
s_a	=	sample standard deviation of the log-transformed data
n	=	number of samples in the data set
$H_{0.95}$	=	value for computing the one-sided upper 95 percent confidence limit on a lognormal mean from standard statistical tables (Gilbert, 1987)

The calculated values for upper 95 percent confidence limit are presented in Table 10-6 for COPCs identified in shallow and intermediate groundwater. The table provides a statistical summary of COPCs identified within Site 39, which includes for each COPC the frequency of detection, mean and standard deviation of the natural log-transformed data, the H-statistic, the maximum of detected concentrations, and the reference (background) criterion (where applicable). For shallow and intermediate groundwater, the lowest of the maximum of positive detections or the 95 percent UCL mean concentration of each COPC identified in groundwater, referred to as the EPC, was used to compute risk/hazard. This value is also provided in the table for reference.

Analytical results are presented as "non-detects" whenever chemical concentrations in samples do not exceed the detection or quantitation limits for the analytical procedures. Generally, the detection limit is the lowest concentration of a chemical that can be quantified above the normal, random noise of an analytical instrument or method. To apply the above-mentioned statistical procedures to a dataset with reported "non-detects," it was assumed that the chemical was present at the lesser of one-half the sample quantitation limit or one-half the lowest reported hit for the specific medium, as suggested by RAGS Part A. Using this algorithm is a reasonable compromise between use of zero and using the sample quantitation limit to reduce the bias (positive or negative) in the calculated UCL.

Table 10-6
Statistical Analysis of COPCs in Shallow and Intermediate Groundwater
NAS Pensacola, Site 39
Pensacola, Florida

Chemical	n	Natural Log Transformed			UCL (mg/L)	Maximum Detection (mg/L)	Reference Concentration (mg/L)	EPC (mg/L)
		Mean	SD	H Stat				
Aluminum	7	-1.20	1.94	6.55	348.15	15	3.88	15
Arsenic	7	-6.27	0.64	2.76	0.005	0.005	2.80	0.005
Tetrachloroethene	7	0.099	0.26	2.07	0.001	0.002	NA	0.002

Notes:

NA	=	Not Applicable
n	=	Total number of samples.
Mean	=	The average of the natural log transformed sample data.
SD	=	Standard deviation for a sample of a population of data.
H stat	=	The H = statistic as excerpted from Gilbert, 1987.
EPC	=	Exposure point concentration; because the number of samples is less than 10, the maximum concentrations detected for the COPCs were used as EPC.
ND	=	Not detected in reference wells.
UCL	=	Upper confidence limit,
mg/L	=	Milligrams per liter.

10.3.4 Toxicity Equivalency Factors

Toxicity Equivalency Factors (TEFs) are chemical-specificvalues used to relate the carcinogenic potential of various polyaromatic hydrocarbons (PAHs) to that of benzo(a)pyrene. As discussed in *Provisional* Guidance *of Quantitative Risk Assessment of PAHs*, the EPC associated with the family of compounds that constitutes PAHs are multiplied by a chemical-specific TEF. The following TEFs are used to convert the PAH concentrations to an equivalent concentration based on benzo(a)pyrene:

Compound	TEF
Benzo(a)pyrene	1.0
Benzo(a)anthracene	0.1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.01

Chrysene	0.001
Dibenzo(a,h)anthracene	1.0
Indeno(1,2,3-c,d)pyrene	0.1

TEFs apply only to the PAHs listed above. As discussed in Section 10.2.4 of this BRA, no PAHs were identified as COPCs for Site 39. As a result, TEFs were not applied to any EPCs used in this risk assessment.

10.3.5 Quantification of Exposure

This section describes the models, equations, and input parameter values used to quantify doses or intakes of the COPCs for the groundwater pathway as discussed in Section 10.3.2. The models are designed to estimate route- and medium-specific factors, which are multiplied by the EPC to estimate chronic daily dose. The intake model variables generally reflect 50th or 95th percentile values, which when applied to the EPC ensure that the estimated intakes represent the reasonable maximum exposure (RME). Formulae were derived from RAGS, Part A unless otherwise indicated. Table 10-7 lists input parameters used to compute chronic daily intakes (CDIs) for future site residents resulting from exposure via groundwater ingestion and inhalation (where applicable).

Age-adjusted ingestion and contact factors were derived for the potential future residential receptors (resident adult and resident child combined) for carcinogenic endpoints. These factors consider the difference in daily ingestion rates for groundwater, body weights, and exposure durations for children (ages 1 to 6 years) and adults (ages 7 to 31 years). The exposure frequency is assumed to be identical for the two exposure groups.

Ingestion of COPCs in Groundwater

The following equation is used to estimate the ingestion of COPCs in groundwater:

$$CDI_w = (C_w)(IR)(EF)(ED)/(BW)(AT)$$

Table 10-7
Parameters Used to Estimate Potential Exposures for Future Land Use Receptors

Pathway Parameters	Resident Adult	Resident Child	Units
Groundwater ingestion			
Ingestion Rate	2'	1'	liters/day
Exposure Frequency	350[b]	350[b]	days/year
Exposure Duration	24"	6"	years
Exposure Duration	24"	6[c]	years
Body Weight	70'	15'	kg
Averaging Time, Non-cancer	8,760[d]	2,190[d]	days
Averaging Time, Cancer	**25,550[e]**	**25,550[e]**	**days**

Notes:

a – USEPA (1989a) "Risk Assessment Guidance for Superfund Vol. I, Human Health Evaluation Manual (Part A)."
b – USEPA (1991b) "Risk Assessment Guidance for Superfund Vol. I: Human Health Evaluation Manual Supplemental Guidance, Standard Default Exposure Factors, "Interim Final, OSWER Directive: 9285.6-03.EPA/600/8-89/043.
c – USEPA (1991a), Risk Assessment Guidance for Superfund: Vol. I — Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals)," OSWER Directive 9285.7-01 B.
d – Calculated as the product of ED (years) x 365 days/year.
e – Calculated as the product of 70 years (assumed lifetime) x 365 days per year.
NA = Not applicable.
CSV = Chemical-specific value
In accordance with Supplemental Guidance to RAGS from USEPA Region IV regarding the inhalation of VOCs in groundwater, inhalation CDI is equivalent to ingestion CDI.

where:

CDI_w	=	ingested dose (mg/kg-day)
C_w	=	concentration of contaminant in groundwater (mg/L)
IR	=	ingestion rate (L/day)
EF	=	exposure frequency (days/year)
ED	=	exposureduration (years)
BW	=	body weight (kg)
AT	=	averaging time (days)

Figure 10-1 provides the formulae for calculating the CDI for groundwater, which includes calculating the ingestion of groundwater by potential residential and occupational receptors. Groundwater ingestion exposure parameters reflective of RME for the residential receptor are listed beneath the formulae in the figure. Table 10-8 presents groundwater ingestion CDIs for the potential future site residents for the shallow and intermediate water-bearing zones.

10.4 Toxicity Assessment

10.4.1 Carcinogenicity and Non-cancer Effects

The USEPA has established a classification system for rating the potential carcinogenicity of environmental contaminants based on the weight of scientific evidence. The cancer classes are described below. Cancer weight-of-evidence class "A" (human carcinogens) means that human toxicological data have shown a proven correlation between exposure and the onset of cancer (in varying forms). The "B1" classification indicates some human exposure studies have implicated the compound as a probable carcinogen. Weight-of-evidence class "B2" indicates a possible human carcinogen, a description based on positive laboratory animal data (for carcinogenicity) in the absence of human data. Weight-of-evidence class "C" identifies possible human carcinogens, and class "D" indicates a compound not classifiable with respect to its carcinogenic potential. The USEPA has established slope factors (SF) for carcinogenic compounds. The SF is defined as a "plausible upper-bound estimate of the probability of a response (cancer) per unit intake of a chemical over a lifetime."

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Figure 10-1

Formulae for Calculating CDI for Groundwater

WATER **INGESTION PATHWAY**

Residential Scenario:

Non-Carcinogens - Child - Residential Scenario:

$$CDI_{NC\text{-}C} = \frac{C_w \times IR_{water/age1\text{-}6} \times EF_{res} \times ED_{age1\text{-}6}}{AT_{NC\text{-}C} \times BW_{age1\text{-}6}}$$

Non-Carcinogens - Adult - Residential Scenario:

$$CDI_{NC\text{-}A} = \frac{C_w \times IR_{water/age7\text{-}31} \times EF_{res} \times ED_{age7\text{-}31}}{AT_{NC\text{-}A} \times BW_{age7\text{-}31}}$$

Carcinogens (based on a lifetime weighted avemge):

$$CDI_C = \frac{C_w}{AT_C} \times \frac{IR_{water/age1\text{-}6} \times EF_{res} \times ED_{age1\text{-}6}}{BW_{age1\text{-}6}} + \frac{IR_{water/age7\text{-}31} \times EF_{res} \times ED_{age7\text{-}31}}{BW_{age7\text{-}31}}$$

Figure 10-1 is continued on the following page

Figure 10-1 (continued)

Formulae for Calculating CDI for Groundwater

Variable	Description
BW_{age1-6}	average body weight from ages 1-6 (kg)
$BW_{age7-31}$	average body weight from ages 7-31 (kg)
ED_{age1-6}	exposure duration during ages 1-6 (yr)
$ED_{age7-31}$	exposure duration during ages 7-31 (yr)
EF_{res}	residential exposure frequency (days/year)
$IR_{water/age1-6}$	water intake rate — age 1-6 (uday)
$IR_{water/age7-31}$	water intake rate — age 7-31 (uday)
AT_C	Averaging time (carcinogen)
AT_{NC-A}	Averaging time (non-carcinogen adult)
AT_{NC-C}	Averaging time (non-carcinogen child)
C_W	Chemical concentration in groundwater

Notes:

CDI indicates Chronic Daily Intake

- In accordance with Supplemental Guidance to RAGS from USEPA Region IV regarding the inhalation of VOCs in groundwater, inhalation CDI is equivalent to ingestion CDI.

Table 10-8
Chronic Daily Intakes for Potential Future Residents — Ingestion of Shallow and Intermediate Groundwater
NAS Pensacola, Site 39
Pensacola, Florida

Chemical	Exposure Point Concentration (mg/L)	Future Resident C-CDI (a) (mg/kg-day)	Future Resident Adult H-CDI (mg/kg-day)	Future Resident Child H-CDI (mg/kg-day)
Aluminum	15	2.24E-01	4.12E-01	9.59E-01
Arsenic	0.005	7.45E-05	1.37E-04	3.20E-04
Tetrachloroethene	0.002	2.97E-5	5.48E-5	1.28E-4

Notes:
In accordance with Supplemental Guidance to RAGS from USEPA Region IV regarding the inhalation of VOCs in groundwater, inhalation CDI is equivalent to ingestion CDI for tetrachloroethene; the CDI for tetrachloroathene was used to separately calculate inhalation and ingestion risk and hazard in Section **5.0.**

a = Carcinogenic chronic daily intake is based on the lifetime weighted average of an adult age 7-31 and a child age 1-6.
CDI = Chronic daily intake in units of mg/kg-day.
C-CDI = CDI for excess cancer risk.
H-CDI = CDI for hazard quotient.
mg/L = Milligrams per liter.
mg/kg-day = Milligrams per kilogram per day.

In addition to potential carcinogenic effects, most substances also *can* produce other toxic responses at doses greater than experimentally derived threshold concentrations. The **USEPA** has derived Reference Dose (RfD) values for these substances. **A** chronic RfD is defined as **"an** estimate (with uncertainty spanning perhaps an order of magnitude or **greater)** of a daily exposure concentration for the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of deleterious effects during a lifetime." These toxicological values *are* used in **risk** formulae to **assess the** upper-bound level **of** cancer **risk** and non-cancer hazard associated with **exposure** to a given concentration of contamination.

For carcinogens, the potential risk **posed** by a chemical is computed by multiplying the **CDI** (as mg/kg-day) by the SF (in reciprocal mg/kg-day). The hazard quotient (for non-carcinogens) is computed by dividing the CDI by the RfD. The **USEPA** has ***set*** **standard** limits (or points of departure) for carcinogens and non-carcinogens **to** evaluate whether significant risk is posed by

a chemical (or combination of chemicals). For carcinogens, the point-of-departure range is 10^{-6}. This risk value correlate with 1 in 1,000,000 excess cancer incidents resulting from exposure to xenobiotics.

For non-carcinogens, other toxic effects are generally considered possible if the HQ (or sum of HQs for a pathway - hazard index) exceeds unity (a value of 1). Although both cancer risk and non-cancer hazard are generally additive (within each group) only if the target organ is common to multiple chemicals, a most conservative estimate of each may be obtained by summing the individual risks or hazards regardless of target organ. This BRA has taken the universal summation approach for each class of toxicant. Additional details regarding the risk formulae applied to Site 39 media are provided in Section 10.5.

Critical studies used in establishing toxicity classifications by USEPA *are* shown in the Integrated Risk Information System (IRIS) database *(primary* source) and/or Health Effects Assessment Summary Tables (HEAST) Fiscal Year 1994 (secondary source). In addition, the USEPA Region III, Risk-based Concentration Tables, Third Quarter 1994, contained toxicological values not listed in primary or *secondary* sources. Where applicable, these values were also included in the database for this BRA. Table 10-9 summarizes toxicological data in the form of RfDs and SFs obtained for each COPC identified in Site 39 shallow and intermediate groundwater.

Drinking standards in the form of federal and State of Florida MCLs and guidance concentrations have been established for a number of chemicals detected in groundwater in the study area. These chemicals include hazardous substances identified as toxicants (carcinogens and/or non-carcinogens) in published research studies. These standards are considered ARARs

Table 10-9
Toxicological Database Information for NAS Pensacola, Site 39
Pensacola, Florida

Chemical	Oral Reference Dose (mg/kg/day)	Inhalation Reference Dose (mg/kg/day)	Oral Cancer Potency Factor [(mg/kg/day)]-1	Inhalation Cancer Potency Factor [(mg/kg/day)]-1	Cancer Classification	Uncertainty Factor Oral	Uncertainty Factor Inhalation
Aluminum	1.0 [b]	ND	ND	ND	ND	ND	ND
Arsenic	0.0003 [a]	ND	1.75 [a]	15.1 [a]	A	3	ND
Tetrachloroethene	0.01 [a]	ND	0.052 [a]	0.00203 [a]	C-B2	1000	ND

Notes:

The ARAR for aluminum (0.05 to 0.2 mg/L) is a water hardness-dependent secondary maximum contaminant level range, and the ARAR for arsenic (0.05 mg/L) is a promulgated maximum contaminant level. The ARAR for tetrachloroethene (0.003 mg/L) is a Florida Primary Drinking Water Standard (FPDWS).

a = Integrated Risk Information System (IRIS)
b = Oral reference dose provided in a meeting with Julie Keller, USEPA Region IV Risk Asresrment Reviewer
c = Environmental Criteria and Assessment Office (ECAO)
ND = Not determined due to lack of information.
mg/kg/day = milligrams per kilogram per day
Cancer Class A = Classified as a known, human carcinogen by USEPA
Cancer Class B2-C = Classified as a probable to possible human carcinogen by USEPA

for groundwater potentially used as potable water source. The available drinking water standards for compounds detected in groundwater are included in the groundwater risk characterization and risk uncertainty discussions for reference.

10.4.2 Toxicity Profiles for COPCs

As required for BRAs by USEPA Region IV, brief toxicological profiles are included for all COPCs. Most information for the brief profiles below was gleaned from IRIS as a primary source, and HEAST, as mentioned in the preceding text and toxicological database infomation table. Another main source of information was Smith, R.L., USEPA Region III *Risk-Based Screening Concentrations Table*, March 1994. Any additional references are noted specifically in the profiles below (in parentheses). The profiles summarize adverse effects of COPCs and the amount of the COPC associated with adverse effects.

Aluminum is one of the most abundant metals in the earth's crust (7% aluminum), and it is ubiquitous in air and water, as well as soil. This metal is water-soluble, silvery, and ductile, which suggests its usefulness in many processes. Ingesting aluminum can affect the absorption of other elements within the gastrointestinal tract and can alter intestinal function. Aluminum can potentially interfere with the absorption of essential nutrients and cholesterol. Another effect on the gastrointestinal system is the inhibition of acetylcholine-induced contractions. These contractions are part of the neuro-muscular system controlling bowel muscles. The effect could explain why aluminum-containing antacids often produce constipation. Aluminum dust is moderately flammable and explosive in heat. Inhaling this dust can cause fibrosis (aluminosis). No data are available on an applicable SF or the USEPA cancer group. Julie Keller, USEPA Region IV Office of Health Assessment, suggested using the provisional oral RfD of 1.0 mg/kg-day. The aesthetic-based SMCL for drinking water is 50 to 200 μg/L (Klaassen, et al., 1986) (Dreisbach, et al., 1987).

Arsenic exposure via the ingestion mute causes darkening of the skin in chronically exposed humans. Inhalation exposure to arsenic causes neurological deficits, anemia, and cardiovascular effects. **USEPA** set 0.3 μg/kg-day in a human exposure study. Arsenic's effect on the nervous and cardiovascular systems are primarily associated with acute exposure to higher concentrations. Exposure to arsenic-containing materials has been shown to cause cancer in humans. Inhalation of these materials can lead to increased lung cancer risk, and ingesting is associated with increased skin cancer rates. Arsenic has been classified as a group A carcinogen by **USEPA,** which set the 1.75 $(mg/kg\text{-}day)^{-1}$ SF for arsenic. Human milk contains about 3 μg/L arsenic. The RBC for arsenic in tap water is 0.038 μg/L (Klaassen, et al., 1986).

Tetrachloroethene (PCE) has been used as a solvent in industry and occurs as a volatile contaminant in other chlorinated hydrocarbons. Tetrachloroethene exposure can result in long-lasting narcosis with delayed onset and damage to the liver and kidneys. The principal manifestations of over-exposure to this halogenated hydrocarbon are coma, jaundice and oliguria, and irritation of the eyes and nose followed by headache and nausea. Cyanosis and central nervous system depression progressing to coma appear 1 to 4 hours after the short-term exposure. Liver and kidney damage after apparent recovery or after repeated exposures causes acute symptoms such as nausea, vomiting, abdominal pain, jaundice, oliguria and uremia. PCE exposure via the inhalation and/or skin absorption exposure pathways could result in headache, tremor, dizziness, peripheral paresthesia, hypesthesia, or anesthesia. PCE is a carcinogen, but is currently under review by **USEPA;** it is currently classified as a B2-C carcinogen. The RfDo has been set to 0.01 mg/kg-day, and the SF_o and SF_i have been set to 0.052 and 0.00203 $(mg/kg\text{-}day)^{-1}$, respectively, by **USEPA** (Dreisbach, et al., 1987).

10.5 Risk Characterization

Risk characterization combining the results of the exposure assessment and toxicity assessment to yield qualitative and quantitative expressions of risk for the exposed receptors. The quantitative component expresses the probability of developing cancer, or a non-probabalistic

comparison of estimated dose with a reference dose for non-cancer effects. These quantitative estimates are developed for individual chemicals, exposure pathways, transfer media, and source media, and for each receptor for all media to which one may be exposed. The qualitative component usually involves comparing COC concentrations in media with established criteria or standards for chemicals for which there are no suitable toxicity values. The risk characterization is used to guide risk management decisions.

Generally, the risk characterization follows the methodology prescribed by RAGS Part A, as modified by more recent information and supplemental guidance cited in the earlier sections of this document. The USEPA methods are, appropriately, designed to be health-protective, and tend to overestimate, rather than underestimate, risk. The risk results, however, are generally overly conservative, because risk characterization involves multiplying the conservatisms built into the exposure and toxicity assessments.

This section characterizes the potential health risks associated with the intake of chemicals originating from Site 39. The methods used to estimate the types and magnitudes of health effects associated with exposure to chemicals.

10.5.1 Risk Characterization Methodology

Potential risks to humans following exposure to COPCs are estimated using methods established by USEPA when available. These methods are health-protective and are likely to overestimate, rather than underestimate, risk. Risks from hazardous chemicals are calculated for either carcinogenic or non-carcinogenic effects. Some carcinogenic chemicals may also pose a non-carcinogenic hazard. The potential human health effects associated with chemicals that produce systemic toxic and carcinogenic influences are characterized for both types of health effects.

10.5.2 Carcinogenic Effects of Chemicals

The risk attributed to exposure to carcinogens is estimated as the probability of an individual developing cancer over a lifetime as a result of exposure to a potential carcinogen. In the low-dose range, which would be expected for most environmental exposures, cancer risk is estimated from the following linear equation (USEPA, 1989a):

$$ILCR = (CDI)(SF) \quad .$$

where:

ILCR	=	incremental lifetime cancer risk, a unitless expression of the probability of developing cancer, adjusted for reference incidence
CDI	=	chronic daily intake, averaged over 70 years (mg/kg-day)
SF	=	cancer slope factor $(mg/kg\text{-}day)^{-1}$

For a given pathway with simultaneous exposure of a receptor to several carcinogens, the following equation is used to sum cancer risks:

$$Risk_p = ILCR(chem_1) + ILCR(chem_2) + \ldots ILCR(chem_i)$$

where:

$Risk_p$	=	total pathway risk of cancer incidence
$ILCR(chem_i)$	=	individual chemical cancer risk

Cancer risk for a given receptor across pathways and across media is summed in the same manner.

10.5.3 Noncarcinogenic Effects of Chemicals

The risks associated with the non-carcinogenic effects of chemicals are evaluated by comparing an exposure level or intake with a reference dose. The HQ, defined as the ratio of intake to RfD is defined as (RAGS, Part A):

$$HQ = CDI/RfD$$

where:

HQ	=	hazard quotient (unitless)
CDI	=	intake of chemical (mg/kg-day)
RfD	=	reference dose (mg/kg-day)

Chemical non-carcinogenic effects are evaluated on a chronic basis, using chronic RFD values. An HQ of unity or 1 indicates that the estimated intake equals the RfD. If the HQ is greater than unity, there may be a concern for potential adverse health effects.

In the case of simultaneous exposure of a receptor to several chemicals, a HI will be calculated as the sum of the HQs by:

$$HI = HQ_1 + HQ_2 + \ldots HQ_i$$

where:

HI	=	Hazard Index (unitless)
HQ	=	Hazard Quotient (unitless)

10.5.4 Shallow and Intermediate Groundwater Pathways

Exposure to groundwater onsite was evaluated exclusively under a future site resident Scenario. Ingestion through potable use and inhalation of volatilized contaminant exposure pathways were

evaluated. For non-carcinogenic contaminants evaluated relative to future site residents, hazard was computed separately to address child and adult exposure. The shallow and intermediate water-bearing zones monitored during the RI were combined for assessment. Table 10-10 presents the computed carcinogenic risks and/or HQs associated with the potable use of shallow and intermediate groundwater for drinking water.

Future **Site Resident Pathways**

The computed hazard indices for ingesting of shallow and intermediate groundwater used as a potable source for the future child and adult resident were 2 and 0.9, respectively. Arsenic aluminum, and tetrachloroethene were identified as groundwater COCs. Arsenic and aluminum were the primary contributors to the hazard indices for the child and adult receptors, and arsenic was the primary contributor to the total carcinogenic risk. Inhalation and ingestion risk and hazard results calculated for tetrachloroethene, a volatile organic compound, are shown separately in Table 10-10. Tetrachloroethene was a minor contributor to risk and hazard, having a hazard quotient less than 0.1 and an ILCR less than 2E-6 for each receptor type and exposure pathway. As shown in Table 10-10, the incremental excess carcinogenic risk for the future site resident via the shallow and intermediate groundwater ingestion/inhalation pathway was calculated to be 1.3E-04.

10.6 Risk Uncertainty

This section presents and discusses the uncertainty inherent in the risk assessment process in addition to medium- and exposure pathway-specific influences. Risk assessment sections are discussed separately below, and specific examples of uncertainty sources are included where appropriate. Alternative risk projections are also included which provide estimates of the range of risk. These alternative risk results are based on Central Tendency (CT) exposure (average or 50th percentile) rather than RME as presented in the Risk Characterization Section for comparison. CT exposure assessment was performed for the ingestion of shallow/intermediate groundwater exposure pathway.

Table 10-10
Hazard Quotients and Incremental Lifetime Cancer Risks-Potential
Future Residents Ingestion of Shallow and Intermediate Groundwater
NAS Pensacola, Site 39
Pensacola, Florida

Chemical	Slope Factor Used [(mg/kg-day]-1	Reference Dose Used (mg/kg-day)	Future Resident Adult Hazard Quotient (mg/kg-day)	Future Resident Child Hazard Quotient (mg/kg-day)	Future Resident ILCR Iwa (a) [(mg/kg-day)]-1
Aluminum	ND	1.0	0.4	1.0	ND
Arsenic	1.75	0.0003	0.5	1.1	1E-04
Tetrachloroethene (ingestion)	0.052	0.01	0.005	0.01	1E-6
Tetrachloroethene (inhalation)	0.00203	0.01	0.005	0.01	6E-8
Hazard Indices/Total Cumulative Risks			0.9	2	1E-04

Notes:
a – Incremental lifetime cancer risk (ILCR) is bated on the lifetime weighted average (Iwa) of an adult age 7-31 and a child age 1-6.
ND – Not determined due to lack of available information.
mg/kg/day – Milligram per kilogram per day.

General

Uncertainty is a factor in each step of the exposure and toxicity assessments presented in the preceding sections. Overall, uncertainties associated with the initial stages of the risk assessment process become magnified when they are combined with other uncertainties. For example, the use of the 95th percentile UCL as the EPC is a method of reducing uncertainty with respect to falsely concluding that insignificant risk is posed. However, a "safety factor" based on the standard deviation and number of samples is included in the UCL. During the risk characterization process, individual chemical risk is added to determine the incremental excess cancer risk for each exposure pathway. If the individual risk projections were calculated based on the UCL, the "safety factor" of the incremental risk is the sum of all the individual "safety factors." Inclusion of outliers in the UCL calculation increases the overall uncertainty of the

calculated risks and increases the estimate of the risk in a conservative manner. This multiplicative influence on conservatism is inherent in the risk assessment process, and is also evident in the uncertainty factor and modifying factor applied to RfDs. It is not possible to eliminate all uncertainties; however, recognizing the uncertainties is fundamental to understanding and subsequently using risk assessment results.

This section presents the uncertainty of site-specific and medium/pathway-specific factors introduced as part of the risk assessment process, in addition to other factors influencing the uncertainty of the calculated incremental excess cancer risks and hazard quotients/indices. It is important to note that the exposure pathways considered for selection in the Exposure Assessment Section of this BRA are extremely conservative.

Assumptions are made as part of the risk assessment process based on population studies and USEPA guidance. This guidance divides the assumptions into two basic categories: the upper bound (90 to 95th percentile) and the mean or 50th percentile (CT) exposure assumptions. As discussed in the Exposure Assessment Section, the RME exposure is based on the upper-bound assumptions, and the CT exposure is based on mean assumptions. Therefore, risk/hazard calculated using RME exposure assumptions are generally overestimates rather than underestimates. The following paragraphs discuss sources of uncertainty pertinent to each exposure pathway evaluated.

Quality of Data

Groundwater

As described in previous sections of this RI report, the data quality objective was CLP level IV for all Site 39 RI sampling. During RI Phase I, typical Teflon bailer groundwater sampling techniques were employed to sample monitoring wells. USEPA introduced a low-flow purging and sampling technique, and this method was employed by E/A&H in Phase II to obtain an additional dataset for all seven shallow/intermediate wells. As a result, the combination of data

obtained from these two techniques would introduce much uncertainty into the BRA. The data obtained through the low-flow purging and sampling technique were the only groundwater data included in this assessment. Quiescent sampling methods reduced some of the uncertainty with respect to exposure quantification due to the decreased potential for sediment-bound compounds/elements being entrained in groundwater samples.

soil

Although the soil exposure pathway was not evaluated in this BRA, some discussion of the uncertainties associated with this pathway is necessary. As part of the removal action at Site 39, one composite soil sample from the replacement backfill material and four discrete soil samples were collected from the base of the excavation area. The backfill material was identified as clean sandy soil, thereby reducing any uncertainty with respect to contamination in the backfill being overlooked or underestimated.

Risk-Based Screening

Prior to addressing risk/hazard for all chemicals detected, screening values were used to focus the BRA on COPCs which individually exceed 1E-6 risk, a hazard quotient of 0.1 (or a hazard quotient of 1), or an ARAR. This comparison adhered to the technical reviewers' preferences. This information was obtained from comments on previous versions of this risk assessment, telephone conversations with David Clowes (FDEP), Julie Keller (USEPA Region IV Risk Assessment Reviewer), Allison Humphries (the USEPA Region IV RPM for NAS Pensacola), the Navy, and previous USEPA Region IV comments on Federal Facility BRAs which were signed by Elmer Akin, USEPA Region IV.

Exposure Pathways and Contaminants

CPSSs were initially eliminated from the BRA based on the criteria agreed on by USEPA, FDEP, and the Navy. The risk/hazard thresholds of 1E-6 and 0.1 were selected to account for potential cumulative effects of various chemicals, and the maximum concentration detected was

compared to the corresponding screening value. As discussed previously in this BRA, the comparison was made using the most conservative screening value provided by USEPA Region III, USEPA Region IV, and FDEP for each exposure medium. Although some uncertainty exists regarding potential cumulative effects, the fact that maximum concentrations detected were used in the screening comparison in concert with low range risk/hazard thresholds alleviates much uncertainty. A large number (i.e., greater than 10) of constituents would have to be present at near-RBC concentrations to elicit a concern for cumulative effects.

Comparison to Reference Concentrations (Background)

Because the intent of the BRA is to estimate the excess cancer risk or health hazard posed by COPCs, a comparison to reference concentrations was performed subsequent to comparison to screening values. The maximum concentration detected for each chemical that exceeded its corresponding screening value was compared to two-times the mean reference concentration, if a reference concentration was available. Because low frequency of detection could indicate a contaminant should not be addressed in the BRA, all detected chemicals that failed the screening comparisons were evaluated with respect to frequency of detection and consistency of detection in two or more sampled environmental media. This approach was selected as a conservative screening approach.

Two datasets exist for the reference monitoring wells and surface soil sample locations. An alternative sampling technique (low-flow purging and sampling) was introduced before the second phase of groundwater sampling, so uncertainty is present in the use of data obtained under the previous technique. Quiescent sampling data correlate well with filtered bailer sampling data. Additional uncertainty is introduced by a comparison of site data to non-specific screening reference data. This uncertainty stems from using reference concentrations obtained from a limited number of samples and locations. The limited number of samples and sample locations increases the uncertainty as natural variability in media composition may not be fully

characterized. Although the reference concentrations are specific to NAS Pensamla, they are not site-specific.

Comparison to USRDA

Due to the proximity of Pensacola Bay, it is possible that occasional saltwater intrusion in the groundwater sampled at Site 39 is the primary source for the essential nutrients detected. However, the conductivity data presented in Section 6.0 of this RI do not indicate the presence of seawater in the wells during the sampling events. As listed in *The Chemistry of Natural Waters*, essential nutrients arsenic, potassium, sodium, and iron are components of seawater. These essential nutrients are also naturally occurring in soil. In an effort to focus this risk assessment on any dominant risk/hazards present at Site 39, essential nutrient information was used as part of the screening process to further reduce the number of CPSSs evaluated.

According to RAGS Part A, before eliminating essential nutrients from the risk assessment, they must be shown to be at concentrations that are not associated with adverse health effects. USRDAs for adults and children age 4 or more were compared to those essential nutrients detected in groundwater. USEPA suggests excluding many essential nutrients from the BRA, regardless of the concentrations detected. In large doses (i.e., larger than the USRDA), toxic effects due to essential nutrient overdose are possible. In order to assess the potential for toxic effects due to excessive doses of essential nutrients, the maximum detected concentrations of essential nutrients were compared to USRDAs. In addition, as RAGS Part A suggests, arsenic was retained as a COPC in groundwater since acceptable dietary concentrations associated arsenic are not well established.

In groundwater, arsenic, iron, and magnesium were the only essential nutrients with maximum detections exceeding screening and reference criteria. Iron and magnesium were eliminated from the quantitative risk assessment because at the 2 L/day groundwater ingestion rate, 17.2 mg of

iron, 96 percent of the USRDA, and 6.8 mg of magnesium, 0.017 percent of the USRDA, would be ingested.

Characterization of Exposure Setting and Identification of Exposure Pathways

Uncertainty in the exposure setting and pathways exists due to the highly conservative assumptions (i.e., future residential use) recommended by USEPA Region IV when assessing potential future and current exposure. As previously discussed, no potable (or industrial water) wells'exist at Site 39, and none are projected for installation.

Determination of Exposure Point Concentrations

Based on the guidance provided by USEPA, EPCs are those concentrations used to estimate CDI. The uncertainty associated with EPC primarily stems from their statistical determination or imposition of maximum concentrations, described below.

Statistical Estimation of Exposure Point Concentrations

USEPA provided supplemental guidance which outlines a statistical estimation of EPC. These calculated concentrations are 95 percent UCL which are based on certain assumptions. USEPA assumes that most (if not all) environmental data are lognormally distributed, Uncertainty exists in this assumption because many environmental data are neither normally nor lognoxmally distributed.

The UCL calculation is provided in the Supplemental *Guidance to RAGS: Calculating the Concentration Term*, May 1992. This calculation includes a statistical value, the H-statistic, is based on the number of samples analyzed for each COPC and the standard deviation of the results. To obtain this number, a table must be referenced, and the value must be interpolated (an estimation) from the table. The equation for the H-statistic has not been provided in the supplemental guidance, nor does the document referred to in the guidance provide the equation.

Although the statistic appears to be non-linear, a linearity assumption was made to facilitate interpolation of the statistic for each COPC addressed in the BRA.

Linear interpolation is a good estimate of H; however, it is important to note that the formula and H are natural log values, and H is applied as a multiplier. The effect of multiplying natural log numbers is not equivalent to multiplying untransformed values. While data are log transformed, adding two numbers is the equivalent of multiplying the two numbers if they were not transformed. The effect of multiplying a number while in log form is exponential, and H is applied as a multiplier. In summary, using this method to calculate the UCL includes much uncertainty (an overestimation of risk/hazard), and often provides concentrations greater than the maximum detected onsite. The calculated UCL for aluminum, arsenic, and tetrachloroethene are greater than or approximately equal to the maximum concentrations detected, and the number of samples was less than 10. Therefore, the maximum concentrations detected were used as EPC.

Although RAGS advocates using neither worst-case scenarios nor maximum concentrations as EPCs, the use of the H-statistic often necessitates using the reported maximum concentration as EPC. The lesser of the maximum concentration and the UCL is used as the EPC. Summation of risk based on maximum concentrations leads to overestimating risk/hazard, especially in the case of low detection frequency or spatially segregated COPCs. This concept is further discussed below.

Frequency of Detection and Spatial Distribution

Because of the influence of standard deviation on EPC, low frequency of detection can cause COPCs to be inappropriately addressed in the risk assessment. More specifically, COPCs detected only once or twice in all samples analyzed (having concentrations exceeding the RBCs and reference concentrations) would be expected to have relatively higher standard deviation as concentration variability or range widens. Higher standard deviation results in a high H-statistic,

and this typically leads to a UCL greater than the maximum concentration detected onsite. If that is the case, then using the UCL or maximum concentration detected as EPC (or possibly the inclusion of the COPC in question) may not be appropriate when EPC is assumed to be ubiquitous. Specific frequency of detection uncertainty is discussed by medium in subsequent paragraphs.

For example, if three chemicals were detected at relatively high concentrations at two of three separate locations, and these three locations were the only sample locations where the chemicals were detected, the 95 percent UCL would likely be greater than the maximum concentrations (due to a high H value). In cases where the UCL is greater than the maximum concentration, the maximum concentration is used as the exposure point concentration in the risk assessment. Using three maximum concentrations to calculate risk, and the sum of the risks, would skew the risk assessment to increased risk levels under the selected exposure scenarios. The likelihood that a receptor is simultaneously exposed to maximum concentrations at several locations is infinitesimally small.

The spatial distribution of chemicals detected in groundwater does not indicate the presence of an identifiable source at the 39GS04 shallow zone monitoring well at Site 39 (i.e., within the former stained soil area). The concentrations detected at the location in question would be expected to be elevated when compared to data corresponding with surrounding monitoring wells. However, groundwater data are not elevated at *this* location (39GS04) relative to other Site 39 monitoring wells. The spatial distribution of COPCs is described below for second phase groundwater data. Tetrachloroethene was detected in well 39GS01 (the upgradient well). Aluminum was detected in two shallow wells and one intermediate well, 39GS03, 39GS04, and 39GI05, respectively. The highest concentration was detected in 39GS03. Arsenic, an element associated with seawater, was detected in the two downgradient shallow wells, 39GS02 and 39GS03 (i.e., closest to the bay). The highest concentration of arsenic was detected in 39GS02. The gradient and groundwater flow onsite is generally toward the bay. The groundwater flow

gradient at Site 39 is low. As a result of the limited gradient and potential tidal influences, the pattern of transport from the former suspected source area would have been controlled by diffusivity. The random distributions observed in the RI groundwater data are not indicative of diffusion from a concentrated source area.

The spatial distribution of all chemicals eliminated in the screening Section of this BRA are briefly discussed below which includes a comparison to the corresponding screening value used in Section 10.2.5 of this BRA:

- Barium was detected in two downgradient sballow wells, 39GS02 and 39GS03. The highest concentration (50% of the risk-based screening value) was detected in well 39GS02, the southernmost well.

- Calcium, an element of seawater, was detected in all monitoring wells. The highest concentration was detected in the upgradient shallow well 39GS01. Calcium was eliminated from this BRA as an essential nutrient in accordance with USEPA Region IV recommendations.

- Chromium, reported as total chromium, was detected in only one well, 39GS03. The concentration detected is much less (8.8%) than the ARAR for chromium.

- Iron, commonly detected in the Saad and Gravel aquifer in the Pensacola area, was detected in all Site 39 monitoring wells. The highest concentration detected for this essential element was in 39GS03 which was approximately eight-times the risk-based screening concentration. Iron was eliminated from this BRA as an essential nutrient in accordance with USEPA Region IV recommendations.

- Lead was detected in two monitoring wells, 39GS02 and 39GS03 (both downgradient), and the maximum concentration was detected (35% of the treatment technique action level) in 39GS03.

- Magnesium, an element of seawater, was detected in all monitoring wells. The highest concentration was detected in the shallow well 39GS04. Magnesium was eliminated from this BRA as an essential nutrient in accordance with USEPA Region IV recommendations.

- Manganese was detected in a total of four monitoring wells: two intermediate wells and two shallow wells. The highest concentration of this essential element was detected in 39GS03 98% of the risk-based screening concentration).

- Sodium, an element of seawater, was detected in all monitoring wells. The highest concentration was detected in the shallow well 39GS04 (10%of the risk-based screening value).

- Vanadium was detected in only two wells (39GS02 and 39GS03), both of which were screened in the shallow zone. The highest concentration (94% of the risk-based screening value) was detected in 39GS03.

- Zinc, an element of seawater, was detected in all monitoring wells. The highest concentration was detected in the downgradient shallow well 39GS02 (5.7 % of the risk-based screening value).

The data discussed above are discussed in the Section 7.0 of this RI. In addition, figures were developed and presented in Section 7.0 which show the well locations and spacial distribution of contaminants detected onsite. Table 10-11 shows the sample location (i.e., monitoring well number) where the maximum concentration was detected for the shallow and intermediate water bearing zones within the Sand and Gravel aquifer.

Table 10-11
Comparison of Maximum Groundwater Concentration Detected in Shallow and Intermediate Monitoring Well Locations
NAS Pensacola Site 39
Pensacola, Florida

	Shallow Monitoring Well Number				Intermediate Monitoring Well Number		
Chemical	**1**	**2**	**3**	**4**	**5**	**6**	**7**
*Aluminum			X		X		
*Arsenic		X					
Barium		X					
Calcium	X					X	
Chromium			X				
Iron			X			X	
Lead			X				
Magnesium				X		X	
Manganese			X		X	X	X
Sodium				X	X		
*Tetrachloroethene	X						
Vanadium			X		X		
Zinc		X					

Notes:
X – indicates the maximum concentration was detected in the corresponding well number indicated in the table; an entire row of X indicates all detected concentrations were equivalent.
• – indicates a chemical of potential concern.
A row of all blanks indicates that the chemical was not detected in the corresponding water bearing zone.

Toxicity Assessment Information

There is a generally recognized uncertainty in human risk values developed from experimental data primarily due to the uncertainty of data extrapolation in the areas of: (1) high- to low-dose exposure and (2) animal data to human experience. The site-specific uncertainty is mainly in the degree of accuracy of the exposure assumptions. Most of the assumptions used in this and any risk assessment have not been verified. For example, the degree of chemical absorption from the gut or through the skin or the amount of soil contact is not known with certainty. Generally accepted default values provided in USEPA guidance were used. However, little guidance or data are available on the dermal absorption of particulate-bound chemicals. In the risk assessment conducted for the study area, the dermal pathway was assumed to contribute to overall CDI for the soil pathway, although the transdermal transport of each COPC has not been quantified experimentally.

The uncertainty of toxicological values from the IRIS and HEAST databases (provided by USEPA) were summarized (where available) in Table 10-9 (previously presented). The uncertainty factors assigned to these values account for acute to chronic dose extrapolation, study inadequacies, and sensitive subpopulations among other factors. Although uncertainty factors for a specific compound may be 1,000 or higher, these safety factors are applied by USEPA to assist in guaranteeing the overall assessment of risk/hazard is conservative toward human health concerns. In the presence of such uncertainty, the USEPA and the risk assessor are obligated to make conservative assumptions so the chance is very small for the actual health risk to be greater than what is determined through the risk assessment process. On the other hand, the process is not to yield overly conservative risk values that have no basis in actual conditions. This balance was kept in mind in developing exposure assumptions and pathways and in interpreting data and guidance for this BRA.

The risk and hazard slightly exceed threshold levels, and target organs should be considered if hazard quotients and ILCR are summed. The primary toxicological concern and target organ

is discussed below for each COC, and the applicability of cumulative risk and/or hazard is also discussed. The primary toxicological concern for arsenic would be its carcinogenic potential (i.e., skin lesions). Most data related to the potential carcinogenicity of arsenic are inhalation-based, epidemiological studies, and due to the populations exposed, control groups were not always available. However, one study does link arsenic in drinking water to elevated cancer rates for many organs of the human body. The primary target organ of arsenic would be the skin, with secondary toxicity (non-carcinogenic) effects on the nervous and cardiovascular systems. To date, animal testing of the carcinogenic potential of arsenic has been inconclusive.

Aluminum makes up seven percent of the earth's crust, and the target organ of this element would be the gastro-intestinal (GI) system. As a GI irritant, this element can also interfere with the absorption of essential nutrients (as discussed in the brief toxicological profile for aluminum). The target organ of aluminum can be debated; however, it is obvious that the hazard quotient of aluminum (a result of a provisional RfD) should not be considered cumulative with that of arsenic. In addition, the target organs of tetrachloroethene are the liver and kidneys. Because it has been identified as a probable - possible human carcinogen by USEPA, its ILCR is appropriately summed with that of arsenic. However, the type of cancers reported to be caused by the two chemicals differ, and as a result of the low concentrations identified onsite, tetrachloroethene does not significantly contribute to the cumulative ILCR.

Individual examination of the COCs identified in this BRA indicates that only one individually exceeds the hazard threshold set by USEPA and FDEP, arsenic. This compound was detected at a maximum concentration equal to the RGO, as was aluminum, and this element could be constituent of seawater which has apparently infused the shallow aquifer near Site 39. Neither tetrachloroethene nor arsenic exceeded the corresponding ARAR for potable water use.

Evaluation of Chemicals for Which No Toxicity Values Are Available

In addition to the typical uncertainties inherent in toxicity values, parameters which do not have corresponding RBCs due to the lack of approved toxicological values were included in the CDI calculation data. This information was provided to facilitate risk/hazard projections should toxicological values become available in the future. In addition, many essential nutrients were detected above reference concentrations.

Quantification of Risk/Hazard

As indicated by the discussions above, the uncertainty inherent in the risk assessment process is great. In addition, many site-specific factors have affected the uncertainty of this assessment. Exposure pathway-specific sources of uncertainty are discussed below.

Groundwater

The primary source of uncertainty in the groundwater exposure pathway is the potable use assumption. The combined shallow/intermediate water-bearing zone (WBZ) is not currently used onsite as an industrial or potable water source, nor is it anticipated to be in the future. If the future use scenario were to exist, and a future site resident did segregate the shallow from the intermediate, a change in the estimated risk could be expected. However, there is no identifiable aquitard between shallow and intermediate zones, and a residential well would require higher yield than a monitoring well. Thus, it is likely that any residential well would be screened across the two WBZs to maximize the volume of groundwater that could be extracted without excessive drawdown, and that well (like most residential wells) would be filtered. It is important to emphasize the fact that the future use scenario is not expected based on Navy plans for the base and Site 39. This exposure pathway was addressed as an extremely conservative risk estimate for future land use under the residential exposure scenario.

Because it would be implausible to expect an individual to be chronically exposed to the maximum concentration of each groundwater chemical, an approach for limiting RME

uncertainties was taken for groundwater. Substituting the 95 percent UCL mean concentration (where possible) for each chemical provides a reasonably conservative estimate of the chronic concentrations to which an individual may be exposed via the groundwater pathway.

Several essential nutrients were detected in the shallow and intermediate WBZ. Iron, magnesium, calcium, and sodium were detected at least once in seven groundwater samples, but none was identified as a COPC because the corresponding concentrations did not exceed the screening value and the reference value. In groundwater, iron, and magnesium were the only essential nutrients with maximum detections exceeding screening and reference criteria. Iron and magnesium were eliminated from the quantitative risk assessment because at the 2 L/day groundwater ingestion rate, 17.2 mg of iron, 96 percent of the USRDA, and 6.8 mg of magnesium, 0.017 percent of the USRDA would be ingested.

In addition to these nutrients, arsenic would be expected to be present (as it is in *seafood).* Arsenic did not exceed its federal MCL or FPDWS at the maximum concentration detected. At the maximum concentration detected, arsenic poses 1.3E-4 excess cancer risk.

Ubiquitous exposure was assumed for all monitoring well data from Site 39. Percent area affected was not applied to the risk projections, and this is a highly conservative approach, especially in the case of low frequency of detection COPCs. These low frequency of detection COPCs would not be expected to be encountered at all residential locations if potable wells were established. The COCs arsenic, aluminum, and tetrachloroethene were detected in less than 30% of the samples, and the maximum concentrations detected were used as EPC. Therefore, the risk calculations are likely overestimates.

As discussed above, the likelihood that the aquifer is used for a drinking water supply is extremely low. Presently drinking water is supplied to Site 39 from the Corry Station and there are no indications that site groundwater will be used in the future. COCs were identified

assuming potable water use by site residents and the conservatism and resulting overestimation of risk projections is large.

CT analysis was performed for groundwater. Where applicable, 50th percentile exposure assumptions are substituted for 90 to 95 percentile exposure assumptions to assess the median to upper-bound cancer risk and hazard range. The exposure duration is reduced to 2 and 7 years for the child and adult, respectively. Ingestion rates are also reduced from 2 Uday to 1.4 L/d for adults and 0.5 L/d for children. The exposure frequency is also adjusted to the 50th percentile value for exposure to groundwater. The RME exposure frequency is 350 days/year, and the CT exposure frequency is reduced to 234 days/year.

The results of the CT analysis of the ingestion of groundwater pathway indicate reductions in all risk/hazard projections for the future site adult and child. The carcinogenic risk based on CT exposure parameters resulted in a cancer risk of 1.2E-05, a 91 percent reduction in risk from the RME-based cancer risk of 1.3E-04. In addition, the CT-based cancer risk does not exceed the 1E-06 to 1E-04 cancer risk criterion set by USEPA. The CT groundwater risk does exceed the 1E-6 threshold set by FDEP. It is important to note that the background RME risk associated with arsenic is approximately 6E-5. With respect to hazard, CT-based hazard quotients for the adult and child residents were reduced an average of 67 percent from the RME-based hazard quotients. Individual CT-based hazard quotients for the adult and the child receptor for aluminum do not exceed 0.1 as was the case the RME-based results.

10.7 Risk Summary

The human health risk associated with exposure to environmental media at NAS Pensacola Site 39 was assessed for future site residents. The combined shallow/intermediate groundwater pathway hazard index was found to be 2 for the future child resident and 0.9 for the adult. The potential carcinogenic risk was computed to be 1.3E-04. Arsenic and aluminum are potentially related to suspended sediment in samples and cannot be definitively stated to be site-related. In

addition, the arsenic and tetrachloroethene exposure point concentrations (i.e., the maximum concentrations *detected)* were below the corresponding ARARs of 0.05 mg/L (FPDWS/MCL) and 0.003 mg/L (FPDWS), respectively. A comparison of the maximum concentration detected onsite to applicable standards (either non-organoleptic-based ARARs or RGOs) indicates that no further action is warranted for Site 39 groundwater. The ARAR for aluminum is based on an organoleptic end-point, which FDEP, the Navy, USEPA, and E/A&H agreed is not appropriate for use in risk assessments. The suspected source at Site 39 (i.e., surface soils) has been removed, and the groundwater concentrations do not exceed the applicable standards.

10.8 Remedial Goal Options

RGOs are chemical concentrations computed to equate with specific risk and/or hazard goals that may be established for a particular site. In accordance with USEPA Supplemental RGO Guidance, RGOs were calculated at 1E-4, 1E-5, and 1E-6 risk levels for carcinogenic COCs and HQ goals of 10, 1, and 0.1 for non-carcinogenic COCs. RGOs for carcinogens were based on the lifetime weighted average, and RGOs for non-carcinogens were based on the child exposure assumptions. Where appropriate, discussion regarding the applicability of specific RGOs is provided.

Shallow/Intermediate Groundwater RGOs

Table 10-12 provides RGOs for the combined shallow/intermediate groundwater ingestion and inhalation pathways. The inhalation pathway was considered in calculating the tetrachloroethene RGO only. The presence of the contributors to the pathway hazard, arsenic and aluminum, may be associated with suspended sediment in samples. As previously discussed, the maximum concentrations detected for arsenic and tetrachloroethene were below the corresponding FPDWS/MCL of 0.05 and FPDWS of 0.003 mg/L, respectively.

Table 10-12
Remedial God Options for Shallow/Intermediate Groundwater
NAS Pensacola, Site 39
Pensacola, Florida

Chemical	Carcinogenic Risk-Based RGOs			Non-Carcinogenic Hazard-Based RGO			Exposure Point Concentration (mg/L)	Reference Concentration (mg/L)	ARAR (mg/L)	Source
	1E-4 (mg/L)	1E-5 (mg/L)	1E-6 (mg/L)	10 (mg/L)	1 (mg/L)	0.1 (mg/L)				
Aluminum	NA	NA	NA	160	16	1.6	15	3.88	0.05 - 0.2	FSDWS/SMCL
Arsenic	0.004	0.0004	0.00004	*0.05*	*0.005*	0.0005	0.005	*0.0028*	0.05	FPDWS/MCL
Tetrachlorosthsns	0.1	0.01	0.001	NA	NA	NA	0.002	NA	0.003	FPDWS

Two of the three COPC's identified in groundwater by this BRA, arsenic and tetrachloroethene, did not exceed the corresponding ARARs established by FDEP and USEPA. The ARAR for aluminum is based on an organoleptic end-point, which FDEP, the Navy, USEPA, and E/A&H agreed is not appropriate for use in risk assessments. However, the calculated RGO based on an HQ of 1.0 for aluminum is greater than the maximum concentration detected onsite. The suspected source at Site 39 (i.e., surface soils) has been removed, and the groundwater concentrations do not exceed the applicable standards. As previously mentioned, no further action is recommended for Site 39 groundwater.

10.9 Ecological Risk Assessment

10.9.1 Soil

Contaminated soil at Site 39 was removed by the Navy to a depth of 1 to 3-feet and transported to the Perdido Landfill. The site was then backfilled with uncontaminated material. One sample of the backfill material was collected resulting in no volatiles, semi-volatiles, or pesticides being detected in the fill material. Very limited metals were detected, but these concentrations were well below background levels. No risk to biological receptors is expected based on these analyses.

10.9.2 Groundwater

Metal concentrations in groundwater collected at or near Site 39 were compared to both federal and state water quality criteria to assess the potential for impact to marine organisms. No organics were detected in the groundwater samples.

Based on piezometric data (See Figure 6-3 thru 6-6) groundwater flows south into Pensacola Bay. As described in the Section 9 this may take many years. Of the seven metals for which criteria exists, all had concentrations which exceeded either the federal or state criteria on at least one occasion (Table 10-13). For conservatism, chromium concentrations were compared

Table 10-13
Groundwater Metal Concentrations Compared to Surface Water Standards
Site 39
(µg/L)

Compound	EPA AWQC	FL WQS	Sample ID							
			39GS01	39GS02	39GS03	39GS04	39GI05	39GI06	39GI07/07D	39GI0520[a]
Arsenic	36	50	ND	ND	ND	ND	42.8	229	186/153	ND
Chromium[a]	50[b]	50[b]	ND	ND	ND	11.7	175	476	358/354	ND
Copper	2.9	2.9	6.4	ND	10.5	44.1	33.0	111	53.6/52.4	ND
Lead	8.5	5.6	ND	ND	16.2	56.6	29.1	65.2J	30.5J/30.6J	ND
Mercury	.025	.025	ND	ND	ND	ND	ND	0.33	NDND	ND
Nickel	8.3	8.3	ND	ND	ND	ND	33.4	114	76.7178	ND
Zinc	86	86	56.8J	36.8J	80.2J	88.2J	291J	622	299/296	11.5J

Table 10-13
Groundwater Metal Concentrations Compared to Surface Wetly Standards
Site 39
(µg/L)

Compound	EPA AWQC	FL WQS	Sample ID							
			39GI0620[a]	39010720[a]	39GS0120[a]	39010224	39GS0320[a]	39080420[a]		
Arsenic	36	50	ND	ND	ND	5.3	4.3	ND		
Chromium.	50[b]	50[b]	ND	ND	ND	ND	8.8	ND		
Copper	2.9	2.9	ND	ND	ND	ND	ND	ND		
Lead	8.5	6.6	ND	ND	ND	2.5	5.2	ND		
Mercury	.025	.025	ND	ND	ND	ND	ND	ND		
Nickel	8.3	8.3	ND	ND	ND	ND	ND	**ND**		
Zinc	86	86	8.0J	8.4J	4.3J	62.6J	40.6J	5.4J		

Notes:

µg/L	=	Micrograms per liter (ppb).
ND	=	Not detected.
J	=	Positively detected; however, reported concentration is considered en estimated velue.
Bold	=	Sample exceeds one or both water quality rtandard.
a	=	Second round of sampling of monitoring wells conducted in June 1994.
b	=	Hexavalent chromium
c	=	Chromium concentrations ere for Cr (III).
EPA-AWQC	=	Environmental Protection Agency - Ambient Water Quelity Criteria - saltwater chronic value.
FL-WQS	=	Florida Water Quality Standard - marine chronic velue.

to hexavalent chromium (Cr VI) standards, although, to date, no hexavalent chromium has been detected anywhere at NASP. Water samples from intermediate wells 39GI05, 39GI06 and 39GI07 had overall highest exceedances.

Specific risk to marine organisms near the site, as a result of the concentrations observed in groundwater, is difficult to determine based on hydrologic mixing characteristics of groundwater near saline water bodies. Processes such as partitioning, adsorption, degradation and other chemical reactions occur as fresh groundwater moves through the aquifer matrix. Additionally, tidal flux may create groundwater flow reversal near the shore and further complicate these processes by trapping groundwater contaminants near the shoreline creating the potential for increased hydrodynamic and chemical attenuation. Once fresh groundwater is discharged to the seafloor, strong tidal currents, characteristic of the area, will cause dispersion of the freshwater (and any contaminants remaining dissolved in the groundwater).

Based on this dispersion scenario, risks to marine organisms near Site 39, as a result of groundwater discharge to the bay, is expected to be extremely low.

10.9.3 Surface Water

No surface water pathway exists at Site 39. This is due to the extreme infiltration rates of the sandy soil. No streams, ditches, gullies or rills exists on site to indicate any overland flow of water. No risk to biological receptor is anticipated from this pathway.

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11.0 CONCLUSIONS AND RECOMMENDATIONS

This investigation's objectives were to identify the nature and extent of contaminants in soil and groundwater at Site 39. The following Section summarizes the findings and recommends subsequent remedial actions.

- Historical records revealed little information regarding the nature of the source of the stained soil located at the Oak Grove campground. Interviews with naval personnel indicated several possible sources, including disposal of construction debris from Building 29 demolition (evidenced today by the brick, concrete, nails, and glass at the site), former stockpiling of railroad ties, and used motor oil dumping by campers using the campground.

- Analytical results from previous investigations indicate the stain is petroleum-based. A sample submitted for TPH analysis from the upper 7 inches of soil contained a concentration of 9,834 mg/kg. Laboratory results from this investigation indicate low to moderate concentrations of semivolatile compounds within the stained area, specifically pyrene (1.9 mg/kg), which is commonly found in wood preservatives and waste oil.

  This investigation also found low concentrations of the volatiles within the stain area, specifically trichloroethene and toluene at total concentrations of less than 2 ppb. Specific metal compounds identified at the site above the PRGs and NASP reference concentrations include aluminum, arsenic, calcium, iron, magnesium, and sodium. All metals detected were within the range typical of the reference concentrations at NAS Pensacola.

- Between July 25 and July 29, 1994 NAS Pensacola's PWC Environmental Department removed 864 tons of stained soil from Site 39. The soil was tested for the full

TCLP analysis by the Environmental Department's Laboratory and was negative for all contaminants. The *stained* soil was disposed of *at* the Escambia County Solid Waste Department's Perdido Landfill, 13009 Beulah Road, Cantonment, Florida. The remaining surface soil was screened on a rough grid using *on* OVA for headspace analysis of the soil and four of the locations also had samples collected for laboratory analysis. The BRA concluded that there was no risk to human health and the environment from the remaining soil. The excavated soil was replaced with clean fill from NAS Pensacola's backfill stockpile. An analysis of this fill showed that it was free of any metals above the PRGs and did not contain any VOCs, SVOCs, or Pesticides/PCBs.

- Groundwater flows south and southeast, respectively in the upper and basal portions of the surficial zone. Though the zones are interconnected, a significant disparity between hydraulic conductivities and specific capacities was measured within each zone, indicating that heterogeneities exist within the aquifer; this has also been noted in other areas of NAS Pensacola. Vertical groundwater gradients measured between shallow and intermediate depth wells indicate a potential upward component of groundwater flow exists between the basal portion of the surficial zone and the water table.

- Underlying the site's surficial zone *at* depths of 43 *to* 45 feet 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 in thickness from 12 to 17 feet, and is characterized by 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, potential communication between the zones is minimal.

- The stained soil was limited vertically to the uppermost foot over most of the site with small isolated areas going as deep as three feet. On the basis of the groundwater analytical results, it does not appear that Site 39 soil is impacting the groundwater with appreciable amounts of organic compounds. The volatile organic compounds tetrachloroethene and 1,1-dichloroethene from the first round of sampling and 1,1,2,2-tetrachloroethane from the second round of sampling were the only organic compounds present in groundwater. VOCs were detected only in the shallow monitoring wells.

  Due to the high turbidity of the groundwater during the initial sampling event the metal data was considered unreliable and a second round of groundwater sampling was undertaken using a low-flow purging and sampling technique. Inorganic compounds exceeding their standard concentrations were aluminum and iron. In addition, arsenic, barium, calcium, lead, magnesium, and vanadium exceeded their respective NASP reference concentration. In the intermediate depth wells only iron exceeded a PRG or the NASP reference concentration.

- Groundwater from the surficial zone of the Sand-and-Gmvel 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. Furthermore, groundwater at the site and NAS Pensacola has been shown to be highly turbid and to contain ambient iron and manganese concentrations exceeding the FSDWS. The data from this investigation suggests the site has not degraded the quality of the aquifer, rather the contaminants found are typical of the Sand-and-Gravel Aquifer as a whole.

- The human health risk associated with exposure to environmental media at NAS Pensacola Site 39 was assessed for future site residents. The exposure media

considered in this assessment included only groundwater since clean backfill material comprises the 0- to 1-foot soil depth interval.

The combined shallow/intermediate groundwater pathway hazard index was found to be 2.0 for the future child resident and 0.9 for the adult. The potential carcinogenic risk was computed to be 1.3E-04. Arsenic and aluminum are potentially related to suspended particulate in samples and are likely not site-related. In addition, the arsenic and tetrachloroethene exposure point concentrations (and maximum concentration) were below the corresponding drinking water standards concentrations.

- Based on the Ecological Risk Assessment, the soil, groundwater, or surface water at Site 39 pose no threat to the environment or biological receptors.

In conclusion, E/A&H recommends no further action for Site 39. Due to the limited nature of the contamination found in this investigation and the removal of the stained soil, the site does not warrant the detailed evaluation of remedial alternatives associated with a feasibility study. It is further recommended that a proposed plan recommending no action be completed leading to a record of decision for Site 39.

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FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have read and approve this Remedial Investigation Report for NAS Pensacola Site 39 and seal it in accordance with Chapter 492 of the Florida Statutes. In sealing this document, I certify the geological information contained in it is true to the best of my knowledge and the geological methods and procedures included herein 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

4-4-95

Date

APPENDIX A
SOIL-GAS DATA

SOIL GAS SURVEY

PENSACOLA NAVAL AIR STATION
PENSACOLA, FLORIDA

PREPARED FOR

ENSAFE/ALLEN & HOSHALL
5724 SUMMER TREES DRIVE
MEMPHIS, TENNESSEE 38134

PREPARED BY

TARGET ENVIRONMENTAL SERVICES, INC.
9180 RUMSEY ROAD
COLUMBIA, MARYLAND 21045
(410) 992-6622

DECEMBER 1992

EXECUTIVE SUMMARY

On November 10-13 and 16-19, 1992, TARGET Environmental Services, Inc. (TARGET) collected soil gas and ground water samples at the Pensacola Naval Air Station in Pensacola, Florida. Two sites were surveyed, the Wastewater Treatment Plant Ponds (Site 33), which is part of Operable Unit 10 (OU-10) and Oak Grove Campground (Site 39). A total of 194 soil gas samples and 8 ground water samples were collected at Site 33. Fifteen (15) soil gas and 3 ground water samples were collected at Site 39. Sampling depths varied from 1 to 4 feet in response to the depth to ground water. The soil gas and the headspace of the ground water samples were analyzed on a gas chromatograph equipped with a flame ionization detector (GC/FID) for petroleum hydrocarbons and an electron capture detector (GC/ECD) for chlorinated hydrocarbons. The objective of the soil gas survey was to screen the sites for subsurface volatile organic compounds in order to guide placement of soil and ground water sampling points. Ground water samples were collected under the direction of the client to confirm the presence of ground water contamination at those locations:

Soil gas data from Site 33 revealed significant concentrations of 1,1-dichloroethene (1,1-DCE) in the soil gas samples collected from the central portion of the site. Elevated levels of petroleum hydrocarbons were observed in the soil gas and ground water at the southern boundary of Site 33. Chromatographic data suggests the contaminant may be kerosene or a weathered fuel product. Lower levels of petroleum hydrocarbons occurred at the northwestern corner of the eastern pond. The low levels of volatile hydrocarbons observed elsewhere on the site appear to be the result of naturally occurring terpenes and do not represent a contamination problem.

Soil gas data from Site 39 revealed only a low level of tetrachloroethene (PCE) in a sample from the northwestern site boundary. None of the remaining petroleum or chlorinated analytes were present above the 1 $\mu g/l$ reporting limit in any of the soil gas or ground water samples.

Introduction

Ensafe/Allen & Hoshall (E/AH) contracted TARGET Environmental Services, Inc. (TARGET) to perform a soil gas survey at the Pensacola Naval Air Station in Pensacola, Florida. Two sites were surveyed, the Wastewater Treatment Plant Ponds (Site 33), which is part of Operable Unit 10 (OU-10) and Oak Grove Campground (Site 39). The work was performed in support of the U.S. Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) Program. The objective of the soil gas survey was to screen the sites for subsurface volatile organic compounds in order to guide placement of soil and ground water sampling points. Ground water samples were also collected at each site under the direction of E/AH in order to confirm the presence of dissolved contamination in the ground water at those locations.

The surveys were designed and the sampling points were surveyed in by E/AH. Samples were planned to be collected just above the ground water table, which varies from 1 to 20 feet below grade depending upon location. Near surface soils were reported to consist of poorly graded quartz sand, with a high permeability. Ground water velocity was reported to be generally high. The field phase of the soil gas surveys was conducted on November 10-13 and 16-19, 1992.

Sample Collection and Analysis

Soil gas samples were collected at a total of 195 locations and ground water at 8 locations at the Wastewater Treatment Plant Ponds (Site 33), as shown in Figures 1A and 1B. A total of 15 soil gas and 3 ground water samples were collected at the Oak Grove Campground (Site 39), as shown in Figures 2A and 2B. Sampling depths varied From 1 to 4 feet due to fluctuations in the depth to ground water. Six planned samples were not collected due to the presence of surface water. These locations are labelled "NS" on the maps. Duplicate samples were collected at

locations -2.4/11, -5.2/6.6, 1/45, 2/7.5, 4/7, 9/7 and 13/6. The duplicate sample numbers are followed by a "D" in the data tables. A detailed explanation of the sampling procedure is provided in Appendix A.

All of the soil gas samples and the headspace of the ground water samples' collected during the field phase of the survey were subjected to dual analyses on site in E/AH's field trailer. One analysis was conducted according to EPA Method 601 (modified) on a gas chromatograph equipped with an electron capture detector (ECD), and using direct injection. Specific analytes standardized for this analysis were:

1,1-dichloroethene (11DCE)
methylene chloride (CH_2Cl_2)
trans-1,2-dichloroethene (t12DCE)
1,1-dichloroethane (11DCA)
cis-1,2-dichloroethene (c12DCE)
chloroform (CHCl,)
1,1,1-trichloroethane (111TCA)
carbon tetrachloride (CCl_4)
trichloroethene (TCE)
1,1,2-trichloroethane (112TCA)
tetrachloroethene (PCE)

The chlorinated hydrocarbons in this suite were chosen because of their common usage in industrial solvents, and/or their degradational relationship to commonly used compounds.

The second analysis was conducted according to EPA Method 602 (modified) on a gas chromatograph equipped with a flame ionization detector (FID), and using direct injection. The analytes selected for standardization in this analysis were:

vinyl chloride
benzene
toluene
ethylbenzene
meta- and para- xylene
ortho- xylene

These compounds were chosen because of their utility in evaluating the presence of fuel products, or petroleum based solvents. An explanation of the laboratory procedures is provided in Appendix B.

The tabulated results of the laboratory analyses of the samples are reported in micrograms per liter (µg/l) in Tables 1 through 8. Although "micrograms per liter" is equivalent to "parts per billion (v/v)" in water analyses, they are not equivalent in gas analyses, due to the difference in the mass of equal volumes of water and gas matrices. The xylenes concentrations reported in the FID tables are the sum of the m- and p-xylene and the o-xylene concentrations for each sample.

Quality Assurance/Quality Control (QA/QC) Evaluation

Field QA/QC Samples

Field control samples were collected at the beginning and end of each day's field activities and after every twentieth soil gas sample. These QA/QC samples were obtained by filtering ambient air through a dust and organic vapor filter cartridge and encapsulating as described in the "Field Procedures" in Appendix A. The laboratory results are reported in the data tables. Concentrations of all analytes were below the reporting limit in all field control samples, indicating that the QA/QC measures employed were sufficient to prevent cross-contamination of the samples during collection.

Laboratory QA/QC Samples

To document analytical repeatability, a duplicate analysis was performed on every tenth field sample. Laboratory blanks of nitrogen gas were also analyzed after every tenth field sample. The results of these analyses are reported in the data tables. The duplicate analyses were within

acceptable limits. Concentrations of all analytes were below the reporting limit in all laboratory blanks.

OAK GROVE CAMPGROUND (Site 39)

Results

In order to provide graphic presentation of the results, the tetrachloroethene (PCE) data in Table 6 have been mapped and contoured to produce Figure 7. Map sample points with no data shown indicate that the analyte concentrations in the sample were below the reporting limit. An explanation of the terminology used in this report is provided in Appendix C.

Soil gas data from Site 39 revealed only a low level of PCE (Figure 7) in Sample OG2, from the northwestern site boundary. None of the remaining petroleum or chlorinated analytes were present above the 1 µg/l reporting limit in any of the samples.

No petroleum or chlorinated hydrocarbons were present above the 1 µg/l reporting limit in any of the ground water samples from Site 39.

Conclusions

- Except for a low level of PCE on the northwestern site boundary, significant petroleum and chlorinated hydrocarbon contamination is not present in the shallow subsurface of Site 39.

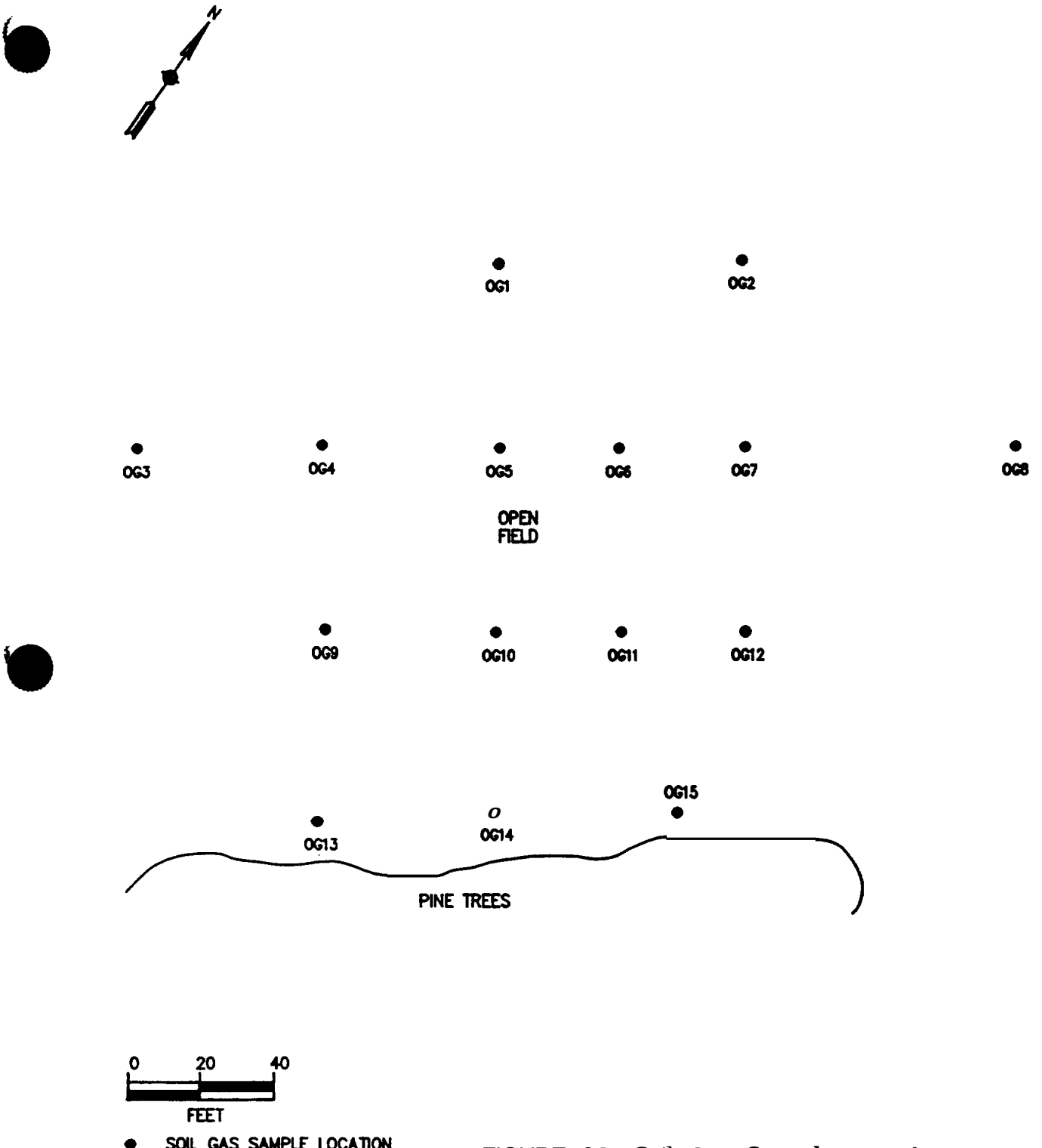
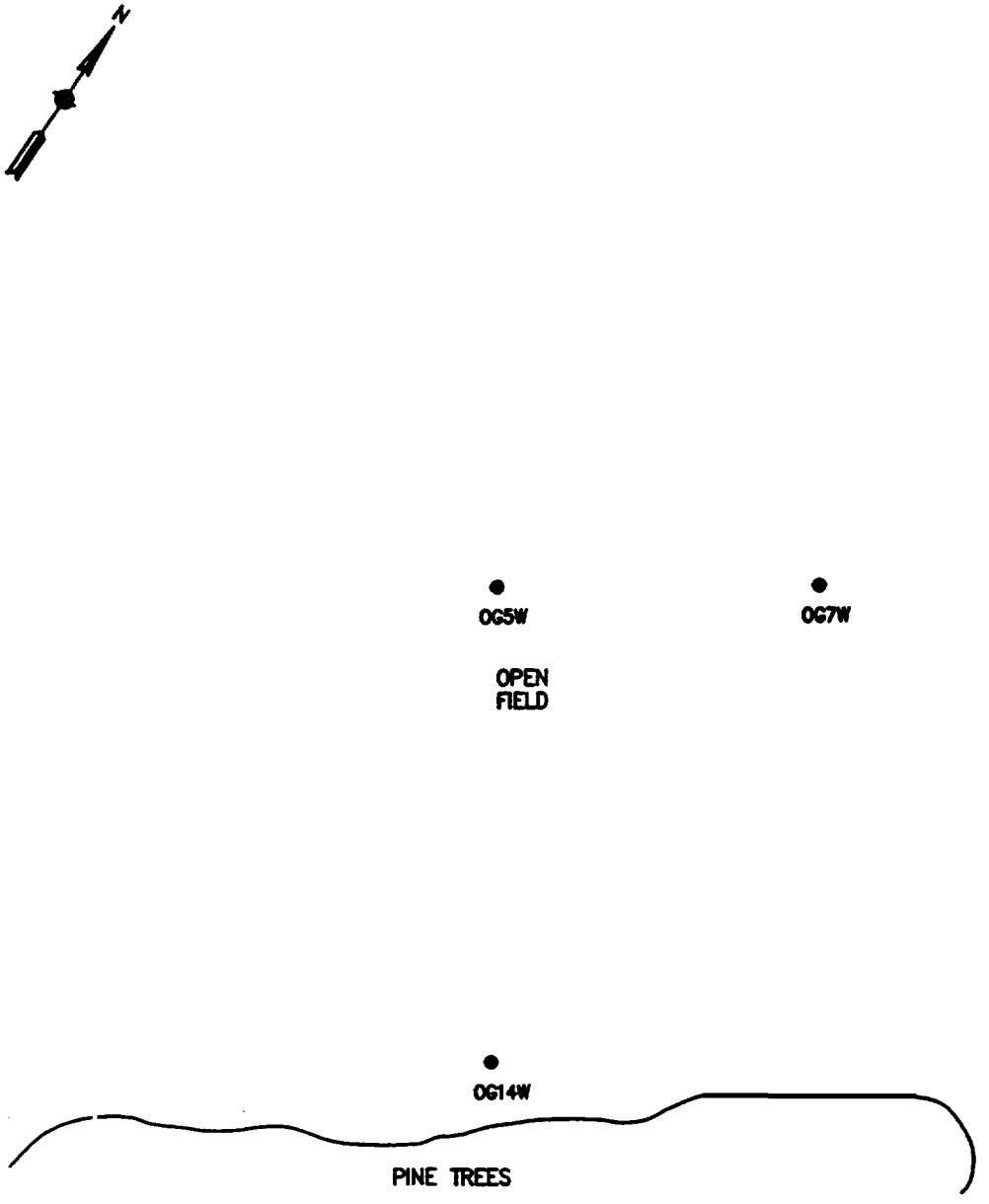


FIGURE 6A. Soil Gas Sample Locations

This map is integral to a written report and should be viewed in that context.

SITE 39
PENSACOLA NAVAL AIR STATION
PENSACOLA, FLORIDA



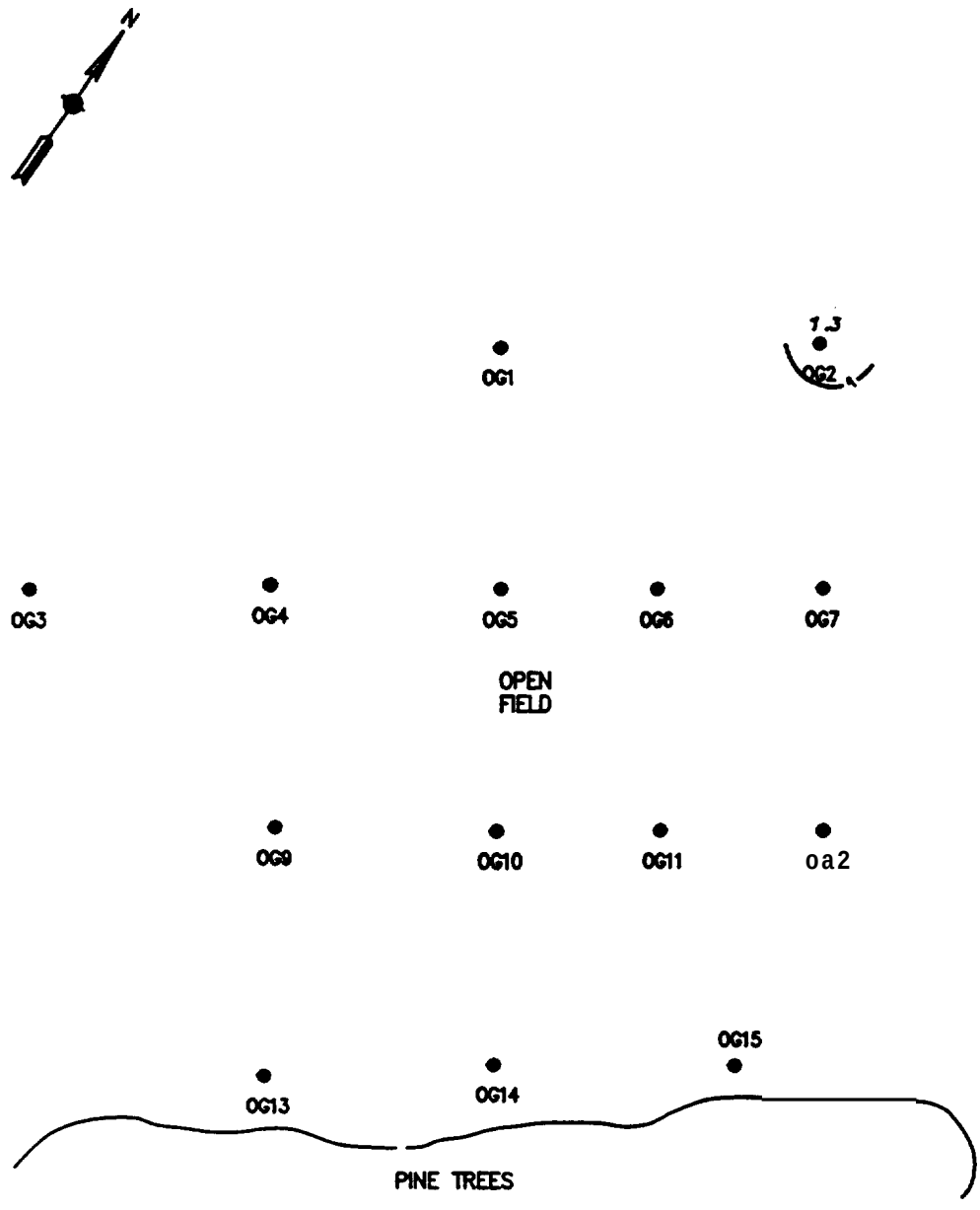
● GROUND WATER SAMPLE LOCATION

FIGURE 6B. Ground Water Sample Locations

TARGET ENVIRONMENTAL SERVICES, INC.

This map is integral to a written report and should be viewed in that context.

SITE 39
PENSACOLA NAVAL AIR STATION
PENSACOLA, FLORIDA



0 20 40

FEET

● SOIL GAS SAMPLE LOCATION

FIGURE 7. Tetrachloroethene (PCE) in Soil Gas ($\mu g/l$)

TARGET ENVIRONMENTAL SERVICES, INC.

This map is integral to a written report and should be viewed in that context.

SITE 39
PENSACOLA NAVAL AIR STATION
PENSACOLA, FLORIDA

TABLE 5

ANALYTE CONCENTRATIONS IN SOIL GAS VIA GC/FID (µg/l)

SAMPLE	VINYL CHLORIDE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES[1]
REPORTING LIMIT	10	1.0	1.0	1.0	1.0	10
061	<10	<1.0	<1.0	<1.0	<1.0	<10
OG2	<10	<1.0	<1.0	<1.0	<1.0	<10
OG3	<10	<1.0	<1.0	<1.0	<1.0	<10
OG4	<10	<1.0	<1.0	<1.0	<1.0	<10
OG5	<10	<1.0	<1.0	<1.0	<1.0	<10
OG6	<10	<1.0	<1.0	<1.0	<1.0	<10
OG7	<10	4.0	<1.0	<1.0	<1.0	<10
OG8	<10	<1.0	<1.0	<1.0	4.0	<10
OG9	<10	<1.0	<1.0	<1.0	<1.0	<10
OG10	<10	<1.0	<1.0	<1.0	<1.0	<10
OG11	<10	<1.0	<1.0	<1.0	<1.0	<10
OG12	<10	<1.0	<1.0	<1.0	<1.0	<10
0613	<10	<1.0	<1.0	<1.0	<1.0	<10
0614	<10	<1.0	<1.0	<1.0	<1.0	<10
0615	<10	<1.0	<1.0	<1.0	<1.0	<10
FIELD CONTROL SAMPLES						
B1	<10	<1.0	<1.0	<1.0	<1.0	<10
82	<10	<1.0	<1.0	<1.0	<1.0	<10
LABORATORY DUPLICATE ANALYSIS						
062	<10	<1.0	<1.0	<1.0	<1.0	<10
OG2R	<10	<1.0	<1.0	<1.0	<1.0	<10
LABORATORY BLANK						
OG2B	<10	<1.0	<1.0	<1.0	<1.0	<10

'CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE

TABLE 6

ANALYTE CONCENTRATIONS IN SOIL GAS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH_2Cl_2	t12DCE	11DCA	c12DCE	$CHCl_3$	111TCA	CCl_4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
OG1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*1.3*
OG3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*4.0*	<1.0	<1.0
OG6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FIELD CONTROL SAMPLES											
81	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
82	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
LABORATORY DUPLICATE ANALYSIS											
OG2	*4.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*1.2*
OG2R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*1.2*
LABORATORY BLANKS											
OG2B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
t12DCE = trans-1,2-dichloroethene
c12DCE = cis-1,2-dichloroethene
111TCA = 1,1,1-trichloroethane
TCE = trichloroethene
PCE = tetrachloroethene

CH_2Cl_2 = methylene chloride
11DCA = 1,1-dichloroethane
$CHCl_3$ = chloroform
CCl_4 = carbon tetrachloride
112TCA = 1,1,2-trichloroethane

TABLE 7

ANALYTE CONCENTRATIONS IN HEADSPACE OF GROUND WATER VIA GC/FID (µg/l)

SAMPLE	VINYLCHLOR	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES[1]
REPORTING LIMIT	10	1.0	1.0	1.0	1.0	10
OG5W	<10	<1.0	<1.0	<1.0	<1.0	<10
OG7W	<10	<1.0	<1.0	<1.0	<1.0	<10
OG14W	<10	<1.0	<1.0	<1.0	<1.0	<10
EQUIPMENT RINSEATE SAMPLES						
BLW6	<10	<1.0	<1.0	<1.0	<1.0	<10
LABORATORY DUPLICATE ANALYSIS						
OG5W	<10	<1.0	<1.0	<1.0	<1.0	<10
OG5WR	<10	<1.0	<1.0	<1.0	<1.0	<10
LABORATORY BLANKS						
OG5WB	<10	<1.0	<1.0	<1.0	<1.0	<10

[1]CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE

TABLE 8

ANALYTE CONCENTRATIONS IN HEADSPACE OF GROUND WATER VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH_2Cl_2	t12DCE	11DCA	c12DCE	$CHCl_3$	111TCA	CCl_4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
OG5W	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG7W	*4.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG14W	*4.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
EQUIPMENT RINSEATE SAMPLES											
BLW6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
LABORATORY DUPLICATE ANALYSIS											
OG5W	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OG5WR	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
LABORATORY BLANKS											
OG5WB	*4.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*4.0*

11DCE = 1,1-dichloroethene
t12DCE = trans-1,2-dichloroethene
c12DCE = cis-1,2-dichloroethene
111TCA = 1,1,1-trichloroethane
TCE = trichloroethene
PCE = tetrachloroethene

CH_2Cl_2 = methylene chloride
11DCA = 1,1-dichloroethane
$CHCl_3$ = chloroform
CCl_4 = carbon tetrachloride
112TCA = 1,1,2-trichloroethane

FIELD PROCEDURES

To collect the soil gas samples a 1/2 inch hole was produced to a depth of approximately 4 feet by using a drive rod. Where pavement was present, a rotary hammer was employed for penetration prior to using the drive rod. The entire sampling system was purged with ambient air drawn through an organic vapor filter cartridge, and a stainless steel probe was inserted to the full depth of the hole and sealed off from the atmosphere. A sample of in-situ soil gas was then withdrawn through the probe and used to purge atmospheric air from the sampling system. A second sample of soil gas was withdrawn through the probe and encapsulated in a pre-evacuated glass vial at two atmospheres of pressure (15 psig). The self-sealing vial was detached from the sampling system, packaged, labeled, and stored for laboratory analysis. All sampling holes were backfilled with bentonite and the surface repaired with like material upon completion of the sampling.

Prior to the day's field activities all sampling equipment, slide hammer rods and probes were decontaminated by washing with soapy water and rinsing thoroughly. Internal surfaces were flushed dry using pre-purified nitrogen or filtered ambient air, and external surfaces were wiped clean using clean paper towels.

On the first day of sampling, the probe was decontaminated by washing with soapy water and rinsing thoroughly after the collection of each sample. Following discussion of this procedure with the E/AH representative and TARGET project management, it was determined that normal dry decon procedures would be sufficient, unless water or soil was pulled into the probe, upon which the above wet decon procedures would be followed.

To collect the ground water samples, connected 3 foot sections of 1" diameter threaded steel casing were driven manually to the sampling depth. An electric hammer drill was used to

penetrate pavement where necessary. Once the steel casing was in place, water was allowed to fill the pipe. A teflon sampling tube was placed down the pipe and ground water was collected from just below the water surface Samples were placed in bottles and acidified to pH 2 using a 50% hydrochloric acid-water mixture, sealed, labeled and shipped on ice to the laboratory.

Prior to the day's field activities and after collection of each sample, the steel casing and Teflon sampling tube were decontaminated by washing with Contrad (an inorganic laboratory grade cleaner for glassware and stainless steel), rinsing with distilled water and drying with nitrogen gas.

LABORATORY PROCEDURES

The ground water samples were prepared for analysis by pouring 15 ml of sample into a 30 ml EPA clean vial and sealing with a teflon-faced butyl rubber septum. The vial was heated for 10 minutes to volatilize hydrocarbons from the water. The headspace of the sample was then directly injected in the gas chromatograph.

The analytical equipment was calibrated using a 3-point instrument-response curve and injection of known concentrations of the target analytes. Retention times of the standards were used to identify the peaks in the chromatograms of the field samples, and their response factors were used to calculate the analyte concentrations.

Total FID Volatiles values were generated by summing the areas of all integrated chromatogram peaks and calculated using the instrument response factor for toluene. Injection peaks, which also contain the light hydrocarbon methane, were excluded to avoid the skewing of Total FID Volatiles values due to injection disturbances and biogenic methane. For samples with low hydrocarbon concentrations, the calculated Total FID Volatiles concentration is occasionally lower than the sum of the individual analytes. This is because the response factor used for the Total FID Volatiles calculation is a constant, whereas the individual analyte response factors are compound specific. It is important to understand that the Total FID Volatiles levels reported are relative, not absolute, values.

NAS PENSACOLA OU 10 AND SITE 13
QAQC SAMPLES

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

PARAMETER	UNITS	OG5WL	OG5WLMS	OG5WLMSD
ENSAFE ID:		OG5WL	OG5WLMS	OG5WLMSD
LAB ID:		524190	524168	524169
LAB RCVD:		11/20/92	11/20/92	11/20/92
V Ethylbenzene	UG/L	10.0000 U	10.0000 U	10.0000 U
V Styrene	UG/L	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
V trans-1,3-Dichloropropene	UG/L	10.0000 U	10.0000 U	10.0000 U
V 1.2-Dichloroethane	UG/L	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
V Toluene	UG/L	10.0000 U	*48.0000*	53.0000
V Chlorobenzene	UG/L	10.0000 U	*47.0000*	51.0000
V Dibromochloromethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Tetrachloroethene	UG/L	10.0000 U	10.0000 U	10.0000 U
V Xylene (total)	UG/L	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
V Carbon Tetrachloride	UG/L	10.0000 U	10.0000 U	10.0000 U
V 2-Hexanone	UG/L	10.0000 U	10.0000 U	10.0000 U
V Acetone	UG/L	5.0000 U	10.0000 U	9.0000 U
V Chloroform	UG/L	10.0000 U	10.0000 U	10.0000 U
V Benzene	UG/L	10.0000 U	*48.0000*	56.0000
V 1,1,1-Trichloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Bromomethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Chloromethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Chloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Vinyl Chloride	UG/L	10.0000 U	10.0000 U	10.0000 U
V Methylene Chloride	UG/L	2.0000 U	7.0000 U	6.0000 U
V Carbon Disulfide	UG/L	10.0000 U	10.0000 U	10.0000 U
V Bromoform	UG/L	10.0000 U	10.0000 U	10.0000 U
V Bromodichloromethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V 1.1-Dichloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V 1,1-Dichloroethene	UG/L	10.0000 U	48.0000	*48.0000*
V 1,2-Dichloropropane	UG/L	10.0000 U	10.0000 U	10.0000 U
V 2-Butanone	UG/L	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

NAS PENSACOLA OU 10 AND SITE 13
QAQC SAMPLES

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

	ENSAFE ID:	OG5WL	OG5WLMS	OG5WLMSD			
	LAB ID:	524190	524168	524169			
	LAB RCVD:	11/20/92	11/20/92	11/20/92	.	.	.
PARAMETER	UNITS						
V Trichloroethene	UG/L	10.0000 U	50.0000	52.0000		.	.
V 1,1,2,2-Tetrachloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U		.	.

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

NAS PENSACOLA OU 10 AND SITE 13
QAQC SAMPLES

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

PARAMETER	UNITS	ENSAFE ID: OG5WL LAB ID: 524190 LAB RCVD: 11/20/92	OG5WLMS 524168 11/20/92	OG5WLMSD 524169 11/20/92
V Ethylbenzene	UG/L	10.0000 U	10.0000 U	10.0000 U
V Styrene	UG/L	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
V trans-1,3-Dichloropropene	UG/L	10.0000 U	10.0000 U	10.0000 U
V 1,2-Dichloroethane	UG/L	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
V Toluene	UG/L	10.0000 U	48.0000	53.0000
V Chlorobenzene	UG/L	10.0000 U	47.0000	51.0000
V Dibromochloromethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Tetrachloroethene	UG/L	10.0000 U	10.0000 U	10.0000 U
V Xylene (total)	UG/L	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
V Carbon Tetrachloride	UG/L	10.0000 U	10.0000 U	10.0000 U
V 2-Hexanone	UG/L	10.0000 U	10.0000 U	10.0000 U
V Acetone	UG/L	5.0000 U	10.0000 U	9.0000 U
V Chloroform	UG/L	10.0000 U	10.0000 U	10.0000 U
V Benzene	UG/L	10.0000 U	48.0000	56.0000
V 1,1,1-Trichloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Bromomethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Chloromethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Chloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V Vinyl Chloride	UG/L	10.0000 U	10.0000 U	10.0000 U
V Methylene Chloride	UG/L	2.0000 U	7.0000 U	6.0000 U
V Carbon Disulfide	UG/L	10.0000 U	10.0000 U	10.0000 U
V Bromoform	UG/L	10.0000 U	10.0000 U	10.0000 U
V Bromodichloromethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V 1,1-Dichloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U
V 1,1-Dichloroethene	UG/L	10.0000 U	48.0000	48.0000
V 1,2-Dichloropropane	UG/L	10.0000 U	10.0000 U	10.0000 U
V 2-Butanone	UG/L	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

NAS PENSACOLA OU 10 AND SITE 13
QAQC SAMPLES

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

	ENSAFE ID:	OG5WL	OG5WLMS	OG5WLMSD
	LAB ID:	524190	524168	524169
	LAB RCVD:	11/20/92	11/20/92	11/20/92
PARAMETER	UNITS			
V Trichloroethene	UG/L	10.0000 U	50.0000	52.0000
V 1,1,2,2-Tetrachloroethane	UG/L	10.0000 U	10.0000 U	10.0000 U

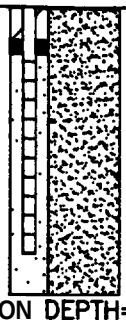
V=Volatile, S=Semivolatile, P=Pesticide, I=Inorganic

APPENDIX B
BORING LOGS

DEPTH (FT)	SAMPLE TYPE	% RECOVERY	PID (ppm)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	3.9	(0–1) Fine light grey–brown Sand (SP)
	HA	100	5.2	(1–3) Fine redish–brown moist Sand (SP)
	HA	100	5.0	(3–5) Fine light grey wet Sand (SP)
	HA	100	3.7	(5–7) Same as above
	SS	75	6.5	(7–9) Same as above
10	SS	50	4.2	(9–11) Same as above
	SS	50	5.4	(11–13) Same as above
	SS	42	4.9	(13–15) Same as above
				Boring Terminated at 15 feet.
20				
30				
40				
50				

REMARKS
HA – HAND AUGER
SS – SPLIT SPOON
BACKGROUND PID CONCENTRATION = 0.7ppm

WELL CONSTRUCTION DETAILS



COMPLETION DEPTH=14'

DRILLING CONTRACTOR: KELLY ENVIRONMENTAL
DRILLING METHOD: HOLLOW STEM AUGER
CONSULTING FIRM: ENSAFE/ALLEN & HOSHALL
LOGGED BY: BEN BRANTLEY
DATE(S): ~~05/25/93 – 05/25/93~~
GROUND ELEVATION (MSL): 10.20
GROUNDWATER (BELOW GRADE): 7.38 feet 03/4/93)
TOTAL DEPTH: 15 feet
SCREENED INTERVAL: TOP: 4' BOTTOM: 14'
WELL MATERIAL: 2.00in PVC
SCREEN SLOT SIZE 0.010in
FILTER PACK GRAIN SIZE:

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

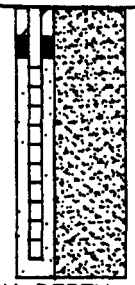
39GS01
SOIL BORING/
MONITORING WELL

DWG DATE: 11/15/94
DWG NAME: 5939RG1

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID CONC (PPM.)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	1.2	(0–1) Fine light–grey brown SAND **(SP)**
	HA	100	1.8	(1–3) Fine tan/light–grey moist Sand **(SP)**
	HA	100	2.4	(3–5) Fine tun Sand w/ organic debris @ 5'
	SS	50	1.4	(7–9) Fine light–grey wet Sand (SP)
10	SS	50	1.3	(9–11) Same as above
	SS	50	1.5	(11–13) Same as above
	SS	50	2.4	Boring terminated @ 14'
20				
30				
40				
50				

REMARKS
HA – HAND AUGER
SS – SPLIT SPOON
BACKGROUND PID CONCENTRATION = 0.7ppm

WELL CONSTRUCTION DETAILS



COMPLETION DEPTH=13.00

DRILLING CONTRACTOR: KELLY ENVIRONMENTAL DRILLING METHOD: HOLLOW STEM AUGER
CONSULTING FIRM: ENSAFE/ALLEN & HOSHALL LOGGED BY: BEN BRANTLEY
DATE(S): 05/25/93 – 05/25/93
GROUND ELEVATION (MSL): 5.80 GROUNDWATER (BELOW GRADE): 3.47 feet (8/4/93)
TOTAL DEPTH: 14 feet SCREENED INTERVAL: TOP: 3' BOTTOM: 13'
WELL MATERIAL: 2.00in PVC SCREEN SLOT SIZE: 0.010in FILTER PACK GRAIN SIZE: 10/20

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

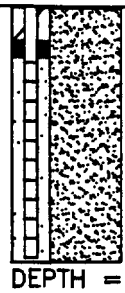
39GS02
SOIL BORING/
MONITORING WELL

DWG DATE: 11/15/94 DWG NAME: 5939RG2

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID CONC. (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	ND	(0–1) Fine light–grey Sand (SP)
	HA	100	ND	(1–3) Same as above (moist)
	HA	100	ND	(3–5) Fine light–grey/dark brown wet Sand organic debris @ 5'
	SS	50	ND	(5–7) Fine light–grey wet Sand (SP)
10	SS	25	ND	(7–9) Same as above
	SS	0	NA	(9–11) No recovery
	SS	25	ND	(11–13) Fine light–grey wet Sand (SP) Boring terminated @ 13'.
20				
30				
40				
50				

REMARKS
HA – HAND AUGER
SS – SPLIT SPOON
ND – NOT DETECTED
BACKGROUND PID CONCENTRATION = ND

WELL CONSTRUCTION DETAILS



COMPLETION DEPTH = 12.75'

DRILLING CONTRACTOR: KELLY ENVIRONMENTAL
DRILLING METHOD: HOLLOW STEM AUGER
CONSULTING FIRM: ENSAFE/ALLEN & HOS
LOGGED BY: BEN BRANTLEY
DATE(S): 05/26/93 – 05/26/93

GROUND ELEVATION (MSL): 6.50 feet
GROUNDWATER (BELOW GRADE): 4.19 feet (8/4/93)
TOTAL DEPTH: 13 feet
SCREENED INTERVAL: TOP: 2.75' BOTTOM: 12.75'
WELL MATERIAL: 2.00in PVC
SCREEN SLOT SIZE: 0.010in
FILTER PACK GRAIN SIZE: 10/20

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

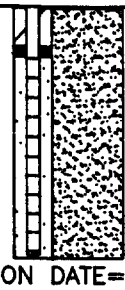
39GS03
SOIL BORING/
MONITORING WELL

DWG DATE: 11/15/94
DWG NAME: 5939RG3

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID DIG. (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	ND	(0-1) Fine oil-stained brown Sand (SP)
	HA	100	4.0	(1-3) Fine dark brown Sand (SP) w/ rubble & gravels
	HA	100	4.8	(3-5) Same as above
	SS	50	ND	(5-7) Fine light-grey Sand (SP)
10	SS	50	ND	(7-9) Same as above - wet
	SS	50	ND	(9-11) Same as above
	SS	50	ND	(11-13) Same as above
				Boring terminated @ 13'.
20				
30				
40				
50				

REMARKS
HA - HAND AUGER
SS - SPLIT SPOON
ND - NOT DETECTED
BACKGROUND PID CONCENTRATION = ND

WELL CONSTRUCTION DETAILS



COMPLETION DATE=12.7
12" PVC SURFACE CASING SET TO 2' BELOW GRADE.

DRILLING CONTRACTOR: _____ DRILLING METHOD: HOLLOW STEM AUGER
CONSULTING FIRM: ENSAFE/ALLEN & HOS LOGGED BY: BEN BRANTLEY
DATE(S): 05/27/93 - 05/27/93
GROUND ELEVATION (MSL): 7.50 GROUNDWATER (BELOW GRADE): 4.97 feet (8/4/93)
TOTAL DEPTH: 13 feet SCREENED INTERVAL: TOP: 2.7' BOTTOM: 12.7'
WELL MATERIAL: 2.00in PVC SCREEN SLOT SIZE: 0.010in FILTER PACK GRAIN SIZE: _____

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

39GS04
SOIL BORING/
MONITORING WELL

DWG DATE: 11/14/94 | DWG NAME: 5939RG4

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID CONC. (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	.00	ND	(0–1) Fine light–grey brown Sand (SP)
	HA	.00	ND	(1–3) Same as above (moist)
	HA	.00	ND	(3–5) Fine light–grey/dark brown wet Sand
				Boring terminated @ 5'.
10				
20				
30				
40				
50				
50				

REMARKS:
HA – HAND AUGER
BACKGROUND PID CONCENTRATION = ND

REMEDIAL
INVESTIGATION
SITE 39
NAS PENSACOLA

39S05

SOIL BORING

DWG DATE: 11/15/94

DWG NAME: 5939R05

DEPTH	SAMPLE TYPE	% RECOVERY	PID CONC (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	ND	(0–1) Fine light–grey brown Sand (SP)
	HA	100	ND	(1–3) Same as above (moist)
	HA	100	ND	(3–5) Fine light–grey brown moist Sand
				Boring terminated @ 5'.
10				
20				
30				
40				
50				

REMARKS:
HA – HAND AUGER
BACKGROUND PID CONCENTRATION = ND

REMEDIAL
INVESTIGATION
SITE 39
NAS PENSACOLA

39S06

SOIL BORING

DWG DATE: 11/15/94

DWG NAME: 5939R06

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID CONC. (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	ND	(0–1) Fine light–grey brown Sand **(SP)**
10				
20				REMARKS: **HA** – HAND AUGER BACKGROUND PID CONCENTRATION = ND
30				
40				
50				

REMEDIAL
INVESTIGATION
SITE 39
NAS PENSACOLA

39S08

SOIL BORING

DWG DATE: 11/15/94

DWG NAME: 5939R08

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID CONC. (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	ND	(0–1) Fine light–grey brown **Sand (SP)**
10				
20				REMARKS: HA – HAND AUGER BACKGROUND PID CONCENTRATION = ND
30				
40				
50				

REMEDIAL
INVESTIGATION
SITE 39
NAS PENSACOIA

39S09

SOIL BORING

DWG DATE: 11/15/94

DWG NAME: 5939R09

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID CONC. (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	ND	(0–1) Fine light–grey brown **Sand (SP)**
10				
20				REMARKS: **HA** – HAND AUGER BACKGROUND PID CONCENTRATION = ND
30				
40				
50				

REMEDIAL
INVESTIGATION
SITE 39
NAS PENSACOLA

39S10

SOIL BORING

DWG DATE: 11/15/94

DWG NAME: 5939R10

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID CONC. (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	ND	(0-1) **Fine light-grey brown Sand (SP)**
10				
20				REMARKS: **HA** - HAND AUGER BACKGROUND PID CONCENTRATION = ND
30				
40				
50				

REMEDIAL
INVESTIGATION
SITE 39
NAS PENSACOLA

39S11

SOIL BORING

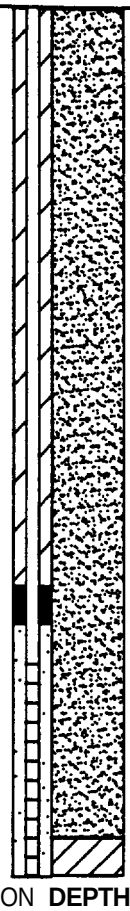
DWG DATE: 11/15/94

DWG NAME: 5939R11

DEPTH	SAMPLE TYPE	% RECOVERY	PID CON. (ppm)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	00	19	(0–1) Fine light–grey/brown Sand **(SP)**
	HA	00	6.2	(1–3) Fine redish brown moist Sand **(SP)**
	HA	00	6.0	(3–5) Fine light–grey wet Sand **(SP)**
	HA	00	6.7	(5–7) Same as above
	SS	75	1.5	(7–9) Same as above
10	SS	50	.2	(9–11) Same as above
	SS	50	14	(11–13) Same as above
	SS	42	19	(13–15) Same as above
	SS	50	12	(15–17) Same as above
	SS	50	ND	(17–19) Same as above
20	SS	75	17	(19–21) Same as above
	SS	75	1.5	(21–23) Same as above
	SS	75	14	(23–25) Same as above
	A	NA	ND	(25–30) Same as above
30	A	NA	ND	(30–35) Same as above
	A	NA	ID	(35–43) Dark brown med–fine Sand **(SP)** (brown water)
40	A	NA	JD	(43–45) Dark greyish–blue soft sandy Clay (CL) Boring terminated @ 45'.
50				

REMARKS
HA – HAND AUGER
SS – SPLIT SPOON
A – SAMPLE COLLECTED OFF AUGERS
ND – NOT DETECTED

WELL CONSTRUCTION DETAILS



COMPLETION **DEPTH–44'**

DRILLING CONTRACTOR: KELLY ENVIRONMENTAL DRILLING METHOD: HOLLOW STEM AUGER
CONSULTING FIRM: ENSAFE/ALLEN & HOS LOGGED BY: BEN BRANTLEY
DATE(S): 05/27/93 – 05/28/93

GROUND ELEVATION (MSL): 10.00 feet GROUNDWATER (BELOW GRADE): 5.52 feet (8/4/93)
TOTAL DEPTH: 45 feet SCREENED INTERVAL TOP: 34' BOTTOM: 44'
WELL MATERIAL: 2.00in PVC SCREEN SLOT SIZE: 0.010in FILTER PACK GRAIN SIZE: 10/20

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOIA

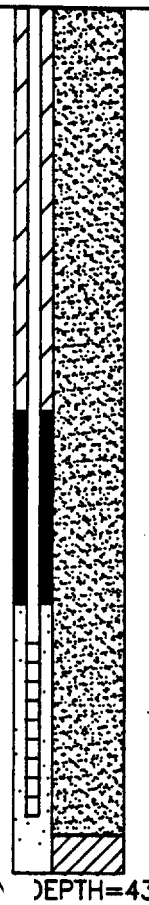
39G105
SOIL BORING/
MONITORING WELL

DWG DATE: 11/14/94 DWG NAME: 5939R105

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID (PPM)	DESCRIPTION Of SUBSURFACE MATERIALS
	HA	0C	1.2	(0–1) Fine light–grey brown Sand **(SP)**
	HA	0C	1.8	(1–3) Fine tan/light grey Sand (SP)
	HA	0C	2.4	(3–5) Fine tan Sand w/ organic debris @ 5'.
	SS	50	1.4	(5–7) Fine light–grey Sand **(SP)**
10	SS	50	1.3	(7–9) Same as above
	SS	50	1.5	(9–11) Same as above
	SS	50	2.4	(11–13) Same as above
	SS	50	ND	(13–15) Same as above
	A	NA	ND	(15–20) Same as above
20	A	NA	ND	(20–25) Same as above
	A	NA	ND	(25–30) Dark brown fine–med grained Sand (SP)
30	A	NA	ND	(30–35) Same as above
	A	NA	ND	(35–43) Same as above
40				
	A	NA	ND	(43–45) Green–grey sandy silty Clay (CL) Boring terminated @ 45'.
50				

REMARKS
HA – HAND AUGER
SS – SPLIT SPOON
A – SAMPLE COLLECTED OFF AUGERS
ND – NOT DETECTED

WELL CONSTRUCTION DETAILS



COMPLETION DEPTH=43.00'

DRILLING CONTRACTOR: KELLY ENVIRONMENTAL DRILLING METHOD: HOLLOW STEM AUGER
CONSULTING FIRM: ENSAFE/ALLEN & HOS LOGGED BY: BEN BRANTLEY
DATE(S): 06/01/93 – 06/02/93

GROUND ELEVATION (MSL): 5.80 GROUNDWATER (BELOW GRADE): 2.61 feet (8/4/93)
TOTAL DEPTH: 45 feet SCREENED INTERVAL: TOP: 33' BOTTOM: 43'
WELL MATERIAL: 2.00in PVC SCREEN SLOT SIZE: 0.010in FILTER PACK GRAIN SIZE:

REMEDIAL INVESTIGATION
SITE 39
NAS PENSACOLA

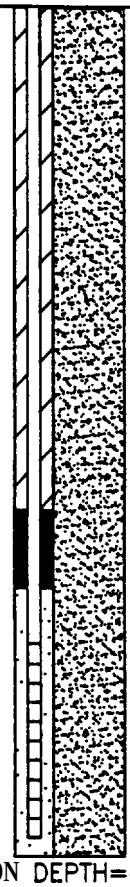
39GI06
SOIL BORING/
MONITORING WELL

DWG DATE: 11/14/94 DWG NAME: 5939R106

DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	PID CON. (PPM)	DESCRIPTION OF SUBSURFACE MATERIALS
	HA	100	ND	(0–1) Fine light–grey/brown Sand (SP)
	HA	100	ND	(1–3) Same as above – moist
	HA	100	ND	(3–5) Fine light–grey wet Sand (SP) w/ organic debris @ 5'.
	SS	50	ND	(5–7) Fine light–grey wet Sand (SP)
10	SS	25	IJD	(7–9) Same as above
	SS	0	NA	(9–11) Same as above
	SS	25	ND	(11–13) Same as above
	A	NA	IJD	(13–15) Same as above
	A	NA	IJD	(15–20) Same as above
20	A	NA	IJD	(20–28) Same as above
	A	NA	ND	(28–35) Dark brown fine–med grained Sand (SP)
30				
	A	NA	ND	(35–40) Same as above
40	A	NA	ND	(40–44) Same as above
				Boring terminated @ 44'.
50				

REMARKS
HA – HAND AUGER
SS – SPLIT SPOON
A – SAMPLE COLLECTED OFF AUGERS
ND – NOT DETECTED

WELL CONSTRUCTION DETAILS



COMPLETION DEPTH=43.00

DRILLING CONTRACTOR: KELLY ENVIRONMENTAL
DRILLING METHOD: HOLLOW STEM AUGER
CONSULTING FIRM: ENSAFE/ALLEN & HOS
LOGGED BY BEN BRANTLEY
DATE(S): 06/02/93 – 06/02/93
GROUND ELEVATION (MSL): 6.00
GROUNDWATER (BLOW GRADE): 2.56 feet (8/4/93)
TOTAL DEPTH: 44 feet
SCREENED INTERVAL: TOP: 33' BOTTOM: 43'
WELL MATERIAL: 2.00in PVC
SCREEN SLOT SIZE 0.010in
FILTER PACK GRAIN SIZE:

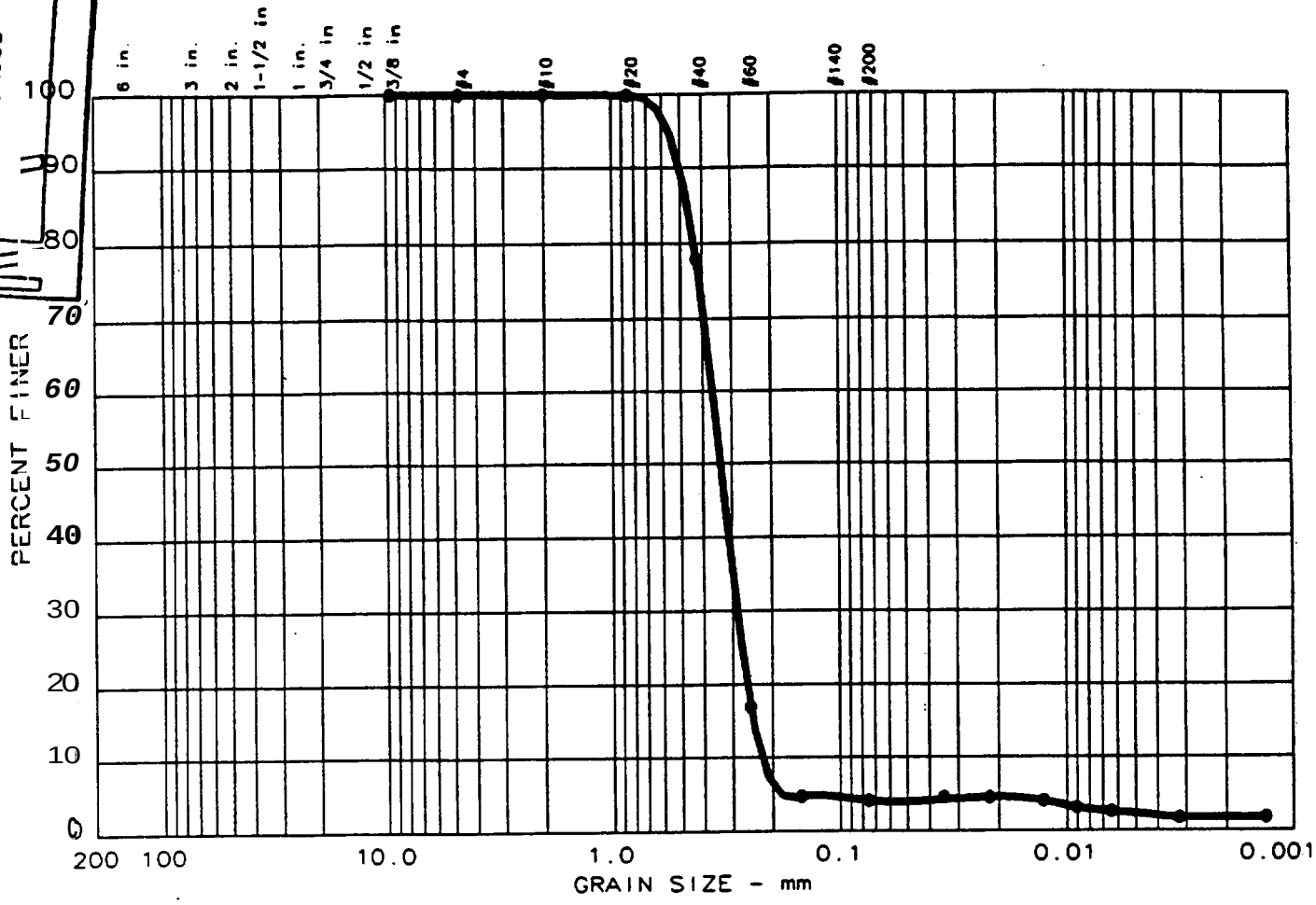
REMEDIAL
INVESTIGATION
SITE 39
NAS PENSACOLA

39G107
SOIL BORING/
MONITORING WELL

DWG DATE: 11/14/94
DWG NAME: 5939R107

APPENDIX C
GRAIN SIZE ANALYSIS

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	12	0.0	0.0	95.9	1.8	2.3	- - -	- - -	- - -

SIEVE inches size	PERCENT FINER ●		
0.375	100.00		

	GRAIN SIZE
D_{60}	0.36
D_{30}	0.28
D_{10}	0.18

	COEFFICIENTS
C_c	1.15
C_u	1.9

	PERCENT FINER
10	100.0
20	99.9
40	77.8
60	16.9
100	4.7
200	4.1

Sample information:
● 3950902
MEDIUM-FINE SAND
(SP)

Remarks:
CLIENT:
ENSAFE/ALLEN AND HOSHALL

THOMPSON ENGINEERING

Project No.: P93067
Project: LABORATORY ANALYSES

Date: 08/03/93 Data Sheet No. 2

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 12

Date: 08/03/93
Project No.: P93067
Project: LABORATORY ANALYSES

Sample Data

Location of Sample: 3950902
Sample Description: MEDIUM-FINE SAND
USCS Class: (SP)
AASHTO Class: - - -
Liquid limit: - - -
Plasticity index: - - -

Notes

Remarks: CLIENT: ENSAFE/ALLEN AND HOSHALL

Fig. No.: 2

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	110.50	105.95
Tare =	0.00	0.00
Dry sample weight =	110.50	105.95

Minus #200 from wash= 4.1 %

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	0.13	99.9
# 40	24.50	77.8
# 60	91.84	16.9
# 100	105.31	4.7
# 200	105.95	4.1

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 110.5
Calculated biased weight= 110.50
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 1
Specific gravity of solids= 2.626
Specific gravity correction factor= 1.006

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	25.6	9.5	5.0	0.0128	10.5	14.6	0.0347	4.5
5.0	25.5	9.5	5.0	0.0129	10.5	14.6	0.0220	4.5
15.0	25.5	9.0	4.5	0.0129	10.0	14.7	0.0127	4.1
30.0	25.4	8.0	3.4	0.0129	9.0	14.8	0.0091	3.1
60.0	25.2	7.5	2.8	0.0129	8.5	14.9	0.0064	2.6
250.0	23.7	7.0	1.9	0.0131	8.0	15.0	0.0032	1.7
1440.0	23.9	7.0	1.9	0.0131	8.0	15.0	0.0013	1.7

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 95.9
% SILT = 1.8 % CLAY = 2.3

D85= 0.53 D60= 0.363 D50= 0.333
D30= 0.2802 D15= 0.23041 D10= 0.18728
Cc = 1.1535 Cu = 1.9409

Douglas E. Leach

Thompson Engineering

AUGUST 9, 1993

REPORT #: 2
JOB #: P93067

CLIENT: ENSAFE/ALLEN AND HOSHALL
PROJECT: LABORATORY ANALYSES

REPORT OF: HYDRAULIC CONDUCTIVITY OF GRANULAR SOILS USING A RIGID WALL PERMEAMETEH ASTM D-2434

SAMPLE IDENTIFICATION: 3950902

DATES		TECHNICIAN	
SAMPLED:	06/02/93	SAMPLED:	CLIENT
TESTED:	07/26/93	TESTED:	C. CRAIG

****

INITIAL MOISTURE (%):...	3.94	WATER TEMP.(c):	22.00
FINAL MOISTURE (%):.....	18.15	HEAD (CM):	439.43
WET DENSITY (pcf):.....	101.45	SATURATION TIME (HR):	2.00
DRY DENSITY (pcf):.....	97.61	DEGREE OF SATURATION (%):	70.21
HEIGHT OF SAMPLE(cm)....	10.19	AREA (cm2):	41.72
DIA. OF SAMPLE (cm):....	7.29	VOLUME (cm3):	425.11
DRY SOIL WT. (GI:.....	664.98	WET SOIL WT. (GI:	691.16
VOLUME OF SOLIDS (cm3):.	253.23	SPECIFIC GRAVITY:	2.63
POROSITY (%):.....ii.	40.43	VOID RATIO (%):	.68

SOIL CLASSIFICATION: MEDIUM-FINE SAND (SP)

****

TIME INTERVAL (SECONDS)	TOTAL VOLUME OF WATER (ML)	VOLUME OF WATER OVER INTERVAL (ML)	PERMEABILITY (CM/SEC) @ 20 DEGREES c
26.79	1000.00	1000.00	1.977e-2
26.71	2000.00	1000.00	1.983e-2
26.84	3000.00	1000.00	1.974e-2
26.68	1000.00	1000.00	1.985e-2
26.42	2000.00	1000.00	2.005e-2
TOTAL	TOTAL		AVERAGE
53.1	2000.00		1.995e-2

THOMPSON ENGINEERING TESTING, INC.
MATERIALS ENGINEERING LABORATORY

Corporate Office: 3707 Cottage Hill Rd. • P.O. Box 9637 • Mobile, AL 36691 • 205-666-2443 Fax 205-666-6422

Thompson Engineering

AUGUST 3. 1993

REPORT #: 3
JOE #: P93067

CLIENT: ENSAFE/ALLEN AND HOSHALL
PROJECT: LABORATORY ANALYSES

REPORT OF: SPECIFIC GRAVITY OF SOILS ASTM D-854

SAMPLE INDETIFICATION#: 3950902 PYCNOMETER It: 4

DATES	TECHNICIAN
SAMPLED: 06/02/93	SAMPLED: CLIENT
TESTED: 07/28/93	TESTED: C. CRAIG

>>>>>> LABORATORY RESULTS <<<<<<<

(A) WEIGHT OF PYCNOMETER (G):.....	180.98
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):.....	349.78
(C) WEIGHT OF SAMPLE (G):.....	168.80
(D) WEIGHT OF PYCNOMETER AND WATER (G):.....	678.97
(E) TEMP. OF PYCNOMETER AND WATER (C):.....	25.00
(F) DENSITY OF WATER @ T1:.....	.997075
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	783.85
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.....	23.40
(I) DENSITY OF WATER @ T2:.....	.997472

>>>>>>> COMPUTATIONS <<<<<<<<

(R)= (D-A)/F*.998234+A.....	679.5489
(S)= (G-B)/I*.998234+B.....	784.1816
(GS)= C/(C+R)-S))*.998234.....	2.625979

SPECIFIC GRAVITY:..... 2.626

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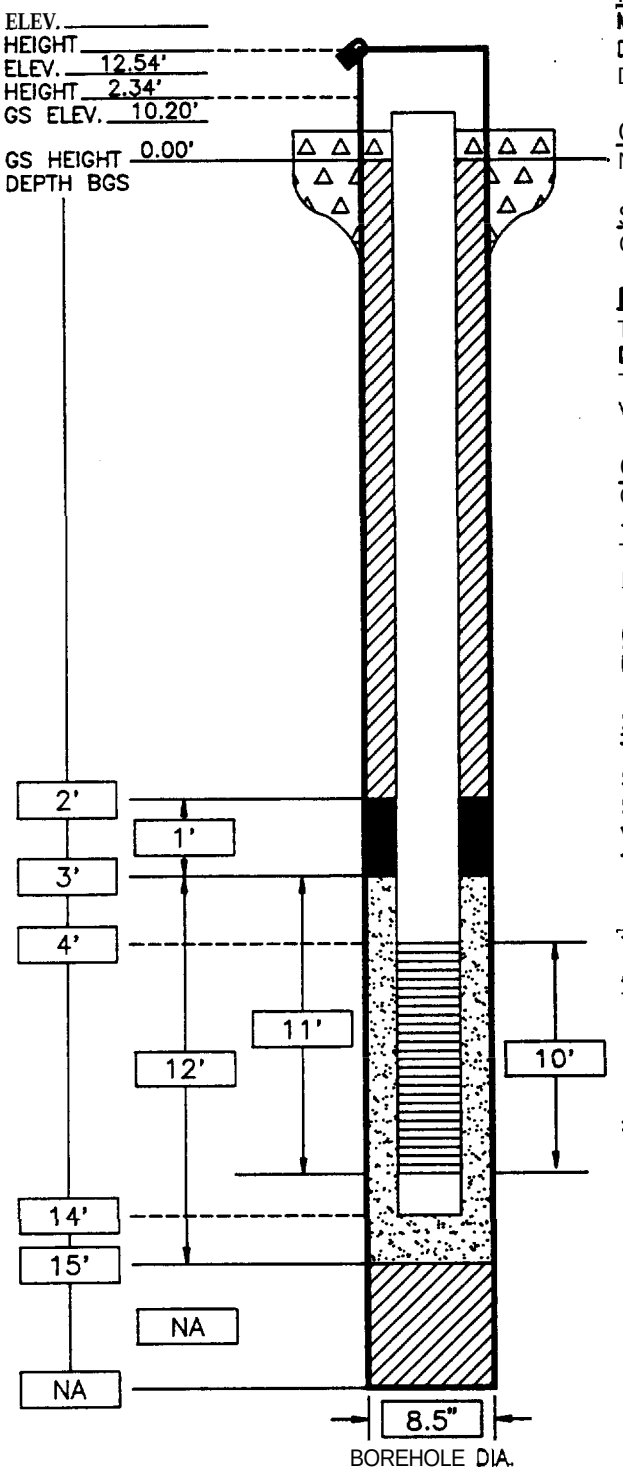
APPENDIX D
WELL LOGS

MONITORING WELL CONSTRUCTION LOG – STANDARD		
WELL NO.: 39GS01	INSTALLATION: 05/25/93	SITE: 39
PROJECT NO.: N0059	CLIENT/PROJECT: NAS PENSACOLA	
CLEAN CONTRACTOR: ENSAFE/A&H	DRIG. CONTRACTOR: KELLY ENVIR.	
COMP. START: (05/25/93 →)	COMP. END: (05/25/93 →)	
BUILT BY: KELLY ENVIR. / B. BRANTLEY	WELL COORD.:	



PROTECTIVE CSG
MATERIAL/TYPE STEEL BOX
DIAMETER
DEPTH BGS 2' WEEP HOLE (Y/N)

GUARD POSTS (Y/N)
NO. TYPE

SURFACE PAD
COMPOSITION & SIZE CEMENT 3'x3'x6"

RISER PIPE
TYPE PVC
DIAMETER 2"
TOTAL LENGTH(TOC to TOS) 6.34'
VENTILATED CAP (Y/N)

GROUT
COMPOSITION & PROPORTIONS
97 LB PORTLAND & 5 GALLONS WATER
TREMIED (Y/N)
INTERVAL BGS 0–2'

CENTRALIZERS (Y/N)
DEPTH(s)

SEAL
TYPE BENTONITE
SOURCE BENTONITE PELLETS ROCKTESS
SETUP/HYDRATION TIME 1 DAY
VOL. FLUID ADDED 1/2–5 GALLON BUCKET
TREMIED (Y/N) 3 GALLONS POTABLE WATER

FILTER PACK
TYPE 10/20
AMT. USED 4–50 LB. BAGS
TREMIED (Y/N)
SOURCE THE MORIE CO.
GR SIZE DIST. 0.55 – 0.65

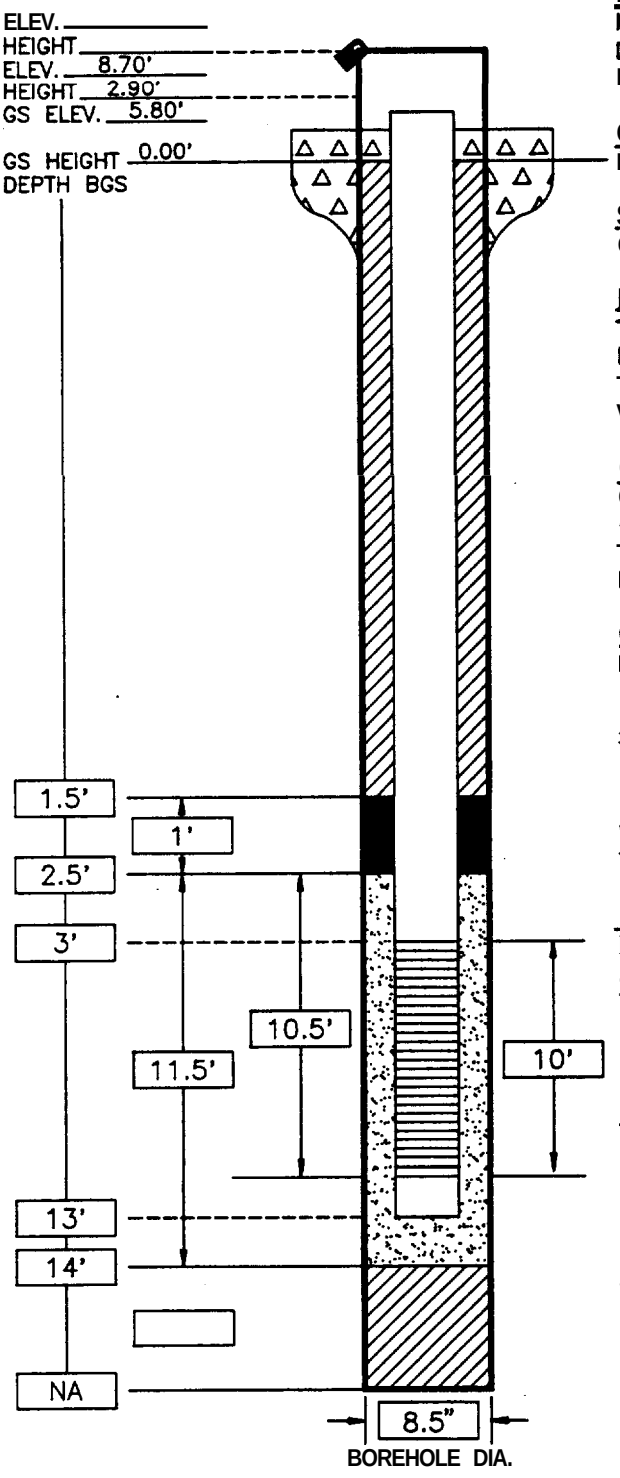
SCREEN
TYPE PVC
DIAMETER 2"
SLOT SIZE & TYPE 0.01"
INTERVAL BGS 4–14'

SUMP (Y/N)
INTERVAL BGS 14–15 LENGTH 1'
BOTTOM CAP (Y/N)

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

5939GS01

MONITORING WELL CONSTRUCTION LOG – STANDARD		
WELL NO.: 39GS02	INSTALLATION: 05/25/93	SITE: 39
PROJECT NO.: N0059	CLIENT/PROJECT: NAS PENSACOLA	
CLEAN CONTRACTOR: ENSAFE/A&H	DRIG. CONTRACTOR: KELLY ENVIR.	
COMP. START: (05/25/93 m)	COMP. END: (05/25/93 m)	
BUILT BY: KELLY ENVIR. / B. BRANTLEY	WELL COORD.:	



PROTECTIVE CSG
MATERIAL/TYPE STEEL BOX
DIAMETER
DEPTH BGS 2' WEEP HOLE (Y/N)

GUARD POSTS (Y/N)
NO. TYPE

SURFACE PAD
COMPOSITION & SIZE CEMENT 3'x3'x6"

RISER PIPE
TYPE PVC
DIAMETER 2"
TOTAL LENGTH(TOC to TOS) 5.9'
VENTILATED CAP (Y/N)

GROUT
COMPOSITION & PROPORTIONS
94 LB PORTLAND & 6 GALLONS WATER
TREMIED (Y/N)
INTERVAL BGS 0–1.5'

CENTRALIZERS (Y/N)
DEPTH(s)

SEAL
TYPE BENTONITE
SOURCE BENTONITE PELLETS ROCKTESS
SETUP/HYDRATION TIME 1 DAY
VOL. FLUID ADDED 1/2–5 GALLON BUCKET
TREMIED (Y/N) 3 GALLONS POTABLE WATER

FILTER PACK
TYPE
AMT. USED 5–50 LB. BAGS
TREMIED (Y/N)
SOURCE THE MORIE CO.
GR. SIZE DIST. 0.55 – 0.65

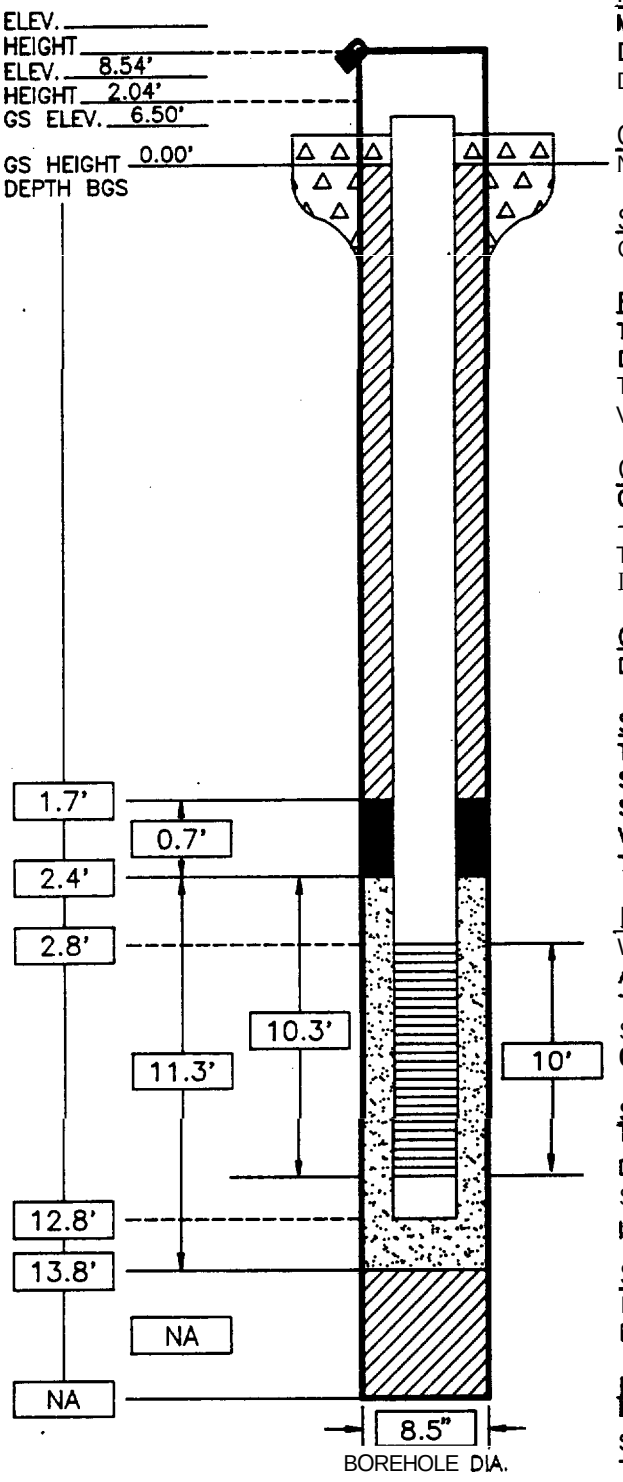
SCREEN
TYPE WC
DIAMETER 2"
SLOT SIZE & TYPE 0.01"
INTERVAL BGS 3–13'

SUMP (Y/N)
INTERVAL BGS 13–14 LENGTH 1'
BOTTOM CAP (Y/N)

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

5939GS02

WELL NO.: 39GS03	INSTALIATION: 05/26/93	SITE: 39
PROJECT NO.: N0059	CLIENT/PROJECT: NAS PENSACOIA	
CLEAN CONTRACTOR: ENSAFE/A&H	DRIG. CONTRACTOR: KELLY ENVIR.	
COMP. START: (05/26/93 m)	COMP. END: (05/26/93 m)	



PROTECTIVE CSG
MATERIAL/TYPE STEEL BOX
DIAMETER 3"
DEPTH BGS 2' WEEP HOLE (Y/N)

GUARD POSTS (Y/N)
NO. 4 TYPE STEEL PIPE, 3"

SURFACE PAD
COMPOSITION & SIZE CEMENT 3'x3'x6"

RISER PIPE
TYPE PVC
DIAMETER 2"
TOTAL LENGTH(TOC to TOS) 4.84'
VENTILATED CAP (Y/N)

GROUT
COMPOSITION & PROPORTIONS
94 LB PORTLAND & 6 GALLONS WATER
TREMIED (Y/N)
INTERVAL BGS 0–1.7'

CENTRALIZERS (Y/N)
DEPTH(s)

SEAL
TYPE BENTONITE
SOURCE BENTONITE PELLETS WYO BEN INC.
SETUP/HYDRATION TIME 1 DAY
VOL. FLUID ADDED 1/2–5 GALLON BUCKET
TREMIED (Y/N) 3 GALLONS POTABLE WATER

FILTER PACK
W. E
AMT. USED 5–50 LB. BAGS 10/20
TREMIED (Y/N)
SOURCE THE MORIE CO.
GR. SIZE DIST. 0.55 – 0.65

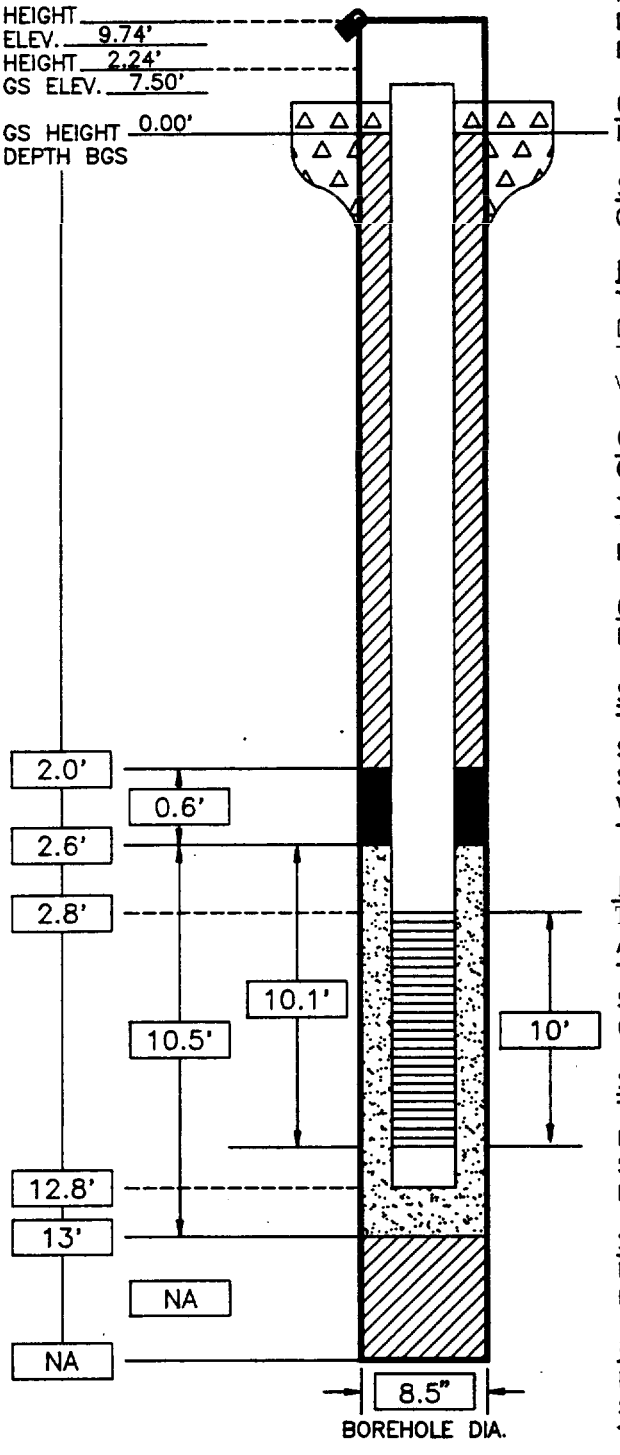
SCREEN
TYPE PVC
DIAMETER 2"
SLOT SIZE & TYPE 0.01"
INTERVAL BGS 2.75–12.75'

SUMP (Y/N)
INTERVAL BGS 12.8–13.8 LENGTH 1'
BOTTOM CAP (Y/N)

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

5039GS03

MONITORING WELL CONSTRUCTION LOG – STANDARD		
WELL NO.: 39GS04	INSTALLATION: 05/26,27/93	SITE: 39
PROJECT NO.: N0059	CLIENT/PROJECT: NAS PENSACOLA	
CLEAN CONTRACTOR: ENSAFE/A&H	DRIG. CONTRACTOR: KELLY ENVIR.	
COMP. START: (05/26/93 m)	COMP. END: (05/27/93 m)	
BUILT BY: KELLY ENVIR. / B. BRANTLEY	WELL COORD.:	



PROTECTIVE CSG
MATERIAL/TYPE STEEL BOX
DIAMETER 3"
DEPTH BGS 2' WEEP HOLE (Y/N)

GUARD POSTS (Y/N)
NO. 4 TYPE STEEL PIPE , 3"

SURFACE PAD
COMPOSITION & SIZE CEMENT 3'x3'x6"

RISER PIPE
TYPE PVC
DIAMETER 2'
TOTAL LENGTH(TOC to TOS) 4.8'
VENTILATED CAP (Y/N)

GROUT
COMPOSITION & PROPORTIONS
94 LB PORTLAND & 6 GALLONS WATER
TREMIED (Y/N)
INTERVAL BGS 0–2.0'

CENTRALIZERS (Y/N)
DEPTH(s)

SEAL
TYPE BENTONITE
SOURCE BENTONITE PELLETS WYOBEN
SETUP/HYDRATION TIME 1 DAY
VOL. FLUID ADDED 1/2–5 GALLON BUCKET
TREMIED (Y/N) POTABLE WATER

FILTER PACK
TYPE 10/20
AMT. USED 5–50 LB. BAGS
TREMIED (Y/N)
SOURCE THE MORIE CO.
GR. SIZE DIST. 0.55 – 0.65

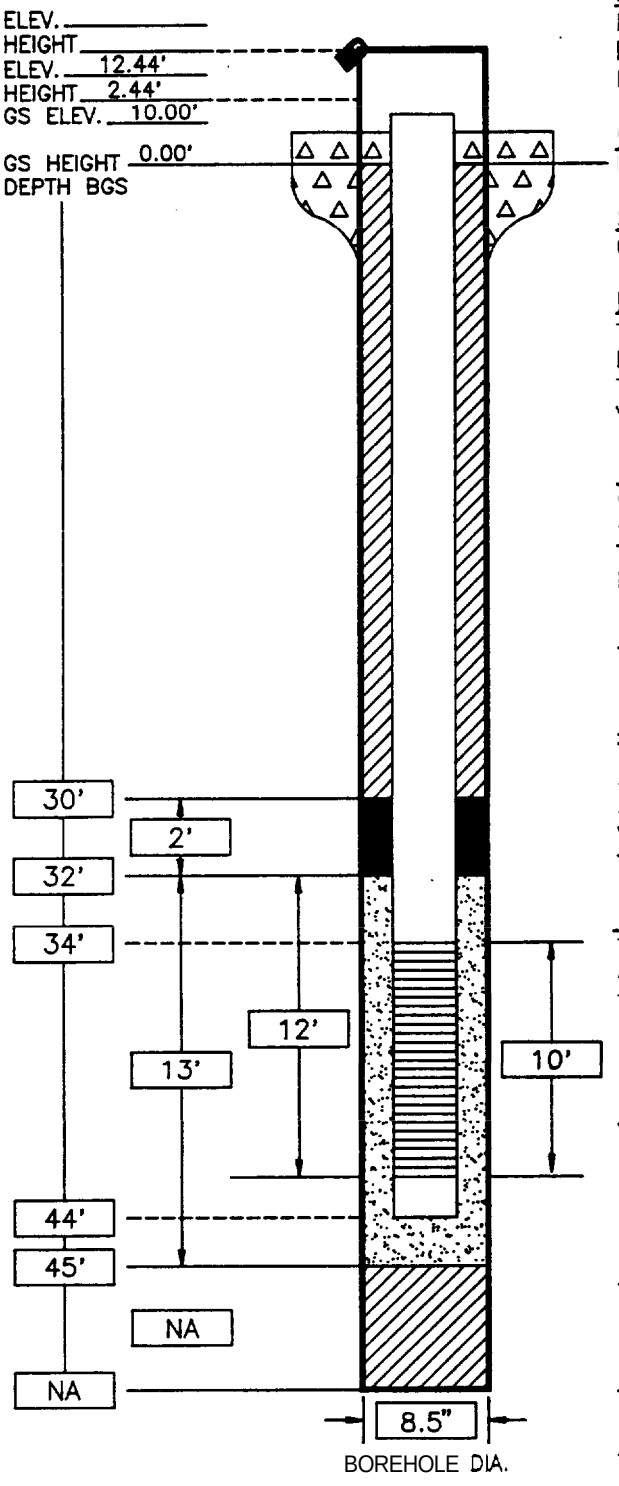
SCREEN
TYPE PVC
DIAMETER 2"
SLOT SIZE & TYPE 0.01"
INTERVAL BGS 2.8–12.8'

SUMP (Y/N)
INTERVAL BGS 12.8–13 LENGTH .4'
BOTTOM CAP (Y/N)

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

5939GS04

MONITORING WELL CONSTRUCTION LOG – STANDARD		
WELL NO.: 39GI05	INSTALLATION: 05/27,28/93	SITE: 39
PROJECT NO.: N0059	CLIENT/PROJECT: NAS PENSACOLA	
CLEAN CONTRACTOR: ENSAFE/A&H	DRIG. CONTRACTOR: KELLY ENVIR.	
COMP. START: (05/27/93 m)	COMP. END: (05/28/93 m)	
BUILT BY: KELLY ENVIR. / B. BRANTLEY	WELL COORD.:	



PROTECTIVE CSG
MATERIAL/TYPE STEEL BOX
DIAMETER 3"
DEPTH BGS 2' WEEP HOLE (Y/N)

GUARD POSTS (Y/N)
NO. TYPE

SURFACE PAD
COMPOSITION & SIZE CEMENT 3'x3'x6"

RISER PIPE
TYPE PVC
DIAMETER 2"
TOTAL LENGTH(TOC to TOS) 35.44'
VENTILATED CAP (Y/N)

GROUT
COMPOSITION & PROPORTIONS 16 BAGS
94 LB PORTLAND & 6 GALLONS WATER
TREMIED (Y/N)
INTERVAL BGS 0–30'

CENTRALIZERS (Y/N)
DEPTH(s)

SEAL
TYPE BENTONITE
SOURCE BENTONITE PELLETS WYOBEN
SETUP/HYDRATION TIME 1 DAY
VOL. FLUID ADDED 1–5 GALLON BUCKET
TREMIED (Y/N) 3–5 GALLONS WATER

FILTER PACK
TYPE 10–20
AMT. USED 6–50 LB. BAGS
TREMIED (Y/N)
SOURCE THE MORIE CO.
GR. SIZE DIST. 0.55 – 0.65

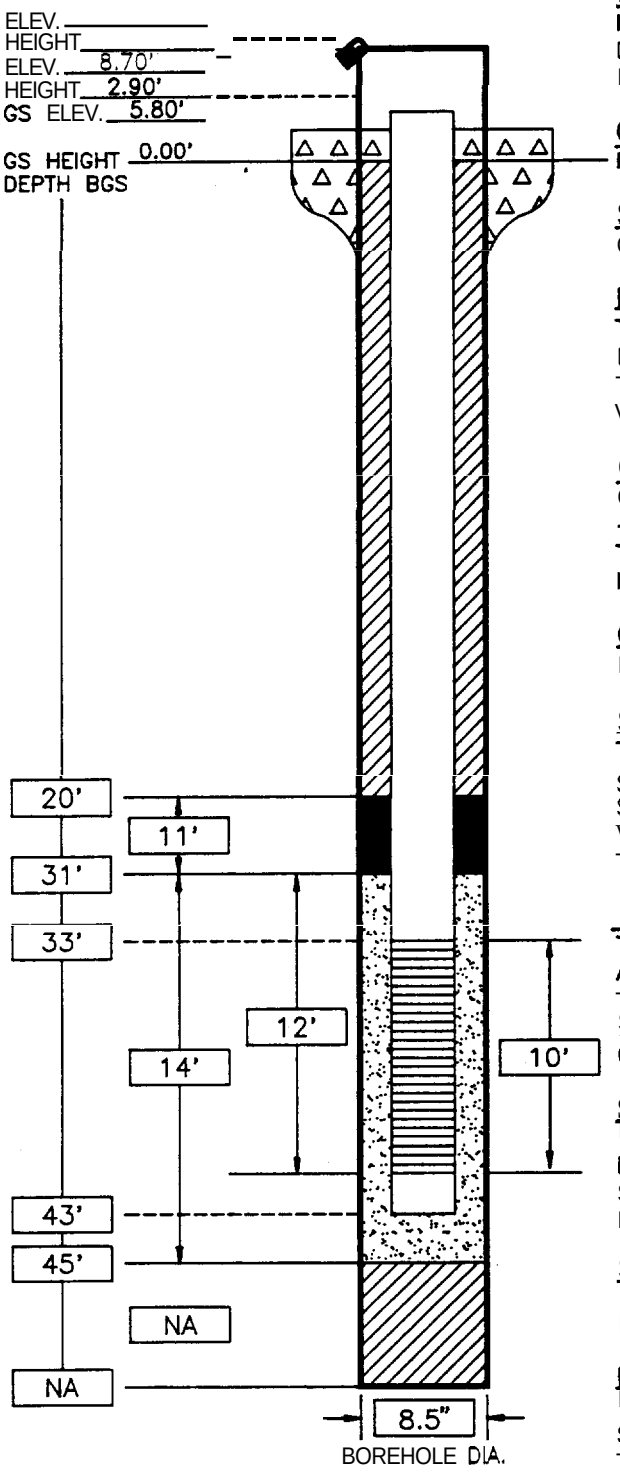
SCREEN
TYPE WC
DIAMETER 2"
SLOT SIZE & TYPE 0.01"
INTERVAL BGS 34–44'

SUMP (@")
INTERVAL BGS 44–45 LENGTH 1'
BOTTOM CAP (Y/N)

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

5039GI05

PROJECT NO.: N0059	CLIENT/PROJECT: NAS PENSACOIA
CLEAN CONTRACTOR: ENSAFE/A&H	DRIG. CONTRACTOR: KELLY ENVIR.



PROTECTIVE CSG
MATERIAL/TYPE STEEL BOX
DIAMETER 3"
DEPTH BGS 2' WEEP HOLE (Y/N)

GUARD POSTS (Y/N)
NO. 4 TYPE STEEL PIPE , 3"

SURFACE PAD
COMPOSITION & SIZE CEMENT 3'x3'x6"

RISER PIPE
TYPE PVC
DIAMETER 2"
TOTAL LENGTH(TOC to TOS) 35.90'
VENTILATED CAP (Y/N)

GROUT
COMPOSITION & PROPORTIONS
94 LB PORTLAND & 6 GALLONS ....ER
TREMIED (Y/N)
INTERVAL BGS 0–20'

CENTRALIZERS (Y/N)
DEPTH(s)

SEAL
TYPE BENTONITE
SOURCE BENTONITE PELLETS WYOBEN INC.
SETUP/HYDRATION TIME 1 DAY
VOL FLUID ADDED
TREMIED (Y/N) 11' or BENTONITE SLURRY

FILTER PACK
TYPE
AMT. USED 3–50 10/20 BAGS
TREMIED (Y/N)
SOURCE THE MORIE CO.
GR. SIZE DIST. 0.55 – 0.65

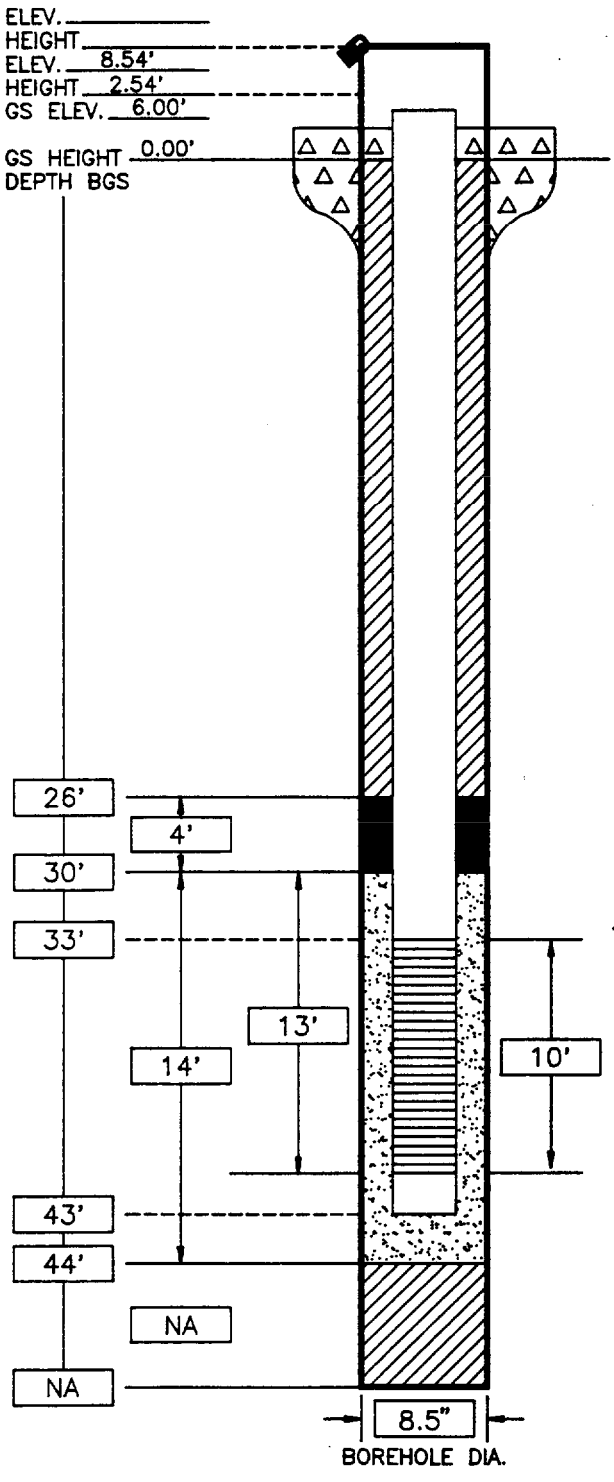
SCREEN
TYPE WC
DIAMETER 2"
SLOT SIZE & TYPE 0.01"
INTERVAL BGS 33–43'

SUMP (Y/N)
INTERVAL BGS 43–45 LENGTH 2'
BOTTOM CAP (Y/N)

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

5939G106

WELL NO.: 39GI07	INSTALLATION: 06/02/93	SITE: 39
PROJECT NO.: N0059	CLIENT/PROJECT: NAS PENSACOLA	
CLEAN CONTRACTOR: ENSAFE/A&H	DRIG. CONTRACTOR: KELLY ENVIR.	
COMP. START: (06/02/93 m)	COMP. END: (06/02/93 m)	



PROTECTIVE CSG
MATERIAL/TYPE STEEL BOX
DIAMETER 3"
DEPTH BGS 2' WEEP HOLE (Y/N)

GUARD POSTS (Y/N)
NO. 4 TYPE STEEL PIPE , 3"

SURFACE PAD
COMPOSITION & SIZE CEMENT 3'x3'x6"

RISER PIPE
TYPE PVC
DIAMETER 2"
TOTAL LENGTH(TOC to TOS) 28.54'
VENTILATED CAP (Y/N)

GROUT
COMPOSITION & PROPORTIONS
94 LB PORTLAND & 6 GALLONS WATER
TREMIED (Y/N)
INTERVAL BGS 0-26'

CENTRALIZERS (Y/N)
DEPTH(s)

SEAL
TYPE BENTONITE
SOURCE BENTONITE PELLETS WYOBEN INC.
SETUP/HYDRATION TIME 1 DAY
VOL. FLUID ADDED 1-5 GALLON BUCKET
TREMIED (Y/N) 3-5 GALLONS DI WATER

FILTER PACK
TYPE
AMT. USED 6.5-50 LB. BAGS
TREMIED (Y/N)
SOURCE THE MORIE CO.
GR. SIZE DIST. 0.55 - 0.65

SCREEN
TYPE PVC
DIAMETER 2"
SLOT SIZE & TYPE 0.01"
INTERVAL BGS 33-43'

SUMP (Y/N)
INTERVAL BGS 43-44 LENGTH 1'
BOTTOM CAP (Y/N)

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

5939GI07

APPENDIX E
PUMP TEST DATA

a.

AQUIFER TEST DATA

Owner _____ Location NASP - Site 39

Project No. N00 59 C00 30

Date 9-13-93 Measured By Steve Parker

Well No. 39GS01 ~~39~~ 39GI05 Distance from Pumping Well _____ Type of Test Sp. Cap.

Test No. _____

Measuring Equipment Submersible pump (IZV) w/ Water level indicator

Time Data	Water Level Data	Discharge Data	Comments on F — Affecting I a t Data
Pump On: Date 9-13-93 Time 1325 (t) Pump Off: Date 9-13-93 Time 1339 (t') Duration of Aquifer Test: Pumping _____ Recovery _____	Static Water Level 7.47 Measuring Point TOC Elevation of Measuring Point _____	Sub. pump into 3 gal bucket w/ stop watch How Q Measured _____ Depth of Pump/Air Line ~14' BTOC	

Time	Elapsed Clock Time	Water Level Measurement	Water Level Change s or s'	Discharge Measurement	Rate	
1315		7.47				
1325 (on)						
1326		7.71				pump placed
1327		7.73		1328 1 gal / 107 s		to deep
1329		7.75				in water column
1331		7.76				Decreased
1335		7.76		1334 1 gal / 114 s		efficiency
1338		7.76		1 gal / 120 s		
1339 (off)		7.76				
Recovery						
1341		7.53				
1342		7.51				
1345		7.50				

AQUIFER TEST DATA

Owner _____ Location NASP - Site 39
Project No. N00591C0030

Date 9-13-93 Measured By Steve Parker

Well No. 39GS02 Distance from Pumping Well _____ Type of Test Sp. Cap.
Test No. _____

Measuring Equipment Submersible pump (12V) w/ water level indicator

Time Date	Water Level Data	Discharge Data	Comments on Factors Affecting Test Data
Pump On: Date 9-13 Time 1701 (t) Pump Off: Date 9-13 Time 1716 (t') Duration of Aquifer Test: Pumping _____ Recovery _____	Static Water Level 5.73 Measuring Point TOC Elevation of Measuring Point _____	Sub pump into 3 gal bucket w/ stop watch How Q Measured _____ Depth of Pump/Air Line ~8' BTOC	

Time	Elapsed Clock Time	Water Level Measurement	Water Level Change s or s'	Discharge Measurement	Rate	
1700		5.73				
1701 (on)						
1702		5.89				
1703		5.90		1 gal / 33 s		
1705		5.90		1 gal / 34 s		
1707		5.90				
1710		5.90		1 gal / 35 s		
1715		5.90				
1716 (off)						
Recovery						
1722		5.73				

Water @ 2.97' above s.l.
" 2.83' below grade

Well Screen @ 3' below-grade

AQUIFER TEST DATA

Owner _____ Location NASP-Site 39
Project No. N00591C0032

Date 9-13-93 Measured By Steve Parker

Well No. 396504 Distance from Pumping Well _____ Type of Test Sp. Cap.
Test No. _____

Measuring Equipment Submersible pump (12v) w/ water level indicator

Time Dam	Warn Level Dam	Discharge Data	Comments on Factors Affecting Test Data
Pump On: Date 9-13-93 Time 1525 (t) Pump Off: Date 9-13-93 Time 1540 (t') Duration of Aquifer Test: Pumping _____ Recovery _____	Static Water Level 6.54 Measuring Point TOC Elevation of Measuring Point _____	Sub pump into 3 gal bucket w/ stopwatch How Q Measured _____ Depth of Pump/Air Line ~9' BTOC	

Time	Elapsed Clock Time	Water Level Measurement	Water Level Change s or s'	Discharge Measurement	Rate	
1524		6.54				
1525 (on)						
1526		6.63		1 gal / 35s		
1527		6.63				
1528		6.63				
1529		6.63		1 gal / 36s		
1533		6.63		1 gal / 36s		
1535		6.64				
1540 (off)		6.64				
Recovery						
1542		6.54				

AQUIFER TEST DATA

Owner _____ Location NASP- Site 39
Project No. N00591C0030

Date 9-13-93 Measured By Steve Parker

Well No. 39GS01 Distance from Pumping Well _____ Type of Test Sp. Cap.
Test No. _____

Measuring Equipment Submersible pump (12v) w/ water level indicator

Time Dam	Water Level Data	Discharge Data	Comments on Factors Affecting Test Data
Pump On: Date 9-13-93 Time 1434 (t) Pump Off: Date 9-13-93 Time 1446 (t') Duration of Aquifer Test: Pumping _____ Recovery _____	Static Water Level 9.03 Measuring Point TOC Elevation of Measuring Point _____	Sub. pump into 3 gal bucket w/ stopwatch How Q Measured _____ Depth of Pump/Air Line ~11' BTOC	

Time	Elapsed Clock Time	Water Level Measurement	Water Level Change s or s'	Discharge Measurement	Rate	
1349		9.03 (st)				
1434 (on)						
1435		9.10				
1436		9.11		1 gal / 38 s		
1437		9.12		1 gal / 36 s		
1439		9.12				
1441		9.12		1440 1 gal / 40 s		
1445		9.12		1443 1 gal / 40 s		
1446 (off)						
Recovery						
1447		9.03				

AQUIFER TEST DATA

Owner _____ Location NASP- Site 39

Project No. N00590030

Date 9-13-93 Measured By Steve Parker

Well No. 39GI06 Distance from Pumping Well _____ Type of Test Sp. Cap.

Test No. _____

Measuring Equipment Submersible pump (12 V) w/ Water level indicator

Time Date	Water Level Data	Discharge Data	Comments on Factors Affecting Test Data
Pump On: Date 9-13-93 Time 1729 (t) Pump Off: Date 9-13-93 Time 1749 (t') Duration of Aquifer Test: Pumping _____ Recovery _____	Static Water Level 4.67 Measuring Point TOC Elevation of Measuring Point _____	Sub. pump into 3 gallon bucket w/ stop watch How Q Measured _____ Depth of Pump/Air Line ~7' BTOC	

Time	Elapsed Clock Time	Water Level Measurement	Water Level Change s or s'	Discharge Measurement	Rate	
1725		4.67 (st)				
1727 (on)						
1728		6.18		1gal / 34 s		
1729		6.32				
1730		6.35				
1731		6.41		1 gal / 33 s		
1733		6.39				
1735		6.55		1734 1gal / 35 s		
1737		6.59				
1739		6.61		1 gal / 35 s		
1744		6.62		1 gal / 36 s		
1749 (off)		6.62				
Recovery						
1750		5.55				
1752		5.39				

****
DETERMINATION OF AQUIFER PROPERTIES BASED ON ANALYSIS OF
SPECIFIC CAPACITY TESTS
****

Copied from: Bradbury, K. R. and Rothechild, E. R., 1985. A computerized technique for estimating the hydraulic conductivity of aquifers from specific capacity data, Ground Water, 23(2), pp. 240-246.

WELL NUMBER 6

WELL DIAMETER (IN) = 2
STATIC WATER LEVEL (FT) = 4.67
DEPTH TO WATER DURING TEST (FT) = 6.62
THE LENGTH OF THE TEST (HR) = .22
PUMPING RATE (GPM) = 1.7
THICKNESS OF AQUIFER (FT) = 38
OPEN INTERVAL (FT) = 10
STORAGE COEFFICIENT = .25
WELL-LOSS COEFFICIENT = .75

SPECIFIC CAPACITY (GPM/FT) = .8717998

TRANSMISSIVITY: (FT*FT/SEC) = 5.135296E-03
(FT*FT/DAY) = 443.6895 #6
(GAL/DAY/FT) = 3319.02
USING A STORAGE COEFFICIENT = .25
NUMBER OF ITERATIONS = 3

HYDRAULIC CONDUCTIVITY: (FT/SEC) = 1.351394E-04
(FT/DAY) = 11.67604 #6
(GAL/DAY/FT*FT) = 77.57

WELL NUMBER 1

WELL DIAMETER (IN) = 2
STATIC WATER LEVEL (FT) = 9.03
DEPTH TO WATER DURING TEST (FT) = 9.12
THE LENGTH OF THE TEST (HR) = .2
PUMPING RATE (GPM) = 1.5
THICKNESS OF AQUIFER (FT) = 38
OPEN INTERVAL (FT) = 7
STORAGE COEFFICIENT = .25
WELL-LOSS COEFFICIENT = .75

SPECIFIC CAPACITY (GPM/FT) = 16.66819

Copied from: Bradbury, K. R. and Rothschild, E. R., 1985. A computerized technique for estimating the hydraulic conductivity of aquifers from epecific capacity data, Ground Water, 23(2), pp. 240-246.

WELL NUMBER 1

WELL DIAMETER (IN) = 2
STATIC WATER LEVEL (FT) = 9.03
DEPTH TO WATER DURING TEST (FT) = 9.12
THE LENGTH OF THE TEST (HR) = .2
PUMPING RATE (GPM) = 1.5
THICKNESS OF AQUIFER (FT) = 38
OPEN INTERVAL (FT) = 7
STORAGE COEFFICIENT = .25
WELL-LOSS COEFFICIENT = .75

SPECIFIC CAPACITY (GPM/FT) = 16.66819

TRANSMISSIVITY: FT*FT/SEC) = .1440357
FT*FT/DAY) = 12444.69 #1
GAL/DAY/FT) = 93092.47
USING A STORAGE COEFFICIENT = .25
NUMBER OF ITERATIONS = 3

RAULIC CONDUCTIVITY: (FT/SEC) = 3.790414E-03
(FT/DAY) = 327.4917 #1
(GAL/DAY/FT*FT) = 2175.697

THE NUMBER OF WELLS IN THIS RECORD IS 1

****
DETERMINATION OF AQUIFER PROPERTIES BASED ON ANALYSIS OF
SPECIFIC CAPACITY TESTS
****

Copied from: Bradbury, K. R. and Rothschild, E. R., 1985. A computerized technique for estimating the hydraulic conductivity of aquifers from specific capacity data, Ground Water, 23(2), pp. 240-246.

WELL NUMBER 5

WELL DIAMETER (IN) = 2
STATIC WATER LEVEL (FT) = 7.47
DEPTH TO WATER DURING TEST (FT) = 7.76
THE LENGTH OF THE TEST (HR) = .23
PUMPING RATE (GPM) = .52
THICKNESS OF AQUIFER (FT) = 38
OPEN INTERVAL (FT) = 10
STORAGE COEFFICIENT = .25
WELL-LOSS COEFFICIENT = .75

SPECIFIC CAPACITY (GPM/FT) = 1.793107

TRANSMISSIVITY: (FT*FT/SEC) = 1.081297E-02
(FT*FT/DAY) = 934.2402 + 5
(GAL/DAY/FT) = 6988.584
USING A STORAGE COEFFICIENT = .25
NUMBER OF ITERATIONS = 3

HYDRAULIC CONDUCTIVITY: (FT/SEC) = 2.845517E-04
(FT/DAY) = 24.58527 + 5
(GAL/DAY/FT*FT) = 163.3327

WELL NUMBER 2

WELL DIAMETER (IN) = 2
STATIC WATER LEVEL (FT) = 5.73
DEPTH TO WATER DURING TEST (FT) = 5.9
THE LENGTH OF THE TEST (HR) = .25
PUMPING RATE (GPM) = 1.76
THICKNESS OF AQUIFER (FT) = 38
OPEN INTERVAL (FT) = 10
STORAGE COEFFICIENT = .25
WELL-LOSS COEFFICIENT = .75

SPECIFIC CAPACITY (GPM/FT) = 10.35364

TRANSMISSIVITY: (FT*FT/SEC) = 6.590513E-02

#2

(FT*FT/DAY) = 5694.203
(GAL/DAY/FT) = 42595.49
USING A STORAGE COEFFICIENT = .25
NUMBER OF ITERATIONS = 3

HYDRAULIC CONDUCTIVITY: (FT/SEC) = 1.734346E-03
(FT/DAY) = 149.8475 #2
(GAL/DAY/FT*FT) = 995.5143

WELL NUMBER 4

WELL DIAMETER (IN) = 2
STATIC WATER LEVEL (FT) = 6.54
DEPTH TO WATER DURING TEST (FT) = 6.64
THE LENGTH OF THE TEST (HR) = .25
PUMPING RATE (GPM) = 1.66
THICKNESS OF AQUIFER (FT) = 38
OPEN INTERVAL (FT) = 9
STORAGE COEFFICIENT = .25
WELL-LOSS COEFFICIENT = .75

SPECIFIC CAPACITY (GPM/FT) = 16.60172

TRANSMISSIVITY: (FT*FT/SEC) = -1170548
(FT*FT/DAY) = 10113.54 #4
(GAL/DAY/FT) = 75654.32
USING A STORAGE COEFFICIENT = .25
NUMBER OF ITERATIONS = 3

HYDRAULIC CONDUCTIVITY: (FT/SEC) = 3.080391E-03
(FT/DAY) = 66.143 #4
(GAL/DAY/FT*FT) = 1768.144

WELL NUMBER 6

WELL DIAMETER (IN) = 2
STATIC WATER LEVEL (FT) = 4.67
DEPTH TO WATER DURING TEST (FT) = 6.62
THE LENGTH OF THE TEST (HR) = .22
PUMPING RATE (GPM) = 1.7
THICKNESS OF AQUIFER (FT) = 38
OPEN INTERVAL (FT) = 10
STORAGE COEFFICIENT = .25
WELL-LOSS COEFFICIENT = .75

SPECIFIC CAPACITY (GPM/FT) = .8717998

TRANSMISSIVITY: (FT*FT/SEC) = 5.135296E-03
(FT*FT/DAY) = 443.6895
(GAL/DAY/FT) = 3319.02
USING A STORAGE COEFFICIENT = .25
NUMBER OF ITERATIONS = 3

APPENDIX F

ANALYTICAL DATA

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

METAL													
	SAMPLE ID ------->	039-S-0001-01		039-S-0001-03		039-S-0001-05		039-S-0001-07		039-S-0002-01		039-S-0002-03	
	ORIGINAL ID ----->	39S0101		39S0103		39S0105		39S0107		39S0201		39S0203	
	LAB SAMPLE ID --->	551813		551814		551815		551816		551817		551821	
	ID FROM REPORT -->	39S0101		3950103		39S0105		39S0107		39S0201		3980203	
	SAMPLE DATE ----->	05/25/93		05/25/93		35/25/93		05/25/93		05/25/93		05/25/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	27314	VAL	27314	VAL	27314	VAL	27314	VAL	27314	VAL	27314	VAL
AL	Aluminum	274.		1910.		6460.		454.		249.		924.	
SB	Antimony	9.3	U	9.5	U	9.7	U	9.7	U	9.3	U	10.	U
AS	Arsenic	0.6	U	0.89	J	2.2		0.63	U	0.85	J	0.65	U
BA	Barium	4.5		17.6		11.8		2.3		4.4		3.	
BE	Beryllium	0.4	U	0.41	U	0.42	U	0.42	U	0.4	U	0.43	U
CD	Cadmium	8.5	J	13.8	J	1.1	U	1.1	U	5.1	J	1.4	J
CA	Calcium	87.5		552.		1570.		138.		148.		60.3	
CR	Chromium	32.6		11.7		9.1		3.		17.8		2.2	U
CO	Cobalt	1.8	U	1.9	U	1.9	U	1.9	U	1.8	U	2.	U
CU	Copper	34.4		77.7		11.1		5.3	U	28.6		5.4	U
CN	Cyanide	4.1		0.52	U	0.53	U	0.53	U	0.51	U	0.54	U
FE	Iron	766.	J	2470.	J	3610.	J	270.	J	638.	J	473.	J
PB	Lead	34.9	J	131.	J	28.3		5.		45.	J	3.6	
MG	Magnesium	95.8	U	368.		122.		100.	U	96.4	U	103.	U
MN	Manganese	10.5		34.7		19.		3.		7.2		4.2	
HG	Mercury	0.1	U	0.13		0.11	U	0.11	U	0.1	U	0.11	U
NI	Nickel	6.2	U	6.8		6.5	U	6.5	U	6.3	U	6.7	U
K	Potassium	450.	U	463.	U	472.	U	472.	U	452.	U	485.	U
SE	Selenium	0.6	U	0.62	U	0.63	U	0.63	U	0.61	U	0.65	U
AG	Silver	2.	U	2.1	U	2.1	U	2.1	U	2.	U	22	U
NA	Sodium	142.	U	153.	U	133.	U	129.	U	125.	U	148.	U
TL	Thallium	0.8	U	0.83	U	0.84	U	0.84	U	0.81	U	0.87	U
V	Vanadium	1.4	U	3.		9.9		1.5	U	1.4	U	1.5	U
ZN	Zinc	51.2	J	170.	J	25.6	J	6.7	J	36.6	d	6.1	J

+++ Validation Complete +++

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

METAL															
		SAMPLE ID ------->	039-S-0002-05		039-S-0002-08		039-S-0003-01		039-S-0003-03		039-S-0003-05		039-S-0003-09	
		ORIGINAL ID ----->	39S0205		39S0208		39S0301		39S0303		39S0305		39S0309	
		LAB SAMPLE ID --->	551825		555105		551940		551941		551942		555113	
		ID FROM REPORT -->	3990205		39S0208		39S0301		39S0303		39S0305		39S0309	
		SAMPLE DATE ----->	05/25/93		06/09/93		05/26/93		05/26/93		05/26/93		06/09/93	
		MATRIX ---------->	Soil		Soil		Soil		Soil		Sei1		Soil	
		UNITS ---------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter		27314	VAL	31437	VAL	27314	VAI	27314	VAL	27314	VAL	31437	VAL
AL	Aluminum		1450.		402.	J	248.		953.		1210.		333.	J
SB	Antimony		10.	U	8.3	U	9.4	U	9.7	U	10.	U	8.2	U
AS	Arsenic		0.65	U	1.6		0.62		0.63	U	0.65	U	0.68	U
BA	Barium		2.1		0.9	J	5.4		5.1		3.1		1.4	
BE	Beryllium		0.44	U	0.23	U	0.41	U	0.42	U	0.43	U	0.23	U
CD	Cadmium		1.1	U	1.2	U	9.9	J	1.7	J	1.8	J	1.1	U
CA	Calcium		48.9		175.		151.		116.		110.		1020.	
CR	Chromium		2.2	U	1.8	U	18.7		5.1		4.7		2.7	
CO	Cobalt		2.	U	1.8	U	1.8	U	1.9	U	1.9	U	1.8	U
CU	Copper		5.4	U	1.2		167.		5.3		6.8		2.2	
CN	Cyanide		0.54	U	0.58	U	0.76		0.53	U	0.54	U	0.57	U
FE	Iron		735.	J	579.	J	692.	J	647.	J	858.	J	302.	J
PB	Lead		1.8		1.1		65.	J	9.		9.9		4.9	
MG	Magnesium		104.	U	26.3		97.2	U	100.	U	103.	U	48.3	
MN	Manganese		3.8		1.7		9.2		3.7		5.5		1.9	
HG	Mercury		0.11	U	0.12	U	0.1	U	0.11	U	0.11	U	0.11	U
NI	Nickel		6.7	U	3.9	U	6.3	U	6.5	U	6.7	U	3.9	U
K	Potassium		486.	U	312.	U	447.	U	471.	U	484.	U	308.	U
SE	Selenium		0.65	U	0.69	U	0.61	U	0.63	U	0.65	U	0.68	U
AG	Silver		2.2	U	1.6	U	2.	U	2.1	U	2.2	U	1.6	U
NA	Sodium		130.	U	66.9		130.	U	123.	U	146.	U	84.2	
TL	Thallium		0.87	U	0.92	U	0.82	U	0.84	U	0.87	U	0.91	U
V	Vanadium		1.6		1.4	U	1.4	U	1.5	U	1.5	U	14	U
ZN	Zinc		3.	J	4.9	U	41.8	J	9.3	J	12.6	J	8.	

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

METAL													
	SAMPLE ID ------->	039-S-0004-00		039-S-0004-01		039-S-0004-03		039-S-0004-04		039-S-0004-05		039-S-0005-00	
	ORIGINAL ID ----->	39S04		39S0401		3950403		39S0404		39S0405		39S05	
	LAB SAMPLE ID --->	555115		551943		551945		551946		551947		555117	
	ID FROM REPORT -->	39304		39S0401		3980403		39S0404		39S0405		39S05	
	SAMPLE DATE ----->	06/09/93		05/26/93		05/26/93		05/26/93		05/26/93		06/09/93	
	MATRIX ---------->	soil		soil		soil		Soil		soil		Soil	
	UNITS ---------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	31437	VAL	27314	VAL	27314	VAL	27314	VAL	27314	VAL	31437	VAL
AL	Aluminum	320.	J	192.		816.		985.		872.		948.	J
SB	Antimony	8.6	U	9.3	U	9.5	U	9.5	U	10.3	U	7.5	U
AS	Arsenic	0.72	U	0.84		1.2		2.		0.69	J	0.72	
BA	Barium	5.1		6.6		23.3		32.3		6.3		7.9	
BE	Beryllium	0.24	U	0.4	U	0.41	U	0.41	U	0.45	U	0.21	U
CD	Cadmium	2.5		2.7	J	4.8	J	5.4	J	1.1	U	10.8	
CA	Calcium	1560.		94.6		3340.		5620.		1070.		220.	
CR	Chromium	2.4		45.2		13.2		6.8		2.2	U	14.8	
CO	Cobalt	1.9	U	1.8	U	1.9	U	1.9	U	2.	U	1.7	U
CU	Copper	12.		419.		761.		93.3		17.		24.6	
CN	Cyanide	0.6	U	0.83		0.61		0.52	U	0.56	U	2.	
FE	Iron	655.	J	901.	J	2390.	J	2700.	J	870.	J	971.	J
PB	Lead	14.2		49.5	J	141.	J	136.	J	44.5	J	29.	
MG	Magnesium	145.		95.9	U	428.		548.		161.		101.	
MN	Manganese	4.6		15.6		35.5		67.9		10.6		8.9	
HG	Mercury	0.12	U	0.1	U	0.15		0.17		0.11	U	0.1	U
NI	Nickel	4.1	U	6.2	U	6.4	U	6.4	U	7.	U	3.5	U
K	Potassium	322.	U	450.	U	461.	U	462.	U	501.	U	280.	U
SE	Selenium	0.72	U	0.6	U	0.62	U	0.62	U	0.67	U	0.62	U
AG	Silver	1.7	U	2.	U	2.1	U	2.1	U	2.2	U	1.5	U
NA	Sodium	84.7		133.	U	139.	U	149.	U	127.	U	78.	
TL	Thallium	0.95	U	0.81	U	0.83	U	0.83	U	0.9	U	0.83	U
V	Vanadium	1.4	U	1.4	U	2.4		1.8		1.6	U	1.2	U
ZN	Zinc	15.7		40.5	J	166.	J	110.	J	22.2	J	31.1	

*** validation Complete ***

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METAL															
		SAMPLE ID ------->	!D39-S-0005-01		039-S-0005-03		039-S-0005-05		!339-S-0006-00		039-S-0006-01		039-S-0006-03		
		ORIGINAL ID ----->	39S0501		3950503		39S0505		39S06		39S0601		39S0603		
		LAB SAMPLE ID --->	!551948		551950		551951		!555119		551953		551955		
		ID FROM REPORT -->	39S0501		3980503		39S0505		39S06		39S0601		39S0603		
		SAMPLE DATE ----->	05/26/93		05/26/93		05/26/93		!36/09/93		05/26/93		05/26/93		
		MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil		
		UNITS ---------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		
CAS #	Parameter		27314	VAL	27314	VAL	27314	VAL	31437	VAL	27314	VAL	73144	VAL	
AL	Aluminum		281.		731.		513.		1540.	J	1080.		1380.		
SB	Antimony		9.3	U	9.5	U	9.9	U	7.7	U	9.4	U	9.6	U	
AS	Arsenic		0.68		0.62	U	0.65	U	0.92'		1.6		2.2	J	
BA	Barium		6.8		6.6		6.1		21.		16.		27.2		
BE	Beryllium		0.41	U	0.41	U	0.43	U	0.21	U	0.41.	U	0.42	U	
CD	Cadmium		15.4	J	10.4	J	6.7	J	5.5		6.	J	1.9		
CA	Calcium		143.		125.		181.		3320.		1800.		3960.		
CR	Chromium		31.2		12.4		9.3		7.8		9.3		4.4		
CO	Cobalt		1.8	U	1.9	U	1.9	U	1.7	U	1.8	U	1.9	U	
CU	Copper		44.5		15.6		16.		71.6		88.7		112.		
CN	Cyanide		3.4		0.51	U	0.68		0.52.	U	0.91.		0.55		
FE	Iron		964.	J	729.	J	737.	J	1940.	J	1800.	J	2190.		
PB	Lead		55.5	J	21.9		35.9		76.7		135.	J	162.		
MG	Magnesium		96.6	U	98.1	U	103.	U	342.		334.		521.		
MN	Manganese		12.2		5.8		6.1		18.4		30.		56.8		
HG	Mercury		0.1	U	0.1	U	0.11	U	0.11	U	0.19		0.2		
NI	Nickel		6.3	U	6.4	U	6.7	U	3.6	U	6.3	U	6.5	U	
K	Potassium		454.	U	461.	U	483.	U	288.	U	457.	U	466.	U	
SE	Selenium		0.61	U	0.62	U	0.65	U	0.64	U	0.61	U	0.63	U	
AG	Silver		2.	U	2.1	U	22	U	1.5	U	2	U	2.1	U	
NA	Sodium		132.	U	129.	U	142.	U	93.3		153.	U	126.	U	
TL	Thallium		0.81	U	0.82	U	0.86	U	0.85	U	0.82	U	0.83	U	
V	Vanadium		1.4	U	1.4	U	1.5	U	1.8		2.		2.3		
ZN	Zinc		57.3	J	23.8	d	26.6	J	68.1		94.7	J	97.5		

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METAL	SAMPLE ID ------->	039-S-0006-05		039-S-SL01-00		039-S-SNOI-00		039-S-SN02-00			
	ORIGINAL ID ----->	39S0605		39SL01SAND		39SN01BENT		39SN02BENT			
	LAB SAMPLE ID --->	551967		553912		553903		553910			
	ID FROM REPORT -->	39S0605		39SL01SAND		39SN01BENT		39SN02BENT			
	SAMPLE DATE ----->	05/26/93		06/03/93		06/03/93					
	MATRIX ---------->	soil		Soil		Soil		Soil			
	UNITS ---------->	MG/KG		MG/KG		MG/KG		MG/KG			
CAS #	Parameter	73144	VAL	31413	VAL	31413	VAL	31413	VAL		
AL	Aluminum	1220.		206.		6870.		3360.			
SB	Antimony	10.	U	9.2	R	10.4	R	9.9	R		
AS	Arsenic	0.65	UJ	0.71	J	2.8		2.2			
BA	Barium	2.7		1.	U	47.9		97.6			
BE	Beryllium	0.43	U	0.4	U	1.		1.			
CD	Cadmium	1.1	U	1.	U	1.1	U	1.1	U		
CA	Calcium	174.		31.3	U	5230.	J	7360.	J		
CR	Chromium	2.2	U	2.	U	2.3	U	2.2	U		
CO	Cobalt	2.	U	1.8	U	2.	U	1.9	U		
CU	Copper	5.4	U	5.	U	5.7	U	4.4	U		
CN	Cyanide	0.54	U	0.63		0.57	U	0.54	U		
FE	Iron	829.		839.	J	3640.	J	8760.	J		
PB	Lead	2.8		0.41	J	35.1	J	36.1	J		
MG	Magnesium	103.	U	95.5	U	2600.		2540.			
MN	Manganese	3.9		2	J	70.7	J	329.	J		
HG	Mercury	0.11	U	0.1	U	0.11	U	0.11	U		
NI	Nickel	6.7	U	6.2	U	7.	U	6.7	U		
K	Potassium	486.	U	448.	U	518.		629.			
SE	Selenium	0.65	U	0.6	U	0.68	U	0.65	U		
AG	Silver	2.2	U	2.	U	2.3	U	2.2	U		
NA	Sodium	115.	U	96.	U	13600.		11500.			
TL	Thallium	0.87	U	0.8	U	0.91	U	0.86	U		
V	Vanadium	2.1		3.1		1.6	U	1.5	U		
ZN	Zinc	3.8	U	3.7	J	75.5	J	70.4	J		

*** Validation Complete ***

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PEST													
	SAMPLE ID ------->	ID39-S-0001-01		039-S-0001-03		039-S-0001-05		039-S-0001-07		039-S-0002-01		039-S-0002-03	
	ORIGINAL ID ----->	39S0101		39S0103		39S0105		39S0107		39S0201		39S0203	
	LAB SAMPLE ID --->	551796		551807 D50		551808		551809		551810		551811	
	ID FROM REPORT -->	39S0101		39S0103		39S0105		39S0107		39S0201		39S0203	
	SAMPLE DATE ----->	05/25/93		05/25/93		05/25/93		05/25/93		05/25/93		05/25/93	
	DATE EXTRACTED -->	06/03/93		06/03/93		06/03/93		06/03/93		06/03/93		06/03/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL
72-54-8	4,4'-DDD	3.3	U	540.	J	3.8		2.	J	3.3	J	2.7	J
72-55-9	4,4'-DDE	3.3	U	2.8	J	3.5	U	3.5	U	3.3	U	0.079	J
50-29-3	4,4'-DDT	3.3	U	1.8	J	0.69	J	0.26	J	0.45	U	0.35	U
309-00-2	Aldrin	1.7	U	8.7	U	1.8	U	1.8	U	1.7	U	1.8	U
12674-11-2	Aroclor-1016	33.	U	170.	U	35.	U	35.	U	33.	U	36.	U
11104-28-2	Aroclor-1221	67.	U	340.	U	70.	U	70.	U	67.	U	73.	U
11141-16-5	Aroclor-1232	33.	U	170.	U	35.	U	35.	U	33.	U	36.	U
53469-21-9	Aroclor-1242	33.	U	170.	U	35.	U	35.	U	33.	U	36.	U
12672-29-6	Aroclor-1248	33.	U	170.	U	35.	U	35.	U	33.	U	36.	U
11097-69-1	Aroclor-1254	33.	U	170.	U	35.	U	35.	U	33.	U	36.	U
11096-82-5	Aroclor-1260	33.	U	170.	U	35.	U	35.	U	33.	U	36.	U
60-57-1	Dieldrin	0.099	J	17.	U	0.19	J	3.5	U	3.3	U	3.6	U
959-98-8	Endosulfan I	1.7	U	8.7	U	1.8	U	1.8	U	1.7	U	1.8	U
33213-65-9	Endosulfan II	3.3	U	17.	U	3.5	U	3.5	U	3.3	U	3.6	U
1031-07-8	Endosulfan sulfate	3.3	U	17.	U	3.5	U	3.5	U	0.19	J	3.6	U
72-20-8	Endrin	3.3	U	3.7	J	3.5	U	3.5	U	0.13	J	3.6	U
7421-36-3	Endrin aldehyde	0.26	J	17.	U	3.5	U	3.5	U	3.3	U	3.6	U
53494-70-5	Endrin ketone	3.3	U	17.	U	3.5	U	3.5	U	3.3	U	3.6	U
76-44-8	Heptachlor	1.7	U	8.7	U	0.23	U	0.15	U	1.7	U	0.17	U
1024-57-3	Heptachlor epoxide	1.7	U	8.7	U	1.8	U	1.8	U	1.7	U	1.8	U
72-43-5	Methoxychlor	17.	U	87.	U	18.	U	18.	U	17.	U	18.	U
8001-35-2	Toxaphene	170.	U	870.	U	180.	U	180.	U	170.	U	180.	U
319-84-6	alpha-BHC	1.7	U	8.7	U	1.8	U	1.8	U	1.7	U	1.8	U
5103-71-9	alpha-Chlordane	1.7	U	8.7	U	1.8	U	1.8	U	0.074	J	1.8	U
319-85-7	beta-BHC	1.7	U	8.7	U	1.8	U	1.8	U	1.7	U	1.8	U
319-86-8	delta-BHC	1.7	U	8.7	U	1.8	U	1.8	U	1.7	U	1.8	U
58-89-9	gamma-BHC (Lindane)	1.7	U	8.7	U	1.8	U	1.8	U	1.7	U	1.8	U
5103-74-2	gamma-Chlordane	0.092	J	8.7	U	1.8	U	1.8	U	0.14	J	1.8	U

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PEST															
	SAMPLE ID ------->	039-S-0002-05		039-S-0002-08		039-S-0003-01		039-S-0003-03		039-S-0003-05		039-S-0003-09	
	ORIGINAL ID ----->	39S0205		3950208		39S0301		39S0303		39S0305		39S0309	
	LAB SAMPLE ID --->	551812		555094		551915		551916		551917		555112	
	ID FROM REPORT -->	39S0205		39S0208		39S0301		39S0303		39S0305		39S0309	
	SAMPLE DATE ----->	05/25/93		06/09/93		05/26/93		05/26/93		05/26/93		06/09/93	
	DATE EXTRACTED -->	06/03/93		06/21/93		06/03/93		06/03/93		06/03/93		06/21/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	375	VAL	1	VAL	1	VAL	1	VAL	375	VAL
72-54-8	4,4'-DDD	9.4		3.8	U	3.4	U	3.5	U	3.6	U	0.14	J
72-55-9	4,4'-DDE	0.64	J	3.8	U	0.25	J	0.51	J	1.1	J	0.077	J
50-29-3	4,4'-DDT	0.49	U	3.8	U	0.15	U	3.5	U	0.13	U	3.8	U
309-00-2	Aldrin	1.8	U	1.9	U	1.7	U	1.8	U	1.8	U	1.9	U
12674-11-2	Aroclor-1016	36.	U	38.	U	34.	U	35.	U	36.	U	38.	U
11104-28-2	Aroclor-1221	72.	U	77.	U	68.	U	71.	U	73.	U	76.	U
11141-16-5	Aroclor-1232	36.	U	38.	U	34.	U	35.	U	36.	U	38.	U
53469-21-9	Aroclor-1242	36.	U	38.	U	34.	U	35.	U	36.	U	38.	U
12672-29-6	Aroclor-1248	36.	U	38.	U	34.	U	35.	U	36.	U	38.	U
11097-69-1	Aroclor-1254	36.	U	38.	U	34.	U	35.	U	5.4	J	38.	U
11096-82-5	Aroclor-1260	36.	U	38.	U	3.5	J	35.	U	36.	U	38.	U
60-57-1	Dieldrin	3.6	U	3.8	U	0.17	J	3.5	U	3.6	U	0.17	J
959-98-8	Endosulfan I	1.8	U	1.9	U	1.7	U	1.8	U	1.8	U	1.9	U
33213-65-9	Endosulfan II	3.6	U	3.8	U	3.4	U	0.22	J	0.18	J	3.8	U
1031-07-8	Endosulfan sulfate	3.6	U	3.8	U	3.4	U	3.5	U	3.6	U	3.8	U
72-20-8	Endrin	3.6	U	3.8	U	3.4	U	0.067	J	3.6	U	0.25	J
7421-36-3	Endrin aldehyde	3.6	U	3.8	U	3.4	U	0.38	J	3.6	U	3.8	U
53494-70-5	Endrin ketone	3.6	U	3.8	U	3.4	U	0.11	J	3.6	U	3.8	U
76-44-8	Heptachlor	0.18	U	1.9	U	1.7	U	1.8	U	1.8	U	1.9	U
1024-57-3	Heptachlor epoxide	1.8	U	1.9	U	1.7	U	1.8	U	1.8	U	1.9	U
72-43-5	Methoxychlor	18.	U	19.	U	17.	U	0.62	J	1.	J	19.	U
8001-35-2	Toxaphene	180.	U	190.	U	t70.	U	180.	U	180.	U	190.	U
319-84-6	alpha-BHC	1.8	U	1.9	U	1.7	U	1.8	U	1.8	U	1.9	U
5103-71-9	alpha-Chlordane	1.8	U	1.9	U	0.081	J	0.34	J	0.11	J	1.9	U
319-85-7	beta-BHC	1.8	U	1.9	U	1.7	U	1.8	U	1.8	U	1.9	U
319-86-8	delta-BHC	1.8	U	1.9	U	1.7	U	1.8	U	1.8	U	1.9	U
58-89-9	gamma-BHC (Lindane)	1.8	U	1.9	U	1.7	U	1.8	U	1.8	U	1.9	U
5103-74-2	gamma-Chlordane	1.8	U	1.9	U	0.098	J	0.33	J	1.8	U	1.9	U

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PEST															
		SAMPLE ID ------->	039-S-0004-00		039-S-0004-01		039-S-0004-03		039-S-0004-04		039-S-0004-05		039-S-0005-00	
		ORIGINAL ID ----->	39S04		39S0401		39S0403		39S0404		39S0405		39S05	
		LAB SAMPLE ID --->	555114		551918 D11		551919 R1		551920		551921		555116	
		ID FROM REPORT -->	39S04		39S0401		39S0403		39S0404		39S0405		39S05	
		SAMPLE DATE ----->	06/09/93		05/26/93		05/26/93		05/26/93		05/26/93		06/09/93	
		DATE EXTRACTED -->	06/21/93		06/03/93		06/21/93		06/03/93		06/03/93		06/21/93	
		MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
		UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter		375	VAL	1	VAL	1	VAL	1	VAL	1	VAL	375	VAL
72-54-8	4,4'-DDD		3.9	U	33.	U	3.4	U	3.4	U	0.25	J	3.4	U
72-55-9	4,4'-DDE		3.9	U	24.	J	1.2	A	0.72	J	0.54	J	3.4	U
50-29-3	4,4'-DDT		3.9	U	24.	J	3.4	U	3.4	U	0.36	U	3.4	U
309-00-2	Aldrin		0.89	J	17.	U	1.7	U	1.8	U	1.9	U	0.22	J
12674-11-2	Aroclor-1016		39.	U	330.	U	34.	U	34.	U	37.	U	34.	U
11104-28-2	Aroclor-1221		80.	U	680.	U	69.	U	69.	U	75.	U	70.	U
11141-16-5	Aroclor-1232		39.	U	330.	U	34.	U	34.	U	37.	U	34.	U
53469-21-9	Aroclor-1242		39.	U	330.	U	34.	U	34.	U	37.	U	34.	U
12672-29-6	Aroclor-1248		39.	U	330.	U	34.	U	34.	U	37.	U	34.	U
11097-69-1	Aroclor-1254		39.	U	330.	U	46.	R	34.	U	7.1	J	34.	U
11096-82-5	Aroclor-1260		39.	U	330.	U	34.	U	34.	U	37.	U	34.	U
60-57-1	Dieldrin		3	J	26.	J	3.4	U	0.38	J	3.7	U	3.4	U
959-98-8	Endosulfan I		2.5	J	17.	U	0.44	R	1.8	U	1.9	U	1.8	U
33213-65-9	Endosulfan II		3.7	J	33.	U	2.4	R	3.4	U	3.7	U	1.8	J
1031-07-8	Endosulfan sulfate		0.98	J	33.	U	2.5	R	3.4	U	0.69	J	3.4	U
72-20-8	Endrin		0.44	J	17.	J	0.47	R	0.29	J	3.7	U	3.4	U
7421-36-3	Endrin aldehyde		3.9	U	7.6	J	4.4	R	3.4	U	0.11	J	3.4	U
53494-70-5	Endrin ketone		1.4	J	32.	J	1.3	R	0.69	J	3.7	U	0.83	J
76-44-8	Heptachlor		2.	U	17.	U	1.7	U	1.8	U	1.9	U	1.8	U
1024-57-3	Heptachlor epoxide		2.	U	17.	U	1.7	U	1.8	U	1.9	U	1.8	U
72-43-5	Methoxychlor		20.	U	62.	J	4.8	R	2.7	J	19.	U	18.	U
8001-35-2	Toxaphene		200.	U	920.	J	170.	U	120.	J	190.	U	180.	U
319-84-6	alpha-BHC		2.	U	17.	U	1.7	U	1.8	U	1.9	U	1.8	U
5103-71-9	alpha-Chlordane		23	J	42.		2.9		1.4	J	0.52	J	1.8	U
319-85-7	beta-BHC		2.	U	17.	U	1.7	U	1.8	U	1.9	U	1.8	U
319-86-8	delta-BHC		2.	U	1.9	J	1.7	U	0.14	J	1.9	U	1.8	U
58-89-9	gamma-BHC (Lindane)		2.	U	17.	U	1.7	U	1.8	U	1.9	U	1.8	U
5103-74-2	gamma-Chlordane		1.1	J	29.		1.7	U	0.76	J	1.9	U	1.8	U

*** Validation Complete ***

PENSACOLA, SITE 39
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PEST													
	SAMPLE ID ------->	039-S-0005-01		039-S-0005-03		039-S-0005-05		039-C-0005-05 D		039-S-0006-00		039-S-0006-01	
	ORIGINAL ID ----->	39S0501		39S0503		39S0505		39S0505D		39S06		39S0601	
	LAB SAMPLE ID --->	551922		551923		551924		551925		555118		551926	
	ID FROM REPORT -->	3980501		3980503		3980505		39S0505D		39S06		39S0601	
	SAMPLE DATE ----->	05/26/93		05/26/93		05/26/93		05/26/93		06/09/93		05/26/93	
	DATE EXTRACTED -->	06/03/93		06/03/93		06/03/93		06/03/93		06/21/93		06/03/93	
	MATRIX ---------->	Soil		soil		soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL	375	VAL	1	VAL
72-54-8	4,4'-DDD	3.3	U	3.4	U	3.5	U	3.5	U	0.61	J	3.4	U
72-55-9	4,4'-DDE	0.41	J	3.4	U	0.17	J	0.21	J	0.57	J	0.15	J
50-29-3	4,4'-DDT	3.3	U	3.4	U	3.5	U	0.48	J	0.81	J	0.25	J
309-00-2	Aldrin	0.31	J	1.8	U	1.8	U	1.8	U	0.36	J	1.7	U
12674-11-2	Aroclor-1016	33.	U	34.	U	35.	U	35.	U	35.	U	34.	U
11104-28-2	Aroclor-1221	68.	U	69.	U	72.	U	72.	U	71.	U	68.	U
11141-16-5	Aroclor-1232	33.	U	34.	U	35.	U	35.	U	35.	U	34.	U
53469-21-9	Aroclor-1242	33.	U	34.	U	35.	U	35.	U	35.	U	34.	U
12672-29-6	Aroclor-1248	33.	U	34.	U	35.	U	35.	U	35.	U	34.	U
11097-69-1	Aroclor-1254	33.	U	34.	U	35.	U	35.	U	35.	U	34.	U
11096-82-5	Aroclor-1260	33.	U	34.	U	35.	U	35.	U	35.	U	34.	U
60-57-1	Dieldrin	0.35	J	3.4	U	0.072	J	3.5	U	0.44	J	3.4	U
959-98-8	Endosulfan I	1.7	U	1.8	U	1.8	U	1.8	U	0.15	J	1.7	U
33213-65-9	Endosulfan II	3.3	U	3.4	U	3.5	U	3.5	U	3.5	U	3.4	U
1031-07-8	Endosulfan sulfate	3.3	U	3.4	U	3.5	U	3.5	U	0.17	J	0.32	J
72-20-8	Endrin	1.1	J	3.4	U	0.27	J	0.25	J	0.23	J	3.4	U
7421-36-3	Endrin aldehyde	3.3	U	0.18	J	3.5	U	3.5	U	3.5	U	0.21	J
53494-70-5	Endrin ketone	1.6	J	3.4	U	3.5	U	3.5	U	3.5	U	3.4	U
76-44-8	Heptachlor	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
72-43-5	Methoxychlor	6.1	J	18.	U	2.4	J	2.9	J	18.	U	17.	U
8001-35-2	Toxaphene	110.	J	180.	U	22.	J	180.	U	180.	U	170.	U
319-84-6	alpha-BHC	0.05	J	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
5103-71-9	alpha-Chlordane	0.55	J	1.8	U	1.8	U	0.11	J	1.8	U	1.7	U
319-85-7	beta-BHC	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
319-86-8	delta-BHC	0.074	J	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.7	U
5103-74-2	gamma-Chlordane	0.29	J	1.8	U	0.064	J	1.8	U	0.14	J	1.7	U

*** Validation Complete ***

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PEST	SAMPLE ID ------->	039-C-0006-01 D		039-S-0006-03		039-S-0006-05		039-S-SL01-00		039-S-SN01-00		039-S-SN02-00	
	ORIGINAL ID ----->	39S0601D		39S0603		39S0605		39SL01SAND		39SN01BENT		39SN02BENT	
	LAB SAMPLE ID --->	551927 R1		551928		551929		553890		553887		553888	
	ID FROM REPORT -->	39S0601D		39S0603		39S0605		39SL01SAND		39SN01BENT		39SN02BENT	
	SAMPLE DATE ----->	05/26/93		05/26/93		05/26/93		06/03/93		06/03/93			
	DATE EXTRACTED -->	06/21/93		06/03/93		06/03/93		06/11/93		06/11/93		06/11/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	32	VAL	32	VAL	120	VAL	120	VAL	120	VAL
72-54-8	4,4'-DDD	3.4	U	3.4	U	16.		3.3	U	3.6	U	0.16	J
72-55-9	4,4'-DDE	3.4	U	3.4	U	0.98	J	3.3	U	3.6	U	3.5	U
50-29-3	4,4'-DDT	3.4	U	0.38	J	3.6	U	0.41	U	0.36	U	2.3	J
309-00-2	Aldrin	1.8	U	0.36	J	0.17	J	0.19	J	1.9	U	0.051	J
12674-11-2	Aroclor-1016	34.	U	34.	U	36.	U	33.	U	36.	U	35.	U
11104-28-2	Aroclor-1221	69.	U	70.	U	73.	U	67.	U	74.	U	72.	U
11141-16-5	Aroclor-1232	34.	U	34.	U	36.	U	33.	U	36.	U	35.	U
53469-21-9	Aroclor-1242	34.	U	34.	U	36.	U	33.	U	36.	U	35.	U
12672-29-6	Aroclor-1248	34.	U	34.	U	36.	U	33.	U	36.	U	35.	U
11097-69-1	Aroclor-1254	34.	U	34.	U	36.	U	33.	U	36.	U	35.	U
11096-82-5	Aroclor-1260	34.	U	34.	U	36.	U	33.	U	36.	U	4.2	J
60-57-1	Dieldrin	3.4	U	3.4	U	3.6	U	0.26	U	3.6	U	40.	J
959-98-8	Endosulfan I	1.8	U	1.8	U	1.8	U	1.7	U	0.042	J	1.8	U
33213-65-9	Endosulfan II	3.4	U	3.4	U	3.6	U	3.3	U	3.6	U	3.5	U
1031-07-8	Endosulfan sulfate	0.3	R	3.4	U	3.6	U	0.23	U	3.6	U	3.5	U
72-20-8	Endrin	3.4	U	3.4	U	3.6	U	0.53	J	3.6	U	3.5	U
7421-36-3	Endrin aldehyde	3.4	U	3.4	U	3.6	U	3.3	U	3.6	U	3.5	U
53494-70-5	Endrin ketone	3.4	U	3.4	U	3.6	U	3.3	U	3.6	U	3.5	U
76-44-8	Heptachlor	1.8	U	1.8	U	1.8	U	0.3	U	0.13	U	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U	1.8	U	1.8	U	1.7	U	1.9	U	0.15	J
72-43-5	Methoxychlor	18.	U	18.	U	0.93	J	17.	U	17.	U	18.	U
8001-35-2	Toxaphene	180.	U	180.	U	180.	U	170.	U	190.	U	180.	U
319-84-6	alpha-BHC	1.8	U	1.8	U	1.8	U	1.7	U	1.9	U	1.8	U
5103-71-9	alpha-Chlordane	1.8	U	1.8	U	1.8	U	1.7	U	1.9	U	1.3	J
319-85-7	beta-BHC	1.8	U	1.8	U	1.8	U	1.7	U	1.9	U	1.8	U
319-86-8	delta-BHC	1.8	U	1.8	U	1.8	U	1.7	U	1.9	U	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U	1.8	U	1.8	U	0.19	J	1.9	U	1.8	U
5103-74-2	gamma-Chlordane	1.8	U	1.8	U	1.8	U	1.7	U	0.061	U	1.5	J

*** Validation Complete ***

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SVOA															
	SAMPLE ID ------->	039-S-0001-01		039-S-0001-03		039-S-0001-05		039-S-0001-07		039-S-0002-01		039-S-0002-03	
	ORIGINAL ID ----->	39S0101		39S0103		39S0105		39S0107		39S0201		39S0203	
	LAB SAMPLE ID --->	551796		551807		551808		551809		551810		551811	
	ID FROM REPORT -->	39S0101		39S0103		39S0105		39S0107		39S0201		39S0203	
	SAMPLE DATE ----->	05/25/93		05/25/93		05/25/93		05/25/93		05/25/93		05/25/93	
	DATE EXTRACTED -->	06/03/93		06/03/93		06/03/93		06/03/93		06/03/93		06/03/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL
108-95-2	Phenol	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
111-44-4	bis(2-Chloroethyl)ether	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
95-57-8	2-Chlorophenol	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
541-73-1	1,3-Dichlorobenzene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
106-46-7	1,4-Dichlorobenzene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
95-50-1	1,2-Dichlorobenzene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
95-48-7	2-Methylphenol (o-Cresol)	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
106-44-5	4-Methylphenol (p-Cresol)	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
621-64-7	N-Nitroso-di-n-propylamine	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
67-72-1	Hexachloroethane	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
98-95-3	Nitrobenzene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
78-59-1	Isophorone	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
88-75-5	2-Nitrophenol	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
105-67-9	2,4-Dimethylphenol	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
111-91-1	bis(2-Chloroethoxy)methane	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
120-83-2	2,4-Dichlorophenol	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
120-82-1	1,2,4-Trichlorobenzene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
91-20-3	Naphthalene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
106-47-8	4-Chloroaniline	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
87-68-3	Hexachlorobutadiene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
59-50-7	4-Chloro-3-methylphenol	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
91-57-6	2-Methylnaphthalene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
77-47-4	Hexachlorocyclopentadiene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
88-06-2	2,4,6-Trichlorophenol	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
95-95-4	2,4,5-Trichlorophenol	810.	U	810.	U	840.	U	840.	U	800.	U	860.	U
91-58-7	2-Chloronaphthalene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
88-74-4	2-Nitroaniline	810.	U	810.	U	840.	U	840.	U	800.	U	860.	U
131-11-3	Dimethylphthalate	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
208-96-8	Acenaphthylene	330.	U	73.	J	350.	U	350.	U	330.	U	360.	U
606-20-2	2,6-Dinitrotoluene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
99-09-2	3-Nitroaniline	810.	U	810.	U	840.	U	840.	U	800.	U	860.	U
83-32-9	Acenaphthene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
51-28-5	2,4-Dinitrophenol	810.	U	810.	U	840.	U	840.	U	800.	U	860.	U
100-02-7	4-Nitrophenol	84.	J	810.	U	840.	U	840.	U	800.	U	860.	U
132-64-9	Dibenzofuran	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
121-14-2	2,4-Dinitrotoluene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U

*** Validation Complete ***

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SVOA													
	SAMPLE ID ------->	039-S-0001-01		339-S-0001-03		039-S-0001-05		039-S-0001-07		039-S-0002-01		139-S-0002-03	
	ORIGINAL ID ----->	39S0101		39S0103		39S0105		39S0107		39S0201		39S0203	
	LAB SAMPLE ID --->	551796		551807		551808		551809		551810		551811	
	ID FROM REPORT -->	39S0101		39S0103		39S0105		39S0107		39S0201		5960203	
	SAMPLE DATE ----->	05/25/93		35/25/93		05/25/93		15/25/93		35/25/93		15/25/93	
	DATE EXTRACTED -->	06/03/93		36/03/93		06/03/93		16/03/93		16/03/93		36/03/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL
84-66-2	Diethylphthalate	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
7005-72-3	4-Chlorophenyl-phenylether	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
86-73-7	Fluorene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
100-01-6	4-Nitroaniline	810.	U	810.	U	840.	U	840.	U	800.	U	860.	U
534-52-1	4,6-Dinitro-2-methylphenol	810.	U	810.	U	840.	U	840.	U	800.	U	860.	U
86-30-6	N-Nitrosodiphenylamine	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
101-55-3	4-Bromophenyl-phenylether	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
118-74-1	Hexachlorobenzene	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
87-86-5	Pentachlorophenol	42.	J	810.	U	840.	U	840.	U	800.	U	860.	U
85-01-8	Phenanthrene	330.	U	37.	J	39.	J	350.	U	330.	U	360.	U
120-12-7	Anthracene	330.	U	38.	J	350.	U	350.	U	330.	U	360.	U
86-74-8	Carbazole	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
84-74-2	Di-n-butylphthalate	330.	U	330.	U	42.	U	350.	U	330.	U	360.	U
206-44-0	Fluoranthene	330.	U	410.		63.	J	350.	U	330.	U	360.	U
129-00-0	Pyrene	46.	J	950.		64.	J	350.	U	330.	U	360.	U
85-68-7	Butylbenzylphthalate	87.	U	57.	U	63.	U	350.	U	81.	U	36.	U
91-94-1	3,3'-Dichlorobenzidine	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
56-55-3	Benzo(a)anthracene	330.	U	580.		44.	J	350.	U	330.	U	360.	U
218-01-9	Chrysene	330.	U	440.		350.	U	350.	U	330.	U	360.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	480.	U	160.	U	260.	U	280.	U	310.	U	200.	U
117-84-0	Di-n-octylphthalate	330.	U	330.	U	350.	U	350.	U	330.	U	360.	U
205-99-2	Benzo(b)fluoranthene	330.	U	1200.		77.	J	350.	U	330.	U	360.	U
207-08-9	Benzo(k)fluoranthene	330.	U	1200.	J	77.	J	350.	U	330.	U	360.	U
50-32-8	Benzo(a)pyrene	330.	U	570.		36.	J	350.	U	336.	U	360.	U
193-39-5	Indeno(1,2,3-cd)pyrene	330.	U	460.		350.	U	350.	U	330.	U	360.	U
53-70-3	Dibenzo(a,h)anthracene	330.	U	210.	J	350.	U	350.	U	330.	U	360.	U
191-24-2	Benzo(g,h,i)perylene	59.	J	310.	J	350.	U	350.	U	330.	U	360.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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SVOA															
		SAMPLE ID ------->	039-S-0002-05		039-S-0002-08		039-S-0003-01		039-S-0003-03		039-S-0003-05		039-S-0003-09	
		ORIGINAL ID ----->	39S0205		39S0208		3990301		39S0303		39S0305		39S0309	
		LAB SAMPLE ID --->	551812		555094		551915		551916		551917		555112	
		ID FROM REPORT -->	39S0205		39S0208		39S0301		39S0303		39S0305		39S0309	
		SAMPLE DATE ----->	05/25/93		06/09/93		05/26/93		05/26/93		05/26/93		06/09/93	
		DATE EXTRACTED -->	06/03/93		06/21/93		06/04/93		06/04/93		06/04/93		06/21/93	
		MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
		UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter		1	VAL	375	VAL	1	VAL	1	VAL	1	VAL	375	VAL
108-95-2	Phenol		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
111-44-4	bis(2-Chloroethyl)ether		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
95-57-8	2-Chlorophenol		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
541-73-1	1,3-Dichlorobenzene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
106-46-7	1,4-Dichlorobenzene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
95-50-1	1,2-Dichlorobenzene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
95-48-7	2-Methylphenol (o-Cresol)		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
108-60-1	2,2'-oxybis(1-Chloropropane)		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
106-44-5	4-Methylphenol (p-Cresol)		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
621-64-7	N-Nitroso-di-n-propylamine		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
67-72-1	Hexachloroethane		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
98-95-3	Nitrobenzene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
78-59-1	Isophorone		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
88-75-5	2-Nitrophenol		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
105-67-9	2,4-Dimethylphenol		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
111-91-1	bis(2-Chloroethoxy)methane		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
120-83-2	2,4-Dichlorophenol		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
120-82-1	1,2,4-Trichlorobenzene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
91-20-3	Naphthalene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
106-47-8	4-Chloroaniline		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
87-68-3	Hexachlorobutadiene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
59-50-7	4-Chloro-3-methylphenol		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
91-57-6	2-Methylnaphthalene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
77-47-4	Hexachlorocyclopentadiene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
88-06-2	2,4,6-Trichlorophenol		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
95-95-4	2,4,5-Trichlorophenol		870.	U	900.	U	810.	U	830.	U	860.	U	900.	U
91-58-7	2-Chloronaphthalene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
88-74-4	2-Nitroaniline		870.	U	900.	U	810.	U	830.	U	860.	U	900.	U
131-11-3	Dimethylphthalate		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
208-96-8	Acenaphthylene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
606-20-2	2,6-Dinitrotoluene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
99-09-2	3-Nitroaniline		870.	U	900.	U	810.	U	830.	U	860.	U	900.	U
83-32-9	Acenaphthene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
51-28-5	2,4-Dinitrophenol		870.	U	900.	U	810.	U	830.	U	860.	U	900.	U
100-02-7	4-Nitrophenol		870.	U	900.	U	810.	U	830.	U	860.	U	900.	U
132-64-9	Dibenzofuran		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
121-14-2	2,4-Dinitrotoluene		360.	U	370.	U	330.	U	340.	U	350.	U	370.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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SVOA															
	SAMPLE ID ------->	ID39-S-0002-05		139-S-0002-08		039-S-0003-01		039-S-0003-03		ID39-S-0003-05		ID39-S-0003-09	
	ORIGINAL ID ----->	39S0205		39S0208		3980301		39S0303		39S0305		39S0309	
	LAB SAMPLE ID --->	551812		555094		551915		551916		551917		555112	
	ID FROM REPORT -->	39S0205		39S0208		3980301		3990303		39S0305		39S0309	
	SAMPLE DATE ----->	05/25/93		06/09/93		05/26/93		05/26/93		05/26/93		06/09/93	
	DATE EXTRACTED -->	06/03/93		06/21/93		06/04/93		06/04/93		06/04/93		06/21/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	375	VAL	1	VAL	1	VAL	1	VAL	375	VAL
84-66-2	Diethylphthalate	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
7005-72-3	4-Chlorophenyl-phenylether	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
86-73-7	Fluorene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
100-01-6	4-Nitroaniline	870.	U	900.	U	810.	U	830.	U	860.	U	900.	U
534-52-1	4,6-Dinitro-2-methylphenol	870.	U	900.	U	810.	U	830.	U	860.	U	900.	U
86-30-6	N-Nitrosodiphenylamine	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
101-55-3	4-Bromophenyl-phenylether	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
118-74-1	Hexachlorobenzene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
87-86-5	Pentachlorophenol	870.	U	900.	U	810.	U	830.	U	860.	U	900.	U
85-01-8	Phenanthrene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
120-12-7	Anthracene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
86-74-8	Carbazole	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
84-74-2	Di-n-butylphthalate	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
206-44-0	Fluoranthene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
129-00-0	Pyrene	360.	U	370.	U	330.	U	37.	J	350.	U	370.	U
85-68-7	Butylbenzylphthalate	37.	U	370.	U	130.	U	74.	U	68.	U	42.	U
91-94-1	3,3'-Dichlorobenzidine	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
56-55-3	Benzo(a)anthracene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
218-01-9	Chrysene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	160.	U	86.	U	72.	U	340.	U	52.	U	53.	U
117-84-0	Di-n-octylphthalate	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
205-99-2	Benzo(b)fluoranthene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
207-08-9	Benzo(k)fluoranthene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
50-32-8	Benzo(a)pyrene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
193-39-5	Indeno(1,2,3-cd)pyrene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
53-70-3	Dibenzo(a,h)anthracene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U
191-24-2	Benzo(g,h,i)perylene	360.	U	370.	U	330.	U	340.	U	350.	U	370.	U

*** Validation Complete ***

PENSACOLA, SITE 39
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SVOA	SAMPLE ID ------->	039-S-0004-00		039-S-0004-01		039-S-0004-03		039-S-0004-04		039-S-0004-05		039-S-0005-00	
	ORIGINAL ID ----->	39S04		39S0401		3980403		39S0404		39S0405		39S05	
	LAB SAMPLE ID --->	555114		551918		551919		551920		551921		555116	
	ID FROM REPORT -->	39S04		39S0401		3980403		39S0404		39S0405		39S05	
	SAMPLE DATE ----->	06/09/93		05/26/93		05/26/93		05/26/93		05/26/93		06/09/93	
	DATE EXTRACTED -->	06/21/93		06/04/93		06/04/93		06/04/93		06/04/93		06/21/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	375	VAL	1	VAL	1	VAL	1	VAL	1	VAL	31s	VAL
108-95-2	Phenol	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
111-44-4	bis(2-Chloroethyl)ether	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
95-57-8	2-Chlorophenol	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
541-73-1	1,3-Dichlorobenzene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
106-46-7	1,4-Dichlorobenzene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
95-50-1	1,2-Dichlorobenzene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
95-48-7	2-Methylphenol (o-Cresol)	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
106-44-5	4-Methylphenol (p-Cresol)	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
621-64-7	N-Nitroso-di-n-propylamine	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
67-72-1	Hexachloroethane	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
98-95-3	Nitrobenzene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
78-59-1	Isophorone	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
88-75-5	2-Nitrophenol	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
105-67-9	2,4-Dimethylphenol	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
111-91-1	bis(2-Chloroethoxy)methane	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
120-83-2	2,4-Dichlorophenol	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
120-82-1	1,2,4-Trichlorobenzene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
91-20-3	Naphthalene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
106-47-8	4-Chloroaniline	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
87-68-3	Hexachlorobutadiene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
59-50-7	4-Chloro-3-methylphenol	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
91-57-6	2-Methylnaphthalene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
77-47-4	Hexachlorocyclopentadiene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
88-06-2	2,4,6-Trichlorophenol	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
95-95-4	2,4,5-Trichlorophenol	940.	U	800.	U	820.	U	810.	U	890.	U	820.	U
91-58-7	2-Chloronaphthalene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
88-74-4	2-Nitroaniline	940.	U	800.	U	820.	U	810.	U	890.	U	820.	U
131-11-3	Dimethylphthalate	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
208-96-8	Acenaphthylene	390.	U	330.	U	39.	J	340.	U	370.	U	340.	U
606-20-2	2,6-Dinitrotoluene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
99-09-2	3-Nitroaniline	940.	U	800.	U	820.	U	810.	U	890.	U	820.	U
83-32-9	Acenaphthene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
51-28-5	2,4-Dinitrophenol	940.	U	800.	U	820.	U	810.	U	890.	U	820.	U
100-02-7	4-Nitrophenol	940.	U	800.	U	820.	U	810.	U	890.	U	820.	U
132-64-9	Dibenzofuran	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
121-14-2	2,4-Dinitrotoluene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

SVOA													
	SAMPLE ID ------->	039-S-0004-00		039-S-0004-01		039-S-0004-03		039-S-0004-04		039-S-0004-05		039-S-0005-00	
	ORIGINAL ID ----->	39S04		39S0401		39S0403		39S0404		39S0405		39S05	
	LAB SAMPLE ID --->	555114		551918		551919		551920		551921		555116	
	ID FROM REPORT -->	39S04		39S0401		39S0403		39S0404		3950405		39S05	
	SAMPLE DATE ----->	06/09/93		05/26/93		05/26/93		05/26/93		05/26/93		06/09/93	
	DATE EXTRACTED -->	06/21/93		06/04/93		06/04/93		06/04/93		06/04/93		06/21/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	375	VAL	1	VAL	1	VAL	1	VAL	1	VAL	375	VAL
84-66-2	Diethylphthalate	390.	U	330.	U	340.	U	340.	U	370.		340.	U
7005-72-3	4-Chlorophenyl-phenylether	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
86-73-7	Fluorene	390.	U	330.	U	340.	U	340.	U	370.		340.	U
100-01-6	4-Nitroaniline	940.	U	800.	U	820.	U	810.	U	890.	U	820.	U
534-52-1	4,6-Dinitro-2-methylphenol	940.	U	800.	U	820.	U	810.	U	890.	U	820.	U
86-30-6	N-Nitrosodiphenylamine	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
101-55-3	4-Bromophenyl-phenylether	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
118-74-1	Hexachlorobenzene	390.	U	330.	U	340.	U	340.	U	370.	U	346.	U
87-86-5	Pentachlorophenol	940.	U	800.	U	820.	U	810.	U	890.	U	820.	U
85-01-8	Phenanthrene	390.	U	330.	U	53.	J	39.	J	370.	U	340.	U
120-12-7	Anthracene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
86-74-8	Carbazole	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
84-74-2	Di-n-butylphthalate	390.	U	330.	U	340.	U	42.	U	370.	U	340.	U
206-44-0	Fluoranthene	40.	J	330.	U	100.	J	67.	J	370.	U	340.	U
129-00-0	Pyrene	170.	J	1900.		570.		180.	J	58.	J	340.	U
85-68-7	Butylbenzylphthalate	83.	U	330.	U	340.	U	130.	U	370.	U	44.	U
91-94-1	3,3'-Dichlorobenzidine	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
56-55-3	Benzo(a)anthracene	54.	J	330.	U	150.	J	64.	J	370.	U	340.	U
218-01-9	Chrysene	60.	J	330.	U	200.	J	79.	J	42.	J	340.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	55.	U	330.	U	340.	U	43.	U	83.	U	45.	U
117-84-0	Di-n-octylphthalate	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
205-99-2	Benzo(b)fluoranthene	91.	J	320.	J	170.	J	110.	J	51.	J	340.	U
207-08-9	Benzo(k)fluoranthene	91.	J	320.	J	170.	J	110.	J	51.	J	340.	U
50-32-8	Benzo(a)pyrene	390.	U	330.	U	360.		69.	J	370.	U	340.	U
193-39-5	Indeno(1,2,3-cd)pyrene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
53-70-3	Dibenzo(a,h)anthracene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U
191-24-2	Benzo(g,h,i)perylene	390.	U	330.	U	340.	U	340.	U	370.	U	340.	U

*** Validation Complete ***

SVOA													
		SAMPLE ID ------->	039-S-0005-01		039-S-0005-03		039-S-0005-05		039-C-0005-05 D		039-S-0006-00		039-S-0006-01
		ORIGINAL ID ----->	39S0501		39S0503		39S0505		39S0505D		39S06		39S0601
		LAB SAMPLE ID --->	551922		551923		551924		551925		555118		551926
		ID FROM REPORT -->	3980501		3980503		3980505		39S0505D		39S06		39S0601
		SAMPLE DATE ----->	05/26/93		05/26/93		05/26/93		05/26/93		06/09/93		05/26/93
		DATE EXTRACTED -->	06/04/93		06/04/93		06/04/93		06/04/93		06/21/93		06/04/93
		MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil
		UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG
CAS #	Parameter		1	VAL	1	VAL	1	VAL	1	VAL	375	VAL	1	VAL
108-95-2	Phenol		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
111-44-4	bis(2-Chloroethyl)ether		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
95-57-8	2-Chlorophenol		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
541-73-1	1,3-Dichlorobenzene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
106-46-7	1,4-Dichlorobenzene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
95-50-1	1,2-Dichlorobenzene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
95-48-7	2-Methylphenol (o-Cresol)		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
108-60-1	2,2'-oxybis(1-Chloropropane)		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
106-44-5	4-Methylphenol (p-Cresol)		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
621-64-7	N-Nitroso-di-n-propylamine		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
67-72-1	Hexachloroethane		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
98-95-3	Nitrobenzene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
78-59-1	Isophorone		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
88-75-5	2-Nitrophenol		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
105-67-9	2,4-Dimethylphenol		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
111-91-1	bis(2-Chloroethoxy)methane		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
120-83-2	2,4-Dichlorophenol		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
120-82-1	1,2,4-Trichlorobenzene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
91-20-3	Naphthalene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
106-47-8	4-Chloroaniline		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
87-68-3	Hexachlorobutadiene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
59-50-7	4-Chloro-3-methylphenol		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
91-57-6	2-Methylnaphthalene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
77-47-4	Hexachlorocyclopentadiene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
88-06-2	2,4,6-Trichlorophenol		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
95-95-4	2,4,5-Trichlorophenol		800.	U	820.	U	850.	U	850.	U	850.	U	810.	U
91-58-7	2-Chloronaphthalene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
88-74-4	2-Nitroaniline		800.	U	820.	U	850.	U	850.	U	850.	U	810.	U
131-11-3	Dimethylphthalate		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
208-96-8	Acenaphthylene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
606-20-2	2,6-Dinitrotoluene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
99-09-2	3-Nitroaniline		800.	U	820.	U	850.	U	850.	U	850.	U	810.	U
83-32-9	Acenaphthene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
51-28-5	2,4-Dinitrophenol		800.	U	820.	U	850.	U	850.	U	850.	U	810.	U
100-02-7	4-Nitrophenol		800.	U	820.	U	850.	U	850.	U	850.	U	810.	U
132-64-9	Dibenzofuran		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
121-14-2	2,4-Dinitrotoluene		330.	U	340.	U	350.	U	350.	U	350.	U	330.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

SVOA															
	SAMPLE ID -------+	039-S-0005-01		039-S-0005-03		339-S-0005-05		039-C-0005-05 D		D39-S-0006-00		039-S-0006-01	
	ORIGINAL ID ----->	39S0501		39S0503		39S0505		39S0505D		39S06		39S0601	
	LAB SAMPLE ID --->	551922		551923		551924		551925		555118		551926	
	ID FROM REPORT -->	39S0501		39S0503		39S0505		39S0505D		39S06		39S0601	
	SAMPLE DATE ----->	05/26/93		05/26/93		05/26/93		05/26/93		06/09/93		05/26/93	
	DATE EXTRACTED -->	06/04/93		06/04/93		06/04/93		06/04/93		06/21/93		06/04/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		soil		Soil	
	UNITS ----*----*->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL	375	VAL	1	VAL
84-66-2	Diethylphthalate	330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
7005-72-3	4-Chlorophenyl-phenylether	330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
86-73-7	Fluorene	330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
100-01-6	4-Nitroaniline	800.	U	820.	U	850.	U	850.	U	850.	U	810.	U
534-52-1	4,6-Dinitro-2-methylphenol	800.	U	820.	U	850.	U	850.	U	850.	U	810.	U
86-30-6	N-Nitrosodiphenylamine	330.	U	340.	U	350.	U	350.	U	350.	U	336.	U
101-55-3	4-Bromophenyl-phenylether	330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
118-74-1	Hexachlorobenzene	330.	U	340.	U	356.	U	350.	U	350.	U	330.	U
87-86-5	Pentachlorophenol	800.	U	820.	U	850.	U	850.	U	850.	U	810.	U
85-01-8	Phenanthrene	330.	U	340.	U	350.	U	350.	U	350.	U	34.	J
120-12-7	Anthracene	330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
86-74-8	Carbazole	330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
84-74-2	Di-n-butylphthalate	330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
206-44-0	Fluoranthene	336.	U	340.	U	350.	U	356.	U	350.	U	110.	J
129-00-0	Pyrene	42.	J	340.	U	350.	U	350.	U	350.	U	140.	J
85-68-7	Butylbenzylphthalate	330.	U	80.	U	150.	U	350.	U	350.	U	330.	U
91-94-1	3,3'-Dichlorobenzidine	330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
56-55-3	Benzo(a)anthracene	330.	U	340.	U	350.	U	350.	U	350.	U	100.	J
218-01-9	Chrysene	330.	U	340.	U	350.	U	350.	U	350.	U	80.	J
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	330.	U	92.	U	83.	U	210,	U	38.	U	51.	U
117-84-0	Di-n-octylphthalate	330.	U	44.	U	350.	U	350.	U	350.	U	330.	U
205-99-2	Benzo(b)fluoranthene	51.	J	340.	U	350.	U	350.	U	350.	U	190.	J
207-08-9	Benzo(k)fluoranthene	51.	J	51.	J	350.	U	350.	U	350.	U	190.	J
50-32-8	Benzo(a)pyrene	34.	J	340.	U	350.	U	350.	U	350.	U	120.	J
193-39-5	Indeno(1,2,3-cd)pyrene	330.	U	340.	U	350.	U	350.	U	350.	U	76.	J
53-70-3	Dibenzo(a,h)anthracene	330.	U	340.	U	350.	U	350.	U	350.	U	330.	U
191-24-2	Benzo(g,h,i)perylene	330.	U	340.	U	350.	U	350.	U	350.	U	46.	J

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

SVOA													
	SAMPLE ID ------->	039-C-0006-01 D		039-S-0006-03		039-S-0006-05		039-E-SEOI-00		039-E-SE02-00		039-S-SI01-00	
	ORIGINAL ID ----->	39S0601D		39S0603		39S0605		39SE01		39SE02		39SI01	
	LAB SAMPLE ID --->	551927		551928		551929		551827		551982		551983	
	ID FROM REPORT -->	39S0601D		39S0603		39S0605		39SE01		39SE02		39SI01	
	SAMPLE DATE ----->	05/26/93		05/26/93		05/26/93		05/25/93		05/26/93		05/26/93	
	DATE EXTRACTED -->	06/04/93		06/04/93		06/04/93		05/27/93		05/27/93		05/27/93	
	DATE ANALYZED --->							06/02/93		06/01/93		06/01/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/L		UG/L		UG/L	
CAS #	Parameter	1	VAL	32	VAL	32	VAL	17	VAL	17	VAL	17	VAL
108-95-2	Phenol	340.	U	340.	U	350.	U	10.	U	3.	J	10.	U
111-44-4	bis(2-Chloroethyl)ether	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
88-75-5	2-Nitrophenol	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
120-82-1	1,2,4-Trichlorobenzene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
88-06-2	2,4,6-Trichlorophenol	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	820.	U	820.	U	860.	U	25.	U	25.	U	25.	U
91-58-7	2-Chloronaphthalene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	820.	U	820.	U	860.	U	25.	U	25.	U	25.	U
131-11-3	Dimethylphthalate	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	820.	U	820.	U	860.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	820.	U	820.	U	860.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	820.	U	820.	U	860.	U	25.	U	25.	U	25.	U
132-64-9	Dibenzofuran	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

SVOA																	
	SAMPLE ID ------->	039-C-0006-01 D		039-S-0006-03		039-S-0006-05		039-E-SE01-00		039-E-SE02-00		039-S-SI01-00	
	ORIGINAL ID ----->	39S0601D		3930603		39S0605		39SE01		39SE02		39SI01	
	LAB SAMPLE ID --->	551927		551928		551929		551827		551982		551983	
	ID FROM REPORT -->	39S0601D		39S0603		3950605		39SE01		39SE02		39SI01	
	SAMPLE DATE ----->	05/26/93		05/26/93		05/26/93		05/25/93		05/26/93		05/26/93	
	DATE EXTRACTED -->	06/04/93		06/04/93		06/04/93		05/27/93		05/27/93		05/27/93	
	DATE ANALYZED --->							06/02/93		06/01/93		06/01/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/L		UG/L		UG/L	
CAS #	Parameter	1	VAL	32	VAL	32	VAL	17	VAL	17	VAL	17	VAL
121-14-2	2,4-Dinitrotoluene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	340.	U	340.	U	350.	U	10.	U	1.	J	10.	U
7005-72-3	4-Chlorophenyl-phenylether	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	820.	U	820.	U	860.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	820.	U	820.	U	860.	U	25.	U	25.	U	25.	U
86-30-6	N-Nitrosodiphenylamine	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
101-55-3	4-Bromophenyl-phenylether	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	820.	U	820.	U	860.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	34.	J	340.	U	350.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	340.	U	340.	U	350.	U	10.	U	1.	J	10.	U
206-44-0	Fluoranthene	120.	J	48.	J	350.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	150.	J	49.	J	350.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	43.	U	46.	U	350.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	120.	J	340.	U	350.	U	10.	U	10.	U	10.	U
218-01-9	Chrysene	92.	J	35.	J	350.	U	16.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	77.	U	340.	U	350.	U	1.	J	5.	J	3.	J
117-84-0	Di-n-octylphthalate	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	210.	J	64.	J	350.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	210.	J	64.	JX	350.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	110.	J	340.	U	350.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	88.	J	340.	U	350.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	340.	U	340.	U	350.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	71.	J	340.	U	350.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

SVOA															
		SAMPLE ID ------->	039-S-SL01-00		039-S-SN01-00		039-S-SN02-00		039-P-SP01-00		039-P-SPOI-00 RE		139-S-SPO2-00 RE	
		ORIGINAL ID ----->	39SL01SAND		39SN01BENT		39SN02BENT		39SP01		39SP01RE		39SP02RE	
		LAB SAMPLE ID --->	553890		553887		553888		551985		551985		553786	
		ID FROM REPORT -->	39SL01SAND		39SN01BENT		39SN02BENT		39SP01		39SP01RE		39SP02RE	
		SAMPLE DATE ----->	06/03/93		06/03/93				05/26/93		05/26/93		06/03/93	
		DATE EXTRACTED -->	06/11/93		06/11/93		06/ 11/93		05/27/93		06/02/93		06/14/93	
		DATE ANALYZED --->							06/02/93		06/05/93		06/15/93	
		MATRIX ---------->	Soil		Soil		soil		Soil		Soil		Soil	
		UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/L		UG/L		UG/L	
CAS #	Parameter		120	VAL	120	VAL	120	VAL	17	VAL	17	VAL	17	VAL
108-95-2	Phenol		330.	U	370.	U	350.	U	1.	J	10.	U	10.	U
111-44-4	bis(2-Chloroethyl)ether		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene		330.	U	370.	U	350.	U	10.	U	10.	U	1.	J
106-46-7	1,4-Dichlorobenzene		330.	U	370.	U	350.	U	10.	U	10.	U	2.	J
95-50-1	1,2-Dichlorobenzene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
88-75-5	2-Nitrophenol		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane		330.	U	370.	U	350.	U	10.	U	10.	U	to.	U
120-83-2	2,4-Dichlorophenol		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
120-82-1	1,2,4-Trichlorobenzene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
88-06-2	2,4,6-Trichlorophenol		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol		800.	U	900.	U	860.	U	25.	U	25.	U	25.	U
91-58-7	2-Chloronaphthalene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline		800.	U	900.	U	860.	U	25.	U	25.	U	25.	U
131-11-3	Dimethylphthalate		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene		330.	U	370.	U	350.	U	10.	U	10.	U	16.	U
606-20-2	2,6-Dinitrotoluene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline		800.	U	900.	U	860.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol		800.	U	900.	U	860.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol		800.	U	900.	U	860.	U	25.	U	25.	U	25.	U
132-64-9	Dibenzofuran		330.	U	370.	U	350.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

SVOA													
	SAMPLE ID ------->	039-S-SL01-00		039-S-101-00		039-S-SN02-00		039-P-SP01-00		039-P-SP01-00 RE		039-S-SP02-00 RE	
	ORIGINAL ID ----->	39SL01SAND		39SN01BENT		39SN02BENT		39SP01		39SP01RE		39SP02RE	
	LAB SAMPLE ID --->	553890		553887		553888		551985		551985		553786	
	ID FROM REPORT -->	39SL01SAND		39SN01BENT		39SN02BENT		39SP01		39SP01RE		39SP02RE	
	SAMPLE DATE ----->	06/03/93		06/03/93				05/26/93		05/26/93		06/03/93	
	DATE EXTRACTED -->	06/11/93		06/11/93		06/11/93		05/27/93		06/02/93		06/14/93	
	DATE ANALYZED --->							06/02/93		06/05/93		06/15/93	
	MATRIX ---------->	Soil		soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/L		UG/L		UG/L	
CAS #	Parameter	120	VAL	120	VAL	120	VAL	17	VAL	17	VAL	17	VAL
121-14-2	2,4-Dinitrotoluene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	800.	U	900.	U	860.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	800.	U	906.	U	860.	U	25.	U	25.	U	10.	U
86-30-6	N-Nitrosodiphenylamine	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
101-55-3	4-Bromophenyl-phenylether	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	800.	U	900.	U	860.	U	25.	U	1.	J	25.	U
85-01-8	Phenanthrene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	330.	U	370.	U	350.	U	10.	U	10.	U	2.	J
206-44-0	Fluoranthene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
218-01-9	Chrysene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	330.	U	370.	U	350.	U	4.	J	1.	J	2.	J
117-84-0	Di-n-octylphthalate	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	330.	U	370.	U	350.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

SVOA

SAMPLE ID ------->	039-P-SP02-00
ORIGINAL ID ----->	39SP02
LAB SAMPLE ID --->	553786
ID FROM REPORT -->	39SP02
SAMPLE DATE ----->	66/03/93
DATE EXTRACTED -->	06/09/93
DATE ANALYZED --->	06/11/93
MATRIX ---------->	Soil
UNITS ---------->	UG/L

CAS #	Parameter	17	VAL
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	2.	J
106-46-7	1,4-Dichlorobenzene	2.	J
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	25.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
99-09-2	3-Nitroaniline	25.	U
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	25.	U
100-02-7	4-Nitrophenol	25.	U
132-64-9	Dibenzofuran	10.	U

+** Validation Complete ***

PENSACOLA, SITE 39
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SVOA

SAMPLE ID ------->	039-P-SP02-00
ORIGINAL ID ----->	39SP02
LAB SAMPLE ID --->	553786
ID FROM REPORT -->	39SP02
SAMPLE DATE ----->	06/03/93
DATE EXTRACTED -->	06/09/93
DATE ANALYZED --->	06/11/93
MATRIX ---------->	Soil
UNITS ----------->	UG/L

CAS #	Parameter	17	VAL
121-14-2	2,4-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U
86-30-6	N-Nitrosodiphenylamine	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	25.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
86-74-8	Carbazole	10.	U
84-74-2	Di-n-butylphthalate	1.	J
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	5.	J
117-84-0	Di-n-octylphthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

*** Validation Complete ***

VOA													
	SAMPLE ID ------->	039-S-0001-01		039-S-0001-03		039-S-0001-05		039-S-0001-07		039-S-0002-01		(339-S-0002-03	
	ORIGINAL ID ----->	39S0101		39S0103		39S0105		39S0107		39S0201		39S0203	
	LAB SAMPLE ID --->	551796		551807		551808		551809		551810		!551811	
	ID FROM REPORT -->	39S0101		39S0103		39S0105		39S0107		39S0201		39S0203	
	SAMPLE DATE ----->	05/25/93		05/25/93		05/25/93		05/25/93		05/25/93		05/25/93	
	MATRIX ---------->	Soi1		Soil		Soi1		Soil		soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
591-78-6	2-Hexanone	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
67-64-1	Acetone	10.	U	150.	U	200.	U	40.	U	10.	U	200.	U
71-43-2	Benzene	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
75-25-2	Bromoform	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
74-83-9	Bromomethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
75-15-0	Carbon disulfide	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
108-90-7	Chlorobenzene	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
75-00-3	Chloroethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
67-66-3	Chloroform	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
74-87-3	Chloromethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
100-41-4	Ethylbenzene	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
75-09-2	Methylene chloride	26.	U	35.	U	36.	U	31.	U	30.	U	48.	U
100-42-5	Styrene	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
108-88-3	Toluene	10.	U	2.	J	11.	U	11.	U	10.	U	11.	U
79-01-6	Trichloroethene	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
75-01-4	Vinyl chloride	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	11.	U	11.	U	10.	U	11.	U

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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VOA													
	SAMPLE ID ------->	039-S-0002-05		039-S-0002-08		039-S-0003-01		039-S-0003-03		039-S-0003-05		039-S-0003-09	
	ORIGINAL ID ----->	39S0205		3980208		39S0301		39S0303		39S0305		39S0309	
	LAB SAMPLE ID -->	551812		555094		551915		551916		551917		555112	
	ID FROM REPORT -->	39S0205		39S0208		39S0301		39S0303		39S0305		39S0309	
	SAMPLE DATE ----->	05/25/93		06/09/93		05/26/93		05/26/93		05/26/93		06/09/93	
	DATE EXTRACTED -->			06/11/93								06/ 11/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	375	VAL	1	VAL	1	VAL	1	VAL	375	VAL
71-55-6	1,1,1-Trichloroethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
79-34-5	1,1,2,2-Tetrachloroethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
79-00-5	1,1,2-Trichloroethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
75-34-3	1,1-Dichloroethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
75-35-4	1,1-Dichloroethene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
107-06-2	1,2-Dichloroethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
540-59-0	1,2-Dichloroethene (total)	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
78-87-5	1,2-Dichloropropane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
78-93-3	2-Butanone (MEK)	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
591-78-6	2-Hexanone	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
67-64-1	Acetone	73.	U	92.	U	84.	U	46.	U	61.	U	21.	U
71-43-2	Benzene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
75-27-4	Bromodichloromethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
75-25-2	Bromoform	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
74-83-9	Bromomethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
75-15-0	Carbon disulfide	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
56-23-5	Carbon tetrachloride	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
108-90-7	Chlorobenzene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
75-00-3	Chloroethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
67-66-3	Chloroform	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
74-87-3	Chloromethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
124-48-1	Dibromochloromethane	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
100-41-4	Ethylbenzene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
75-09-2	Methylene chloride	29.	U	37.	U	29.	U	10.	U	14.	U	25.	U
100-42-5	Styrene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
127-18-4	Tetrachloroethene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
108-88-3	Toluene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
79-01-6	Trichloroethene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
75-01-4	Vinyl chloride	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
1330-20-7	Xylene (Total)	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
10061-01-5	cis-1,3-Dichloropropene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U
10061-02-6	trans-1,3-Dichloropropene	11.	U	11.	U	10.	U	11.	U	11.	U	11.	U

*** Validation Complete **+

VOA															
	SAMPLE ID ------->	039-S-0004-00		039-5-0004-01		039-S-0004-03		039-S-0004-04		039-S-0004-05		039-S-0005-00	
	ORIGINAL ID ----->	39S04		39S0401		39S0403		39S0404		39S0405		39S05	
	LAB SAMPLE ID --->	555114		551918		551919		551920		551921		555116	
	ID FROM REPORT -->	39S04		3950401		39S0403		39S0404		39S0405		39S05	
	SAMPLE DATE ----->	06/09/93		05/26/93		05/26/93		05/ 26/93		05/26/93		06/09/93	
	DATE EXTRACTED -->	06/11/93										06/11/93	
	MATRIX ---------->	Soil		soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	375	VAL	1	VAL	1	VAL	1	VAL	1	VAL	375	VAL
71-55-6	1,1,1-Trichloroethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
79-00-5	1,1,2-Trichloroethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
75-34-3	1,1-Dichloroethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
75-35-4	1,1-Dichloroethene	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
107-06-2	1,2-Dichloroethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	12.	U		U	10.	U	10.	U	11.	U	10.	U
78-87-5	1,2-Dichloropropane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
78-93-3	2-Butanone (MEK)	12.	U	10.		10.	U	10.	U	11.	U	10.	U
591-78-6	2-Hexanone	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
67-64-1	Acetone	8.	U	22.	U	43.	U	110.	U	200.	U	10.	U
71-43-2	Benzene	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
75-27-4	Bromodichloromethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
75-25-2	Bromoform	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
74-83-9	Bromomethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
75-15-0	Carbon disulfide	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
56-23-5	Carbon tetrachloride	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
108-90-7	Chlorobenzene	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
75-00-3	Chloroethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
67-66-3	Chloroform	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
74-87-3	Chloromethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
124-48-1	Dibromochloromethane	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
100-41-4	Ethylbenzene	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
75-09-2	Methylene chloride	31.	U	19.	U	19.	U	20.	U	33.	U	18.	U
100-42-5	Styrene	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
127-18-4	Tetrachloroethene	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
108-88-3	Toluene	12.	U	10.	U	10.	U	1.	J	11.	U	10.	U
79-01-6	Trichloroethene	12.	U	10.	U	10.	U	1.	J	11.	U	10.	U
75-01-4	Vinyl chloride	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
1330-20-7	Xylene (Total)	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	12.	U	10.	U	10.	U	10.	U	11.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

VOA													
	SAMPLE ID ------->	039-S-0005-01		039-S-0005-03		039-S-0005-05		039-C-0005-05 D		039-S-0006-00		039-S-0006-01	
	ORIGINAL ID ----->	39S0501		39S0503		39S0505		39S0505D		39S06		39S0601	
	LAB SAMPLE ID --->	551922		551923		551924		551925		555118		551926	
	ID FROM REPORT -->	39S0501		39S0503		3930505		39S0505D		39S06		39S0601	
	SAMPLE DATE ----->	05/26/93		05/26/93		05/26/93		05/26/93		06/09/93		05/26/93	
	DATE EXTRACTED -->									06/11/93			
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL	375	VAL	1	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
67-64-1	Acetone	67.	U	33.	U	110.	U	67.	U	43.	U	19.	U
71-43-2	Benzene	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
75-09-2	Methylene chloride	32.	U	14.	U	19.	U	36.	U	21.	U	12.	U
100-42-5	Styrene	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	1.	J	11.	U	11.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	11.	U	11.	U	11.	U		
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	11.	U	11.	U	11.	U	10.	U

*** Validation Complete ***

VOA													
	SAMPLE ID ------->	039-C-0006-01 D		039-S-0006-03		039-S-0006-05		(139-s-SL01-00		039-S-SN01-00		039-S-SN02-00	
	ORIGINAL ID ----->	39S0601D		39S0603		39S0605		39SL01SAND		39SN01BENT		39SN02BENT	
	LAB SAMPLE ID --->	551927		551928		551929		553890		!553887		553888	
	ID FROM REPORT -->	39S0601D		39S0603		39S0605		39SL01SAND		39SN01BENT		39SN02BENT	
	SAMPLE DATE ----->	05/26/93		05/26/93		05/26/93		(36/03/93		06/03/93			
	DATE EXTRACTED -->			06/03/93		06/03/93							
	MATRIX ---------->	Soil		Soi 1		Sail		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	32	VAL	32	VAL	'120	VAL	120	VAL	120	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
591-78-6	2-Hexanone	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
67-64-1	Acetone	13.	U	12.	U	40.	U	10.	U	14.	U	11.	U
71-43-2	Benzene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
75-25-2	Bromoform	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
74-83-9	Bromomethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
75-15-0	Carbon disulfide	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
108-90-7	Chlorobenzene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
75-00-3	Chloroethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
67-66-3	Chloroform	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
74-87-3	Chloromethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
100-41-4	Ethylbenzene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
75-09-2	Methylene chloride	11.	U	12.	U	17.	U	8.	U	13.	U	13.	U
100-42-5	Styrene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
108-88-3	Toluene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
79-01-6	Trichloroethene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
75-01-4	Vinyl chloride	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	11.	U	10.	U	11.	U	11.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

METAL

SAMPLE ID ------->	039-P-SOO1-00
ORIGINAL ID ----->	39S001PORT
LAB SAMPLE ID --->	553911
ID FROM REPORT -->	39S001PORT
SAMPLE DATE ----->	06/03/93
MATRIX ---------->	soi1
UNITS ---------->	MG/KG

CAS #	Parameter	31413	VAL
AL	Aluminum	21100.	
SB	Antimony	9.2	R
AS	Arsenic	7.7	
BA	Barium	190.	
BE	Beryllium	0.48	J
CD	Cadmium	1.	U
CA	Calcium	337000.	J
CR	Chromium	31.6	
CO	Cobalt	6.1	
CU	Copper	13.6	
CN	Cyanide	0.5	U
FE	Iron	17600.	J
PB	Lead	41.3	
MG	Magnesium	13200.	
MN	Manganese	204.	J
HG	Mercury	0.1	U
NI	Nickel	22.6	
K	Potassium	4670.	
SE	Selenium	6.	U
AG	Silver	6.	U
NA	Sodium	420.	
TL	Thallium	0.8	U
V	Vanadium	57.3	
ZN	Zinc	97.7	J

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

PEST

SAMPLE ID ------->	039-P-SOO1-00
ORIGINAL ID ----->	39S001PORT
LAB SAMPLE ID --->	553889
ID FROM REPORT -->	39S001PORT
SAMPLE DATE ----->	06/03/93
DATE EXTRACTED -->	06/11/93
MATRIX ---------->	Soil
UNITS ----------->	UG/KG

CAS #	Parameter	120	VAL
72-54-8	4,4'-DDD	3.2	U
72-55-9	4,4'-DDE	3.2	U
50-29-3	4,4'-DDT	3.2	U
309-00-2	Aldrin	1.7	U
12674-11-2	Aroclor-1016	32.	U
11104-28-2	Aroclor-1221	65.	U
11141-16-5	Aroclor-1232	32.	U
53469-21-9	Aroclor-1242	32.	U
12672-29-6	Aroclor-1248	32.	U
11097-69-1	Aroclor-1254	32.	U
11096-82-5	Aroclor-1260	32.	U
60-57-1	Dieldrin	3.2	U
959-98-8	Endosulfan I	1.7	U
33213-65-9	Endosulfan II	3.2	U
1031-07-8	Endosulfan sulfate	3.2	U
72-20-8	Endrin	3.2	U
7421-36-3	Endrin aldehyde	3.2	U
53494-70-5	Endrin ketone	3.2	U
76-44-8	Heptachlor	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
72-43-5	Methoxychlor	17.	U
8001-35-2	Toxaphene	170.	U
319-84-6	alpha-BHC	1.7	U
5103-71-9	alpha-Chlordane	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
5103-74-2	gamma-Chlordane	1.7	U

*++ Validation Complete +++

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

SVOA

SAMPLE ID ------->	039-P-S001-00
ORIGINAL ID ----->	39S001PORT
LAB SAMPLE ID --->	553889
ID FROM REPORT -->	39S001PORT
SAMPLE DATE ----->	06/03/93
DATE EXTRACTED -->	06/11/93
MATRIX ---------->	Soil
UNITS ---------->	UG/KG

CAS #	Parameter	120	VAL
108-95-2	Phenol	5900.	J
111-44-4	bis(2-Chloroethyl)ether	330.	U
95-57-8	2-Chlorophenol	330.	U
541-73-1	1,3-Dichlorobenzene	330.	U
106-46-7	1,4-Dichlorobenzene	330.	U
95-50-1	1,2-Dichlorobenzene	330.	U
95-48-7	2-Methylphenol (o-Cresol)	330.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330.	U
106-44-5	4-Methylphenol (p-Cresol)	330.	U
621-64-7	N-Nitroso-di-n-propylamine	330.	U
67-72-1	Hexachloroethane	330.	U
98-95-3	Nitrobenzene	330.	U
78-59-1	Isophorone	330.	U
88-75-5	2-Nitrophenol	330.	U
105-67-9	2,4-Dimethylphenol	330.	U
111-91-1	bis(2-Chloroethoxy)methane	330.	U
120-83-2	2,4-Dichlorophenol	330.	U
120-82-1	1,2,4-Trichlorobenzene	330.	U
91-20-3	Naphthalene	330.	U
106-47-8	4-Chloroaniline	330.	U
87-68-3	Hexachlorobutadiene	330.	U
59-50-7	4-Chloro-3-methylphenol	330.	U
91-57-6	2-Methylnaphthalene	330.	U
77-47-4	Hexachlorocyclopentadiene	330.	U
88-06-2	2,4,6-Trichlorophenol	330.	U
95-95-4	2,4,5-Trichlorophenol	800.	U
91-58-7	2-Chloronaphthalene	330.	U
88-74-4	2-Nitroaniline	800.	U
131-11-3	Dimethylphthalate	330.	U
208-96-8	Acenaphthylene	330.	U
606-20-2	2,6-Dinitrotoluene	330.	U
99-09-2	3-Nitroaniline	800.	U
83-32-9	Acenaphthene	330.	U
51-28-5	2,4-Dinitrophenol	800.	U
100-02-7	4-Nitrophenol	800.	U
132-64-9	Dibenzofuran	330.	U
121-14-2	2,4-Dinitrotoluene	330.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

SVOA

SAMPLE ID ------->	039-P-SOOI -00
ORIGINAL ID ----->	39S001PORT
LAB SAMPLE ID --->	553889
ID FROM REPORT -->	39S001PORT
SAMPLE DATE ----->	06/03/93
DATE EXTRACTED -->	06/11/93
MATRIX ---------->	Soil
UNITS ---------->	UG/KG

CAS #	Parameter	120	VAL
84-66-2	Diethylphthalate	330.	U
7005-72-3	4-Chlorophenyl-phenylether	330.	U
86-73-7	Fluorene	330.	U
100-01-6	4-Nitroaniline	800.	U
534-52-1	4,6-Dinitro-2-methylphenol	800.	U
86-30-6	N-Nitrosodiphenylamine	330.	U
101-55-3	4-Bromophenyl-phenylether	330.	U
118-74-1	Hexachlorobenzene	330.	U
87-86-5	Pentachlorophenol	800.	U
85-01-8	Phenanthrene	330.	U
120-12-7	Anthracene	330.	U
86-74-8	Carbazole	330.	U
84-74-2	Di-n-butylphthalate	330.	U
206-44-0	Fluoranthene	330.	U
129-00-0	Pyrene	330.	U
85-68-7	Butylbenzylphthalate	330.	U
91-94-1	3,3'-Dichlorobenzidine	330.	U
56-55-3	Benzo(a)anthracene	330.	U
218-01-9	Chrysene	330.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	330.	U
117-84-0	Di-n-octylphthalate	330.	U
205-99-2	Benzo(b)fluoranthene	330.	U
207-08-9	Benzo(k)fluoranthene	330.	U
50-32-8	Benzo(a)pyrene	330.	U
193-39-5	Indeno(1,2,3-cd)pyrene	330.	U
53-70-3	Dibenzo(a,h)anthracene	330.	U
191-24-2	Benzo(g,h,i)perylene	330.	U

*** Validation Complete ***

VOA

SAMPLE ID ------->	039-P-S001-00
ORIGINAL ID ----->	39S001PORT
LAB SAMPLE ID --->	553889
ID FROM REPORT -->	39S001PORT
SAMPLE DATE ----->	06/03/93
MATRIX ---------->	Soil
UNITS ---------->	UG/KG

CAS #	Parameter	120	VAL
71-55-6	1,1,1-Trichloroethane	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
75-34-3	1,1-Dichloroethane	10.	U
75-35-4	1,1-Dichloroethene	10.	U
107-06-2	1,2-Dichloroethane	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U
78-87-5	1,2-Dichloropropane	10.	U
78-93-3	2-Butenone (MEK)	10.	U
591-78-6	2-Hexanone	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U
67-64-1	Acetone	10.	U
71-43-2	Benzene	10.	U
75-27-4	Bromodichloromethane	10.	U
75-25-2	Bromoform	10.	U
74-83-9	Bromomethane	10.	U
75-15-0	Carbon disulfide	10.	U
56-23-5	Carbon tetrachloride	10.	U
108-90-7	Chlorobenzene	10.	U
75-00-3	Chloroethane	10.	U
67-66-3	Chloroform	10.	U
74-87-3	Chloromethane	10.	U
124-48-1	Dibromochloromethane	10.	U
100-41-4	Ethylbenzene	10.	U
75-09-2	Methylene chloride	7.	U
100-42-5	Styrene	10.	U
127-18-4	Tetrachloroethene	10.	U
108-88-3	Toluene	2.	J
79-01-6	Trichloroethene	10.	U
75-01-4	Vinyl chloride	10.	U
1330-20-7	Xylene (Total)	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
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HEXACHROME									
	SAMPLE ID ------->	039-S-0005-05		039-S-0006-01					
	ORIGINAL ID ----->	39S0505		39S0601					
	LAB SAMPLE ID --->	551975		551980					
	ID FROM REPORT -->	3990505		39S0601					
	SAMPLE DATE ----->	05/26/93		05/26/93					
	DATE EXTRACTED -->	06/02/93		06/02/93					
	DATE ANALYZED --->	06/03/93		06/03/93					
	MATRIX ---------->	Soil		Soil					
	UNITS ---------->	mg/L		mg/L					
CAS #	Parameter	NONE	VAL	NONE	VAL				
999900-00-5	Hexavalent Chromium	0.01	U	0.01	U				

*** Validation Complete ***

PENSACOLA, SITE 39
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PEST

SAMPLE ID ------->		PBL-T-0001-07		PBL-1-0001-08		PBL-1-0001-09		PBL-T-0032-03		PBL-T-0032-04		PBL-T-0032-06	
ORIGINAL ID ----->		PBLK13		PBLK61		PBLK14		PBLK15		PBLK23		PBLK56	
LAB SAMPLE ID --->		553067		557672		552928		552929		553479		555278	
ID FROM REPORT -->		PBLK13		PBLK61		PBLK14		PBLK15		PBLK23		PBLK56	
SAMPLE DATE ----->													
DATE EXTRACTED -->		06/03/93		06/21/93		06/03/93		06/03/93		06/04/93		06/11/93	
MATRIX --------->		Soil		soil		Soil		soil		Soil		Soil	
UNITS ---------->		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	32	VAL	32	VAL	32	VAL
72-54-8	4,4'-DDD	3.3	U	3.3	U	3.3	U	3.3	U	0.48	J	3.3	U
72-55-9	4,4'-DDE	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
50-29-3	4,4'-DDT	3.3	U	0.11	J	3.3	U	3.3	U	3.3	U	3.3	U
309-00-2	Aldrin	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
12674-11-2	Aroclor-1016	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11104-28-2	Aroclor-1221	67.	U	67.	U	67.	U	67.	U	47.	U	67.	U
11141-16-5	Aroclor-1232	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
53469-21-9	Aroclor-1242	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
12672-29-6	Aroclor-1248	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11097-69-1	Aroclor-1254	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11096-82-5	Aroclor-1260	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
60-57-1	Dieldrin	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
959-98-8	Endosulfan I	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
33213-65-9	Endosulfan II	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
72-20-8	Endrin	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
7421-36-3	Endrin aldehyde	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
53494-70-5	Endrin ketone	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
76-44-8	Heptachlor	0.19	J	1.7	U	0.062	J	1.7	U	1.7	U	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
72-43-5	Methoxychlor	17.	U	17.	U	17.	U	17.	U	17.	U	17.	U
8001-35-2	Toxaphene	170.	U	170.	U	176.	U	170.	U	170.	U	170.	U
319-84-6	alpha-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-71-9	alpha-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-85-7	beta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-86-8	delta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-74-2	gamma-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U

*** Validation Complete ***

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PEST													
	SAMPLE ID ------->	PBL-T-0120-05		PBL-T-0120-07		PBL-T-0375-09		PBL-T-0375-10		PBL-T-0375-11		PBL-T-0375-12	
	ORIGINAL ID ----->	PBLK53		PBLK57		PBLK94		PBLK94		PBLK95		PBLK95	
	LAB SAMPLE ID --->	555312		555279		557640		!557640 R1		!557641		!557641 R1	
	ID FROM REPORT -->	PBLK53		PBLK57		PBLK94		PBLK94		PBLK95		PBLK95	
	SAMPLE DATE ----->												
	DATE EXTRACTED -->	06/11/93		06/11/93		06/21/93		!36/21/93		06/21/93		06/21/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	120	VAL	120	VAL	375	VAL	375	VAL	375	VAL	375	VAL
72-54-8	4,4'-DDD	3.3	U	3.3	U	3.3	U	0.	U	3.3	U	0.	U
72-55-9	4,4'-DDE	3.3	U	0.064	J	3.3	U	0.	U	3.3	U	0.	U
50-29-3	4,4'-DDT	3.3	U	0.091	J	3.3	U	0.	U	3.3	U	0.	U
309-00-2	Aldrin	1.7	U	1.7	U	1.7	U	0.	U	1.7	U	0.	U
12674-11-2	Aroclor-1016	33.	U	33.	U	33.	U	0.	U	33.	U	0.	U
11104-28-2	Aroclor-1221	67.	U	67.	U	67.	U	0.	U	67.	U	0.	U
11141-16-5	Aroclor-1232	33.	U	33.	U	33.	U	0.	U	33.	U	0.	U
53469-21-9	Aroclor-1242	33.	U	33.	U	33.	U	0.	U	33.	U	0.	U
12672-29-6	Aroclor-1248	33.	U	33.	U	33.	U	0.	U	33.	U	0.	U
11097-69-1	Aroclor-1254	33.	U	33.	U	33.	U	0.	U	33.	U	0.	U
11096-82-5	Aroclor-1260	33.	U	33.	U	33.	U	0.	U	1.2	J	0.	U
60-57-1	Dieldrin	3.3	U	0.091	J	3.3	U	0.	U	3.3	U	0.	U
959-98-8	Endosulfan I	1.7	U	1.7	U	1.7	U	0.	U	1.7	U	0.	U
33213-65-9	Endosulfan II	3.3	U	3.3	U	3.3	U	0.	U	3.3	U	0.	U
1031-07-8	Endosulfan sulfate	3.3	U	0.065	J	3.3	U	0.	U	3.3	U	0.	U
72-20-8	Endrin	3.3	U	3.3	U	3.3	U	0.	U	3.3	U	0.	U
7421-36-3	Endrin aldehyde	3.3	U	3.3	U	3.3	U	0.	U	3.3	U	0.	U
53494-70-5	Endrin ketone	3.3	U	3.3	U	3.3	U	0.	U	3.3	U	0.	U
76-44-8	Heptachlor	0.069	J	0.085	J	1.7	U	0.	U	0.073	J	0.	U
1024-57-3	Heptachlor epoxide	1.7	U	1.7	U	1.7	U	0.	U	1.7	U	0.	U
72-43-5	Methoxychlor	17.	U	3.3	J	17.	U	0.	U	17.	U	0.	U
8001-35-2	Toxaphene	170.	U	170.	U	170.	U	0.	U	170.	U	0.	U
319-84-6	alpha-BHC	1.7	U	1.7	U	1.7	U	0.	U	1.7	U	0.	U
5103-71-9	alpha-Chlordane	1.7	U	0.033	J	1.7	U	0.	U	1.7	U	0.	U
319-85-7	beta-BHC	1.7	U	1.7	U	1.7	U	0.	U	1.7	U	0.	U
319-86-8	delta-BHC	1.7	U	1.7	U	1.7	U	0.	U	1.7	U	0.	U
58-89-9	gamma-BHC (Lindane)	1.7	U	1.7	U	1.7	U	0.	U	1.7	U	0.	U
5103-74-2	gamma-Chlordane	1.7	U	0.048	J	1.7	U	0.	U	1.7	U	0.	U

*** Validation Complete ***

PENSACOLA, SITE 39
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SVOA													
	SAMPLE ID -------	SBL-T-0001-19		SBL-T-0001-21		SBL-1-0032-14		SBL-f-0032-20		SBL-f-0120-13		SBL-1-0120-16	
	ORIGINAL ID -----	SBLK61		SBLK73		SBLK09		SBLK72		SBLK02		SBLK32	
	LAB SAMPLE ID ---	SBLK61		SBLK73		SBLK09		SBLK72		SBLK02		SBLK32	
	ID FROM REPORT --	SBLK61		SBLK73		SBLK09		SBLK72		SBLK02		SBLK32	
	SAMPLE DATE -----												
	DATE EXTRACTED --	06/03/93		06/04/93		06/14/93		06/04/93		06/11/93		06/17/93	
	MATRIX ----------	Soil		Soil		Soil		soil		Soil		Soil	
	UNITS ----------	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	32	VAL	32	VAL	120	VAL	120	VAL
108-95-2	Phenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
111-44-4	bis(2-Chloroethyl)ether	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
95-57-8	2-Chlorophenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
541-73-1	1,3-Dichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
106-46-7	1,4-Dichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
95-50-1	1,2-Dichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
95-48-7	2-Methylphenol (o-Cresol)	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330.	U	330.	U	330.	U	330.	U	330.	U	336.	U
106-44-5	4-Methylphenol (p-Cresol)	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
621-64-7	N-Nitroso-di-n-propylamine	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
67-72-1	Hexachloroethane	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
98-95-3	Nitrobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
78-59-1	Isophorone	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
88-75-5	2-Nitrophenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
105-67-9	2,4-Dimethylphenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
111-91-1	bis(2-Chloroethoxy)methane	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
120-83-2	2,4-Dichlorophenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
120-82-1	1,2,4-Trichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
91-20-3	Naphthalene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
106-47-8	4-Chloroaniline	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
87-68-3	Hexachlorobutadiene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
59-50-7	4-Chloro-3-methylphenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
91-57-6	2-Methylnaphthalene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
77-47-4	Hexachlorocyclopentadiene	330.	U	336.	U	330.	U	330.	U	330.	U	330.	U
88-06-2	2,4,6-Trichlorophenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
95-95-4	2,4,5-Trichlorophenol	800.	U	790.	U	800.	U	790.	U	800.	U	800.	U
91-58-7	2-Chloronaphthalene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
88-74-4	2-Nitroaniline	800.	U	790.	U	800.	U	790.	U	800.	U	800.	U
131-11-3	Dimethylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
208-96-8	Acenaphthylene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
606-20-2	2,6-Dinitrotoluene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
99-09-2	3-Nitroaniline	800.	U	790.	U	800.	U	790.	U	800.	U	800.	U
83-32-9	Acenaphthene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
51-28-5	2,4-Dinitrophenol	800.	U	790.	U	800.	U	790.	U	800.	U	800.	U
100-02-7	4-Nitrophenol	800.	U	790.	U	800.	U	790.	U	800.	U	800.	U
132-64-9	Dibenzofuran	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
121-14-2	2,4-Dinitrotoluene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U

*** Validation Complete ***

PENSACOLA, SITE 39
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SVOA													
	SAMPLE ID ------->	SBL-f-0001-19		SBL-T-0001-21		SBL-1-0032-14		SBL-T-0032-20		SBL-T-0120-13		SBL-f-0120-16	
	ORIGINAL ID ----->	SBLK61		SBLK73		SBLK09		SBLK72		SBLK02		SBLK32	
	LAB SAMPLE ID --->	SBLK61		SBLK73		SBLK09		SBLK72		SBLK02		SBLK32	
	ID FROM REPORT -->	SBLK61		SBLK73		SBLK09		SBLK72		SBLK02		SBLK32	
	SAMPLE DATE ----->												
	DATE EXTRACTED -->	06/03/93		06/04/93		06/14/93		06/04/93		06/11/93		06/17/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	32	VAL	32	VAL	120	VAL	120	VAL
84-66-2	Diethylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
7005-72-3	4-Chlorophenyl-phenylether	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
86-73-7	Fluorene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
100-01-6	4-Nitroaniline	800.	U	790.	U	800.	U	790.	U	800.	U	800.	U
534-52-1	4,6-Dinitro-2-methylphenol	800.	U	790.	U	800.	U	790.	U	800.	U	800.	U
86-30-6	N-Nitrosodiphenylamine	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
101-55-3	4-Bromophenyl-phenylether	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
118-74-1	Hexachlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
87-86-5	Pentachlorophenol	800.	U	790.	U	800.	U	790.	U	800.	U	800.	U
85-01-8	Phenanthrene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
120-12-7	Anthracene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
86-74-8	Carbazole	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
84-74-2	Di-n-butylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
206-44-0	Fluoranthene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
129-00-0	Pyrene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
85-68-7	Butylbenzylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U	100.	J
91-94-1	3,3'-Dichlorobenzidine	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
56-55-3	Benzo(a)anthracene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
218-01-9	Chrysene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	170.	J	330.	U	330.	U	330.	U	330.	U	330.	U
117-84-0	Di-n-octylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
205-99-2	Benzo(b)fluoranthene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
207-08-9	Benzo(k)fluoranthene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
50-32-8	Benzo(a)pyrene	330.	U	330.	U	330.	U	336.	U	330.	U	330.	U
193-39-5	Indeno(1,2,3-cd)pyrene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
53-70-3	Dibenzo(a,h)anthracene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
191-24-2	Benzo(g,h,i)perylene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

SVOA											
	SAMPLE ID ------->	SBL-T-0120-17		SBL-T-0375-15		SBL-T-0375-18					
	ORIGINAL ID ----->	SBLK50		SBLK31		SBLK51					
	LAB SAMPLE ID --->	SBLK50		SBLK31		SBLK51					
	ID FROM REPORT -->	SBLK50		SBLK31		SBLK51					
	SAMPLE DATE ----->										
	DATE EXTRACTED -->	06/17/93		06/17/93		06/21/93					
	MATRIX ---------->	Soil		Soil		Soil					
	UNITS ---------->	UG/KG		UG/KG		UG/KG					
CAS #	Parameter	120	VAL	375	VAL	375	VAL				
108-95-2	Phenol	330.	U	330.	U	330.	U				
111-44-4	bis(2-Chloroethyl)ether	330.	U	330.	U	330.	U				
95-57-8	2-Chlorophenol	330.	U	330.	U	330.	U				
541-73-1	1,3-Dichlorobenzene	330.	U	330.	U	330.	U				
106-46-7	1,4-Dichlorobenzene	330.	U	330.	U	330.	U				
95-50-1	1,2-Dichlorobenzene	330.	U	330.	U	330.	U				
95-48-7	2-Methylphenol (o-Cresol)	330.	U	330.	U	330.	U				
108-60-1	2,2'-oxybis(1-Chloropropane)	330.	U	330.	U	330.	U				
106-44-5	4-Methylphenol (p-Cresol)	330.	U	330.	U	330.	U				
621-64-7	N-Nitroso-di-n-propylamine	330.	U	330.	U	330.	U				
67-72-1	Hexachloroethane	330.	U	330.	U	330.	U				
98-95-3	Nitrobenzene	330.	U	330.	U	330.	U				
78-59-1	Isophorone	330.	U	330.	U	330.	U				
88-75-5	2-Nitrophenol	330.	U	330.	U	330.	U				
105-67-9	2,4-Dimethylphenol	330.	U	330.	U	330.	U				
111-91-1	bis(2-Chloroethoxy)methane	330.	U	330.	U	330.	U				
120-83-2	2,4-Dichlorophenol	330.	U	330.	U	330.	U				
120-82-1	1,2,4-Trichlorobenzene	330.	U	330.	U	330.	U				
91-20-3	Naphthalene	330.	U	330.	U	330.	U				
106-47-8	4-Chloroaniline	330.	U	330.	U	330.	U				
87-68-3	Hexachlorobutadiene	330.	U	330.	U	330.	U				
59-50-7	4-Chloro-3-methylphenol	330.	U	330.	U	330.	U				
91-57-6	2-Methylnaphthalene	330.	U	330.	U	330.	U				
77-47-4	Hexachlorocyclopentadiene	330.	U	330.	U	330.	U				
88-06-2	2,4,6-Trichlorophenol	330.	U	330.	U	330.	U				
95-95-4	2,4,5-Trichlorophenol	800.	U	790.	U	790.	U				
91-58-7	2-Chloronaphthalene	330.	U	330.	U	330.	U				
88-74-4	2-Nitroaniline	800.	U	790.	U	790.	U				
131-11-3	Dimethylphthalate	330.	U	330.	U	330.	U				
208-96-8	Acenaphthylene	330.	U	330.	U	330.	U				
606-20-2	2,6-Dinitrotoluene	330.	U	330.	U	330.	U				
99-09-2	3-Nitroaniline	800.	U	790.	U	790.	U				
83-32-9	Acenaphthene	330.	U	330.	U	330.	U				
51-28-5	2,4-Dinitrophenol	800.	U	790.	U	790.	U				
100-02-7	4-Nitrophenol	800.	U	790.	U	790.	U				
132-64-9	Dibenzofuran	330.	U	330.	U	330.	U				
121-14-2	2,4-Dinitrotoluene	330.	U	330.	U	330.	U				

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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SVOA									
	SAMPLE ID ------->	SBL-T-0120-17		SBL-T-0375-15		SBL-T-0375-18			
	ORIGINAL ID ----->	SBLK50		SBLK31		SBLK51			
	LAB SAMPLE ID --->	SELKSO		SBLK31		SBLK51			
	ID FROM REPORT -->	SBLK50		SBLK31		SBLK51			
	SAMPLE DATE ----->								
	DATE EXTRACTED -->	06/17/93		06/17/93		06/21/93			
	MATRIX ---------->	Soil		soil		Soil			
	UNITS ---------->	UG/KG		UG/KG		UG/KG			
CAS #	Parameter	120	VAL	375	VAL	375	VAL		
84-66-2	Diethylphthalate	330.	U	330.	U	330.	U		
7005-72-3	4-Chlorophenyl-phenylether	330.	U	330,	U	330.	U		
86-73-7	Fluorene	330.	U	330.	U	330.	U		
100-01-6	4-Nitroaniline	800.	U	790.	U	790.	U		
534-52-1	4,6-Dinitro-2-methylphenol	800.	U	790.	U	790.	U		
86-30-6	N-Nitrosodiphenylamine	330.	U	330.	U	330.	U		
101-55-3	4-Bromophenyl-phenylether	330.	U	330.	U	330.	U		
118-74-1	Hexachlorobenzene	330.	U	330.	U	330.	U		
87-86-5	Pentachlorophenol	800.	U	790.	U	790.	U		
85-01-8	Phenanthrene	330.	U	330.	U	330.	U		
120-12-7	Anthracene	330.	U	330.	U	330.	U		
86-74-8	Carbazole	330.	U	330.	U	330.	U		
84-74-2	Di-n-butylphthalate	330.	U	330.	U	330.	U		
206-44-0	Fluoranthene	330.	U	330.	U	330.	U		
129-00-0	Pyrene	330.	U	330.	U	330.	U		
85-68-7	Butylbenzylphthalate	330.	U	43.	J	330.	U		
91-94-1	3,3'-Dichlorobenzidine	330.	U	330.	U	330.	U		
56-55-3	Benzo(a)anthracene	330.	U	330.	U	330.	U		
218-01-9	Chrysene	330.	U	330.	U	330.	U		
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	330.	U	36.	J	330.	U		
117-84-0	Di-n-octylphthalate	330.	U	330.	U	330.	U		
205-99-2	Benzo(b)fluoranthene	330.	U	330.	U	330.	U		
207-08-9	Benzo(k)fluoranthene	330.	U	330.	U	330.	U		
50-32-8	Benzo(a)pyrene	330.	U	330.	U	330.	U		
193-39-5	Indeno(1,2,3-cd)pyrene	330.	U	330.	U	330.	U		
53-70-3	Dibenzo(a,h)anthracene	330.	U	330.	U	330.	U		
191-24-2	Benzo(g,h,i)perylene	330.	U	330.	U	330.	U		

*** Validation Complete ***

PENSACOLA, SITE 39
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VOA															
	SAMPLE ID ------->	VBL-T-0001-23		VBL-T-0001-34		VBL-T-0001-35		VBL-T-0001-36		VEL-t-0001-37		VBL-T-0032-22	
	ORIGINAL ID ----->	VBLKD9		VBLKU4		VBLKU6		VBLKX2		VBLKX7		VBLKD3	
	LAB SAMPLE ID --->	VBLKD9		VBLKU4		VBLKU6		VBLKX2		VBLKX7		VBLKD3	
	ID FROM REPORT -->	VBLKD9		VBLKU4		VBLKU6		VBLKX2		VBLKX7		VBLKD3	
	SAMPLE DATE ----->											06/03/93	
	DATE EXTRACTED -->												
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL	32	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	15.	J	10.	U	31.	J	10.	U	12.	J	10.	J
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	14.	J	21.	J	5.	J	21.	J	9.	J	10.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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VOA													
	SAMPLE ID ------->	VBL-T-0032-26		VBL-T-0032-29		VBL-T-0032-30		VBL-T-0032-38		VBL-T-0120-25		VBL-T-0120-27	
	ORIGINAL ID ----->	VBLKG6		VBLKK8		VBLKL9		VBLKX8		VBLKF6		VBLKJ7	
	LAB SAMPLE ID --->	VBLKG6		VBLKK8		VBLKL9		VBLKX8		VBLKF6		VBLKJ7	
	ID FROM REPORT -->	VBLKG6		VBLKK8		VBLKL9		VBLKX8		VBLKF6		VBLKJ7	
	SAMPLE DATE ----->												
	DATE EXTRACTED -->	06/03/93		06/03/93		06/03/93		06/03/93					
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	32	VAL	32	VAL	32	VAL	32	VAL	120	VAL	120	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	5.	J	12.	J	10.	U	12.	J	19.	J	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	8.	J	12.	J	17.	J	11.	J	24.	J	20.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
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Final Report

VOA											
	SAMPLE ID ------->	VBL-T-0120-28		VBL-T-0375-24		VBL-T-0375-31		VBL-T-0375-32		VBL-T-0375-33	
	ORIGINAL ID ----->	VBLKJ8		VBLKE6		VBLKS5		VBLKS6		VBLKS9	
	LAB SAMPLE ID --->	VBLKJ8		VBLKE6		VBLKS5		VBLKS6		VBLKS9	
	ID FROM REPORT -->	VBLKJ8		VBLKE6		VBLKS5		VBLKS6		VBLKS9	
	SAMPLE DATE ----->										
	DATE EXTRACTED -->			06/11/93		06/11/93		06/11/93		06/11/93	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	120	VAL	375	VAL	375	VAL	375	VAL	375	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	13.	J	10.	U	13.	J	25.	J	7.	J
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	16.	J	9.	J	17.	J	18.	J	6.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

PEST

SAMPLE ID ------->		039-K-0002-01 MS		039-X-0002-01 MSD		039-S-0004-01 DL		039-S-0103-00 DL			
ORIGINAL ID ----->		39S0201MS		39S0201MSD		39S0401DL		39S0103DL			
LAB SAMPLE ID --->		551803		551804		551918 D12		551807 D51			
ID FROM REPORT -->		39S0201MS		39S0201MSD		39S0401DL		39S0103DL			
SAMPLE DATE ----->		05/25/93		05/25/93		05/26/93		05/25/93			
DATE EXTRACTED -->		06/03/93		06/03/93		06/03/93		06/03/93			
MATRIX ---------->		Soil		Soil		Soil		Soil			
UNITS ---------->		UG/KG		UG/KG		UG/KG		UG/KG			
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL		
72-54-8	4,4'-DDD	3.3	U	3.3	U	330.	U	650.			
72-55-9	4,4'-DDE	3.3	U	3.3	U	27.	J	170.	U		
50-29-3	4,4'-DDT	23.		21.		330.	U	170.	U		
309-00-2	Aldrin	11.		9.9		170.	U	87.	U		
12674-11-2	Aroclor-1016	33.	U	33.	U	3300.	U	1700.	U		
11104-28-2	Aroclor-1221	67.	U	67.	U	6800.	U	3400.	U		
11141-16-5	Aroclor-1232	33.	U	33.	U	3300.	U	1700.	U		
53469-21-9	Aroclor-1242	33.	U	33.	U	3300.	U	1700.	U		
12672-29-6	Aroclor-1248	33.	U	33.	U	3300.	U	1700.	U		
11097-69-1	Aroclor-1254	33.	U	33.	U	3300.	U	1700.	U		
11096-82-5	Aroclor-1260	33.	U	33.	U	3300.	U	1700.	U		
60-57-1	Dieldrin	24.		22.		27.	J	170.	U		
959-98-8	Endosulfan I	1.7	U	1.7	U	60.	J	87.	U		
33213-65-9	Endosulfan II	3.3	U	3.3	U	330.	U	170.	U		
1031-07-8	Endosulfan sulfate	3.3	U	3.3	U	330.	U	170.	U		
72-20-8	Endrin	25.		23.		12.	J	170.	U		
7421-36-3	Endrin aldehyde	0.29	J	0.26	J	330.	U	170.	U		
53494-70-5	Endrin ketone	3.3	U	0.24	J	330.	U	170.	U		
76-44-8	Heptachlor	12.	J	11.	J	170.	U	87.	U		
1024-57-3	Heptachlor epoxide	1.7	U	1.7	U	17.	J	87.	U		
72-43-5	Methoxychlor	17.	U	17.	U	1700.	U	870.	U		
8001-35-2	Toxaphene	170.	U	170.	U	2900.	J	8700.	U		
319-84-6	alpha-BHC	1.7	U	1.7	U	170.	U	87.	U		
5103-71-9	alpha-Chlordane	0.077	J	1.7	U	45.	J	87.	U		
319-85-7	beta-BHC	1.7	U	1.7	U	170.	U	87.	U		
319-86-8	delta-BHC	1.7	U	1.7	U	170.	U	87.	U		
58-89-9	gamma-BHC (Lindane)	12.		11.		170.	U	87.	U		
5103-74-2	gamma-Chlordane	0.13	J	0.13	J	29.	J	87.	U		

*** Validation Complete ***

PENSACOLA, SITE 39
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SVOA												
		SAMPLE ID ------->	039-K-0002-01 MS		039-X-0002-01 MSD		039-S-SOOI-00 RE					
		ORIGINAL ID ----->	39S0201MS		39S0201MSD		39S001RE					
		LAB SAMPLE ID --->	551800		551801		553889					
		ID FROM REPORT -->	39S0201MS		39S0201MSD		39S001RE					
		SAMPLE DATE ----->	05/25/93		05/25/93		06/03/93					
		DATE EXTRACTED -->	06/03/93		06/03/93		06/ 17/93					
		MATRIX ---------->	soi1		Soi1		Soi1					
		UNITS ---------->	UG/KG		UG/KG		UG/KG					
CAS #	Parameter		1	VAL	1	VAL	120	VAL				
108-95-2	Phenol		2200.		2000.		9600.					
111-44-4	bis(2-Chloroethyl)ether		330.	U	330.	U	1600.	U				
95-57-8	2-Chlorophenol		2000.		1800.		1600.	U				
541-73-1	1,3-Dichlorobenzene		330.	U	330.	U	1600.	U				
106-46-7	1,4-Dichlorobenzene		1200.		1000.		1600.	U				
95-50-1	1,2-Dichlorobenzene		330.	U	330.	U	1600.	U				
95-48-7	2-Methylphenol (o-Cresol)		330.	U	330.	U	1600.	U				
108-60-1	2,2'-oxybis(1-Chloropropane)		330.	U	330.	U	1600.	U				
106-44-5	4-Methylphenol (p-Cresol)		330.	U	330.	U	1600.	U				
621-64-7	N-Nitroso-di-n-propylamine		1300.		1200.		1600.	U				
67-72-1	Hexachloroethane		330.	U	330.	U	1600.	U				
98-95-3	Nitrobenzene		330.	U	330.	U	1600.	U				
78-59-1	Isophorone		330.	U	330.	U	1600.	U				
88-75-5	2-Nitrophenol		330.	U	330.	U	1600.	U				
105-67-9	2,4-Dimethylphenol		330.	U	330.	U	1600.	U				
111-91-1	bis(2-Chloroethoxy)methane		330.	U	330.	U	1600.	U				
120-83-2	2,4-Dichlorophenol		330.	U	330.	U	1600.	U				
120-82-1	1,2,4-Trichlorobenzene		1400.		1200.		1600.	U				
91-20-3	Naphthalene		330.	U	330.	U	1600.	U				
106-47-8	4-Chloroaniline		330.	U	330.	U	1600.	U				
87-68-3	Hexachlorobutadiene		330.	U	330.	U	1600.	U				
59-50-7	4-Chloro-3-methylphenol		2500.		2200.		1600.	U				
91-57-6	2-Methylnaphthalene		330.	U	330.	U	1600.	U				
77-47-4	Hexachlorocyclopentadiene		330.	U	330.	U	1600.	U				
88-06-2	2,4,6-Trichlorophenol		330.	U	330.	U	1600.	U				
95-95-4	2,4,5-Trichlorophenol		810.	U	810.	U	4000.	U				
91-58-7	2-Chloronaphthalene		330.	U	330.	U	1600.	U				
88-74-4	2-Nitroaniline		810.	U	810.	U	4000.	U				
131-11-3	Dimethylphthalate		330.	U	330.	U	1600.	U				
208-96-8	Acenaphthylene		330.	U	330.	U	1600.	U				
606-20-2	2,6-Dinitrotoluene		330.	U	330.	U	1600.	U				
99-09-2	3-Nitroaniline		810.	U	810.	U	4000.	U				
83-32-9	Acenaphthene		1500.		1400.		1600.	U				
51-28-5	2,4-Dinitrophenol		810.	U	810.	U	4000.	U				
100-02-7	4-Nitrophenol		2200.		2100.		4000.	U				
132-64-9	Dibenzofuran		330.	U	330.	U	1600.	U				
121-14-2	2,4-Dinitrotoluene		1500.		1400.		1600.	U				

*** Validation Complete ***

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SVOA											
	SAMPLE ID ------->	039-K-0002-01 MS		039-X-0002-01 MSD		039-S-S001-00 RE					
	ORIGINAL ID ----->	39S0201MS		39S0201MSD		39S001RE					
	LAB SAMPLE ID --->	551800		551801		553889					
	ID FROM REPORT -->	39S0201MS		39S0201MSD		39S001RE					
	SAMPLE DATE ----->	05/25/93		05/25/93		06/03/93					
	DATE EXTRACTED -->	06/03/93		06/03/93		06/17/93					
	MATRIX ---------->	Soil		Soil		Soil					
	UNITS ---------->	UG/KG		UG/KG		UG/KG					
CAS #	Parameter	1	VAL	1	VAL	120	VAL				
84-66-2	Diethylphthalate	330.	U	330.	U	1600.	U				
7005-72-3	4-Chlorophenyl-phenylether	330.	U	330.	U	1600.	U				
86-73-7	Fluorene	330.	U	330.	U	1600.	U				
100-01-6	4-Nitroaniline	810.	U	810.	U	4000.	U				
534-52-1	4,6-Dinitro-2-methylphenol	810.	U	810.	U	4000.	U				
86-30-6	N-Nitrosodiphenylamine	330.	U	330.	U	1600.	U				
101-55-3	4-Bromophenyl-phenylether	330.	U	330.	U	1600.	U				
118-74-1	Hexachlorobenzene	330.	U	330.	U	1600.	U				
87-86-5	Pentachlorophenol	2000.		1800.		4000.	U				
85-01-8	Phenanthrene	330.	U	330.	U	1600.	U				
120-12-7	Anthracene	330.	U	330.	U	1600.	U				
86-74-8	Carbazole	330.	U	330.	U	1600.	U				
84-74-2	Di-n-butylphthalate	330.	U	330.	U	1600.	U				
206-44-0	Fluoranthene	330.	U	330.	U	1600.	U				
129-00-0	Pyrene	1700.		1500.		1600.	U				
85-68-7	Butylbenzylphthalate	55.	U	330.	U	1600.	U				
91-94-1	3,3'-Dichlorobenzidine	330.	U	330.	U	1600.	U				
56-55-3	Benzo(a)anthracene	330.	U	330.	U	1600.	U				
218-01-9	Chrysene	330.	U	330.	U	1600.	U				
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	210.	U	230.	U	1600.	U				
117-84-0	Di-n-octylphthalate	330.	U	330.	U	1600.	U				
205-99-2	Benzo(b)fluoranthene	330.	U	330.	U	1600.	U				
207-08-9	Benzo(k)fluoranthene	330.	U	330.	U	1600.	U				
50-32-8	Benzo(a)pyrene	330.	U	330.	U	1600.	U				
193-39-5	Indeno(1,2,3-cd)pyrene	88.	J	330.	U	1600.	U				
53-70-3	Dibenzo(a,h)anthracene	330.	U	330.	U	1600.	U				
191-24-2	Benzo(g,h,i)perylene	140.	J	330.	U	1600.	U				

*** Validation Complete ***

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VOA									
	SAMPLE ID ------->	039-K-0002-01 MS		039-X-0002-01 MSD		039-K-SN02-00 MS		039-X-SN02-00 MSD	
	ORIGINAL ID ----->	39S0201MS		39S0201MSD		39SN02MS		39SN02MSD	
	LAB SAMPLE ID --->	551797		551798		553131		553132	
	ID FROM REPORT -->	39S0201MS		39S0201MSD		39SN02MS		39SN02MSD	
	SAMPLE DATE ----->	05/25/93		05/25/93					
	MATRIX ---------->	soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	1	VAL	1	VAL	120	VAL	120	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	11.	U	11.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	11.	U	11.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	11.	U	11.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	11.	U	11.	U
75-35-4	1,1-Dichloroethene	46.		47.		39.		40.	
107-06-2	1,2-Dichloroethane	10.	U	10.	U	11.	U	11.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	11.	U	11.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	11.	U	11.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	11.	U	11.	U
591-78-6	2-Hexanone	10.	U	10.	U	11.	U	11.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	11.	U	11.	U
67-64-1	Acetone	9.	U	10.	U	14.	U	13.	U
71-43-2	Benzene	51.		46.		53.		47.	
75-27-4	Bromodichloromethane	10.	U	10.	U	11.	U	11.	U
75-25-2	Bromoform	10.	U	10.	U	11.	U	11.	U
74-83-9	Bromomethane	10.	U	10.	U	11.	U	11.	U
75-15-0	Carbon disulfide	10.	U	10.	U	11.	U	11.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	11.	U	11.	U
108-90-7	Chlorobenzene	50.		41.		48.		44.	
75-00-3	Chloroethane	16.	U	10.	U	11.	U	tl.	U
67-66-3	Chloroform	10.	U	10.	U	11.	U	11.	U
74-87-3	Chloromethane	10.	U	10.	U	11.	U	11.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	11.	U	11.	U
100-41-4	Ethylbenzene	10.	U	10.	U	11.	U	11.	U
75-09-2	Methylene chloride	20.	U	29.	U	10.	U	8.	U
100-42-5	Styrene	10.	U	10.	U	11.	U	11.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	11.	U	11.	U
108-88-3	Toluene	50.		40.		47.		42.	
79-01-6	Trichloroethene	50.		40.		48.		44.	
75-01-4	Vinyl chloride	10.	U	10.	U	11.	U	11.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	11.	U	11.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	11.	U	11.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	11.	U	11.	U

*** Validation Complete ***

METAL															
		SAMPLE ID ------->	039-G-GI05-00		039-G-GI06-00		039-G-GI07-00		039-G-GS01-00		039-G-GS02-00		039-G-GS03-00		
		ORIGINAL ID ----->	39GI05		39GI06		39GI07		39GS01		39GS02		39GS03		
		LAB SAMPLE ID --->	554550		554454		554824		553827		553829		553824		
		ID FROM REPORT -->	396105		39GI06		39GI07		39GS01		39GS02		39GS03		
		SAMPLE DATE ----->	06/07/93		06/07/93		06/08/93		06/03/93		06/03/93		06/03/93		
		MATRIX ---------->	Water		Water		Water		Water		Water		Water		
		UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L		
CAS #	Parameter		73141	VAL	31421	VAL	31421	VAL	73141	VAL	73141	VAL	73141	VAL	
AL	Aluminum		64000.		161000.		138000.		3080.		1490.		5920.		
SB	Antimony		36.	U	36.	R	36.	R	36.	U	36.	U	36.	U	
AS	Arsenic		42.8		229.		186.		3.	U	3.	U	3.	U	
BA	Barium		131.		353.		259.		8.2		7.1		15.		
BE	Beryllium		3.2		10.2		9.3		1.	U	1.	U	1.	U	
CD	Cadmium		5.	U	5.	U	5.	U	5.	U	5.	U	5.	U	
CA	Calcium		8270.		28500.		18500.		32900.		28300.		22900.		
CR	Chromium		175.		476.		358.		8.	U	8.	U	8.	U	
CO	Cobalt		23.1		42.2		27.7		8.	U	8.	U	8.	U	
CU	Copper		33.		111.		53.6		6.4		4.	U	10.5		
CN	Cyanide		10.	U	10.	U	10.	U	10.	R	10.	R	10.	R	
FE	Iron		39000.		127000.		89100.		1300.		917.		3980.		
PB	Lead		29.1		65.2	J	30.5	J	6.3	U	2.	U	16.2		
MG	Magnesium		6020.		14900.		11800.		1680.		2360.		2380.		
MN	Manganese		146.		369.		343.		5.9	U	5.9	U	34.		
HG	Mercury		0.2	U	0.33		0.2	U	0.2	U	0.2	U	0.2	U	
NI	Nickel		33.4		114.		75.7		17.	U	17.	U	17.	U	
K	Potassium		5270.		11200.		9870.		1350.	U	1480.		1650.		
SE	Selenium		30.	U	30.	R	30.	R	3.	U	3.	U	3.	U	
AG	Silver		7.	U	7.	U	7.	U	7.	U	7.	U	7.	U	
NA	Sodium		7360.		4810.		5180.		5370.		7270.		8580.		
TL	Thallium		4.	U	4.	UJ	4.	UJ	4.	UJ	4.	UJ	4.	UJ	
V	Vanadium		232.		621.		449.		6.7		7.		11.		
ZN	Zinc		291.	J	522.		299.		56.8	J	36.6	J	80.2	J	

*** Validation Complete **+

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METAL													
		SAMPLE ID ------->	039-G-GS04-00		039-G-GS20-00		039-G-GS21-00		039-G-GS22-00		039-G-SI01-00		
		ORIGINAL ID ----->	39GS04		39GS20		39GS21		39GS22		39SI01		
		LAB SAMPLE ID --->	553818		553814		553812		553832		551991		
		ID FROM REPORT -->	39GS04		39GS20		39GS21		39GS22		39SI01		
		SAMPLE DATE ----->	06/03/93		06/03/93		06/03/93		06/03/93		05/26/93		
		MATRIX ---------->	Uater		Water		Water		Water		Water		
		UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		
CAS #	Parameter		73141	VAL	73141	VAL	73141	VAL	73141	VAL	73141	VAL	
AL	Aluminum		4510.		78.3	U	7360.		91900.		87.	U	
SB	Antimony		36.	U	36.	U	810.		36.	U	36.	U	
AS	Arsenic		3.	U	3.	U	66.1		3.	U	3.	U	
BA	Barium		18.6		2.	U	635.		2.	U	2.	U	
BE	Beryllium		1.	U	1.	U	209.		1.	U	1.	U	
CD	Cadmium		5.	U	5.	U	204.		5.	U	5.	U	
CA	Calcium		33400.		84.	U	130.	U	90.9	U	127.	U	
CR	Chromium		11.7		8.	U	210.		8.	U	8.	U	
CO	Cobalt		8.	U	8.	U	534.		8.9		8.	U	
CU	Copper		44.1		4.	U	496.		4.		4.	U	
CN	Cyanide		10.	R	10.	R	50.6	R	2.	R	10.	R	
FE	Iron		2630.		41.	U	7650.		92000.		41.	U	
PB	Lead		56.6		2.	U	78.4		2.	U	2.	U	
MG	Magnesium		2450.		59.	U	7540.		59.	U	59.	U	
MN	Manganese		17.7		1.7	U	207.		1.	U	1.2	U	
HG	Mercury		02	U	0.2	U	0.51		0.2	U	0.2	U	
NI	Nickel		17.	U	17.	U	533.		17.	U	17.	U	
K	Potassium		1350.	U	1350.	U	1350.	U	1350.	U	1350.	U	
SE	Selenium		3.	U	3.	U	68.4		3.	U	3.	U	
AG	Silver		7.	U	7.	U	7.	U	7.	U	7.	U	
NA	Sodium		8210.		302.		307.		365.		363.		
TL	Thallium		4.	UJ	4.	UJ	82.4	UJ	4.	UJ	4.	UJ	
V	Vanadium		12.5		6.	U	515.		6.	U	6.	U	
ZN	Zinc		88.2	J	33.5	J	549.	J	43.7	J	45.0	J	

*** Validation Complete ***

PENSACOLA, SITE 39
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PEST	SAMPLE ID ------->	039-G-GI05-00		039-G-GI06-00		039-G-GI07-00		039-G-GS01-00		039-G-GS02-00		039-G-GS03-00	
	ORIGINAL ID ----->	39GI05		39GI06		39GI07		39GS01		39GS02		39GS03	
	LAB SAMPLE ID --->	554442		554444		554820		553806		553808		553804	
	ID FROM REPORT -->	39GI05		39GI06		39GI07		39GS01		39GS02		39GS03	
	SAMPLE DATE ----->	06/07/93		06/07/93		06/08/93		06/03/93		16/03/93		06/03/93	
	MATRIX ---------->	Water		Uater		Uater		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	6.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	2	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U		
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421-36-3	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

*** Validation Complete ***

PENSACOLA, SITE 39
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PEST											
	SAMPLE ID ------->	039-G-GS04-00		039-G-GS20-00		039-G-GS21-00		039-G-S101-00			
	ORIGINAL ID ----->	39GS04		39GS20		39GS21		39S101			
	LAB SAMPLE ID --->	553789		553783		553782		551983			
	ID FROM REPORT -->	39GS04		39GS20		39GS21		39S101			
	SAMPLE DATE ----->	06/03/93		06/03/93		06/03/93		05/26/93			
	MATRIX ---------->	Water		Water		Water		Water			
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L			
CAS #	Parameter	142	VAL	17	VAL	17	VAL	17	VAL		
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U		
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.56		0.1	U		
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U		
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U		
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U		
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U		
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U		
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U		
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U		
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U		
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U		
60-57-1	Dieldrin	0.1	U	0.1	U	0.62		0.1	U		
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U		
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U		
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U		
72-20-8	Endrin	0.1	U	0.1	U	0.65		0.1	U		
7421-36-3	Endrin aldehyde	0.1	U	0.1	U	0.01	J	0.1	U		
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.032	J	0.1	U		
76-44-8	Heptachlor	0.05	U	0.05	U	0.43		0.05	U		
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U		
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U		
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U		
319-84-6	alpha-BHC	0.05	U	0.05	U	0.54		0.05	U		
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U		
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U		
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U		
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.45		0.05	U		
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.0019	J	0.05	U		

*** Validation Complete ***

SVOA													
	SAMPLE ID ------->	039-G-GI05-00		039-G-GI06-00		039-G-GI07-00		039-G-GS01-00		039-G-GS02-00		039-G-GS03-00	
	ORIGINAL ID ----->	396105		39GI06		39GI07		39GS01		39GS02		39GS03	
	LAB SAMPLE ID --->	554442		554444		554820		553806		553808		553804	
	ID FROM REPORT -->	39GI05		39GI06		39GI07		39GS01		39GS02		39GS03	
	SAMPLE DATE ----->	06/07/93		06/07/93		06/08/93		06/03/93		06/03/93		06/03/93	
	MATRIX ---------->	Uater		Uater		Uater		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL
108-95-2	Phenol	10.	U	10.	U	10.	U	8.	U	10.	U	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	24.	U	25.	U	25.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	3.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
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SVOA													
	SAMPLE ID ------->	039-G-GI05-00		039-G-GI06-00		039-G-GI07-00		039-G-GS01-00		039-G-GS02-00		039-G-GS03-00	
	ORIGINAL ID ----->	39GI05		39GI06		39GI07		39GS01		39GS02		39GS03	
	LAB SAMPLE ID --->	554442		554444		554820		553806		553808		553804	
	ID FROM REPORT -->	39GI05		396I06		39GI07		39GS01		39GS02		39GS03	
	SAMPLE DATE ----->	06/07/93		06/07/93		06/08/93		06/03/93		06/03/93		06/03/93	
	MATRIX ---------->	Water		Uater		Uater		Water		Uater		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	1.	U	10.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	2.	U	10.	U	10.	U	4.	U	10.	U	1.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

+ Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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SVOA	SAMPLE ID ------->	039-G-GS04-00		039-G-GS20-00		039-G-GS21-00	
	ORIGINAL ID ----->	39GS04		39GS20		39GS21	
	LAB SAMPLE ID --->	553789		553783		553782	
	ID FROM REPORT -->	39GS04		39GS20		39GS21	
	SAMPLE DATE ----->	06/03/93		06/03/93		06/03/93	
	MATRIX ---------->	Water		Uater		Water	
	UNITS ---------->	UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	17	VAL	17	VAL
108-95-2	Phenol	10.	U	10.	U	54.	J
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (0-Cresol)	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	23.	
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	56.	
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	55.	
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	24.	
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	26.	
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U

*** Validation Complete *+*

PRNSACOLA, SITE 39
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Final Report

SVOA											
	SAMPLE ID ------->	039-G-GS04-00		039-G-GS20-00		039-G-GS21-00					
	ORIGINAL ID ----->	39GS04		39GS20		39GS21					
	LAB SAMPLE ID --->	553789		553783		553782					
	ID FROM REPORT -->	39GS04		39GS20		39GS21					
	SAMPLE DATE ----->	06/03/93		06/03/93		06/03/93					
	MATRIX ---------->	Water		Uater		Idater					
	UNITS ---------->	UG/L		UG/L		UG/L					
CAS #	Parameter	142	VAL	17	VAL	17	VAL				
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U				
86-73-7	Fluorene	10.	U	10.	U	27.					
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U				
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U				
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U				
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U				
118-74-1	Hexachlorobenzene	10.	U	10.	U	53.					
87-86-5	Pentachlorophenol	25.	U	25.	U	24.					
85-01-8	Phenanthrene	10.	U	10.	U	10.	U				
120-12-7	Anthracene	10.	U	10.	U	10.	U				
86-74-8	Carbazole	10.	U	10.	U	26.					
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U				
206-44-0	Fluoranthene	10.	U	10.	U	20.					
129-00-0	Pyrene	10.	U	10.	U	10.	U				
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U				
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U				
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U				
218-01-9	Chrysene	10.	U	10.	U	10.	U				
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	2.	U	10.	U	10.	U				
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U				
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	12.					
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U				
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U				
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10,	U	10.	U				
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U				
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U				

*** Validation Complete +++

PENSACOLA, SITE 39
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VOA													
	SAMPLE ID ------->	039-G-GI05-00		039-G-GI06-00		039-G-GI07-00		039-G-GS01-00		039-G-GS02-00		039-G-GS03-00	
	ORIGINAL ID ----->	39GI05		39GI06		39GI07		39GS01		39GS02		39GS03	
	LAB SAMPLE ID --->	554442		554444		554820		553806		553808		553804	
	ID FROM REPORT -->	39GI05		39GI06		39GI07		39GS01		39GS02		39GS03	
	SAMPLE DATE ----->	06/07/93		06/07/93		06/08/93		06/03/93		06/03/93		06/03/93	
	MATRIX ---------->	Uater		Uater		Uater		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	1.	J	3.	J	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	1.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10*	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	14.	U	6.	U	10.	U	9.	U	1.	U	12.	U
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	1.	J	2.	J	1.	J
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete **+

VOA											
	SAMPLE ID ------->	039-G-GS04-00		(039-G-GS20-00		039-G-GS21-00		(339-G-S101-00			
	ORIGINAL ID ----->	39GS04		39GS20		39GS21		39S101			
	LAB SAMPLE ID --->	553789		!553783		553782		551983			
	ID FROM REPORT -->	39GS04		39GS20		39GS21		39S101			
	SAMPLE DATE ----->	06/03/93		(06/03/93		06/03/93		(05/26/93			
	MATRIX ---------->	Uater		(Uater		Wlater		Idater			
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L			
CAS #	Parameter	142	VAL	17	VAL	17	VAL	17	VAL		
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U		
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	19.		10.	U		
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	18.		10.	U		
75-34-3	1,1-Dichloroethane	1.	J	. 10.	U	20.		10.	U		
75-35-4	1,1-Dichloroethene	10.	U	10.	U	18.		10.	U		
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U		
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U		
78-87-5	1,2-Dichloropropane	10.	U	10.	U	18.		10.	U		
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U		
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U		
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U		
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U		
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U		
75-27-4	Bromodichloromethane	10.	U	1.	U	10.	U	10.	U		
75-25-2	Bromoform	10.	U	10.	U	13.		10.	U		
74-83-9	Bromomethane	10.	U	to.	U	34.		10.	U		
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U		
56-23-5	Carbon tetrachloride	10.	U	10.	U	12.		10.	U		
108-90-7	Chlorobenzene	10.	U	10.	U	18.		10.	U		
75-00-3	Chloroethane	10.	U	10.	U	85.		10.	U		
67-66-3	Chloroform	10.	U	10.	U	19.		10.	U		
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U		
124-48-1	Dibromochloromethane	10.	U	1.	U	10.	U	10.	U		
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U		
75-09-2	Methylene chloride	10.	U	1.	U	10.	U	5.	J		
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U		
127-18-4	Tetrachloroethene	1.	J	10.	U	10.	U	10.	U		
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U		
79-01-6	Trichloroethene	10.	U	10.	U	19.		10.	U		
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U		
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U		
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U		
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U		

*** Validation Complete ++*

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METAL													
	SAMPLE ID ------->	039-P-GP03-00		039-E-SE01-00		039-E-SE02-00		039-P-SP01-00		039-P-SP02-00		059-F-FI01-00	
	ORIGINAL ID ----->	39GP03		39SE01		39SE02		39SP01		39SP02		59FI01	
	LAB SAMPLE ID --->	554823		551839		551990		551992		553816		554031	
	ID FROM REPORT -->	39GP03		39SE01		39SE02		39SP01		39SP02		59FI01	
	SAMPLE DATE ----->	06/08/93		05/25/93		05/26/93		05/26/93		06/03/93			
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	31421	VAL	73141	VAL	73141	VAL	73141	VAL	73141	VAL	73141	VAL
AL	Aluminum	193.	U	82.1	U	95.4	U	115.	U	75.5	U	86.7	J
SB	Antimony	36.	R	36.	U	36.	U	36.	U	36.	U	36.	U
AS	Arsenic	3.	U	3.	U	3.	U	3.	U	3.	U	3.	U
BA	Barium	24.5		2.	U	2.	U	27.9		23.4		2.	U
BE	Beryllium	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
CD	Cadmium	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
CA	Calcium	2450.		213.	U	128.	U	2420.		2220.		301.	J
CR	Chromium	8.	U	8.	U	8.	U	8.	U	8.	U	8.	U
CO	Cobalt	8.	U	8.	U	8.	U	8.	U	8.	U	8.	U
CU	Copper	15.6		4.	U	4.	U	6.1		4.	U	4.	U
CN	Cyanide	10.		10.	R	10.	R	10.	R	10.	R	10.	U
FE	Iron	72.7		41.	U	41.	U	41.	U	41.	U	41.	U
PB	Lead	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
MG	Magnesium	1290.		59.	U	59.	U	1360.		1230.		59.	U
MN	Manganese	17.		1.7	U	1.2	U	5.2	U	3.8	U	1.5	J
HG	Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
NI	Nickel	17.	U	17.	U	17.	U	17.	U	17.	U	17.	U
K	Potassium	1350.	U	1350.	U	1350.	U	1350.	U	1350.	U	1350.	U
SE	Selenium	3.	R	3.	U	3.	U	3.	U	3.	U	3.	U
AG	Silver	7.	U	7.	U	7.	U	7.	U	7.	U	7.	U
NA	Sodium	31400.		317.		366.		32700.		31600.		416.	J
TL	Thallium	40.	UJ	4.	UJ	4.	UJ	4.	UJ	4.	UJ	4.	U
V	Vanadium	6.	U	6.	U	6.	U	6.	U	6.	U	6.	U
ZN	Zinc	119.		34.4	J	40.5	J	163.	J	201.	J	50.8	J

*** Validation Complete +**

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METAL									
		SAMPLE ID ------->	059-F-FI06-10		059-F-FI06-14				
		ORIGINAL ID ----->	59FI0610		59FI0614				
		LAB SAMPLE ID --->	555472		556282				
		ID FROM REPORT -->	59FI0610		59FI0614				
		SAMPLE DATE ----->							
		MATRIX ---------->	Uater		Uater				
		UNITS ---------->	UG/L		UG/L				
CAS #	Parameter		31421	VAL	31421	VAL			
AL	Aluminum		73.9	J	63.9	J			
SB	Antimony		36.	U	36.	U			
AS	Arsenic		3.	U	3.	U			
BA	Barium		24	J	2.	U			
BE	Beryllium		1.	U	1.	U			
CD	Cadmium		5.	U	5.	U			
CA	Calcium		95.1	J	94.5	J			
CR	Chromium		8.	U	8.	U			
CO	Cobalt		8.	U	8.	U			
CU	Copper		4	U	4.	U			
CN	Cyanide		10.	U	10.	U			
FE	Iron		41.	U	41.	U			
PB	Lead		2.	U	2.	U			
MG	Magnesium		59.	U	59.	U			
MN	Manganese		1.6	J	1.2	J			
HG	Mercury		0.2	U	0.2	U			
NI	Nickel		17.	U	17.	U			
K	Potassium		1350.	U	1350.	U			
SE	Selenium		3.	U	3.	U			
AG	Silver		7.	U	7.	U			
NA	Sodium		251.	U	251.	U			
TL	Thallium		4.	U	4.	U			
V	Vanadium		6.	U	6.	U			
ZN	Zinc		9.8	J	9.8	J			

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PEST													
	SAMPLE ID ------->	039-P-GP03-00		039-E-SE01-00		039-E-SE02-00		039-P-SP01-00		039-P-SP02-00		059-F-FI01-00	
	ORIGINAL ID ----->	39GP03		39SE01		39SE02		39SP01		39SP02		59FI01	
	LAB SAMPLE ID --->	554813		551827		551982		551985		553786		554028	
	ID FROM REPORT -->	39GP03		39SE01		39SE02		39SP01		39SP02		59FI01	
	SAMPLE DATE ----->	06/08/93		05/25/93		05/26/93		05/26/93		06/03/93			
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	17	VAL	17	VAL	17	VAL	17	VAL	142	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	2	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421-36-3	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

*** Validation Complete ***

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SVOA									
	SAMPLE ID ------->	039-P-GP03-00		059-F"FI01-00					
	ORIGINAL ID ----->	39GP03		59FI01					
	LAB SAMPLE ID --->	554813		554028					
	ID FROM REPORT -->	39GP03		59FI01					
	SAMPLE DATE ----->	06/08/93							
	MATRIX ---------->	Uater		Water					
	UNITS ---------->	UG/L		UG/L					
CAS #	Parameter	142	VAL	142	VAL				
108-95-2	Phenol	2.	J	10.	U				
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U				
95-57-8	2-Chlorophenol	10.	U	10.	U				
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U				
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U				
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U				
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U				
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U				
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U				
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U				
67-72-1	Hexachloroethane	10.	U	10.	U				
98-95-3	Nitrobenzene	10.	U	10.	U				
78-59-1	Isophorone	10.	U	10.	U				
88-75-5	2-Nitrophenol	10.	U	10.	U				
105-67-9	2,4-Dimethylphenol	10.	U	10.	U				
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U				
120-83-2	2,4-Dichlorophenol	10.	U	10.	U				
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U				
91-20-3	Naphthalene	10.	U	10.	U				
106-47-8	4-Chloroaniline	10.	U	10.	U				
87-68-3	Hexachlorobutadiene	10.	U	10.	U				
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U				
91-57-6	2-Methylnaphthalene	10.	U	10.	U				
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U				
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U				
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U				
91-58-7	2-Chloronaphthalene	10.	U	10.	U				
88-74-4	2-Nitroaniline	25.	U	25.	U				
131-11-3	Dimethylphthalate	10.	U	10.	U				
208-96-8	Acenaphthylene	16.	U	10.	U				
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U				
99-09-2	3-Nitroaniline	25.	U	25.	U				
83-32-9	Acenaphthene	10.	U	10.	U				
51-28-5	2,4-Dinitrophenol	25.	U	25.	U				
100-02-7	4-Nitrophenol	25.	U	25.	U				
132-64-9	Dibenzofuran	10.	U	10.	U				
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U				
84-66-2	Diethylphthalate	1.	J	10.	U				

*** Validation Complete **+

SVOA									
	SAMPLE ID ------->	(139-P-GP03-00		059-F-FI01-00					
	ORIGINAL ID ----->	39GP03		59FI01					
	LAB SAMPLE ID --->	(554813		554028					
	ID FROM REPORT -->	39GP03		59FI01					
	SAMPLE DATE ----->	(36/08/93							
	MATRIX ---------->	(dater		Water					
	UNITS ---------->	UG/L		UG/L					
CAS #	Parameter	142	VAL	'142	VAL				
7005-72-3	4-Chlorophenyl-phenylether	10.	u	10.	u				
86-73-7	Fluorene	10.	u	10.	u				
100-01-6	4-Nitroaniline	25.	U	25.	u				
534-52-1	4,6-Dinitro-2-methylphenol	25.	u	25.	U				
86-30-6	N-Nitrosodiphenylamine	10.	u	10.	u				
101-55-3	4-Bromophenyl-phenylether	10.	u	10.	U				
118-74-1	Hexachlorobenzene	10.	u	10.	u				
87-86-5	Pentachlorophenol	25.	U	25.	U				
85-01-8	Phenanthrene	10.	u	10.	u				
120-12-7	Anthracene	10.	u	10.	u				
86-74-8	Carbazole	10.	u	10.	u				
84-74-2	Di-n-butylphthalate	2.	J	10.	u				
206-44-0	Fluoranthene	10.	u	10.	u				
129-00-0	Pyrene	10.	u	10.	U				
85-68-7	Butylbenzylphthalate	10.	u	10.	u				
91-94-1	3,3'-Dichlorobenzidine	10.	u	10.	U				
56-55-3	Benzo(a)anthracene	10.	u	10.	u				
218-01-9	Chrysene	10.	u	10.	u				
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	u	10.	u				
117-84-0	Di-n-octylphthalate	10	U	10.	u				
205-99-2	Benzo(b)fluoranthene	10	u	10.	u				
207-08-9	Benzo(k)fluoranthene	10.	u	to.	U				
50-32-8	Benzo(a)pyrene	10.	u	10.	u				
193-39-5	Indeno(1,2,3-cd)pyrene	10.	u	10.	u				
53-70-3	Dibenzo(a,h)anthracene	10.	u	10.	u				
191-24-2	Benzo(g,h,i)perylene	10.	u	10.	U				

*** Validation Complete ***

PENSACOLA, SITE 39
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VOA	SAMPLE ID ------->	039-P-GP03-00		039-T-GT06-00		039-T-GT11-00		039-T-GT14-00		039-E-SOT-00		039-E-SE02-00	
	ORIGINAL ID ----->	39GP03		39GT06		39GT11		39GT14		39SE01		39SE02	
	LAB SAMPLE ID --->	!554813		553775		554446		!554822		'551827		551982	
	ID FROM REPORT -->	39GP03		39GT06		39GT11		39GT14		39SE01		39SE02	
	SAMPLE DATE ----->	!06/08/93		06/03/93		06/07/93		!06/08/93		05/25/93		05/26/93	
	MATRIX ---------->	!Water		Water		Uater		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	17	VAL	142	VAL	142	VAL	17	VAL	17	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	3.	J	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	1.	J	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	2.	J	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	3.	J	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	4.	J	3.	J	12.	J	3.	J	5.	J	4.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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VOA												
	SAMPLE ID ------->	039-P-SP01-00		039-P-SP02-00		039-T-ST01-00		039-t-STO3-00		059-F-FI01-00		
	ORIGINAL ID ----->	39SP01		39SP02		39ST01		39ST03		59FI01		
	LAB SAMPLE ID --->	551985		553786		551828		551987		554028		
	ID FROM REPORT -->	39SP01		39SP02		39ST01		39ST03		59FI01		
	SAMPLE DATE ----->	05/26/93		06/03/93		05/25/93		05/26/93				
	MATRIX ---------->	Uater		Water		Water		Water		Water		
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		
CAS #	Parameter	17	VAL	17	VAL	17	VAL	17	VAL	142	VAL	
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	6.	J	
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	to.	U	
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	
75-09-2	Methylene chloride	3.	J	3.	J	10.	U	15.	J	3.	J	
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	
108-88-3	Toluene	10.	U	10.	U	10.	U	1.	J	10.	U	
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

PEST											
		SAMPLE ID ------->	039-K-GI06-00 MS		039-X-GI06-00 MSD						
		ORIGINAL ID ----->	39GI06MS		39GI06MSD						
		LAB SAMPLE ID --->	553796		553797						
		ID FROM REPORT -->	39GI06MS		39GI06MSD						
		SAMPLE DATE ----->	06/07/93		06/07/93						
		MATRIX ---------->	Water		Water						
		UNITS ---------->	UG/L		UG/L						
CAS #	Parameter		142	VAL	142	VAL					
72-54-8	4,4'-DDD		0.1	U	0.1	U					
72-55-9	4,4'-DDE		0.1	U	0.1	U					
50-29-3	4,4'-DDT		0.76		0.74						
309-00-2	Aldrin		0.4		0.38						
12674-11-2	Aroclor-1016		1.	U	1.	U					
11104-28-2	Aroclor-1221		2.	U	2.	U					
11141-16-5	Aroclor-1232		1.	U	1.	U					
53469-21-9	Aroclor-1242		1.	U	1.	U					
12672-29-6	Aroclor-1248		1.	U	1.	U					
11097-69-1	Aroclor-1254		1.	U	1.	U					
11096-82-5	Aroclor-1260		1.	U	1.	U					
60-57-1	Dieldrin		0.91		0.88						
959-98-8	Endosulfan I		0.05	U	0.05	U					
33213-65-9	Endosulfan II		0.1	U	0.1	U					
1031-07-8	Endosulfan sulfate		0.1	U	0.1	U					
72-20-8	Endrin		0.97		0.95						
7421-36-3	Endrin aldehyde		0.018	J	0.015	J					
53494-70-5	Endrin ketone		0.023	J	0.021	J					
76-44-8	Heptachlor		0.42		0.41						
1024-57-3	Heptachlor epoxide		0.05	U	0.05	U					
72-43-5	Methoxychlor		0.5	U	0.5	U					
8001-35-2	Toxaphene		5.	U	5.	U					
319-84-6	alpha-BHC		0.05	U	0.05	U					
5103-71-9	alpha-Chlordane		0.05	U	0.05	U					
319-85-7	beta-BHC		0.05	U	0.05	U					
319-86-8	delta-BHC		0.05	U	0.05	U					
58-89-9	gamma-BHC (Lindane)		0.43		0.42						
5103-74-2	gamma-Chlordane		0.05	U	0.05	U					

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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SVOA									
	SAMPLE ID ------->	039-K-G106-00 MS		039-X-GI06-00 MSD					
	ORIGINAL ID ----->	39GI06MS		39GI06MSD					
	LAB SAMPLE ID --->	553793		553794					
	ID FROM REPORT -->	39GI0MS		39GI06MSD					
	SAMPLE DATE ----->	06/07/93		06/07/93					
	MATRIX ---------->	Water		Water					
	UNITS ---------->	UG/L		UG/L					
CAS #	Parameter	142	VAL	142	VAL				
108-95-2	Phenol	67.		64.					
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U				
95-57-8	2-Chlorophenol	62.		57.					
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U				
106-46-7	1,4-Dichlorobenzene	31.		30.					
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U				
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U				
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U				
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U				
621-64-7	N-Nitroso-di-n-propylamine	41.		39.					
67-72-1	Hexachloroethane	10.	U	10.	U				
98-95-3	Nitrobenzene	10.	U	10.	U				
78-59-1	Isophorone	10.	U	10.	U				
88-75-5	2-Nitrophenol	10.	U	10.	U				
105-67-9	2,4-Dimethylphenol	10.	U	10.	U				
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U				
120-83-2	2,4-Dichlorophenol	10.	U	10.	U				
120-82-1	1,2,4-Trichlorobenzene	35.		31.					
91-20-3	Naphthalene	10.	U	10.	U				
106-47-8	4-Chloroaniline	10.	U	10.	U				
87-68-3	Hexachlorobutadiene	10.	U	10.	U				
59-50-7	4-Chloro-3-methylphenol	79.		76.					
91-57-6	2-Methylnaphthalene	10.	U	10.	U				
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U				
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U				
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U				
91-58-7	2-Chloronaphthalene	10.	U	10.	U				
88-74-4	2-Nitroaniline	25.	U	25.	U				
131-11-3	Dimethylphthalate	10.	U	10.	U				
208-96-8	Acenaphthylene	10.	U	10.	U				
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U				
99-09-2	3-Nitroaniline	25.	U	25.	U				
83-32-9	Acenaphthene	38.		34.					
51-28-5	2,4-Dinitrophenol	25.	U	25.	U				
100-02-7	4-Nitrophenol	63.		60.					
132-64-9	Dibenzofuran	10.	U	10.	U				
121-14-2	2,4-Dinitrotoluene	42.		38.					
84-66-2	Diethylphthalate	10.	U	2.	U				

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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SVOA								
	SAMPLE ID ------->	039-K-Gt06-00 MS		039-X-GI06-00 MSD				
	ORIGINAL ID ----->	39GI06MS		39GI06MSD				
	LAB SAMPLE ID --->	553793		553794				
	ID FROM REPORT -->	39GI06MS		39GI06MSD				
	SAMPLE DATE ----->	06/07/93		06/07/93				
	MATRIX ---------->	Uater		Uater				
	UNITS ---------->	UG/L		UG/L				
CAS #	Parameter	142	VAL	142	VAL			
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U			
86-73-7	Fluorene	10.	U	10.	U			
100-01-6	4-Nitroaniline	25.	U	25.	U			
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U			
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U			
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U			
118-74-1	Hexachlorobenzene	10.	U	10.	U			
87-86-5	Pentachlorophenol	58.		49.				
85-01-8	Phenanthrene	10.	U	10.	U			
120-12-7	Anthracene	10.	U	10.	U			
86-74-8	Carbazole	10.	U	10.	U			
84-74-2	Di-n-butylphthalate	10.	U	10.	U			
206-44-0	Fluoranthene	10.	U	10.	U			
129-00-0	Pyrene	13.		11.				
85-68-7	Butylbenzylphthalate	10.	U	10.	U			
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U			
56-55-3	Benzo(a)anthracene	10.	U	10.	U			
218-01-9	Chrysene	10.	U	10.	U			
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	1.	U			
117-84-0	Di-n-octylphthalate	10.	U	10.	U			
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U			
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U			
50-32-8	Benzo(a)pyrene	10.	U	10.	U			
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U			
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U			
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U			

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

VOA											
	SAMPLE ID ------->	039-K-G106-00 MS		039-X-GIO6-00 MSD		039-K-SP02-00 MS		039-X-SP02-00 MSD			
	ORIGINAL ID ----->	39GI06MS		39GI06MSD		39SP02MS		39SP02MSD			
	LAB SAMPLE ID --->	553790		553791		551829		551830			
	ID FROM REPORT -->	39GI06MS		39GI06MSD		39SP02MS		39SP02MSD			
	SAMPLE DATE ----->	06/07/93		06/07/93		06/03/93		06/03/93			
	MATRIX ---------->	Water		Water		Water		Water			
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L			
CAS #	Parameter	142	VAL	142	VAL	17	VAL	17	VAL		
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U		
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U		
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U		
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U		
75-35-4	1,1-Dichloroethene	48.		50.		50.		44.			
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U		
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U		
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U		
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U		
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U		
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U		
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U		
71-43-2	Benzene	55.		56.		52.		47.			
75-27-4	Bromodichloromethane	10.	U	10.	U	1.	J	1.	J		
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U		
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U		
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U		
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U		
108-90-7	Chlorobenzene	49.		49.		50.		48.			
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U		
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U		
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U		
124-48-1	Dibromochloromethane	10.	U	10.	U	1.	J	1.	J		
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U		
75-09-2	Methylene chloride	7.	U	9.	U	1.	J	2.	J		
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U		
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U		
108-88-3	Toluene	45.		50.		49.		47.			
79-01-6	Trichloroethene	49.		50.		48.		45.			
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U		
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U		
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U		
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U		

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METAL	SAMPLE ID ------->	039-P-GP03-00		039-E-SE01-00		039-E-SE02-00		039-P-SP01-00		039-P-SPO2-00		059-F-FI01-00	
	ORIGINAL ID ----->	39GP03		39SE01		39SE02		39SP01		39SP02		59FI01	
	LAB SAMPLE ID --->	554823		551839		551990		551992		553816		554031	
	ID FROM REPORT -->	39GP03		39SE01		39SE02		39SP01		39SP02		59FI01	
	SAMPLE DATE ----->	06/08/93		05/25/93		05/26/93		05/26/93		06/03/93			
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	31421	VAL	73141	VAL	73141	VAL	73141	VAL	73141	VAL	73141	VAL
AL	Aluminum	193.	U	82.1	U	95.4	U	115.	U	75.5	U	86.7	J
SB	Antimony	36.	R	36.	U	36.	U	36.	U	36.	U	36.	U
AS	Arsenic	3.	U	3.	U	3.	U	3.	U	3.	U	3.	U
BA	Barium	24.5		2.	U	2.	U	27.9		23.4		2.	U
BE	Beryllium	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
CD	Cadmium	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
CA	Calcium	2450.		213.	U	128.	U	2420.		2220.		301.	J
CR	Chromium	8.	U	8.	U	8.	U	8.	U	8.	U	8.	U
CO	Cobalt	8.	U	8.	U	8.	U	8.	U	8.	U	8.	U
CU	Copper	15.6		4.	U	4.	U	6.1		4.	U	4.	U
CN	Cyanide	10.		10.	R	10.	R	10.	R	10.	R	10.	U
FE	Iron	72.7		41.	U	41.	U	41.	U	41.	U	41.	U
PB	Lead	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
MG	Magnesium	1290.		59.	U	59.	U	1360.		1230.		59.	U
MN	Manganese	17.		1.7	U	1.2	U	5.2	U	3.8	U	1.5	J
HG	Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
NI	Nickel	17.	U	17.	U	17.	U	17.	U	17.	U	17.	U
K	Potassium	1350.	U	1350.	U	1350.	U	1350.	U	1350.	U	1350.	U
SE	Selenium	3.	R	3.	U	3.	U	3.	U	3.	U	3.	U
AG	Silver	7.	U	7.	U	7.	U	7.	U	7.	U	7.	U
NA	Sodium	31400.		317.		366.		32700.		31600.		416.	J
TL	Thallium	40.	UJ	4.	UJ	4.	UJ	4.	UJ	4.	UJ	4.	U
V	Vanadium	6.	U	6.	U	6.	U	6.	U	6.	U	6.	U
ZN	Zinc	119.		34.4	J	40.5	J	163.	J	201.	J	50.8	J

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METAL									
		SAMPLE ID ------->	059-F-F106-10		059-F-F106-14				
		ORIGINAL ID ----->	59F10610		59F10614				
		LAB SAMPLE ID --->	555472		556282				
		ID FROM REPORT -->	59F10610		59F10614				
		SAMPLE DATE ----->							
		MATRIX ---------->	Water		Water				
		UNITS ---------->	UG/L		UG/L				
CAS #	Parameter		31421	VAL	31421	VAL			
AL	Aluminum		73.9	J	63.9	J			
SB	Antimony		36.	U	36.	U			
AS	Arsenic		3.	U	3.	U			
BA	Barium		2.4	J	2.	U			
BE	Beryllium		1.	U	1.	U			
CD	Cadmium		5.	U	5.	U			
CA	Calcium		95.1	J	94.5	J			
CR	Chromium		8.	U	8.	U			
CO	Cobalt		8.	U	8.	U			
CU	Copper		4.	U	4.	U			
CN	Cyanide		10.	U	10.	U			
FE	Iron		41.	U	41.	U			
PB	l e d		2.	U	2.	U			
MG	Magnesium		59.	U	59.	U			
MN	Manganese		1.6	J	1.2	J			
HG	Mercury		0.2	U	0.2	U			
NI	Nickel		17.	U	17.	U			
k	Potassium		1350.	U	1350.	U			
SE	Selenium		3.	U	3.	U			
AG	silver		7.	U	7.	U			
NA	Sodium		251.	U	251.	U			
TL	Thallium		4.	U	4.	U			
V	Vanadium		6.	U	6.	U			
ZN	Zinc		9.8	J	9.8	J			

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		039-P-GP03-00		039-E-SE01-00		D39-E-SE02-00		039-P-SP01-00		139-P-SPO2-00		059-F-FI01-00	
		39GP03		39SE01		39SE02		39SP01		39SP02		59FI01	
		554813		551827		551982		551985		553786		554028	
		39GP03		39SE01		39SE02		39SP01		39SP02		59FI01	
		06/08/93		35/25/93		05/26/93		15/26/93		36/03/93			
		Uater		deter		Water		Water		dater		Water	
	UNITS ---------->	UG/L		JG/L		UG/L		JG/L		JG/L		UG/L	
CAS #	Parameter	142	VAL	I7	VAL	17	VAL	I7	VAL	17	VAL	142	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	01	U	0.1	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2	U	2.	U	2.	U	2.	U	2	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421-36-3	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.0s	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.02	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

*** Validation Complete ***

SVOA					
	SAMPLE ID ------->	039-P-GPO3-00		059-F-FI01-00	
	ORIGINAL ID ----->	39GP03		59FI01	
	LAB SAMPLE ID --->	554813		554028	
	ID FROM REPORT -->	39GP03		59FI01	
	SAMPLE DATE ----->	06/08/93			
	MATRIX ---------->	Uater		Water	
	UNITS ---------->	UG/L		UG/L	
CAS #	Parameter	142	VAL	142	VAL
108-95-2	Phenol	2.	J	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U
88-75-5	2-Nitrophenol	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U
131-11-3	Dimethylphthalate	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U
132-64-9	Dibenzofuran	10.	U	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U
84-66-2	Diethylphthalate	1.	J	10.	U

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SVOA					
	SAMPLE ID ------->	039-P-GP03-00		059-F-FI01-00	
	ORIGINAL ID ----->	39GP03		59FI01	
	LAB SAMPLE ID --->	554813		554028	
	ID FROM REPORT -->	39GP03		59FI01	
	SAMPLE DATE ----->	06/08/93			
	MATRIX ---------->	Uater		Water	
	UNITS ---------->	UG/L		UG/L	
CAS #	Parameter	142	VAL	142	VAL
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U
84-74-2	Di-n-butylphthalate	2.	J	10.	U
206-44-0	Fluoranthene	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U
218-01-9	Chrysene	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U

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VOA													
	SAMPLE ID ------->	039-P-GP03-00		039-T-GT06-00		039-T-GT11-00		039-T-GT14-00		039-E-SE01-00		039-E-SE02-00	
	ORIGINAL ID ----->	39GP03		39GT06		39GT11		39GT14		39SE01		39SE02	
	LAB SAMPLE ID --->	554813		553775		554446		554822		551827		551982	
	ID FROM REPORT -->	39GP03		39GT06		39GT11		39GT14		39SE01		39SE02	
	SAMPLE DATE ----->	06/08/93		06/03/93		06/07/93		06/08/93		05/25/93		05/26/93	
	MATRIX---------->	Uater		Water		Uater		Uattr		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	17	VAL	142	VAL	142	VAL	17	VAL	17	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10,	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	to.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	3.	J	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	1.	J	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	16.	U	10.	U	10.	U
67-66-3	Chloroform	2.	J	10.	U	10.	U	10.	U	10.	U	10.	U
'Is-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	3.	J	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	4.	J	3.	J	12.	J	3.	J	5.	J	4.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethm	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 39
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VOA													
	SAMPLE ID ------->	039-P-SP01-00		039-P-SP02-00		039-T-ST01-00		139-T-ST03-00		059-F-FI01-00			
	ORIGINAL ID ----->	39SP01		39SP02		39ST01		39ST03		59FI01			
	LAB SAMPLE ID --->	551985		553786		551828		551987		554028			
	ID FROM REPORT -->	39SP01		39SP02		39ST01		39ST03		59FI01			
	SAMPLE DATE ----->	05/26/93		06/03/93		05/25/93		35/26/93					
	MATRIX ---------->	Uater		Uater		Uatcr		Water		Water			
	UNITS ---------->	UG/L		UG/L		UG/L		JG/L		UG/L			
CAS #	Parameter	17	VAL	17'	VAL	17	VAL	17	VAL	142	VAL		
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U		
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U		
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U		
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U		
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U		
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U		
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U		
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U		
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	6.	J		
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U		
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U		
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U		
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U		
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U		
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U		
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U		
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U		
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U		
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U		
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U		
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U		
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U		
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U		
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U		
75-09-2	Methylene chloride	3.	J	3.	J	10.	U	15.	J	3.	J		
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U		
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U		
108-88-3	Toluene	10.	U	10.	U	10.	U	1.	J	10.	U		
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U		
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U		
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U		
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U		
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U		

*** Validation Complete ***

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PEST	SAMPLE ID ------->	PBL-1-0017-01		PBL-T-0017-02		PBL-1-0017-03		PBL-1-0017-07		PBL-1-0017-08		PBL-T-0142-04	
	ORIGINAL ID ----->	PBLK11		PBLK26		PBLK35		PBLK69		PBLK82		PBLK37	
	LAB SAMPLE ID --->	553071		553933		554551		551876		552330		554627	
	ID FROM REPORT -->	PBLK11		PBLK26		PBLK35		PBLK69		PBLK82		PBLK37	
	SAMPLE DATE ----->												
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	17	VAL	17	VAL	17	VAL	17	VAL	17	VAL	142	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	6.1	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421-36-3	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

*** Validation Complete ***

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PEST													
	SAMPLE ID -------:	PBL-T-0142-05		PBL-T-0142-06		PIB-T-0001-22		PIB-T-0001-23		PIB-T-0001-24		PIB-T-0001-25	
	ORIGINAL ID -----:	PBLK46		PBLK64		PIBLKDQ		PIBLKHQ		PIBLKHV		PIBLKIZ	
	LAB SAMPLE ID ---:	555285		555285		PIBLK DQ		PIBLK HQ		PIBLK HV		PIBLK IZ	
	ID FROM REPORT --:	PBLK46		PBLK64		PIBLKDQ		PIBLKHQ		PIBLKHV		PIBLKIZ	
	SAMPLE DATE -----:												
	MATRIX ----------:	Water		Water		Water		Water		Water		Water	
	UNITS ----------:	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	142	VAL	1	VAL	1	VAL	1	VAL	1	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	Aldrin	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U
12674-11-2	Aroclor-1016	1.	U	1.	U	0.5	U	0.5	U	0.5	U	0.5	U
11104-28-2	Aroclor-1221	2.	U	2.	U	1.	U	1.	U	1.	U	1.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	1.	U	1.	U	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	1.	U	1.	U	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	Aroclor-1254	1.	U	1.	U	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	1.	U	1.	U	0.5	U	0.5	U	0.5	U	0.5	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U
72-20-8	Endrin	0.1	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U
7421-36-3	Endrin aldehyde	0.1	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.05	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.25	U	0.25	U	0.25	U	0.25	U
8001-35-2	Toxaphene	5.	U	5.	U	2.5	U	2.5	U	2.5	U	2.5	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.025	U	0.025	U	0.025	U	0.025	U

*** Validation Complete ***

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PEST													
	SAMPLE ID ------->	PIB-T-0001-26		PIB-T-0001-27		PIB-T-0001-28		'IB-1-0001-29		PIB-T-0001-30		PIB-T-0001-31	
	ORIGINAL ID ----->	PIBLKJ7		PIBLKJP		PIBLKJT		IBLKJX		PIBLKJY		PIBLKKU	
	LAB SAMPLE ID --->	PIBLK J7		PIBLK JP		PIBLK JT		IBLK JX		IBLK JY		IBLK KU	
	ID FROM REPORT -->	PIBLKJ7		PIBLKJP		PIBLKJT		IBLKJX		IBLKJY		IBLKKU	
	SAMPLE DATE ----->												
	MATRIX ---------->	Uater		dater		Uater		deter		Jater		dater	
	UNITS ---------->	UG/L		JG/L		UG/L		JG/L		JG/L		JG/L	
CAS #	Parameter	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL	1	VAL
72-54-8	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	Aldrin	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
12674-11-2	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11104-28-2	Aroclor-1221	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11141-16-5	Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
60-57-1	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
959-98-8	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
33213-65-9	Endosulfan II	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-20-8	Endrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
7421-36-3	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
53494-70-5	Endrin ketone	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.0s	U
72-43-5	Methoxychlor	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
8001-35-2	Toxaphene	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-71-9	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-85-7	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-74-2	gamma-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U

*** Validation Complete ***

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PEST															
	SAMPLE ID ------->	PIE-1-0001-32		PIB-T-0017-09		PIB-T-0017-10		PIB-T-0017-12		PIB-T-0017-13		PIB-T-0017-14	
	ORIGINAL ID ----->	PIBLKL2		PIBLK1T		PIBLKC1		PIBLKFZ		PIBLKG6		PIBLKH7	
	LAB SAMPLE ID --->	PIBLK L2		PIBLK 1T		PIBLK C1		PIBLK FZ		PIBLK G6		PIBLK H7	
	ID FROM REPORT -->	PIBLKL2		PIBLK1T		PIBLKC1		PIBLKFZ		PIBLKG6		PIBLKH7	
	SAMPLE DATE ----->												
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	1	VAL	17'	VAL	17	VAL	17	VAL	17	VAL	17	VAL
72-54-8	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	Aldrin	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
12674-11-2	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11104-28-2	Aroclor-1221	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11141-16-5	Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
60-57-1	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
959-98-8	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
33213-65-9	Endosulfan II	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-20-8	Endrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
7421-36-3	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
53494-70-5	Endrin ketone	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	6.025	U	0.025	U	0.025	U
72-43-5	Methoxychlor	0.045	J	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
8001-35-2	Toxaphene	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-71-9	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-85-7	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025,	U	0.025	U	0.025	U
5103-74-2	gamma-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

PEST													
	SAMPLE ID ------->	PIB-1-0017-15		PIE-T-0017-17		PIB-1-0017-19		PIB-T-0017-23		PIB-T-0017-24		PIB-T-0032-16	
	ORIGINAL ID ----->	PIBLKH8		PIBLKHL		PIBLKHT		PIBLKIB		PIBLKIE		PIBLKHC	
	LAB SAMPLE ID --->	PIBLK HB		PIBLK HL		PIBLK HT		PIBLK IB		PIBLK IE		PIBLK HC	
	ID FROM REPORT -->	PIBLKH8		PIBLKHL		PIBLKHT		PIBLKIB		PIBLKIE		PIBLKHC	
	SAMPLE DATE ----->												
	MATRIX ---------->	Uater		Water		Ueter		Water		Uater		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	17	VAL	17	VAL	17	VAL	17	VAL	17	VAL	32	VAL
72-54-8	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	Aldrin	0.025	U	0.025	U	0.025	U	6.025	U	0.025	U	0.025	U
12674-11-2	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11104-28-2	Aroclor-1221	1.	U	1.	U	1.	U	1	U	1	U	1.	U
11141-16-5	Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
60-57-1	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
959-98-8	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
33213-65-9	Endosulfan 11	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-20-8	Endrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
7421-36-3	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
53494-70-5	Endrin ketone	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
72-43-5	Methoxychlor	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
8001-35-2	Toxaphene	25	U	2.5	U	25	U	2.5	U	25	U	2.5.	U
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-71-9	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-85-7	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-74-2	gamma-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U

*** Validation Complete ***

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PEST													
	SAMPLE ID ------->	PIB-T-0032-21		PIB-T-0032-22		PIB-T-0032-25		PIB-T-0032-26		PIB-T-0032-29		PIB-T-0032-36	
	ORIGINAL ID ----->	PIBLKHY		PIBLKI8		PIBLKIN		PIBLKIP		PIBLKJ6		PIBLKJL	
	LAB SAMPLE ID --->	PIBLK HY		PIBLK 18		PIBLK IN		PIBLK IP		PIBLK J6		PIBLK JL	
	ID FROM REPORT -->	PIBLKHY		PIBLKI8		PIBLKIN		PIBLKIP		PIBLKJ6		PIBLKJL	
	SAMPLE DATE ----->												
	MATRIX ---------->	IUeter		Idater		Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	:32	VAL	:32	VAL	:32	VAL	32	VAL	32	VAL	32	VAL
72-54-8	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	Aldrin	0.025	U	0.025	U	0.02s	U	0.025	U	0.025	U	0.025	U
12674-11-2	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11104.28-2	Aroclor-1221	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11141-16-5	Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
60-57-1	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
959-98-8	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
33213-65-9	Endosulfan II	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-20-8	Endrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
7421-36-3	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
53494-70-5	Endrin ketone	0.05	U	0.05	U	0.04	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
72-43-5	Methoxychlor	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
8001-35-2	Toxaphene	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-71-9	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-85-7	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025.	U	0.025	U	0.025	U
5103-74-2	gamma-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U

*** Validation Complete ***

PENSACOLA, SITE 39
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PEST													
	SAMPLE ID -------:	PIE-7-0032-39		PIB-T-0032-45		PIE-7-0032-46		PIB-7-0120-43		PIE-7-0120-44		PIB-T-0142-27	
	ORIGINAL ID -----:	PIBLKJR		PIBLKKB		PIBLKKC		PIBLKK4		PIBLKK6		PIBLKIY	
	LAB SAMPLE ID ---:	PIBLK JR		PIBLK KB		PIBLK KC		PIBLK K4		PIBLK K6		PIBLK IY	
	ID FROM REPORT --:	PIBLKJR		PIBLKKB		PIBLKKC		PIBLKK4		PIBLKK6		PIBLKIY	
	SAMPLE DATE -----:												
	MATRIX ----------:	Uater		Uater		Water		Uater		Water		Water	
	UNITS ----------:	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	arameter	32	'VAL	32	VAL	32	VAL	120	VAL	120	VAL	142	VAL
72-54-8	,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	ldrin	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
12674-11-2	roclor-1016	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11104-28-2	roclor-1221	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11141-16-5	roclor-1232	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	roclor-1242	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	roclor-1248	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	roclor-1254	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	roclor-1260	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
60-57-1	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
959-98-8	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
33213-65-9	Endosulfan II	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-20-8	Endrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
7421-36-3	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
53494-70-5	Endrin ketone	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
72-43-5	Methoxychlor	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
8001-35-2	Toxaphene	25	U	25	U	25	U	25	U	25	U	25	U
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-71-9	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-85-7	eta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	elta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
58-89-9	amma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-74-2	gamma-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U

+** Validation Complete ***

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PEST	SAMPLE ID ------->	PIB-T-0142-31		PIB-T-0142-32		PIB-1-0142-33		PIB-T-0142-34		PIB-T-0142-35		PIB-T-0142-37	
	ORIGINAL ID ----->	PIBLKJC		PIBLKJD		PIBLKJG		PIBLKJH		PIBLKJJ		PIBLKJN	
	LAB SAMPLE ID --->	PIBLK JC		PIBLK JD		PIBLK JG		PIBLK JH		PIBLK JJ		PIBLK JN	
	ID FROM REPORT -->	PIBLKJC		PIBLKJD		PIBLKJC		PIBLKJH		PIBLKJJ		PIBLKJN	
	SAMPLE DATE ----->												
	MATRIX ---------->	dater		Uater		Water		Water		Uater		dater	
	UNITS ---------->	JG/L		UG/L		UG/L		UG/L		UG/L		JG/L	
CAS #	Parameter	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL	I42	VAL
72-54-8	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	Aldrin	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
12674-11-2	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11104-28-2	Aroclor-1221	1.	U	1.	U	1.	U	1.	U	1.	U	1	U
11141-16-5	Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	Armtor-1254	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
10		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
7421-36-3	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
53494-70-5	Endrin ketone	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
72-43-5	Methoxychlor	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
8001-35-2	Toxaphene	25	U	25	U	25	U	2.5	U	2.5	U	25	U
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-71-9	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-85-7	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-74-2	gamma-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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PEST	SAMPLE ID ------->	PIB-T-0375-49		PIB-T-0375-50		PIE-t-0375-51		PIB-T-0375-52		PIB-T-0375-53		PIE-T-0375-54	
	ORIGINAL ID ----->	PIBLKLG		PIBLKLK		PIBLKLP		PIBLKLU		PIBLKLW		PIBLKMQ	
	LAB SAMPLE ID --->	PIBLK LG		PIBLK LK		PIBLK LP		PIBLK LU		PIBLK LW		PIBLK MQ	
	ID FROM REPORT -->	PIBLKLG		PIBLKLK		PIBLKLP		PIBLKLU		PIBLKLU		PI;BLKMQ	
	SAMPLE DATE ----->												
	MATRIX ---------->	Ueter		Uater		Uattr		Water		Ueter		Uater	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	375	VAL	375	VAL	375	VAL	375	VAL	375	VAL	375	VAL
72-54-8	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	Aldrin	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
12674-11-2	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11104-28-2	Aroclor-1221	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11141-16-5	Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
60-57-1	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
959-98-8	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
33213-65-9	Endosulfan II	0.05	U	0.05	U	0.65	U	0.05	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-20-8	Endrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
7421-36-3	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
53494-70-5	Endrin ketone	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
72-43-5	Methoxychlor	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
8001-35-2	Toxaphene	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-71-9	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.024	U
319-85-7	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
5103-74-2	gamma-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U

*** Validation Complete ***

	------->	PIB-T-0375-55		PIB-T-0375-56		PIB-T-0375-57		PIB-T-0375-58	
	SAMPLE	PIBLKMV PIBLK MV PIBLKMV		PIBLKMY PIBLK MY PIBLKMY		PIBLKN2 PIBLK N2 PIBLKN2		PIBLKN4 PIBLK N4 PIBLKN4	
	---------->	Uater UG/L		Water UG/L		Water UG/L		Water UG/L	
CAS #	Parameter	375	VAL	375	VAL	375	VAL	375	VAL
72-54-8	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	Aldrin	0.025	U	0.025	U	0.025	U	0.025	U
12674-11-2	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U
11104-28-2	Aroclor-1221	1.	U	1.	U	1.	U	1.	U
11141-16-5	Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U
60-57-1	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U
959-98-8	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U
33213-65-9	Endosulfan II	0.05	U	0.05	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U
	ndrin	0.05	U	0.05	U	0.05	U	0.05	U
74		0.05	U	0.05	U	0.05	U	0.05	U
534		0.05	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.625	U	6.025	U	0.025	U	0.025	U
	r	0.25	U	0.25	U	0.25	U	0.25	U
8001-35-2	Toxaphene	2.5	U	2.5	U	2.5	U	2.5	U
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U
5103-71-9	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U
319-85-7	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.025	U	0.025	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025.	U
5103-74-2	gamma-Chlordane	0.025	U	0.025	U	0.025	U	6.025	U

*** Validation Complete ***

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SVOA													
	SAMPLE ID ------->	SBL-1-0142-59		SBL-T-0142-60		SBL-T-0142-61		SBL-T-0142-62		SBL-T-0142-63		SBL-T-0142-64	
	ORIGINAL ID ----->	SBLK11		SBLK19		SBLK25		SBLK78		SBLK92		SBLK93	
	LAB SAMPLE ID --->	SBLK11		SBLK19		SBLK25		SBLK78		SBLK92		SBLK93	
	ID FROM REPORT -->	SBLK11		SBLK19		SBLK25		SBLK78		SBLK92		SBLK93	
	SAMPLE DATE ----->												
	MATRIX ---------->	Uater		!Uater		Uater		!Uater		Uater		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL
108-95-2	Phenol	10.	U	5.	J	10.	U	10.	U	5.	J	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitrwo-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-68-3	Hcxach1orobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyc1opentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	1.	J	10.	U	10.	U	2	J	10.	U

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SVOA													
	SAMPLE ID ------->	SBL-T-0142-59		SBL-T-0142-60		SBL-T-0142-61		SBL-T-0142-62		SBL-f-0142-63		SBL-T-0142-64	
	ORIGINAL ID ----->	SBLK11		SBLK19		SBLK25		SBLK78		SBLK92		SBLK93	
	LAB SAMPLE ID --->	SBLK11		SBLK19		SBLK25		SBLK78		SBLK92		SBLK93	
	ID FROM REPORT -->	SBLK11		SBLK19		SBLK25		SBLK78		SBLK92		SBLK93	
	SAMPLE DATE ----->												
	MATRIX ---------->	Uater		Water		Water		Uatcr		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL	142	VAL
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	2.	J	10.	U	10.	It	10.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	1.	J	10.	U	1.	J	1.	J	2.	J
117-84-0	Di-n-octylphthalate	10.	U	10.	It	10.	U	16.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

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VOA													
	SAMPLE ID ------->	BLK-T-OLAB-01		VBL-T-0017-65		VBL-T-0017-66		/BL-T-0017-67		/BL-T-0017-68		/BL-T-0017-73	
	ORIGINAL ID ----->	LABPURE		VBLKD8		VBLKE5		/BLKI9		/BLKJ2		VBLKW3	
	LAB SAMPLE ID --->	553777		VBLKD8		VBLKE5		/BLKI9		/BLKJ2		VBLKW3	
	ID FROM REPORT -->	LABPURE		VBLKD8		VBLKE5		/BLKI9		/BLKJ2		VBLKW3	
	SAMPLE DATE ----->												
	MATRIX ---------->	Uater		!Uater		Uater		Jater		Jater		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		JG/L		JG/L		UG/L	
CAS #	Parameter	17	VAL	17	VAL	17	VAL	I7	VAL	17	VAL	17	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	20.	J	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	2.	J	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	1.	J	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	2.	J	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	17.	U	6.	J	5.	J	7.	J	3.	J	1.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	1.	J	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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VOA											
	SAMPLE ID ------->	VBL-T-0017-74		VBL-T-0142-69		VBL-T-0142-70		VBL-T-0142-71		VBL-T-0142-72	
	ORIGINAL ID ----->	VBLKX6		VBLKN2		VBLKP6		VBLKR4		VBLKR6	
	LAB SAMPLE ID --->	VBLKX6		VBLKN2		VBLKP6		VBLKR4		VBLKR6	
	ID FROM REPORT -->	VBLKX6		VBLKN2		VBLKP6		VBLKR4		VBLKR6	
	SAMPLE DATE ----->										
	MATRIX ---------->	Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	17	VAL	142	VAL	142	VAL	142	VAL	142	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	3.	J	7.	J	5.	J	10.	U	8.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA. SITE 39
PENSACOLA, SITE 39, 1993 DATA
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METAL			
	SAMPLE ID ------->	039-H-G107-00 D	
	ORIGINAL ID ----->	39G107D	
	LAB SAMPLE ID --->	554825	
	ID FROM REPORT -->	39G107D	
	SAMPLE DATE ----->	06/08/93	
	MATRIX ---------->	Uater	
	UNITS ---------->	UG/L	

U S #	Parameter	31421	VAL
AL	Aluminum	125000.	
SB	Antimony	37.4	J
AS	Arsenic	153.	
BA	Barium	243.	
BE	Beryllium	9.5	
CD	Cadmium	5.	U
CA	Calcium	18900.	
CR	Chromium	354.	
CO	Cobalt	27.7	
CU	Copper	52.4	
CN	Cyanide	10.	U
FE	Iron	90100.	
PB	Lead	30.6	J
MG	Magnesium	11600.	
MN	Manganese	344.	
HG	Mercury	0.2	U
NI	Nickel	78.	
K	Potassium	9130.	
SE	Selenium	30.	U
AG	Silver	7.	U
		4800.	
		4.	U
V	Vanadium	447.	
ZN	Zinc	2%.	

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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PEST

SAMPLE ID -------> 039-H-GtO7-00 D
ORIGINAL ID -----> 39G107D
LAB SAMPLE ID ---> 554821
ID FROM REPORT --> 39G107D
SAMPLE DATE -----> 06/08/93
MATRIX ----------> Water
UNITS -----------> UG/L

CAS #	Parameter	142	VAL
72-54-8	4,4'-DDD	0.1	U
72-55-9	4,4'-DDE	0.1	U
50-29-3	4,4'-DDT	0.1	U
309-00-2	Aldrin	0.05	U
12674-11-2	Aroclor-1016	1.	U
11104-28-2	Aroclor-1221	2.	U
11141-16-5	Aroclor-1232	1.	U
53469-21-9	Aroclor-1242	1.	U
12672-29-6	Aroclor-1248	1.	U
11097-69-1	Aroclor-1254	1.	U
11096-82-5	Aroclor-1260	1.	U
60-57-1	Dieldrin	0.1	U
959-98-8	Endosulfan I	0.05	U
33213-65-9	Endosulfan II	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U
72-20-8	Endrin	0.1	U
7421-36-3	Endrin aldehyde	0.1	U
53494-70-5	Endrin ketone	0.1	U
76-44-8	Heptachlor	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
72-43-5	Methoxychlor	0.5	U
8001-35-2	Toxaphene	5.	U
319-84-6	alpha-BHC	0.05	U
5103-71-9	alpha-Chlordane	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.64	U
58-89-9	gamma-BHC (Lindane)	0.05	U
5103-74-2	gamma-Chlordane	0.05	U

+ Validation Complete +++

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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SVOA			
	SAMPLE ID ------->	039-H-GI07-00 D	
	ORIGINAL ID ----->	39GI07D	
	LAB SAMPLE ID --->	554821	
	ID FROM REPORT -->	39GI07D	
	SAMPLE DATE ----->	06/08/93	
	MATRIX ---------->	Water	
	UNITS ---------->	UG/L	
CAS #	Parameter	142	VAL
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	to.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	25.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
99-09-2	3-Nitroaniline	25.	U
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	25.	U
100-02-7	4-Nitrophenol	25.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
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SVOA

SAMPLE ID ------->	039-H-G107-00 D
ORIGINAL ID ----->	39G107D
LAB SAMPLE ID --->	554821
ID FROM REPORT -->	39G107D
SAMPLE DATE ----->	06/08/93
MATRIX ---------->	Water
UNITS ----------->	UG/L

CAS #	Parameter	142	VAL
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U
86-30-6	N-Nitrosodiphenylamine	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	25.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
86-74-8	Carbazole	10.	U
84-74-2	Di-n-butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	5.	U
117-84-0	Di-n-octylphthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
PENSACOLA, SITE 39, 1993 DATA
Final Report

VOA

SAMPLE ID ------->	039-H-GI07-00 D
ORIGINAL ID ----->	39GI07D
LAB SAMPLE ID --->	554821
ID FROM REPORT -->	39GI07D
SAMPLE DATE ----->	06/08/93
MATRIX ---------->	Uater
UNITS ---------->	UG/L

CAS #	Parameter	142	VAL
71-55-6	1,1,1-Trichloroethane	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
75-34-3	1,1-Dichloroethane	10.	U
75-35-4	1,1-Dichloroethene	10.	U
107-06-2	1,2-Dichloroethane	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U
78-87-5	1,2-Dichloropropane	10.	U
78-93-3	2-Butanone (MEK)	10.	U
591-78-6	2-Hexanone	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U
67-64-1	Acetone	10.	U
71-43-2	Benzene	10.	U
75-27-4	Bromodichloromethane	10.	U
75-25-2	Bromoform	10.	U
74-83-9	Bromomethane	10.	U
75-15-0	Carbon disulfide	10.	U
56-23-5	Carbon tetrachloride	10.	U
108-90-7	Chlorobenzene	10.	U
75-00-3	Chloroethane	10.	U
67-66-3	Chloroform	10.	U
74-87-3	Chloromethane	10.	U
124-48-1	Dibromochloromethane	10.	U
100-41-4	Ethylbenzene	10.	U
75-09-2	Methylene chloride	15.	U
100-42-5	Styrene	10.	U
127-18-4	Tetrachloroethene	10.	U
108-88-3	Toluene	10.	U
79-01-6	Trichloroethene	10.	U
75-01-4	Vinyl chloride	10.	U
1330-20-7	Xylene (Total)	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U

+++ Validation Complete +**

PENSACOLA, SITE 39
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		039-G-1005-20 39G10520 619065 HAC003		039-G-1006-20 39610320 619618 MAC002		039-G-1007-20 39G10720 519615 MAC004		039-G-1020-00 39G120 618819 MAC005		039-G-S001-20 39GS0120 619063 MAC006		039-G-S002-20 39GS0220 519616 MAC007	
----------> UNITS		Water UG/L		Water UG/L		Water UG/L		Water UG/L		Water UG/L		Water UG/L	
CAS #	Parameter	88615	VAL	88615	VAL	88615	VAL	88615	VAL	88615	VAL	88615	VAL
CN	Cyanide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
AL	Aluminum	308.	U	354.	U	318.	U	212.	U	325.	U	6210.	U
SB	Antimony	33.3	U	33.3	U	33.3	U	33.3	U	33.3	U	33.3	U
AS	Arsenic	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	5.3	
BA	Barium	11.3	J	6.8	U	5.3	U	6.9	U	6.5	U	13.1	J
BE	Beryllium	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
CD	Cadmium	4.7	U	4.7	U	4.7	U	4.7	U	4.7	U	4.7	U
CA	Calcium	3230.	J	5930.	J	4970.	J	254.	U	40800.		25500.	
CR	Chromium	6.6	U	6.6	U	6.6	U	6.6	U	6.6	U	6.6	U
CO	Cobalt	6.3	U	6.3	U	6.3	U	6.3	U	6.3	U	6.3	U
CU	copper	10.6	U	10.6	U	10.6	U	10.6	U	10.6	U	10.6	U
FE	Iron	1050.	J	2020.	J	1720.	J	27.7	UJ	51.2	J	2430.	J
PB	Lead	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U	2.5	
MG	Magnesium	980.		1130.		975.		106.	U	2570.		2300.	
MN	Manganese	8.8		8.8		8.8		6.3	U	6.3	U	8.8	
HG	Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
NI	Nickel	38.8	U	38.8	U	38.8	U	38.8	U	38.8	U	38.8	U
K	Potassium	2310.	U	2310.	U	2310.	U	2310.	U	2310.	U	2310.	U
		3.4	U	3.4	UJ	3.4	UJ	3.4	U	3.5	UJ	3.4	U
		5.9	U	5.9	U	5.9	U	5.9	U	5.9	U	5.9	U
		7830.		5000.		5260.		555.		6480.		9880.	
		2.6	UJ	2.6	UJ	2.6	UJ	2.6	YJ	2.6	UJ	2.6	UJ
V	Vanadium	5.3	U	5.3	U	5.3	U	5.3	U	5.3	U	10.	
ZN	Zinc	11.5	J	8.	J	8.4	J	11.	J	4.3	J	62.6	J

*** Validation Complete ***

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METAL													
		SAMPLE ID ------->	039-G-S003-20		039-H-S003-20		039-G-SOO4-20						
		ORIGINAL ID ----->	39GS0320		39GS0320D		39GS0420						
		LAB SAMPLE ID --->	619062		619064		619066						
		ID FROM REPORT -->	MAC008		MAC009		MAC010						
		SAMPLE DATE ----->											
		MATRIX ---------->	Water		Water		Uattr						
		UNITS ---------->	UG/L		UG/L		UG/L						
CAS #	Parameter		88615	VAL	88615	VAL	88615	VAL					
CN	Cyanide		10.	U	10.	U	10.	U					
AL	Aluminum		15000.		29200.	J	1140.	J					
SB	Antimony		33.3	U	33.3	U	33.3	U					
AS	Arsenic		4.3		3.7		2.6	U					
BA	Barium		15.5	J	23.9	J	7.	U					
BE	Beryllium		0.7	U	0.7	U	0.7	U					
CD	Cadmium		4.7	U	4.7	U	4.7	U					
CA	Calcium		22600.		18000.		26500.						
CR	Chromium		8.8		19.1		6.6	U					
CO	Cobalt		6.3	U	6.3	U	6.3	U					
CU	Copper		10.6	U	10.6	U	10.6	U					
FE	Iron		8550.	J	12900.	J	156.	J					
PB	Lead		5.2		13.6		1.8	U					
MG	Magnesium		1850.		2130.		3350.						
MN	Manganese		17.7		33.2		6.3	U					
HG	Mercury		0.2	U	0.2	U	0.2	U					
NI	Nickel		38.8	U	38.8	U	38.8	U					
K	Potassium		2310.	U	2310.	U	2310,	U					
SE	Selenium		3.4	U	3.4	UJ	3.4	U					
AG	Silver		5.9	U	5.9	U	5.9	U					
NA	Sodium		6180.		5200.		12900.						
TL	Thallium		2.6	UJ	2.6	UJ	2.6	UJ					
V	Vanadium		24.4		38.4		5.3	U					
ZN	Zinc		40.6	J	80.3	J	5.4	J					

*** Validation Complete ***

PENSACOLA, SITE 39
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PEST							
SAMPLE ID ------->	039-E-GE20-00	039-6-1005-20	039-6-1006-20	039-G-1007-20	039-6-1020-00	039-G-S001-20
ORIGINAL ID ----->	39GE20	39GI0520	39GI0320	39GI0720	39GI20	39GS0120
LAB SAMPLE ID --->	618818	619055	619612	619609	618810	619053
ID FROM REPORT -->	39GE20	39GI0520	39GI0620	39GI0720	39GI20	39GS0120
SAMPLE DATE ----->						
DATE EXTRACTED -->	06/17/94	06/20/94	06/21/94	06/21/94	06/17/94	06/20/94
DATE ANALYZED --->	06/19/94	06/22/94	06/23/94	06/23/04	06/19/94	06/22/94
MATRIX ---------->	Water	Water	Water	Water	Water	Water
UNITS ---------->	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
		0.5	U	0.5	U	0.5	U	6.5	U	6.5	U	0.5	U
53494		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
		1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
		2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
		1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U

*** Validation Complete ***

PENSACOLA, SITE 39
Second Round
Final Report

PEST									
	SAMPLE ID ------->	039-G-S002-20		039-G-S003-20		039-H-S003-20		039-G-S004-20	
	ORIGINAL ID ----->	39GS0220		39650320		39GS032D		39GS0420	
	LAB SAMPLE ID --->	619610		619052		619054		619056	
	ID FROM REPORT -->	39GS0220		39GS0320		39GS032D		39GS0420	
	SAMPLE DATE ----->								
	DATE EXTRACTED -->	06/21/94		06/20/94		06/20/94		06/20/94	
	DATE ANALYZED --->	06/23/94		06/22/94		06/22/94		06/22/94	
	MATRIX ---------->	Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U

*** Validation Complete ***

PENSACOLA, SITE 39
Second Round
Final Report

SVOA													
	SAMPLE ID ------->	039-6-1005-20		039-G-1006-20		039-6-1007-20		039-G-1020-00		039-G-S001-20		039-G-S002-20	
	ORIGINAL ID ----->	39610520		39610320		39610720		396120		39GS0120		39GS0220	
	LAB SAMPLE ID --->	619055		619612		619609		618810		619053		619610	
	ID FROM REPORT -->	39G10520		39610620		39610720		396120		39GS0120		39GS0220	
	SAMPLE DATE ----->												
	DATE EXTRACTED -->	06/20/94		06/21/94		06/21/94		06/16/94		06/20/94		06/21/94	
	DATE ANALYZED --->	06/22/94		06/23/94		06/22/94		06/21/94		06/22/94		06/22/94	
	MATRIX ---------->	Mater		Mater		Mater		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL
108-95-2	Phenol	10.	U	1.	U	1.	U	10.	U	10.	U	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
	[illegible]enol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
[illegible]	[illegible]obenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
[illegible]	[illegible]oaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
	orobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
	o-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
	lnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
	opentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-74-4	2-nitromiline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

** Validation Complete +**

PENSACOLA, SITE 39
Second Round
Final Report

SVOA													
	SAMPLE ID ------->	039-G-1005-20		039-6-1006-20		039-6-1007-20		039-6-1020-00		039-G-S001-20		039-G-S002-20	
	ORIGINAL ID ----->	39610520		39GI0320		39610720		39GI20		39GS0120		39GS0220	
	LAB SAMPLE ID --->	619055		619612		619609		618810		619053		619610	
	ID FROM REPORT -->	39GI0520		39610620		39610720		39GI20		39GS0120		39GS0220	
	SAMPLE DATE ----->												
	DATE EXTRACTED -->	06/20/94		06/21/94		06/21/96		06/16/94		06/20/94		06/21/94	
	DATE ANALYZED --->	06/22/94		06/23/94		06/22/94		06/21/94		06/22/94		06/22/94	
	MATRIX ---------->	Uater		Water		Uater		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U			10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U	17.	J	10.	U	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
Second Round
Final Report

SVOA											
	SAMPLE ID ------->	039-G-S003-20		039-H-S003-20		039-G-SOW-20					
	ORIGINAL ID ----->	39GS0320		39GS032D		39GS0420					
	LAB SAMPLE ID --->	619052		619054		619056					
	ID FROM REPORT -->	39GS0320		39GS032D		39GS0420					
	SAMPLE DATE ----->										
	DATE EXTRACTED -->	06/20/94		06/20/94		06/20/94					
	DATE ANALYZED --->	06/22/94		06/22/94		06/22/94					
	MATRIX ---------->	Uater		Water		Water					
	UNITS ---------->	UG/L		UG/L		UG/L					
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL				
108-95-2	Phenol	1.	U	2.	U	10.	U				
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U				
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U				
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U				
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U				
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U				
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U				
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U				
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U				
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U				
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U				
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U				
78-59-1	Isophorone	10.	U	10.	U	10.	U				
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U				
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U				
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U				
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U				
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U				
91-20-3	Naphthalene	10.	U	10.	U	10.	U				
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U				
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U				
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U				
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U				
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U				
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U				
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	2s.	U				
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U				
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U				
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U				
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U				
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U				
99-09-2	3-Nitroaniline	2s.	U	25.	U	25.	U				
83-32-9	Acenaphthene	10.	U	10.	U	10.	U				
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U				
100-02-7	4-Nitrophenol	25.	U	2s.	U	25.	U				
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U				

PENSACOLA, SITE 39
Second Round
Final Report

SVOA											
	SAMPLE ID ------->	039-G-S003-20		039-H-S003-20		039-G-S004-20					
	ORIGINAL ID ----->	39GS0320		39GS032D		39GS0420					
	LAB SAMPLE ID --->	619052		619054		619056					
	ID FROM REPORT -->	39GS0320		39GS032D		39GS0420					
	SAMPLE DATE ----->										
	DATE EXTRACTED -->	06/20/94		06/20/94		06/20/94					
	DATE ANALYZED --->	06/22/94		06/22/94		06/22/94					
	MATRIX ---------->	Water		Water		Water					
	UNITS ---------->	UG/L		UG/L		UG/L					
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL				
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U				
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U				
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U				
86-73-7	Fluorene	10.	U	10.	U	10.	U				
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U				
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U				
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U				
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U				
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U				
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U				
85-01-8	Phenanthrene	10.	U	10.	U	10.	U				
120-12-7	Anthracene	10.	U	10.	U	10.	U				
86-74-8	Carbazole	10.	U	10.	U	10.	U				
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U				
206-44-0	Fluoranthene	10.	U	10.	U	10.	U				
129-00-0	Pyrene	10.	U	10.	U	10.	U				
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U				
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U				
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U				
218-01-9	Chrysene	10.	U	10.	U	10.	U				
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U				
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U				
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U				
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U				
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U				
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U				
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U				
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U				

+++ Validation Complete ***

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VOA													
	SAMPLE ID ------->	039-G-1005-20		039-G-1006-20		039-G-1007-20		039-G-1020-00		039-G-SOOI-20		039GS028002-20	
	ORIGINAL ID ----->	39G10520		39610320		39G10720		396120		39GS0120			
	LAB SAMPLE ID --->	619055		619612		619609		618810		619053		619610	
	ID FROM REPORT -->	39G10520		39G10620		39G10720		396120		39GS0120		39GS0220	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	06/24/94		06/24/94		06/24/94		06/23/94		06/24/94		06/24/94	
	MATRIX ---------->	Water		Water		Uater		Water		Water		Uater	
	UNITS ---------->	UG/L		UGLL		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	10.	U	2.	U	3.	U	2.	U	3.	U	2.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	5.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	2.	J	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

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VOA											
	SAMPLE ID ------->	039-6-SOO3-20		039-H-S003-20		039-G-S004-20					
	ORIGINAL ID ----->	39GS0320		39GS032D		39GS0420					
	LAB SAMPLE ID --->	619052		619054		619056					
	ID FROM REPORT -->	39GS0320		39GS032D		39GS0420					
	SAMPLE DATE ----->										
	DATE ANALYZED --->	06/24/94		06/24/94		06/24/94					
	MATRIX ---------->	Water		Water		Water					
	UNITS ---------->	UG/L		UG/L		UG/L					
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL				
74-87-3	Chloromethane	10.	U	10.	U	10.	U				
74-83-9	Bromomethane	10.	U	10.	U	10.	U				
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U				
75-00-3	Chloroethane	10.	U	10.	U	10.	U				
75-09-2	Methylene chloride	10.	U	4.	U	1.	U				
67-64-1	Acetone	10.	U	10.	U	6.	U				
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U				
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U				
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U				
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U				
67-66-3	Chloroform	10.	U	10.	U	10.	U				
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U				
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U				
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U				
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U				
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U				
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U				
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U				
79-01-6	Trichloroethene	10.	U	10.	U	10.	U				
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U				
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U				
71-43-2	Benzene	10.	U	10.	U	10.	U				
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U				
75-25-2	Bromoform	10.	U	10.	U	10.	U				
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U				
591-78-6	2-Hexanone	10.	U	10.	U	10.	U				
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U				
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U				
108-88-3	Toluene	10.	U	10.	U	10.	U				
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U				
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U				
100-42-5	Styrene	10.	U	10.	U	10.	U				
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U				

*++ Validation Complete +++

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PEST													
	SAMPLE ID -------:	PBL-T-0001-01		PBL-T-0001-02		PEL-1-0001-03		PBL-T-0001-04		PIB-T-0001-05		PIB-T-0001-06	
	ORIGINAL ID -----:	PBLK35		PBLK41		PBLK57		PBLK70		PIBLK16		PIBLK18	
	LAB SAMPLE ID ---:	619286		619715		619880		420529		PIBLK 16		PIBLK 18	
	ID FROM REPORT --:	PBLK35		PBLK41		PBLK57		PBLK70		PIBLK16		PIBLK18	
	SAMPLE DATE -----:												
	DATE EXTRACTED --:	06/17/94		06/20/94		06/21/94		06/23/94					
	DATE ANALYZED ---:	06/19/94		06/22/94		06/23/94		06/25/94		06/19/94		06/19/94	
	MATRIX ----------:	Water		Water		Uater		Water		Water		Water	
	UNITS ----------:	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.0098	J	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	2.5	U	2.5	U
12674-11-2	Aroclor-1016	1.	U	1	U	1.	U	1.	U	0.5	U	0.5	U
11104-28-2	Aroclor-1221	2.	U	2	U	2	U			1.	U	1.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1	U	1.	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	1.	U	1,	U	1.	U	1.	U	0.5	U	0.5	U
11097-69-1	Aroclor-1254	1.	U	1	U	1	U	1.	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	1.	U	1	U	1.	U	1.	U	0.5	U	0.5	U

*** Validation Complete ***

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PEST																	
	SAMPLE ID ------->	PIB-T-0001-07		PIB-T-0001-08		PIB-T-0001-09		PIB-T-0001-10		PIB-T-0001-11		PIB-T-0001-12	
	ORIGINAL ID ----->	PIBLK1N		PIBLK7V		PIBLKA7		PIBLKAE		PIBLKAQ		PIBLKC2	
	LAB SAMPLE ID --->	PIBLK 1N		PIBLK 7V		PIBLK A7		PIBLK AE		PIBLK AQ		PIBLK C2	
	ID FROM REPORT -->	PIBLK1N		PIBLK7V		PIBLKA7		PIBLKAE		PIBLKAQ		PIBLKC2	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	06/18/94		06/22/94		06/22/94		06/23/94		06/22/94		06/23/94	
	MATRIX ---------->	Ueter		Uater		Uater		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-85-7	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
319-86-8	delta-BHC	0.025	U	0.025	U	0.02s	U	0.025	U	0.025	U	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
309-00-2	Aldrin	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
959-98-8	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
60-57-1	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-55-9	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-20-8	Endrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-54-8	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
50-29-3	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.25	U	0.25	U	0.25	U	0.25	U	0.is	U	0.25	U
		0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
7421-93-4	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
		0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
	gamma-Ch	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
8001-35-2	Toxaphene	25	U	2.5	U	2.5	U	25	U	2.5	U	25	U
12674-11-2	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11		1.	U	1	U	1.	U	1	U	1.	U	1.	U
		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
53469-21-9	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
12672-29-6	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11097-69-1	Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
11096-82-5	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

*** Validation Complete ***

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PEST												
	SAMPLE ID ------->	PIB-T-0001-13		PIB-T-0001-14		PIB-T-0001-15						
	ORIGINAL ID ----->	PIBLKGX		PIBLKH4		PIBLKTG						
	LAB SAMPLE ID --->	PIBLK GX		PIBLK H4		PIBLK TG						
	ID FROM REPORT -->	PIBLKGX		PIBLKH4		PIBLKTG						
	SAMPLE DATE ----->											
	DATE ANALYZED --->	06/24/94		06/25/94		06/17/94						
	MATRIX ---------->	Water		Water		Uater						
	UNITS ---------->	UG/L		UG/L		UG/L						
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL					
319-84-6	alpha-BHC	0.025	U	0.025	U	0.025	U					
319-85-7	beta-BHC	0.025	U	0.025	U	0.025	U					
319-86-8	delta-BHC	0.025	U	0.025	U	0.025	U					
58-89-9	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U					
76-44-8	Heptachlor	0.025	U	0.025	U	0.025	U					
309-00-2	Aldrin	0.025	U	0.025	U	0.025	U					
1024-57-3	Heptachlor epoxide	0.025	U	0.025	U	0.025	U					
959-98-8	Endosulfan I	0.025	U	0.025	U	0.025	U					
60-57-1	Dieldrin	0.05	U	0.05	U	0.05	U					
72-55-9	4,4'-DDE	0.05	U	0.05	U	0.05	U					
72-20-8	Endrin	0.05	U	0.05	U	0.05	U					
33213-65-9	Endosulfan II	0.05	U	0.05	U	0.05	U					
72-54-8	4,4'-DDD	0.05	U	0.05	U	0.05	U					
1031-07-8	Endosulfan sulfate	0.05	U	0.05	U	0.05	U					
50-29-3	4,4'-DDT	0.05	U	0.05	U	0.05	U					
72-43-5	Methoxychlor	0.25	U	0.25	U	0.25	U					
53494-70-5	Endrin ketone	0.05	U	0.05	U	0.05	U					
7421-93-4	Endrin aldehyde	0.05	U	0.05	U	0.05	U					
5103-71-9	alpha-Chlordane	0.025	U	0.025	U	0.025	U					
5103-74-2	gamma-Chlordane	0.025	U	0.025	U	0.025	U					
8001-35-2	Toxaphene	2.5	U	2.5	U	2.5	U					
12674-11-2	Aroclor-1016	0.5	U	0.5	U	0.5	U					
11104-28-2	Aroclor-1221	1.	U	1.	U	1.	U					
11141-16-5	Aroclor-1232	0.5	U	0.5	U	0.5	U					
53469-21-9	Aroclor-1242	0.5	U	0.5	U	0.5	U					
12672-29-6	Aroclor-1248	0.5	U	0.5	U	0.5	U					
11097-69-1	Aroclor-1254	0.5	U	0.5	U	0.5	U					
11096-82-5	Aroclor-1260	0.5	U	0.5	U	0.5	U					

*** Validation Qualifiers

PENSACOLA, SITE 39
Second Round
Final Report

SVOA											
	SAMPLE ID ------->	SBL-T-0001-01		SBL-1-0001-02		SBL-t-0001-03		SBL-T-0001-04			
	ORIGINAL ID ----->	SBLK11		SBLK21		SBLK89		SBLK97			
	LAB SAMPLE ID --->	619874		620533		619203		619737			
	ID FROM REPORT -->	SBLK11		SBLK21		SBLK89		SBLK97			
	SAMPLE DATE ----->										
	DATE EXTRACTED -->	06/21/94		06/23/94		06/16/94		06/20/94			
	DATE ANALYZED --->	06/22/94		06/24/94		06/20/94		06/22/94			
	MATRIX ---------->	Water		Uater		Water		Water			
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L			
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL		
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U		
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U		
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U		
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U		
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U		
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U		
95-48-7	2-Uethylphenol (a-Cresol)	10.	U	10.	U	10.	U	10.	U		
108-60-1	2,2 '-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U		
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U		
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U		
		10.	U	10.	U	10.	U	10.	U		
		10.	U	10.	U	10.	U	10.	U		
		10.	U	10.	U	10.	U	10.	U		
		10.	U	10.	U	10.	U	10.	U		
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U		
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U		
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U		
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U		
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U		
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U		
[illegible]	[illegible]	10.	U	10.	U	10.	U	10.	U		
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U		
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U		
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U		
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U		
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U		
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U		
80-74-4	2-11troaniline	25.	U	25.	U	25.	U	25.	U		
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U		
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U		
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U		
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U		
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U		
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U		
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U		
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U		

** Validation Complete *++

PENSACOLA, SITE 39
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SVOA									
	SAMPLE ID ------->	SBL-T-0001-01		SBL-1-0001-02		SBL-T-0001-03		SBL-T-0001-04	
	ORIGINAL ID ----->	SBLK11		SBLK21		SBLK89		SBLK97	
	LAB SAMPLE ID --->	619874		620533		619203		619737	
	ID FROM REPORT -->	SBLK11		SBLK21		SBLK89		SBLK97	
	SAMPLE DATE ----->								
	DATE EXTRACTED -->	06/21/94		06/23/94		06/16/94		06/20/94	
	DATE ANALYZED --->	06/22/94		06/24/94		06/20/94		06/22/94	
	MATRIX ---------->	Uater		Water		Uater		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	io*	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	11.	J	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
Second Round
Final Report

VOA											
		SAMPLE ID ------->	VEL-1-0001-05		VEL-1-0001-06		VBL-T-0001-07				
		ORIGINAL ID ----->	VBLKRH		VBLKSM		VBLKSP				
		LAB SAMPLE ID --->	VELKRH		VBLKSM		VBLKSP				
		ID FROM REPORT -->	VELKRH		VELKSM		VBLKSP				
		SAMPLE DATE ----->									
		DATE ANALYZED --->	06/24/94		06/23/94		06/24/94				
		MATRIX ---------->	Water		Uater		Water				
		UNITS ---------->	UG/L		UG/L		UG/L				
CAS #	Parameter		00001	----	00001	VAL	00001	VAL			
74-87-3	Chloromethane		10.	U	10.	U	10.	U			
74-83-9	Bromomethane		10.	U	10.	U	10.	U			
75-01-4	Vinyl chloride		10.	U	10.	U	10.	U			
75-00-3	Chloroethane		10.	U	10.	U	10.	U			
75-09-2	Methylene chloride		10.	U	4.	J	4.	J			
67-64-1	Acetone		10.	U	10.	U	10.	U			
75-15-0	Carbon disulfide		10.	U	10.	U	10.	U			
75-35-4	1,1-Dichloroethene		10.	U	10.	U	10.	U			
75-34-3	1,1-Dichloroethane		10.	U	10.	U	10.	U			
540-59-0	1,2-Dichloroethene (total)		10.	U	10.	U	10.	U			
67-66-3	Chloroform		10.	U	10.	U	10.	U			
107-06-2	1,2-Dichloroethane		10.	U	10.	U	10.	U			
78-93-3	2-Butanone (MEK)		10.	U	10.	U	10.	U			
71-55-6	1,1,1-Trichloroethane		10.	U	10.	U	10.	U			
56-23-5	Carbon tetrachloride		10.	U	10.	U	10.	U			
75-27-4	Bromodichloromethane		10.	U	10.	U	10.	U			
78-87-5	1,2-Dichloropropane		10.	U	10.	U	10.	U			
10061-01-5	cis-1,3-Dichloropropene		10.	U	10.	U	10.	U			
79-01-6	Trichloroethene		10.	U	10.	U	10.	U			
124-48-1	Dibromochloromethane		10.	U	10.	U	10.	U			
79-00-5	1,1,2-Trichloroethane		10.	U	10.	U	10.	U			
71-43-2	Benzene		10.	U	10.	U	10.	U			
10061-02-6	trans-1,3-Dichloropropene		10.	U	10.	U	10.	U			
75-25-2	Bromoform		10.	U	10.	U	10.	U			
108-10-1	4-Methyl-2-Pentanone (MIBK)		10.	U	10.	U	10.	U			
591-78-6	2-Hexanone		10.	U	10.	U	10.	U			
127-18-4	Tetrachloroethene		10.	U	10.	U	10.	U			
79-34-5	1,1,2,2-Tetrachloroethane		10.	U	10.	U	10.	U			
108-88-3	Toluene		10.	U	10.	U	10.	U			
108-90-7	Chlorobenzene		10.	U	10.	U	10.	U			
100-41-4	Ethylbenzene		10.	U	10.	U	10.	U			
100-42-5	Styrene		10.	U	10.	U	10.	U			
1330-20-7	Xylene (Total)		10.	U	10.	U	10.	U			

*** Validation Complete ***

PENSACOLA, SITE 39
Second Round
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METAL

SAMPLE ID ------->	039-E-GE20-00
ORIGINAL ID ----->	39GE20
LAB SAMPLE ID --->	618820
ID FROM REPORT -->	MAC001
SAMPLE DATE ----->	
MATRIX ---------->	Water
UNITS ---------->	UG/L

CAS #	Parameter	88615	VAL
CN	Cyanide	10.	U
AL	Aluminum	247.	J
SB	Antimony	33.3	U
AS	Arsenic	2.6	U
BA	Barium	3.3	J
BE	Beryllium	0.7	U
CD	Cadmium	4.7	U
CA	Calcium	104.	J
CR	Chromium	6.6	U
CO	Cobalt	6.3	U
CU	Copper	10.6	U
FE	Iron	27.7	UJ
PB	Lead	1.8	U
MG	Magnesium	106.	U
MN	Manganese	6.3	U
HG	Mercury	0.2	U
NI	Nickel	38.8	U
K	Potassium	2310.	U
SE	Selenium	3.4	U
AG	Silver	5.9	U
NA	Sodium	539.	J
TL	Thallium	2.6	UJ
V	Vanadium	5.3	U
ZN	Zinc	5.	J

*** Validation Complete ***

PENSACOLA, SITE 39
Second Round
Final Report

SVOA

SAMPLE ID ------->	039-E-GE20-00
ORIGINAL ID ----->	39GE20
LAB SAMPLE ID --->	618818
ID FROM REPORT -->	39GE20
SAMPLE DATE ----->	
DATE EXTRACTED -->	06/16/94
DATE ANALYZED --->	06/21/94
MATRIX ---------->	Water
UNITS ---------->	UG/L

CAS #	Parameter	00001	VAL
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U
621		10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroanilim	25.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U
99-09-2	3-Nitroaniline	25.	U
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	25.	U
100-02-7	4-Nitrophenol	25.	U
132-64-9	Dibenzofuran	10.	U

*** Validation Complete ***

SVOA

SAMPLE ID ------->	039-E-GE20-00
ORIGINAL ID ----->	39GE20
LAB SAMPLE ID --->	618818
ID FROM REPORT -->	39GE20
SAMPLE DATE ----->	
DATE EXTRACTED -->	06/16/94
DATE ANALYZED --->	06/21/94
MATRIX	Water
UNITS ---------->	UG/L

CAS #	Parameter	00001	VAL
121-14-2	2,4-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U
86-30-6	N-Nitrosodiphenylamine	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	25.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
86-74-8	Carbazole	10.	U
84-74-2	Di-n-butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	5.	J
117-84-0	Di-n-octylphthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

*** Validation Complete ***

VOA													
	SAMPLE ID ------->	039-E-GE20-00		039-T-GT20-00		039-T-GT21-00		039-T-GT23-00		039-T-GT24-00		039-T-GT25-00	
	ORIGINAL ID ----->	39GE20		39GT20		39GT21		39GT23		39GT24		39GT25	
	LAB SAMPLE ID --->	618818		618805		618806		619057		619059		619613	
	ID FROM REPORT -->	39GE20		39GT20		39GT21		39GT23		39GT24		39GT25	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	06/23/94		06/23/94		06/23/94		06/24/94		06/24/94		06/24/94	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	1.	J	3.	J	2.	J	2.	J	2.	J	2.	J
67-64-1	Acetone	54.	J	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39
Second Round
Final Report

VOA											
	SAMPLE ID ------->	039-T-GT29-00		039-T-GT30-00		039-T-GT31-00					
	ORIGINAL ID ----->	39GT29		39GT30		39GT31					
	LAB SAMPLE ID --->	619058		619061		619060					
	ID FROM REPORT -->	39GT29		39GT30		39GT31					
	SAMPLE DATE ----->										
	DATE ANALYZED --->	06/24/94		06/24/94		06/25/94					
	MATRIX ---------->	Water		Water		Water					
	UNITS ---------->	UG/L		UG/L		UG/L					
CAS #	Parameter	00001	VAL	00001	VAL	00001	VAL				
74-87-3	Chloromethane	10.	U	10.	U	10.	U				
74-83-9	Bromomethane	10.	U	10.	U	10.	U				
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U				
75-00-3	Chloroethane	10.	U	10.	U	10.	U				
75-09-2	Methylene chloride	2.	J	2.	J	10.	U				
67-64-1	Acetone	10.	U	10.	U	10.	U				
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U				
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U				
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U				
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U				
67-66-3	Chloroform	10.	U	10.	U	10.	U				
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U				
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U				
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U				
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U				
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U				
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U				
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U				
79-01-6	Trichloroethene	10.	U	10.	U	10.	U				
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U				
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U				
71-43-2	Benzene	10.	U	10.	U	10.	U				
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U				
75-25-2	Bromoform	10.	U	10.	U	10.	U				
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U				
591-78-6	2-Hexanone	10.	U	10.	U	10.	U				
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U				
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U				
108-88-3	Toluene	10.	U	10.	U	10.	U				
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U				
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U				
100-42-5	Styrene	10.	U	10.	U	10.	U				
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U				

** Validation Complete *+*

PENSACOLA, SITE 39
Second Round QA/QC Samples
Final Report

PEST									
	SAMPLE ID ------->	039-K-S002-20 MS		039-X-SOO2-20 MSD					
	ORIGINAL ID ----->	39GS0220MS		39GS0220MSD					
	LAB SAMPLE ID --->	618814 R1		618815 R1					
	ID FROM REPORT -->	39GS0220MS		39GS0220MSD					
	SAMPLE DATE ----->								
	DATE EXTRACTED -->	06/23/94		06/23/94					
	DATE ANALYZED --->	06/25/94		06/25/94					
	MATRIX ---------->	Water		Ueter					
	UNITS ---------->	UG/L		UG/L					
CAS #	Parameter	00001	VAL	00001	VAL				
319-84-6	alpha-BHC	0.05	U	0.05	U				
319-85-7	beta-BHC	0.05	U	0.05	U				
319-86-8	delta-BHC	0.05	U	0.05	U				
58-89-9	gamma-BHC (Lindane)	0.35		0.4					
76-44-8	Heptachlor	0.33		0.39					
309-00-2	Aldrin	0.29		0.34					
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U				
959-98-8	Endosulfan I	0.05	U	0.05	U				
60-57-1	Dieldrin	0.71		0.81					
72-55-9	4,4'-DDE	0.1	U	0.1	U				
72-20-8	Endrin	0.79		0.89					
33213-65-9	Endosulfan II	0.1	U	0.1	U				
72-54-8	4,4'-DDD	0.1	U	0.1	U				
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U				
50-29-3	4,4'-DDT	0.7	J	0.78	J				
72-43-5	Methoxychlor	0.5	U	0.5	U				
53494-70-5	Endrin ketone	0.013	U	0.015	U				
7421-93-4	Endrin aldehyde	0.1	U	0.1	U				
5103-71-9	alpha-Chlordane	0.05	U	0.05	U				
5103-74-2	gamma-Chlordane	0.05	U	0.05	U				
8001-35-2	Toxaphene	5.	U	5.	U				
12674-11-2	Aroclor-1016	1.	U	1.	U				
11104-28-2	Aroclor-1221	2.	U	2.	U				
11141-16-5	Aroclor-1232	1.	U	1.	U				
53469-21-9	Aroclor-1242	1.	U	1.	U				
12672-29-6	Aroclor-1248	1.	U	1.	U				
11097-69-1	Aroclor-1254	1.	U	1.	U				
11096-82-5	Aroclor-1260	1.	U	1.	U				

+++ Validation Complete +++

PENSACOLA, SITE 39
Second Round QA/QC Samples
Final Report

SVOA								
	SAMPLE ID ------->	039-K-S002-20 MS		039-X-SOO2-20 MSD				
	ORIGINAL ID ----->	39GS0220MS		39GS0220MSD				
	LAB SAMPLE ID --->	618811		618812				
	ID FROM REPORT -->	39GS0220MS		39GS0220MSD				
	SAMPLE DATE ----->							
	DATE EXTRACTED -->	06/23/94		06/23/94				
	DATE ANALYZED --->	06/24/94		06/24/94				
	MATRIX ---------->	Uater		Uater				
	UNITS ---------->	UG/L		UG/L				
CAS #	Parameter	00001	VAL	00001	VAL			
108-95-2	Phenol	62.		49.				
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U			
95-57-8	2-Chlorophenol	58.		46.				
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U			
106-46-7	1,4 -Dichlorobenzene	34.		30.				
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U			
95-48-7	2-Methylphenol (0-Cresol)	10.	U	10.	U			
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U			
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U			
621-64-7	N-Nitroso-di-n-propylamine	50.		40.				
67-72-1	Hexachloroethane	10.	U	10.	U			
98-95-3	Nitrobenzene	10.	U	10.	U			
78-59-1	Isophorone	10.	U	10.	U			
88-75-5	2-Nitrophenol	10.	U	10.	U			
105-67-9	2,4-Dimethylphenol	10.	U	10.	U			
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U			
120-83-2	2,4-Dichlorophenol	10.	U	10.	U			
120-82-1	1,2,4-Trichlorobenzene	38.		34.				
91-20-3	Naphthalene	10.	U	10.	U			
106-47-8	4-Chloroaniline	10.	U	10.	U			
87-68-3	Hexachlorobutadiene	10.	U	10.	U			
59-50-7	4-Chloro-3-methylphenol	64.		52.				
91-57-6	2-Methylnaphthalene	10.	U	10.	U			
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U			
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U			
95-95-4	2,4,5-Trichlorophenol	25.	U	25,	U			
91-58-7	2-Chloronaphthalene	10.	U	10.	U			
88-74-4	2-Nitroaniline	25.	U	25.	U			
131-11-3	Dimethylphthalate	10.	U	10.	U			
208-96-8	Acenaphthylene	10.	U	10.	U			
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U			
99-09-2	3-Nitroaniline	25.	U	25.	U			
83-32-9	Acenaphthene	42.		35.				
51-28-5	2,4-Dinitrophenol	25.	U	25.	U			
100-02-7	4-Nitrophenol	54.		45.				
132-64-9	Dibenzofuran	10.	U	10.	U			

*** Validation Complete ***

PENSACOLA, SITE 39
Second Round QA/QC Samples
Final Report

SVOA									
	SAMPLE ID ------->	039-K-S002-20 MS		039-X-S002-20 MSD					
	ORIGINAL ID ----->	39GS0220MS		39GS0220MSD					
	LAB SAMPLE ID --->	618811		618812					
	ID FROM REPORT -->	39GS0220MS		39GS0220MSD					
	SAMPLE DATE ----->								
	DATE EXTRACTED -->	06/23/94		06/23/94					
	DATE ANALYZED --->	06/24/94		06/24/94					
	MATRIX ---------->	Water		Water					
	UNITS ---------->	UG/L		UG/L					
CAS #	Parameter	00001	VAL	00001	VAL				
121-14-2	2,4-Dinitrotoluene	40.		33.					
84-66-2	Diethylphthalate	10.	U	10.	U				
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U				
86-73-7	Fluorene	10.	U	10.	U				
100-01-6	4-Nitroaniline	25.	U	25.	U				
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U				
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U				
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U				
118-74-1	Hexachlorobenzene	10.	U	10.	U				
87-86-5	Pentachlorophenol	58.		48.					
85-01-8	Phenanthrene	10.	U	10.	U				
120-12-7	Anthracene	10.	U	10.	U				
86-74-8	Carbazole	10.	U	10.	U				
84-74-2	Di-n-butylphthalate	10.	U	10.	U				
206-44-0	Fluoranthene	10.	U	10.	U				
129-00-0	Pyrene	39.		31.					
85-68-7	Butylbenzylphthalate	10.	U	10.	U				
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U				
56-55-3	Benzo(a)anthracene	10.	U	10.	U				
218-01-9	Chrysene	10.	U	10.	U				
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U				
117-84-0	Di-n-octylphthalate	10.	U	10.	U				
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U				
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U				
50-32-8	Benzo(a)pyrene	10.	U	10.	U				
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U				
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U				
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U				

*** Validation Complete ***

PENSACOLA, SITE 39
Second Round QA/QC Samples
Final Report

VOA								
	SAMPLE ID ------->	039-K-S002-20 MS		039-X-S002-20 MSD				
	ORIGINAL ID ----->	39GS0220MS		39GS0220MSD				
	LAB SAMPLE ID --->	618807		618808				
	ID FROM REPORT -->	39GS0220MS		39GS0220MSD				
	SAMPLE DATE ----->							
	DATE ANALYZED --->	06/24/94		06/24/94				
	MATRIX ---------->	Water		Water				
	UNITS ---------->	UG/L		UG/L				
CAS #	Parameter	00001	VAL	00001	VAL			
74-87-3	Chloromethane	10.	U	10.	U			
74-83-9	Bromomethane	10.	U	10.	U			
75-01-4	Vinyl chloride	10.	U	10.	U			
75-00-3	Chloroethane	10.	U	10.	U			
75-09-2	Methylene chloride	2.	U	3.	U			
67-64-1	Acetone	6.	U	10.	U			
75-15-0	Carbon disulfide	10.	U	10.	U			
75-35-4	1,1-Dichloroethene	51.		54.				
75-34-3	1,1-Dichloroethane	10.	U	10.	U			
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U			
67-66-3	Chloroform	10.	U	10.	U			
107-06-2	1,2-Dichloroethane	10.	U	10.	U			
78-93-3	2-Butanone (MEK)	10.	U	10.	U			
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U			
56-23-5	Carbon tetrachloride	10.	U	10.	U			
75-27-4	Bromodichloromethane	10.	U	10.	U			
78-87-5	1,2-Dichloropropane	10.	U	10.	U			
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U			
79-01-6	Trichloroethene	48.		56.				
124-48-1	Dibromochloromethane	10.	U	10.	U			
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U			
71-43-2	Benzene	45.		54.				
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U			
75-25-2	Bromoform	10.	U	10.	U			
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U			
591-78-6	2-Hexanone	10.	U	10.	U			
127-18-4	Tetrachloroethene	10.	U	10.	U			
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U			
108-88-3	Toluene	46.		51.				
108-90-7	Chlorobenzene	46.		49.				
100-41-4	Ethylbenzene	10.	U	10.	U			
100-42-5	Styrene	10.	U	10.	U			
1330-20-7	Xylene (Total)	10.	U	10.	U			

*** Validation Complete ***

PENSACOLA, SITE 39, 1993 DATA
Physical Parameters
Final Report

ALKALINITY	SAMPLE ID ------->	039-G-GI07-00	039-G-GS04-00				
	ORIGINAL ID ----->	396I07	396504				
	LAB SAMPLE ID --->	12491-1	12491-2				
	ID FROM REPORT -->	396I07	39GS04				
	SAMPLE DATE ----->	06/08/93	06/08/93				
	DATE EXTRACTED -->	06/09/93	06/09/93				
	MATRIX ---------->	water	Water				
	UNITS ---------->	mg/l	mg/l				
CAS #	Parameter	VAL	VAL				
9999900-03-9	Alkalinity as CaCO3	23.	80.				

*** Validation Complete ***

PENSACOLA, SITE 39, 1993 DATA
Physical Parameters
Final Report

BOD,TSS,AI							
	SAMPLE ID ------->	039-G-GI07-00	039-G-GS04-00				
	ORIGINAL ID ----->	39GI07	39GS04				
	LAB SAMPLE ID --->	12491-1	12491-2				
	ID FROM REPORT -->	396107	39GS04				
	SAMPLE DATE ----->	06/08/93	06/08/93				
	DATE EXTRACTED -->	06/09/93	06/09/93				
	MATRIX ---------->	Water	Water				
	UNITS ---------->	mg/l	mg/l				
CAS #	Parameter	VAL	VAL				
9999900-03-4	Nitrate-N	0.25	0.52				
9999900-03-7	TSS (EPA 160.2)	2100.	40.				
9999900-03-8	5 Day BOO (SM 507)	NR	1.				

*** Validation Complete ***

PENSACOLA, SITE 39, 1993 DATA
Physical Parameters
Final Report

COD,TKN,TO

SAMPLE ID ------->	039-G-GI07-00	039-G-GS04-00				
ORIGINAL ID ----->	39GI07	396804				
LAB SAMPLE ID --->	12491-1	12491-2				
ID FROM REPORT -->	39GI07	39GS04				
SAMPLE DATE ----->	06/08/93	06/08/93				
DATE EXTRACTED -->	06/10/93	06/10/93				
MATRIX ---------->	Water	Uatcr				
UNITS ----------->	mg/l	mg/l				

CAS #	Parameter	VAL	VAL				
999900-04-0	Chemical Oxygen Demand	350.	47.				
999900-03-5	Phosphorus Total	0.71	0.11				

*** Validation Complete ***

PENSACOLA, SITE 39, 1993 DATA
Physical Parameters
Final Report

HARDNESS A							
	SAMPLE ID ------->	039-6-6107-00	039-G-GS04-00				
	ORIGINAL ID ----->	396107	39GS04				
	LAB SAMPLE ID --->	12491-1	12491-2				
	ID FROM REPORT -->	39G107	39GS04				
	SAMPLE DATE ----->	06/08/93	06/08/93				
	DATE EXTRACTED -->	06/18/93	06/18/93				
	MATRIX ---------->	Water	Uater				
	UNITS ---------->	mg/l	mg/l				
CAS #	Parameter	VAL	VAL				
9999900-03-3	Hardness as CaCO3	88.	99.				

*** Validation Complete ***

PENSACOLA, SITE 39, 1993 DATA
Physical Parameters
Final Report

HEXACHROME											
		SAMPLE ID ------->	039-S-0005-05		039-S-0006-01		039-G-GS01-00				
		ORIGINAL ID ----->	39S0505		3950601		39GS01				
		LAB SAMPLE ID --->	551975		551980						
		ID FROM REPORT -->	3950505		3950601		39GS01				
		SAMPLE DATE ----->	05/26/93		05/26/93		06/03/93				
		DATE EXTRACTED -->	06/02/93		06/02/93						
		DATE ANALYZED --->	06/03/93		06/03/93						
		MATRIX ---------->	Soil		sot 1		Uater				
		UNITS ---------->	mg/L		mg/L		mg/L				
CAS #	Parameter		NONE	VAL	NONE	VAL	NONE	VAL			
999900-00-5	Hexavalent Chromium		0.01	U	0.01	U	0.023				

*** Validation Complete ***

PENSACOLA, SITE 39, 1993 DATA
Physical Parameters
Final Report

Hetetrophi	SAMPLE ID ------->	039-G-GI07-00	039-G-GS04-00				
	ORIGINAL ID ----->	39GI07	39GS04				
	LAB SAMPLE ID --->	12491-1	12491-2				
	ID FROM REPORT -->	39GI07	39GS04				
	SAMPLE DATE ----->	06/08/93	06/08/93				
	DATE EXTRACTED -->	06/09/93	06/09/93				
	MATRIX ---------->	Water	Water				
	UNITS ---------->	NO/ml	NO/ml				
CAS #	Parameter	VAL	VAL				
9999900-03-6	Standard Plate Count	3900.	4300.				

*** Validation Complete ***

PENSACOLA, SITE 39, 1993 DATA
Physical Parameters
Final Report

KJELDAHL							
	SAMPLE ID ------->	039-G-GIO7-00	039-G-GSW-00				
	ORIGINAL ID ----->	396107	39GS04				
	LAB SAMPLE ID --->	12491-1	12491-2				
	ID FROM REPORT -->	396107	39GS04				
	SAMPLE DATE ----->	06/08/93	06/08/93				
	DATE EXTRACTED -->	06/21/93	06/21/93				
	MATRIX ---------->	Water	Water				
	UNITS ---------->	mg/l	mg/l				
CAS #	Parameter	VAL	VAL				
999-99-9	Kjeldahl Nitrogen-N	0.29	0.93				

*** Validation Complete ***

PENSACOLA SITE 39
PENSACOLA REFERENCE SAMPLES
Final Report

METAL													
		SAMPLE ID ------->	001-S-0069-03		001-S-0069-05		001-S-0069-07		001-S-0069-09		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		01S6911		01S6913	
		SAMPLE DATE ----->												
		MATRIX ---------->	soil		Soil		soil		Seil		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	
WA	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 ***

PENSACOLA SITE 39
PENSACOLA REFERENCE SAMPLES
Final Report

METAL	SAMPLE ID ------->	001-S-0067-01		001-S-0067-03		001-S-0067-05		101-S-0067-07		D01-S-0067-09		101-S-0067-11	
	ORIGINAL ID ----->	01S6701		01S6703		01S6705		01S6707		01S6709		01S6711	
	LAB SAMPLE ID --->	553146		553153		553155		553156		553157		553158	
	ID FROM REPORT -->	01S6701		01S6703		01S6705		01S6707		01S6709		01S6711	
	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.	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	8.		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	3.3	U	9.4	U	9.3	U	9.6	U	9.6	U	9.9	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	0.03	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 39
PENSACOLA REFERENCE SAMPLES
Final Report

METAL													
		SAMPLE ID ------->	001-S-0067-13		001-C-0067-17		DO1-S-0067-21		001-C-0067-21		301-S-0067-23		001-S-0069-01
		ORIGINAL ID ----->	01S6713		01S6717D		D1S6721		01S6721D		)1S6723		01S6901
		LAB SAMPLE ID --->	553160		553168		553169		553171		553173		552866
		ID FROM REPORT -->	01S6713		01S6717D		01S6721		01S6721D		)1S6723		01S6901
		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 ***

DATALCP3
04/05/95

PENSACOLA SITE 39
PENSACOLA REFERENCE SAMPLES
Final Report

METAL												
	SAMPLE ID ------->	001-G-GI68-00		001-G-GI70-00		001-G-GS67-00		(101-6-OM-00				
	ORIGINAL ID ----->	01GI68		016170		01GS67		01GS69				
	LAB SAMPLE ID --->	622850		622852		622849		622851				
	ID FROM REPORT -->	MAC011		MAC012		HAC016		MAC017				
	SAMPLE DATE ----->	07/01/94		07/01/94		07/01/94		(57/01/94				
	MATRIX ---------->	Uater		Uater		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		WR				
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	0.2	U	0.2	U	Q.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			
A6	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 ***

Appendix G
Removal Action Documentation

PENSACOLA, SITE 39, SECOND SAMPLING

Primary Samples

90797	SAMPLE ID ------->	039-S-0007-01		039-S-0008-01		039-S-0009-01		039-C-0009-01		039-S-0010-01		039-S-0011-01	
	ORIGINAL ID ----->	039S000701		039S000801		039S000901		039C000901		039S001001		039S001101	
	LAB SAMPLE ID --->	630043		630053		630055		630051		630047		630052	
	SAMPLE DATE ----->	07/28/94		07/28/94		07/28/94		07/28/94		07/28/94		07/28/94	
	UNITS ---------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
Method	Parameter												
METAL	Cyanide	0.51	U	0.55		0.82		0.79		1.3		2.1	
METAL	Aluminum	105.	J	260.	J	722.	J	726.	J	434.	J	392.	J
METAL	Antimony	11.5	U	11.4	U	11.7	U	11.8	U	11.6	U	11.3	U
METAL	Arsenic	0.58	U	0.57	U	1.1		1.2		0.58	U	0.56	U
METAL	Barium	0.21		5.		31.6		22.7		7.1		8.8	
METAL	Beryllium	0.1	U	0.1	U	0.1	U	0.11	U	0.1	U	0.1	U
METAL	Cadmium	0.95	UJ	5.	J	8.5	J	9.7	J	2.1	J	10.3	J
METAL	Calcium	1090.		223.		1780.		2270.		327.		218.	
METAL	Chromium	1.9	U	19.4		14.5		11.6		3.4		25.6	
METAL	Cobalt	1.5	U	1.5	U	1.7		1.5	U	1.5	U	1.5	U
METAL	Copper	0.93	UJ	26.7	J	108.	J	143.	J	37.3	J	41.3	J
METAL	Iron	156.	J	764.	J	2130.	J	2220.	J	1200.	J	1420.	J
METAL	Lead	0.33	U	32.6		219.	J	270.	J	44.6		70.2	
METAL	Magnesium	25.3		49.2		284.		291.		70.9		74.8	
METAL	Manganese	1.1		7.6		32.9		31.7		11.5		12.9	
METAL	Mercury	0.1	U	0.1	U	0.1	U	0.15		0.1	U	0.1	U
METAL	Nickel	3.4	U	3.4	U	3.4	U	3.5	U	3.4	U	3.3	U
METAL	Potassium	142.	U	141.	U	156.	J	146.	U	143.	U	139.	U
METAL	Selenium	0.8	U	0.8	U	0.82	U	0.82	U	0.81	U	0.79	U
METAL	Silver	0.74	U	0.74	U	0.75	U	0.76	U	0.74	U	2.2	
METAL	Sodium	125.		101.		139.	J	142.	J	126.		99.6	
METAL	Thallium	0.74	U	0.74	U	0.75	U	0.76	U	0.74	U	0.73	U
METAL	Vanadium	0.91	U	0.9	U	2.2		2.1		1.		1.2	
METAL	Zinc	1.9	U	32.2		166.		142.		35.		49.3	

*** Validation Complete ***

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	039-E-0001-00		039-D-0001-00							
	ORIGINAL ID ----->	039E000100		039D000100							
	LAB SAMPLE ID --->	WATER63002		WATER63002							
	SAMPLE DATE ----->										
	MATRIX ---------->	Water		Water							
	UNITS ---------->	0.0		0.0							
Method	Parameter	079153	NV	079153	NV						
METAL	Cyanide	10.	U	10.	U						
METAL	Aluminum	114.	B	114.	B						
METAL	Antimony	1.2	B	1.2	B						
METAL	Arsenic	2.	U	2.	U						
METAL	Barium	6.	B	6.	B						
METAL	Beryllium	1.	U	1.	U						
METAL	Cadmium	1.	U	1.	U						
METAL	Calcium	1490.	B	1490.	B						
METAL	Chromium	1.	U	1.	U						
METAL	Cobalt	1.	U	1.	U						
METAL	Copper	1.	U	1.	U						
METAL	Iron	5.	UE	5.	UE						
METAL	Lead	1.2	B	1.2	B						
METAL	Magnesium	103.	B	103.	B						
METAL	Manganese	3.4	B	3.4	B						
METAL	Mercury	0.2	U	0.2	U						
METAL	Nickel	1.	U	1.	U						
METAL	Potassium	119.	B	119.	B						
METAL	Selenium	3.	U	3.	U						
METAL	Silver	1.	U	1.	U						
METAL	Sodium	580.	BE	580.	BE						
METAL	Thallium	3.	U	3.	U						
METAL	Vanadium	1.	U	1.	U						
METAL	Zinc	13.4	B	13.4	B						

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	039-E-0001-00		039-D-0001-00		039-S-0007-01		039-S-0008-01		039-S-0008-01 MS		039-S-0008-01 MSD	
	ORIGINAL ID ----->	039E000100		039D000100		039S000701		039S000801		039S000801MS		039S000801MSD	
	LAB SAMPLE ID --->	630019 R1		630011 R1		630028		630042		630035		630036	
	SAMPLE DATE ----->	07/28/94		07/28/94		07/28/94		07/28/94					
	DATE EXTRACTED -->	08/04/94		08/04/94		07/29/94		07/29/94		07/29/94		07/29/94	
	DATE ANALYZED --->	08/11/94		08/11/94		08/03/94		08/03/94		08/03/94		08/03/94	
	MATRIX ---------->	Water		Water		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/L		UG/L		UG/KG		UG/KG		UG/KG		UG/KG	
Method	Parameter	00013	NV	00013	NV	00001	VAL	00001	VAL	00001	VAL	00001	VAL
PEST	alpha-BHC	0.05	U	0.05	U	1.8	U	1.7	U	1.7	U	1.7	U
PEST	beta-BHC	0.05	U	0.05	U	1.8	U	1.7	U	1.7	U	1.7	U
PEST	delta-BHC	0.05	U	0.05	U	1.8	U	1.7	U	1.7	U	1.7	U
PEST	gamma-BHC (Lindane)	0.05	U	0.05	U	1.8	U	1.7	U	8.3		8.	
PEST	Heptachlor	0.05	U	0.05	U	1.8	U	1.7	U	7.7		8.3	
PEST	Aldrin	0.05	U	0.05	U	1.8	U	1.7	U	9.4		9.3	
PEST	Heptachlor epoxide	0.05	U	0.05	U	1.8	U	1.7	U	1.7	U	0.57	J
PEST	Endosulfan I	0.05	U	0.05	U	1.8	U	1.7	U	1.7	U	1.7	U
PEST	Dieldrin	0.1	U	0.1	U	3.4	U	0.33	J	18.		17.	
PEST	4,4'-DDE	0.1	U	0.1	U	3.4	U	0.7	J	0.28	J	0.22	J
PEST	Endrin	0.1	U	0.1	U	3.4	U	1.2	J	20.		18.	
PEST	Endosulfan II	0.1	U	0.1	U	3.4	U	0.19	J	0.36	J	3.4	U
PEST	4,4'-DDD	0.1	U	0.1	U	3.5	U	3.4	U	3.3	U	3.4	U
PEST	Endosulfan sulfate	0.1	U	0.1	U	3.4	U	3.4	U	3.3	U	3.4	U
PEST	4,4'-DDT	0.1	U	0.1	U	3.5	U	3.4	U	16.		16.	
PEST	Methoxychlor	0.5	U	0.5	U	18.	U	17.	U	17.	U	1.3	J
PEST	Endrin ketone	0.1	U	0.1	U	3.4	U	3.4	U	3.3	U	3.4	U
PEST	Endrin aldehyde	0.1	U	0.1	U	3.4	U	7.		3.5	J	3.1	J
PEST	alpha-Chlordane	0.05	U	0.05	U	1.8	U	1.1	J	1.2	J	1.1	J
PEST	gamma-Chlordane	0.05	U	0.05	U	1.8	U	0.73	J	0.86	J	1.7	U
PEST	Toxaphene	5.	U	5.	U	180.	U	170.	U	170.	U	170.	U
PEST	Aroclor-1016	1.	U	1.	U	34.	U	34.	U	33.	U	34.	U
PEST	Aroclor-1221	2.	U	2.	U	69.	U	68.	U	68.	U	68.	U
PEST	Aroclor-1232	1.	U	1.	U	34.	U	34.	U	33.	U	34.	U
PEST	Aroclor-1242	1.	U	1.	U	34.	U	34.	U	33.	U	34.	U
PEST	Aroclor-1248	1.	U	1.	U	34.	U	34.	U	33.	U	34.	U
PEST	Aroclor-1254	1.	U	1.	U	34.	U	34.	U	33.	U	34.	U
PEST	Aroclor-1260	1.	U	1.	U	34.	U	34.	U	33.	U	34.	U

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	039-S-0009-01		039-C-0009-01		039-S-0010-01		039-S-0011-01		039-E-BSD1-00		039-E-BSD1-00	
	ORIGINAL ID ----->	039S000901		039C000901		039S001001		039S001101		BS		BSD	
	LAB SAMPLE ID --->	630054		630040		630039		630041		630015		630016	
	SAMPLE DATE ----->	07/28/94		07/28/94		07/28/94		07/28/94					
	DATE EXTRACTED -->	07/29/94		07/29/94		07/29/94		07/29/94		08/08/94		08/08/94	
	DATE ANALYZED --->	08/03/94		08/03/94		08/03/94		08/03/94		08/16/94		08/16/94	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Water		Water	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/L		UG/L	
Method	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00013	NV	00013	NV
PEST	alpha-BHC	1.8	U	1.8	U	1.8	U	1.7	U	0.05	U	0.05	U
PEST	beta-BHC	1.8	U	1.8	U	1.8	U	1.7	U	0.05	U	0.05	U
PEST	delta-BHC	1.8	U	1.8	U	1.8	U	1.7	U	0.05	U	0.05	U
PEST	gamma-BHC (Lindane)	1.8	U	1.8	U	1.8	U	1.7	U	0.42		0.43	
PEST	Heptachlor	1.8	U	1.8	U	1.8	U	1.7	U	0.38		0.39	
PEST	Aldrin	1.8	U	1.8	U	1.8	U	1.7	U	0.32		0.34	
PEST	Heptachlor epoxide	1.8	U	1.8	U	1.8	U	0.16	J	0.05	U	0.05	U
PEST	Endosulfan I	1.8	U	1.8	U	1.8	U	1.7	U	0.05	U	0.05	U
PEST	Dieldrin	3.4	U	3.5	U	3.4	U	3.3	U	0.79		0.8	
PEST	4,4'-DDE	0.3	J	0.18	J	3.4	U	0.36	J	0.1	U	0.1	U
PEST	Endrin	0.1	J	0.33	J	0.12	J	0.69	J	0.83		0.82	
PEST	Endosulfan II	3.4	U	3.5	U	3.4	U	3.3	U	0.1	U	0.1	U
PEST	4,4'-DDD	3.4	U	3.5	U	3.4	U	3.3	U	0.1	U	0.1	U
PEST	Endosulfan sulfate	3.4	U	0.22	J	0.36	J	3.3	U	0.1	U	0.1	U
PEST	4,4'-DDT	3.4	U	3.5	U	3.4	U	3.3	U	0.86		0.84	
PEST	Methoxychlor	1.1	J	0.79	J	0.56	J	17.	U	0.5	U	0.5	U
PEST	Endrin ketone	3.4	U	3.5	U	3.4	U	3.3	U	0.014	JP	0.019	J
PEST	Endrin aldehyde	1.7	J	1.3	J	0.42	J	1.9	J	0.012	J	0.012	J
PEST	alpha-Chlordane	0.51	J	0.47	J	0.12	J	0.72	J	0.05	U	0.05	U
PEST	gamma-Chlordane	1.8	U	1.8	U	1.8	U	1.7	U	0.05	U	0.05	U
PEST	Toxaphene	180.	U	180.	U	180.	U	170.	U	5.	U	5.	U
PEST	Aroclor-1016	34.	U	35.	U	34.	U	33.	U	1.	U	1.	U
PEST	Aroclor-1221	70.	U	71.	U	69.	U	67.	U	2.	U	2.	U
PEST	Aroclor-1232	34.	U	35.	U	34.	U	33.	U	1.	U	1.	U
PEST	Aroclor-1242	34.	U	35.	U	34.	U	33.	U	1.	U	1.	U
PEST	Aroclor-1248	34.	U	35.	U	34.	U	33.	U	1.	U	1.	U
PEST	Aroclor-1254	34.	U	35.	U	34.	U	33.	U	1.	U	1.	U
PEST	Aroclor-1260	34.	U	35.	U	34.	U	33.	U	1.	U	1.	U

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	PBL-T-0001-05		PBL-T-0001-06		PBL-T-0013-01		PBL-T-0013-02		PIB-T-0001-16		PIB-T-0001-17	
	ORIGINAL ID ----->	PBLK97		PBLK70		PBLK18		PBLK31		PIBLK12		PIBLKCL	
	LAB SAMPLE ID --->	630313		639235		630958		631536		PIBLK 12		PIBLK CL	
	SAMPLE DATE ----->												
	DATE EXTRACTED -->	07/29/94		09/15/94		08/04/94		08/08/94					
	DATE ANALYZED --->	08/03/94		09/21/94		08/11/94		08/16/94		08/03/94		08/02/94	
	MATRIX ---------->	Soil		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/KG		UG/L		UG/L		UG/L		UG/L		UG/L	
Method	Parameter	00001	VAL	00001	VAL	00013	NV	00013	NV	00001	VAL	00001	VAL
PEST	alpha-BHC	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	beta-BHC	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	delta-BHC	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	gamma-BHC (Lindane)	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	Heptachlor	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	Aldrin	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	Heptachlor epoxide	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	Endosulfan I	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	Dieldrin	3.3	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
PEST	4,4'-DDE	3.3	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
PEST	Endrin	3.3	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
PEST	Endosulfan II	3.3	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
PEST	4,4'-DDD	3.3	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
PEST	Endosulfan sulfate	3.3	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
PEST	4,4'-DDT	3.3	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
PEST	Methoxychlor	17.	U	0.5	U	0.5	U	0.5	U	0.25	U	0.25	U
PEST	Endrin ketone	3.3	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
PEST	Endrin aldehyde	3.3	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
PEST	alpha-Chlordane	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	gamma-Chlordane	1.7	U	0.05	U	0.05	U	0.05	U	0.025	U	0.025	U
PEST	Toxaphene	170.	U	5.	U	5.	U	5.	U	2.5	U	2.5	U
PEST	Aroclor-1016	33.	U	1.	U	1.	U	1.	U	0.5	U	0.5	U
PEST	Aroclor-1221	67.	U	2.	U	2.	U	2.	U	1.	U	1.	U
PEST	Aroclor-1232	33.	U	1.	U	1.	U	1.	U	0.5	U	0.5	U
PEST	Aroclor-1242	33.	U	1.	U	1.	U	1.	U	0.5	U	0.5	U
PEST	Aroclor-1248	33.	U	1.	U	1.	U	1.	U	0.5	U	0.5	U
PEST	Aroclor-1254	33.	U	1.	U	1.	U	1.	U	0.5	U	0.5	U
PEST	Aroclor-1260	33.	U	1.	U	1.	U	1.	U	0.5	U	0.5	U

	SAMPLE ID ------->	PIB-T-0001-18		PIB-T-0001-19		PIB-T-0001-20		PIB-T-0001-21		PIB-T-0013-03		PIB-T-0013-04	
	ORIGINAL ID ----->	PIBLKQE		PIBLK85		PIBLK8Y		PIBLKAD		PIBLK6W		PIBLK9S	
	LAB SAMPLE ID --->	PIBLK QE		PIBLK 85		PIBLK 8Y		PIBLK AD		PIBLK 6W		PIBLK 9S	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	08/03/94		09/20/94		09/21/94		09/22/94		08/10/94		08/11/94	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
Method	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00013	NV	00013	NV
PEST	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	delta-BHC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	Aldrin	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
PEST	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
PEST	Endrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
PEST	Endosulfan II	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
PEST	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
PEST	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
PEST	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
PEST	Methoxychlor	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
PEST	Endrin ketone	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
PEST	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
PEST	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	gamma-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
PEST	Toxaphene	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
PEST	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
PEST	Aroclor-1221	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
PEST	Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
PEST	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
PEST	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
PEST	Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
PEST	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	PIB-T-0013-05		PIB-T-0013-06		PIB-T-0013-07		PIB-T-0013-08			
	ORIGINAL ID ----->	PIBLK9U		PIBLKA1		PIBLKAW		PIBLKJ2			
	LAB SAMPLE ID --->	PIBLK 9U		PIBLK A1		PIBLK AW		PIBLK J2			
	SAMPLE DATE ----->										
	DATE ANALYZED --->	08/09/94		08/16/94		08/15/94		08/11/94			
	MATRIX ---------->	Water		Water		Water		Water			
	UNITS ---------->	UG/L		UG/L		UG/L		UG/L			
Method	Parameter	00013	NV	00013	NV	00013	NV	00013	NV		
PEST	alpha-BHC	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	beta-BHC	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	delta-BHC	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	gamma-BHC (Lindane)	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	Heptachlor	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	Aldrin	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	Heptachlor epoxide	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	Endosulfan I	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	Dieldrin	0.05	U	0.05	U	0.05	U	0.05	U		
PEST	4,4'-DDE	0.05	U	0.05	U	0.05	U	0.05	U		
PEST	Endrin	0.05	U	0.05	U	0.05	U	0.05	U		
PEST	Endosulfan II	0.05	U	0.05	U	0.05	U	0.05	U		
PEST	4,4'-DDD	0.05	U	0.05	U	0.05	U	0.05	U		
PEST	Endosulfan sulfate	0.05	U	0.05	U	0.05	U	0.05	U		
PEST	4,4'-DDT	0.05	U	0.05	U	0.05	U	0.05	U		
PEST	Methoxychlor	0.25	U	0.25	U	0.25	U	0.25	U		
PEST	Endrin ketone	0.05	U	0.05	U	0.05	U	0.05	U		
PEST	Endrin aldehyde	0.05	U	0.05	U	0.05	U	0.05	U		
PEST	alpha-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	gamma-Chlordane	0.025	U	0.025	U	0.025	U	0.025	U		
PEST	Toxaphene	2.5	U	2.5	U	2.5	U	2.5	U		
PEST	Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U		
PEST	Aroclor-1221	1.	U	1.	U	1.	U	1.	U		
PEST	Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U		
PEST	Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U		
PEST	Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U		
PEST	Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U		
PEST	Aroclor-1260	0.5	U	0.5	U	0.5	U	0.5	U		

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	039-E-0001-00		039-D-0001-00		039-S-0007-01		039-S-0008-01		039-S-0008-01 MS		039-S-0008-01 MSD	
	ORIGINAL ID ----->	039E000100		039D000100		039S000701		039S000801		039S000801MS		039S000801MSD	
	LAB SAMPLE ID --->	630019		630011		630028		630042		630032		630033	
	SAMPLE DATE ----->	07/28/94		07/28/94		07/28/94		07/28/94					
	DATE EXTRACTED -->	08/02/94		08/02/94		07/30/94		07/30/94		07/30/94		07/30/94	
	DATE ANALYZED --->	08/03/94		08/03/94		08/02/94		08/02/94		08/02/94		08/02/94	
	MATRIX ---------->	Water		Water		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/L		UG/L		UG/KG		UG/KG		UG/KG		UG/KG	
Method	Parameter	00013	NV	00013	NV	00001	VAL	00001	VAL	00001	VAL	00001	VAL
SVOA	Phenol	10.	U	10.	U	340.	U	340.	U	1300.		1800.	
SVOA	bis(2-Chloroethyl)ether	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2-Chlorophenol	10.	U	10.	U	340.	U	340.	U	850.		1600.	
SVOA	1,3-Dichlorobenzene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	1,4-Dichlorobenzene	10.	U	10.	U	340.	U	340.	U	1300.		1400.	
SVOA	1,2-Dichlorobenzene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2-Methylphenol	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	4-Methylphenol	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	N-Nitroso-di-n-propylamine	10.	U	10.	U	340.	U	340.	U	1400.		1600.	
SVOA	Hexachloroethane	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Nitrobenzene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Isophorone	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2-Nitrophenol	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2,4-Dimethylphenol	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	bis(2-Chloroethoxy)methane	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2,4-Dichlorophenol	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	1,2,4-Trichlorobenzene	10.	U	10.	U	340.	U	340.	U	1500.		1600.	
SVOA	Naphthalene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	4-Chloroaniline	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Hexachlorobutadiene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	4-Chloro-3-methylphenol	10.	U	10.	U	340.	U	340.	U	610.		1500.	
SVOA	2-Methylnaphthalene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Hexachlorocyclopentadiene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2,4,6-Trichlorophenol	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2,4,5-Trichlorophenol	25.	U	25.	U	820.	U	810.	U	810.	U	810.	U
SVOA	2-Chloronaphthalene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2-Nitroaniline	25.	U	25.	U	820.	U	810.	U	810.	U	810.	U
SVOA	Dimethylphthalate	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Acenaphthylene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2,6-Dinitrotoluene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	3-Nitroaniline	25.	U	25.	U	820.	U	810.	U	810.	U	810.	U
SVOA	Acenaphthene	10.	U	10.	U	340.	U	340.	U	1400.		1500.	
SVOA	2,4-Dinitrophenol	25.	U	25.	U	820.	U	810.	U	810.	U	810.	U
SVOA	4-Nitrophenol	25.	U	25.	U	820.	U	810.	U	1700.		1800.	
SVOA	Dibenzofuran	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	2,4-Dinitrotoluene	10.	U	10.	U	340.	U	340.	U	1200.		1300.	

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	039-E-0001-00		039-D-0001-00		039-S-0007-01		039-S-0008-01		039-S-0008-01 MS		039-S-0008-01 MSD	
	ORIGINAL ID ----->	039E000100		039D000100		039S000701		039S000801		039S000801MS		039S000801MSD	
	LAB SAMPLE ID --->	630019		630011		630028		630042		630032		630033	
	SAMPLE DATE ----->	07/28/94		07/28/94		07/28/94		07/28/94					
	DATE EXTRACTED -->	08/02/94		08/02/94		07/30/94		07/30/94		07/30/94		07/30/94	
	DATE ANALYZED --->	08/03/94		08/03/94		08/02/94		08/02/94		08/02/94		08/02/94	
	MATRIX ---------->	Water		Water		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/L		UG/L		UG/KG		UG/KG		UG/KG		UG/KG	
Method	Parameter	00013	NV	00013	NV	00001	VAL	00001	VAL	00001	VAL	00001	VAL
SVOA	Diethylphthalate	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	4-Chlorophenyl-phenylether	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Fluorene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	4-Nitroaniline	25.	U	25.	U	820.	U	810.	U	810.	U	810.	U
	4,6-Dinitro-2-methylphenol	25.	U	25.	U	820.	U	810.	U	810.	U	810.	U
SVOA	N-Nitrosodiphenylamine	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	4-Bromophenyl-phenylether	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Hexachlorobenzene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Pentachlorophenol	25.	U	25.	U	820.	U	810.	U	1000.		2000.	
SVOA	Phenanthrene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Anthracene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Carbazole	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Di-n-butylphthalate	10.	U	10.	U	100.	U	78.	U	330.	U	93.	U
SVOA	Fluoranthene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Pyrene	10.	U	10.	U	340.	U	110.	J	900.		1100.	
SVOA	Butylbenzylphthalate	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	3,3'-Dichlorobenzidine	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Benzo(a)anthracene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Chrysene	10.	U	10.	U	340.	U	53.	J	58.	J	54.	J
SVOA	bis(2-Ethylhexyl)phthalate (BEHP)	1.	JB	2.	JB	340.	U	34.	U	330.	U	330.	U
SVOA	Di-n-octylphthalate	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Benzo(b)fluoranthene	10.	U	10.	U	340.	U	97.	J	110.	J	73.	J
SVOA	Benzo(k)fluoranthene	10.	U	10.	U	340.	U	89.	J	94.	J	70.	J
SVOA	Benzo(a)pyrene	10.	U	10.	U	340.	U	150.	J	160.	J	100.	J
SVOA	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Dibenzo(a,h)anthracene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U
SVOA	Benzo(g,h,i)perylene	10.	U	10.	U	340.	U	340.	U	330.	U	330.	U

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	039-S-0009-01		039-C-0009-01		039-S-0010-01		039-S-0011-01		039-E-BS01-00		039-E-BSD1-00	
	ORIGINAL ID ----->	039S000901		039C000901		039S001001		039S001101		BS		BSD	
	LAB SAMPLE ID --->	630054		630040		630039		630041		630012		630013	
	SAMPLE DATE ----->	07/28/94		07/28/94		07/28/94		07/28/94					
	DATE EXTRACTED -->	08/03/94		08/03/94		07/30/94		08/03/94		08/08/94		08/08/94	
	DATE ANALYZED --->	08/05/94		08/05/94		08/02/94		08/05/94		08/10/94		08/12/94	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Water		Water	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/L		UG/L	
Method	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00013	NV	00013	NV
SVOA	Phenol	350.	U	350.	U	340.	U	330.	U	57.	B	55.	B
SVOA	bis(2-Chloroethyl)ether	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2-Chlorophenol	350.	U	350.	U	340.	U	330.	U	58.		59.	
SVOA	1,3-Dichlorobenzene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	1,4-Dichlorobenzene	350.	U	350.	U	340.	U	330.	U	36.		37.	
SVOA	1,2-Dichlorobenzene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2-Methylphenol	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2,2'-oxybis(1-Chloropropane)	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	4-Methylphenol	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	N-Nitroso-di-n-propylamine	350.	U	350.	U	340.	U	330.	U	39.		33.	
SVOA	Hexachloroethane	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Nitrobenzene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Isophorone	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2-Nitrophenol	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2,4-Dimethylphenol	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	bis(2-Chloroethoxy)methane	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2,4-Dichlorophenol	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	1,2,4-Trichlorobenzene	350.	U	350.	U	340.	U	330.	U	44.		52.	
SVOA	Naphthalene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	4-Chloroaniline	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Hexachlorobutadiene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	4-Chloro-3-methylphenol	350.	U	350.	U	340.	U	330.	U	71.		73.	
SVOA	2-Methylnaphthalene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Hexachlorocyclopentadiene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2,4,6-Trichlorophenol	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2,4,5-Trichlorophenol	840.	U	840.	U	820.	U	810.	U	25.	U	25.	U
SVOA	2-Chloronaphthalene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2-Nitroaniline	840.	U	840.	U	820.	U	810.	U	25.	U	25.	U
SVOA	Dimethylphthalate	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Acenaphthylene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2,6-Dinitrotoluene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	3-Nitroaniline	840.	U	840.	U	820.	U	810.	U	25.	U	25.	U
SVOA	Acenaphthene	350.	U	350.	U	340.	U	330.	U	43.		45.	
SVOA	2,4-Dinitrophenol	840.	U	840.	U	820.	U	810.	U	25.	U	25.	U
SVOA	4-Nitrophenol	840.	U	840.	U	820.	U	810.	U	61.		57.	
SVOA	Dibenzofuran	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	2,4-Dinitrotoluene	350.	U	350.	U	340.	U	330.	U	41.		42.	

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	039-S-0009-01		039-C-0009-01		039-S-0010-01		039-S-0011-01		039-E-BS01-00		039-E-BSD1-00	
	ORIGINAL ID ----->	039S000901		039C000901		039S001001		039S001101		BS		BSD	
	LAB SAMPLE ID --->	630054		630040		630039		630041		630012		630013	
	SAMPLE DATE ----->	07/28/94		07/28/94		07/28/94		07/28/94					
	DATE EXTRACTED -->	08/03/94		08/03/94		07/30/94		08/03/94		08/08/94		08/08/94	
	DATE ANALYZED --->	08/05/94		08/05/94		08/02/94		08/05/94		08/10/94		08/12/94	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Water		Water	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/L		UG/L	
Method	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00013	NV	00013	NV
SVOA	Diethylphthalate	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	4-Chlorophenyl-phenylether	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Fluorene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	4-Nitroaniline	840.	U	840.	U	820.	U	810.	U	25.	U	25.	U
SVOA	4,6-Dinitro-2-methylphenol	840.	U	840.	U	820.	U	810.	U	25.	U	25.	U
SVOA	N-Nitrosodiphenylamine	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	4-Bromophenyl-phenylether	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Hexachlorobenzene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Pentachlorophenol	840.	U	840.	U	820.	U	810.	U	68.		82.	E
SVOA	Phenanthrene	53.	J	45.	J	48.	J	330.	U	10.	U	10.	U
SVOA	Anthracene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Carbazole	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Di-n-butylphthalate	350.	U	41.	U	99.	U	45.	U	10.	U	10.	U
SVOA	Fluoranthene	99.	J	82.	J	150.	J	330.	U	10.	U	10.	U
SVOA	Pyrene	120.	J	92.	J	130.	J	87.	J	44.		36.	
SVOA	Butylbenzylphthalate	350.	U	350.	U	340.	U	330.	U	3.	J	10.	U
SVOA	3,3'-Dichlorobenzidine	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Benzo(a)anthracene	75.	J	59.	J	95.	J	330.	U	10.	U	10.	U
SVOA	Chrysene	84.	J	68.	J	110.	J	45.	J	10.	U	10.	U
SVOA	bis(2-Ethylhexyl)phthalate (BEHP)	350.	U	350.	U	340.	U	330.	U	5.	J	10.	U
SVOA	Di-n-octylphthalate	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Benzo(b)fluoranthene	150.	J	130.	J	310.	J	48.	J	10.	U	10.	U
SVOA	Benzo(k)fluoranthene	230.	J	190.	J	280.	J	69.	J	10.	U	10.	U
SVOA	Benzo(a)pyrene	82.	J	62.	J	95.	J	330.	U	10.	U	10.	U
SVOA	Indeno(1,2,3-cd)pyrene	51.	J	43.	J	62.	J	330.	U	10.	U	10.	U
SVOA	Dibenzo(a,h)anthracene	350.	U	350.	U	340.	U	330.	U	10.	U	10.	U
SVOA	Benzo(g,h,i)perylene	64.	J	49.	J	46.	J	330.	U	10.	U	10.	U

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	SBL-T-0001-05		SBL-T-0001-06		SBL-T-0001-07		SBL-T-0013-01		SBL-T-0013-02	
	ORIGINAL ID ----->	SBLK42		SBLK58		SBLK64		SBLK28		SBLK44	
	LAB SAMPLE ID --->	630350		630754		638376		631538		630543	
	SAMPLE DATE ----->	07/28/94		07/28/94		09/12/94					
	DATE EXTRACTED -->	07/30/94		08/03/94		09/13/94		08/08/94		08/02/94	
	DATE ANALYZED --->	08/02/94		08/05/94		09/15/94		08/10/94		08/03/94	
	MATRIX ---------->	Soil		Soil		Water		Water		Water	
	UNITS ---------->	UG/KG		UG/KG		UG/L		UG/L		UG/L	
Method	Parameter	00001	VAL	00001	VAL	00001	VAL	00013	NV	00013	NV
SVOA	Phenol	330.	U	330.	U	10.	U	2.	J	10.	U
SVOA	bis(2-Chloroethyl)ether	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2-Chlorophenol	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	1,3-Dichlorobenzene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	1,4-Dichlorobenzene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	1,2-Dichlorobenzene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2-Methylphenol	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2,2'-oxybis(1-Chloropropane)	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	4-Methylphenol	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	N-Nitroso-di-n-propylamine	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Hexachloroethane	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Nitrobenzene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Isophorone	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2-Nitrophenol	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2,4-Dimethylphenol	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	bis(2-Chloroethoxy)methane	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2,4-Dichlorophenol	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	1,2,4-Trichlorobenzene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Naphthalene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	4-Chloroaniline	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Hexachlorobutadiene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	4-Chloro-3-methylphenol	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2-Methylnaphthalene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Hexachlorocyclopentadiene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2,4,6-Trichlorophenol	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2,4,5-Trichlorophenol	800.	U	800.	U	25.	U	25.	U	25.	U
SVOA	2-Chloronaphthalene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2-Nitroaniline	800.	U	800.	U	25.	U	25.	U	25.	U
SVOA	Dimethylphthalate	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Acenaphthylene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2,6-Dinitrotoluene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	3-Nitroaniline	800.	U	800.	U	25.	U	25.	U	25.	U
SVOA	Acenaphthene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2,4-Dinitrophenol	800.	U	800.	U	25.	U	25.	U	25.	U
SVOA	4-Nitrophenol	800.	U	800.	U	25.	U	25.	U	25.	U
SVOA	Dibenzofuran	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	2,4-Dinitrotoluene	330.	U	330.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	SBL-T-0001-05		SBL-T-0001-06		SBL-T-0001-07		SBL-T-0013-01		SBL-T-0013-02	
	ORIGINAL ID ----->	SBLK42		SBLK58		SBLK64		SBLK28		SBLK44	
	LAB SAMPLE ID --->	630350		630754		638376		631538		630543	
	SAMPLE DATE ----->	07/28/94		07/28/94		09/12/94					
	DATE EXTRACTED -->	07/30/94		08/03/94		09/13/94		08/08/94		08/02/94	
	DATE ANALYZED --->	08/02/94		08/05/94		09/15/94		08/10/94		08/03/94	
	MATRIX ---------->	Soil		Soil		Water		Water		Water	
	UNITS ---------->	UG/KG		UG/KG		UG/L		UG/L		UG/L	
Method	Parameter	00001	VAL	00001	VAL	00001	VAL	00013	NV	00013	NV
SVOA	Diethylphthalate	*330.*	U	*330.*	U	10.	U	10.	U	10.	U
SVOA	4-Chlorophenyl-phenylether	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Fluorene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	4-Nitroaniline	800.	U	800.	U	25.	U	25.	U	25.	U
SVOA	4,6-Dinitro-2-methylphenol	800.	U	800.	U	25.	U	25.	U	25.	U
SVOA	N-Nitrosodiphenylamine	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	4-Bromophenyl-phenylether	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Hexachlorobenzene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Pentachlorophenol	800.	U	800.	U	25.	U	25.	U	25.	U
SVOA	Phenanthrene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Anthracene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Carbazole	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Di-n-butylphthalate	69.	J	330.	U	10.	U	10.	U	10.	U
SVOA	Fluoranthene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Pyrene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Butylbenzylphthalate	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	3,3'-Dichlorobenzidine	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Benzo(a)anthracene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Chrysene	*330.*	U	330.	U	10.	U	10.	U	10.	U
SVOA	bis(2-Ethylhexyl)phthalate (BEHP)	330.	U	330.	U	10.	U	10.	U	3.	3
SVOA	Di-n-octylphthalate	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Benzo(b)fluoranthene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Benzo(k)fluoranthene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Benzo(a)pyrene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Indeno(1,2,3-cd)pyrene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Dibenzo(a,h)anthracene	330.	U	330.	U	10.	U	10.	U	10.	U
SVOA	Benzo(g,h,i)perylene	330.	U	330.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	039-T-0001-00		039-E-0001-00		039-D-0001-00		039-S-0007-01		039-S-0008-01		039-S-0008-01 MS	
	ORIGINAL ID ----->	039T000100		039E000100		039D000100		039S000701		039S000801		039S000801MS	
	LAB SAMPLE ID --->	630007		630019		630011		630028		630042		630029	
	SAMPLE DATE ----->	07/28/94		07/28/94		07/28/94		07/28/94		07/28/94			
	DATE ANALYZED --->	08/08/94		08/08/94		08/08/94		08/01/94		08/01/94		08/03/94	
	MATRIX ---------->	Water		Water		Water		Soil		Soil		Soil	
	UNITS ---------->	UG/L		UG/L		UG/L		UG/KG		UG/KG		UG/KG	
Method	Parameter	00013	NV	00013	NV	00013	NV	00001	VAL	00001	VAL	00001	VAL
VOA	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Methylene chloride	6.	J	6.	J	6.	J	5.	U	9.	U	11.	U
VOA	Acetone	10.	U	11.		10.		10.	U	39.	U	10.	U
VOA	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	39.	
VOA	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Trichloroethene	2.	J	10.	U	10.	U	10.	U	10.	U	43.	
VOA	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	42.	
VOA	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	43.	
VOA	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	44.	
VOA	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
VOA	Xylene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	039-S-0008-01 MSD		039-S-[illegible]		039-C-0009-01		039-C-0009-01 RE		039-S-0010-01		039-S-0011-01	
	ORIGINAL ID ----->	039S000801MSD		[illegible] D1		039C000901		039C000901		039S001001		039S001101	
	LAB SAMPLE ID --->	630030		630054		630040		630040		630039		630041	
	SAMPLE DATE ----->			07/28/91		07/28/94		07/28/94		07/28/94		07/28/94	
	DATE ANALYZED --->	08/01/94		08/03/94		08/01/94		08/03/94		08/01/94		08/01/94	
	MATRIX ---------->	Soil		Soil		Soil		Soil		soil		Soil	
	UNITS ---------->	UG/KG		UG/KG		UG/KG		UG/KG		UWKQ		UG/KG	
Method	Parameter	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL	00001	VAL
VOA	Chloromethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Bromomethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Vinyl chloride	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Chloroethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Methylene chloride	8.	U	25.	U	62.	U	24.	U	12.	U	26.	U
VOA	Acetone	35.	U	21.	U	260.	J	26.	U	32.	U	150.	U
VOA	Carbon disulfide	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	1,1-Dichloroethene	51.		11.	U	11.	U	18.	U	10.	U	10.	U
VOA	1,1-Dichloroethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	1,2-Dichloroethene (total)	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Chloroform	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	1,2-Dichloroethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	2-Butanone (MEK)	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	1,1,1-Trichloroethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Carbon tetrachloride	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Bromodichloromethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	1,2-Dichloropropane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	cis-1,3-Dichloropropene	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Trichloroethene	49.		11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Dibromochloromethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	1,1,2-Trichloroethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Benzene	49.		11.	U	11.	U	18.	U	10.	U	10.	U
VOA	trans-1,3-Dichloropropene	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Bromoform	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	4-Methyl-2-Pentanone (MIBK)	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	2-Hexanone	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Tetrachloroethene	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	1,1,2,2-Tetrachloroethane	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Toluene	51.		11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Chlorobenzene	52.		11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Ethylbenzene	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Styrene	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U
VOA	Xylene (total)	10.	U	11.	U	11.	U	18.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 39, SECOND SAMPLING

	SAMPLE ID ------->	VBL-T-0001-01		VBL-T-0001-03		VBL-T-0001-04		VBL-T-0013-03		VBL-T-0013-04		
	ORIGINAL ID ----->	VBLKWK		VBLKC2		VBLKC3		VBLKMT		VBLKRJ		
	LAB SAMPLE ID --->	VBLKWK		630066		630067		VBLKMT		VBLKRJ		
	SAMPLE DATE ----->			07/28/94		07/28/94						
	DATE ANALYZED --->	09/16/94		08/01/94		08/03/94		08/07/94		08/11/94		
	MATRIX ---------->	Water		Soil		Soil		Water		Water		
	UNITS ---------->	UG/L		UG/KG		UG/KG		UG/L		UG/L		
Method	Parameter	00001	VAL	00001	VAL	00001	VAL	00013	NV	00013	NV	
VOA	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Methylene chloride	3.	J	5.	U	12.	U	10.	U	2.	J	
VOA	Acetone	10.	U	10.	U	12.	U	10.	U	10.	U	
VOA	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	
VOA	Xylene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	

ESCAMBIA COUNTY
ENVIRONMENTAL **HEALTH SERVICES**
1190 WEST **LEONARD STREET, SUITE 2**
PENSACOLA, FLORIDA 32501
TELEPHONE **(904) 444-8990**

July 25, 1994

Mr. Terry Todd, Acting Director
Escambia County Solid Waste Dept.
Perdido Landfill
13009 Beulah Road
Cantonment, Florida 32533

Re: NAS Mainside
Oak Grove Campground
Pensacola, Florida
DEP Facility #None

Dear Mr. Todd:

Please be advised that our Department has inspected the above referenced facility and determined that the petroleum contaminated soils excavated from this site are suitable for disposal at the Perdido Landfill.

Our review indicates that approximately 1000 cubic yards of petroleum contaminated soils (gasohol, leaded, and unleaded gasoline) should be expected from this facility. The contractor for this job is U. S. Navy (subcontractor is Clark Sand Company. The contractor will be responsible for any and all fees.

By copy of this letter to the contractor, we are advising them that they should contact John Kusnerek at the Perdido Landfill prior to delivery of the contaminated soils so arrangements can be made for receipt and testing.

If you need additional information concerning this project, please feel free to call us.

Sincerely,

Gordon A. Richmond, P.E.
Water Programs

jyl

c: Richard A. Dunlap, Escambia County
Mr. Chad Berthelson - NPWC - Pensacola

CORRECTED STATEMENT

ESCAMBIA COUNTY SOLID WASTE

PERDIDO LANDFILL
CANTONMENT, FL 32533

07/30/94

ACCOUNT: 200012

PUBLIC WORKS #N65114-94-M-2182
OFFICER IN CHARGE OF CONSTRUCT
251 HOVEY ROAD
PENSACOLA, FL 32598-1036

TRX #	TYPE	DATE	TRK/CONT	WEIGHT	YARDS	AMOUNT
119808	PYMT	07/13/94	/	0	0	13,866.48-
432744	INV	07/25/94	0021/0021	38740	6	697.32
432756	INV	07/25/94	0010/0010	4300	1	77.40
432833	INV	07/25/94	0021/0021	32680	5	588.24
432838	INV	07/25/94	0016/0016	40140	6	722.52
432839	INV	07/25/94	0021/0021	33140	5	596.52
432859	INV	07/25/94	0016/0016	34540	5	621.72
432862	INV	07/25/94	0010/0010	39480	6	710.64
432868	INV	07/25/94	0010/0010	44320	7	797.76
432877	INV	07/25/94	0021/0021	35180	5	633.24
432878	INV	07/25/94	0010/0010	42940	6	772.92
432882	INV	07/25/94	0010/0010	45740	7	823.32
432888	INV	07/25/94	0010/0010	42680	6	768.24
432889	INV	07/25/94	0010/0010	37520	6	675.36
432904	INV	07/26/94	0016/0016	36620	6	659.16
432907	INV	07/26/94	0016/0016	44080	7	793.44
432910	INV	07/26/94	0022/0022	38980	6	701.64
432939	INV	07/26/94	0026/0026	24880	4	447.84
432953	INV	07/26/94	0004/0004	37900	6	682.20
432956	INV	07/26/94	0026/0026	32840	5	591.12
432983	INV	07/26/94	0027/0027	26140	4	470.52
432995	INV	07/26/94	0004/0004	38120	6	686.16
433019	INV	07/26/94	0004/0004	28680	4	516.24
433027	INV	07/26/94	0004/0004	42560	6	766.08
433028	INV	07/26/94	0021/0021	34080	5	613.44
433037	INV	07/26/94	0027/0027	35860	5	645.48
433044	INV	07/26/94	0022/0022	0	1	5.95
433045	INV	07/26/94	0022/0022	29960	5	539.28
433047	INV	07/26/94	0021/0021	42500	6	765.00
433048	INV	07/26/94	0027/0027	38540	6	693.72
433066	INV	07/27/94	0004/0004	28000	4	504.00
433067	INV	07/27/94	0016/0016	37740	6	679.32
433069	INV	07/27/94	0030/0030	34580	5	622.44
433073	INV	07/27/94	0010/0010	39800	6	716.40
433087	INV	07/27/94	0013/0013	30672	5	552.10
433089	INV	07/27/94	0002/0002	38000	6	684.00
433094	INV	07/27/94	0002/0002	36660	6	659.88
433098	INV	07/27/94	0032/0032	38600	6	694.80
433100	INV	07/27/94	0028/0028	21020	3	378.36
428217		07/25/94		38420	6	579.25

CORRECTED STATEMENT

ESCAMBIA COUNTY SOLID WASTE

PERDIDO LANDFILL
CANTONMENT, FL 32533

07/30/94

ACCOUNT: 200012

PUBLIC WORKS #N65114-34-M-2182
OFFICER IN CHARGE OF CONSTRUCT
251 HOVEY ROAD
PENSACOLA, FL 32598-1036

THX #	TYPE	DATE	TRK/CONT	WEIGHT	YARDS	AMOUNT
433115	INV	07/27/94	0028/0028	25800	4	464.40
433117	INV	07/27/94	0021/0021	39720	6	714.96
433119	INV	07/27/94	0020/0020	33440	5	601.92
433120	INV	07/27/94	0028/0028	29200	5	525.60
433125	INV	07/27/94	0021/0021	33480	5	602.64
433131	INV	07/27/94	0002/0002	35400	5	637.20
433133	INV	07/27/34	0021/0021	34460	5	620.28
433135	INV	07/27/94	0013/0018	30220	5	543.96
433138	INV	07/27/94	0033/0033	49800	7	896.40
433205	INV	07/28/94	0005/0005	18100	3	325.80
433206	INV	07/28/94	0004/0004	17780	3	320.04
433207	INV	07/28/94	0033/0033	16120	3	290.16
433333	INV	07/29/94	0033/0033	18480	3	332.64
STATEMENT TOTAL				~~1690212~~	~~259~~	~~$30,429.77~~
				1728632	265	$31,009.02

PREVIOUS BALANCE	CHARGES	PAYMENTS	TOTAL DUE
$16,097.04	~~$30,429.77~~	$13,866.48	~~$32,660.33~~
	$31,009.02		$33,239.58

REMIT TO: Comptroller's Office
P. O. Box 1111
Pensacola, FL 32595

THIS STATEMENT IS DUE AND PAYABLE UPON RECEIPT

PAST DUE

Please remit payment by 10TH of the month to avoid account being placed on a 'CASH ONLY' basis.

RECEIVED

Navy Public Works Center
Environmental Laboratory

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-5500
Phone 904-452-3642/4758
Autovon 922-3642

Laboratory Report

TCLP Organics

Requester:	NAS / PWC Environmental	Lab ID Number:	9406162A
Address:	NAS Pensacola	Sample Date:	14 June 1994
		Received Date:	14 June 1994
Phone #:	940-452-3043	Sample Site:	NAS IR site # 39
Contact:	C. Berthelson	Job Order #:	

Sample ID#	Lab	1- 4286	2-	3-	4-
Sample Name	Requester	IR Site 39			
Collector Name		M. Chambers			
Date/Time	Comp start	14 June 94			
Collected	Comp stop				
(Military)	Grab	14 Jun 94 @ 1550			
Sample Type	Comp/Grab	Grab			
Analyst		J. Moore/ M. Chambers			
Date of Analysis		20 June 1994			
Sample Matrix		TCLP Extract			
Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER: TCLP VOL. Vol. by GCMS (Capillary)	METHOD #	Sample ID# 1- 4286	units	Det. Limit	Sample ID# 2-	units	Det. Limit	Sample ID# 3-	units	Det. Limit	Sample ID# 4-	units	Det. Limit
Benzene	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
Carbon Tetrachloride	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
Chlorobenzene	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
Chloroform	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
1,4-Dichlorobenzene	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
1,2-Dichloroethane	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
1,1-Dichloroethylene	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
Methyl ethyl ketone (MEK)	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
Tetrachloroethylene	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
Trichloroethylene	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001
Vinyl chloride	EPA 8260	BDL	mg/l	0.001		mg/l	0.001		mg/l	0.001		mg/l	0.001

Surrogate Recoveries Volatile Compounds	Acceptance Limits				
1,2-Dichloroethane-d4	76-114	93			
Toluene-d8	88-110	101			
Bromofluorobenzene	86-115	98			

Dilution		Dilution X 1	Dilution X 1	Dilution X 1	Dilution X 1

PARAMETER: TCLP BNA Extr. by GCMS (Capillary)	METHOD #	Sample ID# 1- 4286	units	Det. Limit	Sample ID# 2-	units	Det. Limit	Sample ID# 3-	units	Det. Limit	Sample ID# 4-	units	Det. Limit
m-Cresol (3-Methylphenol)	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
o-Cresol (2-Methylphenol)	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
p-Cresol (4-Methylphenol)	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Cresylic Acid (Tot. cresols)	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
1,4-Dichlorobenzene	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Hexachlorobenzene	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Hexachlorobutadiene	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Hexachloroethane	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Nitrobenzene	EPA 8270A	BDL	mg/l	0.010		mg/l	0.010		mg/l	0.010		mg/l	0.010
Pentachlorophenol	EPA 8270A	BDL	mg/l	0.020		mg/l	0.020		mg/l	0.020		mg/l	0.020
Pyridine	EPA 8270A	BDL	mg/l	0.020		mg/l	0.020		mg/l	0.020		mg/l	0.020
2,4,5-Trichlorophenol	EPA 8270A	BDL	mg/l	0.020		mg/l	0.020		mg/l	0.020		mg/l	0.020
2,4,6-Trichlorophenol	EPA 8270A	BDL	mg/l	0.020		mg/l	0.020		mg/l	0.020		mg/l	0.020

Surrogate Recoveries Extractable Compounds	Acceptance Limits				
2-Fluorophenol	21-110	74			
Phenol-d5	10-110	56			
Nitrobenzene-d5	35-114	69			
2-Fluorobiphenyl	43-116	74			
2,4,6-Tribromophenol	10-123	98			
Terphenyl-d14	33-141	81			

Navy Public Works Center
Environmental Laboratory

Laboratory Report
TCLP **Pesticides/Herbicides**

Bldg.3297, Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

Requester: NAS / PWC Environmental
Address: NAS Pensacola
Phone #: 940-452-3043
Contact: C.Berthelson

Lab ID Number:
Sample Date:
Received Date:
Sample Site:
Job Order #:

Dilution		Dilution X 1			Dilution X 1			Dilution X 1			Dilution X 1		
PARAMETER: TCLP P/H		Sample ID#		Det.	Sample ID#		Det.	Sample ID#		Det.	Sample ID#		Det.
Extr. by GC (Capillary)	METHOD #	1- 4286	units	Limit	2-	units	Limit	3-	units	Limit	4-	units	Limit
Chlordane	EPA 8080A	BDL	mg/l	0.0001		mg/l	0.0001		mg/l	0.0001		mg/l	0.0001
Endrin	EPA 8080A	BDL	mg/l	0.00002		mg/l	0.00002		mg/l	0.00002		mg/l	0.00002
Heptachlor	EPA 8080A	BDL	mg/l	0.00001		mg/l	0.00001		mg/l	0.00001		mg/l	0.00001
Heptachlor epoxide	EPA 8080A	BDL	mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002
Gamma-BHC (Lindane)	EPA 8080A	BDL	mg/l	0.00001		mg/l	0.00001		mg/l	0.00001		mg/l	0.00001
Methoxychlor	EPA 8080A	BDL	mg/l	0.0001		mg/l	0.0001		mg/l	0.0001		mg/l	0.0001
Toxaphene	EPA 8080A	BDL	mg/l	0.0001		mg/l	0.0001		mg/l	0.0001		mg/l	0.0001
2,4-D	EPA 8150A	N/A	mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002
2,4,5-TP (Silvex)	EPA 8150A	N/A	mg/l	0.0001		mg/l	0.0001		mg/l	0.0001		mg/l	0.0001
Surrogate Recoveries Extractable Compounds	Acceptance Limits												
Tet-Cl-m-xylene	60-140	89											
Decachlorobiphenyl	60-140	89											
Dichlorophenyl acetic acid	60-140	N/A											

Comments: mg/l=milligrams per liter.
N/A = Not Analyzed for these parameters.

Approved by: Jerry Bees, Laboratory Director

Date: 21-Jun-94 @ 10:28

PWC 5090/14

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Navy Public Works Center
Environmental Laboratory

Bldg.3297. Code 920
NAS Pensacola, Fl. 32508-6500
Phone 904-452-3642/4758
Autovon 922-3642

Laboratory Report
TCLP Metals

Requester: NAS / PWC Environmental
Address: NAS Pensacola
Phone #: 904-452-3043
Contact Mr. Chad Berthelson

Lab ID Number: 9406162b
Sample Date: 14 June 1994
Received Date: 14 June 1994
Sample Site: IR Site # 39
Job Order #:

Sample ID#	Lab	1- 4286	2-	3-	4-
Sample Name	Requester	IR Site # 39			
Collector Name		M. Chambers			
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	14 June 1994 @ 1550			
Sample Type	Comp/Grab	Grab			
Sample Matrix		TCLP Extract			

Analyst(s): Jim Taylor, Brian Nelson

Date(s) of analysis: 20 June 1994

PARAMETER TCLP Metals:	SW-846 METHOD #	ID# 1-4286		units	Det. Limit	ID# 2-		units	Det. Limit	ID# 3-		units	Det. Limit	ID# 4-		units	Det. Limit	Preservative(s)
Arsenic(As)	EPA 6010A	X	<0.5	mg/l	0.5			mg/l	0.5			mg/l	0.5			mg/l	0.5	None
Barium(Ba)	EPA 6010A	X	<1.0	mg/l	1.0			mg/l	1.0			mg/l	1.0			mg/l	1.0	None
Cadmium(Cd)	EPA 6010A	X	0.3	mg/l	0.1			mg/l	0.1			mg/l	0.1			mg/l	0.1	None
Chromium(Cr)	EPA 6010A	X	<0.5	mg/l	0.5			mg/l	0.5			mg/l	0.5			mg/l	0.5	None
Lead(Pb)	EPA 6010A	X	<0.5	mg/l	0.5			mg/l	0.5			mg/l	0.5			mg/l	0.5	None
Mercury(Hg)	EPA 7470			mg/l	0.02			mg/l	0.02			mg/l	0.02			mg/l	0.02	None
Selenium(Se)	EPA 6010A	X	<0.1	mg/l	0.1			mg/l	0.1			mg/l	0.1			mg/l	0.1	None
Silver(Ag)	EPA 7761	X	<0.5	mg/l	0.5			mg/l	0.5			mg/l	0.5			mg/l	0.5	None

Comment.: mg/l=milligrams per liter.

TCLP limits are: Arsenic<5, Barium<100, Cadmium<1, Chromium<5, Lead<5, Mercury<0.2, Selenium<1, Silver<5.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 21-Jun-94 10:30

End of Report

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