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**PRELIMINARY SITE CHAI
REPORT
SITE 18
NAVAL AIR STATION
PENSACOLA, FLORIDA**

N00204.AR.001264
NAS PENSACOLA
5090.3a

**SOUTHNAVACENGCOM
CONTRACT NUMBER
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Prepared for:

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN)
NAVAL AIR STATION
PENSACOLA, FLORIDA**

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December 18,1996

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19. Abstract

A preliminary site characterization was conducted for Category VI - Site 18 (the PCB Spill at Substation A). The site consists of an approximate 50-foot by 50-foot unpaved area on the north side of Building 107. Substation A is an elevated concrete electrical transformer base bordering the site to the west. The investigation was conducted to assess the presence of PCB contaminants resulting from the late 1960s spill of approximately 50 gallons of PCB laden transformer fluid at the site. The 1983 Initial Assessment Study noted an oily appearance within the unpaved parking area adjacent to the site, and early sampling from the stained soils revealed PCBs at 4 ppm.

To focus the location of wells and/or borings, PCB immunoassays were conducted on soils within the unpaved parking area adjacent to the site where the oily stained soils were noted. The immunoassay tests identified PCBs at approximately 3 ppm in the northwest corner of the site. Soil boring and monitoring well locations were adjusted to focus on the contaminated area. Four soil borings were advanced to the water table, and four monitoring wells were installed to evaluate site conditions. Samples were collected from these locations for full scan analyses.

Approximately seven inorganic and two organic parameters were detected in laboratory analyzed samples. The analytical data were compared to risk based PRGs for soil and groundwater. Parameters above PRGs consisted of metals, a PAH, and the PCB Amlor-1260.

Arsenic, beryllium, and lead appear to be the prevalent inorganics above PRGs throughout surface soil in the Site 18 area. Surface soil arsenic above the RBC was present at three of four soil boring locations. Surface soil beryllium above standards was present at two borings. Surface soil lead above the OSWER Interim Soil Lead guidance was noted immediately north and northwest of the site. Subsurface barium above the SSL was noted at one boring. Surface soil benzo(a)pyrene above standards was noted at two boring locations. Amlor-1260 above PRGs was present at the three borings within the site's unpaved parking area.

The surface soil stratigraphy consists of fill containing shell fragments and rock mixed with brown- to tan-, fine- to medium-grained qu am sand. Below the 1-foot level, a natural, buff white, fine- to medium-grained quartz sand is present. The water table occurs at about 4-feet bls.

The groundwater evaluation revealed aluminum, iron, and manganese above secondary standards in site groundwater samples. No organics were present in groundwater samples. The absence of inorganic and organic soil contaminants in site groundwater indicates that leaching of parameters to groundwater is not occurring at Site 18. The primary receiving aquifer within the Site 18 area is the surficial zone of the Sand-and-gravel aquifer, which is not utilized for any purpose at NAS Pensacola due to the availability of municipal water, the ambient levels of some metals, and the potential for salt water intrusion induced by pumping. Given that the upper surficial zone is affected, and is not used, nor will be used for drinking water, no remedial recommendation for secondary exceedances is required. Therefore, no recommendation to address aluminum, iron, or manganese is made. The primary surface water body receptor is the Intercoastal Waterway of Pensacola Bay. No wetlands exist in the vicinity of Site 17.

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List of Acronyms

$\mu\text{g}/\text{kg}$	Micrograms per kilogram
$\mu\text{g}/\text{L}$	Micrograms per liter
bls	Below land surface
CG	Cleanup Goal
CLP	contract Laboratory Program
CLP	Contract Laboratory Program
CSAP	Comprehensive S ampling and Analysis P lan
DQO	Data Quality Objectives
E/A&H	EnSafe/Allen & Hoshall
E&E	Ecology and Environment, Inc.
FDEP	F lorida Department of E nvironmental Protection
FNAI	F lorida Natural A reas Inventory
FPDWS	F lorida Primary D rinking Water S tandard
FSDWS	F lorida <i>secondary</i> D rinking Water S tandard
ft/day	F eet per d ay
GC/MS	Gas Chromatograph/Mass Spectrometer
G&M	Geraghty & Miller, Inc.
GPS	Global Positioning System
GS	G rain s ize
IAS	I nitial Assessment study
ICP	Inductive Coupled P lasma
IFG	Inorganic Functional Guidelines
IRP	Installation Restoration Program
IS	Internal s tandard
J	T he c ompound was positively d etected, however, the r eported concentration i s considered to approximate t he concentration within t he sample
LCS	Laboratory Control Sample
MCL	Maximum Contaminant Level
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
msl	Mean sea level
MS	Matrix Spike
MSD	M atrix spike Duplicate
NAS	Naval A ir S tation
NEESA	Naval E nergy and Environmental S upport Activity (now NFESC/Naval Environmental Engineering Support Agency)
NFESC	Naval Facilities E ngineering S ervice Center (formerly NEESA)
OFG	O rganic F unctional Guidelines
OSWER	O ffice of Solid W aste and Emergency Response
PAH	Polycyclic Aromatic Hydrocarbon
PCBs	Polychlorinated Biphenyls

ppm
PPS
PPW
PRG
PSC
QA/QC

RBC
ROD
SAP
SDG
SEGS
SMCL
SMP
SOUTHNAVFACENGCOM
SOW
TAL
TCL
UR

USEPA
USFWS
USGS

~~Parts~~ per million
Physical parameters, soil
Physical parameters, water
Preliminary Remediation Goal
Preliminary Site Characterization
Quality Assurance/Quality Control
The sample results ~~are~~ rejected due to serious deficiencies in the laboratory's ability to analyze the sample and meet QC criteria. The presence or absence of the compound cannot be verified
Risk-based **Concentration**
Record of Decision
~~sampling~~ and Analysis Plan
Sample Delivery Group
southeastern Geological society
secondary **Maximum Contaminant Levels**
Site Management Plan
Southern Division Naval Facilities Engineering Command
Statement of ~~Work~~
Target Analyte List
Target ~~Compound~~ List
The compound was not detected above the reported sample quantitation limit. However, the sample results are rejected due to serious deficiencies in the laboratory's ability to analyze the sample and meet QC criteria. The presence or absence of the compound cannot be verified
~~United~~ States Environmental Protection Agency
~~United~~ States Fish and Wildlife Service
~~United~~ States Geological Survey

EXECUTIVE SUMMARY

A preliminary site characterization was conducted for Category VI — Site 18 (the PCB Spill at Substation A). The site consists of an approximate 50- foot by 50- foot unpaved area on the north side of Building 107. Substation A is an elevated concrete electrical transformer base bordering the site to the west. The investigation was conducted to assess the presence of PCB contaminants resulting from the late 1960s spill of approximately 50 gallons of PCB laden transformer fluid at the site. The 1983 Initial Assessment Study noted an oily appearance within the unpaved parking area adjacent to the site, and early sampling from the stained soils revealed PCBs at 4 ppm.

To focus the location of wells and/or borings, PCB immunoassays were conducted on soils within the unpaved parking area adjacent to the site where the oily stained soils were noted. The immunoassay tests identified PCBs at approximately 3 ppm in the northwest corner of the site. Soil boring and monitoring well locations were adjusted to focus on the contaminated area. Four soil borings were advanced to the water table, and four monitoring wells were installed to evaluate site conditions. Samples were collected from these locations for full scan analyses.

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The surface soil stratigraphy consists of fill containing shell fragments and rock mixed with brown to ~~tan, fine~~ to medium-grained quartz sand. Below the 1-foot level, a natural, buff white, fine- to medium-grained quartz sand is present. The water table occurs at about 4 feet bls.

The groundwater evaluation revealed aluminum, iron, and manganese above secondary standards in site groundwater samples. No organics were present in groundwater samples. The absence of inorganic and organic soil contaminants in site groundwater indicates that leaching of parameters to groundwater is not occurring at Site 18. The primary receiving aquifer within the Site 18 area is the surficial zone of the Sand-and-gravel aquifer, which is not utilized for any purpose at NAS Pensacola due to the availability of municipal water, the ambient levels of some metals, and the potential for salt water intrusion induced by pumping. Given that only the upper surficial zone is affected, and is not used, nor anticipated to be used for drinking water, no remedial recommendation for secondary exceedances of aluminum, iron, or manganese is made required. The primary surface water body receptor is the Intercoastal Waterway of Pensacola Bay. No wetlands exist in the vicinity of Site 17.

Because Site 18 is a screening site with only localized PCB concentrations above PRGs, it was decided that a full baseline risk assessment was unnecessary. Since a person would not be expected to spend all of his/her time onsite in exactly one spot, a simulation of potential PCB exposure was made based on the assumption of uniform exposure to all surface soils within the investigative area. An estimate of the potential chronic Aroclor-1260 exposure concentration was calculated for Site 18 by computing the area weighted average concentration for the whole site. Although surface soil Aroclor-1260 was identified above PRGs at three borings at Site 18, using weighted averaging shows that the site overall is below required action levels under 40 CFR 761.125 and USEPA (1994b) guidance. Based on Tier One agreement, consideration was also given to FDEP's concern for the surface soil PCB exceedance at borings 18S01, 18S02, and 18S03. The state does not accept weighted averaging of contamination. A single sample exceeded the State's Residential SCG and only slightly exceeded the Industrial SCG. A removal action will be executed to remove the affected area, and no further action is recommended to address this contamination.

Historical information indicates that the lead found in surface soil north of the site is not related to the handling/spillage of **PCB** oils at Site 18. The lead exceedances will be investigated as another site, **PSC Site 45**.

With the exception of surface soil lead contamination north of the site, the soil **and** groundwater parameters found on this site are considered delineated for the purposes of the **PSC**. Based on qualitative risk evaluation, no further investigative action is recommended for this site.

1.0 INTRODUCTION

Under the authority of the U.S. Navy Comprehensive Long-Term Environmental Action Navy program, a Preliminary Site Characterization (PSC) was recently completed at Site 18, the PCB Spill at Substation A, at Naval Air Station (NAS) Pensacola. This site is listed under Category VI of the Site Management Plan (SMP) of the Installation Restoration Program (IRP) for NAS Pensacola (southern Division, Naval Facilities Engineering Command [SOUTHNAVFACENGCOM], 1996). Site 18 is north of Building 107, at Mustin Street and Center Avenue.

The investigation was undertaken by EnSafe/Allen & Hershall (E/A&H) to meet the requirements of the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 program, which administers the investigation and cleanup of hazardous waste sites. The PSC report summarizes the investigation activities and presents findings and conclusions.

Investigation Objectives

The objectives of this investigation were to determine the source, nature, magnitude, and extent of soil and groundwater contamination, and use validated sample data to address contamination and recommend appropriate action.

The investigation was phased, to allow for real-time input from the Tier One team, before additional phases were executed. Thus, the investigation incorporated periodic input from the U.S. Environmental Protection Agency (USEPA) and the Florida Department of Environmental Protection (FDEP).

The investigation included:

- A review of the site's history, background, and previous investigations.

- e A preliminary field survey to characterize *the* study area.

- e Advancing soil brings, installing monitoring wells, and collecting soil and groundwater samples for chemical analysis.

- A hydrologic assessment.

Purpose of the Report

This PSC report summarizes the activities, results, and conclusions of the overall investigation, and provides the basis for a feasibility study to be completed and, ultimately, a Record of Decision (ROD) for the site. The report also documents the data collection and analytical methods used during the investigation.

2.0 SITE DESCRIPTION AND HISTORY

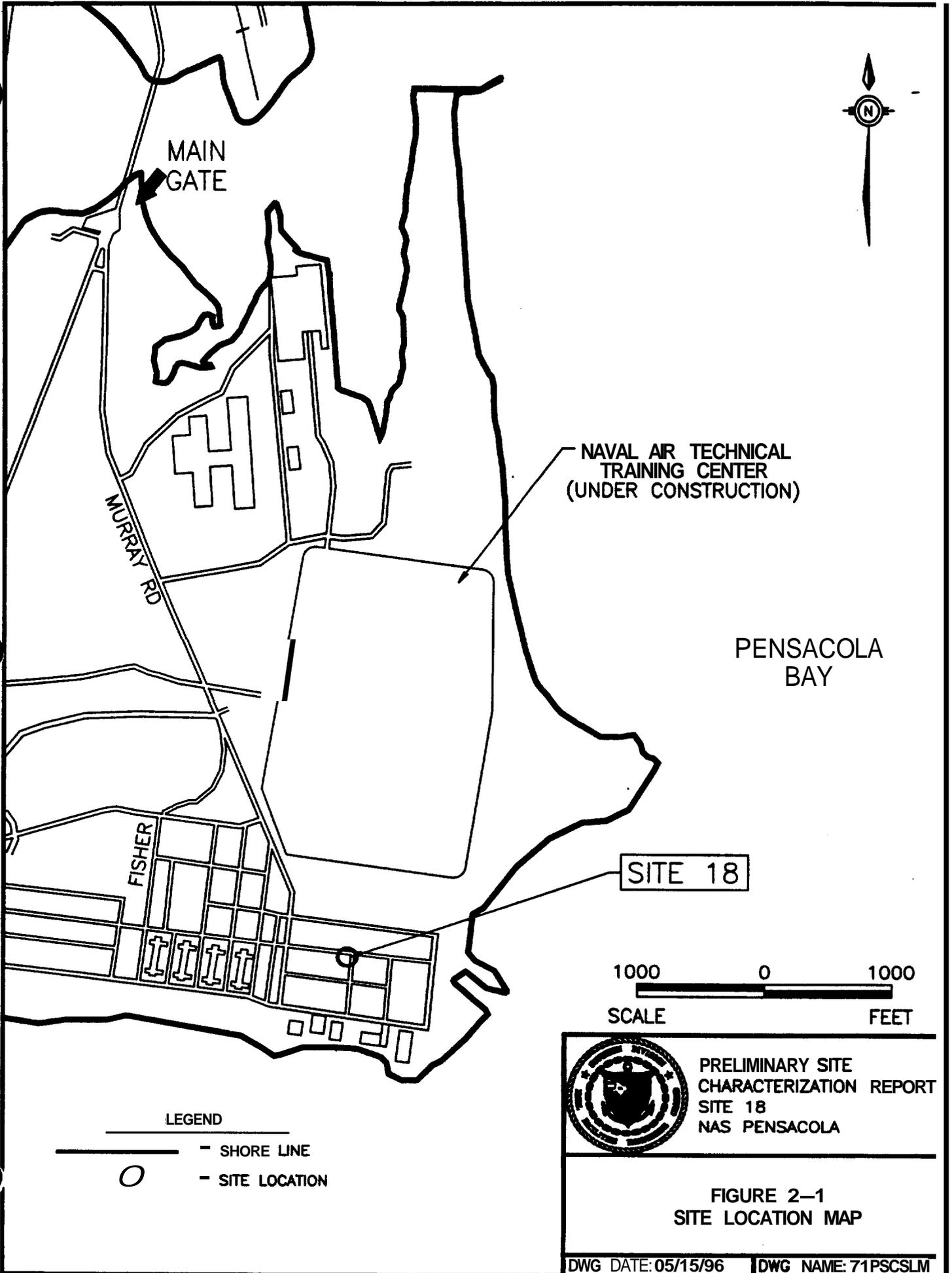
2.1 Site Description

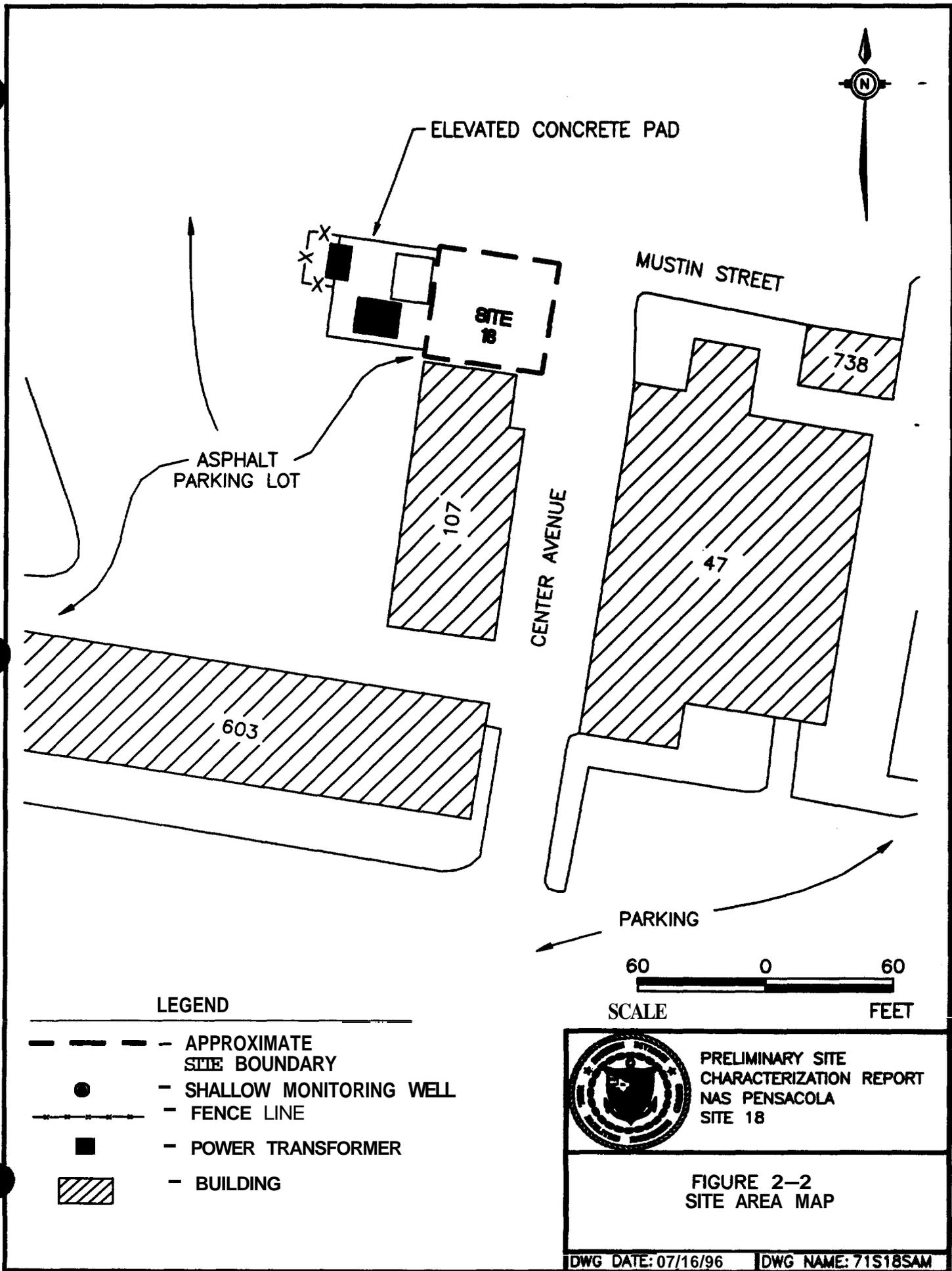
Site 18 is at Mustin Street and Center Avenue, near NAS Pensacola's southeast waterfront on the Intercoastal Waterway. The site lies within a portion of the base containing older architecture, with nearby areas containing warehouses, office spaces, and the old NAS power generating plant. The Site 18 vicinity is generally flat with land surface elevation averaging five feet above mean sea level. Construction associated with the new Naval Air Technical Training School is ongoing about 2,000 feet to the north. IRP Site 38 is nearby, including the former Building 71 area (600 feet south) and Building 604 (500 feet southeast). The nearest monitoring wells are associated with these two buildings. NAS Pensacola Supply Well No. 2 is approximately one mile northwest. Figure 2-1 displays the site's location with respect to surrounding points.

Site 18 consists of an approximately 50-foot by 50-foot unpaved area on the north side of Building 107. The site serves as a parking area for vehicles, and is covered with hard-packed sand mixed with rock and oyster shell fragments. Substation A is an elevated concrete electrical transformer base that borders the site to the west. Center Avenue borders the site to the east, while Mustin Street lies immediately north. Figure 2-2 depicts the layout of the site area.

2.2 Site History

In 1966 or 1967, approximately 50 gallons of transformer fluid containing polychlorinated biphenyls (PCBs) spilled at Substation A. The Initial Assessment Study (IAS) performed by the Naval Facilities Engineering Service Center (NFESC-formerly the Naval Energy and Environmental Support Activity [NEESA]), noted that the unpaved parking area had an oily appearance. A Naval Assessment and Control of Installation Pollutants team collected and analyzed a sample of the oily soil. The analyses detected four parts per million (ppm) of PCBs in the sample (NEESA, 1983). Other than the IAS, Site 18 has not been the subject of a previous environmental assessment.





ELEVATED CONCRETE PAD

MUSTIN STREET

SITE 18

ASPHALT PARKING LOT

107

CENTER AVENUE

738

47

603

PARKING

60 0 60

SCALE FEET

LEGEND

- - - - - APPROXIMATE SITE BOUNDARY
- - SHALLOW MONITORING WELL
- - - - - FENCE LINE
- - POWER TRANSFORMER
- ▨ - BUILDING



PRELIMINARY SITE CHARACTERIZATION REPORT
 NAS PENSACOLA
 SITE 18

FIGURE 2-2
 SITE AREA MAP

DWG DATE: 07/16/96 | DWG NAME: 71S18SAM

3.0 ENVIRONMENTAL SETTING

3.1 Physiography

NAS Pensacola is in the Gulf Coast lowlands on a peninsula bounded by Pensacola Bay to the south and east and Bayou Grande to the north. The main topographic feature is a bluff paralleling the southern and eastern shorelines of the peninsula. Landward of the bluff is a gently rolling upland with elevations up to 40 feet above mean sea level (msl) (U.S. 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, constituting the areas of the former Chevalier Field and Magazine Point.

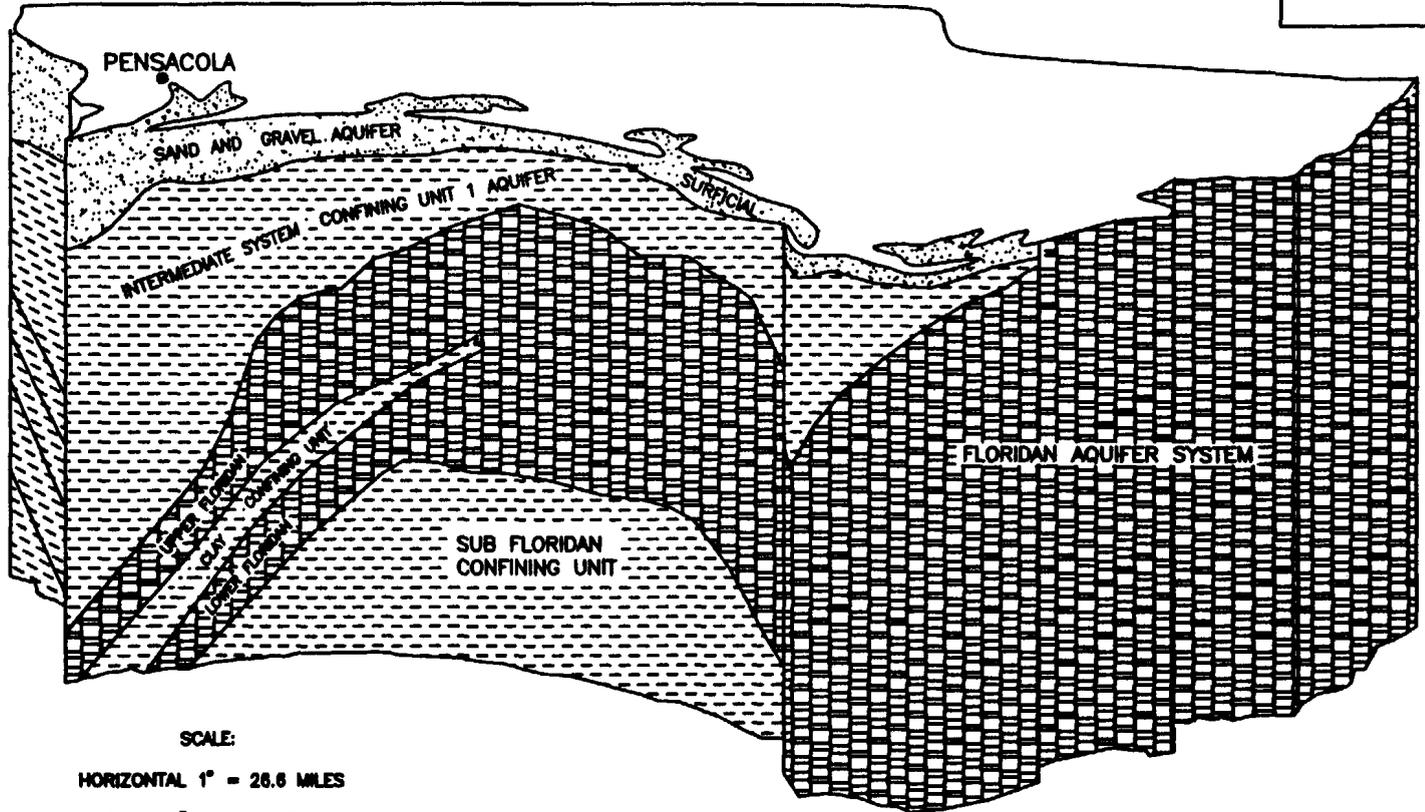
Sandy soils typify the NAS Pensacola area. Consequently, most rainfall infiltrates directly into the subsurface, resulting in few natural streams. Streams on base generally are man-made and channelized. Numerous natural wetlands occur in low-lying areas.

3.2 Stratigraphy and Hydrogeology

Stratigraphy beneath the Florida Panhandle generally consists of Quaternary marine terrace and fluvial deposits, underlain by a thick sequence of interlayered fine-grained clastic deposits and carbonate strata of Tertiary age (southeastern Geological Society [SEGS], 1986). Three main regional hydrogeologic units have been described 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.

Surficial/Sand-and-Gravel Aquifer

The Surficial Aquifer, comprising primarily unconsolidated siliciclastic sediments, is approximately 300 feet thick at NAS Pensacola. These sediments belong to undifferentiated



SCALE:
HORIZONTAL 1" = 26.6 MILES
VERTICAL 1" = 500 FEET
VERTICAL EXAGGERATION = 281



PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 18
NAS PENSACOLA

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

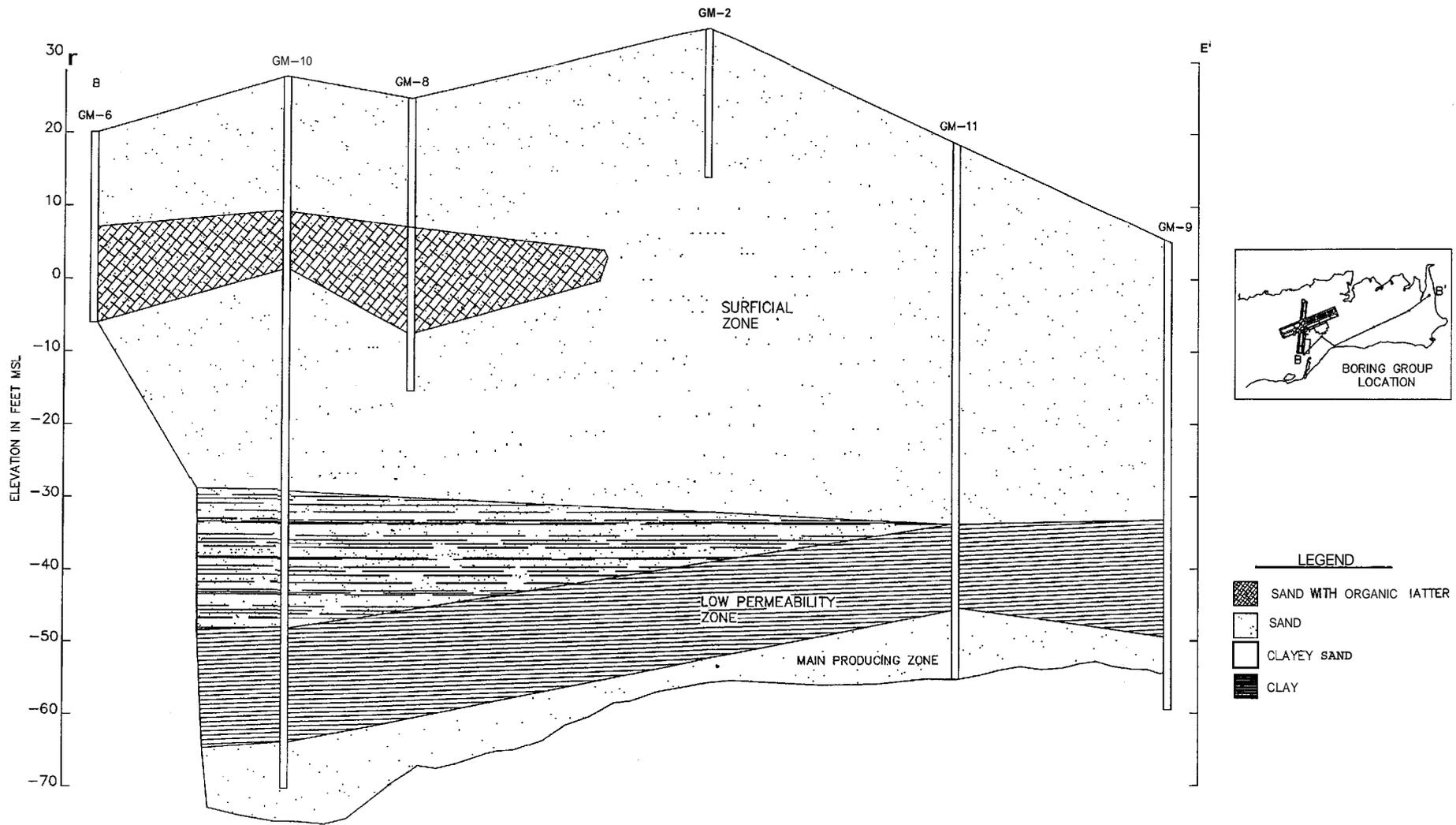
DATE: 06/12/96 DWG NAME: 71PSCGCS

SOURCE: E&E 1992c.

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 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. Near NAS Pensacola, the unit has been subdivided into three distinct zones based on hydrogeologic differences (in descending order): the surficial zone, the low 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 G&M, Inc. (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 and 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 (Ecology and Environment [E&E], 1990). The lower contact with the low permeability zone is transitional, resulting in a fining downward sequence in the lower portion of the surficial zone proper. Generally, the low permeability zone is thicker 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 that have been measured in



SOURCE GERAGHTY 4 MILLER, 1986



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

DATE: 06/12/96

DWG NAME: 71S18GCS

the base of the surficial zone. Shallow groundwater flow in the surficial zone 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 comprised of gray to blue-gray sandy and silty marine clay with some shell fragments and clayey sands, with total thickness ranging from 8 to 40 feet (G&M, 1984 and 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. 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 constitutes 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 Pensacola. Of the three zones in the Sand-and-Gravel Aquifer, this one is generally the most permeable and is the principal source of water supply for the Pensacola area (Wilkins et al., 1985). Groundwater in this zone generally is confined. It recharges primarily north of southern Escambia County, and is supplemented by leakage 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 this zone. However, the water has a

high iron content and the wells are used only to supplement to the base water supply, to irrigate the base golf course, and for fire protection (G&M, 1984 and 1986). For potable water, NAS Pensacola depends on an offsite 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 comprises 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 NAS Pensacola vicinity, 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 predominantly limestone, but is separated into upper and lower units by a significant clay layer called the Bucatunna Clay (see Figure 3-1). Groundwater within the Floridan System is highly mineralized in the area of NAS Pensacola and is not used for water supply (Wagner et al., 1984). However, groundwater from the Upper Floridan Aquifer is used for water supply approximately 25 miles east of NAS Pensacola.

33 Ecological Setting

3.3.1 Regional Ecological Setting

According to Wolfe et al. (1994b), the Florida Panhandle has 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. Bottom land **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 salt marshes. Bays supporting **seagrass** meadows and oyster **reefs** **are** present in intertidal and subtidal **areas**.

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 are also 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 U.S.

The **high annual** rainfall and low, gently sloping **terrain** create numerous wetlands 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 are second-growth forests of pines and encroaching hardwoods.

The Florida Panhandle's estuaries and nearshore marine habitats 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** for **these** important **commercial** species. Seagrass beds within estuaries also are vital **to** the seafood industry.

33.2 Ecological Setting at NAS Pensacola

NAS Pensacola, which occupies approximately **5,800 acres**, is bounded by Bayou Grande to the north and Pensacola Bay to the east and south. To the west, the installation **changes** to less developed swampy lowlands. **NAS Pensacola's** eastern portion is largely developed, with military

and industrial facilities and historical/cultural sites. **Most** of the installation's activities **are** on the eastern side of the **base**. The less developed west side of the **base** has approximately **3,500** acres of natural or seminatural beach **areas**, forests, and wetlands.

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

Vegetation Communities

NAS Pensacola **natural** vegetation communities fall into **several broad** categories: **(1)** coastal dune scrub communities, **(2)** pine flatwoods communities, **(3)** **hardwood/pine** communities, **(4)** sand pine scrub communities, **(5)** bay swamps, **(6)** freshwater marshes, and **(7)** estuarine coastal marshes (U.S. Fish and Wildlife Service [USFWS], **1987**). Coastal dune scrub communities are associated **with** shorelines subject to high-energy waves. The vegetation consists of salt-tolerant plants able to establish themselves in **shifting sands**. Pine flatwood communities in coastal lowlands are characterized by trees that can tolerate **various** soil moisture conditions. **Tree** species in flatwood communities **are short, with** a wide variety of small shrubs and herbaceous plants in the understory. **Hardwood/pine** communities are a highly diverse **mixture** of hardwood trees and pines. Sand pine scrub communities on **well-drained** sandy soil contain **sand** pines, **oaks**, and various shrubs. Bay swamps **are** wetlands **with** **titi** and **cypress** swamps known to **contain** permanent standing water and **high** accumulations of organic peat. Freshwater marshes occur **as** grass/ sedge/rush/herb communities 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

NAS Pensacola habitats provide potential **ranges** for a wide **variety** of **animal** life such as deer, squirrel, **opossum**, **raccoon**, fox, beaver, and **bobcat**. The **station's beaches** serve as resting, feeding, and nesting **areas** for various shorebirds. Ospreys have been observed nesting along undeveloped shoreline **areas** of the Big **Lagoon**, **southeast** of the **Forrest Sherman** Airfield. Numerous small mammals, amphibians, and reptiles **also** inhabit the base. The coastal marsh, submerged **grass bed**, and shallow water habitats at **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 A of the *Comprehensive Natural Resources Management Plan for NAS Pensacola and outlying Field Bronson* (VSNFWS, **1987**) lists the rare, **threatened**, and **endangered** species that may be found within NAS Pensacola boundaries. E/A&H investigations of different **areas** of NAS Pensacola have identified osprey, great blue heron (as well as other shorebirds), alligator snapping turtle, Godfrey's golden **aster**, Carolina lilaeopsis, white-top pitcher plant, and narrow-leaved sundew. All are considered rare or endangered for Escambia County, Florida, by the Florida Natural Areas Inventory (Florida Natural **Areas** Inventory [**FNAI**], **1995**).

3.3.3 Site-Specific Setting

Site **18** is in a developed area and contains no **natural** or man-made plant and animal habitats. **The site is** surrounded by buildings or **paved** areas. **A few odd weeds grow** within the potentially impacted area. However, no **natural** or landscaped areas exist nearby which might attract birds or other **animals** to the site. The nearest **natural** habitat exists along the **Intercoastal** Waterway, approximately 1,000 south of the site, and in Pensacola Bay, about **1,500** feet **east/southeast**.

3.4 Area Climate

The Pensacola area **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** of **10** 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 a 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 **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 the sea-breeze effect, a daily **clockwise** rotation in the **surface** wind direction near the coast. Hurricanes and tornadoes *can* substantially damage the nearshore environment. Since 1980, eight hurricanes have passed within **50** miles of Pensacola, the most recent being Hurricanes **E M** and Opal in August and October 1995, respectively.

4.0 FIELD INVESTIGATION METHODS

The field investigation took place during September, 1995, in conjunction with preliminary work on other Category VI sites identified in the NAS Pensacola SMP (SOUTHNAVFACENGCOM, 1996). Work was performed in accordance with the Work Plan Work Plan for Sites 17, 18, and 28 (E&E 1992b), the Sampling and Analysis Plan (SAP) for Site 18 (E/A&H 1995a), the Final Comprehensive Sampling and Analysis Plan (CSAP) (E/A&H 1994a), and the USEPA Region IV Standard Operations Procedures and Quality Assurance Manual (1991). Field methods followed guidelines set forth in these documents. Where warranted by field conditions, deviations from the approved procedures were carried out and appropriately documented. The investigation was conducted to identify the presence of soil or groundwater contaminants onsite, comparing identified constituents to previously established preliminary remediation goals (PRGs). The intent was to identify the soil and groundwater parameters above PRGs, and their sources.

All samples were analyzed for the full Target Analyte List/Target Compound List (TAL/TCL) in accordance with the Contract Laboratory Program (CLP), to include inorganics, pesticides/PCBs, and semivolatile/volatile organic compounds. Additional samples were collected for Soil Physical Parameters (PPS), Water Physical Parameters (PPW), and grain size (GS) analyses. PPS included analyses for nitrate-n, total phosphorus, total kjeldahl nitrogen, total organic carbon, cation exchange capacity, and standard plate count. PPW included analyses for nitrate-n, total phosphorus, total kjeldahl nitrogen, hardness, alkalinity, total suspended solids, standard plate count, and chemical/biological oxygen demand.

4.1 Contaminant Source Survey

The site was surveyed preliminarily to determine the best possible placement of PCB immunoassay screening points, soil borings, and monitoring wells, based on current and historical knowledge of the site and surrounding areas.

Prior to the field investigation, a preliminary survey of the site was conducted to determine the best possible placement of PCB immunoassay screening points, soil borings, and monitoring wells, based on current and historical knowledge of the site and surrounding areas. Aerial photos were closely scrutinized to reveal changes in the site area over time. Surface features (i.e., storm drains, etc.) were noted to reveal potential pathways of contaminants both to and from the site. Current use of the area was noted.

Aerial photo analyses determined that surface features at Site 18 changed little between the 1960s and the present. Onsite examination identified no network of storm drains near the site which might serve as conduits for offsite contaminant transport. A UST site exists approximately 100 yards to the west.

4.2 Immunoassay Sampling

Table 4-1 details the soil immunoassay results. Figure 4-1 details the Site 18 PCB immunoassay screening locations. To focus the investigation, sampling was preceded by soil immunoassays for PCBs across a 40-foot by 40-foot grid at within the shelled area adjacent to the transformer substation. Surface soil samples were collected by hand auger from 0- to 1-foot below land surface (bls) at 20 foot intervals within this area. The immunoassays were conducted using a Millipore EnviroGuard PCB test kit/EnviroGuard Field Soil Lab combination, which allows parts per million (ppm) detection of Aroclor-1016, -1242, -1248, -1254, and -1260. Additional immunoassay samples were screened as necessary, based on the initial sampling. The results were used to determine well and soil boring placement for the investigation, with the concept being to place borings for CLP analyses in "hot" immunoassay locations.

Table 4-1
Site 18 PCB Immunoassay Screening Results

Screening Location	Estimated Concentration (ppm)*	Remarks
18-1	<1.0	
18-2	<1.0	
18-3	<1.0	
18-4	<1.0	
18-5	<1.0	
18-6	<1.0	
18-7	<1.0	
18-8	c 1.0	
18-9	3.0	Northwest corner of site area
18-10	0.0	Confirmatory screening around location 18-9
18-11	0.0	Confirmatory screening around location 18-9
18-12	0.0	Confirmatory screening around location 18-9

Notes:

Concentrations estimated by comparing sample spectrophotometer results to control samples.

Immunoassays conducted on 9/5/95.

* — parts per million

Immunoassay Results

The Immunoassay tests identified PCBs at approximately 3 ppm at screening point 18-9, (the northwest corner of the shelled parking area), soil borings specified in the site-specific SAP were moved to the central and northwest portions of the site. A monitoring well originally planned for the site's center was also moved to this area.

4.3 Soil Boring and Sampling Methodology

Table 4-2 outlines the Site 18 soil samples and analytical parameters. Figure 4-2 depicts the Site 18 soil boring and monitoring well locations. Eight soil samples, plus one duplicate sample were collected from four soil borings advanced during this investigation. Boring logs are presented in Appendix A. Hand-auger techniques were used as outlined in Section 4.4 of the CSAP. Surface samples were collected from the 0- to 1-foot interval, and subsurface samples were collected from the subsequent 3- to 5-foot interval. Since soil saturation occurred at about four feet on Site 18, no intervals were sampled below this level.

Phase II sampling

As a result of finding surface soil lead above the OSWER Interim Soil Lead Guidance at boring 18S04, three confirmatory borings (borings 18S09, 18S10, and 18S11) were advanced around this location to delineate the extent of this contamination. Surface soil samples were collected and submitted for lead analysis only.

4.4 Groundwater Monitoring

4.4.1 Monitoring Well Construction

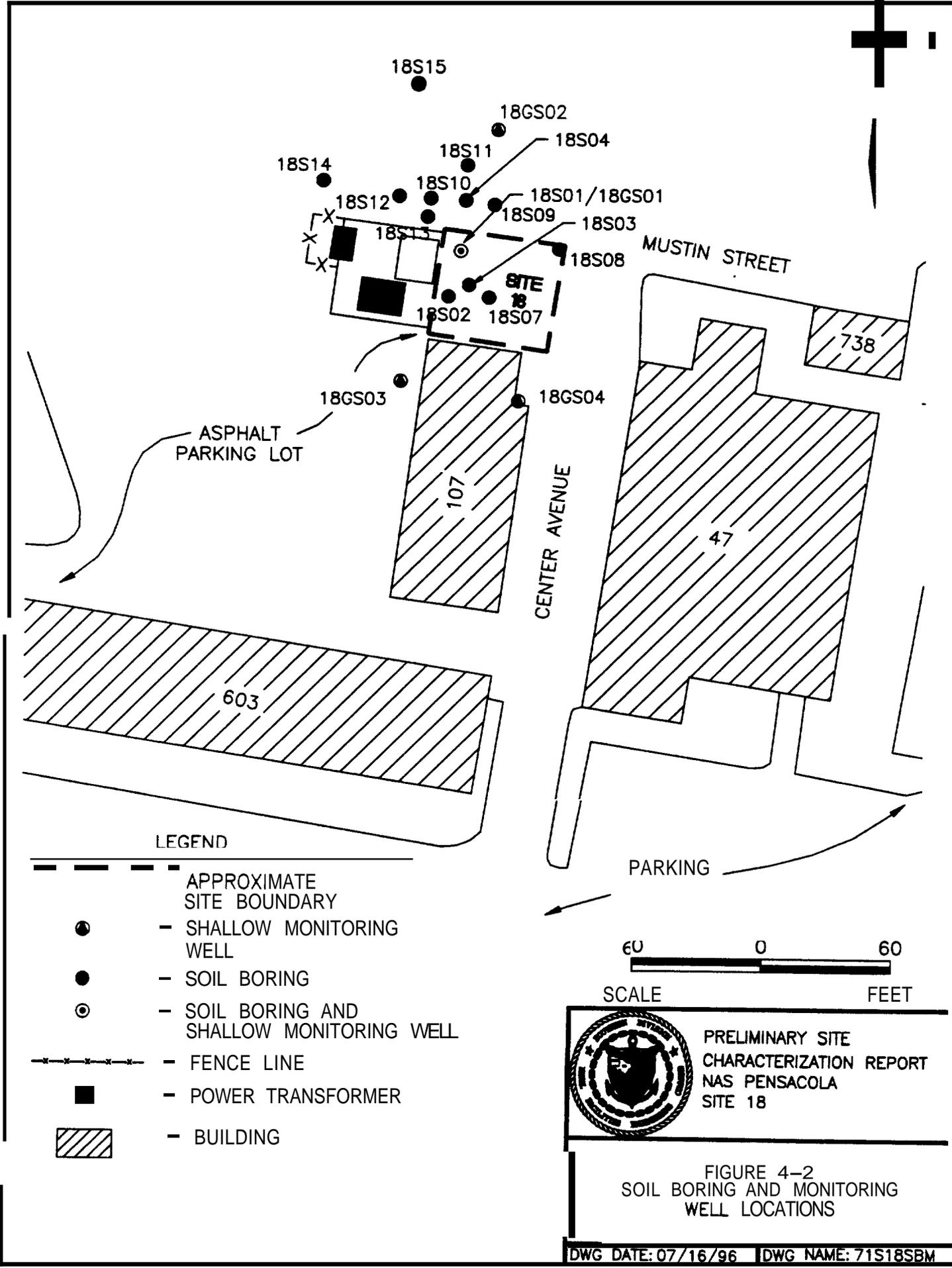
Table 4-3 lists the construction details for the Site 18 monitoring wells. Four permanent shallow monitoring wells were constructed on site in accordance with procedures outlined in Section 5.3 of the CSAP. These wells were constructed of flush-threaded, two-inch polyvinyl chloride well

Table 4-2
Site 18 Soil Samples and Analytical Parameters

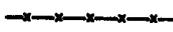
Boring Location	Sample Identifier	Sample Interval	Date Sampled	Analyses
18S01	018S000101	0-1 ft.	9/6/95	TAL/TCL
	018C000104	1-4 ft.		
18S02	018S000201	0-1 ft.	9/6/95	TAL/TCL
	018S000204			
18S03	018S000301	0-1 ft.	9/6/95	TAL/TCL
	018S000304	1-4 ft.		
18S04	018S000401	0-1 ft.	9/6/95	TAL/TCL
	018S000404			
	018C000404 ^a	1-4 ft.		
18S07	018S000704	0-4 ft.	9/11/95	PPS/GS
18S08	018S000804	0-4 ft.	9/11/95	PPS/GS
18S09	018S000901	0-1 ft.	3/14/96	Lead only.
18S10	018S001001	0-1 ft.	3/14/96	Lead only.
18S11	018S001101	0-1 ft.	3/14/96	Lead only.

Note:

a — duplicate sample



LEGEND

-  - APPROXIMATE SITE BOUNDARY
-  - SHALLOW MONITORING WELL
-  - SOIL BORING
-  - SOIL BORING AND SHALLOW MONITORING WELL
-  - FENCE LINE
-  - POWER TRANSFORMER
-  - BUILDING

SCALE 0 60 FEET



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FIGURE 4-2
 SOIL BORING AND MONITORING WELL LOCATIONS

DWG DATE: 07/16/96 | DWG NAME: 71S18SBM

Table 4-3
 Construction Details/Potentiometric Information
 Site 18 Monitoring Wells

Well Location	Land Surface Elevation	Top of Casing Elevation	Total Depth	Screened Interval	Depth to Water	Ground Water Elevation
18GS01	6.72	6.54	13.03	3.0-13.0	5.11	1.61
18GS02	6.57	6.53	12.75	2.75-12.75	4.97	1.60
18GS03	6.77	6.67	13.24	3.0-13.0	5.11	1.66
18GS04	6.54	6.35	13.41	3.0-13.0	5.07	1.47

Notes:

Land surface/top of casing/ground water elevations in feet/mean sea level
 Total depth/screened interval/depth to water in feet/below land surface
 The datum is mean sea level (North American Datum-89).
 Depths to water measured 11/20/95

casing terminating with a ten-foot length of 0.1 factory-slotted well screen. Boreholes were advanced deep enough for the screened interval to bracket the water table. Wells were completed flush to the ground with bolt-down cast-iron covers. Monitoring well construction logs are located in Appendix B.

4.4.2 Monitoring Well Development

Wells were developed in accordance with section 5.4 of the CSAP using a centrifugal pump. Wells were developed until water was clear of measured turbidity.

4.4.3 Groundwater Contamination Assessment Sampling

Table 4-4 lists details for the Site 18 ground water sampling. The "quiescent" vacuum/transfer groundwater sampling method was used as outlined in section 6.3 of the CSAP.

Table 4-4
 Site 18 Groundwater Samples and Analytical Parameters

Well Location	Sample Number	Analytical Parameters
18GS01	018GGS0101 018HGS0101*	TAL/TCL
18GS02	018GGS0201	TAL/TCL PPW
18GS03	018GGS0301	TAL/TCL PPW
18GS04	018GGS0401	TAL/TCL

Notes:

a — duplicate sample
 Wells sampled 9/18/95

4.5 Fieldwork and Sampling Protocols

Sample Handling and Management

Soil and groundwater samples were collected in accordance with the appropriate section of the CSAP. Clean plastic sheeting was placed at each sampling location to minimize the potential for contamination of samples. Clean latex gloves were donned each time a new sample was collected. Decontaminated sampling devices were kept wrapped until the samples were collected. Samples were managed in accordance with Chapter 12 of the CSAP. Labeling, preservation, packing, chain-of-custody, and shipping carefully followed procedures in that section.

Quality Assurance/Quality Control Samples

Quality Assurance/Quality Control (QA/QC) samples, including blanks, matrix spikes (MS), and matrix spike duplicates (MSD), were collected in accordance with Chapter 15 of the CSAP.

Sample Containers and Preservation

All laboratory-provided containers were precleaned and certified as specified in Chapter 12 of the *CSAP*.

Field Data

Auxiliary field data pertinent to the investigation were collected in accordance with Chapter 14 of the *CSAP*.

Decontamination

All exploration and sampling equipment used in the field investigation was decontaminated in accordance with Chapter 11 of the *CSAP*.

Investigation-Derived ~~Wastes~~

Wastes derived from the field investigation were handled in accordance with Chapter 13 of the *CSAP* and the *Investigation-Derived Waste Plan for NAS Pensacola* (E/A&H, 1994b).

4.6 Site Area Land Survey

The site immunoassay screening points, soil borings, and monitoring wells were surveyed by E/A&H personnel using Global Positioning System (GPS) surveying equipment, per Section 3.4 of the *CSAP*.

4.7 Site Area Hydrologic Investigation

A hydrologic investigation was conducted in accordance with Section 9.6 of the *CSAP*. Static water levels measured from each monitoring well were normalized to elevation data gathered during the GPS survey. These data were used to develop and analyze the piezometric surface across the site.

5.0 GEOLOGIC AND HYDROLOGIC RESULTS

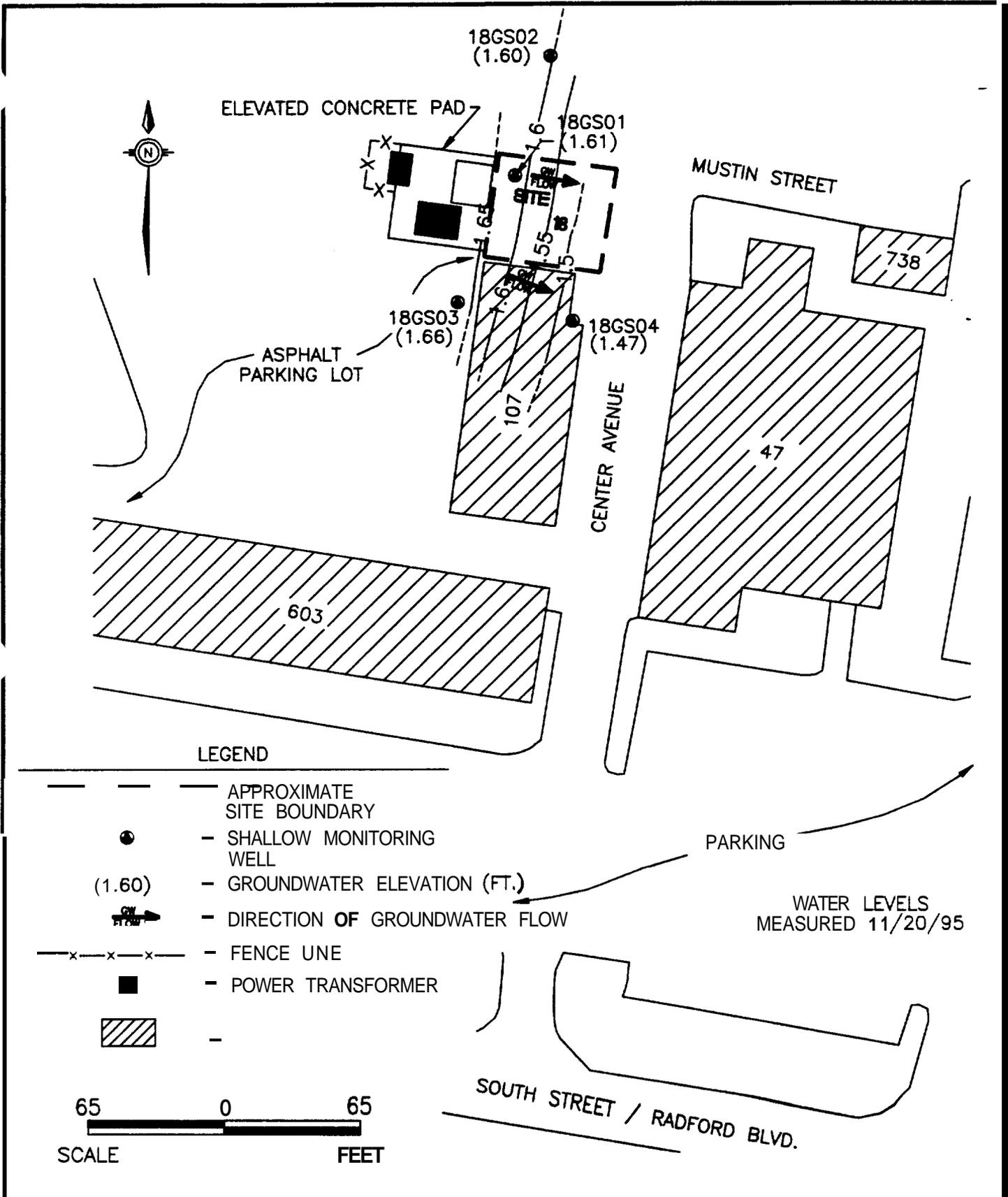
5.1 Site Hydrogeological Setting

The stratigraphy across the Site 18 area is consistent with previous NAS Pensacola studies. All borings were limited to the uppermost portion of the surficial zone of the Sand-and-Gravel Aquifer (see Appendix A). Surface soil consists of fill containing shell fragments and rock mixed with brown to tan, fine- to medium-grained quartz sand. Below the 1-foot level, a natural, buff white, fine- to medium-grained quartz sand is found. The water table occurs at about 4-feet bls. All borings were terminated at the water table; therefore, no information on deeper stratigraphy was collected. However, borings to the low permeability zone during the nearby Site 38 investigation indicated the presence of the clay layer between roughly 24- to 44-feet bls in this area of NAS Pensacola. The Site 38 investigation encountered a 2- to 12-foot transition zone at the bottom of the surficial zone of the Sand-and-Gravel Aquifer, grading downward from a poorly-sorted sand/silty-clay into a dense, dark greenish-gray lean clay. Clay thickness was estimated at 12- to 17-feet in thickness (E/A&H, 1994c).

5.2 Water Level Elevations and Piezometric Results

Figure 5-1 displays the shallow surficial piezometric surface for Site 18. Water levels were measured in the four site monitoring wells to define the piezometric surface for the site location. Groundwater elevations are listed in Section 4 of this report, along with other relevant monitoring well information. The groundwater elevation is roughly 1.6-feet msl at Site 18. Measurements generally indicate an east- to southeast-flow in the uppermost part of the surficial zone of the Sand-and-Gravel Aquifer in the site area. Groundwater generally flows toward the Intercoastal Waterway/Pensacola Bay.

Table 5-1 details the horizontal hydraulic gradient across the site. The horizontal hydraulic gradient appears to be a fairly Uniform gradient to the east. Piezometric data from shallow monitoring wells at NAS Pensacola's Operable Unit 10 and Site 13 indicated the geometric mean



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FIGURE 5-1
 SHALLOW SURFICIAL PIEZOMETRIC SURFACE

DWG DATE: 07/16/96 | DWG NAME: 71S18SSP

Table 5-1
Horizontal Hydraulic Gradient/Flow Velocity
Shallow Surficial Zone Groundwater
Site 18

Well Pair	Distance Between Wells (feet)	Difference Between Groundwater Elevations (feet)	Horizontal Hydraulic Gradient	Horizontal Flow Velocity (feet/day)
18GS03/18GS04	56.6	0.19	0.0034	0.5984

for hydraulic conductivity in the upper surficial zone was 44.0 ft./day (E/A&H, 1995). Given the proximity of these sites and the lithologic similarity, this information is extrapolative for use at Site 18. An effective porosity of 0.25 was estimated for unconsolidated sand from Heath (1989). These data were used to calculate groundwater flow velocities within the site area. Average groundwater velocity is calculated to be 0.5984 ft./day across the site.

6.0 NATURE AND EXTENT OF CONTAMINATION

The sampling approach, methods, and sample locations for this investigation were discussed in Sections 4.1 through 4.3 of this report. The analytical results were compared to the following general and site-specific PRGs.

soil

- Risk-based concentrations (RBCs)-soil ingestion scenario for residential soil (surface soils), and soil screening levels (SSLs)-transfer scenario from soil to groundwater (subsurface soils) (USEPA 1996a).
- e Selected Cleanup Goals (CGs)-residential scenario (surface soils)/leaching scenario (subsurface soils) (FDEP 1995 and 1996a).
- USEPA, Office of Solid Waste and Emergency Response (OSWER) draft revised Interim Soil Lead Guidance (USEPA 1988).
- Title 40 Code of Federal Regulations (CFR) Part 761.125 Requirements for PCB Spill Cleanup (1994b).
- e USEPA, Office of Solid Waste and Emergency Response *Soil Screening Guidance* (USEPA, 1994b).

Groundwater

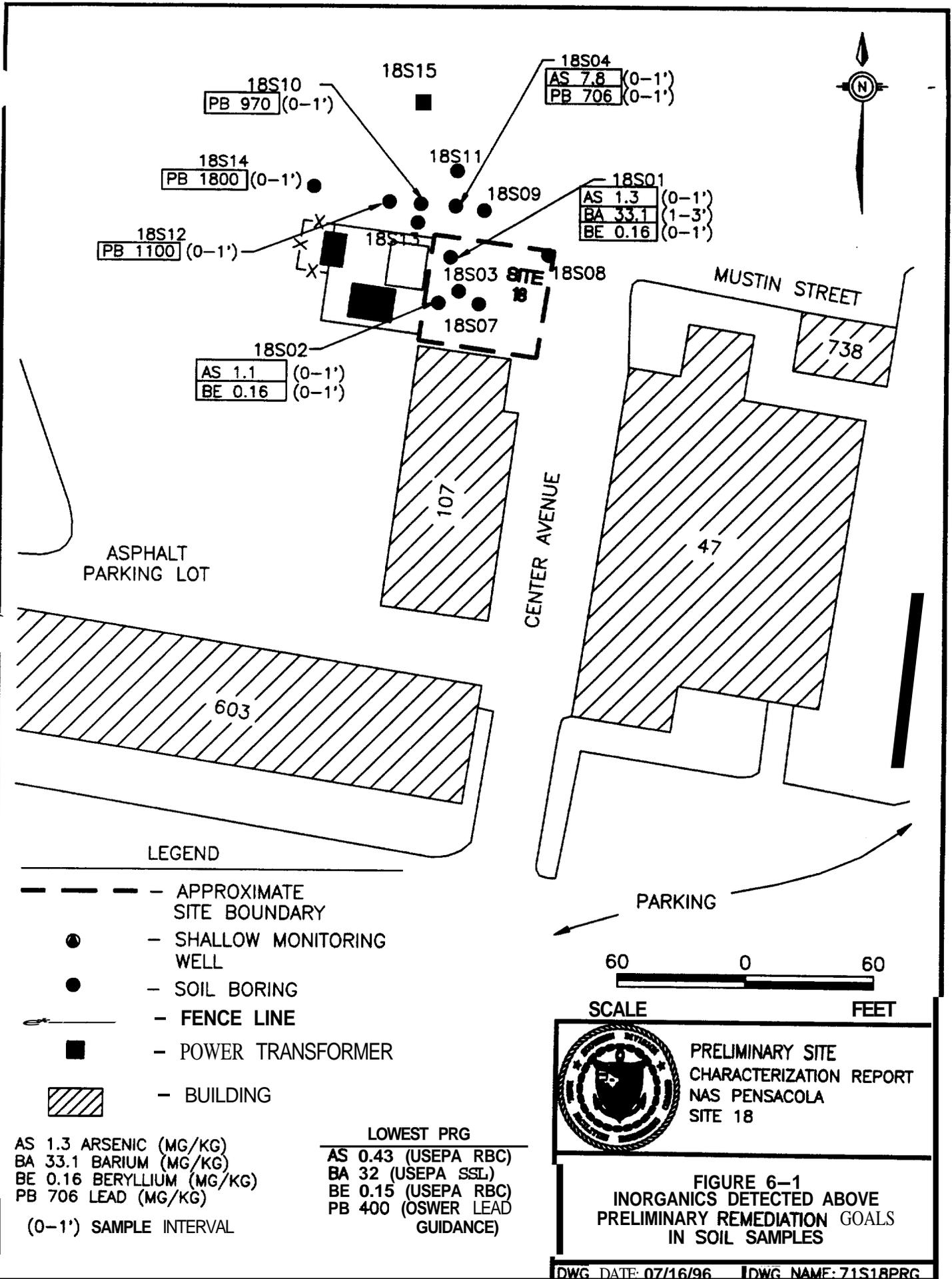
- USEPA Maximum Contaminant Levels and secondary Maximum Contaminant Levels (SMCLs) (USEPA 1996b).
- e Florida Primary/Secondary Drinking Water Standards (FPDWS/FSDWS) and Florida Groundwater Guidance Concentrations (FDEP 1994).

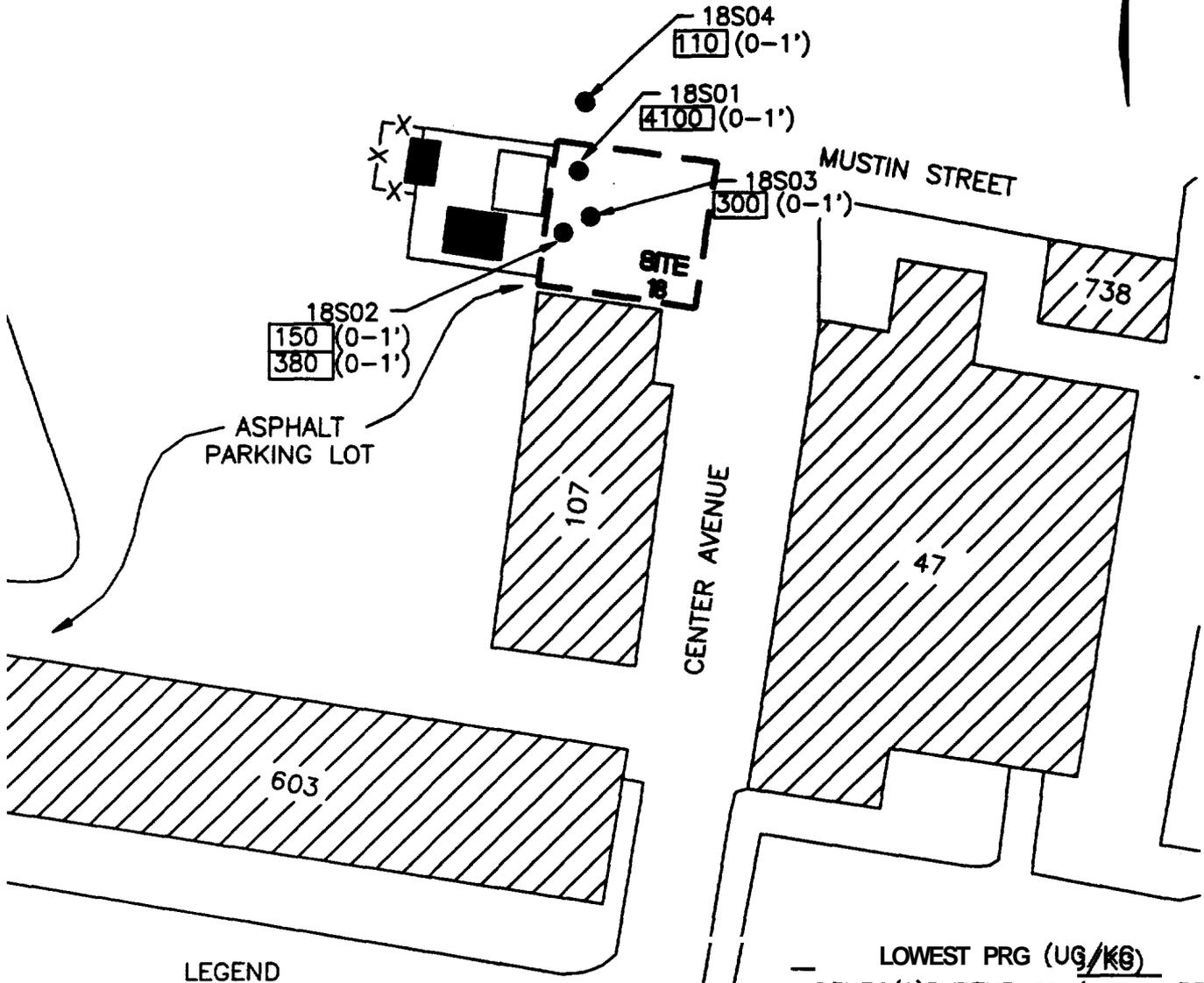
In addition to the soil and groundwater PRGs, inorganics results for both soil and groundwater were compared to NAS Pensacola-specific reference concentrations, developed by the Navy during the Site 1 investigation. These are equal to two times the detected mean for any given parameter (E/A&H 1996).

The soil and groundwater PRGs are listed in Appendix B. Sample values exceeding PRGs, to include a reference concentration comparison where applicable, are tabulated in Appendix C. A tabulated summary of validated analytical data is in Appendix D. Additionally, this section's maps illustrate the distribution of inorganic and organic soil and groundwater contamination referring to constituents exceeding PRGs within the area of investigation. These figures display the highest concentration between samples where applicable. For the soil contamination assessment, surface soil is defined as the interval 0 to 1 foot bls, while subsurface soil is defined as the interval from 1 foot bls to the water table.

6.1 Soil Contamination Assessment

Figures 6-1 and 6-2 diagram Site 18 inorganics and organics detected above PRGs in soil samples. Soil at Site 18 exhibited a number of parameters above respective PRGs. Metals in surface soils exceeding PRGs included arsenic, beryllium, and lead. Arsenic (1.3 to 7.8 milligrams per kilogram [mg/kg]) was present above the RBC and CG at borings 18S01, 18S02, and 18S04. Beryllium (0.16 mg/kg) above the RBC was also found at borings 18S01 and 18S02. Lead (706 to 1,800 mg/kg) above the OSWER interim guidance was present borings 18S04, 18S10, 18S12, and 18S14. Barium (33.1 mg/kg) above the SSL was found in subsurface soil from boring 18S01. A single polycyclic aromatic hydrocarbon (PAH) contaminant, benzo(a)pyrene, was found above the RBC and CG in surface soil samples from borings 18S02 (150 micrograms per kilogram [$\mu\text{g}/\text{kg}$]) and 18S04 (110 $\mu\text{g}/\text{kg}$). Surface soil Aroclor-1260 (300 to 4,100 $\mu\text{g}/\text{kg}$) exceeded PRGs at borings 18S01, 18S02 and 18S03.





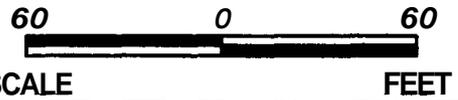
LEGEND

- APPROXIMATE SITE BOUNDARY
- SOIL BORING
- FENCE LINE
- POWER TRANSFORMER
- BUILDING

(0-1') SAMPLE INTERVAL

- 18S01 AROCLOR 1260 (UG/KG)
- 18S02 BENZO(A)PYRENE (UG/KG);
AROCLOR 12060 (UG/KG)
- 18S03 AROCLOR 1260 (UG/KG)
- 18S04 BENZO(A)PYRENE (UG/KG)

— **LOWEST PRG (UG/KG)**
 BENZO(A)PYRENE 88 (USEPA RBC)
 AROCLOR 1260 83 (USEPA RBC)



PRELIMINARY SITE
 CHARACTERIZATION REPORT
 NAS PENSACOLA
 SITE 18

FIGURE 6-2
ORGANICS DETECTED ABOVE
PRELIMINARY REMEDIATION GOALS
IN SOIL SAMPLES

6.2 Groundwater Contamination Assessment

Figure 6-3 maps inorganics detected in groundwater on Site 18 which exceeded PRGs. secondary standards for aluminum, iron, and manganese were exceeded in the Site 18 groundwater samples. Aluminum exceeded the SMCL at wells 18GS03 (78.7 micrograms per liter [$\mu\text{g/L}$]) and 18GS04 (183 $\mu\text{g/L}$). Iron (397 $\mu\text{g/L}$) exceeded the SMCL/FSDWS at well 18GS03, while manganese (85.5 $\mu\text{g/L}$) exceeded these standards at well 18GS02. No organics were present above PRGs in the Site 18 groundwater samples.

6.3 Summary and Conclusions

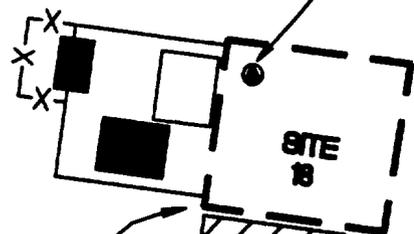
Arsenic and beryllium sporadically exceed the applicable PRGs in surface soils. Even though above PRGs, two of the three arsenic, as well as both beryllium surface soil exceedances, were below the respective NASP reference concentrations for these analytes. There was also localized subsurface barium above standards. The surface soil lead concentrations above the OSWER Interim Soil Lead Guidance were first found at boring 18S04 at 706 mg/kg. Confirmatory surface soil samples collected along a line extending approximately 50 feet to the west (borings 18S10, 18S12, and 18S14) revealed increasing lead concentrations (970 mg/kg, 1,100 mg/kg, and 1,800 mg/kg, respectively). Soil inorganics other than lead are considered delineated for the purposes of this investigation. Historical information indicates that the lead is not related to Site 18 activities. Notably, none of the contaminants exceeding PRGs in soils appeared above standards in site groundwater samples, indicating that no leaching of these parameters is occurring at Site 18.

Since boring 18S02 was located in a vehicle parking area, the surface soil PAH concentration at this location may have resulted from residual petroleum products dripped from parked vehicles. Located beneath an asphalt roadway, the surface soil PAH concentration at boring 18S04 may have come from either vehicle activity or the overlying asphalt. At any rate, the soil

18GS02
MN 85.5



18GS0



MUSTIN STREET

738

18GS03
AL 78.7
FE 397

18GS04
AL 183

ASPHALT
PARKING LOT

107

CENTER AVENUE

47

603

PARKING

60 0 60

SCALE FEET

LEGEND

- APPROXIMATE SITE BOUNDARY
- SHALLOW MONITORING WELL
- FENCE LINE
- POWER TRANSFORMER
- BUILDING

AL 78.7 ALUMINUM (UG/L)
 FE 397 IRON (UG/L)
 MN 85.5 MANGANESE (UG/L)

LOWEST PRG (UG/L)
 AL 50 (USEPA SMCL/FSDWS)
 FE 300 (USEPA SMCL/FSDWS)
 MN 50 (USEPA SMCL/FSDWS)



PRELIMINARY SITE
 CHARACTERIZATION REPORT
 NAS PENSACOLA
 SITE 18

FIGURE 6-3
 INORGANICS DETECTED ABOVE
 PRELIMINARY REMEDIATION GOALS
 IN GROUNDWATER SAMPLES

DWG DATE: 07/16/96 | DWG NAME 71S18IDA

PAH concentrations and their distribution do not indicate these to represent significant contamination. Of greater concern is the presence of PCBs above PRGs, which is further discussed below. Soil PAH contamination is considered delineated for the purposes of the PSC.

Surface soil PCBs were above standards at borings 18S01, 18S02, and 18S03. Boring 18S01 had the greatest concentration at 4,100 $\mu\text{g}/\text{kg}$, while lesser concentrations were noted at borings 18S02 (380 $\mu\text{g}/\text{kg}$) and 18S03 (300 $\mu\text{g}/\text{kg}$). Located north of the area containing PCBs, boring 18S04 was non-detect for Aroclor-1260 in surface soils. No TAL/TCL samples were collected south and east to further delineate the area of concern; however, immunoassay tests revealed PCBs under 1 ppm in these areas. An evaluation of the risks posed by these exceedances is included in the risk evaluation for the site (Section 9).

Aluminum, iron, and manganese exceeded secondary standards in shallow groundwater at Site 18. No organic parameters above PRGs were found in site groundwater samples.

7.0 DATA VALIDATION

Data validation is the systematic **and independent** verification of data quality, and is performed independent of the laboratory. It requires **defined** acceptable criteria to provide assurance that the data are **adequate** for the **intended** use. The certification process consists of data **screening**, checking, verification, **and** flagging. Field **and** analytical data **from the remedial** investigation of Site **18** were validated by **Hartland** Environmental Services. The **purpose** was to verify satisfaction of **QC requirements** for the Site **18** data **and** to characterize any questionable **findings**.

Nine soil and five groundwater samples were **collected** at Site **18** **from September 6** through **18, 1995**. Samples were **submitted** to Savannah Laboratories, Savannah, Georgia and were **reported** using NEESA Data Quality Objectives (**DQO**) Level **D** (USEPA **DQO** Level **IV**) protocols. **All** samples were received by the laboratory in **good condition** and with the proper custody documents and seals intact. The samples **were reported** in two sample delivery groups (**SDGs**): **ENP08** and **ENP13**. The analytical protocols were performed in accordance with the following guidance documents:

- USEPA Contract Laboratory Program, *Statement of Work (SOW) for Organic Analyses, OLM01.0 (CLP 3/90)* (USEPA, 1990a).
- USEPA Contract Laboratory Program, *SOW for Inorganic Analyses, ILM03.0 (CLP 3/90)* (USEPA, 1990b).
- USEPA, *Superfund Analytical Methods for Low Concentration Water for Organics Analysis (10/92)* (USEPA, 1992).

- NEESA Level D QA/QC guidelines as stated in: *Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation and Restoration Program (NEESA 20.2-047B) (NEESA, 1988)*.
- Data validation was performed in using the following documents: *USEPA CLP National Functional Guidelines for Organic Data Review, (Organic Functional Guidelines [OFGs]) (USEPA, 1991b)*, and *USEPA CLP National Functional Guidelines for Inorganic Data Review, (EPA-540/R-94/013) (Inorganic Functional Guidelines [IFGs]) (USEPA, 1994c)*.

7.1 Organic Analysis

7.1.1 Holding Times

All samples 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 analysis, sample holding times were within method and contractual requirements.

7.1.2 Calibration

All QC criteria for pesticide instrument performance and volatile and semivolatile gas chromatograph/mass spectrometer tuning were met in every SDG. Target compounds were outside calibration QC criteria in every SDG. However, QC deficiencies represented common laboratory practices, occurring at rates consistent with correctly calibrated instruments. Sample results were qualified for any calibration outliers per the OFGs.

7.1.3 Blanks

Blank results are used to determine the presence and magnitude of any contamination problems. Accordingly, a sample result should not be considered positive unless the concentration of the compound in the sample exceeds five times the amount in any associated blank. Acetone, methylene chloride, and a phthalate ester were detected in blanks associated with the samples collected at Site 18. These compounds are considered common laboratory artifacts and were

qualified as recommended by the OFGs. Since action levels (ten times the amount found in associated method blanks reflect the highest concentration of any laboratory artifact found in a blank, results for common laboratory artifacts were not reported unless these levels were exceeded.

The pesticide fraction of SDG ENP08 had some minor blank contamination. Endrin was reported in the method blank associated with this SDG. Since endrin is not considered a common laboratory artifact, an action level was set at five times the amount found in the blank. Associated sample results were qualified accordingly.

7.1.4 Matrix Spikes

The methods used to analyze environmental samples have variations in the reported resulting from 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. The MS and MSD are used to detect matrix effects caused by contaminants during sample analysis which interfere with the compounds of interest within the sample. All fractions of these SDGs met MS/MSD QC criteria.

7.1.5 Surrogates

Accuracy is the degree to which a given result agrees with the true value. To check the accuracy in a volatile, semivolatile, and pesticide 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 percent surrogate recoveries are close to the known concentrations as

defined within the limits set by the CLP, the reported target compound concentrations are assumed to be accurate.

The volatile and semivolatile fractions of both SDGs met all surrogate QC criteria. In the pesticide fraction of SDG ENP08, one sample was qualified due to non-compliant surrogate recovery.

7.1.6 Internal Standards

Gas chromatograph/mass spectrophotometer internal standards (IS) are added to samples to check the stability of the instrument's sensitivity and response during each analytical run. IS area counts for samples and blanks must not vary more than a factor of two (-50% to +100%) from the associated calibration standard. The semivolatile fraction of both SDGs met all internal standard QC criteria. One sample in each of the volatile SDGs was qualified due to low IS recoveries.

7.1.7 Field Duplicates

Duplicate samples indicate overall field and laboratory precision. A greater variance should be expected for soil sample duplicates compared to those for water due to the differences in matrix. In all cases, duplicate results were found to be within QC criteria.

7.2 Inorganic Analysis

7.2.1 Holding Times

All technical and contractual holding times were found to be within QC requirements.

7.2.2 Calibration

Initial and continuing calibrations were performed for the analysis of inorganics within the criteria established by the EPA CLP Inorganics SOW.

7.2.3 Blanks

As to be expected there was contamination in the blanks of both SDGs. Action levels were set for each affected element and sample results qualified per the IFGs.

7.2.4 Inductive Coupled Plasma Interference Check Sample Analysis

Inductive Coupled Plasma (ICP) analysis is performed to check the instrument and the background correction factors. An ICP analysis was performed for each SDG without any indication of interferences.

7.2.5 ICP Serial Dilutions

ICP serial dilutions assess the presence or absence of matrix interference. One sample from each set of similar matrix types is diluted by a factor of five. For analyte concentrations having a factor of at least 100 times the instrument detection limit, the measured concentrations of the undiluted sample and of the diluted sample should agree within 10 percent.

7.2.6 Laboratory Control Sample Analyses

The Laboratory Control Sample (LCS) analysis monitors efficiency of the overall performance in all steps of analysis, including the digestion procedures. LCS analyses and results were within QC requirements for every SDG.

7.2.7 Laboratory Duplicates/Spikes

Laboratory duplicate samples are used to determine the precision of analytical methods for each parameter. Laboratory spike samples are designed to provide information about the effects of the sample matrix on the digestion and measurement methodology. Both SDGs had all sample results qualified for analytes that did not meet the Laboratory Duplicate and Spike QC criteria.

7.2.8 Field Duplicates

In all cases, the duplicate results were found to be within QC criteria.

7.3 Completeness

Completeness is the percentage of **measurements** that are judged to be valid. All of the Site 17 samples analyzed were **determined to be** valid with some qualification, except for the results flagged "UR". All of the samples analyzed for the investigation of Site 18 were **determined to be** valid. Therefore, **the data met the 90% completeness goal.**

7.4 Comparability

Comparability is a qualitative parameter expressing **the confidence by which** one data set is compared to another. Comparability is **assured through the use** of established field sampling methods and by using specified by EPA laboratory protocols. All samples for Site 18 were collected using the EPA Region IV **standard operating** procedures and analyzed **according** to CLP SOW protocol.

7.5 Conclusion

The overall **data** quality of the analytical work done for Site 18 were considered to be satisfactory and usable for site remediation and **risk** assessment. **The Data Validation Reports** submitted by **Hartland** for Site 18 will be provided upon request or otherwise will become a part of the **NAS Pensacola Site 18 Final Report** Reference File.

8.0 FATE AND TRANSPORT

8.1 Sources of Detected Constituents

Parameters identified in site soil include metals, a high molecular weight PAH, and the PCB Aroclor-1260. Surface soil metals above PRGs included arsenic, beryllium, and lead. Subsurface barium above standards was also present. The PAH benzo(a)pyrene, along with the PCB Aroclor-1260 were also present above PRGs in surface soil.

8.2 Contaminant Migration

Leaching of Soil to Groundwater

Soil constituents may be leached to groundwater by downward percolation of rainwater. The absence of most analyzed-for parameters in groundwater indicates that the partitioning of components to groundwater is unsubstantial. Soil within the site area is very permeable, resulting in quick infiltration and minimal contact time between percolating water and soil above the water table. Leaching is also limited by the extensive impervious surfaces surrounding the site (asphalt pavement, buildings, the concrete substation pad), which limit percolation of precipitation by causing rain to runoff or pool and evaporate.

Site groundwater parameters above PRGs included aluminum, iron, and manganese. No organic constituents were found in site groundwater samples.

Surface Water Transport

Potential surface transport of constituents is limited over the site's center by the highly permeable soils. The impervious surfaces surrounding the site cause precipitation to pool and evaporate, or runoff, limiting its contact with potentially contaminated site soils. The contaminant source survey revealed no nearby storm drains which may conduct contaminated surface water away from the site.

Groundwater Transport

Groundwater flows to the southeast across Site 18 at an average calculated velocity of 0.370 ft./day. To the southeast, the Intercoastal Waterway of Pensacola Bay is about 1,075 feet from the site. *Assuming* advective transport only for groundwater PRG exceedances, equal to the rate of groundwater flow, travel time for constituents to the bay would be about 8 years. This very conservative determination does not account for dispersion or retardation of parameters while enroute toward the bay.

8.3 Current and Potential Receptors

The current and potential receptor for site PRG exceedances in groundwater is the Intercoastal Waterway and Pensacola Bay. No wetlands exist in the vicinity of Site 18. Potential impacts to the bay will be further addressed in the investigation for Site 42 — Pensacola Bay.

9.0 RISK THRESHOLD EVALUATION

Surface soil Aroclor-1260 concentrations at Site 18 exceeded PRGs at 3 soil borings (18S01, 18S02, and 18S03), located in western portion of the shelled parking area adjacent to Substation A. PCBs were not found elsewhere in the Site 18 area, as confirmed by immunoassay analyses, and TCL soil sample results. Because the site is a screening site, with only localized concentrations above PRGs, it was decided by Tier One agreement that a full baseline risk assessment was unnecessary for Site 18.

9.1 Area Weighted Analysis

Because a person would not be expected to spend all of his/her time onsite in exactly one spot, a simulation of potential PCB exposure was made based on the assumption of Uniform exposure to all surface soils within the investigative area. An estimate of the potential chronic Aroclor-1260 exposure concentration was calculated for Site 18 by computing the area weighted average concentration for the whole site. Accordingly, the site was divided by estimating the affected area around each soil boring where Aroclor-1260 was detected. The surface soil Aroclor-1260 concentrations reported at these locations were used to approximate the average concentration within each estimated affected subarea. No TCL soil samples were collected in the eastern portions of the site area to confirm the presence or absence of PCBs. However, several PCB immunoassay samples from this portion of the site were below detection limits. Accordingly, 1/2 the PCB immunoassay kit detection limit was used to approximate the average concentration in the unaffected subarea at Site 18.

The **area** weighted average was calculated **using** the following **equation**:

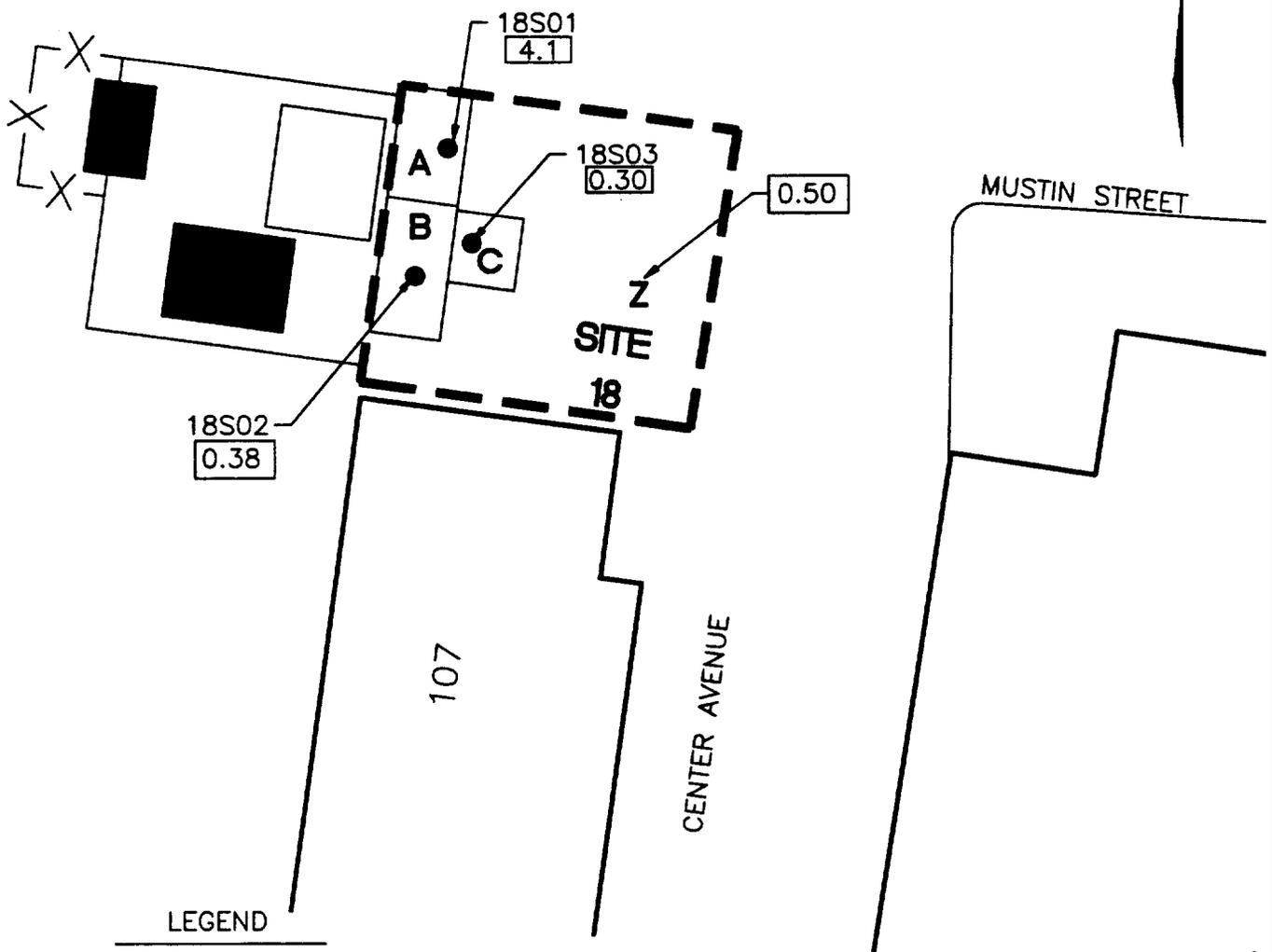
$$[T] = (A/T)([A]) + (B/T)([B]) + (C/T)([C]) \dots + \dots (Z/T)([Z])$$

where:

- **A, B, and C**, represent the subarea (ft.²) **affected** by each Aroclor-1260 concentration, estimated for each **boring** location where Aroclor-1260 was present.
- **Z** equals the total unaffected **area** of site (ft.²) where Aroclor-1260 was not detected.
- **T** equals the total **area** of the site (ft.²).
- **[A]**, **[B]**, and **[C]** depict the Aroclor-1260 **concentration** (mg/kg) per each **affected area**.
- **[Z]** represents Aroclor-1260 concentration (mg/kg) assumed for the **unaffected area** of the site. For Site 18, $\frac{1}{2}$ the **PCB** immunoassay kit detection **limit** (.50 mg/kg) was **used** for this comparison.
- **[T]** equals the area weighted average (mg/kg) for Aroclor-1260 for the site.

9.2 Discussion

Figure 9-1 diagrams the site apportionment used to compute the area weighted average Aroclor-1260 concentrations for Site 18. Table 9-1 details the values calculated for the Site 18 area weighted analysis. To obtain the total area weighted average for the site, area weighted concentrations calculated for both **affected** and **unaffected areas** were **summed**. This mean total value was compared to the most **stringent 40 CFR 761.125 standard**, which details **requirements** for **decontaminating PCB spills** in **non-restricted access (residential) areas** (USEPA, 1988), as



LEGEND

- APPROXIMATE SITE BOUNDARY
- SOIL BORING
- FENCE LINE
- POWER TRANSFORMER
- | |
|-----|
| 4.1 |
|-----|

 - AROCLOR 1260 (MG/KG); AREA A [A]
- | |
|------|
| 0.38 |
|------|

 - AROCLOR 1260 (MG/KG); AREA B [B]
- | |
|------|
| 0.30 |
|------|

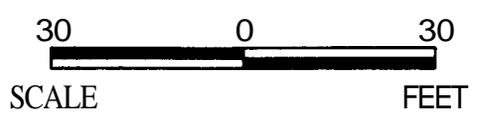
 - AROCLOR 1260 (MG/KG); AREA C [C]
- | |
|------|
| 0.50 |
|------|

 - AROCLOR 1260 (MG/KG); AREA Z [Z]

TOTAL AREA = 2,848 FT.²
 A = 229 FT.²
 B = 274 FT.²
 C = 137 FT.²
 Z = 2,208 FT²



SOIL BORINGS WITH DETECTED AROCLOR: 18S01, 18S02, 18S03



PRELIMINARY SITE CHARACTERIZATION REPORT
 SITE 18
 NAS PENSACOLA

FIGURE 9-1
 PCB THRESHOLD ANALYSIS DIAGRAM

DWG DATE: 07/17/96 | DWG NAME: 71S18PCB

Table 9-1
Site 18 Area Weighted
Analysis Values

Area Identifier	Ft. ²	Aroclor-1260 Concentration (mg/kg)	Area Weighted Concentration (mg/kg)	Remarks
A	274	4.10	0.394	Boring 18S01
B	229	0.38	0.034	Boring 18S02
C	137	0.30	0.014	Boring 18S03
Z	2,208	0.50	0.388	Unaffected Area
T	2,848	NA	0.827	Total Site Area

Note:
 NA = Not Applicable.

well as those spelled out in the USEPA *Soil Screening Guidance* (1994b). The first document outlines the Toxic Substance Control Act PCB decontamination requirement, which for residential scenarios states soil will be decontaminated to 10 mg/kg by weight, provided 10 inches are excavated and replaced with clean soil containing less than 1 mg/kg of PCBs. The second document states a surface soil PRG of 1 mg/kg for PCBs. These values are based on potential risk to human receptors.

The area weighted analysis results show the estimated weighted average (mean concentration) for the site as 0.827 mg/kg. This concentration is well below the USEPA action level for Aroclor-1260.

9.3 Conclusion

Although surface soil Aroclor-1260 was identified above PRGs at three locations-at Site 18 (borings 18S01, 18S02, and 18S03), using weighted averaging shows that the site overall is below required action levels under 40 CFR 761.125 and USEPA (1994b) guidance. Based on Tier One

agreement, consideration was also given to FDEP's concern for the **surface** soil **PCB detections** at borings 18S01, 18S02, and 18S03. The state does not accept weighted averaging of contamination. However, only a single sample exceeded the state's Residential SCG and only slightly exceeded the Industrial SCG. Consequently, the overall recommendation is **not** to remove the affected area, but to limit exposure through limiting the site's use to **industrial purposes**.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Historical records indicate that in 1966 or 1967, approximately **50 gallons** of transformer fluid containing PCBs spilled at Site 18. Initial assessments noted the unpaved parking area at the site had an oily appearance, and samples collected from the oily soil revealed PCBs at 4 ppm.

Consideration was given toward the use of the Site 18 area. Section 2 describes the site and its history. Section 4 discusses preliminary surveys and the aerial photo analyses that reveal the site has existed largely unchanged for more than 30 years. Given the longevity of site usage, analysis of risk assumes that Site 18 will remain an electrical substation into the future.

Stratigraphy across the site area is consistent with previous NAS Pensacola studies. Surface soil consists of fill containing shell fragments and rock mixed with brown to tan, fine- to medium-grained Quartz sand. Below the 1-foot level, a natural, buff white, fine- to medium-grained Quartz sand is found. The water table occurs at about 4 feet bls.

Arsenic and beryllium sporadically exceeded applicable PRGs in surface soils, along with an isolated barium concentration above standards in subsurface soils. Arsenic, beryllium and barium are considered delineated for the purposes of the PSC. These parameters did not appear above standards in site groundwater samples, indicating they are not leaching to groundwater.

Surface soil lead exceeding the OSWER Interim Lead Guidance was first noted north of the site at boring 18S04. Confirmatory surface soil samples collected along a line extending approximately 50 feet to the west (borings 18S10, 18S12, and 18S14) revealed increasing lead concentrations ranging from 970-1800 mg/kg. This area of lead contaminated surface soils is not likely associated with Site 18. Of note, groundwater inorganics analyses from the two site shallow monitoring wells bracketing this area revealed no detected lead. A recommendation is made to investigate the extent and source of lead contamination as a separate site.

Located in a vehicle parking area, the surface soil PAH concentration at boring 18S02 may have resulted from residual petroleum products dripped from parked automobiles. Situated beneath an asphalt roadway, the surface soil PAH concentration at boring 18S04 may have come from either vehicle activity or the overlying asphalt. At any rate, PAHs do not exceed the Industrial SCG. The presence of PCB contamination poses more concern and is addressed herein. Soil PAH contamination is considered delineated for the purposes of the PSC. No organic parameters above PRGs were found in site groundwater, therefore leaching of these constituents is of no concern at Site 18.

Aluminum, iron, and manganese above secondary drinking water standards was found throughout site shallow groundwater, consistent with the general quality of groundwater at NAS Pensacola and the Sand-and-Gravel aquifer in southern Escambia County. No other inorganic/organic parameters exceeded PRGs in site groundwater. It is improbable that the upper surficial zone will be tapped for potable use because of the availability of municipal water, the ambient levels of some metals, and the potential for salt water intrusion induced by pumping. Given that the upper surficial zone is affected, and is not used, nor anticipated to be used for drinking water, no remedial recommendation for secondary exceedances of aluminum, iron, or manganese is made.

▪

Aroclor-1260 was present above PRGs in surface soils at three borings in the northwest portion of Site 18. Because Site 18 is a screening site with only localized PCB concentrations above PRGs, it was decided that a full baseline risk assessment was unnecessary. Since a person would not be expected to spend all of his/her time onsite in exactly one spot, a simulation of potential PCB exposure was made based on the assumption of uniform exposure to all surface soils within the investigative area. An estimate of the potential chronic Aroclor-1260 exposure concentration was calculated for Site 18 by computing the area weighted average PCB concentration for the whole site. This threshold analysis showed that the area-weighted concentration was well below

the action level cited in USEPA's *Soil Screening Guidance* (1994b) for residential scenarios. It also falls below **40 CFR 761.125** requirements for decontaminating PCB spills in nonrestricted areas. Based on Tier One agreement, consideration was also given to FDEP's concern for the surface soil PCB exceedance at borings 18S01, 18S02, and 18S03. The **state does** not accept weighted averaging of contamination. A single sample exceeded the **State's Residential SCG** and only slightly exceeded the Industrial SCG. **A** removal action will be executed to remove the affected area, and no further recommendation is made to address this contamination.

With the exception of surface soil lead contamination, which will be investigated separately as a part of the Site **45** Preliminary Site Characterization, soil and groundwater contamination are considered delineated for the purposes of this investigation. Based on qualitative risk evaluation, further delineation and assessment within the Site 18 area is unwarranted. No further investigative action is recommended for this site.

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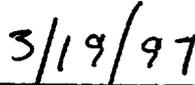
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12.0 FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have read and approve of this Preliminary Site Characterization Report, NAS Pensacola Site 18, 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, 1998



Brian E. Caldwell


Date

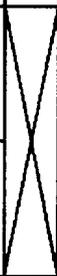
Appendix A

**Soil Boring/Monitoring well
Construction Logs**

EnSafe/Allen & Hoshall

Boring 18S01

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>S. Parker</i>
Started at <i>0930 on 9/8/95</i>	Surface Elevation:
Completed at <i>0950 on 9/8/95</i>	Depth to Groundwater: Measured
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>5 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-MSL)
			HA-1				SM	Surface Conditions: Oyster shell and road base mixed with brown silty sand to 1'bs.	5.5
			HA-2				SP	Tan to brown line to medium grained silty sand from 1-Ybh. At 2'bs an approximately 4 - 5 thkk dark gray oily stained hue appears, folowed by buff white fine to medium grained quartz sand with an abrupt contact between. Wet at 4.5'bs.	15
5									
10									

Notes:
HA = Hand Auger

Samples Collected:
018S000101
018S000103

EnSafe/Allen & Hoshall

Boring 18S02

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>S. Parker</i>
Started at <i>1000 on 9/8/95</i>	Surface Elevation:
Completed at <i>1015 on 9/8/95</i>	Depth to Groundwater: Measured
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>5 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)
			HA-1				SM	Surface Conditions: Shell fragments end rock mix, with brown to tan fine to medium graded silty sand to 1' bls.	5.8
			HA-2				SP	Natural buff white fine to medium grained quartz sand from 1-4' bls. Wet at 4' bls.	1.8
5									
10								Notes: HA = Hand Auger Samples Collected: 018S000201 018S000204	

EnSafe/Allen & Hoshall

Boring 18S03

Project: *Site 18*

Location: *NAS Pensacola*

Project No.: *0071-00030*

Geologist: *S. Parker*

Started at: *1025 on 8/8/95*

Surface Elevation:

Completed at: *1030 on 8/8/95*

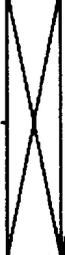
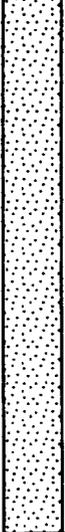
Depth to Groundwater: Measured

Drilling Method: *Hand Auger*

Groundwater Elevation: *feet msl*

Drilling Company: *N/A*

Total Depth: *5 feet*

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)
			HA-1				SM	Surface Conditions: Shell fragments and rock mix, with brown to tan fine to medium grained silty sand to 1' bls.	5.8
			HA-2				SP	Natural buff white fine to medium grained quartz sand from 1-4' bls. Wet at 4' bls.	1.8
5									
10									

Notes:
HA = Hand Auger

Samples Collected:
018S000301
018S000304

EnSafe/Allen & Hoshall

Boring 18S04

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>S. Parker</i>
Started at <i>1250 on 9/8/95</i>	Surface Elevation:
Completed at <i>1255 on 9/8/95</i>	Depth to Groundwater: Measured
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>5 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft- <i>msl</i>)
	X	▲	HA-1			[Pattern]	SM	Surface Conditions: Shell fragments and rock mix, with brown to tan fine to medium grained silty sand to 1' bls.	5.8
	X	▲	HA-2			[Pattern]	SP	Natural buff white fine to medium grained quartz sand from 1-4' bls. Wet at 4' bls.	4.8
5									
10									

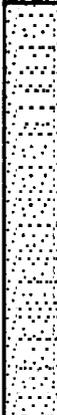
Notes:
 HA = Hand Auger

Samples Collected:
 018S000401
 018S000404
 018C000404 (Duplicate)

EnSafe/Allen & Hoshall

Boring 18S07

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>P. HARDY</i>
Started at <i>0830 on 9-11-95</i>	Surface Elevation:
Completed at <i>0850 on 9-11-95</i>	Depth to Groundwater: Measured
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>5 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PTD (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)
							SM	Surface Conditions: Shell fragments and rock mix, with brown to tan fine to medium grained silty sand to 1' bls.	5.7
			HA-1				SP	Natural buff white fine to medium grained quartz sand from 1-4' bls. Wet at 4.5' bls.	2.7
5									
10									

Notes:
 HA = Hand Auger
 Sample Collected:
018S000704
 Collected for physical parameters analyses only.

EnSafe/Allen & Hoshall

Boring 18S08

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>P. HARDY</i>
Started at <i>0930 on 9-11-95</i>	Surface Elevation:
Completed at <i>0950 on 9-11-95</i>	Depth to Groundwater: _____ Measured:
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>4 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	PIED (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-MSL)
						SM	Surface Conditions: Shell fragments and rock mix, with brown to tan fine to medium grained silty sand to f'bls.	5.7
			HA-1			SP	Natural buff white fine to medium grained quartz sand from 1-4'bls. Wet at 4.5'bls.	2.7
5								
10								

Notes:
HA = Hand Auger

Sample Collected:
018S000704
Collected for physical parameters analyses only.

EnSafe/Allen & Hoshall

Boring 18S09

Project: *Site B*

Location: *NAS Pensacola*

Project No.: *0071-00030*

Geologist: *P. HARDY*

Started at *0930 on 3-14-98*

Surface Elevation:

Completed at *0950 on 3-14-98*

Depth to Groundwater: Measured

Drilling Method: *Hand Auger*

Groundwater Elevation: *feet msf*

Drilling Company: *N/A*

Total Depth: *1 feet*

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msf)
	X	▲	HA-1				SM	Surface Conditions: Asphalt. 0" crushed oyster shell mixed with light tan fine to medium quartz sand. At 8"bs turns to red cbye sand road base.	5.8
5								Notes: HA = Hand Auger Sample Collected: 018S000801	

EnSafe/Allen & Hoshall

Boring 18S10

From Site 18	Location: <i>NAS Pensacola</i>
Project No: 007-00030	Geologist: <i>P. HARDY</i>
started at <i>0830 on 3-14-98</i>	Surface Elevation: _____
Completed at 0950 on 3-14-98	Depth to Groundwater: _____ <i>w e d</i>
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet ms</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>1 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PTD (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)
	X	▲	HA-1			■	SM	Surface Conditions: Asphalt. 8" crushed oyster shell mixed with light tan fine to medium quartz sand. At 8" b/s turns to red cbyey sand road base.	5.8
5									
10									

Notes:
 HA = Hand Auger
 Sample Collected:
 018S001001

EnSafe/Allen & Hoshall

Boring 18S11

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>P. HARDY</i>
Started at <i>1445 on 3-14-98</i>	Surface Elevation:
Completed at <i>1450 on 3-14-98</i>	Depth to Groundwater: Measured:
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>0.5 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft- <i>msl</i>)
	X	▲	HA-1			■		Surface Conditions: Asphalt. Hard packed sand and gravel below asphalt surface layer.	
5								Notes: HA = Hand Auger Unable to advance below 0' bls. Sample Collected: 018S001101	
10									

EnSafe/Allen & Hoshall

Boring 18S12

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>P. HARDY</i>
Started at <i>1038 on 4-05-98</i>	Surface Elevation:
Completed at <i>1043 on 4-05-98</i>	Depth to Groundwater: Measured
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>1 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PTD (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft- <i>msl</i>)
	X	▲	HA-1			■	SM	Surface Conditions: Asphalt. Shell fragments underlain by dark brown to gray sand.	5.8
5									
10									

Notes:
HA = Hand Auger

Sample Collected:
018S001301

EnSafe/Allen & Hoshall

Boring 18S13

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>P. HARDY</i>
Started at <i>1050 on 4-05-98</i>	Surface Elevation:
Completed at <i>1055 on 4-05-98</i>	Depth to Groundwater: Measured:
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>1 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-MSL)
	X	▲	HA-1				SM	Surface Conditions: Asphalt. 1" of shell fragments underlain by red sandy clay and dark brown lht to medium grained quartz sand.	5.8
5									
10									

Notes:
 HA = Hand Auger
 Sample Collected:
 018S001301

EnSafe/Allen & Hoshall

Boring 18S14

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>P. HARDY</i>
Started at <i>1055 on 4-25-98</i>	Surface Elevation:
Completed at <i>1100 on 4-25-98</i>	Depth to Groundwater: Measured:
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>1 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-MSL)
	X	▲	HA-1			■	SM	Surface Conditions: Asphalt. 3" crushed oyster shell underlain by brown to tan to gray/brown fine to medium grained quartz sand.	
5									
10								Notes: HA = Hand Auger Sample Collected: 018S001401	

EnSafe/Allen & Hoshall

Boring 18S15

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Geologist: <i>P. HARDY</i>
Started at <i>1100 on 4-25-98</i>	Surface Elevation:
Completed at <i>1110 on 4-25-98</i>	Depth to Groundwater: Measured
Drilling Method: <i>Hand Auger</i>	Groundwater Elevation: <i>feet msl</i>
Drilling Company: <i>N/A</i>	Total Depth: <i>0.5 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PTD (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)
	X	▲	HA-1				SM	<p>Surface Conditions: Asphalt. 4" red clayey line to medium grained quartz sand road base underlain by another asphalt layer.</p> <p>Notes: HA = Hand Auger Sampled sand overlying second asphalt layer; could not advance below 8" b/s.</p> <p>Sample Collected: 018S001501</p>	
5									
10									

EnSafe/Allen & Hoshall

Monitoring Well 18GS01

Project: *Site 18*

Location: *NAS Pensacola*

Project No.: *0071-00030*

Surface Elevation: *6.72 feet msl*

Started at *0830 on 9-7-95*

TOC Elevation: *6.54 feet msl*

Completed at *0900 on 9-7-95*

Depth to Groundwater: *5.13 feet*

Measured: *11-20-95*

Drilling Method: *Hand Stem Auger*

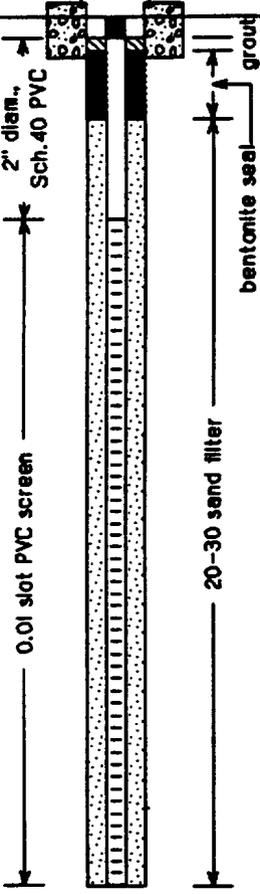
Groundwater Elevation: *1.59 feet msl*

Drilling Company: *G. Z. A. Drilling*

Total Depth: *13.03 feet*

Geologist: *S. Parker*

Well Screen: *3 to 13 feet*

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PTD (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)	WELL DIAGRAM	
										2" diam., Sch. 40 PVC	20-30 sand filter
					0		SM	Oyster shell and road base mixed with brown silty sand to 1' b/s.	5.7		grout
5							SP	Grayish brown to gray medium grained well sorted sand 1-5' b/s, becoming light gray with shell fragments present from 5-13' b/s. Water level at 4.5' b/s.		0.01 slot PVC screen	bentonite seal
10											
15									8.3		
20								Notes: Sample Collected: 018GGS0101 018HGS0101 (Duplicate)			

EnSafe/Allen & Hoshall

Monitoring Well 18GS02

Project: *Site 18*

Location: *NAS Pensacola*

Project No.: *0071-00030*

Surface Elevation: *0.57 feet msl*

Started at *1105 on 9-8-95*

TOC Elevation: *0.53 feet msl*

Completed at *1300 on 9-8-95*

Depth to Groundwater: *4.97 feet*

Measured *11-20-95*

Drilling Method: *Hand Stem Auger*

Groundwater Elevation: *18 feet msl*

Drilling Company: *G. Z. A. Drilling*

Total Depth: *12.75 feet*

Geologist: *J. Luncford*

Well Screen: *2.75 to 12.75 feet*

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PTD (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)	WELL DIAGRAM	
										2" diam. Sch. 40 PVC	0.01 slot PVC screen
0							SM	Surface Conditions: Asphalt pavement. Tan to reddish brown silty sand fill with old brick fragments from 0-4' b/s.	28		grout
5					5		SP	Light tan to buff white line to medium grained quartz sand iron 4-13' b/s. Water level at 4.97' b/s.	02		20-30 sand filter
15								Notes: Sample Collected: 018GGS0201			
20											

EnSafe/Allen & Hoshall

Monitoring Well 18GS03

Project: *Site 18*

Location: *NAS Pensacola*

Project No.: *0071-00030*

Surface Elevation: *6.77 feet msl*

Started at *13:20 on 9-8-95*

TOC Elevation: *6.67 feet msl*

Completed at *13:45 on 9-8-95*

Depth to Groundwater: *5.11 feet*

Measured *11-20-95*

Drilling Method: *Hand Stem Auger*

Groundwater Elevation: *1.66 feet msl*

Drilling Company: *G. Z. A. Drilling*

Total Depth: *13.24 feet*

Geologist: *S. Parker*

Well Screen: *3 to 13 feet*

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PTD (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)	WELL DIAGRAM
					0		SP	<p>Surface Conditions: Asphalt and shell base to 1' b/s.</p> <p>Grayish brown medium grained slightly silty sand from 1-5' b/s. Light gray well sorted sand with a few shell fragments, and 1-3% heavier material Iron 5'-13' b/s. Water level at 5.1' b/s.</p>	6.5	<p>2" diam., Sch. 40 PVC</p> <p>0.01 slot PVC screen</p> <p>20-30 sand filter</p> <p>bentonite seal</p>
5										
10										
15								Notes:		
								Sample Collected: 018GGS0301		
20										

EnSafe/Allen & Hoshall

Monitoring Well 18GS04

Project: <i>Site 18</i>	Location: <i>NAS Pensacola</i>
Project No.: <i>0071-00030</i>	Surface Elevation: <i>8.55 feet msl</i>
Started at <i>1015 on 9-8-95</i>	TOC Elevation: <i>8.33 feet msl</i>
Completed at <i>1100 on 9-8-95</i>	Depth to Groundwater: <i>5.10 feet</i> Measured: <i>11-20-95</i>
Drilling Method: <i>Hollow Stem Auger</i>	Groundwater Elevation: <i>145 feet msl</i>
Drilling Company: <i>G. Z. A. Drilling</i>	Total Depth: <i>13.41 feet</i>
Geologist: <i>J. Lunceford</i>	Well Screen: <i>3 to 13 feet</i>

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PII (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)	WELL DIAGRAM
					0		SP	Surface Conditions: Asphalt with underlying concrete. Light gray line to medium graded well sorted quartz sand with minor date roofing debris to 4'bis.	2.5	
5							SP	Light gray to buff white line to medium grained quartz sand from 4-13'bis. Water level at 5'bis.	8.8	
10								Notes: Sample Collected: 018GGS0401		
15										
20										

Appendix B
Preliminary Remediation Goals

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Inorganics (ug/kg)						
7429-90-5	Aluminum (Al) ^N	7,800	NA	75,000	NA	3,833.36
7440-36-0	Antimony (Sb) ^N	3.1	NA	26	WA	9.49
7440-38-2	Arsenic (As) ^C	0.43	15	0.7	MA	1.56
7440-39-3	Barium (Ba) ^N	550	32	5,200	NA	4.63
7440-41-7	Beryllium (Be) ^C	0.15	180	0.2	NA	0.41
7440-42-8	Boron ^N	700	NA	7,000	NA	MA
7440-43-9	Cadmium (Cd) ^N	3.9	6	37	NA	1
7440-70-2	Calcium (Ca)	NA	NA	NA	MA	912.37
7440-47-3	Chromium (Cr) ^N	7,800	NA	66,000	NA	6.13
18540-29-9	Chromium (Hexavalent) ^N	39	19	290	NA	NA
7440-48-4	Cobalt (Co) ^N	470	NA	4,700	NA	1.87
7440-50-8	Copper (Cu) ^N	310	NA	NA	NA	5.74
57-12-5	Cyanide (CN) ^N	160	NA	1,600	NA	0.52
7439-W-6	Iron (Fe) ^N	2,300	NA	NA	NA	2,745
7439-92-1	Lead (Pb) ^C	400	NA	500	NA	7.32
7439-95-4	Magnesium (Mg)	NA	NA	NA	NA	133.33
7439-96-5	Manganese (Mn) ^N	180	NA	370	NA	21.36
7439-97-6	Mercury (Hg) ^N	23	3	23	NA	0.1
7439-98-7	Molybdenum (Mo) ^N	39	NA	390	MA	NA
7440-02-0	Nickel (Ni) ^N	160	2L	1,500	MA	6.38

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Preliminary Remediation Goals (PRGs)
for Soil Contaminants

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CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	MASP Reference Concentration
Inorganics (mg/kg)						
7440-09-7	Potassium (K) ^N	NA	NA	NA	NA	460.67
7782-49-2	Selenium (Se) ^N	39	3	390	NA	0.62
7440-22-4	Silver (Ag) ^I	39	NA	390	NA	2.07
7440-23-5	Sodium (Na) ^N	NA	NA	NA	NA	107.85
7440-24-6	Strontium ^N	4,700	NA	47,000	NA	NA
7440-28-0	Thallium (Tl) ^N	0.63	0.4	NA	NA	0.82
7440-31-5	Tin (Sn) ^N	4,700	NA		NA	NA
7440-62-2	Vanadium (V) ^N	55	NA	490	NA	5.83
7440-66-6	Zinc (Zn) ^N	2,300	42,000	23,000	M	16.87

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Pesticides (µg/kg)						
93-76-5	2,4,5-T ^N	78,000	NA	NA	NA	NA
93-72-1	2,4,5-TP (Silvex) ^M	63,000	NA	NA	NA	NA
94-75-7	2,4-D ^N	78,000	1,700	NA	NA	NA
94-82-6	2,4-DB ^N		NA	NA	NA	NA
72-54-8	4,4'-DDD ^C	2,700	700	4,500	200	NA
72-55-9	4,4'-DDE ^C	1,900	500	3,000	200	NA
50-29-3	4,4'-DDT ^C	1,900	1,000	3,100	500	NA
309-00-2	Aldrin ^C	38	5	60	50	NA
12674-11-2	Aralor-1016 ^M	550	NA	NA	NA	NA
11104-28-2	Aroclor-1221 ^C	83	NA	900	44,000	NA
11141-16-5	Amlor-1232 ^C	83	NA	900	44,000	NA
53469-21-9	Amlor-1242	a3	NA	900	44,000	NA
12672-29-6	Aroclor-1248	83	W	900	44,000	NA
11097-69-1	Aroclor-1254	83	NA	900	44,000	NA
11096-82-5	Aroclor-1260	83	NA	900	44,000	NA
57-74-9	Chlordane	490	2,000	800	2,100	NA
510-15-6	Chlorobenzilate ^C	2,400	NA	NA	NA	NA
2303-16-4	Diallate	10,000	NA	NA	NA	NA
60-57-1	Dieldrin	40	1	70	20	NA
		1,600				

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	MASP Reference Concentration
88-85-7 88-85-7	Dinoseb ^N	7,800	NA	43,000	400	NA
298-04-4	Disulfoton ^N	310	NA	2,800	10	NA
959-98-8	Endosulfan I ^W	47,000	3,000	390,000	700	NA
33213-65-9	Endosulfan II ^N	47,000	3,000	390,000	700	NA
1031-07-8	Endosulfan sulfate ^N	47,000	3,000	390,000	700	NA
72-20-8	Endrin ^N	2,300	400	23,000	400	NA
7421-93-4	Endrin aldehyde ^N	2,300	400	23,000	50	NA
53494-70-5	Endrin ketone ^N	2,300	400	23,000	400	NA
52-85-7	Famphur	NA	NA	NA	NA	NA
76-44-8	Heptachlor ^C	140	60	200	60	NA
1024-57-8	Heptachlor epoxide ^C	To	30	100	30	NA
465-73-6	Isodrin ^P	NA	HA	NA	NA	NA
143-50-0	Kepone ^C	35	NA	NA	NA	NA
72-43-5	Methoxychlor ^N	39,000	62,000	380,000	62,000	NA
298-00-0	Methyl parathion ^N	2,000	41	19,000	100	NA
126-68-1	O,O,O-Triethylphosphorothioate	NA	NA	NA	NA	NA
56-38-2	Parathion ^N	47,000	3,900	450,000	3,900	NA
298-02-2	Phorate ^N	1,600	NA	14,000	50	NA
3689-24-5	Sulfotep ^N	3,900	NA	NA	NA	NA
297-97-2	Thionazin	NA	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Pesticides (µg/kg)						
8001-35-2	Toxaphene ^C	580	40	900	40	NA
319-84-6	alpha-BHC ^C	100	0.4	200	2	NA
5103-71-9	alpha-Chlordane ^C	490	2,000	800	2,100	NA
319-85-7	beta-BHC ^C	350	2	600	5	NA
319-86-8	delta-BHC ^C	NA	NA	23,000	7	NA
58-89-9	gamma-BHC (Lindane) ^C	490	6	800	6	NA
5103-74-2	gamma-Chlordane ^C	490	2,000	800	2,100	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	MASP Reference Concentration
Semivolatiles (µg/kg)						
634-66-2	1,2,3,4-Tetrachlorobenzene ^N	2,300	690	NA	NA	NA
634-90-2	1,2,3,5-Tetrachlorobenzene ^N	2,300	690	NA	NA	NA
87-61-6	1,2,3-Trichlorobenzene ^N	78,000	2,000	NA	NA	NA
95-94-3	1,2,4,5-Tetrachlorobenzene ^N	2,300	690	NA	NA	NA
120-82-1	1,2,4-Trichlorobenzene ^N	78,000	2,000	590,000	2,300	NA
95-50-1	1,2-Dichlorobenzene ^N	700,000	6,000	820,000	5,800	NA
122-66-7	1,2-Diphenylhydrazine ^C	800	NA	NA	NA	NA
108-70-3	1,3,5-Trichlorobenzene ^N	78,000	2,000	590,000	2,300	NA
99-35-4	1,3,5-Trinitrobenzene ^N	390	NA	NA	NA	NA
541-73-1	1,3-Dichlorobenzene ^N	700,000	NA	1,700,000	400	NA
99-65-0	1,3-Dinitrobenzene ^N	780	NA	NA	NA	NA
106-46-7	1,4-Dichlorobenzene ^C	27,000	1,000	7,500	900	NA
130-15-4	1,4-Naphthoquinone	NA	NA	NA	NA	NA
90-13-1	1-Chloronaphthalene ^N	630,000	140,000	560,000	57,000	NA
90-12-0	1-Methyl naphthalene ^N	NA	NA	930,000	NA	NA
134-32-7	1-Naphthylamine	NA	NA	NA	NA	NA
108-60-1	2,2'-oxybis(1-Chloropropane)	NA	NA	NA	NA	NA
58-90-2	2,3,4,6-Tetrachlorophenol ^N	230,000	NA	NA	NA	NA
95-95-4	2,4,5-Trichlorophenol ^N	780,000	120,000	7,100,000	100	NA
88-06-2	2,4,6-Trichlorophenol ^C	58,000	60	87,000	80	NA

CAS #	Parameter	USEPA -	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Semivolatiles (µg/kg)						
120-83-2	2,4-Dichlorophenol ^N	23,000	500	220,000	20	NA
105-67-9	2,4-Dimethylphenol	160,000	3,000	1,200,000	1,800	NA
51-28-5	2,4-Dinitrophenol ^N	16,000	100	NA	NA	MA
121-14-2	2,4-Dinitrotoluene	16,000	200	130,000	0.6	MA
87-65-0	2,6-Dichlorophenol	23,000	500	220,000	20	NA
606-20-2	2,6-Dinitrotoluene	7,800	100	71,000	0.6	NA
91-58-7	2-Chloronaphthalene ^R	630,000	140,000	560,000	57,000	NA
95-57-8	2-Chlorophenol ^M	39,000	2,000	280,000	300	NA
99-55-8	2-Methyl-5-nitroaniline	19,000	NA	NA	NA	NA
95-53-4	2-Methylaniline	2,	NA	NA	NA	NA
636-21-5	2-Methylaniline hydrochloride	3,500	NA	NA	NA	NA
91-57-6	2-Methylnaphthalene	NA	NA	960,000	NA	NA
95-48-7	2-Methylphenol (o-Cresol)	390,000	6,000	2,600,000	1,100	NA
91-59-8	2-Naphthylamine	4.9	NA	NA	NA	NA
88-74-4	2-Nitroaniline	470	NA	4,000	20	NA
88-75-5	2-nitro-1-	480	NA	NA	NA	NA
109-06-8	2-Picoline	NA	NA	NA	NA	NA
91-94-1	3,3'-Dichlorobenzidine	1,400	10	NA	NA	NA
119-90-4	3,3'-Dimethoxybenzidine	46,000	NA	NA	NA	NA
119-93-7	3,3-Dimethylbenzidine ^C	69	0.39	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Semivolatiles (µg/kg)						
56-49-5	3-Methylcholanthrene	NA	NA	NA	NA	NA
108-39-4	3-Methylphenol (m-Cresol) ^N	390,000	NA	3,400,000	4,200	NA
99-09-2	3-Nitroaniline ^N	23,000	NA	NA	NA	NA
101-14-4	4,4'-Methylene bis(2-chloroaniline) ^C	4,900	NA	NA	MA	NA
534-52-1	4,6-Dinitro-2-methylphenol	NA	NA	NA	MA	NA
92-67-1	4-Aminobiphenyl	NA	NA	NA	NA	NA
101-55-3	4-Bromophenyl-phenylether ^N	450,000	NA	NA	MA	NA
59-50-7	4-Chloro-3-methylphenol	NA	NA	140,000,000	42,000	NA
106-47-8	4-Chloroaniline ^N	31,000	300	240,000	80	NA
7005-72-3	4-Chlorophenyl-phenylether	NA	NA	NA	NA	NA
106-44-5	4-Methylphenol (p-Cresol) ^N	39,000	NA	340,000	400	NA
100-01-6	4-Nitroaniline ^N	23,000	NA	230,000	NA	NA
100-02-7	4-Nitrophenol ^N	480,000	NA	NA	NA	NA
56-57-5	4-Nitroquinoline 1-oxide	NA	NA	NA	MA	NA
57-97-6	7,12-Dimethylbenz(a)anthracene ^C	NA	NA	NA	NA	NA
83-32-9	Acenaphthene ^N	470,000	200,000	2,800,000	2,000	NA
208-96-8	Acenaphthylene ^N	470,000	200,000	670,000	11,000	NA
53-96-3	Acetamidofluorene	NA	NA	NA	NA	NA
98-86-2	Acetophenone ^N	780,000	NA	NA	NA	NA
62-53-3	Aniline ^C	110,000	31	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Semivolatiles (µg/kg)						
120-12-7	Anthracene ^W	2,300,000	4,300,000	20,000,000	890,000	NA
140-57-8	Aramite ^C	26,000	MA	NA	NA	NA
103-33-3	Azobenzene ^C	5,800	MA	WA	an	NA
98-87-3	Benzal chloride	NA	MA	MA	MA	NA
92-87-5	Benzidine ^C	2.8	0.0011	NA	NA	NA
56-55-3	Benzo(a)anthracene ^C	880	700	1,400	29,000	NA
50-32-8	Benzo(a)pyrene ^C	88	4,000	100	3,700	NA
205-99-2	Benzo(b)fluoranthene ^C	880	4,000	1,400	71,000	NA
191-24-2	Benzo(g,h,i)perylene ^N	230,000	1,400,000	14,000	320,000	NA
207-08-9	Benzo(k)fluoranthene ^C	8,800	4,000	14,000	44,000	NA
65-85-0	Benzoic acid ^N	31,000,000		130,000,000	56,000	NA
98-07-7	Benzotrichloride ^C	49	0.073	NA	NA	NA
100-51-6	Benzyl alcohol ^N	2,300,000	NA	NA	NA	NA
39638-32-9	Bis(2-Chloroisopropyl)Ether ^C	9,100	NA	NA	NA	NA
85-68-7	Butylbenzylphthalate ^N	1,600,000	68,000	15,000,000		NA
86-74-8	Carbazole ^C	32,000	500	42,000	400	NA
218-01-9	Chrysene ^C	88,000	1,000	140,000	31,000	NA
6055-19-2	Cyclophosphamide	NA	NA	NA	NA	NA
84-74-2	Di-n-butylphthalate ^N	780,000	120,000	7,300,000	23,000	NA
117-84-0	Di-n-octyl phthalate ^N	160,000	1,000,000,000	1,500,000	an	NA

CAS #	Parameter	USEPA -	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	MASP Concentration
53-70-3	Dibenz(a,h)anthracene ^C	88	11,000	100	7,200	NA
224-42-0	Dibenzo(a,j)acridine	NA	MA	MA	MA	WA
132-64-9	Dibenzofuran ^N	31,000	120,000	240,000	MA	NA
84-66-2	Diethylphthalate ^N	6,300,000	110,000	56,000,000	20,000	NA
131-11-3	Dimethyl phthalate ^N	78,000,000	1,200,000	630,000,000	200,000	NA
122-39-4	Diphenylamine ^N	200,000	MA	MA	MA	NA
97-63-2	Ethyl methacrylate ^N	700,000	MA	NA	MA	NA
62-50-0	Ethyl methanesulfonate	NA	MA	NA	NA	NA
206-44-0	Fluoranthene ^N	310,000	980,000	2,900,000	280,000	NA
86-73-7	Fluorene ^N	310,000	160,000	2,400,000	45,000	NA
118-74-1	Hexachlorobenzene ^C	400	800	600	800	NA
87-68-3	Hexachlorobutadiene ^C	8,200	100	3,100	2,100	NA
77-47-4	Hexachlorocyclopentadiene ^N	55,000	10,000	NA	NA	NA
67-72-1	Hexachloroethane ^C	46,000	200	27,000	400	NA
70-30-4	Hexachlorophene ^N	2,300	NA	NA	NA	NA
1888-71-7	Hexachloropropene	MA	NA	NA	NA	NA
193-39-5	Indeno(1,2,3-cd)pyrene ^C	880	35,000	1,400	17,000	NA
78-59-1	Isophorone ^C	670,000	200	NA	NA	NA
120-58-1	Isosafrole	NA	MA	NA	NA	NA
91-80-5	Methapyrilene	NA	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	MASP Reference Concentration
Semivolatiles (µg/kg)						
80-62-6	Methyl methacrylate ^N	630,000	NA	NA	NA	NA
66-27-3	Methyl methanesulfonate	NA	NA	NA	HA	NA
10595-95-6	W-Witroso-N-methylethylamine ^C	29	NA	NA	NA	VA
621-64-7	N-Nitroso-di-n-propylamine ^C	91	0.02	20	9	NA
924-16-3	N-Nitrosodi-n-butylamine ^C	120	NA	NA	NA	NA
55-18-5	W-Witrosodiethylamine ^C	4.3	NA	NA	HA	NA
62-75-9	N-Nitrosodimethylamine ^C	13	NA	3	20	VA
86-30-6	N-Nitrosodiphenylamine ^C	130,000	200	73,000	60	NA
59-89-2	N-Nitrosomorpholine	NA	NA	NA	NA	NA
100-75-4	N-Nitrosopiperidine	NA	NA	NA	NA	NA
930-55-2	N-Nitrosopyrrolidine ^C	300	NA	NA	NA	NA
91-20-3	Naphthalene ^N	310,000	30,000	1,300,000	100	NA
98-95-3	Nitrobenzene ^N	3,900	90	22,000	40	NA
123-63-7	Paraldehyde	HA	NA	NA	NA	NA
608-93-5	Pentachlorobenzene ^N	6,300	48,000	NA	HA	NA
76-01-7	Pentachloroethane	NA	NA	NA	NA	NA
82-68-8	Pentachloronitrobenzene ^C	2,500	NA	NA	NA	NA
87-86-5	Pentachlorophenol ^C	5,300	200	5,400	10	NA
62-44-2	Phenacetin	HA	NA	NA	HA	NA
85-01-8	Phenanthrene ^N	230,000	1,400,000	1,700,000	2,800	NA

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	MASP Reference Concentration
108-95-2	Phenol ^N	4,700,000	49,000	34,000,000	20	NA
23950-58-5	Pronamide	590,000	NA	NA	NA	NA
129-00-0	Pyrene ^M	230,000	1,400,000	2,200,000	290,000	NA
110-86-1	Pyridine	7,800	NA	500	20	NA
94-59-7	Safrole	NA	NA	NA	NA	NA
122-09-8	alpha, alpha-Dimethylphenethylami	NA	NA	NA	NA	NA
111-91-1	bis(2-Chloroethoxy)methane	NA	NA	170,000	30	NA
111-44-4	bis(2-Chloroethyl)ether	580	0.3	500	■	NA
117-81-7	bis(2-Ethylhexyl)phthalate (BHP)	46,000	11,000	48,000	11,000	NA
60-11-7	p-Dimethylaminoazobenzene	NA	NA	NA	NA	NA
106-50-3	p-Phenylenediamine ^M	1,500,000	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RSCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
106-93-4	1, 2-Dibromoethane ^C	7.5	0.18	10	0.06	MA
630-20-6	1,1,1,2-Tetrachloroethane ^C	25,000	NA	5,900	3	NA
811-97-2	1,1,1,2-Tetrafluoroethane	NA	NA	NA	NA	NA
71-55-6	1,1,1-Trichloroethane ^N	270,000	900	610,000	900	NA
354-58-5	1,1,1-trichloro-2,2,2-trifluoromethane	NA	NA	NA	NA	NA
78-34-5 79-34-5	1,1,2,2-Tetrachloroethane ^C	3,200	1	900	0.7	MA
79-00-5	1,1,2-Trichloroethane ^C	11,000	10	2,000	20	NA
75-34-3	1,1-Dichloroethane ^N	780,000	11,000	310,000	2,300	NA
75-35-4	1,1-Dichloroethene ^C	1,100	30	100	30	NA
96-18-4	1,2,3-Trichloropropene ^C	91	0.006	NA	NA	NA
96-19-5	1,2,3-Trichloropropene ^N	39,000	NA	NA	NA	NA
615-54-3	1,2,4-Tribromobenzene ^N	39,000	NA	NA	NA	NA
120-82-1	1,2,4-Trichlorobenzene ^N	78,000	2,000	590,000	2,300	NA
96-12-8	1,2-Dibromo-3-Chloropropene ^C	460	0.61	NA	NA	NA
107-06-2	1,2-Dichloroethane ^C	7,000	10	700	8	NA
540-59-0	1,2-Dichloroethene (total) ^N	70,000	NA	NA	NA	NA
78-87-5	1,2-Dichloropropene ^C	9,400	20	800	20	NA
106-99-0	1,3-Butadiene	NA	0.072	NA	NA	NA
542-75-6	1,3-Dichloropropene ^C	3,700	1	300	3	NA
106-37-6	1,4-Dibromobenzene ^N	78,000	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Volatiles (µg/kg)						
764-41-0	1,4-Dichloro-2-butene	MA	MA	MA	NA	NA
123-91-1	1,4-Dioxane ^C	58,000	MA	NA	NA	NA
75-68-3	1-Chloro-1,1-difluoroethane	MA	MA	NA	NA	NA
109-69-3	1-Chlorobutane ^N	3,100,000	MA	NA	NA	NA
78-93-3	2-Butanone (MEK) ^N	4,700,000	HA	2,200,000	8,700	NA
126-99-8	2-Chloro-1,3-butadiene ^N	160,000	HA	NA	NA	NA
110-75-8	2-Chloroethyl vinyl ether ^N	200,000	NA	100,000	2	NA
591-78-6	2-Hexanone	NA	MA	NA	NA	NA
101-68-8	4,4'-Methylenediphenyl isocyanate	MA	NA	NA	NA	NA
108-10-1	4-Methyl-2-Pentanone (MIBK) ^N	630,000	NA	520,000	1,100	MA
67-64-1	Acetone ^I	780,000	8,000	260,000	1,400	NA
75-05-8	Acetonitrile ^N	47,000	NA	NA	NA	MA
107-02-8	Acrolein ^N	160,000	NA	400	300	MA
107-13-1	Acrylonitrile	1,200	NA	100	20	NA
107-05-1	Allyl chloride ^N	390,000	NA	NA	NA	NA
100-52-7	Benzaldehyde ^N	780,000	NA	NA	NA	NA
71-43-2	Benzene ^C	22,000	20	1,400	3	NA
95-63-6	Benzene, 1,2,4-trimethyl ^N	390,000	NA	6,200	200	NA
108-67-8	Benzene, 1,3,5-trimethyl-	390,000	MA	3,700	100	NA
100-44-7	Benzyl chloride	3,800	0.36	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Volatiles (µg/kg)						
542-88-1	Bis(chloromethyl)ether ^C	2.9	0.0001	NA	HA	NA
75-27-4	Bromodichloromethane ^C	10,000	300	700	2	NA
593-60-2	Bromoethene	HA	NA	HA	NA	NA
75-25-2	Bromoform ^C	81,000	500	65,000	20	NA
74-83-9	Bromomethane ^H	11,000	100	HA	NA	NA
75-15-0	Carbon disulfide ^H	780,000	14,000	5,200	2,500	NA
56-23-5	Carbon tetrachloride ^C	4,900	30	600	20	NA
108-90-7	Chlorobenzene ^H	160,000	600	44,000	600	NA
75-45-6	Chlorodifluoromethane	HA	NA	NA	NA	NA
75-00-3	Chloroethane ^H	3,100,000	33,000	NA	HA	NA
67-66-3	Chloroform ^C	100,000	300	600	20	NA
74-87-3	Chloromethane ^C	49,000	6.6	200	10	NA
1476-11-5	Cis-1,4-Dichloro-2-butene	HA	NA	NA	NA	NA
123-73-9	Crotonaldehyde, (E) ^C	340	NA	NA	NA	NA
108-94-1	Cyclohexanone ^H	39,000,000	NA	NA	NA	M
1163-19-5	Decabromodiphenyl ether ^H	78,000	HA	NA	NA	NA
124-48-1	Dibromochloromethane ^C	HA	HA	1,200	4	NA
75-71-8	Dichlorodifluoromethane ^H	1,600,000	7,500	NA	NA	NA
77-73-6	Dicyclopentadiene ^H	230,000	NA	NA	NA	NA
107-12-0	Ethyl cyanide	NA	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	MASP Reference Concentration
Volatiles (µg/kg)						
60-29-7	Ethyl ether ^N	1,600,000	MA	MA	NA	NA
100-41-4	Ethylbenzene ^N	780,000	5,000	1,400,000	200	NA
87-82-1	Hexabromobenzene ^N	16,000	NA	NA	NA	MA
78-83-1	Isobutanol ^N	2,300,000	MA	MA	NA	NA
126-98-7	Methacrylonitrile ^N	780	NA	MA	NA	NA
74-88-4	Methyl iodide	MA	MA	NA	NA	NA
1634-04-4	Methyl tert-butyl ether ^N	39,000	NA	3,800,000	100	NA
74-95-3	Methylene bromide ^N	78,000	NA	NA	NA	NA
75-09-2	Methylene chloride ^C	85,000	10	16,000	10	NA
100-42-5	Styrene ^N	1,600,000	2,000	4,100,000	2,000	NA
127-18-4	Tetrachloroethene ^C	12,000	40	12,000	30	NA
109-99-9	Tetrahydrofuran	NA	NA	NA	NA	NA
106-88-3	Toluene ^N	1,600,000	5,000	520,000	200	NA
79-01-6	Trichloroethene ^C	58,000	20	6,500	10	NA
75-69-4	Trichlorofluoromethane ^N	2,300,000	13,000	6,600	400,000	NA
598-77-6	Trichloropropene, 1,1,2- ^N	39,000	140	NA	NA	NA
76-13-1	Trichlorotrifluoroethane (Freon 113) ^N	100,000,000	3,100,000	NA	NA	NA
106-05-4	Vinyl acetate ^N	7,800,000	84,000	180,000	500	NA
75-01-4	Vinyl chloride ^C	340	10	5	5	NA
1330-20-7	Xylene (Total) ^N	16,000,000	74,000	13,000,000	100	NA

Preliminary Remediation Goals (PRGs)
for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	MASP Reference Concentration
Volatiles (µg/kg)						
98-83-9	alpha-Methylstyrene ^N	550,000	7,500	MA	NA	NA
156-59-2	cis-1,2-Dichloroethene ^N	78,000	200	26,000	200	NA
10061-01-5	cis-1,3-Dichloropropene ^C	3,700	1	300	3	NA
99-08-1	m-Nitrotoluene ^N	78,000	420	NA	NA	NA
108-38-3	m-Xylene	16,000,000	240,000	NA	NA	NA
104-51-8	n-Butylbenzene ^N	78,000	270	NA	NA	NA
110-54-3	n-Hexane ^N	470,000	13,000	76,000	1,000	NA
88-73-3	o-Chloronitrobenzene ^C	26,000	NA	NA	NA	NA
95-49-8	o-Chlorotoluene ^N	160,000	5,600	NA	NA	NA
88-72-2	o-Nitrotoluene ^N	78,000	420	NA	NA	NA
95-47-6	o-Xylene ^N	16,000,000	150,000	NA	NA	NA
5216-25-1	p,a,a,a-Tetrachlorotoluene ^C	32	NA	NA	NA	NA
100-00-5	p-Chloronitrobenzene ^C	35,000	NA	NA	NA	NA
99-99-0	p-Nitrotoluene ^N	78,000	420	NA	NA	NA
106-42-3	p-Xylene	NA	220,000	NA	NA	NA
135-98-8	sec-Butylbenzene ^N	78,000	270	NA	NA	NA
156-60-5	trans-1,2-Dichloroethene ^N	160,000	300	62,000	300	NA
10061-02-6	trans-1,3-Dichloropropene ^C	3,700	1	300	3	NA
110-57-6	trans-1,4-Dichloro-2-butene	NA	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

		EPA NCLs	FPDMS	EPA SNCL	FSDMS	FCCG	NASP Reference Concentration
Inorganics (µg/L)							
7429-90-5	Aluminum (Al) ^M	NA	NA	50	200	NA	3,882.8
7440-36-0	Antimony (Sb) ^M	6	6	NA	NA	NA	30.2
7440-38-2	Arsenic (As) ^M	50	50	NA	NA	NA	2.8
7440-39-3	Barium (Ba) ^M	2,000	2,000	NA	NA	NA	13.2
7440-41-7	Beryllium (Be) ^C	4	4	NA	NA	NA	1.1
7440-43-9	Cadmium (Cd) ^M	5	5	NA	NA	NA	3.4
7440-70-2	Calcium (Ca)	NA	NA	NA	NA	NA	17,560
7440-47-3	Chromium (Cr) ^M	100	100	NA	NA	mn	35
18540-29-9	Chromium (Hexavalent) ^M	NA	NA	NA	NA	NA	NA
7440-48-4	Cobalt (Co) ^M	NA	NA	NA	NA	NA	4.1
7440-50-8	Copper (Cu) ^M	1,300	NA	1,000	1,000	NA	16.2
57-12-5	Cyanide (CN) ^M	200	200	NA	NA	NA	NA
7439-89-6	Iron (Fe) ^M	NA	NA	300	300	NA	1,707.8
7439-92-1	Lead (Pb)	15	15	NA	NA	NA	1.6
7439-95-4	Magnesium (Mg)	NA	NA	NA	NA	NA	2,872.6
7439-96-5	Manganese (Mn) ^M	NA	NA	50	50	NA	22
7439-97-6	Mercury (Hg) ^M	2	2	NA	NA	NA	0.2
7440-02-0	Nickel (Ni) ^M	100	100	NA	NA	NA	39.9
7440-09-7	Potassium (K)	NA	NA	NA	NA	NA	12,167.6
7782-49-2	Selenium (Se) ^M	50	50	NA	NA	NA	3.9

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

CAS #	Parameter	EPA NCLs	FPDMS	EPA SMCL	FSDMS	FCCG	NASP Reference Concentration
Inorganics (ug/l)							
7440-22-4	Silver (Ag) ^N	NA	NA	100	100	NA	4
7440-23-5	Sodium (Na)	NA	160,000	NA	NA	NA	18,345
7440-28-0	Thallium (Tl)	2	2	NA	NA	NA	3.6
7440-31-5	Tin (Sn) ^N	NA	NA	NA	NA	NA	NA
7440-62-2	Vanadium (V) ^N	NA	NA	NA	NA	49	9.6
7440-66-6	Zinc (Zn) ^N	NA	NA	5,000	5,000	NA	153.2

CAS #	Parameter	EPA MCLs	FPDMS	EPA SMCL	FSDMS	FCCG	MSP Reference Concentration
93-72-1	2,4,5-TP (Silvex) ^N	50	50	MA	NA	NA	NA
93-76-5	2,4,5-Trichlorophenoxyacetic ac	NA	MA	NA	NA	MA	NA
94-75-7	2,4-Dichlorophenoxyacetic Acid	NA	MA	NA	NA	NA	NA
72-54-8	4,4'-DDD ^C	NA	MA	MA	NA	0.1	NA
72-55-9	4,4'-DDE ^C	MA	NA	MA	MA	0.1	NA
50-29-3	4,4'-DDT ^C	NA	NA	MA	NA	0.1	NA
94-82-6	4-(2,4-Dichlorophenoxy)butyric ^N	NA	NA	NA	NA	NA	NA
309-00-2	Aldrin ^C	NA	NA	NA	NA	0.05	NA
12674-11-2	Aroclor-1016 ^N	0.5	0.5	NA	NA	NA	NA
11104-28-2	Aroclor-1221 ^C	0.5	0.5	NA	NA	NA	NA
11141-16-5	Aroclor-1232 ^C	0.5	0.5	NA	NA	NA	NA
53469-21-9	Aroclor-1242 ^C	0.5	0.5	NA	NA	NA	NA
12672-29-6	Aroclor-1248 ^C	0.5	0.5	NA	NA	NA	NA
11097-69-1	Aroclor-1254 ^C	0.5	0.5	NA	NA	NA	NA
11096-82-5	Aroclor-1260 ^C	0.5	0.5	NA	NA	NA	NA
57-74-9	Chlordane ^C	2	2	NA	NA	NA	NA
510-15-6	Chlorobenzilate ^C	NA	NA	NA	NA	0.13	NA
2303-16-4	Diallate ^C	NA	NA	NA	NA	0.57	NA
60-57-1	Dieldrin ^C	NA	NA	NA	NA	0.1	NA
60-51-5	Dimethoate ^N	NA	NA	NA	NA	5	NA

Preliminary Remediation Goals (PRGs)
for Groundwater contaminants

CAS #	Parameter	EPA MCLs	FPDMS	EPA SNCL	FSDMS	FCCG	MASP Reference Concentration
Pesticides (µg/l)							
88-85-7	Dinoseb ^N	7	7	MA	NA	HA	NA
298-04-4	Disulfoton ^N	MA	NA	NA	MA	0.5	NA
959-98-8	Endosulfan I	NA	NA	NA	MA	0.35	HA
33213-65-9	Endosulfan II ^N	NA	NA	NA	NA	0.35	NA
1031-07-8	Endosulfan sulfate ^N	MA	NA	NA	NA	0.3	NA
72-20-8	Endrin ^N	2	2	HA	NA	NA	HA
7421-93-4	Endrin aldehyde ^N	NA	NA	NA	NA	0.1	NA
53494-70-5	Endrin ketone ^N	MA	NA	NA	NA	NA	NA
52-85-7	Famphur	NA	NA	NA	NA	NA	NA
76-44-8	Heptachlor ^C	0.4	0.4	NA	NA	NA	NA
1024-57-3	Heptachlor epoxide ^C	0.2	0.2	NA	NA	NA	NA
465-73-6	Isodrin ^P	NA	NA	NA	NA	NA	NA
143-50-0	Kepone ^C	NA	NA	NA	NA	NA	NA
72-43-5	Methoxychlor ^N	40	40	NA	NA	NA	NA
298-00-0	Methyl parathion ^N	NA	NA	NA	NA	10	NA
126-68-1	O,O,O-Triethylphosphorothioate	NA	NA	NA	NA	NA	NA
56-38-2	Parathion ^N	NA	NA	NA	NA	42	NA
298-02-2	Phorate ^N	NA	NA	NA	NA	1.4	NA
3689-24-5	sulfotep ^N	NA	NA	NA	NA	3.5	NA
297-97-2	Thionazin	NA	NA	NA	NA	NA	NA

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Preliminary Remediation Goals (PRGs)
 for Groundwater Contaminants

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CAS #	Parameter	EPA MCLs	FPDMS	EPA SNCL	FSDMS	FCCG	NASP Reference Concentration
Pesticides (µg/l)							
8001-35-2	Toxaphene ^C	3	3	NA	NA	NA	NA
319-84-6	alpha-BHC ^C	NA	NA	NA	NA	0.05	NA
5103-71-9	alpha-Chlordane ^C	2	2	NA	NA	NA	NA
319-85-7	beta-BHC ^C	NA	NA	NA	NA	0.1	NA
319-86-8	delta-BHC ^C	NA	NA	NA	NA	0.05	NA
58-89-9	gamma-BHC (Lindane) ^C	0.2	0.2	NA	NA	NA	NA
5103-74-2	gamma-Chlordane ^C	2	2	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDMS	EPA SMCL	FSDMS	FCCG	MASP Reference Concentration
Semivolatiles (µg/l)							
634-66-2	1,2,3,4-Tetrachlorobenzene	NA	NA	NA	NA	NA	NA
634-90-2	1,2,3,5-Tetrachlorobenzene	NA	NA	NA	NA	NA	NA
87-61-6	1,2,3-Trichlorobenzene	NA	NA	NA	NA	NA	NA
95-94-3	1,2,4,5-Tetrachlorobenzene ^N	NA	NA	NA	NA	4	MA
120-82-1	1,2,4-Trichlorobenzene	70	70	NA	NA	NA	MA
95-50-1	1,2-Dichlorobenzene ^N	600	600	NA	NA	NA	MA
108-70-3	1,3,5-Trichlorobenzene	NA	HA	NA	NA	NA	NA
99-35-4	1,3,5-Trinitrobenzene ^N	HA	NA	NA	NA	60	MA
541-73-1	1,3-Dichlorobenzene ^N	600	NA	NA	NA	10	MA
99-65-0	1,3-Dinitrobenzene ^N	NA	NA	NA	NA	50	MA
106-46-7	1,4-Dichlorobenzene ^C	75	75	NA	NA	NA	NA
130-15-4	1,4-Naphthoquinone	NA	NA	NA	NA	NA	NA
90-13-1	1-Chloronaphthalene	NA	NA	NA	NA	NA	NA
90-12-0	1-Methylnaphthalene	NA	NA	NA	NA	NA	MA
134-32-7	1-Naphthylamine	NA	NA	NA	NA	NA	NA
108-60-1	2,2'-oxybis(1-Chloropropene)	NA	NA	NA	NA	NA	NA
58-90-2	2,3,4,6-Tetrachlorophenol ^N	NA	NA	NA	NA	210	NA
95-95-4	2,4,5-Trichlorophenol ^N	NA	NA	NA	NA	4	NA
88-06-2	2,4,6-Trichlorophenol ^C	NA	NA	NA	NA	10	NA
120-83-2	2,4-Dichlorophenol	NA	NA	NA	NA	4	MA

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDMS	EPA SMCL	FSDMS	FCCG	NASP Reference Concentration
Semivolatiles (µg/l)							
105-67-9	2,4-Dimethylphenol ^N	NA	NA	NA	NA	400	NA
51-28-5	2,4-Dinitrophenol ^N	NA	NA	MA	NA	30	NA
121-14-2	2,4-Dinitrotoluene ^N	NA	NA	NA	NA	0.2	NA
87-65-0	2,6-Dichlorophenol ^N	NA	NA	NA	NA	4	NA
606-20-2	2,6-Dinitrotoluene ^N	NA	NA	NA	NA	0.2	MA
91-58-7	2-Chloronaphthalene ^N	NA	NA	NA	NA	560	MA
95-57-8	2-Chlorophenol ^N	NA	NA	NA	NA	35	MA
99-55-8	2-Methyl-5-nitroaniline ^C	NA	NA	NA	NA	W	NA
636-21-5	2-Methylaniline hydrochloride ^C	NA	NA	NA	NA	NA	NA
91-57-6	2-Methylnaphthalene ^N	NA	NA	NA	NA	NA	NA
95-48-7	2-Methylphenol (o-Cresol) ^N	MA	NA	NA	NA	350	NA
91-59-8	2-Naphthylamine ^C	NA	NA	NA	NA	NA	NA
88-74-4	2-Nitroaniline ^N	NA	NA	NA	NA	7.5	NA
88-75-5	2-Nitrophenol ^N		W	NA	NA	20	NA
109-06-8	2-Picoline	NA	NA	NA	NA	NA	NA
91-90-1	3,3'-Dichlorobenzidine ^C	NA	NA	NA	NA	7.5	NA
119-90-4	3,3'-Dimethoxybenzidine ^C	NA	NA	NA	NA	250	NA
119-93-7	3,3-Dimethylbenzidine ^C	NA	NA	NA	NA	250	MA
56-49-5	3-Methylcholanthrene	NA	NA	NA	NA	NA	NA
108-39-4	3-Methylphenol (m-Cresol)	NA	NA	NA	NA	350	NA

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

CAS #	Parameter	EPA NCLs	FPDWS	EPA SNCL	FSDWS	FCCG	MASP Reference Concentration
Semivolatiles (µg/l)							
99-09-2	3-Mitroniline ^N	MA	MA	MA	MA	NA	NA
534-52-1	4,6-Dinitro-2-methylphenol	MA	MA	MA	MA	NA	NA
92-67-1	4-Aminobiphenyl	MA	NA	MA	NA	NA	NA
101-55-3	4-Bromophenyl-phenylether ^N	NA	MA	MA	NA	NA	NA
59-50-7	4-Chloro-3-methylphenol	NA	MA	NA	NA	3,000	NA
106-47-8	4-Chloroaniline ^N	MA	NA	MA	NA	28	NA
7005-72-3	4-Chlorophenylphenylether	NA	MA	NA	NA	10	NA
106-44-5	4-Methylphenol (p-Cresol) ^N	NA	MA	MA	NA	35	NA
100-01-6	4-Nitroaniline ^N	MA	NA	NA	NA	NA	NA
100-02-7	4-Nitrophenol [■]	NA	MA	MA	NA	15	NA
56-57-5	4-Nitroquinoline 1-wide	NA	NA	NA	NA	NA	NA
57-97-6	7,12-Dimethylbenz(a)anthracene ^C	NA	W	MA	NA	NA	NA
83-32-9	Acenaphthene [■]	NA	NA	MA	NA	20	W
208-96-8	Acenaphthylene ^N	NA	NA	NA	NA	10	NA
53-w-3	Acetamidofluorene	NA	NA	MA	NA	NA	NA
98-86-2	Acetophenone [■]	NA	MA	NA	NA	700	NA
62-53-3	Aniline ^C	NA	MA	NA	NA	6	NA
120-12-7	Anthracene ^N	NA	NA	NA	NA	2,100	NA
140-57-8	Aramite ^C	NA	MA	MA	NA	MA	NA
103-33-3	Azobenzene ^C	NA	NA	NA	NA	4	NA

CAS #	Parameter	EPA MCLs	FPOMS	EPA SMCL	FSDWS	FCCS	NASP Reference Concentration
98-87-3	Benzol chloride	NA	NA	NA	NA	NA	NA
101-14-4	Benzenamine, 4,4'-methylenebis ^C	MA	MA	MA	NA	50	MA
92-87-5	Benzidine ^C	NA	MA	MA	MA	250	NA
56-55-3	Benzo(a)anthracene	MA	MA	MA	NA	4	NA
50-32-8	Benzo(a)pyrene	2	0.2	MA	MA	NA	MA
205-99-2	Benzo(b)fluoranthene	NA	MA	MA	NA	4	NA
207-08-9	Benzo(k)fluoranthene	NA	MA	MA	NA	4	NA
65-85-0	Benzoic acid ^N		NA	NA	NA		NA
98-07-7	Benzotrichloride ^C	NA	MA	NA	NA	NA	NA
100-51-6	Benzyl alcohol ^N	NA	NA	NA	NA	2,100	NA
39638-32-9	Bis(2-Chloroisopropyl)Ether ^C	NA	NA	NA	NA	7.5	NA
85-68-7	Butylbenzylphthalate ^N	NA	NA	NA	NA	1,400	NA
86-74-8	Carbazole	NA	NA	NA	NA	7.5	NA
218-01-9	Chrysene	NA	MA	NA	NA	5	NA
6055-19-2	Cyclophosphamide	NA	NA	NA	NA	NA	NA
84-74-2	Di-n-butylphthalate ^N	MA	NA	NA	NA	700	NA
117-84-0	Di-n-octyl phthalate [□]	NA	NA	NA	NA	140	NA
53-to-3	Dibenz(a,h)anthracene	NA		MA	NA	7.5	NA
224-42-0	Dibenzo(a,j)acridine	NA	NA	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Semivolatiles (µg/l)							
132-64-9	Dibenzofuran ^N	NA	MA	MA	NA	NA	NA
84-66-2	Diethylphthalate ^N	MA	NA	MA	NA	5,600	NA
131-11-3	Dimethyl phthalate ^N	MA	MA	MA	MA	70,000	NA
122-39-4	Diphenylamine ^T	MA	MA	MA	NA	175	NA
97-63-2	Ethyl methacrylate ^N	NA	NA	MA	NA	630	NA
62-50-0	Ethyl methanesulfonate	MA	NA		NA	NA	NA
206-44-0	Fluoranthene ^N	MA	NA	NA	NA	280	NA
86-73-7	Fluorene ^N	NA	NA	NA	NA	280	NA
118-74-1	Hexachlorobenzene ^C	1	1	NA	NA	NA	NA
87-68-3	Hexachlorobutadiene ^C	NA	NA	NA	NA	15	NA
77-47-4	Hexachlorocyclopentadiene ^N	50	50	NA	NA	NA	NA
67-72-1	Hexachloroethane ^C	NA	NA	NA	NA	10	NA
70-30-4	Hexachlorophene ^N	NA	NA	NA	NA	6	NA
1888-71-7	Hexachloropropene	NA	NA	NA	NA	NA	NA
122-66-7	Hydrazine, 1,2-diphenyl ^C	NA	NA	NA	NA	10	NA
193-39-5	Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	7.9	NA
78-59-1	Isophorone ^C	NA	NA	NA	NA	40	NA
120-58-1	Isosafrole	NA	NA	NA	NA	NA	NA
91-80-5	Methapyrilene	NA	NA	NA	NA	NA	NA
80-62-6	Methyl methacrylate ^N	NA	NA	NA	NA	25	NA

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

CAS #	Parameter	EPA NCLs	FPDMS	EPA SMCL	FSDMS	FCCG	NASP Reference Concentration
Semivolatiles (µg/l)							
66-27-3	Methyl methanesulfonate	NA	NA	NA	NA	NA	NA
924-16-3	N-Nitroso-di-n-butylamine ^C	NA	NA	NA	NA	4	NA
621-64-7	N-Nitroso-di-n-propylamine ^C	NA	NA	NA	NA	4	NA
55-18-5	N-Nitrosodiethylamine ^C	NA	NA	NA	NA	4	NA
62-75-9	N-Nitrosodimethylamine ^C	NA	NA	NA	NA	7.5	NA
86-30-6	N-Nitrosodiphenylamine ^C	NA	NA	NA	NA	7	NA
10595-95-6	N-Nitrosomethylethylamine ^C	NA	NA	NA	NA	7.5	NA
59-89-2	N-Nitrosomorpholine	NA	NA	NA	NA	NA	NA
100-75-4	N-Nitrosopiperidine	NA	NA	NA	NA	NA	NA
930-55-2	1-Nitrosopyrrolidine ^C	NA	NA	NA	NA	4	NA
91-20-3	Naphthalene ^N	NA	NA	NA	NA	6.6	NA
98-95-3	Nitrobenzene ^N	NA	NA	NA	NA	9.5	M
123-63-7	Paraldehyde	NA	NA	NA	NA	NA	M
608-93-5	Pentachlorobenzene ^N	NA	NA	NA	NA	5.6	NA
76-01-7	Pentachloroethane	NA	NA	NA	NA	NA	NA
82-68-8	Pentachloronitrobenzene ^C	NA	NA	NA	NA	15	NA
87-86-5	Pentachlorophenol ^C	1	1	NA	NA	NA	NA
62-44-2	Phenacetin	NA	NA	NA	NA	NA	NA
85-01-8	Phenanthrene ^N	NA	NA	NA	NA	10	NA
108-95-2	Phenol ^N	NA	NA	NA	NA	10	NA

CAS #	Parameter	EPA MCLs	FPMS	EPA SMCL	FSDMS	FCCG	MSP Reference Concentration
23950-58-5	Pronamide ^N	NA	NA	NA	NA	525	NA
129-00-0	Pyrene ^N	NA	NA	NA	NA	210	NA
110-86-1	Pyridine ^N	NA	NA	NA	NA	7	NA
94-59-7	Safrole	NA	NA	NA	NA	NA	NA
122-09-8	alpha, alpha-Dimethylphenethyla	NA	NA	NA	NA	NA	NA
111-91-1	bis(2-Chloroethoxy)methane	NA	NA	NA	NA	10	NA
111-44-4	bis(2-Chloroethyl)ether ^C	NA	NA	MA	NA	1.5	NA
117-81-7	bis(2-Ethylhexyl)phthalate (BEH) ^C	NA	NA	NA	NA	NA	NA
95-53-4	o-Toluidine ^C	NA	NA	NA	MA	50	NA
60-11-7	p-Dimethylaminoazobenzene	NA	NA	NA	MA	NA	NA
106-50-3	p-Phenylenediamine ^N	NA	NA	NA	NA	1,330	NA

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDMS	FCCG	MASP Reference Concentration
Volatiles (µg/l)							
106-93-4	1, 2-Dibromoethane ^C	0.02	0.02	MA	MA	NA	MA
630-20-6	1,1,1,2-Tetrachloroethane ^C	NA	MA	NA	NA	1	NA
811-97-2	1,1,1,2-Tetrafluoroethane	MA	NA	MA	MA	NA	MA
71-55-6	1,1,1-Trichloroethane ^W	200	200	NA	NA	NA	NA
354-58-5	1,1,1-trichloro-2,2,2-triflora	NA	MA	MA	NA	NA	NA
79-34-5	1,1,2,2-Tetrachloroethane ^C	NA	NA	NA	NA	NA	NA
76-13-1	1,1,2-Trichloro-1,2,2- trifluor	NA	MA	NA	NA	NA	NA
79-00-5	1,1,2-Trichloroethane	5	5	NA	NA	NA	NA
598-77-6	1,1,2-Trichloropropene	NA	NA	NA	NA	NA	NA
75-34-3	1,1-Dichloroethane	NA	NA	NA	NA	700	NA
75-35-4	1,1-Dichloroethene	7	7	NA	NA	NA	NA
75-37-6	1,1-Difluoroethane	NA	NA	NA	NA	NA	NA
96-18-4	1,2,3-Trichloropropene ^C	NA	NA	NA	NA	42	NA
96-19-5	1,2,3-Trichloropropene	NA	NA	NA	NA	NA	NA
615-54-3	1,2,4-Tribromobenzene	NA	NA	NA	NA	MA	NA
120-82-1	1,2,4-Trichlorobenzene	To	70	NA	NA	NA	NA
96-12-8	1,2-Dibromo-3-Chloropropene ^C	02	02	NA	NA	NA	NA
107-06-2	1,2-Dichloroethane	5	3	NA	NA	NA	NA
540-59-0	1,2-Dichloroethene (total)	To	70	NA	NA	M A '	NA
78-87-5	1,2-Dichloropropene ^C	5	5	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDMS	EPA SNCL	FSDMS	FCCG	NASP Reference Concentration
Volatiles (µg/l)							
106-99-0	1,3-Butadiene	NA	NA	NA	NA	NA	NA
542-75-6	1,3-Dichloropropene ^C	NA	NA	NA	NA	1	NA
106-37-6	1,4-Dibromobenzene ^N	NA	NA	NA	NA	NA	NA
764-41-0	1,4-Dichloro-2-butene	NA	NA	NA	NA	NA	NA
123-91-1	1,4-Dioxane ^C	NA	NA	NA	NA	5	NA
75-68-3	1-Chloro-1,1-difluoroethane	NA	NA	NA	NA	NA	NA
109-69-3	1-Chlorobutane ^N	NA	NA	NA	NA	NA	NA
78-93-3	2-Butanone (MEK) ^N	NA	NA	NA	NA	4,200	NA
126-99-8	2-Chloro-1,3-butadiene ^N	NA	NA	NA	NA	NA	NA
110-75-8	2-Chloroethyl vinyl ether ^N	NA	NA	NA	NA	1	NA
75-29-6	2-Chloropropane	NA	NA	NA	NA	NA	NA
591-78-6	2-Hexanone	NA	NA	NA	NA	NA	NA
101-68-8	4,4'-Methylenediphenyl isocyanate	NA	NA	NA	NA	NA	NA
108-10-1	4-Methyl-2-Pentanone (MIBK) ^N	NA	NA	NA	NA	350	NA
67-64-1	Acetone ^N	NA	NA	NA	NA	700	NA
75-05-8	Acetonitrile ^N	NA	NA	NA	NA	500	NA
107-02-8	Acrolein ^N	NA	NA	NA	NA	110	NA
107-13-1	Acrylonitrile ^C	NA	NA	NA	NA	8	NA
107-05-1	Allyl chloride ^N	NA	NA	NA	NA	NA	NA
100-52-7	Benzaldehyde ^N	NA	NA	NA	NA	700	NA

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

CAS #	Parameter	EPA NCLs	FPDMS	EPA SNCL	FSDMS	FCCG	NASP Reference Concentration
Volatiles (µg/l)							
71-43-2	Benzene ^C	5	1	NA	NA	1	NA
95-63-6	Benzene, 1,2,4-trimethyl ^N	NA	NA	NA	NA	10	NA
108-67-8	Benzene, 1,3,5-trimethyl- ^N	NA	NA	NA	NA	10	NA
100-44-7	Benzyl chloride ^C	NA	NA	NA	NA	0.5	NA
542-88-1	Bis(chloromethyl)ether ^C	NA	NA	NA	NA	10	NA
75-27-4	Bromodichloromethane ^C	100	NA	NA	NA	0.6	NA
593-60-2	Bromoethene	NA	NA	NA	NA	NA	NA
75-25-2	Bromoform ^C	100	NA	NA	NA	4	NA
74-83-9	Bromomethane ^N	NA	NA	NA	NA	10	NA
75-15-0	Carbon disulfide ^N	NA	NA	NA	NA	700	NA
56-23-5	Carbon tetrachloride ^C	5	3	NA	NA	3	NA
108-90-7	Chlorobenzene ^N	NA	NA	NA	NA	NA	NA
75-45-6	Chlorodifluoromethane	NA	NA	NA	NA	NA	NA
75-00-3	Chloroethane ^N	NA	NA	NA	NA	140	NA
67-66-3	Chloroform ^C	100	NA	NA	NA	6	NA
74-87-3	Chloromethane ^C	NA	NA	NA	NA	2.7	NA
1476-11-5	Cis-1,4-Dichloro-2-butene	NA	NA	NA	NA	NA	NA
4170-30-3	Crotonaldehyde	NA	NA	NA	NA	NA	NA
108-94-1	Cyclohexanone ^N	NA	NA	NA	NA	35,000	NA
1163-19-5	Decabromodiphenyl ether ^N	NA	NA	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants

CAS #	Parameter	EPA NCLs	FPDWS	EPA SNCL	FSDWS	FCCG	NASP Reference Concentration
Volatiles (µg/l)							
124-48-1	Dibromochloromethane ^C	NA	NA	NA	NA	1	NA
75-71-8	Dichlorodifluoromethane ^N	MA	NA	NA	NA	1,400	NA
			NA	NA	NA	NA	NA
			NA	NA	NA	750	NA
107-12-0	Ethyl cyanide		NA	NA	NA	NA	NA
100-41-4	Ethylbenzene ^N	700	700	MA	30	NA	NA
87-82-1	Hexabromobenzene ^N	NA	NA	NA	NA	NA	NA
78-83-1	Isobutyl alcohol ^N	NA	NA	NA	NA	2,100	NA
126-98-7	Methacrylonitrile ^N	NA	NA	NA	NA	50	NA
74-88-4	Methyl iodide	NA	NA	NA	NA	NA	NA
98-83-9	Methyl styrene (alpha) ^N	NA	NA	NA	NA	NA	NA
25013-15-4	Methyl styrene (mixture) ^N	NA	NA	NA	NA	NA	NA
1634-04-4	Methyl tert-butyl ether ^N	NA	NA	NA	NA	W	NA
74-95-3	Methylene bromide ^N	NA	NA	NA	NA	NA	NA
75-09-2	Methylene chloride ^C	5	5	NA	NA	NA	NA
100-42-5	Styrene ^N	100	100	NA	NA	NA	NA
127-18-4	Tetrachloroethene ^C	5	3	NA	NA	NA	NA
109-99-9	Tetrahydrofuran	NA	NA	NA	NA	NA	NA
108-88-3	Toluene ^N	1,000	1,000	NA	40	NA	NA
79-01-6	Trichloroethene ^C	5	3	NA	NA	NA	NA

Appendix C

Sample Values Exceeding PRGs

Exceeds Preliminary Remediation Goals (PRGs)
for Soil contaminants
PENSACOLA, SITE 18

Sample ID	Date	Result	VQmt	PRG	Reason	MASP Reference Concentration	
Inorganics (mg/kg)							
7440-38-2 Arsenic (As) ^C							
	018-S-0001-01	09/06/95					
	018-S-0002-01	09/06/95					
	018-S-0004-01	09/06/95					
			13	0.43	USEPA-ROC	1.56	
			11	0.43	USEPA-ROC	1.56	
			7.8	0.43	USEPA-RBC	1.56	
7440-39-3 Barium (Ba) ^N							
	018-S-0001-03	09/06/95					
			33.1	32.	USEPA-SSL	4.63	
* 7440-41-7 Beryllium (Be) ^C							
	018-S-0001-01	09/06/95					
	018-S-0002-01	09/06/95					
			0.16	0.15	USEPA-RBC	8.41	
			0.16	0.15	USEPA-RBC	0.41	
7439-92-1 Lead (Pb) ^C							
	018-S-0004-01	09/06/95					
	018-S-0010-01	03/14/96					
	ow-I-0012-01	04/05/96					
	018-S-0014-01	04/25/96					
			706.	J	400.	USEPA-RBC	7.32
			970.		400.	USEPA-ROC	7.32
			1,100.		400.	USEPA-RBC	7.32
			1,800.		400.	USEPA-RBC	7.32

PRB_PENSI
07/03/96

Exceeds Preliminary Remediation Goals (PRGs)
for Soil Contaminants
PENSACOLA, SITE 18

Page: 1
Time: 10:14

Sample ID	Date	Result	VQual	PRG	Reason	MASP Reference Concentration
Pesticides (µg/kg)						
11096-82-5 Aroclor-1260 ^C						
018-s-0001-01	09/06/95	4,100.	DJ	83.	USEPA-RBC	NA
018-s-0002-01	09/06/95	380.		83.	USEPA-RBC	NA
018-s-0003-01	09/06/95	300.		83.	USEPA-RBC	NA

PRB_PENSI
07/03/96

Exceeds Preliminary Remediation Goals (PRGs)
for Soil Contaminants
PENSACOLA, SITE 18

Page: 1
Time: 10:15

Sample ID	Date	Result	Qual	PRG	Reason	NASP Reference Concentration
Semivolatiles (µg/kg)						
50-32-8 Benzo(a)pyrene ^C						
018-s-0002-01	09/06/95	150.	J	88.	USEPA-ROC	NA
018-s-0004-01	09/06/95	110.	J	88.	USEPA-RBC	NA

PRB_PENSI
07/03/96

Exceeds Preliminary Remediation Goals (PRGs)
for Soil Contaminants
PENSACOLA, SITE 18

Page: 1
Time: 10:16

Sample ID	Date	Result	Qual	PRG	Reason	NASP Reference Concentration
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Volatiles (µg/kg)

No Exceedances Found

PRB_PENGI
07/03/96

Exceeds Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants
PENSACOLA, SITE 18

Page: 1
Time: 10:17

	Sample ID	Date	Result	VQual	PRG	Reason	NASP Reference Concentration
Inorganics (µg/l)							
7429-90-5 Aluminum (Al) ^W	018-G-GS03-01	09/18/95	78.7	J	50.	EPA SMCL	3,882.8
	018-G-GS04-01	09/18/95	183.	J	50.	EPA SMCL	3,882.8
7439-89-6 Iron (Fe) ^N	018-G-GS03-01	09/18/95	397.		300.	FSDWS	1,707.8
7439-96-5 Manganese (Mn) ^N	018-G-GS02-01	09/18/95	85.5		50.	FSDWS	22.

PRB_PENG1
07/03/96

Exceeds Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants
PENSACOLA, SITE 18

Page: 1
fir: 10:18

Sample ID	Date	Result	VQual	PRG	Reason	NASP Reference Concentration
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Pesticides (µg/l)

No Exceedances Found

PRB_PENG1
07/03/96

Exceeds Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants
PENSACOLA, SITE 18

Page: 1
Time: 10:19

Sample ID	Date	Result	VQual	PRG	Reason	NASP Reference Concentration
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Semivolatiles (µg/l)

No Exceedances Found

PRB_PENG1
07/03/96

Exceeds Preliminary Remediation Goals (PRGs)
for Groundwater Contaminants
PENSACOLA, SITE 18

Page: 1
Time: 10:19

Sample ID	Date	Result	Qual	PRG	Reason	MASP Reference Concentration
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Volatiles (µg/l)

No Exceedences Found

Appendix D

Database *Summary* of Analytical Data

DATA QUALIFIER DEFINITIONS

The following definitions provide a brief explanation of the data qualifiers used in the validation process.

- U The compound was analyzed for, but was not detected above the reported sample quantitation limit.
- J The compound was positively detected, however, the reported concentration is considered to approximate the concentration within the sample.
- UJ The compound was not detected above the reported sample quantitation limit. However, the reported quantitation limit is an approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the compound in the sample.
- R The sample results are rejected due to serious deficiencies in the laboratory's ability to analyze the sample and meet QC criteria. The presence or absence of the compound cannot be verified.

Sample **Analytical** Data

DATALCP3
07/08/96

NAS PENSACOLA
SITE 18
Soil Samples

METAL		SAMPLE ID ----->	018-S-0001-01	018-S-0001-03	018-S-0002-01	018-S-0002-04	018-S-0003-01	018-S-0003-04	
		ORIGINAL ID ----->	018S000101	018S000103	018S000201	018S000204	018S000301	018S000304	
		LAB SAMPLE ID ---->	\$554987*1	\$554987*2	\$554987*3	\$554987*4	\$554987*5	\$554987*6	
		ID FROM REPORT -->	018S000101	018S000103	018S000201	018S000204	018S000301	018S000304	
		SAMPLE DATE ----->	09/06/95	09/06/95	09/06/95	09/06/95	09/06/95	09/06/95	
		DATE EXTRACTED -->	09/13/95	09/13/95	09/13/95	09/13/95	09/13/95	09/13/95	
		DATE ANALYZED -->	10/05/95	10/05/95	10/05/95	10/05/95	10/05/95	10/05/95	
		MATRIX ----->	Soil	Soil	Soil	Soil	Soil	Soil	
		UNITS ----->	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	
CAS #	Parameter	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL
7440-38-2	Arsenic (As)		1.3		1.9		1.1		0.48 U
7439-97-6	Mercury (Hg)		0.29		0.33		0.05		0.03 J
7439-92-1	Lead (Pb)		162. J		79.9 J		47.3 J		18. J
7782-49-2	Selenium (Se)		0.11 UJ		0.57 UJ		0.11 UJ		0.11 UJ
57-12-5	Cyanide (CN)		0.27 UJ		0.27 UJ		0.26 UJ		0.26 UJ
7429-90-5	Aluminum (Al)		1410. J		1410. J		833. J		246. J
7440-36-0	Antimony (Sb)		2.3 U		2.3 U		2.2 U		2.2 U
7440-39-3	Barium (Ba)		16.4 J		33.1 J		8.2 J		3.3 J
7440-41-7	Beryllium (Be)		0.16		0.1 U		0.16		0.03 U
7440-43-9	Cadmium (Cd)		1.		0.24 J		2.7		0.26 J
7440-70-2	Calcium (Ca)		64900.		1410.		86100.		18300.
7440-47-3	Chromium (Cr)		15.9 J		4.7 J		1.7 J		0.43 J
7440-48-4	Cobalt (Co)		0.43 J		1.5 J		0.23 U		0.23 U
7440-50-8	Copper (Cu)		19.1		8.6		4.1 U		1.9 U
7439-89-6	Iron (Fe)		1650.		865.		1380.		235.
7439-95-4	Magnesium (Mg)		804.		52. J		713.		356. J
7439-96-5	Manganese (Mn)		69.3		32.4		57.4		18.2
7440-02-0	Nickel (Ni)		1.8 J		1.8 J		99.6		1.3 U
7440-09-7	Potassium (K)		34.9 J		15.3 J		20.7 J		6.9 U
7440-22-4	Silver (Ag)		0.3 J		0.19 U		0.3 J		0.18 U
7440-23-5	Sodium (Na)		573.		14.2 J		770.		46.3 J
7440-62-2	Vanadium (V)		3.8 J		2.2 J		2.8 J		0.69 J
7440-66-6	Zinc (Zn)		130.		30.9		26.		23.1
7440-28-0	Thallium (Tl)		0.15 J		0.08 U		0.08 UJ		0.08 U

*** Validation Complete ***

NAS PENSACOLA
SITE 18
Soil Samples

METAL	SAMPLE ID ----->	018-S-0004-01	018-S-0004-04	018-C-0004-04			
	ORIGINAL ID ----->	018S000401	018S000404	018C000404			
	LAB SAMPLE ID ---->	S554987*7	S554987*8	S554987*9			
	ID FROM REPORT --->	018S000401	018S000404	018C000404			
	SAMPLE DATE ----->	09/06/95	09/06/95	09/06/95			
	DATE EXTRACTED --->	09/13/95	09/13/95	09/13/95			
	DATE ANALYZED ---->	10/05/95	10/05/95	10/05/95			
	MATRIX ----->	Soil	Soil	Soil			
	UNITS ----->	MG/KG	MG/KG	MG/KG			

CAS #	Parameter	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL
7440-38-2	Arsenic (As)		7.8		1.7		3.4
7439-97-6	Mercury (Hg)		0.23		0.18		0.29
7439-92-1	Lead (Pb)		706. J		33. J		57.4 J
7782-49-2	Selenium (Se)		0.11 UJ		0.11 J		0.11 UJ
57-12-5	Cyanide (CN)		0.34 J		0.26 UJ		0.26 UJ
7429-90-5	Aluminum (Al)		1790. J		131. J		194. J
7440-36-0	Antimony (Sb)		2.2 U		2.2 U		2.2 U
7440-39-3	Barium (Ba)		262.		3.8 J		4.9 J
7440-41-7	Beryllium (Be)		0.12 U		0.03 U		0.03 U
7440-43-9	Cadmium (Cd)		1.3		0.21 J		0.25 J
7440-70-2	Calcium (Ca)		32100.		2610.		673.
7440-47-3	Chromium (Cr)		6. J		0.54 J		0.64 J
7440-48-4	Cobalt (Co)		0.54 J		0.23 U		0.22 U
7440-50-8	Copper (Cu)		16.2		2.8 U		2.9 U
7439-89-6	Iron (Fe)		2110.		138.		260.
7439-95-4	Magnesium (Mg)		553.		34.7 J		21.8 J
7439-96-5	Manganese (Mn)		77.1		6.8		10.4
7440-02-0	Nickel (Ni)		1.3 U		1.3 U		1.3 U
7440-09-7	Potassium (K)		75.7 J		6.8 U		6.7 U
7440-22-4	Silver (Ag)		0.18 U		0.18 U		0.18 U
7440-23-5	Sodium (Na)		229. J		22.9 J		15.7 J
7440-62-2	Vanadium (V)		5.2		0.36 J		0.67 J
7440-66-6	Zinc (Zn)		520.		23.4		29.5
7440-28-0	Thallium (Tl)		0.08 UJ		0.08 U		0.08 U

NAS PENSACOLA
SITE 18
Soil Samples

METAL (Pb)		SAMPLE ID ----->	018-S-0009-01	018-S-0010-01	018-S-0011-01	018-S-0012-01	018-S-0013-01	018-S-0014-01
		ORIGINAL ID ----->	018S000901	018S001001	018S001101	018S001201	018S001301	018S001401
		LAB SAMPLE ID ---->	81507-1	81507-2	81507-3	81973-1	81973-2	82365-1
		ID FROM REPORT -->	018S000901	018S001001	018S001101	018S001201	018S001301	018S001401
		SAMPLE DATE ----->	03/14/96	03/14/96	03/14/96	04/05/96	04/05/96	04/25/96
		DATE EXTRACTED -->	03/15/96	03/15/96	03/15/96			04/29/96
		DATE ANALYZED ---->	03/20/96	03/20/96	03/20/96	04/12/96	04/12/96	04/30/96
		MATRIX ----->	Soil	Soil	Soil	Soil	Soil	Soil
		UNITS ----->	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
CAS #	Parameter		03158	03158	03158	0409A	0409A	04298
7439-92-1	Lead (Pb)		260.	970.	83.	1100.	110.	1800.

NAS PENSACOLA
SITE 18
Soil Samples

METAL (Pb)		SAMPLE ID -----> 018-S-0015-01					
		ORIGINAL ID -----> 018S001501					
		LAB SAMPLE ID ---> 82365-2					
		ID FROM REPORT --> 018S001501					
		SAMPLE DATE -----> 04/25/96					
		DATE EXTRACTED --> 04/29/96					
		DATE ANALYZED --> 04/30/96					
		MATRIX -----> Soil					
		UNITS -----> MG/KG					

CAS #	Parameter	04298					
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7439-92-1	Lead (Pb)	2.4					
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NAS PENSACOLA
SITE 18
Soil Samples

CAS #	Parameter	018-S-0001-01		018-S-0001-03		018-S-0002-01		018-S-0002-04		018-S-0003-01		018-S-0003-04	
		ENPO8	VAL										
72-54-8	4,4'-DDD	3.5	U	3.6	U	3.4	U	3.5	U	3.5	U	3.5	U
72-55-9	4,4'-DDE	3.5	U	3.6	U	3.4	U	3.5	U	3.5	U	3.5	U
50-29-3	4,4'-DDT	3.5	U	1.7	J	3.4	U	3.5	U	3.5	U	3.5	U
309-00-2	Aldrin	1.8	U	1.9	U	1.8	U	1.8	U	1.8	U	1.8	U
12674-11-2	Aroclor-1016	35.	U	36.	U	34.	U	35.	U	35.	U	35.	U
11104-28-2	Aroclor-1221	72.	U	74.	U	69.	U	70.	U	70.	U	71.	U
11141-16-5	Aroclor-1232	35.	U	36.	U	34.	U	35.	U	35.	U	35.	U
53469-21-9	Aroclor-1242	35.	U	36.	U	34.	U	35.	U	35.	U	35.	U
12672-29-6	Aroclor-1248	35.	U	36.	U	34.	U	35.	U	35.	U	35.	U
11097-69-1	Aroclor-1254	35.	U	36.	U	34.	U	35.	U	35.	U	35.	U
11096-82-5	Aroclor-1260	4100.	DJ	36.	U	380.		18.	J	300.		15.	J
60-57-1	Dieldrin	3.5	U	3.6	U	3.4	U	3.5	U	3.5	U	3.5	U
959-98-8	Endosulfan I	1.8	U	1.9	U	1.8	U	1.8	U	0.92	J	1.8	U
33213-65-9	Endosulfan II	3.5	U	3.6	U	3.4	U	3.5	U	3.5	U	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U	3.6	U	3.4	U	3.5	U	3.5	U	3.5	U
72-20-8	Endrin	3.5	U	3.6	U	3.4	U	3.5	U	3.5	U	3.5	U
7421-93-4	Endrin aldehyde	3.5	U	3.6	U	3.4	U	3.5	U	3.5	U	3.5	U
53494-70-5	Endrin ketone	3.5	U	1.1	J	3.4	U	3.5	U	3.5	U	3.5	U
76-44-8	Heptachlor	1.8	U	1.9	U	1.8	U	1.8	U	1.8	U	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U	1.9	U	1.8	U	1.8	U	1.8	U	1.8	U
72-43-5	Methoxychlor	18.	U	19.	U	18.	U	18.	U	18.	U	18.	U
8001-35-2	Toxaphene	180.	U	190.	U	180.	U	180.	U	180.	U	180.	U
319-84-6	alpha-BHC	1.8	UJ	1.9	UJ	1.8	UJ	1.8	UJ	1.8	UJ	1.8	UJ
5103-71-9	alpha-Chlordane	1.5	J	1.9	U	1.8	U	1.8	U	0.79	J	1.8	U
319-85-7	beta-BHC	1.8	U	1.9	U	1.8	U	1.8	U	1.8	U	1.8	U
319-86-8	delta-BHC	1.8	U	1.9	U	1.8	U	1.8	U	1.8	U	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U	1.9	U	1.8	U	1.8	U	1.8	U	1.8	U
5103-74-2	gamma-Chlordane	1.8	U	1.9	U	1.8	U	1.8	U	1.8	U	1.8	U

NAS PENSACOLA
SITE 18
Soil Samples

PEST		SAMPLE ID ----->	018-S-0004-01	018-S-0004-04	018-C-0004-04			
ORIGINAL ID ----->		018S000401	018S000404	018C000404				
LAB SAMPLE ID ---->		S554987*7	S554987*8	S554987*9				
ID FROM REPORT -->		018S000401	018S000404	018C000404				
SAMPLE DATE ----->		09/06/95	09/06/95	09/06/95				
DATE EXTRACTED -->		09/18/95	09/18/95	09/18/95				
DATE ANALYZED ---->		09/30/95	09/30/95	09/30/95				
MATRIX ----->		Soil	Soil	Soil				
UNITS ----->		UG/KG	UG/KG	UG/KG				
CAS #	Parameter	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL	
72-54-8	4,4'-DDD	3.4	U	3.4	UJ	3.4	U	
72-55-9	4,4'-DDE	28.		3.4	UJ	3.4	U	
50-29-3	4,4'-DDT	41		0.64	J	3.4	U	
309-00-2	Aldrin	1.8	U	1.8	UJ	1.8	U	
12674-11-2	Aroclor-1016	34.	U	34.	UJ	34.	U	
11104-28-2	Aroclor-1221	69.	U	69.	UJ	69.	U	
11141-16-5	Aroclor-1232	34.	U	34.	UJ	34.	U	
53469-21-9	Aroclor-1242	34.	U	34.	UJ	34.	U	
12672-29-6	Aroclor-1248	34.	U	34.	UJ	34.	U	
11097-69-1	Aroclor-1254	34.	U	34.	UJ	34.	U	
11096-82-5	Aroclor-1260	34.	U	34.	UJ	34.	U	
60-57-1	Dieldrin	0.42	J	3.4	UJ	3.4	U	
959-98-8	Endosulfan I	1.8	U	1.8	UJ	1.6	U	
33213-65-9	Endosulfan II	3.4	U	3.4	UJ	34	U	
1031-07-8	Endosulfan sulfate	3.4	U	3.4	UJ	3.4	U	
72-20-8	Endrin	3.4	U	3.4	UJ	3.4	U	
7421-93-4	Endrin aldehyde	1.6	J	3.4	UJ	3.4	U	
53494-70-5	Endrin ketone	0.36	J	3.4	UJ	3.4	U	
76-44-8	Heptachlor	1.8	U	1.8	UJ	1.8	U	
1024-57-3	Heptachlor epoxide	1.8	U	1.8	UJ	1.8	U	
72-43-5	Methoxychlor	18.	U	18.	UJ	18.	U	
8001-35-2	Toxaphene	180.	U	180.	UJ	180.	U	
319-84-6	alpha-BHC	1.8	UJ	1.6	UJ	1.8	UJ	
5103-71-9	alpha-Chlordane	1.8	U	1.8	UJ	1.8	U	
319-85-7	beta-BHC	1.8	U	1.8	UJ	1.8	U	
319-86-8	delta-BHC	1.8	U	1.8	UJ	1.8	U	
58-89-9	gamma-BHC (Lindane)	1.8	U	1.8	UJ	1.8	U	
5103-74-2	gamma-Chlordane	1.8	U	1.8	UJ	1.8	U	

Validation Complete ++*

NAS PENSACOLA
SITE 18
Soil Samples

SVQA		SAMPLE ID ----->	018-S-0001-01	018-S-0001-03	018-S-0002-01	018-S-0002-04	018-S-0003-01	018-S-0003-04			
		ORIGINAL ID ----->	018S000101	018S000103	018S000201	018S000204	018S000301	018S000304			
		LAB SAMPLE ID ---->	S554987*1	S554987*2	S554987*3	S554987*4	S554987*5	S554987*6			
		ID FROM REPORT -->	018S000101	018S000103	018S000201	018S000204	018S000301	018S000304			
		SAMPLE DATE ----->	09/06/95	09/06/95	09/06/95	09/06/95	09/06/95	09/06/95			
		DATE EXTRACTED -->	09/12/95	09/12/95	09/12/95	09/12/95	09/12/95	09/12/95			
		DATE ANALYZED ---->	09/21/95	09/21/95	09/21/95	09/21/95	09/21/95	09/21/95			
		MATRIX ----->	Soil	Soil	Soil	Soil	Soil	Soil			
		UNITS ----->	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG			
CAS #	Parameter	ENPOS	VAL	ENPOS	VAL	ENPOS	VAL	ENPOS	VAL	ENPOS	VAL
120-82-1	1,2,4-Trichlorobenzene	350.	U	360.	U	340.	U	350.	U	350.	U
95-50-1	1,2-Dichlorobenzene	350.	U	360.	U	340.	U	350.	U	350.	U
541-73-1	1,3-Dichlorobenzene	350.	U	360.	U	340.	U	350.	U	350.	U
106-46-7	1,4-Dichlorobenzene	350.	U	360.	U	340.	U	350.	U	350.	U
39638-32-9	Bis(2-Chloroisopropyl)Ether	350.	U	360.	U	340.	U	350.	U	350.	U
95-95-4	2,4,5-Trichlorophenol	860.	U	880.	U	820.	U	840.	U	850.	U
88-06-2	2,4,6-Trichlorophenol	350.	U	360.	U	340.	U	350.	U	350.	U
120-83-2	2,4-Dichlorophenol	350.	U	360.	U	340.	U	350.	U	350.	U
105-67-9	2,4-Dimethylphenol	350.	U	360.	U	340.	U	350.	U	350.	U
51-28-5	2,4-Dinitrophenol	860.	U	880.	U	820.	U	840.	U	850.	U
121-14-2	2,4-Dinitrotoluene	350.	U	360.	U	340.	U	350.	U	350.	U
606-20-2	2,6-Dinitrotoluene	350.	U	360.	U	340.	U	350.	U	350.	U
91-58-7	2-Chloronaphthalene	350.	U	360.	U	340.	U	350.	U	350.	U
95-57-8	2-Chlorophenol	350.	U	360.	U	340.	U	350.	U	350.	U
91-57-6	2-Methylnaphthalene	350.	U	360.	U	340.	U	350.	U	350.	U
95-48-7	2-Methylphenol (o-Cresol)	350.	U	360.	U	340.	U	350.	U	350.	U
88-74-4	2-Nitroaniline	860.	U	880.	U	820.	U	840.	U	SO	U
88-75-5	2-Nitrophenol	350.	U	360.	U	340.	U	350.	U	350.	U
91-94-1	3,3'-Dichlorobenzidine	350.	U	360.	U	340.	U	350.	U	350.	U
9999900-32-2	3-Methylphenol/4-Methylphenol	350.	U	360.	U	340.	U	350.	U	3w.	U
99-09-2	3-Nitroaniline	860.	U	880.	U	820.	U	840.	U	840.	U
534-52-1	2-Methyl-4,6-Dinitrophenol	860.	U	880.	U	820.	U	840.	U	840.	U
101-55-3	4-Bromophenyl-phenylether	350.	U	360.	U	340.	U	350.	U	350.	U
59-50-7	4-Chloro-3-methylphenol	350.	U	360.	U	340.	U	350.	U	350.	U
106-47-8	4-Chloroaniline	350.	U	360.	U	340.	U	350.	U	350.	U
7005-72-3	4-Chlorophenylphenylether	350.	U	360.	U	340.	U	350.	U	350.	U
100-01-6	4-Nitroaniline	860.	U	880.	U	820.	U	840.	U	840.	U
100-02-7	4-Nitrophenol	860.	U	880.	U	820.	U	840.	U	840.	U
83-32-9	Acenaphthene	350.	U	360.	U	340.	U	350.	U	350.	U
208-96-8	Acenaphthylene	350.	U	360.	U	340.	U	350.	U	350.	U
120-12-7	Anthracene	350.	U	360.	U	340.	U	350.	U	350.	U
56-55-3	Benzo(a)anthracene	44.	J	6.	J	70.	J	8.	J	52.	J
50-32-8	Benzo(a)pyrene	53.	J	150.	U	150.	J	7.	J	55.	J
205-99-2	Benzo(b)fluoranthene	78.	J	360.	U	210.	J	10.	J	98.	J
191-24-2	Benzo(g,h,i)perylene	42.	J	360.	U	120.	J	350.	U	59.	J
207-08-9	Benzo(k)fluoranthene	30.	J	360.	U	72.	J	350.	U	34.	J

NAS PENSACOLA
SITE 18
Soil Samples

SVQA	SAMPLE ID ----->	018-S-0001-01	018-S-0001-03	018-S-0002-01	018-S-0002-04	018-S-0003-01	018-S-0003-04
	ORIGINAL ID ----->	018S000101	018S000103	018S000201	018S000204	018S000301	018S000304
	LAB SAMPLE ID ---->	S554987*1	S554987*2	S554987*3	S554987*4	S554987*5	S554987*6
	ID FROM REPORT -->	018S000101	018S000103	018S000201	018S000204	018S000301	018S000304
	SAMPLE DATE ----->	09/06/95	09/06/95	09/06/95	09/06/95	09/06/95	09/06/95
	DATE EXTRACTED -->	09/12/95	09/12/95	09/12/95	09/12/95	09/12/95	09/12/95
	DATE ANALYZED ---->	09/21/95	09/21/95	09/21/95	09/21/95	09/21/95	09/21/95
	MATRIX ----->	Soil	Soil	Soil	Soil	Soil	Soil
	UNITS ----->	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG

CAS #	Parameter	ENP08	VAL								
85-68-7	Butylbenzylphthalate	83.	J	360.	UJ	36.	J	350.	UJ	18.	J
86-74-8	Carbazole	350.	U	360.	U	340.	U	350.	U	350.	U
218-01-9	Chrysene	60.	J	12.	J	97.	J	8.	J	60.	J
84-74-2	Di-n-butylphthalate	19.	J	18.	J	16.	J	18.	J	20.	J
117-84-0	n-cyclohexyl phthalate	350.	U	360.	U	340.	U	350.	U	350.	U
---	Dibenz(a,h)anthracene	---	J	150.	U	33.	J	150.	U	13.	J
---	---	350.	U	360.	U	340.	U	350.	U	350.	U
84-66-2	---	---	U	360.	U	340.	U	350.	U	350.	U
131-11-3	ethyl phthalate	350.	U	360.	U	340.	U	350.	U	350.	U
206-44-0	Fluoranthene	75.	-	360.	U	72.	J	8.	J	72.	J
86-73-7	Fluorene	350.	U	360.	U	340.	U	350.	U	350.	U
118-74-1	---	350.	-	360.	U	340.	U	350.	U	350.	U
87-68-3	isobutadiene	350.	U	360.	U	340.	U	350.	U	350.	U
---	---	350.	U	360.	U	340.	U	350.	U	350.	U
51	chloroethane	350.	U	360.	U	340.	U	350.	U	350.	U
193-39-5	---	43.	J	360.	U	120.	J	5.	J	52.	J
78-59-1	Isophorone	350.	U	360.	U	340.	U	350.	U	350.	U
621-64-7	N-Nitroso-di-n-propylamine	64.	U	66.	U	62.	U	63.	U	63.	U
122-39-4	Diphenylamine	350.	U	360.	U	340.	U	350.	U	350.	U
91-20-3	Naphthalene	350.	U	360.	U	340.	U	350.	U	350.	U
98-95-3	Nitrobenzene	350.	U	360.	U	340.	U	350.	U	350.	U
87-86-5	Pentachlorophenol	860.	U	880.	U	820.	U	840.	U	840.	U
85-01-8	Phenanthrene	25.	J	13.	J	13.	J	350.	U	22.	J
108-95-2	Phenol	350.	U	360.	U	340.	U	350.	U	350.	U
129-00-0	Pyrene	70.	J	9.	J	110.	J	8.	J	70.	J
111-91-1	bis(2-Chloroethoxy)methane	350.	U	360.	U	340.	U	350.	U	350.	U
111-44-4	bis(2-Chloroethyl)ether	350.	U	360.	U	340.	U	350.	U	350.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	350.	U	360.	U	340.	U	350.	U	350.	U

NAS PENSACOLA
SITE 18
soil Samples

SVOC		SAMPLE ID ----->	018-S-0004-01	018-S-0004-04	018-C-0004-04			
		ORIGINAL ID ----->	018S000401	018S000404	018C000404			
		LAB SAMPLE ID ---->	S554987*7	S554987*8	S554987*9			
		ID FROM REPORT -->	018S000401	018S000404	018C000404			
		SAMPLE DATE ----->	09/06/95	09/06/95	09/06/95			
		DATE EXTRACTED -->	09/12/95	09/12/95	09/12/95			
		DATE ANALYZED ---->	09/21/95	09/21/95	09/21/95			
		MATRIX ----->	Soil	Soil	Soil			
		UNITS ----->	UG/KG	UG/KG	UG/KG			
CAS #	Parameter	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL	
120-82-1	1,2,4-Trichlorobenzene	340.	U	340.	U	340.	U	
95-50-1	1,2-Dichlorobenzene	340.	U	340.	U	340.	U	
541-73-1	1,3-Dichlorobenzene	340.	U	340.	U	340.	U	
106-46-7	1,4-Dichlorobenzene	340.	U	340.	U	340.	U	
3963E-32-9	Bis(2-Chloroisopropyl)Ether	340.	U	340.	U	340.	U	
95-95-4	2,4,5-Trichlorophenol	820.	U	820.	U	820.	U	
88-06-2	2,4,6-Trichlorophenol	340.	U	340.	U	340.	U	
120-83-2	2,4-Dichlorophenol	340.	U	340.	U	340.	U	
105-67-9	2,4-Dimethylphenol	340.	U	340.	U	340.	U	
51-28-5	2,4-Dinitrophenol	820.	U	820.	U	820.	U	
121-14-2	2,4-Dinitrotoluene	340.	U	340.	U	340.	U	
606-20-2	2,6-Dinitrotoluene	340.	U	340.	U	340.	U	
91-58-7	2-Chloronaphthalene	340.	U	340.	U	340.	U	
95-57-8	2-Chlorophenol	340.	U	340.	U	340.	U	
91-57-6	2-Methylnaphthalene	340.	U	340.	U	340.	U	
95-48-7	2-Methylphenol (o-Cresol)	340.	U	340.	U	340.	U	
88-74-4	2-Nitroaniline	820.	U	820.	U	820.	U	
88-75-5	2-Nitrophenol	340.	U	340.	U	340.	U	
91-94-1	3,3'-Dichlorobenzidine	340.	U	340.	U	340.	U	
9999900-32-2	3-Methylphenol/4-Methylphenol	340.	U	340.	U	340.	U	
99-09-2	3-Nitroaniline	820.	U	820.	U	820.	U	
534-52-1	2-Methyl-4,6-Dinitrophenol	820.	U	820.	U	820.	U	
101-55-3	4-Bromophenyl-phenylether	340.	U	340.	U	340.	U	
59-50-7	4-Chloro-3-methylphenol	340.	U	340.	U	340.	U	
106-47-8	4-Chloroaniline	340.	U	340.	U	340.	U	
7005-72-3	4-Chlorophenylphenylether	340.	U	340.	U	340.	U	
100-01-6	4-Nitroaniline	820.	U	820.	U	820.	U	
100-02-7	4-Nitrophenol	820.	U	820.	U	820.	U	
83-32-9	Acenaphthene	340.	U	340.	U	340.	U	
208-96-8	Acenaphthylene	42.	J	340.	U	340.	U	
120-12-7	Anthracene	12.	J	340.	U	340.	U	
56-55-3	Benzo(a)anthracene	91.	J	340.	U	340.	U	
50-32-8	Benzo(a)pyrene	110.	J	140	U	7.	J	
205-99-2	Benzo(b)fluoranthene	170.	J	340.	U	11.	J	
191-24-2	Benzo(g,h,i)perylene	210.	J	340.	U	340.	U	
207-08-9	Benzo(k)fluoranthene	68.	J	340.	U	340.	U	

*+ Validation Complete ***

NAS PENSACOLA
SITE 18
Soil Samples

SVDA		018-S-0004-01		018-S-0004-04		018-C-0004-04			
SAMPLE ID ----->		018-S-0004-01		018-S-0004-04		018-C-0004-04			
ORIGINAL ID ----->		018S000401		018S000404		018C000404			
LAB SAMPLE ID ---->		S554987*7		S554987*8		S554987*9			
ID FROM REPORT -->		018S000401		018S000404		018C000404			
SAMPLE DATE ----->		09/06/95		09/06/95		09/06/95			
DATE EXTRACTED -->		09/12/95		09/12/95		09/12/95			
DATE ANALYZED ---->		09/21/95		09/21/95		09/21/95			
MATRIX ----->		Soil		Soil		Soil			
UNITS ----->		UG/KG		UG/KG		UG/KG			
CAS #	Parameter	ENPOS	VAL	ENPOS	VAL	ENPOS	VAL		
85-68-7	Butylbenzylphthalate	14.	J	14.	J	16.	J		
86-74-8	Carbazole	340.	U	340.	U	340.	U		
218-01-9	Chrysene	130.	J	340.	U	8.	J		
84-74-2	Di-n-butylphthalate	28.	J	14.	J	16.	J		
117-84-0	Di-n-octyl phthalate	340.	U	340.	U	340.	U		
53-70-3	Dibenz(a,h)anthracene	28.	J	140.	U	140.	U		
132-64-9	Dibenzofuran	340.	U	340.	U	340.	U		
84-66-2	Diethylphthalate	340.	U	340.	U	340.	U		
131-11-3	Dimethyl phthalate	340.	U	340.	U	340.	U		
206-44-0	Fluoranthene	160.	J	340.	U	6.	J		
06-73-7	Fluorene	340.	U	340.	U	340.	U		
118-74-1	Hexachlorobenzene	340.	U	340.	U	340.	U		
87-68-3	Hexachlorobutadiene	340.	U	340.	U	340.	U		
77-47-4	Hexachlorocyclopentadiene	340.	U	340.	U	340.	U		
67-72-1	Hexachloroethane	340.	U	340.	U	340.	U		
193-39-5	Indeno(1,2,3-cd)pyrene	110.	J	340.	U	5.	J		
78-59-1	Isophorone	340.	U	340.	U	340.	U		
621-64-7	N-Nitroso-di-n-propylamine	62.	U	62.	U	62.	U		
122-39-4	Diphenylamine	340.	U	340.	U	340.	U		
91-20-3	Naphthalene	340.	U	340.	U	340.	U		
98-95-3	Nitrobenzene	340.	U	340.	U	340.	U		
87-86-5	Pentachlorophenol	820.	U	820.	U	820.	U		
85-01-8	Phenanthrene	71.	J	340.	U	340.	U		
108-95-2	Phenol	340.	U	340.	U	340.	U		
129-00-0	Pyrene	140.	J	340.	U	7.	J		
111-91-1	bis(2-Chloroethoxy)methane	340.	U	340.	U	340.	U		
111-44-4	bis(2-Chloroethyl)ether	340.	U	340.	U	340.	U		
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	340.	U	340.	U	340.	U		

NAS PENSACOLA
SITE 18
Soil samples

VQA		SAMPLE ID -----> 018-S-0001-01		018-S-0001-03		018-S-0002-01		018-S-0002-04		018-S-0003-01		018-S-0003-04	
ORIGINAL ID ----->		018S000101		018S000103		018S000201		018S000204		018S000301		018S000304	
LAB SAMPLE ID ----->		S554987*1		S554987*2		S554987*3		S554987*4		S554987*5		S554987*6	
ID FROM REPORT ----->		018S000101		018S000103		018S000201		018S000204		018S000301		018S000304	
SAMPLE DATE ----->		09/06/95		09/06/95		09/06/95		09/06/95		09/06/95		09/06/95	
DATE ANALYZED ----->		09/15/95		09/16/95		09/15/95		09/15/95		09/16/95		09/15/95	
MATRIX ----->		Soil		Soil		Soil		Soil		Soil		Soil	
UNITS ----->		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL
71-55-6	1,1,1-Trichloroethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
79-34-5	1,1,2,2-Tetrachloroethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
79-00-5	1,1,2-Trichloroethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
75-34-3	1,1-Dichloroethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
75-35-4	1,1-Dichloroethene	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
107-06-2	1,2-Dichloroethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
78-87-5	1,2-Dichloropropane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
78-93-3	2-Butanone (MEK)	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
591-78-6	2-Hexanone	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
67-64-1	Acetone	11.	U	11.	U	10.	U	10.	U	10.	U	15.	U
71-43-2	Benzene	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
75-27-4	Bromodichloromethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
75-25-2	Bromoform	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
74-83-9	Bromomethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
75-15-0	Carbon disulfide	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
56-23-5	Carbon tetrachloride	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
108-90-7	Chlorobenzene	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
75-00-3	Chloroethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
67-66-3	Chloroform	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
74-87-3	Chloromethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
540-59-0	1,2-Dichloroethene (total)	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
124-48-1	Dibromochloromethane	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
100-41-4	Ethylbenzene	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
75-09-2	Methylene chloride	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
100-42-5	Styrene	1.	U	11.	U	10.	U	10.	U	10.	U	11.	U
127-18-4	Tetrachloroethene	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
108-88-3	Toluene	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
79-01-6	Trichloroethene	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
75-01-4	Vinyl chloride	4.	U	4.	U	4.	U	4.	U	4.	U	4.	U
1330-20-7	Xylene (Total)	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
10061-01-5	cis-1,3-Dichloropropene	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
10061-02-6	trans-1,3-Dichloropropene	11.	U	11.	U	10.	U	10.	U	10.	U	11.	U
96-12-8	1,2-Dibromo-3-Chloropropane	NR		NR		NR		NR		NR		NR	
106-93-4	1,2-Dibromoethane	NR		NR		NR		NR		NR		NR	
95-50-1	1,2-Dichlorobenzene	NR		NR		NR		NR		NR		NR	
541-73-1	1,3-Dichlorobenzene	NR		NR		NR		NR		NR		NR	

NAS PENSACOLA
SITE 18
Soil Samples

VDA		SAMPLE ID ----->	018-S-0001-01	018-S-0001-03	018-S-0002-01	018-S-0002-04	018-S-0003-01	018-S-0003-04	
		ORIGINAL ID ----->	018S000101	018S000103	018S000201	018S000204	018S000301	018S000304	
		LAB SAMPLE ID ---->	S554987*1	S554987*2	S554987*3	S554987*4	S554987*5	S554987*6	
		ID FROM REPORT -->	018S000101	018S000103	018S000201	018S000204	018S000301	018S000304	
		SAMPLE DATE ----->	09/06/95	09/06/95	09/06/95	09/06/95	09/06/95	09/06/95	
		DATE ANALYZED --->	09/15/95	09/16/95	09/15/95	09/15/95	09/16/95	09/15/95	
		MATRIX ----->	Soil	Soil	Soil	Soil	Soil	Soil	
		UNITS ----->	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	
CAS #	Parameter	ENPOS	VAL	ENPOS	VAL	ENPOS	VAL	ENPOS	VAL
106-46-7	1,4 Dichlorobenzene	NR		NR		NR		NR	
74-97-5	Chlorobromomethane	NR		NR		NR		NR	
156-59-2	cis-1,2-Dichloroethene	NR		NR		NR		NR	
156-60-5	trans-1,2-Dichloroethene	NR		NR		NR		NR	

NAS PENSACOLA
SITE 18
Soil Samples

VDA		SAMPLE ID ----->	018-S-0004-01	018-S-0004-04	018-C-0004-04			
		ORIGINAL ID ----->	018S000401	018S000404	018C000404			
		LAB SAMPLE ID ---->	\$554987*7	\$554987*8	\$554987*9			
		ID FROM REPORT ---->	018S000401	018S000404	018C000404			
		SAMPLE DATE ----->	09/06/95	09/06/95	09/06/95			
		DATE ANALYZED ---->	09/16/95	09/15/95	09/15/95			
		MATRIX ----->	Soil	Soil	Soil			
		UNITS ----->	UG/KG	UG/KG	UG/KG			
CAS #	Parameter	ENPOS	VAL	ENPOS	VAL	ENPOS	VAL	
71-55-6	1,1,1-Trichloroethane	10.	U	10.	UJ	10.	U	
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	UJ	10.	U	
79-00-5	1,1,2-Trichloroethane	10.	U	10.	UJ	10.	U	
75-34-3	1,1-Dichloroethane	10.	U	10.	UJ	10.	U	
75-35-4	1,1-Dichloroethene	10.	U	10.	UJ	10.	U	
107-06-2	1,2-Dichloroethane	10.	U	10.	UJ	10.	U	
78-87-5	1,2-Dichloropropene	10.	U	10.	UJ	10.	U	
78-93-3	2-Butanone (MEK)	10.	U	10.	UJ	10.	U	
591-78-6	2-Hexanone	10.	U	10.	UJ	10.	U	
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	UJ	10.	U	
67-64-1	Acetone	10.	U	10.	UJ	10.	U	
71-43-2	Benzene	10.	U	10.	UJ	10.	U	
75-27-4	Bromodichloromethane	10.	U	10.	UJ	10.	U	
75-25-2	Bromoforn	10.	U	10.	UJ	10.	U	
74-83-9	Bromomethane	10.	U	10.	UJ	10.	U	
75-15-0	Carbon disulfide	10.	U	10.	UJ	10.	U	
56-23-5	Carbon tetrachloride	10.	U	10.	UJ	10.	U	
108-90-7	Chlorobenzene	10.	U	10.	UJ	10.	U	
75-00-3	Chloroethane	10.	U	10.	UJ	10.	U	
67-66-3	Chloroform	10.	U	10.	UJ	10.	U	
74-87-3	Chloromethane	10.	U	10.	UJ	10.	U	
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	UJ	10.	U	
124-48-1	Dibromochloromethane	10.	U	10.	UJ	10.	U	
100-41-4	Ethylbenzene	10.	U	10.	UJ	10.	U	
75-09-2	Methylene chloride	10.	U	10.	UJ	10.	U	
100-42-5	Styrene	10.	U	10.	UJ	10.	U	
127-18-4	Tetrachloroethene	10.	U	10.	UJ	10.	U	
108-88-3	Toluene	10.	U	10.	UJ	10.	U	
79-01-6	Trichloroethene	10.	U	10.	UJ	10.	U	
75-01-4	Vinyl chloride	4.	U	4.	UJ	4.	U	
1330-20-7	Xylene (Total)	10.	U	10.	UJ	10.	U	
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	UJ	10.	U	
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	UJ	10.	U	
96-12-8	1,2-Dibromo-3-Chloropropane	NR		NR		NR		
106-93-4	1, 2-Dibromoethane	NR		NR		NR		
95-50-1	1,2-Dichlorobenzene	NR		NR		NR		
541-73-1	1,3-Dichlorobenzene	NR		NR		NR		

NAS PENSACOLA
SITE 18
Soil samples

VDA	SAMPLE ID ----->	018-S-0004-01	018-S-0004-04	018-C-0004-04			
	ORIGINAL ID ----->	018S000401	018S000404	018C000404			
	LAB SAMPLE ID ---->	S554987*7	S554987*8	S554987*9			
	ID FROM REPORT -->	018S000401	018S000404	018C000404			
	SAMPLE DATE ----->	09/06/95	09/06/95	09/06/95			
	DATE ANALYZED ---->	09/16/95	09/15/95	09/15/95			
	MATRIX ----->	Soil	Soil	Soil			
	UNITS ----->	UG/KG	UG/KG	UG/KG			

CAS #	Parameter	ENPOS	VAL	ENPOS	VAL	ENPOS	VAL
106-46-7	1,4-Dichlorobenzene	NR		NR		NR	
74-97-5	Chlorobromomethane	NR		NR		NR	
156-59-2	cis-1,2-Dichloroethene	NR		NR		NR	
156-60-5	trans-1,2-Dichloroethene	NR		NR		NR	

NAS PENSACOLA
SITE 18
Groundwater Samples

METAL		SAMPLE ID ----->	018-G-GS01-01	018-H-GS01-01	018-G-GS02-01	018-G-GS03-01	018-G-GS04-01		
		ORIGINAL ID ----->	018GGS0101	018HGS0101	018GGS0201	018GGS0301	018GGS0401		
		LAB SAMPLE ID ----->	S555182A*1	S555182A*2	S555182A*3	S555182A*4	S555182A*5		
		ID FROM REPORT ----->	018GGS0101	018HGS0101	018GGS0201	018GGS0301	018GGS0401		
		SAMPLE DATE ----->	09/18/95	09/18/95	09/18/95	09/18/95	09/18/95		
		DATE EXTRACTED ----->	09/20/95	09/20/95	09/20/95	09/20/95	09/20/95		
		DATE ANALYZED ----->	10/09/95	10/09/95	10/09/95	10/09/95	10/09/95		
		MATRIX ----->	Water	Water	Water	Water	Water		
		UNITS ----->	UG/L	UG/L	UG/L	UG/L	UG/L		
CAS #	Parameter	ENP13	VAL	ENP13	VAL	ENP13	VAL	ENP13	VAL
7440-38-2	Arsenic (As)	1.6	J	1.5	U	4.1	J	3.9	J
7439-97-6	Mercury (Hg)	0.22		0.23		0.19	J	0.08	J
7439-92-1	Lead (Pb)	3.4	U	3.3	U	1.7	U	4.1	U
7782-49-2	Selenium (Se)	1.2	UJ	1.2	U	1.2	UJ	1.2	U
57-12-5	Cyanide (CN)	10.	UJ	10.	UJ	10.	UJ	10.	UJ
7429-90-5	Aluminum (Al)	41.3	J	37.6	J	17.4	J	78.7	J
7440-36-0	Antimony (Sb)	2.3	U	2.3	U	2.3	U	2.3	U
7440-39-3	Barium (Ba)	71.2	J	71.	J	73.6	J	52.	J
7440-41-7	Beryllium (Be)	0.14	U	0.14	U	0.14	U	0.14	U
7440-43-9	Cadmium (Cd)	1.4	U	1.4	U	1.4	U	1.4	U
7440-70-2	Calcium (Ca)	36000.		35600.		30400.		22600.	
7440-47-3	Chromium (Cr)	4.2	U	4.2	U	4.2	U	4.2	U
7440-48-4	Cobalt (Co)	1.2	UJ	1.2	UJ	1.2	UJ	1.2	UJ
7440-50-8	Copper (Cu)	5.5	U	4.7	U	7.2	U	5.5	U
7439-89-6	Iron (Fe)	61.5	J	65.	J	14.8	J	397.	J
7439-95-4	Magnesium (Mg)	2250.	J	2240.	J	2450.	J	2540.	J
7439-96-5	Manganese (Mn)	22.7		22.7		85.5		29.2	
7440-02-0	Nickel (Ni)	3.	U	3.	U	3.	U	3.	U
7440-09-7	Potassium (K)	1760.	J	1720.	J	1600.	J	1530.	J
7440-22-4	Silver (Ag)	1.5	U	1.5	U	1.5	U	1.5	U
7440-23-5	Sodium (Na)	13900.		13800.		7490.		12700.	
7440-62-2	Vanadium (V)	4.6	J	3.8	J	6.1	J	2.9	J
7440-66-6	Zinc (Zn)	31.2		40.3		29.7		52.7	
7440-28-0	Thallium (Tl)	0.95	U	0.95	U	0.95	U	0.95	U

NAS PENSACOLA
SITE 18
Groundwater Samples

CAS #	Parameter	018-G-GS01-01		018-H-GS01-01		018-G-GS02-01		018-G-GS03-01		018-G-GS04-01	
		ENP13	VAL	ENP13	VAL	ENP13	VAL	ENP13	VAL	ENP13	VAL
	PEST	SAMPLE ID -----> 018-G-GS01-01		018-H-GS01-01		018-G-GS02-01		018-G-GS03-01		018-G-GS04-01	
		ORIGINAL ID -----> 018GGS0101		018HGS0101		018GGS0201		018GGS0301		018GGS0401	
		LAB SAMPLE ID ----> S555182A*1		S555182A*2		S555182A*3		S555182A*4		S555182A*5	
		ID FROM REPORT --> 018GGS0101		018HGS0101		018GGS0201		018GGS0301		018GGS0401	
		SAMPLE DATE -----> 09/18/95		09/18/95		09/18/95		09/18/95		09/18/95	
		DATE EXTRACTED --> 09/20/95		09/20/95		09/20/95		09/20/95		09/20/95	
		DATE ANALYZED ----> 09/28/95		09/28/95		09/28/95		09/28/95		09/28/95	
		MATRIX -----> Water		Water		Water		Water		Water	
		UNITS -----> UG/L		UG/L		UG/L		UG/L		UG/L	
72-54-8	4,4'-DDD	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
72-55-9	4,4'-DDE	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
50-29-3	4,4'-DDT	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
309-00-2	Aldrin	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
12674-11-2	Aroclor-1016	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
11104-28-2	Aroclor-1221	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
11141-16-5	Aroclor-1232	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
53469-21-9	Aroclor-1242	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
12672-29-6	Aroclor-1248	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
11097-69-1	Aroclor-1254	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
11096-82-5	Aroclor-1260	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
60-57-1	Dieldrin	0.0025	J	0.0019	J	0.003	J	0.0079	J	0.02	U
959-98-8	Endosulfan I	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
33213-65-9	Endosulfan II	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
1031-07-8	Endosulfan sulfate	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
72-20-8	Endrin	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
7421-93-4	Endrin aldehyde	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
53494-70-5	Endrin ketone	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
76-44-8	Heptachlor	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
1024-57-3	Heptachlor epoxide	0.01	U	0.01	U	0.0016	J	0.01	U	0.01	U
72-43-5	Methoxychlor	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
8001-35-2	Toxaphene	1	U	1	U	1	U	1	U	1	U
319-84-6	alpha-BHC	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ	0.01	UJ
5103-71-9	alpha-Chlordane	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
319-85-7	beta-BHC	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
319-86-8	delta-BHC	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
58-89-9	gamma-BHC (Lindane)	0.01	U	0.0034	J	0.01	U	0.01	U	0.01	U
5103-74-2	gamma-Chlordane	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U

NAS PENSACOLA
SITE 18
Groundwater Samples

SVOA	SAMPLE ID ----->	018-G-GS01-01	018-N-GS01-01	018-G-6902-01	018-G-6903-01	018-G-6904-01
	ORIGINAL ID ----->	018GGS0101	018NGS0101	018GG90201	018GGS0301	018GGS0401
	LAB SAMPLE ID ---->	S555182A*1	S555182A*2	S555182A*3	S555182A*4	S555182A*5
	ID FROM REPORT ---->	018GGS0101	018NGS0101	018GG90201	018GGS0301	018GGS0401
	SAMPLE DATE ----->	09/18/95	09/18/95	09/18/95	09/18/95	09/18/95
	DATE EXTRACTED --->	09/20/95	09/20/95	09/20/95	09/20/95	09/20/95
	DATE ANALYZED ---->	10/05/95	10/05/95	10/05/95	10/05/95	10/05/95
	MATRIX ----->	Water	Water	Water	Water	Water
	UNITS ----->	UG/L	UG/L	UG/L	UG/L	UG/L

| CAS # | Parameter | ENP13 | VAL |
|----------|----------------------------------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
| 85-68-7 | Butylbenzylphthalate | 5. | U |
| 86-74-8 | Carbazole | NR | |
| 218-01-9 | Chrysene | 5. | U |
| 84-74-2 | Di-n-butylphthalate | 5. | U |
| 117-84-0 | Di-n-octyl phthalate | 5. | UR |
| 53-70-3 | Dibenz(a,h)anthracene | 5. | U |
| 132-64-9 | Dibenzofuran | 5. | U |
| 84-66-2 | Diethylphthalate | 5. | U |
| 131-11-3 | Dimethyl phthalate | 5. | U |
| 206-44-0 | Fluoranthene | 5. | U |
| 86-73-7 | Fluorene | 5. | U |
| 118-74-1 | Hexachlorobenzene | 5. | U |
| 87-68-3 | Hexachlorobutadiene | 5. | U |
| 77-47-4 | Hexachlorocyclopentadiene | 5. | U |
| 67-72-1 | Hexachloroethane | 5. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 5. | U |
| 78-59-1 | Isophorone | 5. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 5. | U |
| 122-39-4 | Diphenylamine | 5. | U |
| 91-20-3 | Naphthalene | 5. | U |
| 98-95-3 | Nitrobenzene | 5. | U |
| 87-86-5 | Pentachlorophenol | 20. | U |
| 85-01-8 | Phenanthrene | 5. | U |
| 108-95-2 | Phenol | 5. | U |
| 129-00-0 | Pyrene | 5. | U |
| 111-91-1 | bis(2-Chloroethoxy)methane | 5. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 5. | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate (BHP) | 5. | UJ |

NAS PENSACOLA
SITE 18
Groundwater Samples

VOA		SAMPLE ID ----->	018-G-GS01-01	018-N-GS01-01	018-G-GS02-01	018-G-GS03-01	018-G-GS04-01		
		ORIGINAL ID ----->	018GGS0101	018HGS0101	018GGS0201	018GGS0301	018GGS0401		
		LAB SAMPLE ID ----->	S555182A*1	S555182A*2	S555182A*3	S555182A*4	S555182A*5		
		ID FROM REPORT -->	018GGS0101	018HGS0101	018GGS0201	018GGS0301	018GGS0401		
		SAMPLE DATE ----->	09/18/95	09/18/95	09/18/95	09/18/95	09/18/95		
		DATE ANALYZED ----->	09/27/95	09/27/95	09/27/95	09/28/95	09/28/95		
		MATRIX ----->	Water	Water	Water	Water	Water		
		UNITS ----->	UG/L	UG/L	UG/L	UG/L	UG/L		
CAS #	Parameter	ENP13	VAL	ENP13	VAL	ENP13	VAL	ENP13	VAL
71-55-6	1,1,1-Trichloroethane	1.	U	1.	UJ	1.	U	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U	1.	UJ	1.	U	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U	1.	UJ	1.	U	1.	U
75-34-3	1,1-Dichloroethane	1.	U	1.	UJ	1.	U	1.	U
75-35-4	1,1-Dichloroethene	1.	U	1.	UJ	1.	U	1.	U
107-06-2	1,2-Dichloroethane	1.	U	1.	UJ	1.	U	1.	U
78-87-5	1,2-Dichloropropane	1.	U	1.	UJ	1.	U	1.	U
78-93-3	2-Butanone (MEK)	5.	UR	5.	UR	5.	UR	5.	UR
591-78-6	2-Hexanone	5.	U	5.	UJ	5.	U	5.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.	U	5.	UJ	5.	U	5.	U
67-64-1	Acetone	5.	UR	5.	UR	5.	UR	5.	UR
71-43-2	Benzene	1.	U	1.	UJ	1.	U	1.	U
75-27-4	Bromodichloromethane	1.	U	1.	UJ	1.	U	1.	U
75-25-2	Bromoform	1.	U	1.	UJ	1.	U	1.	U
74-83-9	Bromomethane	1.	U	1.	UJ	1.	U	1.	U
75-15-0	Carbon disulfide	1.	U	1.	UJ	1.	U	1.	U
56-23-5	Carbon tetrachloride	1.	U	1.	UJ	1.	U	1.	U
108-90-7	Chlorobenzene	1.	U	1.	UJ	1.	U	1.	U
75-00-3	Chloroethane	1.	U	1.	UJ	1.	U	1.	U
67-66-3	Chloroform	1.	U	1.	UJ	1.	U	1.	U
74-87-3	Chloromethane	1.	U	1.	UJ	1.	U	1.	U
540-59-0	1,2-Dichloroethene (total)	NR		NR		NR		NR	
124-48-1	Dibromochloromethane	1.	U	1.	UJ	1.	U	1.	U
100-41-4	Ethylbenzene	1.	U	1.	UJ	1.	U	1.	U
75-09-2	Methylene chloride	2.	U	2.	UJ	2.	U	2.	U
100-42-5	Styrene	1.	U	1.	UJ	1.	U	1.	U
127-18-4	Tetrachloroethene	1.	U	1.	UJ	1.	U	1.	U
108-88-3	Toluene	1.	U	1.	UJ	1.	U	1.	U
79-01-6	Trichloroethene	1.	U	1.	UJ	1.	U	1.	U
75-01-4	Vinyl chloride	1.	U	1.	UJ	1.	U	1.	U
1330-20-7	Xylene (Total)	1.	U	1.	UJ	1.	U	1.	U
10061-01-3	cis-1,3-Dichloropropene	1.	U	1.	UJ	1.	U	1.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U	1.	UJ	1.	U	1.	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.	U	1.	UJ	1.	U	1.	U
106-93-4	1, 2-Dibromoethane	1.	U	1.	UJ	1.	U	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U	1.	UJ	1.	U	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U	1.	UJ	1.	U	1.	U

NAS PENSACOLA
SITE 18
Groundwater Samples

VDA		018-G-GS01-01		018-H-GS01-01		018-G-GS02-01		018-G-GS03-01		018-G-GS04-01	
SAMPLE ID ----->		018GG0101		018HGS0101		018GG0201		018GG0301		018GG0401	
ORIGINAL ID ----->		S555182A*1		S555182A*2		S555182A*3		S555182A*4		S555182A*5	
LAB SAMPLE ID ---->		018GG0101		018HGS0101		018GG0201		018GG0301		018GG0401	
ID FROM REPORT -->		09/18/95		09/18/95		09/18/95		09/18/95		09/18/95	
SAMPLE DATE ----->		09/27/95		09/27/95		09/27/95		09/28/95		09/28/95	
DATE ANALYZED ----->		Water		Water		Water		Water		Water	
MATRIX ----->		UG/L		UG/L		UG/L		UG/L		UG/L	
UNITS ----->											
CAS #	Parameter	ENP13	VAL								
106-46-7	1,4-Dichlorobenzene	1.	U	1.	UJ	1.	U	1.	U	1.	U
74-97-5	Chlorobromomethane	1.	U	1.	UJ	1.	U	1.	U	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U	1.	UJ	1.	U	1.	U	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U	1.	UJ	1.	U	1.	U	1.	U

Field/Trip Blank Analytical Data

NAS PENSACOLA
SITE 18
Blanks

VOA

SAMPLE ID -----> 018-T-9001-01
ORIGINAL ID -----> 018TS00101
LAB SAMPLE ID ----> S554987*10
ID FROM REPORT --> 018TS00101
SAMPLE DATE -----> 09/06/95
DATE ANALYZED ----> 09/11/95
MATRIX -----> Water
UNITS -----> UG/L

CAS #	Parameter	ENPOS	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
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	7.	BJ
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
540-59-0	1,2-Dichloroethene (total)	10.	U
124-48-1	Dibromochloromethane	10.	U
100-41-4	Ethylbenzene	10.	U
75-09-2	Methylene chloride	10.	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	4.	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
05-12-8	1,2-Dibromo-3-Chloropropane	NR	
106-93-4	1,2-Dibromoethane	NR	
05-80	1,2-Dichlorobenzene	NR	
541-73-1	1,3-Dichlorobenzene	NR	

NAS PENSACOLA
SITE 18
Blanks

VDA	SAMPLE ID ----->	018-T-001-01					
	ORIGINAL ID ----->	018TS00101					
	LAB SAMPLE ID ---->	S554987*10					
	ID FROM REPORT -->	018TS00101					
	SAMPLE DATE ----->	09/06/95					
	DATE ANALYZED ---->	09/11/95					
	MATRIX ----->	Water					
	UNITS ----->	UG/L					

CAS #	Parameter	ENPOS	VAL				
106-46-7	1,4-Dichlorobenzene	NR					
74-97-5	Chlorobromomethane	NR					
156-59-2	cis-1,2-Dichloroethene	NR					
156-60-5	trans-1,2-Dichloroethene	NR					

Laboratory **Blank Analytical** Data

NAS PENSACOLA
SITE 18
Blanks

ALKALINITY	SAMPLE ID -----> MBL-0-NP08-08 ORIGINAL ID -----> MBLK1 LAB SAMPLE ID ----> S555182C*3 ID FROM REPORT --> MBLK1 SAMPLE DATE -----> DATE ANALYZED ----> 09/20/95 MATRIX -----> Water UNITS -----> MG/L						
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CAS #	Parameter	ENP08					
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9999900-03-9	Alkalinity as CaCO3 (bad CAS #)	1. U					
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NAS PENSACOLA
SITE 18
Blanks

BOD - 5 DA

SAMPLE ID -----> NBL-0-NPO8-08
 ORIGINAL ID -----> NBLK1
 LAB SAMPLE ID ----> S555182C*3
 ID FROM REPORT ---> NBLK1
 SAMPLE DATE ----->
 DATE ANALYZED ----> 09/19/95
 MATRIX -----> Water
 UNITS -----> MG/L

CAS # Parameter

ENPO8

9999900-03-8 Biochemical Oxygen Demand (5-day)

2. U

NAS PENSACOLA
SITE 18
Blanks

COD	SAMPLE ID -----> MBL-0-NP08-08 ORIGINAL ID -----> MBLK1 LAB SAMPLE ID ----> S555182C*3 ID FROM REPORT --> MBLK1 SAMPLE DATE -----> DATE ANALYZED ----> 09/20/95 MATRIX -----> Water UNITS -----> MG/L					
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CAS #	Parameter	ENP08				
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9999900-04-0	Chemical Oxygen Demand	20. U				
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DATALCP3
07/08/96

NAS PENSACOLA
SITE 18
Blanks

Page: 4
Time: 14:33

CAS # Parameter		ENP08					
9999900-03-3	Hardness as CaCO3	3.3 U					

NAS PENSACOLA
SITE 18
Blanks

KJELDAHL		SAMPLE ID ----->	MBL-0-NP08-08				
		ORIGINAL ID ----->	MBLK1				
		LAB SAMPLE ID ---->	S555182C*3				
		ID FROM REPORT -->	MBLK1				
		SAMPLE DATE ----->					
		DATE ANALYZED ---->	09/22/95				
		MATRIX ----->	Water				
		UNITS ----->	MG/L				
CAS #	Parameter	ENP08					
999-99-9	Kjeldahl Nitrogen-N (Invalid CAS #)	0.1 U					

NAS PENSACOLA
SITE 18
Blanks

METAL		SAMPLE ID ----->	MBL-0-NP08-01	MBL-0-NP08-06	MBL-0-NP13-04			
		ORIGINAL ID ----->	MBLK1	MBLK3	MBLK1			
		LAB SAMPLE ID ---->	S554987*11	S554987*14	S555182A*6			
		ID FROM REPORT -->	MBLK1	MBLK3	MBLK1			
		SAMPLE DATE ----->						
		DATE EXTRACTED -->	09/13/95	09/19/95	09/20/95			
		DATE ANALYZED ---->	10/06/95	09/22/95	10/09/95			
		MATRIX ----->	Soil	Soil	Water			
		UNITS ----->	MG/KG	MG/KG	UG/L			
CAS #	Parameter	ENP08	VAL	ENP08	VAL	ENP13	VAL	
7440-38-2	Arsenic (As)	0.17	B	NR		1.5	U	
7439-97-6	Mercury (Hg)	0.014	U	0.014	U	0.055	U	
7439-92-1	Lead (Pb)	1.3	U	NR		0.75	U	
7782-49-2	Selenium (Se)	0.1	U	NR		1.2	U	
57-12-5	Cyanide (CN)	0.25	U	NR		10.	U	
7429-90-5	Aluminum (Al)	1.8	B	NR		9.6	U	
7440-36-0	Antimony (Sb)	2.1	U	NR		2.3	U	
7440-39-3	Barium (Ba)	0.083	U	NR		0.5	U	
7440-41-7	Beryllium (Be)	0.027	B	NR		0.14	U	
7440-43-9	Cadmium (Cd)	0.2	U	NR		1.4	U	
7440-70-2	Calcium (Ca)	2.2	B	NR		63.2	B	
7440-47-3	Chromium (Cr)	0.19	U	NR		4.2	U	
7440-48-4	Cobalt (Co)	0.22	U	NR		-1.3	B	
7440-50-8	Copper (Cu)	0.18	U	NR		2.3	U	
7439-89-6	Iron (Fe)	0.98	B	NR		5.8	U	
7439-95-4	Magnesium (Mg)	1.4	U	NR		12.8	U	
7439-96-5	Manganese (Mn)	0.12	U	NR		1.1	U	
7440-02-0	Nickel (Ni)	1.2	U	NR		3.	U	
7440-09-7	Potassium (K)	6.6	U	NR		65.5	U	
7440-22-4	Silver (Ag)	0.17	U	NR		1.5	U	
7440-23-5	Sodium (Na)	2.7	U	NR		67.4	B	
7440-62-2	Vanadium (V)	0.14	U	NR		2.1	U	
7440-66-6	Zinc (Zn)	0.28	B	NR		1.8	B	
7440-28-0	Thallium (Tl)	0.07	U	NR		0.95	U	

NAS PENSACOLA
SITE 18
Blanks

NITRATE		SAMPLE ID -----> MBL-0-NP08-08					
		ORIGINAL ID -----> MBLK1					
		LAB SAMPLE ID ----> S555182c*3					
		ID FROM REPORT --> MBLK1					
		SAMPLE DATE ----->					
		DATE ANALYZED ----> 09/19/95					
		MATRIX -----> Water					
		UNITS -----> MG/L					

CAS #	Parameter	ENP08					
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9999900-03-4	Nitrate-N (use 14797-55-8)	0.05 U					
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NAS PENSACOLA
SITE 18
Blanks

PEST		SAMPLE ID ----->	MBL-0-NP08-02	MBL-0-NP13-01			
		ORIGINAL ID ----->	MBLK1	MBLK1			
		LAB SAMPLE ID ---->	S554987*11	S555182A*6			
		ID FROM REPORT -->	MBLK1	MBLK1			
		SAMPLE DATE ----->					
		DATE EXTRACTED -->	09/18/95	09/20/95			
		DATE ANALYZED ---->	09/30/95	09/28/95			
		MATRIX ----->	Soil	Water			
		UNITS ----->	UG/KG	UG/L			
CAS #	Parameter	ENP08	VAL	ENP13	VAL		
72-54-8	4,4'-DDD	3.3	U	0.02	U		
72-55-9	4,4'-DDE	3.3	U	0.02	U		
50-29-3	4,4'-DDT	3.3	U	0.02	U		
309-00-2	Aldrin	1.7	U	0.01	U		
12674-11-2	Aroclor-1016	33.	U	0.2	U		
11104-28-2	Aroclor-1221	67.	U	0.4	U		
11141-16-5	Aroclor-1232	33.	U	0.2	U		
53469-21-9	Aroclor-1242	33.	U	0.2	U		
12672-29-6	Aroclor-1248	33.	U	0.2	U		
11097-69-1	Aroclor-1254	33.	U	0.2	U		
11096-82-5	Aroclor-1260	33.	U	0.2	U		
60-57-1	Dieldrin	3.3	U	0.02	U		
959-98-8	Endosulfan I	1.7	U	0.01	U		
33213-65-9	Endosulfan II	3.3	U	0.02	U		
1031-07-8	Endosulfan sulfate	3.3	U	0.02	U		
72-20-8	Endrin	0.63	U	0.02	U		
7421-93-4	Endrin aldehyde	3.3	U	0.02	U		
53494-70-5	Endrin ketone	3.3	U	0.02	U		
76-44-8	Heptachlor	1.7	U	0.01	U		
1024-57-3	Heptachlor epoxide	1.7	U	0.01	U		
72-43-5	Methoxychlor	17.	U	0.1	U		
8001-35-2	Toxaphene	170.	U	1.	U		
319-84-6	alpha-BHC	1.7	U	0.01	U		
5103-71-9	alpha-Chlordane	1.7	U	0.01	U		
319-85-7	beta-BHC	1.7	U	0.01	U		
319-86-8	delta-BHC	1.7	U	0.01	U		
58-89-9	gamma-BHC (Lindane)	1.7	U	0.01	U		
5103-74-2	gamma-Chlordane	1.7	U	0.01	U		

NAS PENSACOLA
SITE 18
Blanks

STANDARD P	SAMPLE ID -----> NBL-0-NPO8-08 ORIGINAL ID -----> NBLK1 LAB SAMPLE ID ----> S555182C*3 ID FROM REPORT ---> NBLK1 SAMPLE DATE -----> DATE ANALYZED ----> 09/19/95 MATRIX -----> Water UNITS -----> CFU/M					
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CAS #	Parameter	ENPO8				
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9999900-03-6	Standard Plate Count	1. U				
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NAS PENSACOLA
SITE 18
Blanks

SVQA		SAMPLE ID ----->	MBL-0-NP08-02	MBL-0-NP13-02				
		ORIGINAL ID ----->	MBLK1	MBLK1				
		LAB SAMPLE ID ---->	S554987*11	S555182A*6				
		ID FROM REPORT -->	MBLK1	MBLK1				
		SAMPLE DATE ----->						
		DATE EXTRACTED -->	09/12/95	09/20/95				
		DATE ANALYZED -->	09/21/95	09/25/95				
		MATRIX ----->	Soil	Water				
		UNITS ----->	UG/KG	UG/L				
CAS #	Parameter	ENP08	VAL	ENP13	VAL			
120-82-1	1,2,4-Trichlorobenzene	330.	U	5.	U			
95-50-1	1,2-Dichlorobenzene	330.	U	NR				
541-73-1	1,3-Dichlorobenzene	330.	U	NR				
106-46-7	1,4-Dichlorobenzene	330.	U	NR				
39638-32-9	Bis(2-Chloroisopropyl)Ether	330.	U	5.	U			
95-95-4	2,4,5-Trichlorophenol	800.	U	20.	U			
88-06-2	2,4,6-Trichlorophenol	330.	U	5.	U			
120-83-2	2,4-Dichlorophenol	330.	U	5.	U			
105-67-9	2,4-Dimethylphenol	330.	U	5.	U			
51-28-5	2,4-Dinitrophenol	800.	U	20.	U			
121-14-2	2,4-Dinitrotoluene	330.	U	5.	U			
606-20-2	2,6-Dinitrotoluene	330.	U	5.	U			
91-58-7	2-Chloronaphthalene	330.	U	5.	U			
95-57-8	2-Chlorophenol	330.	U	5.	U			
91-57-6	2-Methylnaphthalene	330.	U	5.	U			
95-48-7	2-Methylphenol (o-Cresol)	330.	U	5.	U			
88-74-4	2-Nitroaniline	800.	U	20.	U			
88-75-5	2-Nitrophenol	330.	U	5.	U			
91-94-1	3,3'-Dichlorobenzidine	330.	U	5.	U			
9999900-32-2	3-Methylphenol/4-Methylphenol	330.	U	5.	U			
99-09-2	3-Nitroaniline	800.	U	20.	U			
534-52-1	2-Methyl-4,6-Dinitrophenol	800.	U	20.	U			
101-55-3	4-Bromophenyl-phenylether	330.	U	5.	U			
59-50-7	4-Chloro-3-methylphenol	330.	U	5.	U			
106-47-8	4-Chloroaniline	330.	U	5.	U			
7005-72-3	4-Chlorophenylphenylether	330.	U	5.	U			
100-01-6	4-Nitroaniline	800.	U	20.	U			
100-02-7	4-Nitrophenol	800.	U	20.	U			
83-32-9	Acenaphthene	330.	U	5.	U			
208-96-8	Acenaphthylene	330.	U	5.	U			
120-12-7	Anthracene	330.	U	5.	U			
56-55-3	Benzo(a)anthracene	330.	U	5.	U			
50-32-8	Benzo(a)pyrene	140.	U	5.	U			
205-99-2	Benzo(b)fluoranthene	330.	U	5.	U			
191-24-2	Benzo(g,h,i)perylene	330.	U	5.	U			
207-08-9	Benzo(k)fluoranthene	330.	U	5.	U			

NAS PENSACOLA
SITE 18
Blanks

SVQA		SAMPLE ID ----->	MBL-0-NP08-02	MBL-0-NP13-02				
		ORIGINAL ID ----->	MBLK1	MBLK1				
		LAB SAMPLE ID ---->	S554987*11	S555182A*6				
		ID FROM REPORT --->	MBLK1	MBLK1				
		SAMPLE DATE ----->						
		DATE EXTRACTED -->	09/12/95	09/20/95				
		DATE ANALYZED --->	09/21/95	09/25/95				
		MATRIX ----->	Soil	Water				
		UNITS ----->	UG/KG	UG/L				
CAS #	Parameter	ENP08	VAL	ENP13	VAL			
85-68-7	Butylbenzylphthalate	330.	U	5.	U			
86-74-8	Carbazole	330.	U	NR				
218-01-9	Chrysene	330.	U	5.	U			
84-74-2	Di-n-butylphthalate	330.	U	5.	U			
117-84-0	Di-n-octyl phthalate	330.	U	5.	U			
53-70-3	Dibenz(a,h)anthracene	140.	U	5.	U			
132-64-9	Dibenzofuran	330.	U	5.	U			
84-66-2	Diethylphthalate	330.	U	5.	U			
131-11-3	Dimethyl phthalate	330.	U	5.	U			
206-44-0	Fluoranthene	330.	U	5.	U			
86-73-7	Fluorene	330.	U	5.	U			
118-74-1	Hexachlorobenzene	330.	U	5.	U			
8	Hexachlorobutadiene	330.	U	5.	U			
		330.	U	5.	U			
21	Hexachlorocyclopentadiene	330.	U	5.	U			
		330.	U	5.	U			
78-59-1	Isophorone	330.	U	5.	U			
621-64-7	N-Nitroso-di-n-propylamine	60.	U	5.	U			
122-39-4	Diphenylamine	330.	U	5.	U			
91-20-3	Naphthalene	330.	U	5.	U			
98-95-3	Nitrobenzene	330.	U	5.	U			
87-86-5	Pentachlorophenol	800.	U	20.	U			
85-01-8	Phenanthrene	330.	U	5.	U			
108-95-2	Phenol	330.	U	5.	U			
129-00-0	Pyrene	330.	U	5.	U			
111-91-1	bis(2-Chloroethoxy)methane	330.	U	5.	U			
111-44-4	bis(2-Chloroethyl)ether	330.	U	5.	U			
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	36.	J	5.	U			

NAS PENSACOLA
SITE 18
Blanks

TOTAL PHOS	SAMPLE ID -----> NBL-0-NP08-08 ORIGINAL ID -----> NBLK1 LAB SAMPLE ID ----> 8555182c*3 ID FROM REPORT ---> NBLK1 SAMPLE DATE -----> DATE ANALYZED ----> 09/25/95 MATRIX -----> Water UNITS -----> MG/L					
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CAS #	Parameter	ENP08				
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22569-71-7	Total phosphorus	0.1 U				
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NAS PENSACOLA
SITE 18
Blanks

TSS		SAMPLE ID ----->	MBL-0-NP08-08				
		ORIGINAL ID ----->	MBLK1				
		LAB SAMPLE ID ---->	S555182C*3				
		ID FROM REPORT -->	MBLK1				
		SAMPLE DATE ----->					
		DATE ANALYZED -->	09/21/95				
		MATRIX ----->	Water				
		UNITS ----->	MG/L				
CAS #	Parameter	ENPO8					
9999900-03-7	Total Suspended Solids (TSS)	5. U					

NAS PENSACOLA
SITE 18
Blanks

VDA		SAMPLE ID ----->	MBL-0-NP08-01	MBL-0-NP08-05	MBL-0-NP08-07	MBL-0-NP08-08	MBL-0-NP13-03	MBL-0-NP13-05			
		ORIGINAL ID ----->	MBLK1	MBLK2	MBLK4	MBLK5	MBLK1	MBLK2			
		LAB SAMPLE ID ---->	S554987*11	S554987*12	S554987*16	S554987*17	S555182A*6	S555182A*7			
		ID FROM REPORT -->	MBLK1	MBLK2	MBLK4	MBLK5	MBLK1	MBLK2			
		SAMPLE DATE ----->									
		DATE ANALYZED ---->	09/18/95	09/18/95	09/18/95	09/18/95	09/28/95	09/28/95			
		MATRIX ----->	Soil	Water	Soil	Soil	Water	Water			
		UNITS ----->	UG/KG	UG/L	UG/KG	UG/KG	UG/L	UG/L			
CAS #	Parameter	ENP08	VAL	ENP08	VAL	ENP08	VAL	ENP13	VAL	ENP13	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	1.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	1.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	1.	U
75-35-4	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	1.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	1.	U
78-87-5	1,2-Dichloropropene	10.	U	10.	U	10.	U	10.	U	1.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	5.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	5.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	5.	U
67-64-1	Acetone	10.	U	18.	U	10.	U	10.	U	5.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	1.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	1.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	1.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	1.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	1.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	1.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	1.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	1.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	1.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	1.	U
540-59-0	1,2-Dichloroethane (total)	10.	U	10.	U	10.	U	10.	U	NR	NR
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	1.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	1.	U
75-09-2	Methylene chloride	10.	U	10.	U	10.	U	10.	U	2.	U
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	1.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	1.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	1.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	1.	U
75-01-4	Vinyl chloride	4.	U	4.	U	4.	U	4.	U	1.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	1.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	1.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	1.	U
96-12-8	1,2-Dibromo-3-Chloropropene	NR		NR		NR		NR		1.	U
106-93-4	1, 2-Dibromoethane	NR		NR		NR		NR		1.	U
95-50-1	1,2-Dichlorobenzene	NR		NR		NR		NR		1.	U
541-73-1	1,3-Dichlorobenzene	NR		NR		NR		NR		1.	U

NAS PENSACOLA
SITE 18
Blanks

VDA		MBL-0-NP08-01		MBL-0-NP08-05		MBL-0-NP08-07		MBL-0-NP08-08		MBL-0-NP13-03		MBL-0-NP13-05	
SAMPLE ID ----->		MBLK1		MBLK2		MBLK4		MBLK5		MBLK1		MBLK2	
ORIGINAL ID ----->		S554987*11		S554987*12		S554987*16		S554987*17		S555182A*6		S555182A*7	
LAB SAMPLE ID ---->		MBLK1		MBLK2		MBLK4		MBLK5		MBLK1		MBLK2	
ID FROM REPORT -->													
SAMPLE DATE ----->		09/18/95		09/18/95		09/18/95		09/18/95		09/28/95		09/28/95	
DATE ANALYZED ---->		Soil		Water		Soil		Soil		Water		Water	
MATRIX ----->		UG/KG		UG/L		UG/KG		UG/KG		UG/L		UG/L	
UNITS ----->													
CAS #	Parameter	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL	ENPO8	VAL	ENP13	VAL	ENP13	VAL
106-46-7	1,4-Dichlorobenzene	NR		NR		NR		NR		1.	U	1.	U
74-97-5	Chlorobromomethane	NR		NR		NR		NR		1.	U	1.	U
156-59-2	cis-1,2-Dichloroethene	NR		NR		NR		NR		1.	U	1.	U
156-60-5	trans-1,2-Dichloroethene	NR		NR		NR		NR		1.	U	1.	U

Appendix E

Physical Parameters Analytical Data

NAS PENSACOLA
SITE 18
Groundwater Physical Parameters

ALKALINITY		SAMPLE ID ----->	018-G-6802-01	018-G-6803-01			
		ORIGINAL ID ----->	018GG0201	018GG0301			
		LAB SAMPLE ID ---->	8555182C*1	8555182C*2			
		ID FROM REPORT -->	018GG0201	018GG0301			
		SAMPLE DATE ----->	09/18/95	09/18/95			
		DATE ANALYZED ---->	09/20/95	09/20/95			
		MATRIX ----->	Water	Water			
		UNITS ----->	MG/L	MG/L			
CAS #	Parameter	ENPO8	ENPO8				
9999900-03-9	Alkalinity as CaCO3 (bed CAS #)	83.	bo.				

NAS PENSACOLA
SITE 18
Groundwater Physical Parameters

BOD - 5 BA		SAMPLE ID ----->	018-G-6802-01	018-G-6803-01				
		ORIGINAL ID ----->	018GG0201	018GG0301				
		LAB SAMPLE ID ---->	8555182c*1	8555182c*2				
		ID FROM REPORT -->	018GG0201	018GG0301				
		SAMPLE DATE ----->	09/18/95	09/18/95				
		DATE ANALYZED ---->	09/19/95	09/19/95				
		MATRIX ----->	Water	Water				
		UNITS ----->	MG/L	MG/L				
CAS #	Parameter	ENPO8	ENPO8					
9999900-03-8	Biochemical Oxygen Demand (5-day)	2. U	2. U					

NAS PENSACOLA
SITE 18
Groundwater Physical Parameters

CER		SAMPLE ID ----->	018-G-6S02-01	018-G-6S03-01				
		ORIGINAL ID ----->	018GGS0201	018GGS0301				
		LAB SAMPLE ID ---->	8555182C*1	8555182C*2				
		ID FROM REPORT -->	018GGS0201	018GGS0301				
		SAMPLE DATE ----->	09/18/95	09/18/95				
		DATE ANALYZED ---->	09/20/95	09/20/95				
		MATRIX ----->	Water	Water				
		UNITS ----->	MG/L	MG/L				
CAS #	Parameter	ENPOS	ENPOS					
9999900-04-0	Chemical Oxygen Demand	20. U	20. U					

NAS PENSACOLA
SITE 18
Groundwater Physical Parameters

HARDNESS		SAMPLE ID ----->	018-G-6902-01	018-G-6903-01				
		ORIGINAL ID ----->	018GG0201	018GG0301				
		LAB SAMPLE ID ---->	8555182C*1	8555182C*2				
		ID FROM REPORT -->	018GG0201	018GG0301				
		SAMPLE DATE ----->	09/18/95	09/18/95				
		DATE ANALYZED ---->	09/28/95	09/28/95				
		MATRIX ----->	Water	Water				
		UNITS ----->	MG/L	MG/L				
CAS #	Parameter	ENPO8	ENPO8					
9999900-03-3	Hardness as CaCO3	85.	64.					

NAS PENSACOLA
SITE 18
Groundwater Physical Parameters

KJELDHAL	SAMPLE ID ----->	018-G-0502-01	018-G-0503-01				
	ORIGINAL ID ----->	018GGS0201	018GGS0301				
	LAB SAMPLE ID ---->	5555182C*1	5555182C*2				
	ID FROM REPORT -->	018GGS0201	018GGS0301				
	SAMPLE DATE ----->	09/18/95	09/18/95				
	DATE ANALYZED -->	09/22/95	09/22/95				
	MATRIX ----->	Water	Water				
	UNITS ----->	MG/L	MG/L				

CAS #	Parameter	ENPOS	ENPOS				
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999-99-9	Kjeldahl Nitrogen-N (Invalid CAS #)	0.32	0.42				
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NAS PENSACOLA
SITE 18
Groundwater Physical Parameters

NITRATE		SAMPLE ID ----->	018-G-6S02-01	018-G-6S03-01				
		ORIGINAL ID ----->	018GGS0201	018GGS0301				
		LAB SAMPLE ID ---->	S555182C*1	S555182C*2				
		ID FROM REPORT -->	018GGS0201	018GGS0301				
		SAMPLE DATE ----->	09/18/95	09/18/95				
		DATE ANALYZED ---->	09/19/95	09/19/95				
		MATRIX ----->	Water	Water				
		UNITS ----->	MG/L	MG/L				
CAS #	Parameter	ENPOB	ENPOB					
9999900-03-4	Nitrate-N (use 14797-55-8)	0.41	0.52					

**NAS PENSACOLA
SITE 18
Groundwater Physical Parameters**

STANDARD P		SAMPLE ID ----->	018-G-6802-01	018-G-6803-01				
		ORIGINAL ID ----->	018GG0201	018GG0301				
		LAB SAMPLE ID ----->	S555182C*1	S555182C*2				
		ID FROM REPORT ----->	018GG0201	018GG0301				
		SAMPLE DATE ----->	09/18/95	09/18/95				
		DATE ANALYZED ----->	09/19/95	09/19/95				
		MATRIX ----->	Water	Water				
		UNITS ----->	CFU/M	CFU/M				
CAS #	Parameter	ENP08	ENP08					
9999900-03-6	Standard Plate Count	130.	940.					

NAS PENSACOLA
SITE 18
Groundwater Physical Parameters

TOTAL PHOS		SAMPLE ID ----->	018-G-6902-01	018-G-6903-01				
		ORIGINAL ID ----->	01806S0201	01806S0301				
		LAB SAMPLE ID ----->	8555182C*1	8555182C*2				
		ID FROM REPORT ----->	01806S0201	01806S0301				
		SAMPLE DATE ----->	09/18/95	09/18/95				
		DATE ANALYZED ----->	09/25/95	09/25/95				
		MATRIX ----->	Water	Water				
		UNITS ----->	MG/L	MG/L				
CAS #	Parameter	ENPO8	ENPO8					
22569-71-7	Total phosphorus	0.16	0.49					

NAS PENSACOLA
SITB 18
Groundwater Physical Parameters

TSS		018-G-6502-01	018-G-6503-01				
	SAMPLE ID ----->	018G650201	018G650301				
	ORIGINAL ID ----->	018G650201	018G650301				
	LAB SAMPLE ID ---->	5555182C*1	5555182C*2				
	ID FROM REPORT -->	018G650201	018G650301				
	SAMPLE DATE ----->	09/18/95	09/18/95				
	DATE ANALYZED --->	09/21/95	09/21/95				
	MATRIX ----->	Water	Water				
	UNITS ----->	MG/L	MG/L				
CAS #	Parameter	ENPOS	ENPOS				
9999900-03-7	Total Suspended Solids (TSS)	S. U	5. U				