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PRELIMINARY SITE CHARACTERIZATION REPORT
SITE 7
NAVAL AIR STATION
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
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NAVAL AIR STATION
PENSACOLA, FLORIDA

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The Contractor, EnSafe/Allen & Hoshall, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0318 is complete, accurate, and complies with all requirements of the contract.

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19. Abstract

A Preliminary site characterization was conducted for Category VII — Site 7 (the Firefighting School) to determine whether contaminants were present in site soil or groundwater above surface, subsurface, end groundwater preliminary remediation goals (PRGs)

To confirm the absence or presence of contaminants, four borings were advanced to the water table, with surface and subsurface soil samples collected for full Target Analyte List/Target Compound List (TAL/TCL) scan analyses. The four borings were converted into shallow groundwater monitoring wells. Groundwater samples were collected from all four wells.

The surface soil consists of about 8 feet of brown, silty, fine to coarse sand. From approximately 8 to 9 feet below land surface (bls) is a natural buff colored fine- to coarse-grained quartz *sand* that extends to the water table. At 14 feet bls a light tan, grayish-brown, or dark brown, medium to coarse sand is encountered.

The analytical data *generated* from this investigation were compared to risk-based, surface soil, and subsurface soil, and groundwater PRGs. Three metals exceeded their PRGs.

Aluminum, arsenic, and iron were the only inorganic parameters exceeding soil PRGs. Each of these parameters exceeded it associated PRG in the surface soil sample collected from only one of the four borings. No organic parameters were detected in site soil samples exceeding PRGs.

The groundwater evaluation identified aluminum and iron above secondary standards in site groundwater. However, these inorganic groundwater concentrations are comparable to those observed at previously investigated sites across Naval Air Station (NAS) Pensacola, indicating they represent ambient groundwater conditions. No organics were present in groundwater samples.

The primary receiving aquifer within the Site 7 area is the surficial zone of the Sand-and-Gravel Aquifer, which is currently not utilized as a potable water supply at NAS Pensacola as *o* potable water supply due to the availability of municipal water, the ambient concentrations of some metals, and the potential for saltwater intrusion induced by pumping. Given that the upper surficial zone is not utilized, no remedial recommendation for secondary exceedances is required. Therefore, no recommendation to address aluminum or iron is made. The primary surface water body receptor is Bayou Grande and ultimately Pensacola Bay. No wetlands exist in the vicinity of Site 7.

No further action is recommended with respect to Site 7 soils due to the absence of any major contamination onsite. A comparison of other constituents to applicable and relevant or appropriate requirements (ARARS) supports a conclusion of no further action for soils based on the following analyses: (1) Soil inorganic constituents above standards are similar in type, frequency of occurrence, and Concentrations as those identified in all previously investigated sites on the eastern portion of NAS Pensacola, implying these constituents are not unique to this *Site;* and (2) leaching to groundwater of similar soil inorganic constituents and concentrations above standards have not been noted on nearby sites.

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List of Acronyms and Abbreviations

μg/kg	Micrograms per Kilogram
ARARs	Applicable and Relevant or Appropriate Requirements
bls	Below land surface
CG	Cleanup Goal
CLP	Contract Laboratory Program
CSAP	Comprehensive Sampling and Analysis Plan
DQO	Data Quality Objective
E/A&H	EnSafe/Allen & Hoshall
E&E	Ecology and Environment, Inc.
FDEP	Florida Department of Environmental Protection
FNAI	Florida Natural Areas Inventory
ft/day	Feet per day
G&M	Geraghty & Miller, Inc.
GPS	Global Positioning System
GS	Grain Size
IAS	Initial Assessment Study
ICP	Inductive Coupled Plasma
ICS	Interference Check Sample
IPA	Isopropanol alcohol
IRP	Installation Restoration Program
IS	Internal Standards
LCS	Laboratory Control Sample
mg/kg	Milligrams per kilogram
MS	Matrix Spike
MSD	Matrix Spike Duplicate
msl	Mean sea level
NAS	Naval Air Station
NEESA	Naval Energy and Environmental Support Activity
NFESC	Naval Facilities Engineering Service Center
OU	Operable Unit
OSWER	Office of Solid Waste and Emergency Response
PAW	Polycyclic Aromatic Hydrocarbon
PCBs	Polychlorinated Biphenyls
PRG	Preliminary Remediation Goal
PSC	Preliminary Site Characterization
QA/QC	Quality Assurance/Quality Control
RBC	Risk-based Concentration
RI	Remedial Investigation
SAP	Sampling and Analysis Plan
SDG	Sample delivery group
SEGS	Southeastern Geological Society
SMCL	Secondary Maximum Contaminant Level

List of Acronyms and Abbreviations (continued)

SOW	Statement of Work
SQUAGs	Sediment Quality Assessment Guidelines
SSL	Soil Screening Level
SSV	Sediment Screening Value
SOUTHNAVFACENGCOM	Southern Division Naval Facilities Engineering Command
TAL	Target Analyte List
TCL	Target Compound List
TEL	Threshold Effects Level
TRPH	Total Recoverable Petroleum Hydrocarbons
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USES	U.S. Geological Survey

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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 7 - the Firefighting School, at Naval Air Station (NAS) Pensacola. This screening site is listed under Category VII of the Site Management Plan of the Installation Restoration Program (IRP) for NAS Pensacola (SOUTHNAVFACENGCOM, 1995). Site 7 is immediately north of the intersection of Redoubt and Taylor roads and encompasses the area including and east of Building 1713 and the fire training tower,

The investigation was undertaken by EnSafe/Allen & Hoshall (E/A&H) to meet the requirements of the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 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 whether a source(s) of soil or groundwater contamination is onsite and, if so, to determine its nature, magnitude, and extent using validated sample data. An additional objective of this investigation was to make and appropriate recommendation as to the need for further action based upon this information.

The investigation was conducted in phases to allow for real-time data input from the Tier One team before proceeding. 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.
- A preliminary field survey to characterize the study area.
- A geophysical survey to identify potential anomalous subsurface features.
- The advancement of soil borings and collection of soil samples for chemical analysis.
- The installation of groundwater monitoring wells and collection of groundwater samples for chemical analysis.

Purpose of the Report

This PSC report summarizes the activities, results, and conclusions of the overall investigation, and documents the data collection and analytical methods used,

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

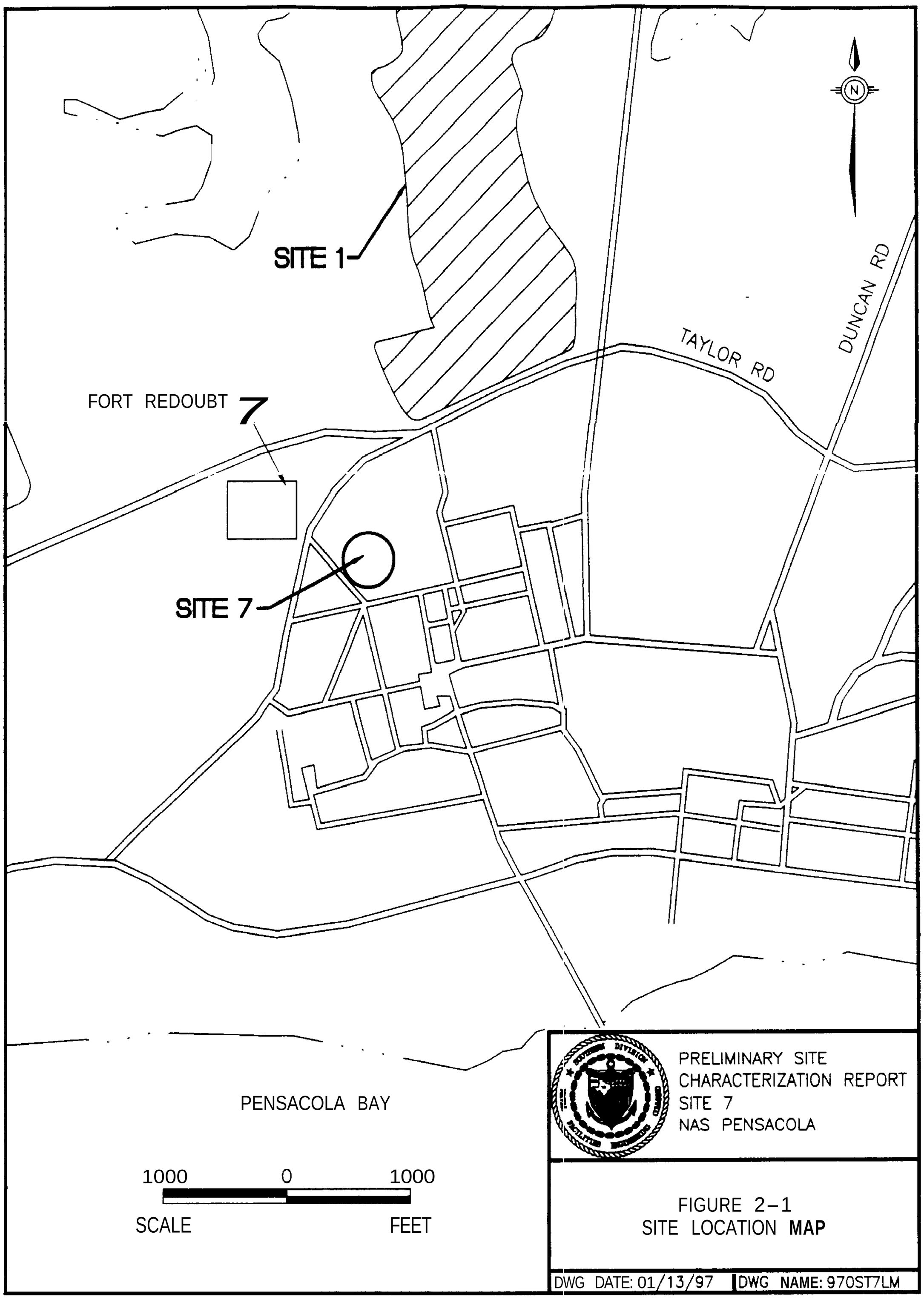
The vicinity of Site 7 is generally flat with land surface elevation ranging from 20 to 25 feet above mean sea level (msl). An NAS Pensacola water supply well (Well No. 3) is 1,300 feet south-southwest of the site (E&E 1992a). The nearest IRP monitoring wells are located about 1,300 feet to the east (Remedial Investigation [RI] Site 1 wells). No monitoring wells are in the site's immediate vicinity. Figure 2-1 shows the site's location with respect to surrounding points.

Site 7 is approximately 400 feet southeast of Fort Redoubt, near the intersection of Redoubt and Taylor roads, as shown on Figure 2-2. Building 1713 in included in Site 7. Wooded areas border the site to the north and south of Building 1713. Several mobile homes are located southeast of the site. The grounds surrounding Building 1713 are mostly unpaved. A firefighting training tower is located about 25 feet east-southeast of Building 1713. A large clearing is adjacent to the tower.

2.2 Site History

The firefighting school has operated since 1940. An Initial Assessment Study (IAS) was performed by the Naval Energy and Environmental Support Activity (NEESA) in 1983. Based upon field inspection, review of historical records, and interviews with NAS Pensacola personnel, NEESA concluded that the site had been used for firefighter training. Flammable liquids were used to start fires in an open tank of water for firefighting practice. The IAS also indicated there was no evidence of hazardous waste disposal or threat to human health or the environment. Further study of Site 7 was therefore not recommended (NEESA, 1983).

The results of the previous Phase I investigation of Site 7 are outlined in the *Interim Data* Report, *Contamination Assessment/Remedial* Investigation, *Firefighting* School (Site 7) (E&E, 1992b). The report concluded that overall, significant soil and groundwater contamination are absent


SITE 1
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SITE 7
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SCALE
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PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 7
NAS PENSACOLA
FIGURE 2-1
SITE LOCATION MAP
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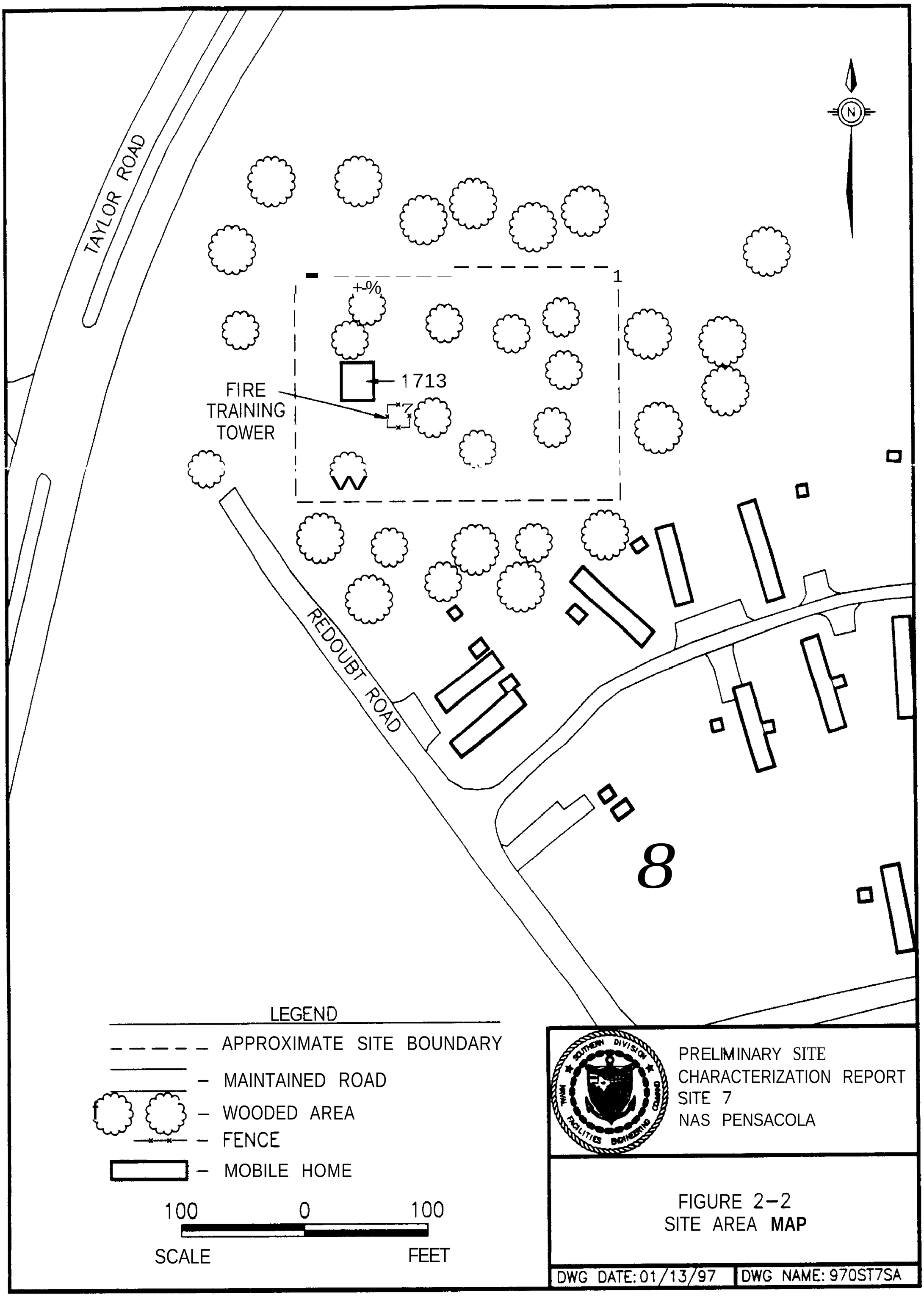
DWG NAME: 970ST7LM


TAYLOR ROAD
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REDOUBT ROAD
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MAINTAINED ROAD
WOODED AREA
FENCE
MOBILE HOME
100
0
100
SCALE
FEET
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 7
NAS PENSACOLA
FIGURE 2-2
SITE AREA MAP
DWG DATE: 01/13/97
DWG NAME: 970ST7SA

across most of Site 7. Low levels of total recoverable petroleum hydrocarbons (TRPHs) (presumably related to nearby automobile and/or aircraft traffic) were found in soil across Site 7. Relatively higher TRPHs identified in the central and north portions of the site were attributed tu past firefighting training activities. A significant PAH concentration was found in an upgradient source. Inorganics above regulatory standards from a single soil sample were related to an isolated metals source near the site's southern boundary. Overall, the Phase I report recommended further assessment at Site 7 (E&E 1992b).

3.0

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 msl (*USGS*, 1970ab). 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.

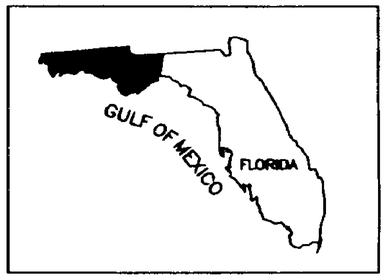
Sandy soils typify the NAS Pensacola area. Consequently, most rainfall infiltrates directly into the subsurface, resulting in few natural streams, Streams on base generally are man-made and channelized. Numerous natural wetlands occur in low-lying areas.

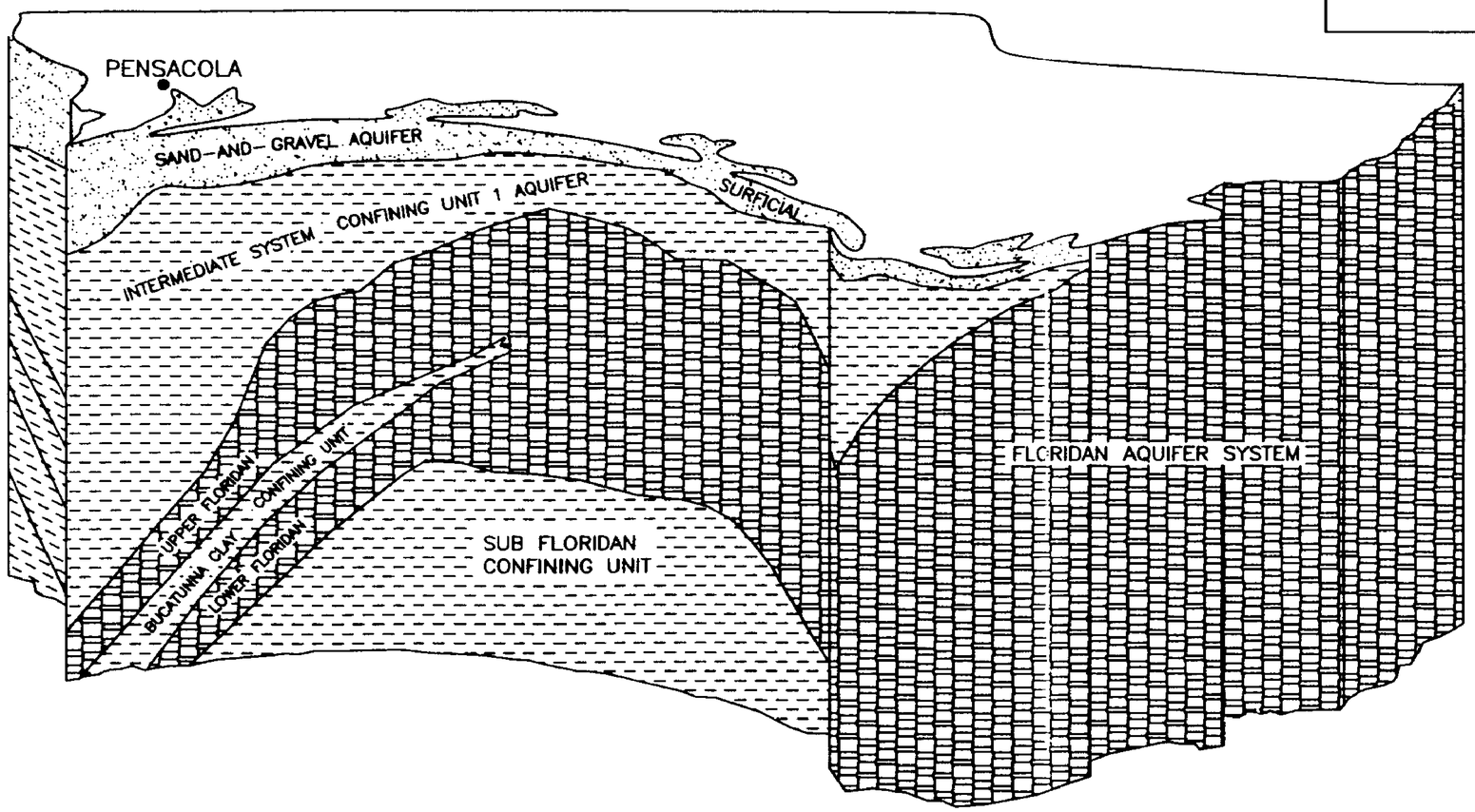
3.2 Stratigraphy and Hydrogeology

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 (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 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,





SCALE:

HORIZONTAL 1" = 6.6 MILES

VERTICAL 1" = 60 FEET

VERTICAL EXAGGERATION = 281

SOURCE: E&E 1992c.

PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 7
NAS PENSACOLA

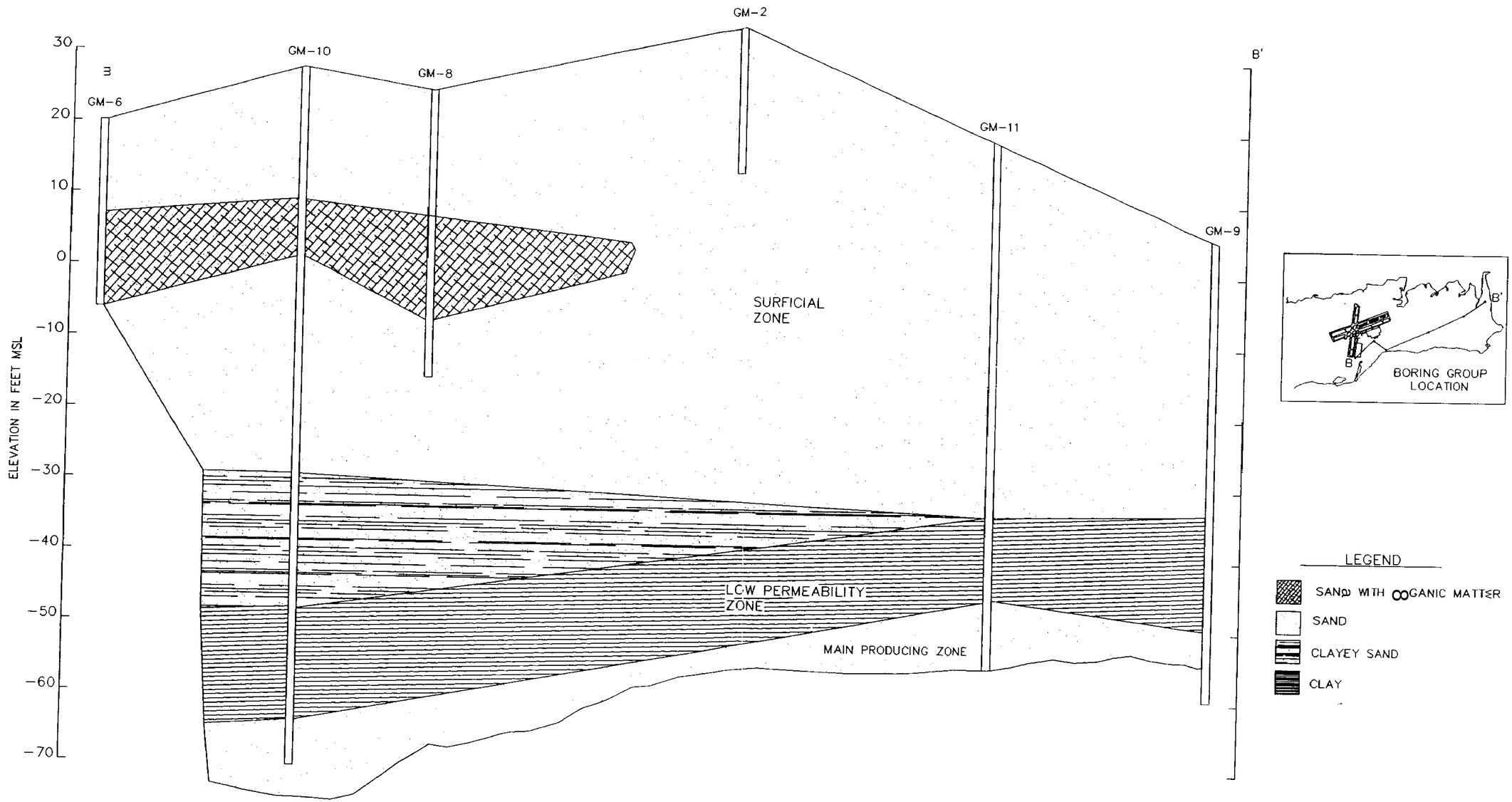
FIGURE 3-1
GENERALIZED GEOLOGIC CROSS-SECTION OF
HYDROGEOLOGIC UNITS IN
NORTHWEST FLORIDA

DATE: 01/13/97 | DWG NAME: 970ST7GC

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 Geraghty & Miller, Inc. in 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 (ft/day) (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 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.



SOURCE: GERAGHTY & MILLER, 1986

PRELIMINARY SITE CHARACTERIZATION REPORT
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NAS PENSACOLA

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

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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 comprises 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} ft/day fur clays and 10^{+0} ft/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 water supply fur 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 so the wells are used only to supplement 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 main producing zone wells at Corry Field, approximately three miles to the north.

Intermediate System

The Intermediate System, a regionally and vertically extensive, laterally persistent hydrologic unit, underlies the Surficial/Sand-and-Gravel Aquifer. The system is comprised of fine-grained clastic units of Miocene age (Pensacola Clay, Alum Bluff Group) that lie beneath coarse clastics of the overlying Sand-and-Gravel Aquifer. In the 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 Pensacoh.

3.3 Ecological Setting

3.3.1 Regional Ecological Setting

According to Wolfe et al. (1988), 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 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 temtory 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 Panhande'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.

3.3.2 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. Tu the west, the installation transitions 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 (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 those varieties. 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 (USFWS, 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 (FNAI, 1995).

3.3.3 Site-Specific Setting

Site 7 lies in a wooded zone between Redoubt, Taylor, and Hovey roads. Onsite habitat consists of a field successional community of secondary woods dominated by medium-sized pine and oak trees, and a weedy understory consisting of various shrubs and vines. Overstory plant species include sand pine *(Pinus clausa)*, live oak *(Quercus virginiana)*, laurel oak *(Quercus hemisphaerica)*, and turkey oak *(Quercus laevis)*. The understory includes Virginia creeper *(Parthenocissus quinquefolia)*, southern dewberry *(Rubus trivialis)*, greenbrier *(Smilax bona-nox)*, muscadine grape *(Vitis rotundifolia)*, summer grape *(Vitis aestivalis)*, beauty berry *(Callicarpa*

americana), morning glory *(Ipopmea sp.)*, pennywort *(Hydrocotyle verticillata)*, chinese privet *(Ligustrum sinense)*, winged sumac *(Rhus copallina)*, yaupon *(Ilex vomitoria)*, and shrub verbena *(Latana camara)*, among odd weeds and grasses. The site supports a limited animal community, including birds, insects, and small mammal, such as squirrels or other rodents. No rare or endangered species were noted onsite.

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" 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 AND METHODS

The field investigation took place in March, April, and May 1996, in conjunction with preliminary work on other Category VII sites at NAS Pensacola. Work was performed in accordance with the Work Plan for Sites 4, 6, 7, 8, 16, and 22 (E&E, 1992a), the Sampling and Analysis Plan (SAP) for Sites 4, 6, 7, 8, 16, and 22 (E/A&H, 1995a), the Final Comprehensive Sampling and Analysis Plan (CSAP)(E/A&H, 1994a), and the USEPA Region IV Standard Operating Procedures and Quality Assurance Manual (USEPA, 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 soil or groundwater contaminants onsite, comparing identified constituents to previously established preliminary remediation goals (PRGs). The intent was to identify any analyzed 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), including inorganics, pesticides/polychlorinated biphenyls (PCBs), and semivolatile/volatile organic compounds. Additional samples were collected for grain size (GS) analysis. All chemical and physical parameters were analyzed by the S-Cubed Division of Maxwell Environmental Laboratories in San Diego, California.

4.1 Contaminant Source Survey

The site was surveyed preliminarily to determine the best possible placement of soil brings and monitoring wells, based on current and historical knowledge of the site and surrounding areas. Aerial photographs were closely evaluated to detect changes in the area over time. Surface features (i.e., storm drains, etc.) were noted to identify potential pathways of contaminant migration. The current use of the area also was noted.

Aerial photo analyses show that surface features on Site 7 changed little between the 1960s and the present. The area has remained wooded for many years. Onsight examination identified no network of storm drains near the site which might serve as conduits for offsite contaminant transport.

4.2 Geophysical Survey

A geophysical survey was conducted as part of the Contaminant Source Survey. There were two well-defined anomalies identified from data collected during the survey, located within the southern and southeastern portion of the site. These two anomalies were investigated during the soil boring activities with no anomalous materials being identified. Local military personnel reported several bum pits were located in this section of the site, A summary of the geophysical methods used and results for Sites 4, 7, and 16 is presented in Appendix A+

4.3 Soil Boring and Sampling Methodology

Table 4-1 outlines the Site 7 soil samples and analytical parameters. Figure 4-1 depicts the Site 7 soil boring and monitoring well locations, Four soil borings were advanced in the site's two northern corners, the right-center of the site, and in the lower center of the site area specified in the SAP. Nine soil samples were collected from these brings. Boring logs are presented in Appendix B. Samples were collected in accordance with Section 4 of the CSAP. Sampling intervals included the surface interval (0 to 1' bls) and the lower 2 feet of each subsequent 5-foot interval until the water table was reached. Saturated soil was reached at roughly 8 feet bls, hence normally a single subsurface interval was sampled from each boring location.

4.4 Groundwater Monitoring

4.4.1 Monitoring Well Construction

Table 4-2 outlines the Site 7 groundwater samples and analytical parameters. Four permanent shallow monitoring wells were constructed onsite in accordance with procedures outlined in

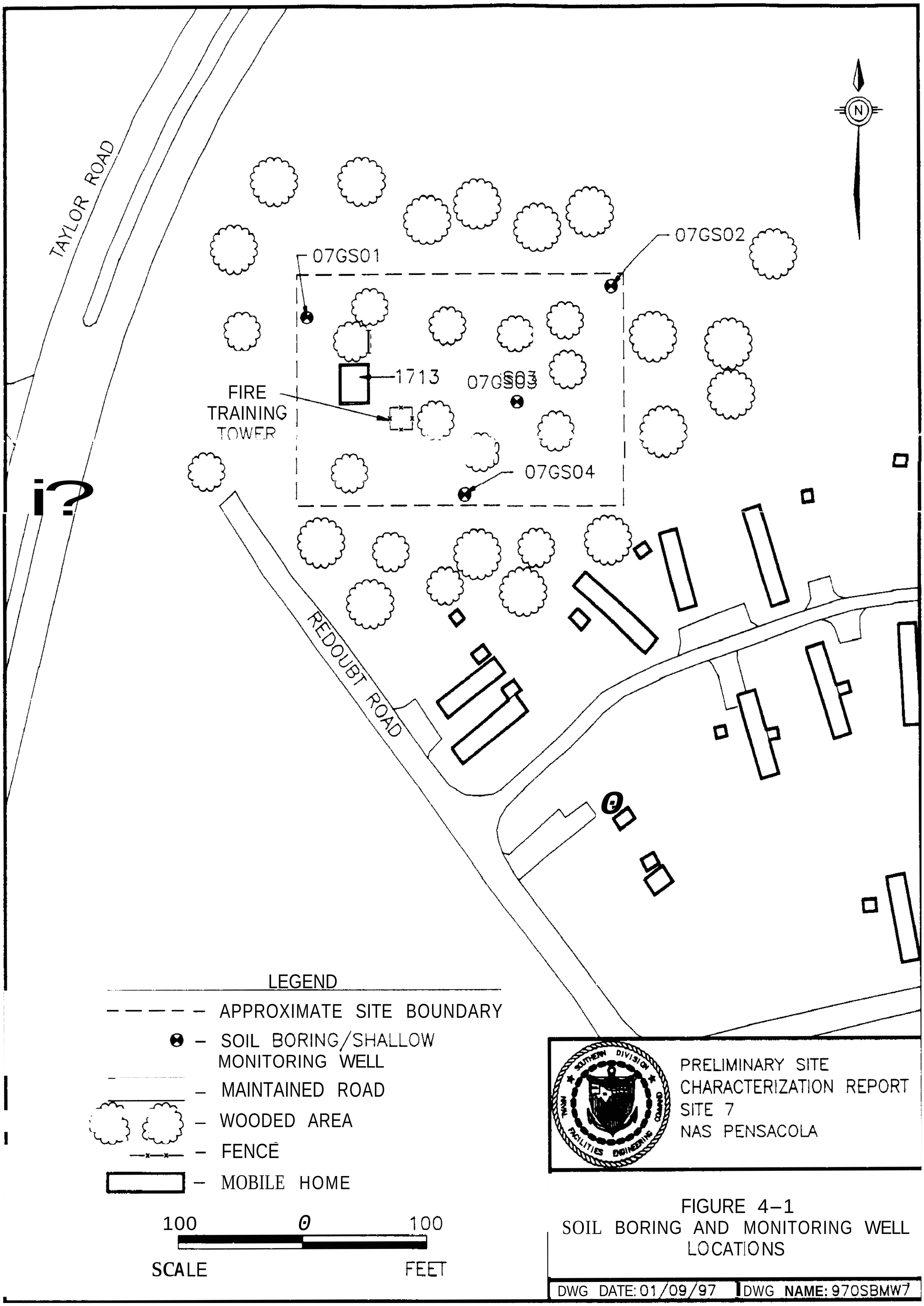


FIGURE 4-1
SOIL BORING AND MONITORING WELL LOCATIONS

Table 4-1
Site 7 Soil Samples and Analytical Parameters

Sample Location (medium)	Sample Identifier	Sample Interval	Date Sampled	Analyses
07S01 (soil)	007S000101[a]	0-1 ft	41081%	TAL/TCL
	007S000107	5-7 ft		PPS
	007S000109	7-9 ft		
07S02 (soil)	007S000201	0-1 A	4/08/96	TAL/TCL
	028S000207	5-7 ft		
07S03 (soil)	007S000301	0-1 ft	4/08/96	TAL/TCL
	007S000307	5-7 A		PPS
07S04 (soil)	007S000401	0-1 A	4/08/96	TAL/TCL
	007S000407	5-7 ft		PPS

Note:
a = Duplicate Sample

Table 4 2
Site 7 Groundwater Samples and Analytical Parameters

Sample Location (medium)	Sample Identifier	Sample Interval	Date Sampled	Analyses
07GS01 (water)	007GGS0101	NA	5/06/96	TAL/TCL
07GS02 (water)	007GGS0201	NA	5/06/96	TAL/TCL
07GS03 (water)	007GGS0301	NA	5/06/96	TAL/TCL
07GS04 (water)	007GGS0401	NA	5/06/96	TAL/TCL

Note:
NA = Not Applicable

Section 5.3 of the CSAP. These wells were constructed of flush-threaded, 2-inch diameter polyvinyl chloride well casing terminating with a 10-foot length of 0.10 factory-slotted well screen. Boreholes were advanced deep enough for the screened interval to bracket the water table. Well were completed flush to the ground with bolt-down cast iron covers. Monitoring well construction logs are located in Appendix B. Samples were collected in accordance with Section 4 of the CSAP.

4.4.2 Monitoring Well Development

Wells were developed in accordance with Section 5.4 of the CSAP using a centrifugal pump until the water was clear of measurable turbidity and water quality parameters (pH, specific conductance, temperature, and turbidity) stabilized within 10% for three consecutive readings. Table 4-3 presents the water quality parameter measurements collected at the end of well development activities for each well.

Table 4-3
Final Water Quality Parameter Details
Site 7 Monitoring Well Development

Well Designation	Final Development Volume	pH	specific Conductance	Temperature	Turbidity
07GS01	165	6.81	0.222	22.7	96
07GS02	110	7.35	0.217	23.8	188
07GS03	110	6.80	0.184	20.0	53
07GS04	i60	6.85	0.246	20.3	262

Notes:
Well Development volume is in gallons.
pH measured in pH units.
Specific Conductance measured in micromhos.
Temperature measured in degrees Centigrade,
Turbidity measured in Nephelometric Turbidity Units (NTUs).

4.4.3 Groundwater Contamination Assessment Sampling

Table 4-4 lists details for the Site 7 groundwater sampling. The "quiescent" vacuum/transfer groundwater sampling method was used as outlined in Section 6.3 of the CSAP.

Table 4-4
Construction Details/Potentiometric Information
Site 7 Monitoring Wells

Well Location	Top of Casing Elevation[a]	Total Depth[b]	Screened Interval[b]	Depth to Water[b]	Groundwater Elevation[a]
07GS01	31.16	18.0	-8.0-18.0	12.9	18.26
07GS02	31.10	17.0	7.0-17.0	12.84	18.26
07GS03	31.05	17.5	7.5-17.5	12.46	18.59
07GS04	30.62	16.0	6.0-16.0	11.55	19.07

Notes:
[a] = Top of casing and groundwater elevations in feet mean sea level.
[b] – Total depth, screen interval, and depth tu water in feet below land surface.
The datum is mean sea level (North American Datum-89).
Depths to water measured 05/07/96.

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 down at each sampling location to minimize the potential for sample contamination. 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, to include blanks, matrix spike, and duplicate samples, 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

All 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.

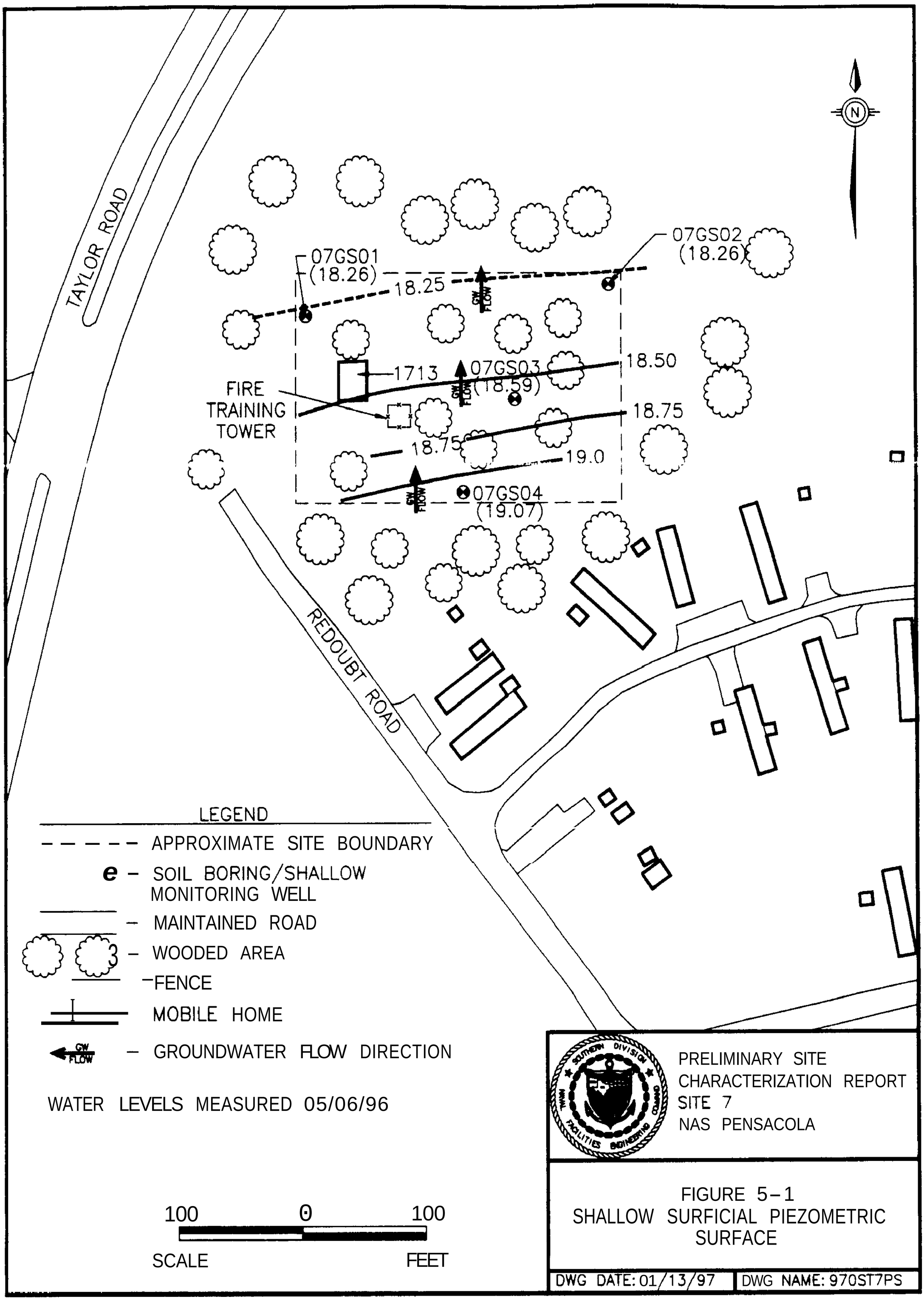
5.0 GEOLOGIC ASSESSMENT RESULTS

The subsurface stratigraphy across the Site 7 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 B). The surface soil layer consists of about 8 feet of material composed of brown, silty, fine to coarse sand, Beginning at approximately 8 to 9 feet bls is a natural buff colored fine- to coarse-grained quartz sand that extends to the water table. At 14 feet bls, a light tan, grayish-brown, or dark brown, medium to coarse sand is encountered, Lithologies from the four borings advanced beneath Site 7 were similar. All four borings were terminated at 20 feet bls or less and penetrated the water table. Therefore, no information on deeper stratigraphy was collected. All four borings were converted to shallow groundwater monitoring wells.

Water Level Elevations and Piezometric Results

Figure 5-1 displays the shallow surficial piezometric surface for Site 7. Water levels were measured in the four site monitoring wells to define the piezometric surface. Groundwater elevations are listed in Section 4 of this report, along with other relevant monitoring well information. The groundwater elevation is approximately 18 feet msl at Site 7. The piezometric data indicates a northward-flow in the uppermost part of the surficial zone of the Sand-and-Gravel Aquifer in the site area, generally toward Bayou Grande.

Table 5-1 details the horizontal hydraulic gradient across the site. The horizontal hydraulic gradient appears to be fairly uniform to the west-northwest. Piezometric data from shallow monitoring wells at NAS Pensacola's Operable Unit (OU) 10 and Site 13 indicated the geometric mean for hydraulic conductivity in the upper surficial zone was 44 ft/day (E/A&H, 1995b). Given the proximity of these sites and the lithologic similarity, this information is extrapolative for use at Site 7. 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. The


TAYLOR ROAD
REDOUBT ROAD
N
07GS01
(18.26)
07GS02
(18.26)
07GS03
(18.59)
07GS04
(19.07)
18.25
18.50
18.75
18.75
19.0
GW FLOW
1713
FIRE
TRAINING
TOWER
LEGEND
APPROXIMATE SITE BOUNDARY
e - SOIL BORING/SHALLOW MONITORING WELL
MAINTAINED ROAD
WOODED AREA
FENCE
MOBILE HOME
GW FLOW - GROUNDWATER FLOW DIRECTION
WATER LEVELS MEASURED 05/06/96
100 0 100
SCALE FEET
SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND
PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 7
NAS PENSACOLA
FIGURE 5-1
SHALLOW SURFICIAL PIEZOMETRIC
SURFACE
DWG DATE: 01/13/97
DWG NAME: 970ST7PS

average groundwater velocity is calculated to be 0.8624 ft/day across the site using the following equation:

$$V = K I / n_e$$

where:

V = average horizontal velocity

K = hydraulic conductivity

I = hydraulic gradient

n_e = effective porosity

Table 5-1
Horizontal Hydraulic Gradient/Flow Velocity
Shallow Surficial Zone Groundwater
Site 7

Well Pair	Distance Between Wells (feet)	Difference Between Groundwater Elevations (feet)	Horizontal Hydraulic Gradient	Horizontal Flow Velocity (feet/day)
07GS01/07GS04	165	0.82	0.0049	0.8624

6.0 NATURE AND EXTENT OF CONTAMINATION

The sampling approach, methods, and sample locations for this investigation were discussed in Sections 4.1 through 4.4 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 soil) and soil screening levels transfer scenario from soil to groundwater (subsurface soil) (USEPA, 1995a).

- Selected Cleanup Goals residential scenario (surface soil)/leaching scenario (subsurface soil) (FDEP, 1995 and 1996).

- USEPA, Office of Solid Waste and Emergency Response (OSWER) draft revised Interim Soil Lead Guidance (USEPA, 1994a).

- USEPA, OSWER *Soil Screening Guidance* (USEPA, 1994b).

Groundwater

- USEPA Maximum Contaminant Levels and Secondary Maximum Contaminant Levels (SMCLs) (USEPA, 1996b).

- Florida Primary/Secondary Drinking Water Standards (FDEP, 1994).

- 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, 1996a).

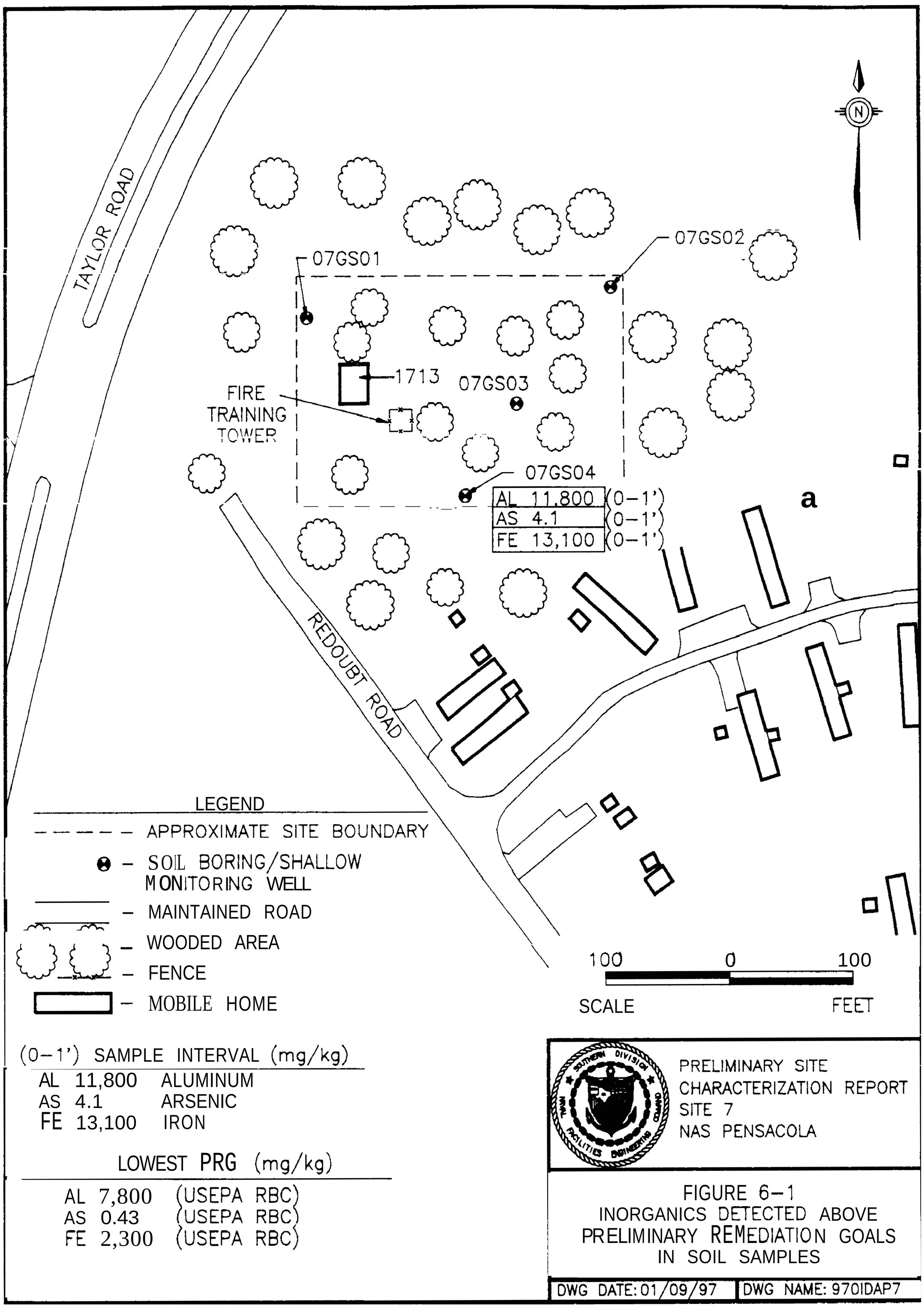
The soil and groundwater PRGs are listed in Appendix C. Sample values exceeding PRGs, to include a reference concentration comparison where applicable, are tabulated in Appendix D. A tabulated summary of analytical data is in Appendix E. Grain size analysis results are in Appendix F. Additionally, this section's maps illustrate the distribution of inorganic and organic parameters detected in soil and groundwater samples 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 0 to 1 foot bls, while subsurface soil is defined as the interval from one foot bls to the water table.

6.1 Soil Assessment

Figure 6-1 illustrates inorganics detected above PRGs in surface and subsurface soil samples at Site 7. Metals in surface soils exceeding PRGs include aluminum, arsenic, and iron. All three metals were detected above their respective RBCs and were detected only in the surface soil sample from boring location 07S04. Only aluminum exceeded its NAS Pensacola soil reference concentration.

No organic parameters were detected in any surface soil samples collected.

No inorganic or organic parameter PRG exceedances were detected in subsurface soil samples.


TAYLOR ROAD
REDOUBT ROAD
N
07GS01
07GS02
07GS03
07GS04
1713
FIRE TRAINING TOWER
AL 11,800 (0-1')
AS 4.1 (0-1')
FE 13,100 (0-1')
a
LEGEND
APPROXIMATE SITE BOUNDARY
SOIL BORING/SHALLOW MONITORING WELL
MAINTAINED ROAD
WOODED AREA
FENCE
MOBILE HOME
100 0 100
SCALE FEET
(0-1') SAMPLE INTERVAL (mg/kg)
AL 11,800 ALUMINUM
AS 4.1 ARSENIC
FE 13,100 IRON
LOWEST PRG (mg/kg)
AL 7,800 (USEPA RBC)
AS 0.43 (USEPA RBC)
FE 2,300 (USEPA RBC)
PRELIMINARY SITE CHARACTERIZATION REPORT
SITE 7
NAS PENSACOLA
FIGURE 6-1
INORGANICS DETECTED ABOVE PRELIMINARY REMEDIATION GOALS IN SOIL SAMPLES
DWG DATE: 01/09/97
DWG NAME: 970IDAP7

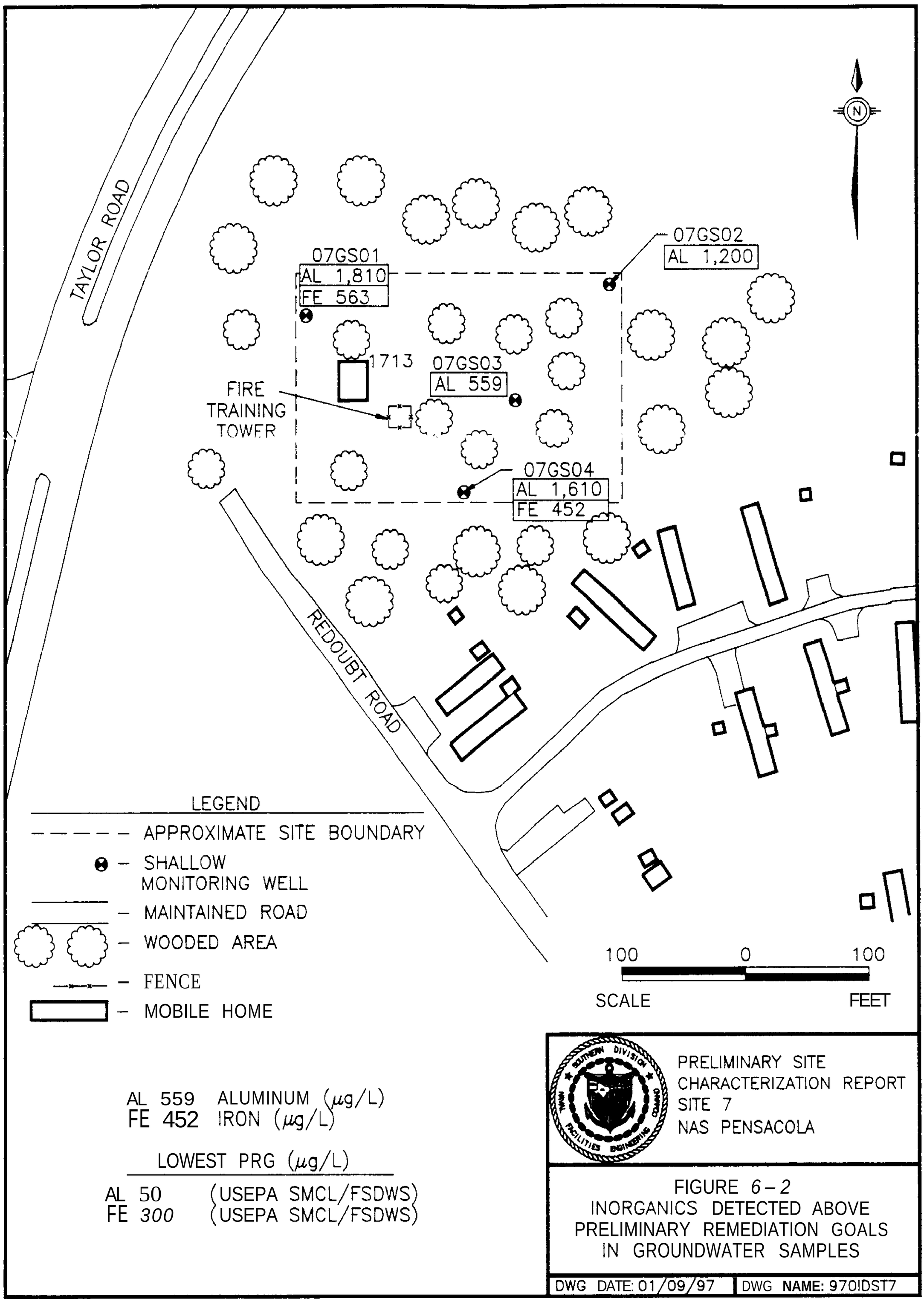
6.2 Groundwater Assessment

Figure 6-2 illustrates Site 7 inorganics detected above PRGs in groundwater samples. Two inorganic parameters were in these samples above their respective PRGs. Metals exceeding PRGs include aluminum and iron. All four groundwater samples contained aluminum concentrations above the SMCL. Groundwater samples containing iron above the SMCL were identified at wells 07GS01 and 07GS04. Both aluminum and iron were below their respective NAS Pensacola reference concentrations for groundwater.

6.3 Summary and Conclusions

Aluminum, arsenic, and iron were detected above the RBC in one surface soil sample collected from boring 07S04 at Site 7. No sites investigated by E/A&H are in the direct vicinity of Site 7 for comparison. However, aluminum and iron occur above standards in surface soil at roughly comparable frequencies and concentrations at several sites investigated or under investigation by E/A&H on the eastern portion of NAS Pensacola (Sites 1, 9, 10, 11, 12, 14, 15, 17, 18, 24, 25, 26, 27, 29, 30, 34, 36, 38, and OU-10) (E/A&H, 1994c, 1995bcde, 1996abc). The single arsenic exceedance appears to be an insignificant isolated occurrence.

Aluminum is the prevalent inorganic parameter detected throughout groundwater samples in the Site 7 area, appearing above the SMCL in all four wells onsite. Iron exceeds its SMCL in two wells. No sites investigated by E/A&H are in the direct vicinity of Site 7 for comparison. However, these aluminum and iron concentrations are below the NAS Pensacola reference concentrations and are comparable to those commonly detected at several sites investigated or under investigation by E/A&H on the eastern portion of NAS Pensacola.


TAYLOR ROAD
REDOUBT ROAD
N
07GS01
AL 1,810
FE 563
07GS02
AL 1,200
1713
07GS03
AL 559
FIRE
TRAINING
TOWER
07GS04
AL 1,610
FE 452
LEGEND
APPROXIMATE SITE BOUNDARY
SHALLOW
MONITORING WELL
MAINTAINED ROAD
WOODED AREA
FENCE
MOBILE HOME
100 0 100
SCALE FEET
AL 559 ALUMINUM (µg/L)
FE 452 IRON (µg/L)
LOWEST PRG (µg/L)
AL 50 (USEPA SMCL/FSDWS)
FE 300 (USEPA SMCL/FSDWS)
PRELIMINARY SITE
CHARACTERIZATION REPORT
SITE 7
NAS PENSACOLA
FIGURE 6-2
INORGANICS DETECTED ABOVE
PRELIMINARY REMEDIATION GOALS
IN GROUNDWATER SAMPLES
DWG DATE: 01/09/97
DWG NAME: 970IDST7

7.0 DATAVALIDATION

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 PSC of Site 4 were validated by Heartland Environmental Services, Inc., of St. Charles, Missouri to verify the QC requirements of the Site 16 data set and to characterize any questionable findings.

Ten soil samples were collected at Site 7 on April 8, 1996. Four groundwater samples were collected at Site 7 on May 6, 1996. These totals do not include field QC samples. The investigative samples used to characterize the nature and extent of contamination were submitted to Maxwell Laboratories, S-Cubed Division, and were reported using NEESA Data Quality Objectives (DQO) Level D (USEPA DQO Level IV). The analytical protocols were performed in accordance with the following guidance documents:

- NEESA Level D QA/QC guidelines as stated in: *Sampling and Chemical Analysis Quality Assurance Requirements* for the *Navy Installation* and *Restoration* Program, 1988, (NEESA 20.2-047B).

- Naval Facilities Engineering Service Center (NFESC), *Navy* Installation Restoration Laboratory *Quality Assurance* Guide, Interim Document, February 1996.

- USEPA CLP, *Superfund* Analytical *Methods* for *Low Concentration* Water for Organic *Analysis*, October 1992 (CLP Organic Statement of Work [SOW].)

- USEPA CLP, *Superfund Analytical Methods* for Low Concentration *Water* for Inorganic Analysis, October 1991 (CLP Organic SOW.)

Data validation was performed in using the following documents:

- *USEPA Contract* Laboratory *Program National Functional* Guidelines for Organic Datu Review, February 1994 (EPA-540/R-94/012) (Organic Functional Guidelines)

- USEPA *Contract* Laboratory Program *National Functional* Guidelines fur *Inorganic* Datu Review, February 1994 (EPA-540/R-94/013) (Inorganic Functional Guidelines).

Data validation qualifiers are listed at the end of this section.

7.1 Data Quality

The data received for Site 7 were validated based on data usability and contractual satisfaction with the appropriate data qualifiers as required. These totals do not include field QC samples. All samples were received by the laboratory in good condition and with the proper custody documents and seals intact. The organic and inorganic results for these samples were reported in 2 Sample Delivery Groups (SDGs): *5606* and *5646*. Tables 7-1 through 7-4 summarize the QC parameters used for the data validation of each SDG. The analytical data were acceptable for use in the PSC of Site *7* at NAS Pensacola.

7.2 Organic Analysis

7.2.1 Holding Times

All technical and contractual holding times were within QC requirements.

7.2.2 Calibrations

All QC criteria for volatile and semivolatile gas chromatograph/mass spectrometer (GC/MS) tuning were met in both SDGs. The calibration QC criteria were met for the semivolatile fraction. The volatile *QC* criteria for the continuing calibration were not met for SDG *5646*. Undetected

Table 7-1
Site 7 Volatile SDG Summary

SDG	Holding Times	GC/MS Tunes	ICal	CCal	IS	Blanks	Surr.	MS/ MSD	LCS	Overall
5606					X	X	X			OK
5646				X		X				OK

Table 7-2
Site 7 Semivolatile SDG Summary

SDG	Holding Times	GC/MS Tunes	ICal	CCal	IS	Blanks	Surr.	MS/ MSD	LCS	Overall
5606										OK
5646										OK

Table 7-3
Site 7 Pesticide/PCB SDG Summary

SDG	Holding Times	IP	ICal	CCal	CC	Blanks	Surr.	MS/ MSD	LCS	Overall
5606			X				X			OK
5646			X							OK

Notes:
Ical = Initial calibration
ccal = Continuing calibration
SUIT. = surrogates
IS = Internal standards
IP = Pesticide instrument performance
CC = Pesticide cleanup checks
GC/MS = Gas Chromatograph/Mass Spectrometer
LCS = Laboratory Control Sample
MSMSD – Matrix Spike/Matrix Spike Duplicate
An "X" in a column means that one or more QC criteria were not met; one or more samples were qualified.
An "OK" in the Overall column means the data were acceptable with minor qualifications. No positive results were rejected; however, non-detections may have been rejected and flagged "UR."

Table 7-4
Site 7 Inorganic SDG Summary

SDG	Holding Times	Cal.	Blanks	Serial Dil.	ICP Check	LCS	MS	Lab Dup	Overall
5606			X	X			X		OK
5646			X	X			X	X	OK

Notes:
Cal. = Calibrations
Serial Dil. = Serial dilutions
ICP Check = ICP interference check
LCS = Laboratory Control Sample
Lab Dup = Laboratory Duplicate
ICP = Inductively Coupled Plasma
MS = Matrix spike
An "X" in a column means that one or more QC criteria were not met.
An "OK" in the Overall column means the data were acceptable with minor qualifications. No positive results were rejected; however, non-detections my have been rejected and flagged "UR."

acetone, 2-butanone and 1,2-dibromo-3-chloropropane were rejected and flagged "UR" in samples 007GGS0101, 007GGS0201, 007GGS0301, and 007GGS0401. In the pesticide fraction, methoxychlor was slightly outside the initial calibration QC criteria on March 28, 1996, in SDG *5606*. Methoxychlor and alpha-BHC were outside the initial calibration QC criteria on May 5, 1996, in SDG *5646*. Affected sample results were estimated. These QC deficiencies represent common laboratory practices and occurred at a rate consistent with instruments that are calibrated correctly. Sample results were qualified for these calibration outliers per the Organic Functional Guidelines.

7.2.3 Blanks

Acetone and methylene chloride were detected in the blanks associated with Site 7. These compounds are considered common laboratory artifacts and were qualified as recommended by the Organic Functional Guidelmes. Action levels are based on the highest concentration of any laboratory artifact found in associated method blank(s) or QC sample(s). No positive sample

result for a common laboratory artifact was reported unless that particular artifact's concentration exceeded the action level of 10 times the amount found in any blank(s). All acetone and methylene chloride detected in the Site 7 samples were believed to be related tu blank contamination. Therefore, all acetone and methylene chloride were negated (flagged "U") in the Site 7 samples.

7.2.4 Matrix Spike/Matrix Spike Duplicates

In each analytical method used to analyze environmental samples, variations in the reported results may be due to the random differences in the handling and analysis of the matrix. These variations are referred to as the precision or the reproducibility of results. To demonstrate reproducibility, known quantities of several compounds are added 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+ This enables the MS and MSD to be used to detect matrix effects caused by contaminants that interfere with the compounds of interest that may also be present. No specific requirements have been established for qualifying MS/MSD data. However, guidelines to aid in applying professional judgment are discussed in Organic Functional Guidelines.

The volatile MS/MSD met QC requirements. The semivolatile and pesticide MS/MSD results were outside QC criteria due to low percent recoveries for spiked compounds. No samples were qualified due to professional judgment, as allowed by the Organic Functional Guidelines.

7.2.5 Laboratory Control Samples

The CLP Low Concentration SOW requires that a Laboratory Control Sample (LCS) be analyzed for organic parameters, LCSs are used to demonstrate that the laboratory process for sample preparation and analysis is in control. The LCS is similar to the MS/MSD except American

Society for Testing and Materials (ASTM) Type XI water is spiked with known amounts of specific analytes and is carried through the entire analytical procedure with the samples. All LCS criteria were met for SDGs analyzed during the Site 7 investigation.

7.2.6 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 Organic SOW requires the addition of known amounts of surrogate *compounds*. If the surrogate percent 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, In the volatile fraction, samples 007S000201 and 007S000101 exhibited high surrogate recoveries for bromofluorobenzene. All positive results for sample 007S000201 were estimated per the Organic Functional Guidelines. Sample 007S000101 was reanalyzed due to the high surrogate recoveries. Bromofluorobenzene recoveries in the reanalysis were within QC limits, Therefore, reanalyzed sample 007S000101RE should be used for interpretation.

In the pesticide/PCB fraction, sample 007S000301 exhibited a high surrogate recovery in SDG 5606. Positive results were qualified as estimated per the Organic Functional Guidelines.

7.2.7 Internal Standards

Internal standards (IS) are added to volatile and semivolatile samples and used to calculate the concentrations of target compounds. Two IS QC criteria must be met when a sample is analyzed. The retention time of the IS must not vary more than 30 seconds and the IS area counts must not vary more than a factor of two (-50% to +100%) from the associated calibration standard. All volatile and semivolatile SDGs met the retention time QC criteria. Samples 007S000101, 007C000101, 007S000201, 007S000301, 007S000401, 007S000307, 007S000109, 007S000101RE, 007C000101RE, 007S000301RE, and 007S000401RE, exhibited low internal

standard areas for the volatile fraction in SDG *5606*. All positive and undetected results associated with the IS were estimated per the Organic Functional Guidelines.

7.2.8 Field Duplicates

Representativeness expresses the degree to which sample data accurately and precisely represent the characteristic of a population, parameter variations at a sampling point, or an environmental condition. The duplicate samples assist in indicating overall field and laboratory precision. A greater variance should be expected for the soil sample duplicates compared to water sample duplicates due to the differences in matrix. The field soil duplicates associated with Site 7 indicated acceptable precision. A groundwater duplicate sample was not collected from Site 7 due to a field oversight.

7.2.9 Compound Quantitation

Volatile samples 007S000101, 007C000101, 007S000301, and 007S000401 were reanalyzed due to noncompliant IS areas. Upon reanalysis, the IS areas did not improve, indicating matrix interference. The original sample analyses were reported, and appropriately qualified, because of preferable holding times.

Sample 007S000101 was reanalyzed due to high surrogate recoveries for bromofluorobenzene. Bromofluorobenzene recoveries were within QC limits in the reanalysis. Therefore reanalyzed sample 007S000101RE should be used for interpretation.

Two columns and two separate detectors are used in pesticides analysis. Quantitation of target analytes and surrogates are generally performed and reported on both columns; however, only the lower of the two concentrations is reported. The lower of the two concentrations is used because if present, co-eluting interferences are likely to increase the calculated concentration of any target compound. For detected analytes, the percent difference between the two columns are calculated.

If the percent difference between the calculated concentrations is greater than 25%, the laboratory flags the value with a "P" qualifier. This flag alerts the data user of the potential problems in quantitating the analyte.

During the validation process, the laboratory's "P" flags are dropped. The values are flagged "J" when the percent difference between the calculated concentrations is greater than 25%. The validation flag alerts the data user that the pesticide value is an estimated concentration.

7.3 Inorganic Analysis

7.3.1 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, holding times were within method and contractual requirements.

7.3.2 Calibration

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

7.3.3 Blanks

Blank results are used to determine the presence and magnitude of any contamination problems. According to Inorganic Functional Guidelines, a sample result should not be considered positive unless the concentration of the compound exceeds five times the amount in *any* associated blank. As to be expected, contamination was identified in the blanks of both inorganic SDGs. Action levels were set for each affected element based on the highest concentration in any associated blank. Elements attributed to blank contamination were flagged undetected ("U"). No positive

sample result was reported for an element detected in any blank unless that particular artifact's concentration exceeded the action level of five times the amount found in any blank per the CLP Inorganic SOW.

7.3.4 ICP Interference Check Sample Analyses

The inductively coupled plasma Interference Check Sample (ICP/ICS) analysis is performed to check the laboratory's instrument and the background correction factors. An ICS was analyzed for each SDG without any indication of interference.

7.3.5 ICP Serial Dilutions

ICP serial dilutions are used to assess of matrix interference. One sample from each set of similar matrix type is diluted by a factor of five. For an analyte concentration that is at least 50 times above the instrument detection limit, the measured concentrations of the undiluted sample and the diluted sample should agree within 10% Calcium and sodium in SDG 5606 and aluminum in SDG 5646 were outside QC criteria. All affected sample results for these elements that were outside of the QC criteria in that SDG were qualified as recommended by the Inorganic Functional Guidelines.

7.3.6 Laboratory Control Sample

LCSs are used to monitor the overall performance or accuracy of all steps in the analysis, including the sample preparation. All LCS criteria were met for both SDGs.

7.3.7 Laboratory Duplicates/Spikes

Laboratory duplicate samples are used to determine the precision of analytical methods for each parameter. Laboratory spiked samples are designed to provide information about the effects of the sample matrix on the digestion and measurement methodology. In SDG 5606, the spike result for antimony was outside the QC limit. In SDG 5646, the spike results for aluminum, selenium,

and copper were outside control limits. In addition, the duplicate result for aluminum was outside QC criteria in SDG 5646. All analytes were qualified that did not meet the laboratory duplicate and/or spike QC criteria as specified in CLP Inorganic SOW.

7.3.8 Field Duplicates

Representativeness expresses the degree to which sample data accurately and precisely represent the characteristic of a population, parameter variations at a sampling pint, or an environmental condition. The duplicate samples assist in indicating overall field and laboratory precision. A greater variance should be expected for the soil sample duplicates compared tu water sample duplicates due to matrix differences, The field soil duplicates associated with Site 7 indicated acceptable precision. A groundwater duplicate sample was not collected from Site 7 due to a field oversight.

7.4 Summary

7.4.1 Completeness

Completeness is defined as the percentage of measurements made which are judged to be valid. All of the samples analyzed for the investigation of Site 7 were determined to be valid with some qualification, except for the results flagged "UR." Of 2,142 total measurements made (number of unique sample and parameter pairs), 12 were flagged "UR" (greater than 99% completeness). Therefore, the data met the 95% completeness goal.

7.4.2 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Comparability is assured through the use of established methods of field sampling by experienced field personnel and laboratory analysis as specified by USEPA protocols. All samples for Site 7 were collected using the USEPA Region IV Standard Operating Procedures and analyzed according to CLP SOW protocols.

7.5 Conclusion

The overall data quality of the analytical work done for Site 7 at NAS Pensacola, except for the undetected sample results that were qualified as unusable, were considered to be satisfactory and usable for site remediation and risk assessment. The data validation summary reports submitted by Heartland Environmental Services for Site 7 will be provided upon request or otherwise will become a part of the NAS Pensacola Site 7 *Final* Report Reference *File*.

Validation Qualifiers

U **Undetected** — The analyte was analyzed for but not detected or was also found in an associated blank, but at a concentration less than 10 times the blank concentration for common constituents or five times the blank concentration for other constituents; the associated value shown is the quantitation limit.

J **Estimated Value** — One or more QC parameters were outside control limits.

UJ **Undetected and Estimated** — The analyte was analyzed for but not detected above the listed estimated quantitation limit; the quantitation limit is estimated because one or more QC parameters was outside control limits.

D **Diluted Result** — The compound was reanalyzed at a secondary dilution factor. If one or more compounds are outside the calibration range during an initial analysis, the laboratory flags the analyte "E." When diluted, the sample results will be flagged "D." Generally, values from the initial analysis will be used except where the value exceeded the calibration range. Values exceeding the calibration range in the initial analysis will be substituted by the diluted value to ensure the most representative data. The "D" flag will remain on the value to alert the data user that a secondary dilution value was used.

R/UR **Unusable Data** — One or more QC parameters grossly exceeded control limits.

8.0 FATE AND TRANSPORT

8.1 Detected Constituents

Only metals were identified in both soil and groundwater at Site 7. No organic compounds were identified in concentrations above their respective PRGs. Inorganics above PRGs in surface soil included aluminum, arsenic, and iron.

8.2 Contaminant Migration

Leaching from Soil to Groundwater

Soil constituents may be leached to groundwater primarily by downward percolation of rainwater. The absence of most analyzed parameters in groundwater indicates no significant partitioning or leaching of soil constituents to groundwater is occurring. 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, at least in the eastern portion of the site, by the extensive impervious surfaces (asphalt pavement and buildings) which limit the percolation of precipitation by causing rain to run off or pool and evaporate.

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

Surface Water Transport

Groundwater flows to the north across Site 7 at an average calculated velocity of 0,8624 ft/day. Bayou Grande is about 2,500 feet north of the site. Assuming adjective transport only for groundwater PRG exceedances, equal to the rate of groundwater flow, travel time for constituents to Bayou Grande would be about five years. This very conservative determination dues not account for dilution of detected concentrations by dispersion or retardation processes while enroute toward Bayou Grande.

Current and Potential Receptors

The current and potential receptors for site PRG exceedances in groundwater initially Bayou Grande and ultimately Pensacola Bay. No wetlands exist in the vicinity of Site 7. Given that significant contamination was not detected, no adverse effects to receptors in anticipated. Potential impacts to Bayou Grande and Pensacola Bay will be further addressed in the investigation for Sites 40 and 42 — Bayou Grande and Pensacola Bay, respectively.

9.0

No further action is recommended with respect to Site 7 due to the absence of extensive exceedances above regulatory standards in soil and groundwater samples collected onsite. A comparison of other constituents to applicable and relevant or appropriate requirements supports a conclusion of no further action for soils based on the following analyses:

- The soil inorganic constituents detected above PRGs are similar in type, frequency of occurrence, and concentrations as those identified in all previously investigated sites on the eastern portion of the NAS Pensacola peninsula.

- No organic constituents were found above their respective PRG concentrations in either site soil or groundwater.

- Two metals, aluminum and iron, exceeded their respective PRG concentrations in site groundwater samples. However, the detected concentrations of both aluminum and iron were below their respective NAS Pensacola reference concentrations. Given that the shallow groundwater is not used, nor is it anticipated to be used, as a source of drinking water, no recommendation to address these secondary exceedances is made.

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11.0 FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have read and approve of this Preliminary Site Characterization Report, NAS Pensacola Site 7 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, 1997

Brian E. Caldwell

Date

GEOPHYSICAL REPORT FOR
SITES 4, 7, and 16
NAVAL AIR STATION
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
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ENVIRONMENTAL ACTION NAVY (CLEAN)
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January 17, 1997

Release of this document requires prior notification of the Commanding Officer of the Naval Air Station, Pensacola, Florida,

Appendix A

Geophysical Report for Sites 4, 7, and 16 for NAS Pensacola

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EXECUTIVE SUMMARY

In support of environmental investigations at Naval Air Station (NAS) Pensacola, EnSafe/Allen & Hoshall of Memphis, Tennessee, conducted geophysical surveys at Sites 4, 7, and 16 to characterize the extent of buried material and map features of possible environmental concern.

The anomalies were identified according to the likelihood for being of environmental concern: Type A anomalies are well-defined features needing further investigation, Type B are weaker anomalies, Type C are anomalies not related to buried features.

Two strong Type A anomalies were identified at Site 7 along the southwestern margin of the survey area. These large responses may be related to past burn activities reported onsite. Three lesser Type B anomalies were also identified onsite, one near Building 1713 and two adjacent the southwestern site boundary. The rest of the surveyed area was anomaly-free.

Geophysics data for Site 4 identified three less-significant Type €3 anomalies. Most site anomalies were directly linked to surface or subsurface culture. Follow-up investigations for the Type B anomalies are not recommended.

Five significant Type A anomalies were identified in the active landfill at Site 16. In addition to the Type A responses, numerous Type B anomalies were scattered across the landfill. The investigation in the southwestern section of Site 16 identified no significant anomalous activity. One linear feature in the conductivity data set was classified Type B. No further investigation is recommended.

Follow-up investigations may be needed at Type A sites to ascertain whether the anomalies are due to innocuous, minor buried rubble or are of genuine environmental concern. The geophysics data indicate specific locations at which to conduct follow-up investigations.

1.0 INTRODUCTION

EnSafe/Allen&Hoshall (E/A&H) recently performed geophysical surveys at NAS Pensacola to characterized subsurface conditions within Sites 4, 7, and 16. Survey results will be used to evaluate site environmental conditions, and identify potential areas for subsequent invasive environmental investigations

The investigations used the frequency domain electromagnetics (FDEM) technique to detect buried metals and disturbed soil. FDEM provides rapid and high-density data coverage of conductive features within approximately 6 meters of the surface.

2.0 FIELD IMPLEMENTATION

To ensure accurate and reliable data collection, and reproduction of anomaly source locations, an orthogonal reference grid was used over the investigation area. Grid baselines were marked first using a compass and then back-sighting from a fixed position on the grid. The fixed position for the grid was referenced as 1000N/1000E. Wood stakes were placed every 10 feet along key east-west grid lines. Data were collected along north-south lines by careful pacing, using the wood stakes to maintain the correct east-west alignment. Conductivity and in-phase data were obtained using a vertical dipole configuration at an elevation of 1 meter above ground surface, using the shoulder sling supplied with the instrument.

3.0 GEOPHYSICAL APPLICATION

Description of FDEM

Frequency domain electromagnetics (FDEM) is a geophysical technique useful for mapping buried drums, tanks, utility lines, old trenches, construction rubble, extent of landfills, etc. Typically the instrument is an EM-31, manufactured by Geonics, Ltd. The EM-31 consists of a 2-meter long boom with a transmitting antenna at one end and a receiving antenna at the other. The transmitting antenna is energized by a current pulse, which propagates into the ground as an

electromagnetic field. As it encounters electrically responsive materials in the ground, the signal received at the surface in the receiving antenna is distorted. These distortions can then be interpreted to develop a graphical image of the subsurface.

The signal can penetrate to 6 meters below ground surface. FDEM is primarily a profiling method that does not yield detailed vertical resolution, although it can perform some limited sounding capability by varying the instrument height and dipole orientation. Resolution in plan view is often within a meter or so. Signals are sensed by the instrument's electronics and the data are sent to a field data recorder, whose contents are downloaded to a second computer for processing and plotting.

Two parameters are measured: conductivity and in-phase. Conductivity measures how well the earth conducts electrical current. Dry materials yield low conductivities, while wet materials yield high conductivities. Saturated clays are particularly conductive. Buried metals may also increase the effective conductivity. Conductivity data have units of milliSiemens per meter (mS/m).

The in-phase component is a ratio of the secondary-to-primary field strengths (the primary field is the generated signal and the secondary is the ground's response). The in-phase component is primarily sensitive to metals, not soil moisture, and can be negative or positive over metallic objects. depending on the relative geometries of the conductor and instrument. In-phase has units of parts per thousand (ppt) of the secondary field strength.

FDEM was used on this project to detect disturbed soil and buried metals related to excavation and to identify any potential underground storage tanks onsite.

4.0 QUALITY ASSURANCE PROCEDURES

Equipment was calibrated according to the manufacturer's instructions each morning prior to data acquisition.

Two items of chief concern in any data set are precision and biasing; both can influence the interpretability of a data set. A standard set of tests was used to investigate both types of effects.

4.1 Data Precision

A base station is normally established in a background area to determine short- and long-term measurement precision. Periodically during data acquisition, the instrument is returned to the base station and 10 to 20 successive readings are measured. The base station for Site 4, 7, and 16 were position at 1000N/1000E, 1000N/1120E, and 1000N/1000E, respectively.

Short-term precision shows how closely a measurement can be repeated in a short range of time, and thus is a function of inherent instrument noise. Short-term precision is estimated by statistically analyzing the base station burst measurements. The results are as follows:

Data Precision Tests

Test	Conductivity (mS/m)	In-Phase (ppt)
Instrument Precision Error		
Base Station Site 4	±0.06167	±0.01403
Base Station Site 7	±0.06056	±0.00616
Base Station Site 16	±0.06377	±0.01552
Benchmarks		
Desired Minimum Resolution	±1.0	±1.0
Typical Drum Response	±5	±5

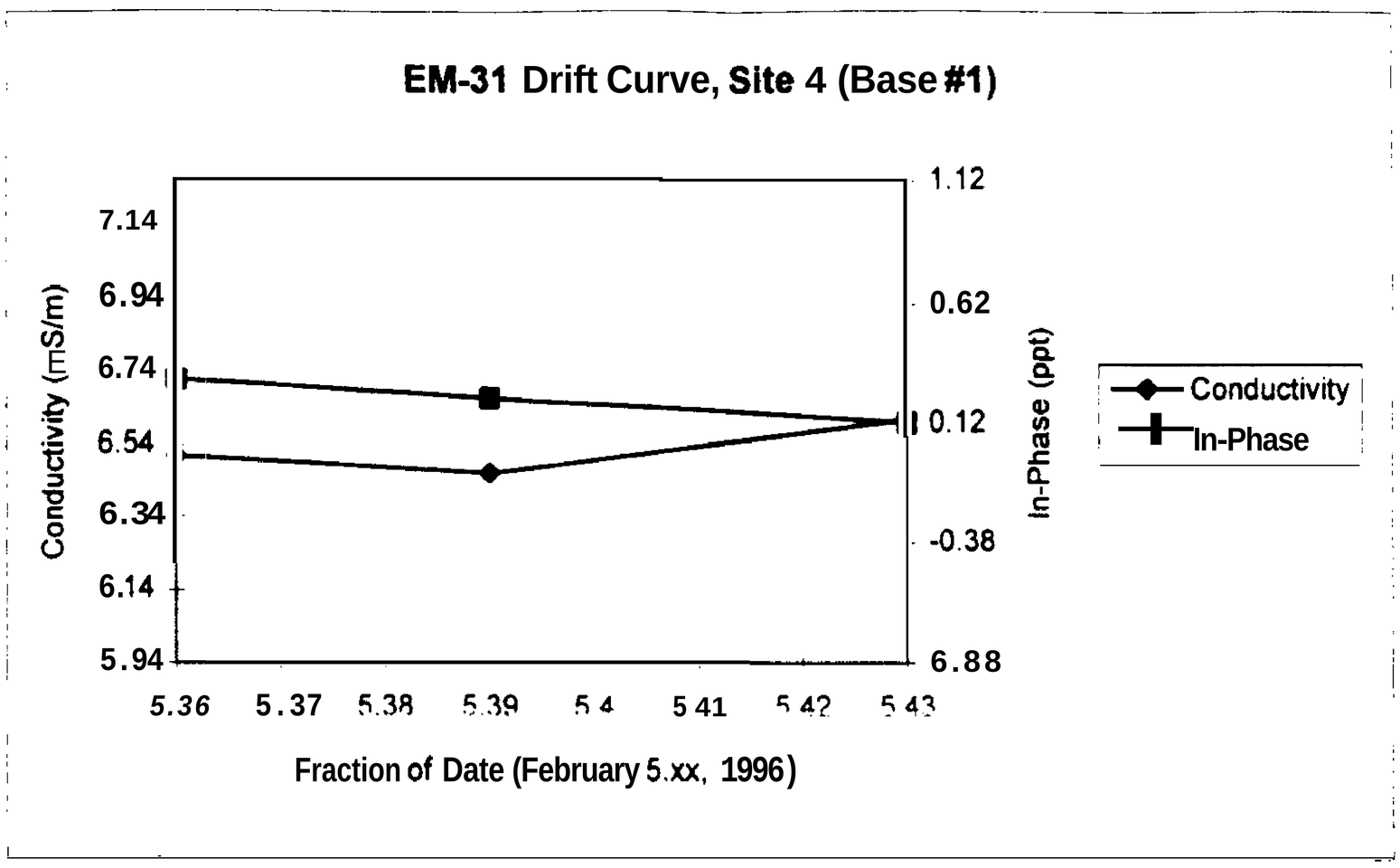
The precision is acceptable? **judged** by benchmarks set by the survey objectives, and hence does not influence the interpretability of the data set, The precision level is better than average for EM-31 surveys.

Long-term precision is primarily controlled by instrument drift, due to slight response changes in the its electronics. Figures I and 2 show the instrument drift recorded for Base Station 1 at each site. The minimum and maximum vertical scales are adjusted tu represent 10% of the conductivity value **and** 1 ppt of in-phase, considered to be "high drift" bounds which, when **exceeded,** suggest that drift corrections may need to be considered. The drift is smaller than usual for EM-31 measurements and does not **exceed** the desired minimum resolution benchmarks for Sites 4 and 7. No correction is required for the magnitude of drift observed at these sites. Slightly greater variability occurs within the base station readings for Site 16. The primary cause is the extended number of days the survey required. A drift correction should be applied to the raw data set from Site 16.

4.2 Data Biasing Effects

Spatial aliasing is an undersampling effect that occurs when searching for small, subtle targets, such as deeply buried single drums. The key to a successful survey is to optimize the grid spacing or **data** density to the smallest target being investigated. In this case, a single drum is the smallest object sought. Experience has shown **that** a 10 foot by 10 foot grid is a good compromise between effectiveness of detection and survey speed for drum-size objects. Most objects of this size within the penetration range of the instrument will be detected in a 10 foot by 10 foot data grid.

Instrument response time/nonreciprocity effects can occur on large-scale surveys, when the instrument is advanced quickly/rapidly along lines and reverses direction on each line. This procedure produces a wavy pattern at the edges of high-amplitude anomalies due to a finite instrument response time **and due** to nonreciprocity when the receiver **and** transmitter antennas reverse positions. Effects of this nature do not compromise data quality or interpretability.


EM-31 Drift Curve, Site 4 (Base #1)
Conductivity (mS/m)
7.14
6.94
6.74
6.54
6.34
6.14
5.94
1.12
0.62
0.12
-0.38
6.88
In-Phase (ppt)
Conductivity
In-Phase
5.36
5.37
5.38
5.39
5.4
5.41
5.42
5.43
Fraction of Date (February 5.xx, 1996)

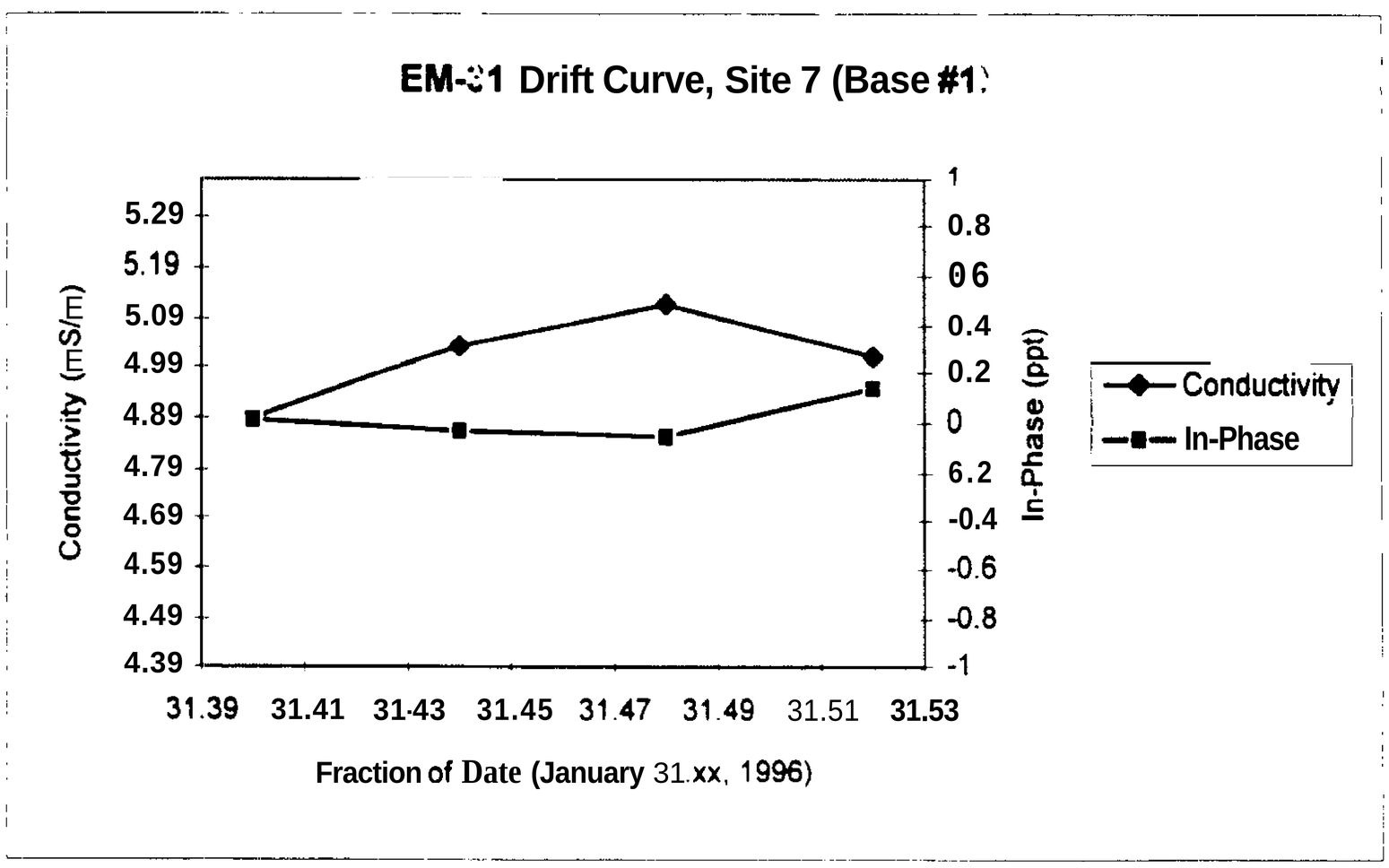
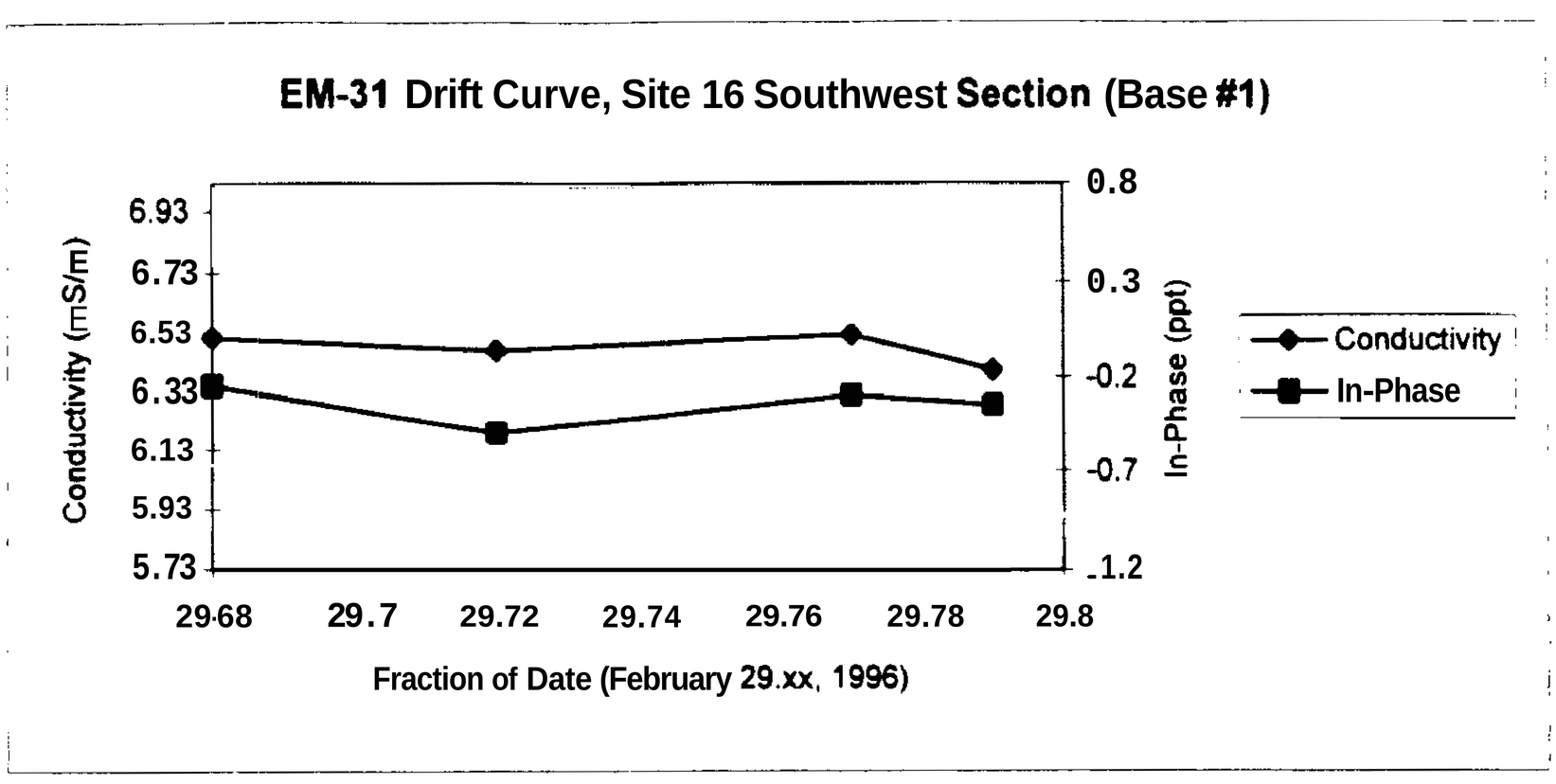

EM-31 Drift Curve, Site 7 (Base #1)
Conductivity (mS/m)
5.29
5.19
5.09
4.99
4.89
4.79
4.69
4.59
4.49
4.39
1
0.8
0.6
0.4
0.2
0
-0.4
-0.6
-0.8
-1
In-Phase (ppt)
Conductivity
In-Phase
31.39
31.41
31.43
31.45
31.47
31.49
31.51
31.53
Fraction of Date (January 31.xx, 1996)

Figure 1


EM-31 Drift Curve, Site 16 Southwest Section (Base #1)
Conductivity (mS/m)
6.93
6.73
6.53
6.33
6.13
5.93
5.73
0.8
0.3
-0.2
-0.7
-1.2
In-Phase (ppt)
29.68
29.7
29.72
29.74
29.76
29.78
29.8
Fraction of Date (February 29.xx, 1996)
Conductivity
In-Phase

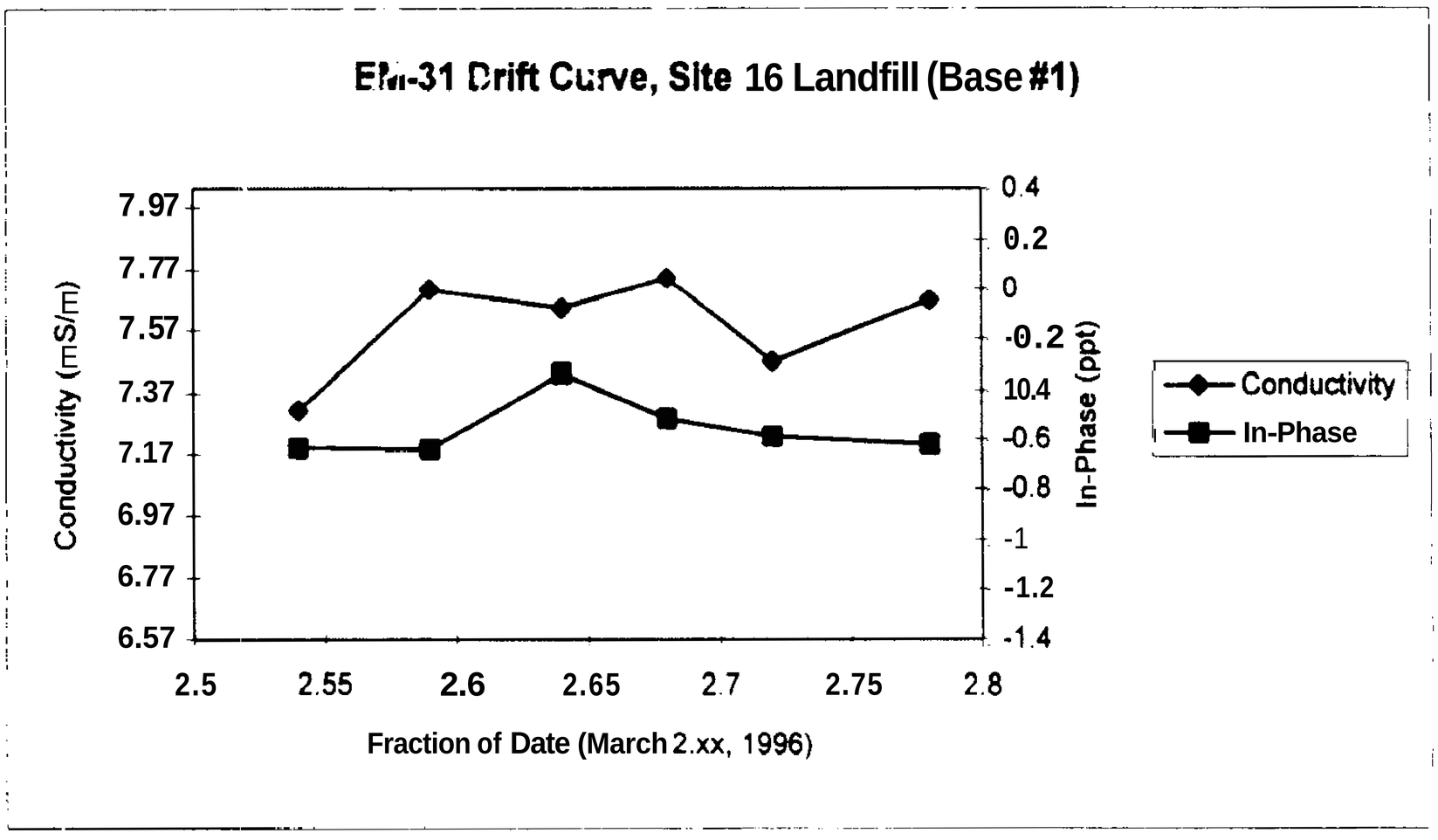

EM-31 Drift Curve, Site 16 Landfill (Base #1)
Conductivity (mS/m)
7.97
7.77
7.57
7.37
7.17
6.97
6.77
6.57
0.4
0.2
0
-0.2
10.4
-0.6
-0.8
-1
-1.2
-1.4
In-Phase (ppt)
2.5
2.55
2.6
2.65
2.7
2.75
2.8
Fraction of Date (March 2.xx, 1996)
Conductivity
In-Phase

Figure 2

5.0 DATA INTERPRETATION

Each investigation created plan-view maps taken from conductivity and in-phase data sets. Site features are superimposed to aid the Interpretation.

The conductivity maps identify subtle soil moisture changes across the site. The data are depicted in color according to the color bar on the right side of each map. Both large and small conductivity values (compared to background) may be significant, although they do not necessarily indicate separate features but may be edge effects from a single feature. Extremely large and small values, sometimes with distinct linear appearance, are often associated with fences and underground utilities. Other anomalies not related to culture are observed, ranging from broad changes over several hundred feet to very small, isolated ones.

In-phase data maps usually indicate metal. The nominal response in a metal-free area should be nearly zero. Large positive and negative values generally indicate metal features associated with buried objects, or aboveground culture such as fences, road signs, buildings, etc. As with conductivity data, in-phase data clearly indicate buried utilities, and also show numerous small, scattered anomalies.

The anomalies identified onsite are classified according to their interpretational significance with respect to the individual project objectives:

Type A: Strong, well-defined anomaly characteristic of a buried object, for which some follow-up (site walkover, soil boring, trench, etc.) is recommended.

Type B: Weaker or more poorly defined anomaly due to a buried object, but less likely to be of environmental concern. Follow-up is deemed less critical, but depends on Type A anomaly investigation results.

Type C: Anomaly not believed to be caused by buried material of environmental concern. Examples are ditches, culture, metal objects at the surface, etc. Follow-up is not recommended.

Type D: Anomaly-free in light of the stated objectives.

Tables for these three sites describe the anomalies and recommendations for follow-up. If a follow-up investigation conducted, the best locations for doing so are indicated for Type A anomalies in the second column of the tables. Note tnat follow-up will first be a site walkover to determine if the anomaly is due to some nonenvironmental object, such as buried construction debris or topography. Most of these explanations were eliminated during the geophysics survey, but a second site walkover is still recommended. Invasive work may be planned based upon the site walkover.

5.1 Site 7

5.1.1 Setting and Regional Geology

Site 7 is on the southern side of NAS Pensacola, adjacent to Building 1713, and approximately 400 feet southeast of Fort Redoubt. The site was previously a [ire-fighting training area using several surface structures and bum pits. Surface topography is generally flat, sandy terrain with several scattered minor depressions. Surface vegetation ranges from primarily wooded to grass and weeds. An unmaintained asphalt road to Redoubt Road bisects the site generally north to south. A mobile home park is southeast and adjacent to the site. Local military personnel indicated the southeastern section of the site was the most likely area for bum and burial activity while serving as a training area.

5.1.2 Field Procedures

A IO-foot grid interval for Site 7 was used as a compromise for sampling potentially large footprint sources (i.e., burn pits), along with smaller sources such as drums. Key east-west cross

lines staked every 100 feet were marked with high-visibility paint, Data were obtained walking north on even-numbered lines and south on odd-numbered lines. The receiver antenna was pointed north on even lines and south on odd lines. Fieldwork for this site was completed January 31, 1996.

5.1.3 Data Interpretation,

Figures 3 and 4 show the plan-view maps, consisting of conductivity and in-phase field data, respectively. Both data sets show regional effects which characterize the inherent subsurface background conductivity levels. The data collection method minimized the "wavy" nonreciprocity effects caused by reversing the antenna orientation.

5.1.4 Anomaly Description

Table 1 lists the anomalies identified at Site 7. Most are near-surface, localized features likely related to previous training activities occurring onsite. Two high-amplitude responses were identified along the southwest site boundary, adjacent to the trailer park. These responses were classified as Type A based on their strength and their spatial map position to previous burn activities identified onsite (Figure 5). Possible sources for these anomalies may be the burn pits, metal containers used in fire training, reinforced building materials, or some other nondescript ferrous material buried onsite. Type C anomalies, attributed to surface and subsurface culture, are quite prevalent; the most noticeable example is the linear feature leading to Building 1713. The probable source for this anomaly may be a water or gas line. The strong signature of this cultural response is due to frequency coupling along the north-south traverses. Culture can mask meaningful anomalies; however, at this site, the culture is in areas that do not obscure site interpretation,

Figure **3** Conductivity **– Site 7**

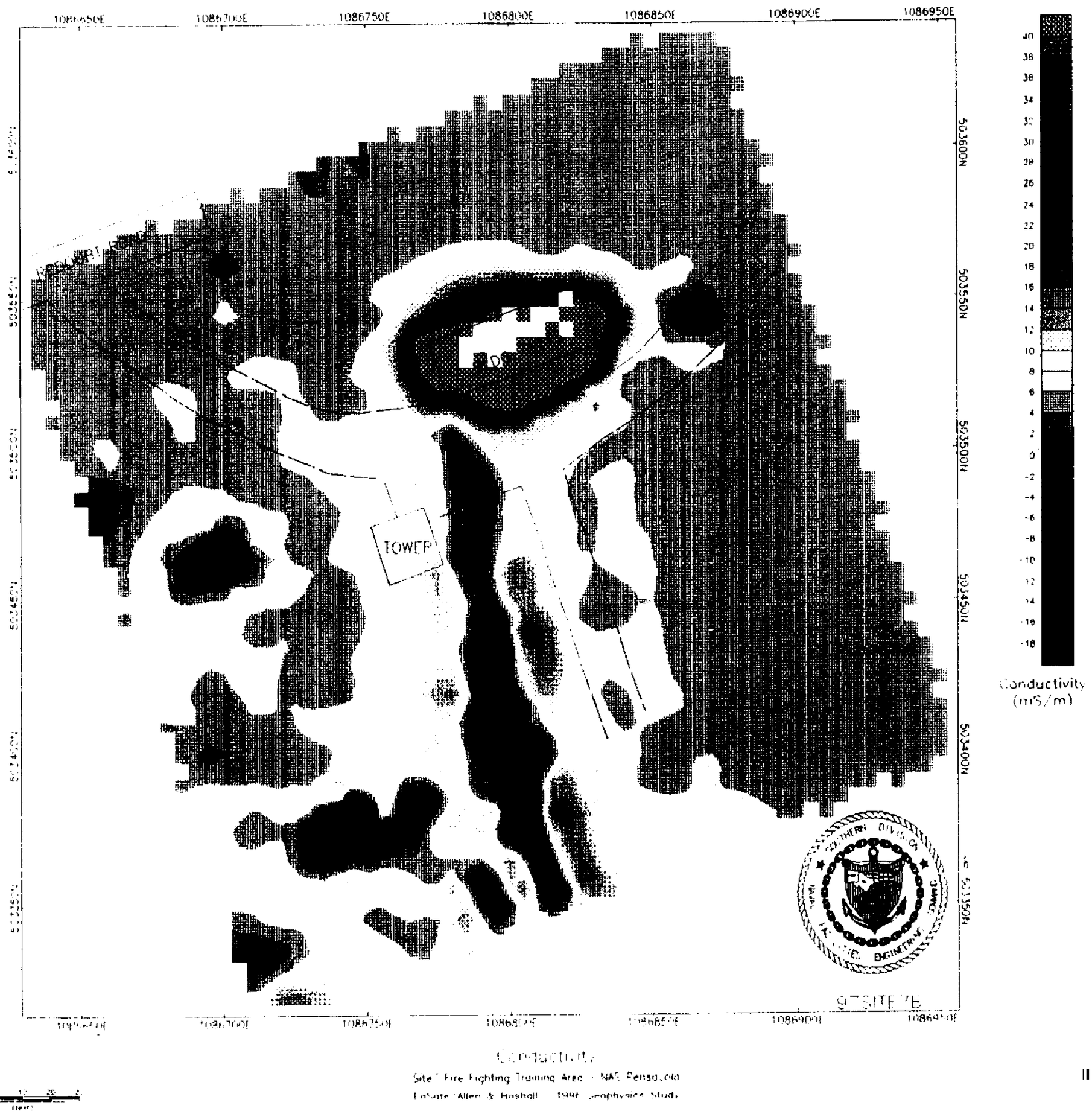


Figure 4 In-Phase – Site 7

Figure 5 Geophysical Anomaly Map – Site 7

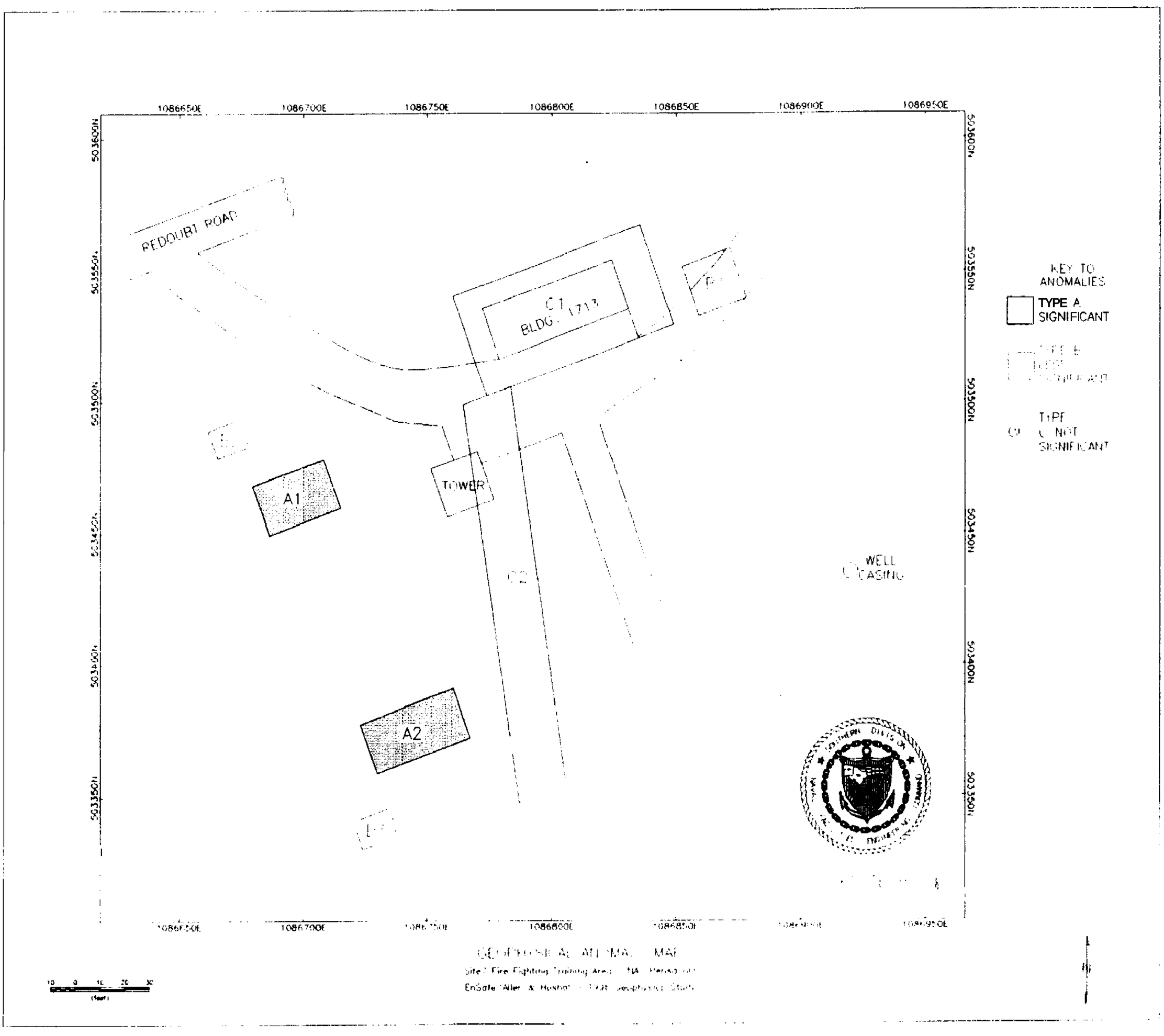


Table 1
Anomaly Interpretations, Site 7 Fire Fighting Training Area

No.	Best Position to Investigate	Notes
TYPE A ANOMALIES: RECOMMENDED FOR FOLLOW-UP		
A i A2	1086700E/503450N 1086750E/503350N	Strong response in both conductive and in-phase data sets. The highly focused nature of the response footprint, in both data sets, would indicate a concentrated metal source recorded in one or two station readings. These anomalies are classified Type A due to their size and strength; follow-up is recommended.
TYPE B ANOMALIES: SECONDARY FEATURES OF LOWER PRIORITY		
B1	1086870E/503350N	Moderate anomaly. Investigation recommended only if anomalies A1 and A2 show material of concern.
€32	1086655E/503480N	Minor anomaly.
B3	1086725E/503345N	Minor anomaly.
TYPE C ANOMALIES: NOT RELATED TO SUBSURFACE FEATURES		
C1	-	Building.
c2	-	Buried utilities.

5.2 Site 4

52.1 Setting and Regional Geology

Site 4 is an open field adjacent to Building 3581 and southwest of San Carlos Road. Site history indicates previous usage may have supported flight-line activities or Building 3581. Site topography is generally flat excluding a small drainage depression adjacent to Building 3581 parking lot. Several small piles of metal tubing were discarded along the parking lot boundary. Near the middle of the field, a slightly rectangle outline of a buried feature, possibly an abandoned foundation, is evident. During grid installation, cement was identified 4 to 5 inches below the surface. Site vegetation consists mainly of grass and weeds, with occasional bare soil or stressed grass. The northwestern portion of the site has a small stand of pine trees. A second smaller parking lot for another facility is nearby.

5.2.2 Field Procedures

Site 4 data were collected on a 12-foot grid interval with each node marked with either a wood stake or high-visibility paint. All data were collected walking north on even-numbered lines and south on odd-numbered lines. Data were acquired over two days, mostly the first day, February 5, 1996. The next day's effort focused on collecting data along the airfield southwest of Building 3581.

5.2.3 Data interpretation

Figures 6 and 7 show plan-view maps of conductivity and in-phase field data, respectively. Most of the recorded response onsite could be characterized as nominal. Moderate anomalous responses occur in localized areas near surface and subsurface culture. The site is generally clear of significant anomalous activity not easily tied to known culture.

5.2.4 Anomaly Description

Table 2 lists the anomalies identified at Site 4. Most of the anomalous activity can be linked to cultural source bodies. Only three minor responses went unmatched to known culture during data interpretation. These anomalies are classified as Type B based on their minimal frequency signature and response footprint (Figure 8). The probable source for these anomalies is most likely nondescript metal debris associated with past site activities. The most likely source for anomaly B3 may be an abandoned drainage feature. Numerous Type C anomalies are present across the site. One interesting anomaly not linked to a surface source is labeled C2. This response appears to be of an underground utility servicing either the tower or Building 3581.

Figure *6* Conductivity **– Site** 4

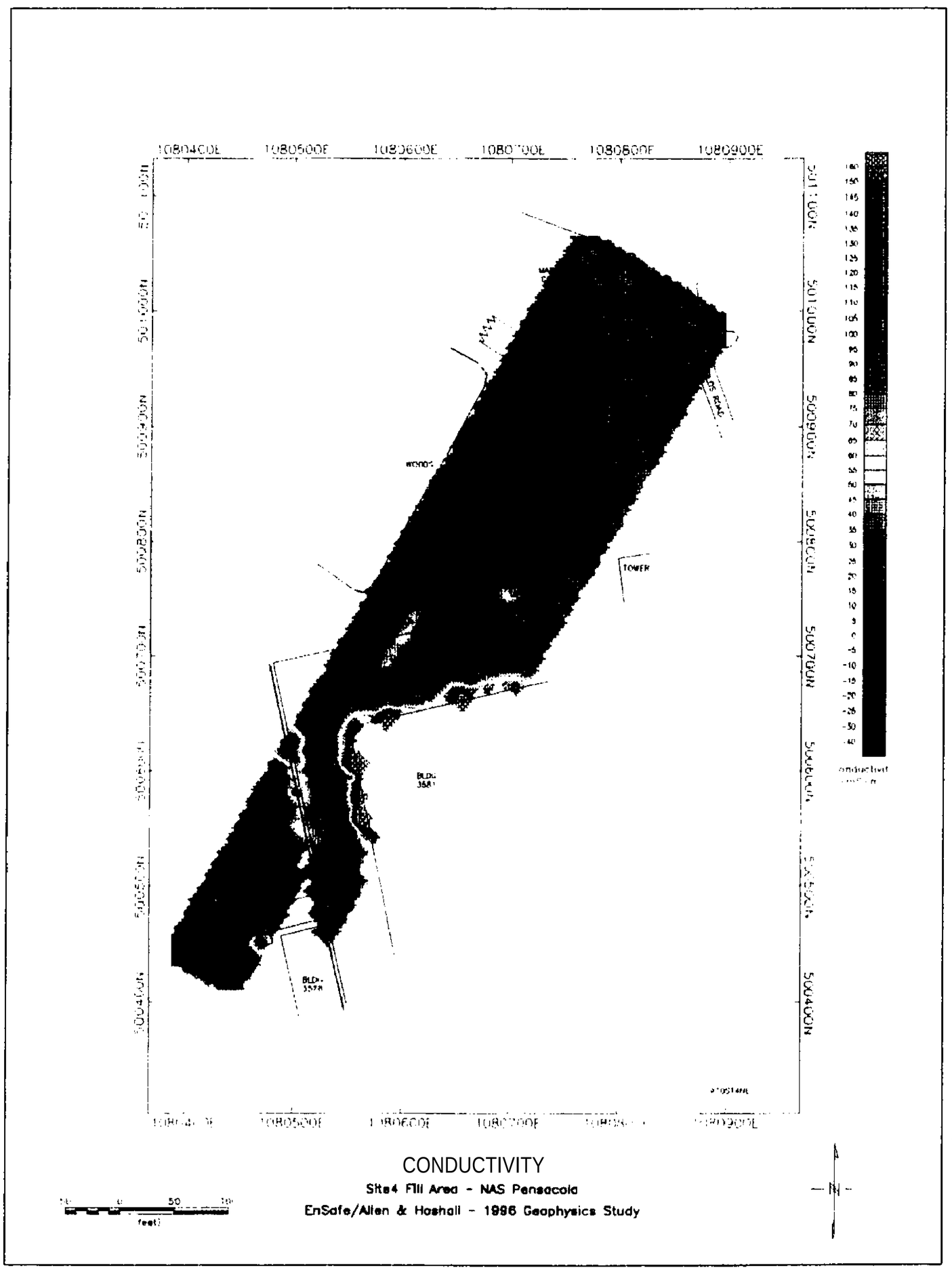


Figure *7* **In-Phase** — Site **4**

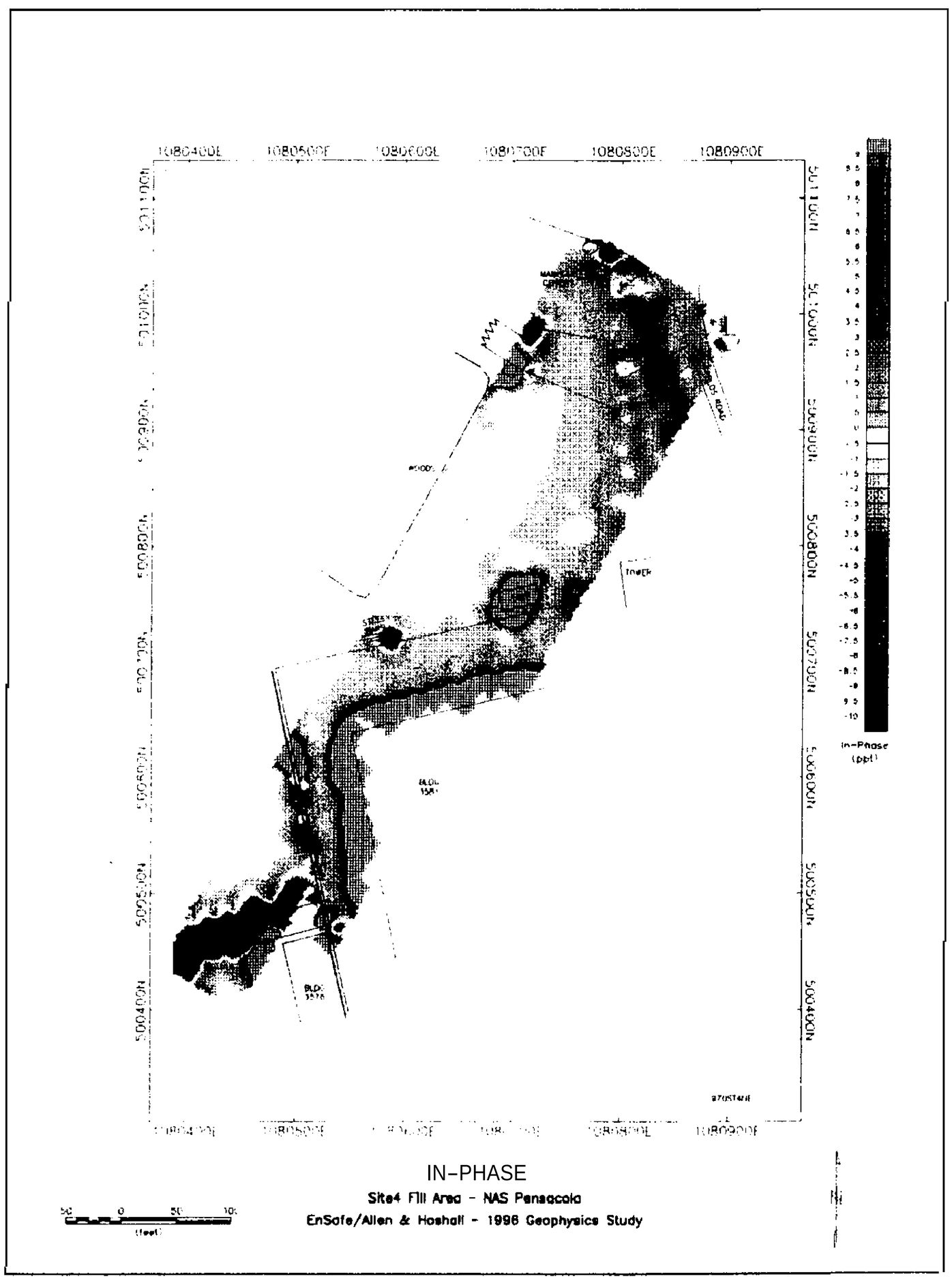


Figure 8 Geophysical Anomaly Map — Site 4

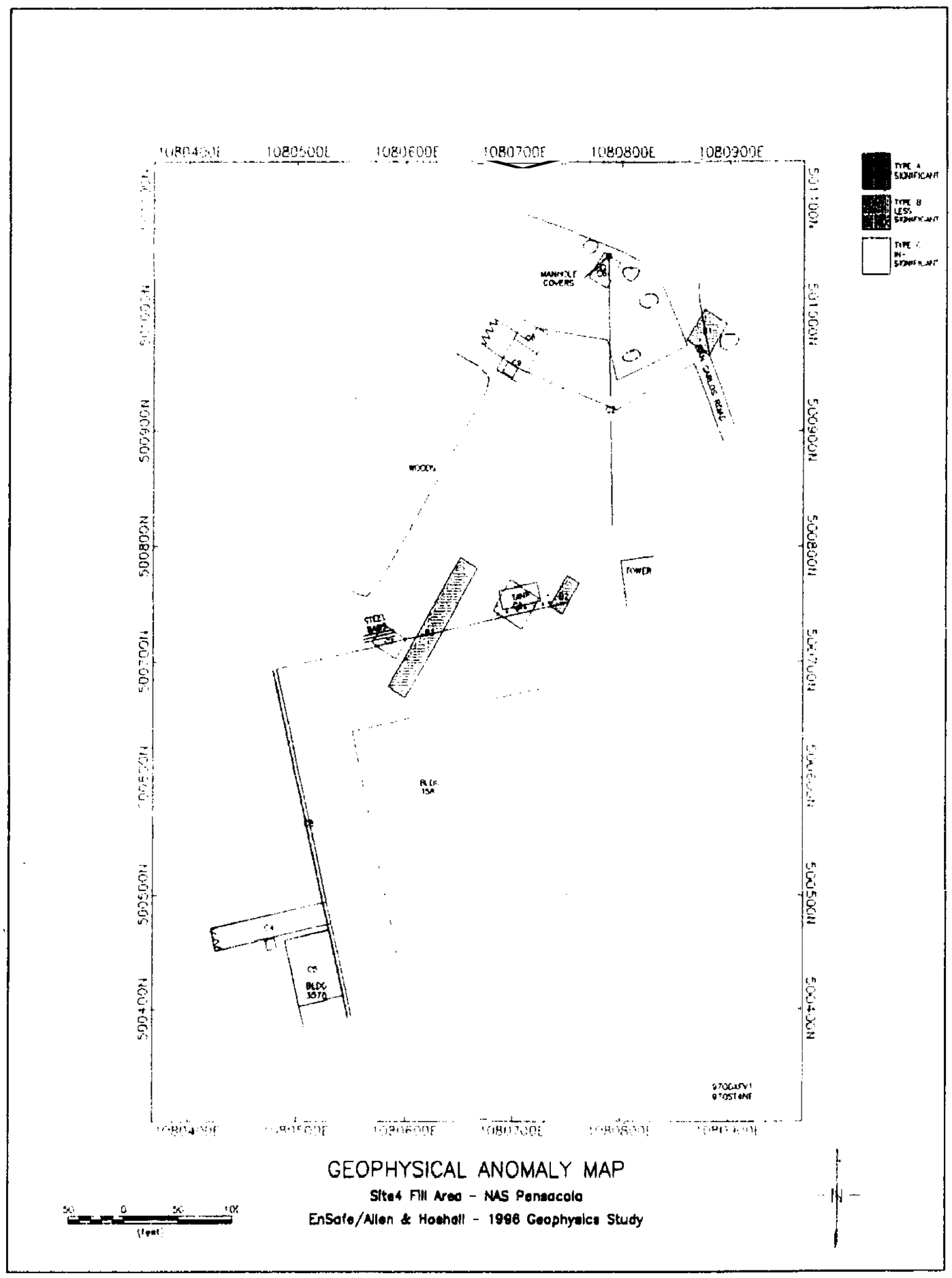


Table 2
Anomaly Interpretations, Site 4

No.	Best Position to Investigate	Notes
TYPE A ANOMALIES: RECOMMENDED FOR FOLLOW-UP		
		No Type A anomalies were found.
TYPE B ANOMALIES: SECONDARY FEATURES OF LOWER PRIORITY		
B1	1080900E/500990N	Moderate anomaly; representative of several small anomalies in the area. Not recommended for follow-up based on the geophysics data.
B2	1080750E/500750N	Strong anomaly; buried metal indicated. Source may be related to nearby surface culture. Follow-up not recommended.
B3	1080600E/500700N	Moderate anomaly in the conductive data set:, Absence of in-phase signature would eliminate metal as response source. Drainage feature most likely source for anomaly.
TYPE C ANOMALIES: NOT RELATED TO SUBSURFACE FEATURES		
C1	-	Building 3581.
c2	-	Utilities and other culture, producing hear feature..
c3	-	Fence.
c4	-	Reinforced concrete.
C5	-	Reinforced concrete and Building 3578.
C6	-	Manhole covers to utilities.
C7	-	Surface metals.
C8	-	Surface fuel tank.
c9	-	Trash dumpster.
C10	-	Vehicle in parking lot.

5.3 Site 16

5.3.1 Setting and Regional Geology

The third geophysics survey was conducted at Site 16 on the south side of NAS Pensacola, northeast of Forrest Sherman Field. Due to the area's size, the geophysics survey was divided into two investigations. The first investigation was conducted southeast of Bayou Grande. This portion of Site 16 is a mix of dense pine forests and cleared unvegetated beach sand. The cleared section is an active Navy landfill for low-grade scrap metal, trash, anä hurricane debris. Numerous piles of scrap metal and fallen timber collected from around the base were visible across the site. Navy practice was to excavate pits for burial debris, and then to fill the

excavations with beach sand. The oldest portion of the landfill was in the wooded section immediately southeast of Bayou Grande. A walkthrough investigation with military personal identified numerous debris piles in the forest.

The second investigation was conducted in the Southwestern comer of the site. This portion of Site 16 is isolated by a drainage ditch that flows into Bayou Grande. The area has mixed vegetation of light pine forest, beach grass, and weeds. This section also showed evidence of excavation with numerous earthen piles and pits scattered across the site.

5.3.2 Field Procedures

The grids at Site 16 were placed on a 10-foot grid interval, selected based on the small target size of the source bodies expected in the landfill. Acquisition began in the southwest section on February 29, 1996, and was completed in two days. Data were collected walking north on even-numbered lines and south on odd-numbered lines. The receiver antenna was pointed north on even lines and south on odd lines. Fieldwork for this site was completed on March 1, 1996.

Data acquisition in the active landfill began March 2. This area was considerably larger and required four days to complete. Data were collected along north-south traverses on grid locations with flagged east-west cross lines. Fieldwork was completed March 6, 1996.

5.3.3 Data Interpretation

Figures 9, 10, 11, and 12 show the plan-view maps, consisting of conductivity and in-phase field data. The two sets show moderate broad-band regional effects which characterize the inherent background conductivity levels of the subsurface. Due to the prolonged period of data acquisition in the active landfill, several time-dependent features were introduced into the data presentation. The most evident feature is a banding of colors across several sections of the site. These patterns are the visual artifacts of long-term drift during the course of the survey. If a survey lasts more

Figure 9 Conductivity Map – Site 16

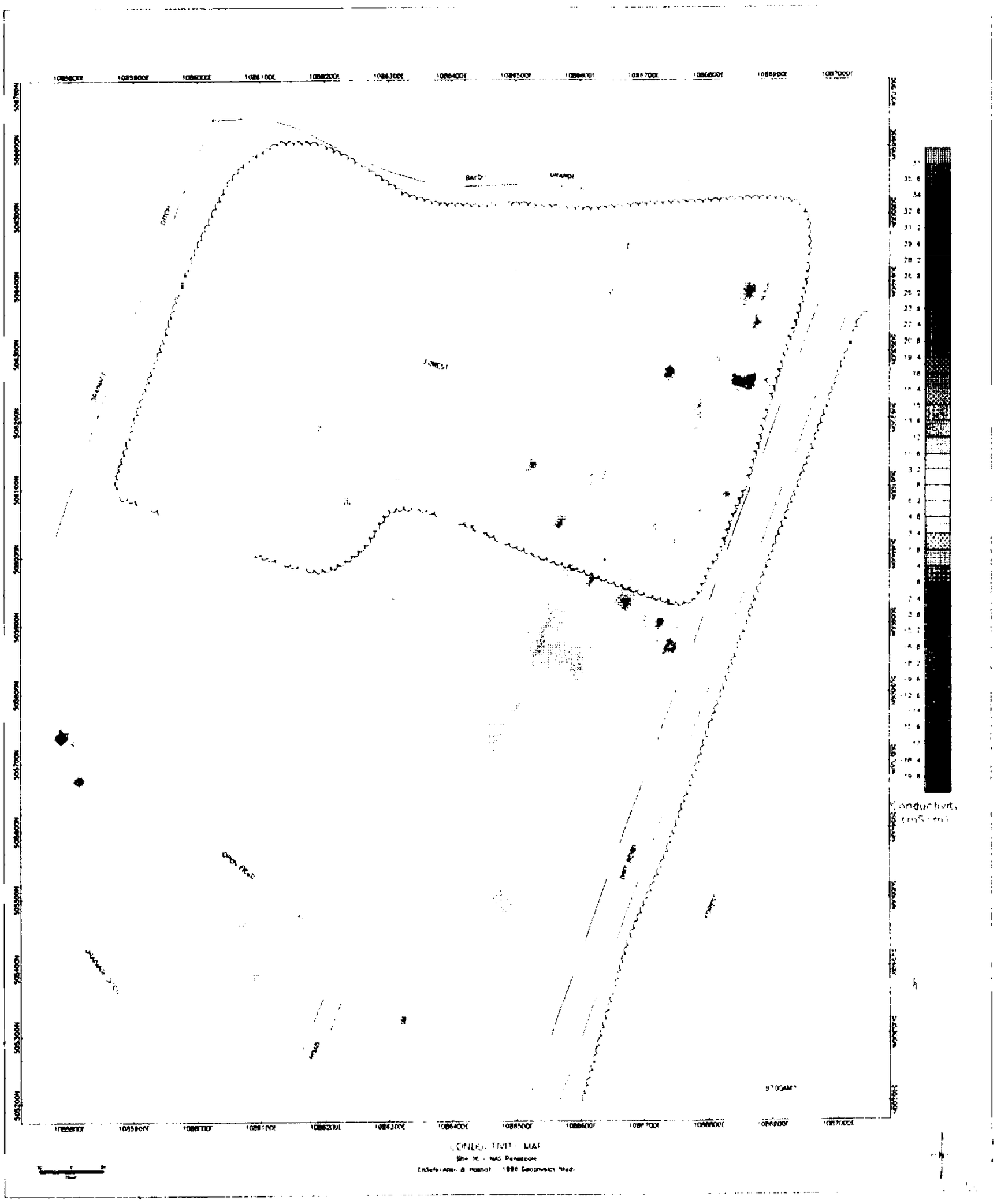


Figure 10 In-Phase Anomaly **Map – Site** 16

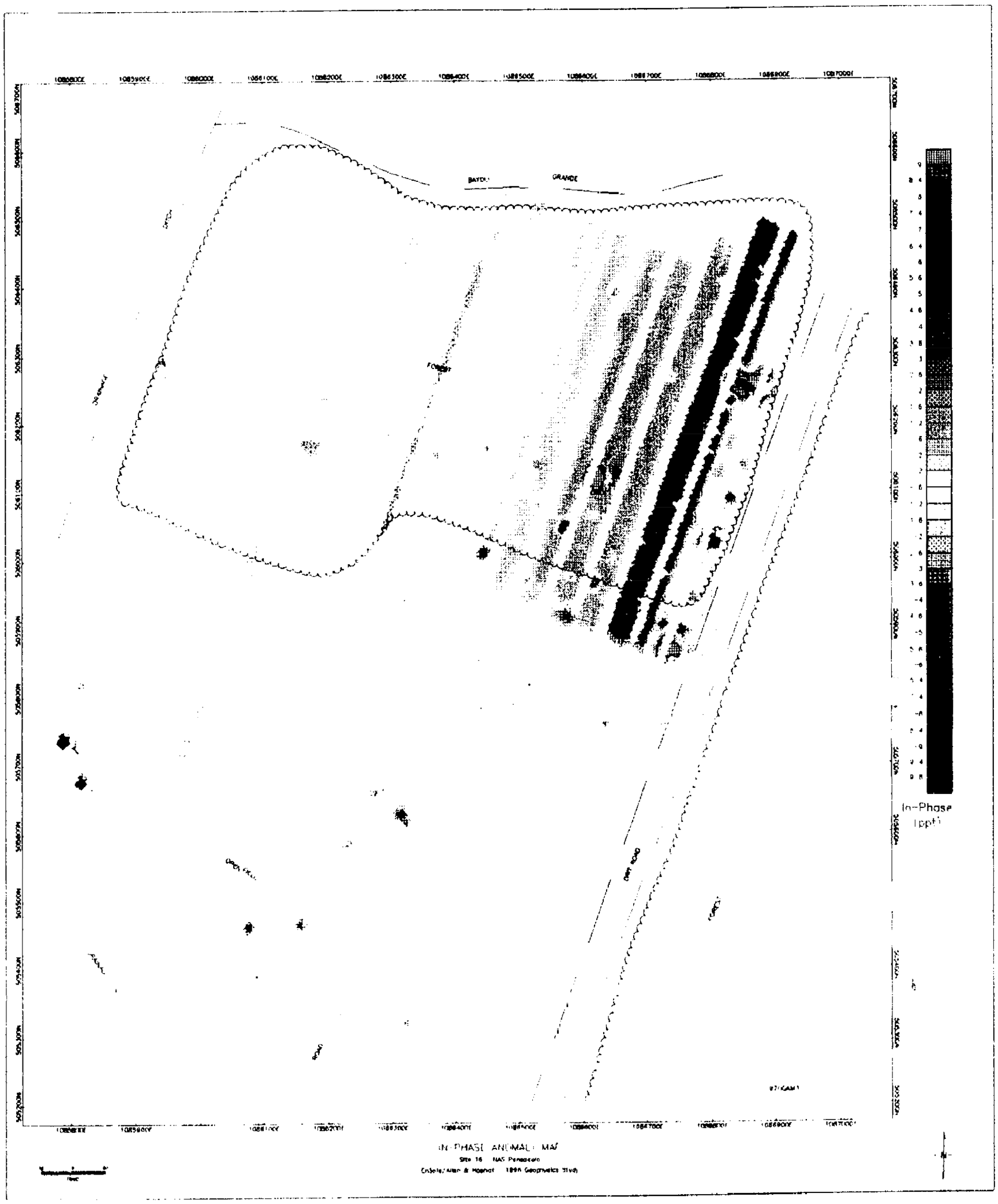


Figure 11 Conductivity — Site 16 SW

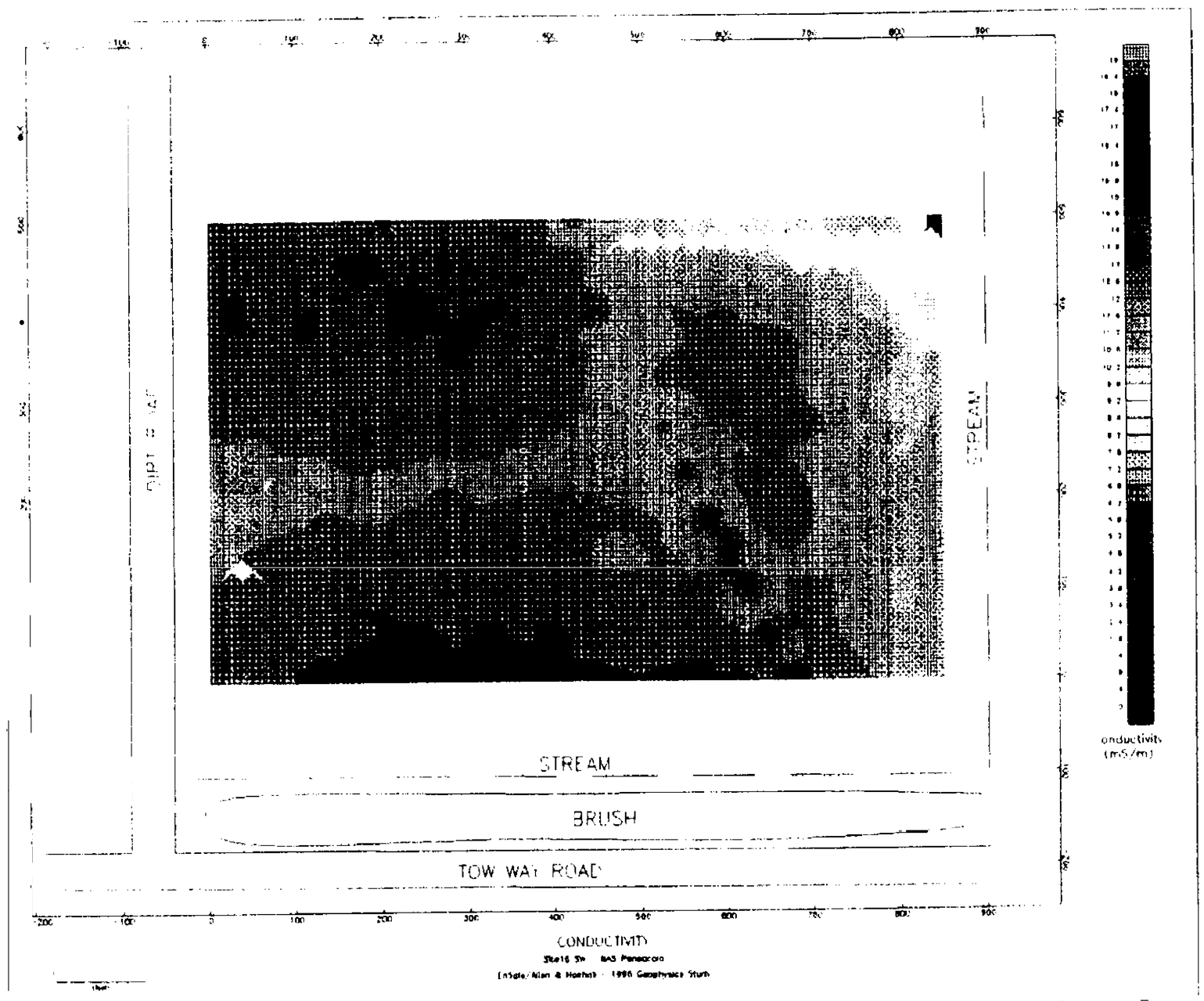
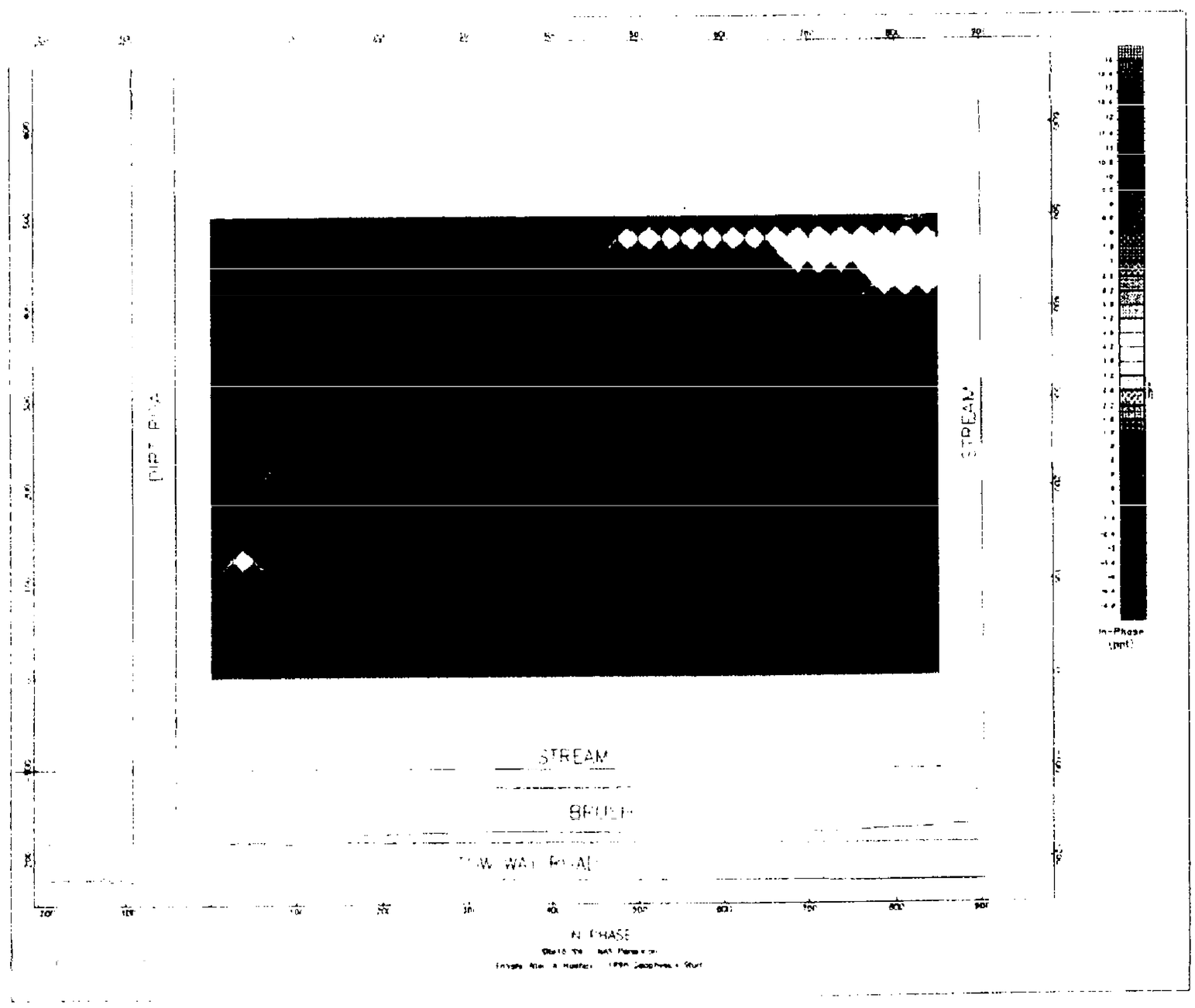


Figure 12 In-Phase — Site 16 SW



than several hours, instrument drift may introduce a subtle shift in the recorded data. In most cases, the instruments are calibrated finely enough to minimize this error. In this survey, however, a drift correction was required because data were collected over four days. The net result of the correction was to equate all the field data back to the first base station reading from March 2. The correction was effective for most of the data set. For areas still retaining the banding artifact, the data quality is degraded, but still remains reliable for interpretation.

5.3.4 Anomaly Description

Tables 3 and 4 list the anomalies identified at Site 16. Five anomalies in the active landfill were classified Type A based on their high-frequency content and broad response footprint. (Figure 13) The relatively large response of these anomalies would indicate a significant source body. The rest of the anomalies identified in the landfill were classified as Type B. In general, the Type B responses exhibited narrowly focused, low-frequency signatures typical for nondescript metal debris. Segmented metal tubing, siding, and general shop metal waste were identified during the walkthrough of the landfill. It is likely that most of these Type B anomalies have source bodies similar to what was observed on the surface.

The southwest section is generally free of significant anomalous activity. Only one feature was identified as significant and classified as a Type B. (Figure 14) This anomaly has a well-defined conductivity signature, which often indicates soil disturbance. The linear nature of the anomaly may imply a history of excavation or dumping onsite; the absence of an in-phase component would tend to support past excavation as the anomaly's cause.

Figure **13** **Geophysical Anomaly Map — Site** 16

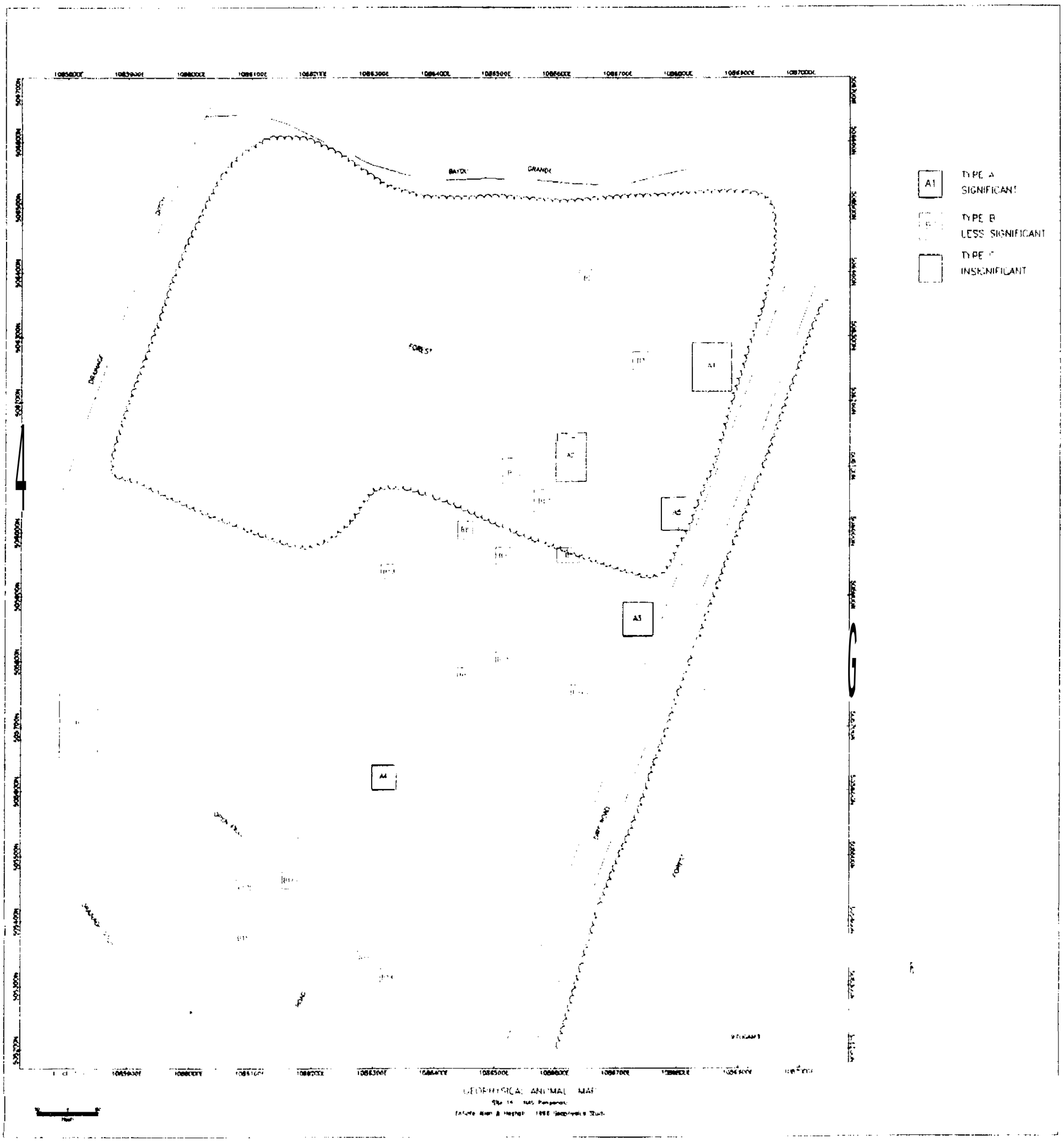


Figure 14 Geophysical Anomaly **Map – Site** 16 **SW**

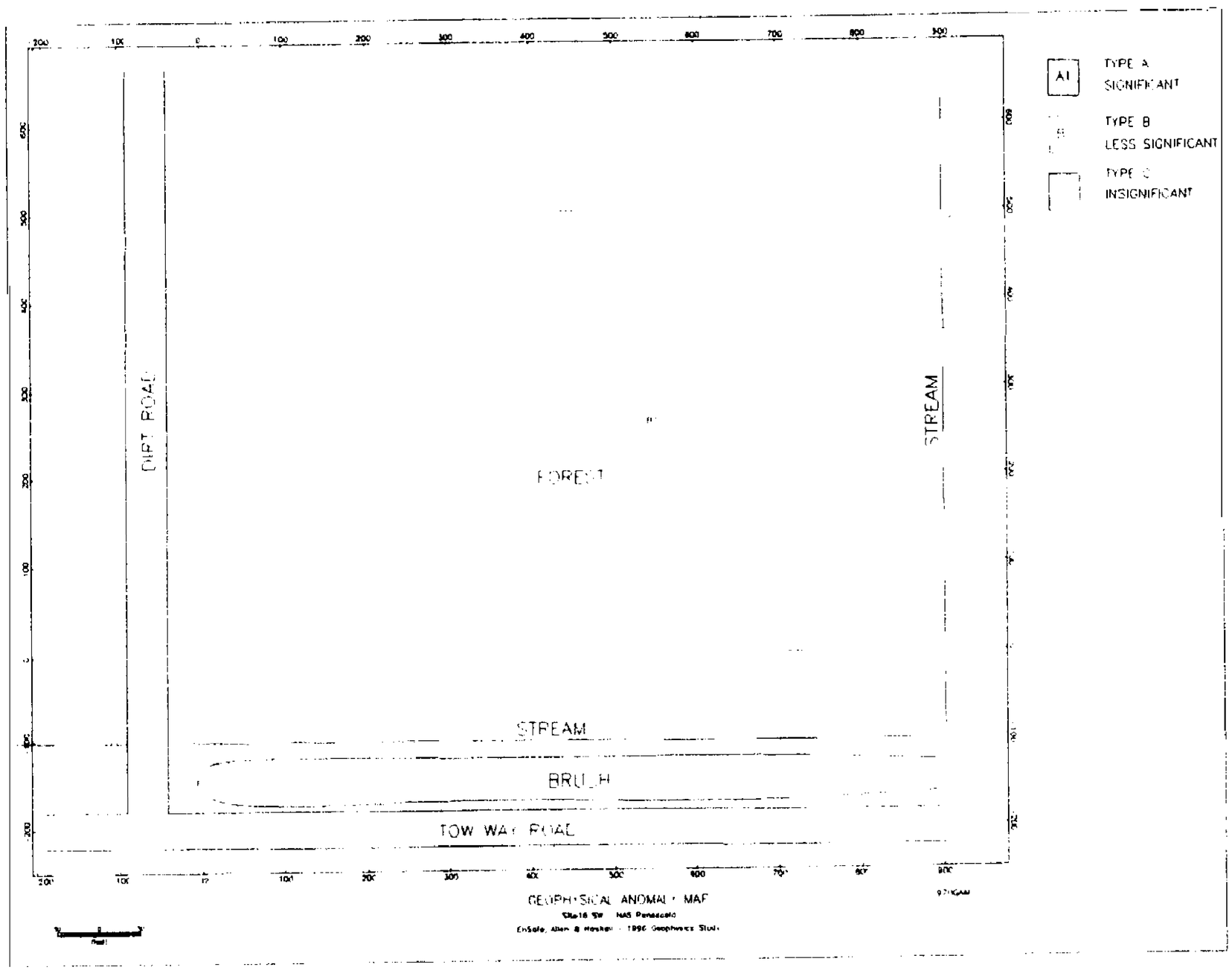


Table 3
Anomaly Interpretations, Site 16 Active Landfill Section

No.	Best Position to Investigate	Notes
TYPE A ANOMALIES: RECOMMENDED FOR FOLLOW-UP		
A1	1086800E/506250N	Strong anomaly; buried metal indicated. Complex anomaly pattern could indicate several small metal objects. A high priority for follow-up. Moderarely well-defined zone of higher soil moisture and metal content.
A2	1086600E/506100N	Strong anomalous zone; buried metals indicated. Demolition debris was observed buried nearby and this may due to the same, but the strength and size of the anomaly suggests further investigation. If material of environmental concern is found, other anomalies in the area should be upgraded to Type A status.
A3	1086700E/505880N	Same as A2.
A4	1086300E/505630N	Moderate Type A anomaly; buried metal indicated,
A5	1086770E/506040N	Strong anomaly; buried metals indicated. Demolition debris observed nearby.
TYPE B ANOMALIES: SECONDARY FEATURES OF LOWER PRIORITY		
B1	1085800E/505700N	Moderate anomaly in area of stressed grass.
B2	1086600E/506400N	Minor anomaly near soil pile.
B3	1086730E/506270N	Minor anomaly near soil pile.
€35	1086550E/505950N	Strong anomaly. Investigation recommended if anomaly A2 shows material of concern. Moderate anomaly.
B6	1086570E/506070N	Minor anomaly.
B7	1086510E/506090N	Minor anumaly.
B8	1086430E/506010N	Minor anomaly.
B9	1086580E/505990N	Minor anomaly.
B10	1086620E/505740N	Minor anomaly.
B11	1086500E/505790N	Minor anomaly.
B12	1086435E/505750N	Moderate anomaly.
B13	1086310E/505945N	Minor anomaly.
B14	1086330E/505300N	Minor anomaly.
I315	1086290E/505330N	Moderate anomaly possible associated with gravel service road.
B16	1086165E/505475N	Moderate anomaly
B17	1086090E/505460N	Moderate anomaly.
B18	1086075E/505375N	

Table 4
Anomaly Interpretations, Site 16 Southwestern Section

No.	Best Position to Investigate	Notes
TYPE A ANOMALIES: RECOMMENDED FOR FOLLOW-UP		
-	-	No Type A anomalies were found,
TYPE B ANOMALIES: SECONDARY FEATURES OF LOWER PRIORITY		
0	600E/250N	Strong conductive anomaly. It is unclear if this is due to pervasive culture in the area or if it represents an area of construction rubble or fill.

6.0 CONCLUSIONS

The geophysical surveys performed at NAS Pensacola sufficiently defined the surveyed areas to support the following conclusions. Site 4 is generally free of significant anomalous activity related to environmental concern. Three minor Type B anomalies were scattered across the site. The frequency signatures and response footprints of these anomalies do not suggest sites for concern. Further invasive investigation is not recommended.

The survey results from Site 7 identified two strong Type A anomalies along the southwestern site boundary. Information from local military personnel indicates several burn pits were in this section of the site. Several smaller, less-significant Type B anomalies were also identified onsite.

The geophysics survey at Site 16 identified five strong Type A anomalies in the active landfill area. The high-frequency signatures and large response footprints of these anomalies indicate significant buried material. Numerous Type B anomalies were also identified in the landfill, Survey results from the southwest section indicate that area generally is free of anomalous activity. One Type B anomaly was identified in the conductivity data set. No further investigation in the southwest section is recommended.

A site walkover, possibly followed by invasive investigation, is recommended for Type A anomalies identified at Sites 7 and 16.

Appendix B

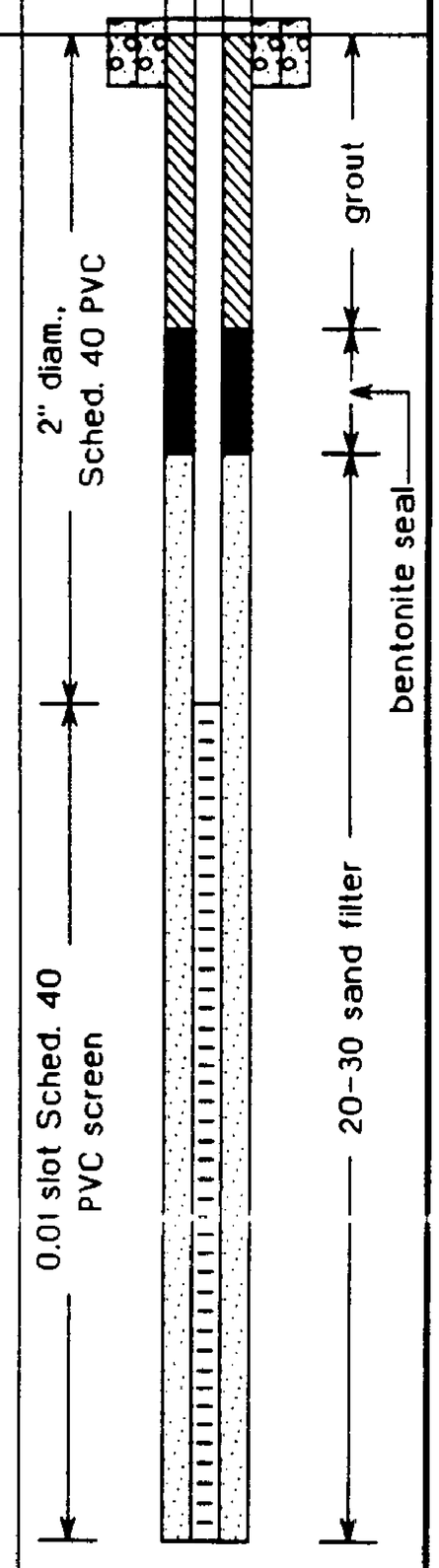
Soil Boring Logs And

Monitoring Well Construction Diagrams

EnSafe/Allen & Hoshall	Monitoring Well 007GGS001
Project: *Site 07*	Location: *NAS Pensacola*
Project No.: *0970-00030*	Surface Elevation: *feet msl*
Started at *1500 on 3-20-96*	TOC Elevation: *31.16* feet *msl*
Completed at *1600 on 3-20-96*	Depth to Groundwater: *12.90 feet* Measured: 5-6-96
Drilling Method: *4.25-inch I.D. Hollow Stem Auger*	Groundwater Elevation: *18.26 feet msl*
Drilling Company: *GZA*	Total Depth: *18.0 feet*
Geologist: *C. Smith*	Well Screen: *8 to 18 feet*

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% COVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)
					0			Surface Conditions: Grass Sand, little Silt, brown, fine to coarse, well graded, moist	
					0			Sand, little Silt, light brown, fine to coarse, well graded, moist,	
5					0				
					0				
					0		SW	Sand, trace Silt, buff white, fine to coarse, well graded, moist.	
10					0				
					0				
15					0			Sand, little Silt, light tan, fine to medium, saturated below 10 feet bls.	
					0			Sand, little Silt, grayish-brown, fine to coarse, well graded, saturated. End of boring ai 18.0' bts.	
20								Notes: Samples Collected: 007S000101 007S000107 007S000109	
25									

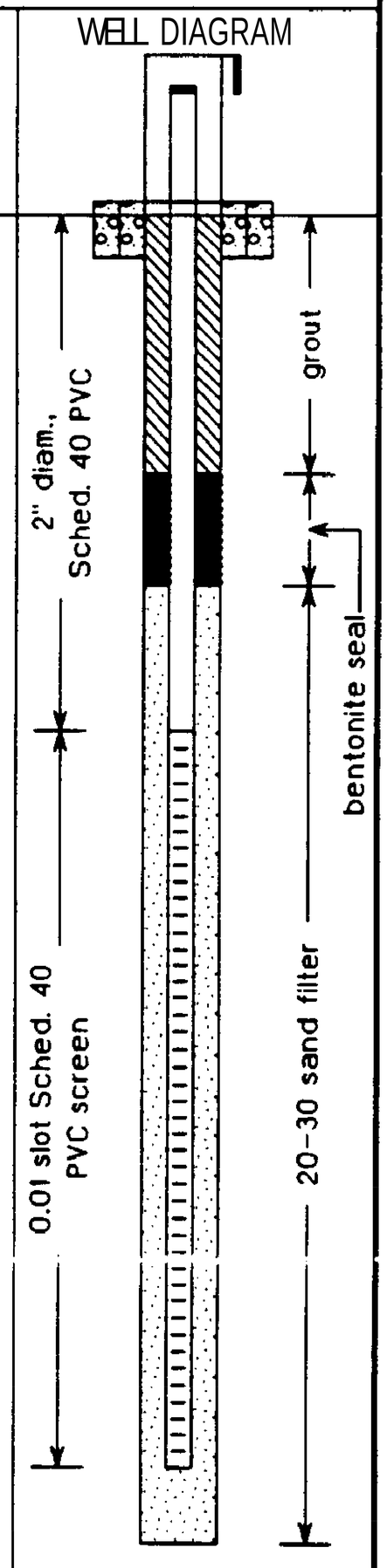
WELL DIAGRAM



EnSafe/Allen & Hoshall	Monitoring Well 007GGS002
Project: *Site 07*	Location: *NAS Pensacola*
Project No.: *0970-00030*	Surface Elevation: *feet msl*
Stated at *1145 on 3-20-96*	TOC Elevation: *31.10* feet *msl*
Completed at *1245 on 3-20-96*	Depth to Groundwater: *12.84 feet* Measured: 5-6-96
Drilling Method: *4.25-inch I.D. Hollow Stem Auger*	Groundwater Elevation: *18.26* feet *msl*
Drilling Company: *GZA*	Total Depth: *18.0 feet*
Geologist: *C. Smith*	Well Screen: *7 to 17 feet*

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)
					0			Surface Conditions: Grass 7 Sand, little Clay, grayish-brown, fine to coarse, well graded, moist.	
					0			Sand, trace Silt, brawn, fine to coarse, well graded, moist.	
5					0				
					0				
					0		SW	Sand, trace Silt, buff white, fine to coarse, well graded, moist to wet below 9.5 feet bls.	
10					0				
					0				
15					0			band, trace Silt, white, fine to medium, welt graded, saturated,	
					0			Sand, little Silt, grayish-brown, fine to coarse, well graded, saturated. End of boring at 18.0' bls.	
20								Notes: Samples Collected: 007S000201 007C000201 007K000201 007X000201 007S000207	
25									

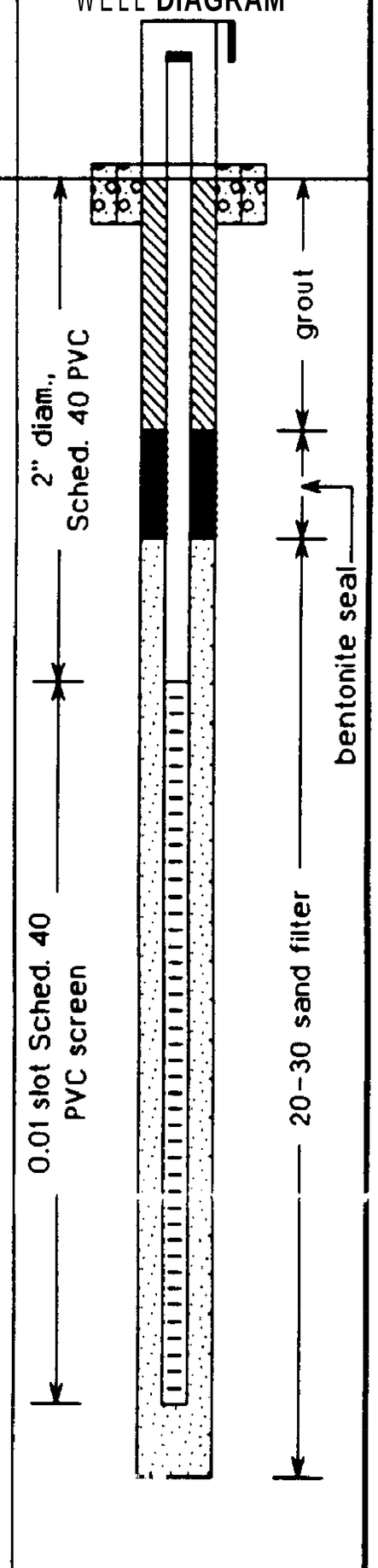
WELL DIAGRAM



EnSafe/Allen & Hoshall	Monitoring Well 007GGS003
Project: *Site 07*	Location: *NAS Pensacola*
Project No.: *0970-00030*	Surface Elevation: *feet msl*
Started at *1015 on 3-20-96*	TOC Elevation: *31.05 feet msl*
Completed at *1130 on 3-20-96*	Depth to Groundwater: *12.46 feet* Measured: *5-6-96*
Drilling Method: *4.25-inch I.D. Hollow Stem Auger*	Groundwater Elevation: *18.59 feet msl*
Drilling Company: *GZA*	Total Depth: *18.0 feet*
Geologist: *C. Smith*	Well Screen: *7.5 to 17.5 feet*

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)
					0			Surface Conditions: Grass Silty Sand, brown.	
					0				
5					0		SM/SW	Silty Sand, light tan, fine to coarse, well graded, moist.	
					0				
10					0			Sand, trace Silt, white, fine to coarse, well graded, moist to saturated below 9 feet bls.	
					0			Silty Sand, gray, fine to coarse, well graded, saturated.	
15					0		SW		
					0			Sand, little Silt, dark brown, fine to coarse, well graded, saturated. End of boring at 18.0' bls.	
20								Notes: Samples Collected; 007S000301 007S000307	
25									

WELL DIAGRAM

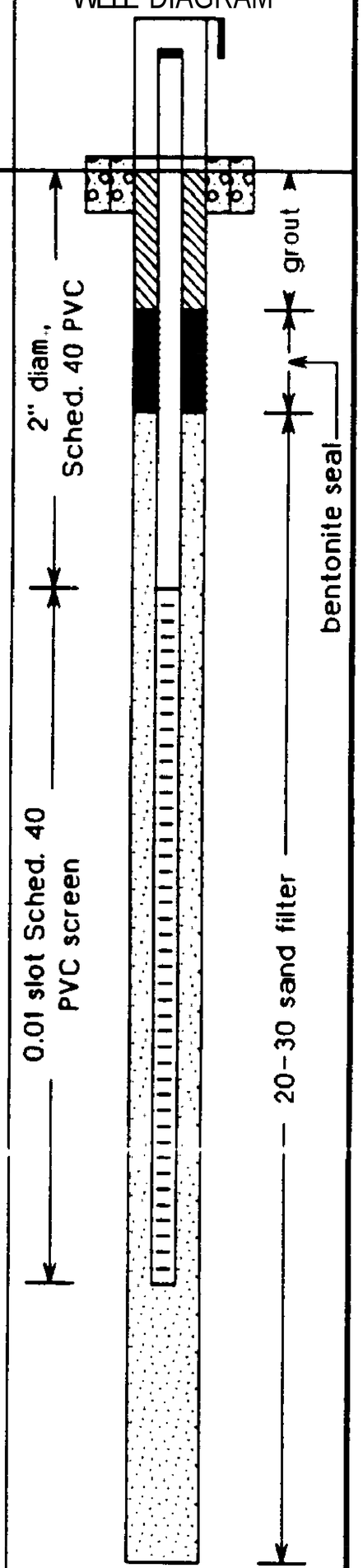


EnSafe/Allen & Hoshall	Monitoring Well 007GGS004
Project: *Site 07*	Location: *NAS Pensacola*
Project No.: *0970-00030*	Surface Elevation: *feet msl*
Started at *1500 on 3-19-96*	TOC Elevation: *30.62 feet msl*
Completed at *1625 on 3-19-96*	Depth to Groundwater: *11.55 feet* Measured: **5-6-96**
Drilling Method: *4.25-inch I.D. Hollow Stem Auger*	Groundwater Elevation: *19.07 feet msl*
Drilling Company: *GZA*	Total Depth: *20.0 feet*
Geologist: *C. Smith*	Well Screen: *6 to 16 feet*

DEPTH IN FEET	LITHOLOGIC SAMPLE	ANALYTICAL SAMPLE	SAMPLE NO.	% RECOVERY	PID (ppm)	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	ELEV. (ft-msl)
					0		SC / RB	Surface Conditions: Grass Organic Clayey Sand, brown. Shell Road Base	
					0				
5					0		SM / SW	Silty Sand, brown, fine to coarse, moist	
					0				
10					0		SP	Sand, some Silt, buff white, fine to medium, poorly graded, moist.	
					0				
15					0			Sand, little Silt, light tan, fine to medium, poorly graded, saturated,	
					0		SW	Sand, some Silt, little Clay, dark-brown, fine to coarse, saturated.	
20					0			End of boring at 20.0' bls.	
25									

Notes:
Samples Collected:
007S000401
007S000407

WELL DIAGRAM



Appendix C

Preliminary Remediation Goals

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Volatiles (µg/l)							
106-93-4	1, 2-Dibromoethane C	0.02	0.02	NA	NA	NA	NA
630-20-6	1,1,1,2-Tetrachloroethane C	NA	NA	NA	NA	1	NA
811-97-2	1,1,1,2-Tetrafluoroethane	NA	NA	NA	NA	MA	NA
71-55-6	1,1,1-Trichloroethane N	200	200	NA	NA	NA	NA
354-sa-5	1,1,1-trichlora-2,2,2-triflorom	MA	MA	NA	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 N	NA	NA	NA	NA	NA	NA
79-00-5	1,1,2-Trichloroethane C	5	5	NA	NA	NA	NA
598-77-6	1,1,2-Trichloropropane N	NA	NA	NA	NA	NA	NA
75-34-3	1,1-Dichloroethane N	MA	NA	NA	NA	700	NA
75-35-4	1,1-Dichloroethene C	7	7	NA	NA	NA	NA
75-37-6	1,1-Difluoroethane	NA	NA	NA	NA	NA	NA
96-18-4	1,2,3-Trichloropropane C	NA	NA	NA	NA	42	NA
96-19-5	1,2,3-Trichloropropene N	NA	NA	NA	NA	NA	NA
615-54-3	1,2,4-Tribromobenzene N	NA	NA	NA	NA	NA	NA
120-82-1	1,2,4-Trichlorobenzene N	70	70	NA	NA	NA	NA
96-12-8	1,2-Dibromo-3-Chloropropane C	0.2	0.2	NA	NA	NA	NA
107-06-2	1,2-Dichloroethane C	5	3	NA	NA	NA	NA
540-59-0	1,2-Dichloroethene (total) N	70	70	NA	NA	NA	NA
78-87-5	1,2-Dichloropropane C	5	5	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	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	MA
126-99-8	2-Chtoro-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 isocyana	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	HA	NA	8	NA
107-05-1	Allyl chloride N	NA	NA	NA	UA	NA	NA
100-52-7	Benzaldehyde N	NA	NA	NA	NA	700	NA

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Par — ter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	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	MA	NA	NA	0.6	NA
593-60-2	Bromoethene	NA	NA	NA	NA	NA	NA
75-25-2	Bromoform [C]	100	NA	MA	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	MA	NA	NA	NA
75-45-6	Chlorodifluoromethane	NA	NA	NA	NA	NA	NA
75-00-3	Chlwoethane [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	3s,000	NA
1163-19-5	Decabromodiphenyl ether [N]	NA	NA	NA	NA	NA	MA

Preliminary Remediation Goals (PRGs) far Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Volatiles (µg/l)							
124-48-1	Dibromochloromethane [C]	NA	NA	NA	NA	1	NA
75-71-8	Dichlorodifluoromethane [N]	NA	NA	NA	NA	1,400	NA
77-73-6	Dicyclopentadiene [N]	NA	NA	MA	NA	NA	NA
60-29-7	Diethyl ether [N]	NA	NA	NA	NA	750	NA
107-12-0	Ethyl cyanide	NA	NA	NA	NA	MA	NA
100-41-4	Ethylbenzene [N]	*700*	700	NA	*30*	NA	NA
87-82-1	Hexabromobenzene [N]	NA	NA	NA	NA	MA	NA
78-83-1	Isobutyl alcohol [N]	NA	NA	NA	NA	2,100	UA
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	MA	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	50	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	WA	NA	NA	NA
127-18-4	Tetrachloroethene [C]	5	3	NA	NA	UA	HA
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

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Volatiles (µg/l)							
75-69-4	Trichlorofluoromethane [N]	NA	NA	NA	NA	2,100	NA
108-05-4	Vinyl acetate [N]	NA	NA	NA	NA	250	NA
75-01-4	Vinyl chloride [C]	2	1	NA	NA	MA	NA
1330-20-7	Xylene (Total) [N]	10,000	10,000	NA	20	NA	NA
156-59-2	cis-1,2-Dichloroethene [N]	70	70	NA	NA	NA	NA
10061-01-5	cis-1,3-Dichloropropene [C]	NA	NA	NA	NA	1	NA
99-08-1	m-Nitrotoluene [N]	NA	NA	NA	NA	NA	NA
108-38-3	m-Xylene	10,000	10,000	NA	20	NA	NA
110-54-3	n-Hexane [N]	NA	NA	NA	NA	10	NA
95-49-8	o-Chlorotoluene [N]	NA	MA	NA	NA	140	NA
88-72-2	o-Nitrotoluene [N]	NA	NA	NA	NA	NA	NA
95-47-6	o-Xylene [N]	10,000	10,000	NA	20	MA	NA
5216-25-1	p,a,a,a-Tetrachlorotoluene [C]	NA	NA	NA	NA	NA	NA
99-99-0	p-Nitrotoluene [N]	NA	NA	NA	NA	NA	NA
106-42-3	p-Xylene	10,000	10,000	NA	20	NA	NA
135-98-8	sec-Butylbenzene [N]	NA	NA	NA	NA	NA	NA
104-51-8	tert-Butylbenzene [N]	NA	NA	NA	NA	NA	NA
156-60-5	trans-1,2-Dichloroethene [N]	100	100	NA	NA	NA	NA
10061-02-6	trans-1,3-Dichloropropene [C]	NA	NA	NA	NA	1	NA
110-5716	trans-1,4-Dichloro-2-butene	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)							
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	MA	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	NA
120-82-1	1,2,4-Trichlorobenzene	70	70	NA	NA	NA	NA
95-50-1	1,2-Dichlorobenzene N	600	600	NA	NA	NA	NA
108-70-3	1,3,5-Trichlorobenzene	NA	NA	NA	NA	NA	NA
99-35-4	1,3,5-Trinitrobenzene N	NA	NA	NA	NA	60	NA
541-73-1	1,3-Dichlorobenzene N	600	NA	NA	NA	10	NA
99-65-0	1,3-Dinitrobenzene N	NA	NA	NA	NA	50	NA
106-46-7	1,4-Dichlorobenzene C	7s	75	NA	NA	NA	NA
130-15-4	1,4-Naphthoquinone	NA	NA	NA	NA	NA	NA
90-13-1	1-Chloronapthalene	MA	NA	NA	NA	NA	NA
90-12-0	1-Methylnaphthalene N	MA	NA	NA	NA	NA	NA
134-32-7	1-Naphthylamine	NA	NA	NA	NA	NA	NA
108-60-1	2,2'-oxybis(1-Chloropropane)	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 N	NA	NA	NA	NA	4	NA

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	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	NA	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	NA
91-58-7	2-Chloronaphthalene [N]	NA	NA	NA	NA	560	NA
95-57-8	2-Chlorophenol [N]	NA	NA	NA	NA	35	NA
99-55-8	2-Methyl-5-nitroaniline [C]	MA	NA	NA	NA	NA	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]	NA	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]	NA	NA	NA	NA	20	NA
109-06-8	2-Picoline	NA	NA	NA	NA	NA	NA
91-94-1	3,3'-Dichlorobenzidine [C]	NA	NA	NA	MA	7.5	NA
119-90-4	3,3'-Dimethoxybenzidine [C]	NA	NA	NA	NA	250	HA
119-93-7	3,3-Dimethylbenzidine [C]	NA	NA	NA	NA	250	NA
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 MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	MASP Reference Concentration
Semivolatiles (µg/l)							
99-09-2	3-Nitroaniline [N]	NA	NA	NA	NA	NA	NA
534-52-1	4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA
92-67-1	4-Aminobiphenyl	NA	NA	NA	NA	NA	NA
101-55-3	4-Bromophenyl-phenylether [N]	NA	NA	NA	NA	NA	NA
59-50-7	4-Chloro-3-methylphenol	NA	NA	NA	NA	3,000	NA
106-47-8	4-Chloroaniline [N]	UA	NA	NA	NA	28	NA
7005-72-3	4-Chlorophenylphenylether	NA	NA	NA	NA	10	NA
106-44-5	4-Methylphenol (p-Cresol) [N]	NA	NA	NA	NA	35	NA
100-01-6	4-Nitroanitine [N]	NA	NA	NA	NA	NA	NA
100-02-7	4-Nitrophenol [N]	NA	MA	NA	NA	15	NA
56-57-5	4-Nitroquinoline 1-oxide	NA	NA	MA	NA	NA	NA
57-97-6	7,12-Dimethybenz(a)anthracene [C]	NA	NA	NA	NA	NA	NA
83-32-9	Acenaphthene [N]	NA	NA	NA	NA	20	NA
208-96-8	Acenaphtbylene [N]	NA	NA	NA	NA	10	NA
53-96-3	Acetamidofluorene	NA	NA	NA	NA	NA	NA
98-86-2	Acetophenone [N]	NA	NA	NA	NA	700	NA
62-53-3	Anilh e [C]	NA	NA	NA	NA	6	NA
120-12-7	Anthracene [N]	NA	NA	NA	NA	2,100	NA
140-57-8	Aramite [C]	NA	NA	NA	NA	NA	NA
103-33-3	Azobenzene [C]	NA	NA	NA	NA	4	NA

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Semivolatiles (µg/l)							
98-87-3	Benzal chloride	NA	NA	NA	NA	NA	NA
101-14-4	Bentenamine, 4,4'-methylenebis[C	NA	NA	NA	NA	50	NA
92-87-5	Benzidine C	NA	NA	NA	NA	250	NA
56-55-3	Benzo(a)anthracene	NA	NA	NA	NA	4	NA
50-32-8	Benzo(a)pyrene	2	0.2	NA	NA	NA	NA
205-99-2	Benzo(b)fluoranthene	NA	NA	NA	NA	4	NA
191-24-2	Benzo(g,h,i)perylene N	NA	NA	NA	NA	10	NA
207-08-9	Benzo(k)fluoranthene	NA	NA	NA	NA	4	NA
65-85-0	Benzoic acid N	NA	NA	NA	NA	28,000	NA
98-07-7	Benzotrichloride C	NA	NA	NA	NA	NA	MA
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	UA	MA	1,400	NA
86-74-8	Carbazole	NA	NA	NA	NA	7.5	NA
218-01-9	Chrysene	NA	NA	NA	NA	5	NA
6055-19-2	Cyclophosphamide	NA	NA	NA	NA	NA	NA
84-74-2	Di-n-butylphthalate N	NA	NA	NA	NA	700	NA
117-84-0	Di-n-octyl phthalate N	NA	NA	NA	NA	140	NA
53-70-3	Dibenz(a,h)anthracene	NA	NA	NA	NA	7.5	NA
224-42-0	Dibenzo(a,j)acridine	NA	NA	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

U S #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Semivolatiles (µg/l)							
132-64-9	Dibenzofuran [N]	NA	NA	NA	NA	NA	NA
84-66-2	Diethylphthalate [N]	NA	MA	NA	NA	*5,600*	NA
131-11-3	Dimethyl phthalate [N]	NA	NA	NA	NA	*70,000*	NA
122-39-4	Diphenylamine [T]	NA	NA	NA	NA	175	NA
97-63-2	Ethyl methacrylate [N]	NA	NA	NA	NA	*630*	NA
62-50-0	Ethyl methanesulfonate	NA	NA	NA	NA	NA	NA
206-44-0	Fluoranthene [N]	NA	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	HA
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	7.5	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	2s	NA

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Semivolatiles (µg/l)							
66-27-3	Methyl methanesulfonate	NA	NA	NA	NA	NA	HA
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	MA	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	N-Nitrosopyrrolidine C	NA	NA	NA	NA	4	NA
91-20-3	Naphthalene N	HA	NA	NA	NA	6.8	NA
98-95-3	Nitrobenzene N	NA	NA	NA	NA	9.5	NA
123-63-7	Paraldehyde	NA	NA	NA	NA	MA	NA
608-93-5	Pentachlorobenzene N	NA	NA	NA	NA	5.6	HA
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	HA	NA	NA
85-01-8	Phenanthrene N	NA	NA	NA	NA	10	NA
108-95-2	Phenol N	NA	NA	NA	NA	10	NA

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Semivolatiles (µg/l)							
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 -E--	NA	NA	NA	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	NA	SO	NA
60-11-7	p-Dimethylaminoazobenzene	NA	MA	NA	NA	NA	NA
106-50-3	p-Phenylenediamine N	NA	NA	NA	NA	1,330	NA

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Pesticides (µg/l)							
93-72-1	2,4,5-TP (Silvex) [N]	50	50	MA	NA	NA	NA
93-76-5	2,4,5-Trichlorophenoxyeeetic ac [N]	NA	NA	NA	NA	NA	NA
94-75-7	2,4-Dichlorophenoxyacetic Acid [N]	NA	MA	NA	NA	NA	NA
72-54-8	4,4'-DDD [C]	NA	NA	NA	NA	0.1	NA
72-55-9	4,4'-DDE [C]	NA	NA	NA	NA	0.1	NA
50-29-3	4,4'-DDT [C]	NA	NA	NA	NA	0.1	NA
94-82-6	4-(2,4-Dichlorophenoxy)butyric [N]	NA	NA	HA	NA	MA	NA
309-00-2	Aldrin [C]	NA	NA	HA	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	WA
53469-21-9	Aroclor-1242 [C]	0.5	0.5	NA	NA	NA	MA
12672-29-6	Aroclor-1248 [C]	0.5	0.5	HA	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	HA	NA	NA	NA
57-74-9	Chlordane [C]	2	2	NA	NA	NA	MA
510-15-6	ChlorobenziLate [C]	NA	NA	NA	NA	0.13	HA
2303-16-4	Diallate [C]	NA	NA	NA	NA	0.57	NA
60-57-1	Dieldrin [C]	NA	NA	NA	HA	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	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Pesticides (µg/l)							
88-85-7	Dinoseb [N]	7	7	NA	MA	NA	HA
298-04-4	Disulfoton [N]	NA	NA	NA	NA	0 S	NA
959-98-8	Endosulfan I	NA	NA	NA	NA	0.35	NA
33213-65-9	Endosulfan II [N]	NA	NA	NA	NA	0.35	HA
1031-07-8	Endosulfan sulfate [N]	NA	NA	NA	NA	0.3	NA
72-20-8	Endrin [N]	2	2	NA	NA	NA	NA
7421-93-4	Endrin aldehyde [N]	NA	NA	NA	NA	0.1	NA
53494-70-5	Endrin ketone [N]	NA	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	HA	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

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Pesticides (µg/l)							
8001-35-2	Toxaphene [C]	3	3	NA	NA	NA	NA
319-84-6	alpha-BHC [C]	MA	NA	NA	NA	0.05	NA
5103-71-9	alpha-Chlordane [C]	2	2	HA	NA	NA	NA
319-85-7	beta-BHC [C]	NA	NA	NA	NA	0.1	MA
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	HA
5103-74-2	gamma-Chlordane [C]	2	2	NA	NA	MA	NA

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Inorganics (µg/l)							
7429-90-5	Aluminum (Al) N	NA	NA	50	200	NA	3,882.8
7440-36-0	Antimony (Sb) N	6	6	NA	NA	NA	30.2
7440-38-2	Arsenic (As) N	50	50	NA	NA	NA	2.8
7440-39-3	Barium (Ba) N	2,000	2,000	NA	MA	NA	13.2
7440-41-7	Beryllium (Be) C	4	4	NA	NA	NA	1.1
7440-43-9	Cadmium (Cd) N	5	5	NA	NA	MA	3.4
7440-70-2	Calcium (Ca)	NA	NA	NA	MA	NA	17,560
7440-47-3	Chromium (Cr) N	100	100	NA	NA	HA	35
18540-29-9	Chromium (Hexavalent) N	NA	NA	NA	NA	MA	NA
7440-48-4	Cobalt (Co) N	NA	NA	NA	NA	NA	4.1
7440-50-8	Copper (Cu) N	1,300	NA	1,000	1,000	NA	16.2
57-12-5	Cyanide (CN) N	200	200	NA	NA	NA	NA
7439-89-6	Iron (Fe) N	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	HA	NA	2,872.6
7439-96-5	Manganese (Mn) N	NA	NA	50	SO	NA	22
7439-97-6	Mercury (Hg) N	2	2	NA	NA	NA	0.2
7440-02-0	Nickel (Ni) N	100	100	NA	HA	NA	39.9
7440-09-7	Potassium (K)	NA	NA	MA	NA	NA	12,167.6
7782-49-2	Selenium (Se) N	50	50	NA	HA	NA	3.9

Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

CAS #	Parameter	EPA MCLs	FPDWS	EPA SMCL	FSDWS	FCCG	NASP Reference Concentration
Inorganics (µg/l)							
7440-22-4	Silver (Ag) [N]	NA	NA	300	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	MA	3.6
7440-31-5	Tin (Sn) [N]	NA	NA	NA	NA	NA	NA
7440-62-2	Vanadium (V) [N]	MA	NA	NA	NA	49	9.6
7440-66-6	zinc (Zn) [N]	NA	NA	S,000	5,000	NA	153.2

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Volatiles (µg/kg)				
630-20-6	1,1,1,2-Tetrachloroethane C	NA	NA	NA
811-97-2	1,1,1,2-Tetrafluoroethane	NA	NA	NA
71-55-6	1,1,1-Trichloroethane N	NA	NA	NA
354-58-5	1,1,1-trichlora-2,2,2-triflorom	NA	NA	NA
79-34-5	1,1,2,2-Tetrachloroethane C	NA	NA	NA
76-13-1	1,1,2-Trichloro-1,2,2- trifluor N	NA	NA	NA
79-00-5	1,1,2-Trichloroethane C	NA	NA	NA
598-77-6	1,1,2-Trichloropropane N	NA	NA	MA
75-34-3	1,1-Dichloroethane N	NA	NA	NA
75-35-4	1,1-Diehloroethylene C	NA	NA	NA
75-37-6	1,1-Difluoroethane	NA	NA	NA
96-18-4	1,2,3-Trichloropropane C	NA	NA	NA
96-19-5	1,2,3-Trichloropropene N	NA	NA	NA
615-54-3	1,2,4-Tribromobenzene N	NA	NA	NA
120-82-1	1,2,4-Trichlorobenzene N	NA	NA	NA
95-63-6	1,2,4-Trimethylbenzene N	NA	NA	NA
96-12-8	1,2-Dibromo-3-chloropropane C	NA	NA	NA
106-93-4	1,2-0ibromoethane C	NA	NA	NA
107-06-2	1,2-Dichloroethane C	NA	NA	NA
540-59-0	1,2-Dich1oroethene (total) N	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	r t r	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Volatiles (µg/kg)				
156-59-2	1,2-Dichloroethylene (cis) N	NA	NA	NA
156-60-5	1,2-Dichloroethylene (trans) N	HA	NA	NA
78-87-5	1,2-Dichloropropane C	NA	NA	NA
108-67-8	1,3,5-Trimethylbenzene N	NA	NA	NA
106-99-0	1,3-Butadiene	NA	NA	MA
542-75-6	1,3-Dichloropropene C	NA	NA	NA
106-37-6	1,4-Dibromobenzene N	NA	NA	NA
764-41-0	I,4-Dichloro-2-butene	NA	NA	NA
123-91-1	1,4-Dioxane C	NA	NA	NA
75-68-3	1-Chloro-1,1-difluoroethane	NA	NA	NA
109-69-3	1-Chlorobutane N	NA	NA	NA
78-93-3	2-Butanone (MEK) N	NA	NA	NA
126-99-8	2-Chloro-1,3-butadiene N	NA	NA	WA
110-75-8	2-Chloroethyl vinyl ether N	NA	NA	NA
75-29-6	2-Chloropropane	NA	NA	NA
591-78-6	2-Hexanone	NA	NA	NA
101-68-8	4,4'-Methylenediphenyl isocyana	NA	NA	NA
108-10-1	4-Methyl-2-Pentanone (MIBK) N	NA	NA	NA
67-64-1	Acetone N	NA	NA	NA
75-05-8	Acetonitrile N	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Volatiles (µg/kg)				
107-02-8	Acrolein [N]	NA	NA	NA
107-13-1	Acrylonitrile [C]	NA	NA	NA
107-05-1	Allyl chloride [N]	NA	NA	NA
100-52-7	Benzaldehyde [N]	NA	NA	NA
71-43-2	Benzene [C]	NA	NA	NA
100-44-7	Benzyl chloride [C]	NA	NA	NA
542-88-1	Bis(chloromethyl)ether [C]	NA	NA	NA
75-27-4	Bromodichloromethane [C]	NA	NA	NA
593-60-2	Bromoethene	NA	NA	NA
75-25-2	Bromoform [C]	NA	NA	NA
74-83-9	Bromomethane [N]	NA	NA	NA
56-23-5	Carbon Tetrachloride [C]	NA	NA	MA
75-15-0	Carbon disulfide [N]	NA	NA	NA
108-90-7	Chlorobenzene [N]	NA	NA	NA
75-45-6	Chlorodifluoromethane	NA	NA	NA
75-00-3	Chloroethane [N]	NA	NA	NA
67-66-3	chloroform [C]	NA	NA	NA
74-87-3	Chloromethane [C]	NA	HA	NA
1476-11-5	Cis-1,4-Dichloro-2-butene	NA	NA	NA
4170-30-3	Crotonaldehyde	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Volatiles (µg/kg)				
108-94-1	Cyclohexanone [N]	NA	NA	NA
1163-19-5	Decabromodiphenyl ether [N]	NA	NA	NA
124-48-1	Dibromochloromethane [C]	NA	NA	NA
75-71-8	Dichlorodifluoromethane [N]	NA	NA	NA
77-73-6	Dicyclopentadiene [N]	NA	NA	NA
107-12-0	Ethyl cyanide	NA	NA	NA
60-29-7	Ethyl ether [N]	NA	NA	NA
100-41-4	Ethylbenzene [N]	NA	NA	NA
87-82-1	Hexabromobenzene [N]	NA	NA	NA
78-83-1	Isobutanol [N]	NA	NA	NA
126-98-7	Methacrylonitrile [N]	NA	NA	NA
74-88-4	Methyl iodide	NA	NA	NA
98-83-9	Methyl styrene (alpha) [N]	NA	NA	NA
25013-15-4	Methyl styrene (mixture) [N]	NA	NA	NA
1634-04-4	Methyl tertbutyl ether (MTBE) [N]	NA	NA	NA
74-95-3	Methylene bromide [N]	NA	NA	NA
75-09-2	Methylene chloride [C]	NA	NA	NA
100-42-5	Styrene [N]	NA	NA	NA
127-18-4	Tetrachloroethene [C]	NA	NA	NA
109-99-9	Tetrahydrofuran	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Volatiles (µg/kg)				
108-88-3	Toluene [N]	NA	NA	NA
79-01-6	Trichloroethene [C]	NA	NA	NA
75-69-4	Trichlorofluoromethane [N]	NA	NA	NA
108-05-4	Vinyl acetate [N]	NA	NA	NA
75-01-4	Vinyl chloride [C]	NA	NA	NA
1330-20-7	Xylene (Total) [N]	NA	NA	NA
10061-01-5	cis-1,3-Dichloropropene [C]	MA	NA	NA
99-08-1	m-Nitrotoluene [N]	NA	NA	NA
108-38-3	m-Xylene [N]	NA	NA	NA
110-54-3	n-Hexane [N]	NA	NA	NA
88-73-3	o-Chloronitrobenzene [C]	MA	NA	NA
95-49-8	o-Chlorotoluene [N]	NA	NA	NA
88-72-2	o-Nitrotoluene [N]	NA	NA	NA
95-47-6	o-Xylene [N]	NA	NA	NA
5216-25-1	p,a,a,a-Tetrachlorotoluene [C]	NA	NA	NA
100-00-5	p-Chloronitrobenzene [C]	NA	NA	NA
99-99-0	p-Nitrotoluene [N]	NA	NA	NA
106-42-3	p-Xylene	NA	NA	NA
135-98-8	sec-Butylbenzene [N]	NA	NA	NA
104-51-8	tert-Butylbenzene [N]	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #		EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Volatiles (µg/kg)				
10061-02-6	trans-1,3-Dichloropropene [C]	NA	NA	NA
110-57-6	trans-1,4-Dichloro-2-butene	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Semivolatiles (µg/kg)				
634-66-2	1,2,3,4-Tetrachlorobenzene	NA	NA	NA
636-90-2	1,2,3,5-Tetrachlorobenzene	NA	NA	NA
87-61-6	1,2,3-Trichlorobenzene	NA	NA	NA
95-94-3	1,2,4,5-Tetrachlorobenzene N	NA	NA	NA
120-82-1	1,2,4-Trichlorobenzene	NA	NA	NA
95-50-1	1,2-Dichlorobenzene N	NA	NA	NA
122-66-7	1,2-Diphenylhydrazine C	NA	NA	NA
108-70-3	1,3,5-Trichlorobenzene	NA	NA	NA
99-35-4	1,3,5-Trinitrobenzene N	NA	HA	NA
541-73-1	1,3-Dichlorobenzene N	NA	NA	NA
99-65-0	1,3-Dinitrobenzene N	NA	NA	NA
106-46-7	1,4-Dichlorobenzene C	NA	NA	NA
130-15-4	1,4-Naphthoquinone	NA	NA	NA
90-13-1	1-Chloronapthalene	NA	NA	NA
90-12-0	1-Metbylnaphthelene N	NA	NA	NA
134-32-7	1+Naphthylamine	NA	NA	NA
108-60-1	2,2'-oxybis(1-Chloropropane)	HA	NA	HA
58-90-2	2,3,4,6-Tetrachlorophenol N	NA	NA	NA
95-95-4	2,4,5-Trichlorophenol N	NA	NA	NA
88-06-2	2,4,6-Trichlorophenol C	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Semivolatiles (µg/kg)				
120-83-2	2,4-Dichlorophenol [N]	MA	NA	NA
105-67-9	2,G-Dimethylphenol [N]	NA	NA	NA
51-28-5	2,4-Dinitrophenol [N]	NA	NA	NA
121-14-2	2,4-Dinitrotoluene [N]	NA	NA	NA
87-65-0	2,6-Dichlorophenol [N]	NA	NA	NA
606-20-2	2,6-Dinitrotoluene [N]	NA	NA	NA
97-58-7	2-Chloronaphthalene [N]	NA	NA	NA
95-57-8	2-Chlorophenol [N]	NA	NA	NA
99-55-8	2-Methyl-5-nitroaniline [C]	NA	NA	NA
95-53-4	2-Methylaniline [C]	NA	NA	NA
636-21-5	2-Methylaniline hydrochloride [C]	NA	NA	HA
91-57-6	2-Methylnaphthalene [N]	330	20.2	NA
95-48-7	2-Methylphenol (o-Cresol) [N]	NA	NA	NA
91-59-8	2-Naphthylamine [C]	NA	NA	NA
88-74-4	2-Nitroaniline [N]	NA	NA	NA
88-75-5	2-Nitrophenol [N]	NA	NA	NA
109-0618	2-Picoline	NA	NA	NA
91-94-1	3,3'-Dichlorobenzidine [C]	NA	NA	NA
119-90-4	3,3'-Dimethoxybenzidine [C]	NA	NA	NA
119-93-7	3,3'-Dimethylbenzidine [C]	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Semivolatiles (µg/kg)				
56-49-5	3-Methylcholanthrene	NA	NA	NA
108-39-4	3-Methylphenol (m-Cresol)	NA	NA	NA
99-09-2	3-Nitroaniline [N]	NA	NA	NA
101-14-4	4,4'-Methylene bis(2-chloroanil [C]	NA	NA	NA
534-52-1	4,6-Dinitro-2-methylphenol	NA	NA	NA
92-67-1	4-Aminobiphenyl	NA	NA	NA
101-55-3	4-Bromophenyl-phenylether [N]	NA	NA	NA
59-50-7	4-Chloro-3-methylphenol	NA	NA	NA
106-47-8	4-Chloroaniline [N]	NA	NA	NA
7005-72-3	4-Chlorophenyl-phenylether	NA	NA	NA
106-44-5	4-Methylphenol (p-Cresol) [N]	NA	NA	NA
100-01-6	4-Nitroaniline [N]	NA	NA	NA
100-02-7	4-Nitrophenol [N]	NA	MA	NA
56-57-5	4-Nitroquinoline 1-oxide	NA	NA	NA
57-97-6	7,12-Dimethybenz(a)anthracene [C]	NA	NA	NA
83-32-9	Acenaphthene [N]	330	*6.71*	NA
208-96-8	Acenaphthylene [N]	330	*5.87*	NA
53-96-3	Acetamidofluorene	NA	MA	NA
98-86-2	Acetophenone [N]	NA	NA	NA
62-53-3	Aniline [C]	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Semivolatiles (µg/kg)				
120-12-7	Anthracene [N]	330	46.9	NA
140-57-8	Aramite [C]	NA	NA	NA
103-33-3	Azobenzene [C]	NA	NA	NA
98-87-3	Benzal chloride	NA	NA	NA
92-87-5	Benzidine [C]	NA	NA	NA
56-55-3	Benzo(a)anthracene	330	74.8	NA
50-32-8	Benzo(a)pyrene	330	88.8	NA
205-99-2	Benzo(b)fluoranthene	NA	NA	NA
191-24-2	Benzo(g,h,i)perylene [N]	NA	NA	NA
207-08-9	Benzo(k)fluoranthene	NA	NA	NA
65-85-0	Benzoic acid [N]	NA	NA	NA
98-07-7	Benzotrichloride [C]	NA	NA	NA
100-51-6	Benzyl alcohol [N]	NA	NA	NA
39638-32-9	Bis(2-Chloroisopropyl)Ether [C]	NA	NA	NA
85-68-7	Butylbenzylphthalate [N]	NA	NA	NA
86-74-8	Carbazole	NA	NA	NA
218-01-9	Chrysene	330	108	NA
6055-19-2	Cyclophosphamide	NA	NA	NA
84-74-2	Di-n-butylphthalate [N]	NA	NA	NA
117-84-0	Di-n-octyl phthalate [N]	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	P t	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Semivolatiles (µg/kg)				
53-70-3	Dibenz(a,h)anthracene	330	6.22	NA
224-42-0	Dibenzo(a,j)acridine	NA	NA	NA
132-64-9	Dibenzofuran N	NA	NA	NA
84-66-2	Diethylphthalate N	NA	NA	NA
131-11-3	Dimethyl phthalate N	NA	NA	NA
122-39-4	Diphenylamine N	UA	NA	NA
97-63-2	Ethyl methacrylate N	NA	NA	NA
62-50-0	Ethyl methanesulfonate	NA	NA	NA
206-44-0	Fluoranthene N	330	113	NA
86-73-7	Fluorene N	330	21.2	NA
118-74-1	Hexachlorobenzene C	NA	NA	NA
87-68-3	Hexachlorobutadiene C	NA	NA	NA
77-47-4	Hexachlorocyclopentadiene N	NA	NA	NA
67-72-1	Hexachloroethane C	NA	NA	NA
70-30-4	Hexachlorophene N	NA	NA	NA
1888-71-7	Hexachloropropene	NA	NA	UA
193-39-5	Indeno(1,2,3-cd)pyrene	NA	NA	NA
78-59-1	Isophorone C	NA	NA	NA
120-58-1	Isosafrole	NA	NA	NA
91-80-5	Methapyrilene	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Semivolatiles (µg/kg)				
80-62-6	Methyl methacrylate [N]	NA	NA	NA
66-27-3	Methyl methanesulfonate	NA	NA	NA
10595-95-6	N-Nitroso-N-methylethylamine [C]	NA	NA	NA
621-64-7	N-Nitroso-di-n-propylamine [C]	NA	NA	NA
924-16-3	N-Nitrosodi-n-butylamine [C]	NA	NA	NA
55-18-5	N-Nitrosodiethylamine [C]	NA	NA	NA
62-75-9	N-Nitrosodimethylamine [C]	NA	NA	NA
86-30-6	N-Nitrosodiphenylamine [C]	NA	NA	NA
59-89-2	N-Nitrosomorpholine	NA	NA	NA
100-75-4	N-Nitrosopiperidine	NA	NA	NA
930-55-2	N-Nitrosopyrrolidine [C]	NA	NA	NA
91-20-3	Naphthalene [N]	330	34.6	NA
98-95-3	Nitrobenzene [N]	NA	NA	NA
123-63-7	Paraldehyde	NA	NA	NA
608-93-5	Pentachlorobenzene [N]	NA	NA	NA
76-01-7	Pentachloroethane	NA	NA	NA
82-68-8	Pentachloronitrobenzene [C]	NA	NA	NA
87-86-5	Pentachlorophenol [C]	NA	NA	NA
62-44-2	Phenacetin	NA	NA	NA
85-01-8	Phenanthrene [N]	330	86.7	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Semivolatiles (µg/kg)				
108-95-2	Phenol [N]	NA	NA	NA
23950-58-5	Pronamide [N]	NA	NA	NA
129-00-0	Pyrene [N]	330	153	NA
110-86-1	Pyridine [N]	NA	NA	NA
94-59-7	Safrole	NA	NA	NA
122-09-8	alpha, alpha-Dimethylphenethyla	NA	NA	NA
111-91-1	bis(2-Chloroethoxy)methane	NA	NA	NA
111-44-4	bis(2-Chloroethyl)ether [C]	NA	NA	NA
117-81-7	bis(2-Ethylhexyl)phthalate (BEH [C]	182	182	NA
60-11-7	p-Dimethylaminoazobenzene	NA	NA	NA
106-50-3	p-Phenylenediamine [N]	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Pesticides (µg/kg)				
93-76-5	2,4,5-Trichlorophenoxyacetic ac [N]	NA	NA	NA
94-75-7	2,4-Dichlorophenoxyacetic Acid [N]	NA	NA	NA
93-72-1	2-(2,4,5-Trichlorophenoxy)propi [N]	NA	NA	NA
72-54-8	4,4'-DDD [C]	3.3	1.22	NA
72-55-9	4,4'-DDE [C]	3.3	2.07	NA
50-29-3	4,4'-DDT [C]	3.3	1.19	NA
94-82-6	4-(2,4-Dichlorophenoxy)butyric [N]	NA	NA	NA
309-00-2	Aldrin [C]	NA	NA	NA
12674-11-2	Aroclor-1016 [N]	33	21.6	NA
11104-28-2	Aroclor-1221 [C]	21.6	67	NA
11141-16-5	Aroclor-1232 [C]	21.6	33	NA
53469-21-9	Aroclor-1242 [C]	21.6	33	NA
12672-29-6	Aroclor-1248 [C]	21.6	33	NA
11097-69-1	Aroclor-1254 [N]	21.6	33	NA
11096-82-5	Aroclor-1260 [C]	21.6	33	NA
57-74-9	Chlordane [C]	1.7	2.26	NA
510-15-6	Chlorobenzilate [C]	NA	NA	NA
2303-16-4	Diallate [C]	NA	NA	NA
60-57-1	Dieldrin [C]	3.3	0.715	NA
60-51-5	Dimethoate [N]	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Pesticides (µg/kg)				
88-85-7	Dinoseb [N]	NA	NA	NA
298-04-3	Disulfoton [N]	NA	NA	NA
959-98-8	Endosulfan I [N]	NA	NA	NA
33213-65-9	Endosulfan II [N]	NA	NA	NA
1031-07-8	Endosulfan sulfate [N]	NA	NA	NA
72-20-8	Endrin [N]	3.3	NA	NA
7421-93-3	Endrin aldehyde [N]	3.3	NA	NA
53494-70-5	Endrin ketone [N]	3.3	NA	NA
52-85-7	Famphur	NA	NA	NA
76-44-8	Heptachlor [C]	NA	NA	NA
1024-57-3	Heptachlor epoxide [C]	NA	NA	NA
465-73-6	Isodrin [P]	NA	NA	NA
143-50-0	Kepone [C]	NA	NA	NA
72-43-5	Methoxychlor [N]	NA	NA	NA
298-00-0	Methyl parathion [N]	NA	NA	NA
126-68-1	O,O,O-Triethylphosphorothioate	NA	NA	NA
56-38-2	Parathion [N]	NA	NA	NA
298-02-2	Phorate [N]	NA	NA	NA
3689-24-5	Tetraethyldithiopyrophosphate [N]	NA	NA	NA
297-97-2	Thionazin	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Pesticides (µg/kg)				
8001-35-2	Toxaphene [C]	NA	NA	NA
319-84-6	alpha-BHC [C]	NA	NA	NA
5103-71-9	alpha-Chlordane [C]	NA	NA	NA
319-85-7	beta-BHC [C]	NA	NA	NA
319-86-8	delta-BHC [C]	NA	NA	NA
58-89-9	gamma-BHC (Lindane) [C]	3.3	0.32	NA
5103-74-2	gamma-Chlordane [C]	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Inorganics (mg/kg)				
7429-90-5	Aluminum (Al) [N]	NA	NA	NA
7440-36-0	Antimony (Sb) [N]	12	NA	NA
7440-38-2	Arsenic (As) [N]	7.24	7.24	NA
7440-39-3	Barium (Ba) [N]	NA	NA	NA
7440-41-7	Beryllium (Be) [C]	NA	NA	NA
7440-43-9	Cadmium (Cd) [N]	1	0.676	NA
7440-70-2	Calcium (Ca)	NA	NA	NA
7440-47-3	Chromium (Cr) [N]	52.3	52.3	NA
18540-29-9	Chromium (Hexavalent) [N]	NA	NA	NA
7440-48-4	Cobalt (Co) [N]	NA	NA	NA
7440-50-8	Copper (Cu) [N]	18.7	18.7	NA
57-12-5	Cyanide (CN) [N]	NA	NA	NA
7439-89-6	Iron (Fe) [N]	NA	NA	NA
7439-92-1	Lead (Pb)	30.2	30.2	NA
7439-95-4	Magnesium (Mg)	NA	NA	NA
7439-96-5	Manganese (Mn) [N]	NA	NA	NA
7439-97-6	Mercury (Hg) [N]	0.13	0.13	NA
7440-02-0	Nickel (Ni) [N]	15.9	15.9	NA
7440-09-7	Potassium (K)	NA	NA	NA
7782-49-2	Selenium (Se) [N]	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Sediment Contaminants

CAS #	Parameter	EPA SSVs	FDEP SQAGs	NASP Reference Concentration
Inorganics (mg/kg)				
7440-22-4	Silver (Ag) N	2	0.733	NA
7440-23-5	Sodium (Na)	NA	NA	NA
7440-28-0	Thallium (Tl)	NA	NA	NA
7440-31-5	Tin (Sn) N	NA	NA	NA
7440-62-2	Vanadium (V) N	NA	NA	NA
7440-66-6	Zinc (Zn) N	124	T24	NA

Preliminary Remediation Goals (PRGs) for Soil Co nants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Re erence Concentration
Volatiles (µg/kg)						
106-934	1, 2-Dibromoethane C	7.5	0.18	10	0.06	NA
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-trichlora-2,2,2-trifloromethane	NA	NA	NA	NA	NA
79-34-5	1,1,2,2-Tetrachloroethane C	3,200	1	900	0.7	NA
79-00-5	1,1,2-Trichloroethane C	11,000	0	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	1,400	30	100	30	NA
96-18-4	1,2,3-Trichloropropane 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-Chloropropane 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-Dichloropropane 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	NA	UA	NA	NA	NA
123-91-1	1,4-Dioxane [C]	58,000	NA	NA	NA	NA
75-68-3	1-Chloro-1,1-difluoroethane	NA	NA	NA	NA	NA
109-69-3	1-Chlorobutane [N]	3,100,000	NA	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	NA	NA	HA	NA
110-75-8	2-Chloroethyl vinyl ether [N]	200,000	NA	100,000	2	NA
591-78-6	2-Hexanone	HA	NA	HA	NA	NA
101-68-8	4,4'-Methylenediphenyl isocyanate	NA	HA	NA	NA	NA
108-10-1	4-Methyl-2-Pentanone (MIBK) [N]	*630,000*	MA	520,000	1,100	NA
67-64-1	Acetone [N]	780,000	8,000	260,000	1,400	NA
75-05-8	Acetonitrile [N]	*67,000*	NA	NA	NA	NA
107-02-8	Acrolein [N]	160,000	NA	400	300	NA
107-13-1	Acrylonitrile [C]	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- [N]	390,000	NA	3,700	100	NA
10044-7	Benzyl chloride [C]	3,800	0.36	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	DEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Dietilm (ppbw)						
542-88-1	Bis(chloromethyl)ether C	2.9	0.0001	NA	NA	NA
75-27-4	Bromodichloromethane C	10,000	300	700	2	NA
593-60-2	Bromoethene	NA	NA	NA	NA	NA
75-25-2	Bromoform C	81,000	500	65,000	2	NA
74-83-9	Bromomethane N	11,000	100	NA	NA	NA
75-15-0	Carbon disulfide N	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 N	160,000	600	44,000	600	NA
75-45-6	Chlorodifluoromethane	NA	NA	NA	NA	NA
75-00-3	Chloroethane N	3,100,000	33,000	NA	NA	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	NA	NA	NA	NA	NA
123-73-9	Crotonaldehyde, (E) C	340	NA	NA	NA	NA
108-94-1	Cyclohexanone N	39,000,000	NA	NA	NA	N
1163-19-5	Decabromodiphenyl ether N	78,000	NA	NA	NA	NA
124-48-1	Dibromochloromethane C	NA	NA	1,200	4	NA
75-71-8	Dichlorodifluoromethane N	1,600,000	7,500	NA	NA	NA
77-73-	Dicyclopentadiene N	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 - [illegible]	USEPA - SSLs	[illegible] DGs	FDEP CGs for Leaching	NASP Reference Concentration
Diptiles (µg/kg)						
60-29-7	Ethyl ether [N]	1,600,000	NA	NA	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	NA
78-83-1	Isobutanol [N]	2,300,000	NA	NA	NA	NA
126-98-7	Methacrylonitrile [N]	780	NA	NA	NA	NA
74-88-4	Methyl iodide	NA	NA	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	[illegible]	NA
108-88-3	Toluene [N]	1,600,000	5,000	520,000	200	NA
79-01-6	Trichloroethene [C]	58,000	20	6,500	1	NA
75-69-4	Trichlorofluoromethane [N]	2,300,000	13,000	6,600	400,000	NA
598-77-6	Trichloropropane, 1,[illegible],2- [N]	39,000	140	NA	NA	NA
76-13-1	Trichlorotrifluoroethane (Freon 113) [N]	100,000,000	3,100,000	NA	NA	NA
108-05-4	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	NASP Reference Concentration
Volatiles (µg/kg)						
98-83-9	alpha-Methylstyrene [N]	550,000	7,500	NA	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 Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP 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	HA
87-61-6	1,2,3-Trichlorobenzene N	78,000	2,000	NA	NA	NA
95-96-3	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	2,500	NA
9s-so-1	1,2-Dichlorobenzene N	700,000	6,000	820,000	S, 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	HA	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
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

Preliminary Remediation Goals (PRGs)
far Soil Contaminants

CAS #	Parameter	USEPA - RBCs	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 [N]	160,000	3,000	1,200,000	1,800	NA
51-28-5	2,4-Dinitrophenol [N]	16,000	100	NA	NA	NA
121-14-2	2,4-Dinitrotoluene [N]	16,000	200	130,000	0.6	NA
87-65-0	2,6-Dichlorophenol [N]	23,000	500	220,000	20	NA
606-20-2	2,6-Dinitrotoluene [N]	7,800	100	71,000	0.6	NA
91-58-7	2-Chloronaphthatene [N]	630,000	140,QUO	560,000	57,000	NA
95-57-8	2-Chlorophenol [N]	39,000	2,000	280,000	300	NA
99-55-8	2-Methyl-5-nitroaniline [C]	19,000	NA	NA	NA	NA
95-53-4	2-Methylaniline [C]	2,700	NA	NA	NA	NA
636-21-5	2-Methylaniline hydrochloride [C]	3,500	HA	NA	NA	NA
91-57-6	2-Methylnaphthalene [N]	NA	HA	960,000	NA	NA
95-48-7	2-Methylphenol (o-Cresol) [N]	390,000	6,000	2,600,000	1,100	NA
91-59-8	2-Naphthylamine [C]	4.9	NA	NA	NA	NA
88-74-4	2-Nitroaniline [N]	47u	HA	4,000	20	NA
88-75-5	2-Nitrophenol [N]	480	NA	NA	NA	NA
109-06-8	2-Picoline	HA	NA	MA	NA	NA
91-94-1	3,3'-Dichlorobenzidine [C]	1,400	10	HA	NA	NA
119-90-4	3,3'-Dimethoxybenzidine [C]	46,000	NA	NA	MA	NA
119-93-7	3,3-Dimethylbenzidine [C]	69	0.39	NA	HA	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	NA	NA
534-52-1	4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA
92-67-1	4-Aminobiphenyl	NA	NA	NA	NA	NA
101-55-3	4-Bromophenyl-phenylether [N]	450,000	NA	MA	NA	NA
59-50-7	4-Chloro-3-methylphenol	NA	HA	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	HA	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	HA	NA	NA	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	MA	NA	NA	NA	NA
98-86-2	Acetophenone [N]	780,000	HA	NA	NA	NA
62-53-3	Aniline [C]	110,000	31	MA	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 [N]	2,300,000	4,300,000	20,000,000	890,000	NA
140-57-8	Aramite [C]	26,000	NA	NA	NA	NA
103-33-3	Azobenzene [C]	5,800	NA	NA	NA	NA
98-87-3	Benzal chloride	NA	NA	NA	NA	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	2,000	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	280,000	130,000,000	56,550	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	960,000	A
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	N
117-84-0	Di-n-octyl phthalate [N]	160,000	1,000,000,000	1,500,000	NA	NA

Preliminary Remediation Goals (PRGs) for Soil Contaminants

US #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP Reference Concentration
Semivolatiles (µg/kg)						
53-70-3	Dibenz(a,h)anthracene C	88	11,000	100	7,200	NA
224-42-0	Dibenzo(a,j)acridine	NA	NA	NA	NA	NA
132-64-9	Dibenzofwen N	31,000	120,000	260,000	NA	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	NA	NA	NA	NA
97-63-2	Ethyl methacrylate N	*700,000*	NA	NA	NA	NA
62-50-0	Ethyl methanesulfonate	NA	NA	NA	NA	NA
206-44-0	Fluoranthene N	310,000	986,000	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	NA	MA	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	NA	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	NASP 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	NA	NA
10595-95-6	N-Nitroso-N-methylethylamine [C]	29	NA	NA	NA	NA
621-64-7	N-Nitroso-di-n-propylamine [C]	91	0.02	20	9	NA
924-1613	N-Nitrosodi-n-butylamine [C]	120	NA	NA	NA	NA
55-18-5	N-Nitrosodiethylamine [C]	4.3	NA	NA	NA	NA
62-75-9	N-Nitrosodimethylamine [C]	13	NA	3	20	NA
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	HA
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	NA	NA	NA	NA	NA
608-93-5	Pentachlorobenzene [N]	6,300	48,000	NA	NA	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	NA	NA	NA	NA	NA
85-01-8	Phenanthrene [N]	230,000	1,400,000	1,700,000	2,800	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)						
108-95-2	Phenol [N]	4,700,000	49,000	34,000,000	20	NA
23950-58-5	Pronamide [N]	590,000	NA	NA	NA	MA
129-00-0	Pyrene [N]	230,000	1,400,000	2,200,000	290,000	NA
110-86-1	Pyridine [N]	7,800	NA	500	20	NA
94-59-7	Safrole	NA	NA	NA	NA	NA
122-09-8	alpha, alpha-Dimethylphenethylamine	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 [C]	580	0.3	500	5	NA
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP) [C]	46,000	11,000	48,000	11,000	NA
60-11-7	p-Dimethylaminoazobenzene	NA	NA	HA	NA	NA
106-50-3	p-Phenylenediamine [N]	1,500,000[1]	NA	HA	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)						
93-76-5	2,4,5-T [N]	78,000	NA	NA	NA	NA
93-72-1	2,4,5-TP (Silvex) [N]	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]	63,000	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	HA
309-00-2	Aldrin [C]	38	S	60	SO	NA
12674-11-2	Aroclor-1016 [N]	550	NA	NA	NA	NA
11104-28-2	Aroclor-1221 [C]	83	NA	900	44,000	NA
11141-16-5	Aroclor-1232 [C]	83	NA	900	44,000	NA
53469-21-9	Aroclor-1242 [C]	83	NA	900	44,000	NA
12672-29-6	Aroclor-1248 [C]	83	NA	900	44,000	NA
11097-69-1	Aroclor-1254 [N]	83	WA	900	44,000	NA
11096-82-5	Aroclor-1260 [C]	83	NA	900	44,000	NA
57-Ti-9	Chlordane [C]	490	2,000	800	2,100	NA
510-15-6	Chlorobenzilate [C]	2,1160	NA	NA	NA	NA
2303-16-4	Diallate [C]	10,000	NA	NA	NA	NA
60-57-1	Dieldrin [C]	40	t	70	20	NA
60-51-5	Dimethoate [N]	1,600	NA	NA	NA	NA

Preliminary Remediation Goals (PRGs) for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leachi[illegible]	NASP Reference Concentration
Pesticides (µg/kg)						
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 [N]	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
1024-57-3	Heptachlor epoxide [C]	70	30	100	30	NA
465-73-6	Isodrin [P]	NA	NA	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	delt -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	NASP Reference Concentration
Inorganics (mg/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	NA	9.49
7440-38-2	Arsenic (As) [C]	0.43	15	0.7	NA	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	NA
7440-43-9	Cadmium (Cd) [N]	3.9	6	37	NA	1
7440-70-2	Calcium (Ca)	NA	NA	NA	NA	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
7439-89-6	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]	2.3	3	23	NA	0.1
7439-98-7	Molybdenum (Mo) [N]	39	NA	390	NA	NA
7440-02-0	Nickel (Ni) [N]	160	21	1,500	NA	6.38

Preliminary Remediation Goals (PRGs) for Soil Contaminants

CAS #	Parameter	USEPA - RBCs	USEPA - SSLs	FDEP - CGs	FDEP CGs for Leaching	NASP 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) [N]	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	Thellium (Tl) [N]	0.63	0.4	NA	NA	0.82
7440-31-5	Tin (Sn) [N]	4,700	NA	44,000	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	NA	16.87

Appendix D

Sample Values Exceeding PRGs

PRB_PENSI
08/07/96

Exceeds Preliminary Remediation Goals for Soil Contaminants
PENSACOLA, SITE 07

		Sample ID	Date	Result	VQual	PRG	Reason	NASP Refe ED Concentration
Inorganics (mg/kg)								
7429-90-5	Aluminum (Al) N	007-S-0004-01	04/08/96	11,800.		7,800.	USEPA-RBC	3,833.36
7440-38-2	Arsenic (As) C	007-S-0004-01	04/08/96	4.1		0.43	USEPA-RBC	1.56
7439-89-6	Iron (Fe) N	007-S-0004-01	04/08/96	13,100.		2,300.	USEPA-RBC	2,745.

PRB_PENSI
08/07/96

Exceeds Preliminary Remediation Goals (PRGs) for Soil Contaminants
PENSACOLA, SITE 07

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

PRB_PENSI
08/07/96

Exceeds Preliminary Remediation Goals (PRGs) for Soil Contaminants
PENSACOLA, SITE 07

	Sample ID	Date	Result	VQual	PRG	Reason	NASP Reference Concentration
Semivolatiles (µg/kg)							
No Exceedances Found							

Exceeds Preliminary Remediation Goals (PRGs) for Soil Contaminants
PENSACOLA, SITE 07

	Sample ID	Date	Result	VQual	PRG	Reason	NASP Reference Concentration
Volatiles (µg/kg)							
No Exceedances Found							

Exceeds Preliminary Remediation Goals (PRGs) for Groundwater Contaminants

PENSACOLA, SITE 07

		Sample ID	Date	Result	VQual	PRG	Reason	NASP Reference Concentration
Inorganics (µg/l)								
7429-90-5	N							
		007-G-GS02-01	04/06/96	1,200.	3	50.	EPA SMCL	3,882.8
		007-G-GS03-01	04/06/96	559.	3	50.	EPA SMCL	3,882.8
		007-G-GS04-01	04/06/96	1,610.	J	50.	EPA SMCL	3,882.8
7439-a9-6	Iron (Fe) N							
		007-G-GS01-01	04/06/96	563.		300.	FSDWS	1,707.8
		007-G-GS04-01	04/06/96	452.		300.	FSDWS	1,707.8

Exceeds Preliminary Remediation Goals (PRGs) for Groundwater Contaminants PENSACOLA, SITE 07

	Sample ID	Date	Result	VQual	PRG	Reason	NASP Reference Concentration
Pesticides (µg/l)							
No Exceedances Found							

PRB_PENGI
08/07/96

Exceeds Preliminary Remediation Goals (PRGs) for Groundwater Contaminants PENSACOLA, SITE 07

	Sample ID	Date	Result	VQual	PRG	Reason	Reference Concentration
Semivolatiles (µg/l)							
No Exceedances Found							

PRB_PENGI
08/07/96

Exceeds Preliminary Remediation Goals (PRGs) for Groundwater Contaminants
PENSACOLA, SITE 07

	Sample ID	Date	Result	VQual	PRG	Reason	MAX Reference Concentration
Volatiles (µg/l)							
No Exceedances Found							

Appendix E
Database Summary Of Analytical Data

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

METAL													
	SAMPLE ID ------->	007-S-0001-01		007-C-0001-01		007-S-0001-07		007-S-0001-09		007-S-0002-01		007-S-0002-07	
	ORIGINAL ID ----->	007S000101		007C000101		007S000107		007S000109		007S000201		007S000207	
	LAB SAMPLE ID --->	5606-17		5606-08		5606-18		5606-19		5606-20		5606-21	
	ID FROM REPORT -->	007S000101		007C000101		007S000107		007S000109		007S000201		0075000207	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	04/15/96		04/15/96		04/15/96		04/15/96		04/15/96		04/15/96	
	DATE ANALYZED --->	04/16/96		04/16/96		04/16/96		04/16/96		04/16/96		04/16/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	MG/KG	A	MG/KG	A	MG/KG	A	MG/KG	A	MG/KG	A	MG/KG	A
CAS #	Parameter	SITE07	VAL	51TE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL
7429-90-5	Aluminum (Al)	1170.		1240.		305.		287.		1420.		381.	
7440-36-0	Antimony (Sb)	0.19	UJ	0.19	US	0.18	UJ	0.23	UJ	0.19	UJ	0.19	UJ
7440-38-2	Arsenic (As)	0.27	U	0.27	U	0.26	U	0.27	U	0.27	U	0.27	U
7440-39-3	Barium (Ba)	2.1		2.3		0.51	U	0.42	U	3.8		0.55	U
7440-41-7	Beryllium (Be)	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U
7440-43-9	Cadmium (Cd)	0.03	U	0.04	J	0.03	U	0.03	U	0.05	J	0.03	U
7440-70-2	Calcium (Ca)	38.7	U	38.	U	8.	U	14.2	U	136.	J	15.	U
7440-47-3	Chromium (Cr)	0.66	J	0.72	J	0.12	UJ	0.12	UJ	0.77	J	0.12	UJ
7440-48-4	Cobalt (Co)	0.22	U	0.22	U	0.21	U	0.21	U	0.22	U	0.22	U
7440-50-8	Copper (Cu)	0.62	J	0.63	J	0.12	U	0.12	U	1.7		0.12	U
7439-89-6	Iron (Fe)	817.		825.		181.		162.		1050.		244.	
7439-92-1	Lead (Pb)	5.7		7.9		0.67	U	0.81	U	19.7		0.73	U
7439-95-4	Magnesium (Mg)		J	50.6	3	14.3	J	13.1	J	67.4		16.3	J
7439-96-5	Manganese (Mn)	6.4		6.3		0.77	J	0.78	J	10.2		2.4	
7439-97-6	Mercury (Hg)	0.33		0.33		0.3		0.31		0.32		029	
7440-02-0	Nickel (Ni)	0.4	J	0.42	J	0.18	U	0.18	U	0.53	J	0.19	U
7440-09-7	Potassium (K)	28.4	J	26.5	J	6.6	J	9.8	J	38.1	3	8.	J
7782-49-2	Selenium (Se)	0.4	U	0.4	U	0.38	U	0.39	U	0.4	U	0.39	U
7440-22-4	Silver (Ag)	0.15	U	0.15	U	0.14	U	0.14	U	0.34	J	0.14	U
7440-23-5	Sodium (Na)	20.4	U	15.6	U	19.1	U	20.8	U	19.4	U	20.1	U
7440-28-0	Thallium (Tl)	0.4	U	0.4	U	0.38	U	0.39	U	0.4	U	0.39	U
7440-62-2	Vanadium (V)	2.1		2.1		0.44	J	0.41	J	2.4		0.5	J
7440-66-6	Zinc (Zn)	7.7		8.		0.72	U	1.2	U	12.7		0.97	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

METAL													
	SAMPLE ID ------->	007-S-0003-01		007-S-0003-07		007-S-0004-01		007-S-0004-07		007-G-GS01-01		007-G-GS02-01	
	ORIGINAL ID ----->	007S000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0201	
	LAB SAMPLE ID --->	5606-22		5606-23		5606-24		5606-25		5643-04		5643-05	
	ID FROM REPORT -->	007S000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0201	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		05/06/96		05/06/96	
	DATE EXTRACTED -->	04/15/96		04/15/96		04/15/96		04/15/96		05/09/96		05/09/96	
	DATE ANALYZED --->	04/16/96		04/16/96		04/16/96		04/16/96		05/21/96		05/21/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Water		Water	
	UNITS ---------->	MG/KG	A	MG/KG	A	MG/KG	A	MG/KG	A	UG/L	A	UG/L	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE7W	VAL	SITE7W	VAL
7429-90-5	Aluminum (Al)	1370.		676.		11800.		266.		1810.	J	1200.	J
7440-36-0	Antimony (Sb)	0.21	UJ	0.19	UJ	0.31	UJ	0.18	UJ	1.6	U	1.6	U
7440-38-2	Arsenic (As)	0.27	U	0.27	U	4.1		0.26	U	4.	U	4.	U
7440-39-3	Barium (Ba)	16.4		1.4	J	27.7		0.91	J	28.2		38.7	
7440-41-7	Beryllium (Be)	0.04	U	0.04	U	0.06	J	0.04	U	0.22	U	0.22	U
7440-43-9	Cadmium (Cd)	0.41		0.03	J	0.51		0.03	U	0.33	U	0.41	J
7440-70-2	Calcium (Ca)	277.	3	35.8	U	16300.	J	485.	J	26300.		30700.	
7440-47-3	Chromium (Cr)	1.6	3	0.3	J	18.8		0.12	UJ	4.	U	4.	U
7440-48-4	Cobalt (Co)	0.22	U	0.22	U	0.23	U	0.21	U	0.67	UJ	0.67	UJ
7440-50-8	Copper (Cu)	6.4		0.54	3	217,		0.22	J	3.5	J	3.3	3
7439-89-6	Iron (Fe)	1100.		503.		13100.		147.		563.		244.	
7439-92-1	Lead (Pb)	82.		4.1		106.		0.68	U	2.4	U	3.1	
7439-95-4	Magnesium (Mg)	56.8		21.9	J	170.		14.4	J	2150.		1850.	
7439-96-5	Manganese (Mn)	12.		3.3		48.1		0.67	J	413	UJ	1.3	UJ
7439-97-6	Mercury (Hg)	0.33		0.24		0.35		0.28		0.2	U	0.2	U
7440-02-0	Nickel (Ni)	0.54	J	0.21	J	1.9	J	0.18	U	0.67	UJ	0.67	UJ
7440-09-7	Potassium (K)	31.2	3	14.4	J	82.9		7.6	J	876.		1090.	
7782-49-2	Selenium (Se)	0.4	U	0.4	U	0.42	U	0.39	U	4.3	UJ	4.3	UJ
7440-22-4	Silver (Ag)	0.15	U	0.15	U	0.15	U	0.14	U	0.67	UJ	0.67	UJ
7440-23-5	Sodium (Na)	22.8	U	22.4	U	200.	J	38.6	U	6440.		6890.	
7440-28-0	Thallium (Tl)	0.4	U	0.4	U	0.42	U	0.39	U	5.3	U	5.3	U
7440-62-2	Vanadium (V)	2.3		0.88	J	30.6		0.41	3	2.8	J	3.4	J
7440-66-6	Zinc (Zn)	30.3		2.8	U	55.6		0.68	U	28.4		39.5	

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

METAL											
	SAMPLE ID ------->	007-G-GS03-01		007-G-GS04-01		007-E-S001-01		007-F-S001-01			
	ORIGINAL ID ----->	007GGS0301		007GGS0401		007ES00101		007FS00101			
	LAB SAMPLE ID --->	5643-06		5643-07		5606-10		5606-14			
	ID FROM REPORT -->	007GGS0301		007GGS0401		007ES00101		007FS00101			
	SAMPLE DATE ----->	05/06/96		05/06j96		04/08/96		04/08/96			
	DATE EXTRACTED -->	05/09/96		05/09/96		04/15/96		04/15/96			
	DATE ANALYZED --->	05/21/96		05/21/96		04/18/96		04/18/96			
	MATRIX ---------->	Water		Water		Water		Water			
	UNITS ---------->	UG/L	A	UG/L	A	UG/L	B	UG/L	B		
CAS #	Parameter	SITE7W	VAL	SITE7W	VAL	SITE07	VAL	SITE07	VAL		
7429-90-5	Aluminum (Al)	559.	J	1610.	J	48.6	B	64.3	6		
7440-36-0	Antimony (Sb)	1.6	U	1.6	U	2.	U	2.2	B		
7440-38-2	Arsenic (As)	4.	U	4.	U	2.9	U	2.9	U		
7440-39-3	Barium (Ba)	49.1		103.		0.62	B	0.87	8		
7440-41-7	Beryllium (Be)	0.22	U	0.22	U	0.44	U	0.44	U		
7440-43-9	Cadmium (Cd)	1.8		0.33	U	0.33	U	0.33	U		
7440-70-2	Calcium (Ca)	16200.		34500.		24.2	U	31.4	B		
7440-47-3	Chromium (Cr)	4.	U	4.	U	1.3	U	1.3	U		
7440-48-4	Cobalt (Co)	0.67	UJ	0.67	UJ	2.3	U	2.3	U		
7440-50-8	Copper (Cu)	5.1	J	3.	J	1.3	U	1.3	U		
7439-a9-6	Iron (Fe)	174.	J	452.		8.6	U	8.6	U		
7439-92-1	Lead (Pb)	6.2		2.4	U	1.8	B	1.9	8		
7439-95-4	Magnesium (Mg)	2070.		2960.		5.6	U	5.6	U		
7439-96-5	Manganese (Mn)	1.8	UJ	2.7	UJ	0.56	U	0.56	U		
7439-97-6	Mercury (Hg)	0.2	U	0.2	U	0.2	U	0.2	U		
7440-02-0	Nickel (Ni)	0.67	UJ	0.67	UJ	2.	U	2.	U		
7440-09-7	Potassium (K)	1240.		860.		39.2	U	39.2	U		
7782-49-2	Selenium (Se)	4.3	UJ	4.3	UJ	4.2	U	4.2	U		
7440-22-4	Silver (Ag)	0.67	UJ	0.67	UJ	1.6	U	1.6	U		
7440-23-5	Sodium (Na)	6600.		5940.		26.8	B	41.3	0		
7440-28-0	Thallium (Tl)	5.3	U	5.3	U	4.2	U	4.2	U		
7440-62-2	Vanadium (V)	1.2	J	2.9	J	0.33	U	0.33	U		
7440-66-6	Zinc (Zn)	41.9		72.8		3.9	B	5.9	B		

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

METAL-CN													
	SAMPLE ID ------->	007-S-0001-01		007-C-0001-01		007-S-0001-07		007-S-0001-09		007-S-0002-01		007-S-0002-07	
	ORIGINAL ID ----->	007S000101		007C000101		007S000107		007S000109		007S000201		007S000207	
	LAB SAMPLE ID --->	5606-17		5606-08		5606-18		5606-19		5606-20		5606-21	
	ID FROM REPORT -->	007S000101		007C000101		007S000107		007S000109		007S000201		007S000207	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	04/13/96		04/13/96		04/15/96		04/15/96		04/15/96		04/15/96	
	DATE ANALYZED --->	04/16/96		04/16/96		04/16/96		04/16/96		04/16/96		04/16/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	MG/KG	A	MG/KG	A	MG/KG		MG/KG	A	MG/KG	A	MG/KG	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL
57-12-5	Cyanide (CN)	1.1		0.55	U	0.85		0.52	U	0.53	U	0.52	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

METAL-CN													
	SAMPLE ID ------->	007-S-0003-01		007-S-0003-07		007-S-0004-01		007-S-0004-07		007-G-GS01-01		007-G-GS02-01	
	ORIGINAL ID ----->	007S000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0201	
	LAB SAMPLE ID --->	5606-22		5606-23		5606-24		5606-25		5643-04		5643-05	
	ID FROM REPORT -->	007S000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0201	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		05/06/96		05/06/96	
	DATE EXTRACTED -->	04/15/96		04/16/96		04/16/96		04/16/96					
	DATE ANALYZED --->	04/16/96		04/17/96		04/17/96		04/17/96		05/13/96		05/13/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Water		Water	
	UNITS ---------->	MG/KG	A	MG/KG	A	MG/KG	A	MG/KG	A	UG/L	A	UG/L	A
CAS #	er	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE7W	VAL	SITE7W	VAL
57-12-5	Cyanide (CN)	0.53	U	0.53	U	0.55	U	0.52	U	10.	U	10.	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

METAL-CN								
	SAMPLE ID ------->	007-G-GS03-01		007-G-GS04-01		007-E-S001-01		007-F-S001-01
	ORIGINAL ID ----->	007GGS0301		007GGS0401		007ES00101		007FS00101
	LAB SAMPLE ID --->	5643-06		5643-07		5606-12		5606-16
	ID FROM REPORT -->	007GGS0301		007GGS0401		007ES00101		007FS00101
	SAMPLE DATE ----->	05/06/96		05/06/96		04/08/96		04/08/96
	DATE ANALYZED --->	05/13/96		05/13/96		04/16/96		04/16/96
	MATRIX ---------->	Water		Water		Water		Water
	UNITS ---------->	UG/L	A	UG/L	A	UG/L	B	UG/L B
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07 VAL
57-12-5	Cyanide (CN)	10.	U	10.	U	10.	U	10. U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

PEST						
SAMPLE ID ------->	007-S-0001-01	007-C-0001-01	007-S-0001-07	007-S-0001-09	007-S-0002-01	007-S-0002-07
ORIGINAL ID ----->	007S000101	007C000101	007S000107	007S000109	007S000201	007S000207
LAB SAMPLE ID --->	5606-17	5606-08	5606-18	5606-19	5606-20	5606-21
ID FROM REPORT -->	007S000101	007C000101	007S000107	007S000109	007S000201	007S000207
SAMPLE DATE ----->	04/08/96	04/08/96	04/08/96	04/08/96	04/08/96	04/08/96
DATE EXTRACTED -->	04/11/96	04/11/96	04/11/96	04/11/96	04/11/96	04/11/96
DATE ANALYZED --->	04/15/96	04/15/96	04/15/96	04/15/96	04/15/96	04/15/96
MATRIX ---------->	Soil	Soil	Soil	Soil	Soil	Soil
UNITS ---------->	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG A

CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL
319-84-6	alpha-BHC	0,761	U	0.761	U	0.746	U	0.75	U	0.764	U	0.752	U
319-85-7	beta-BHC	0.613	U	0.613	U	0.601	U	0.604	U	0,616	U	0.605	U
319-86-8	delta-BHC	0.729	U	0.729	U	0.714	U	0.719	U	0.733	U	0.72	U
58-89-9	gamma-BHC (Lindane)	0.835	U	0,835	U	0.818	U	0,823	U	0.839	U	0.825	U
76-44-8	Heptachlor	0.719	U	0.718	U	0.404	U	0.708	U	0.722	U	0.71	U
309-00-2	Aldrin	0.729	U	0,729	U	0.714	U	0.719	U	0.733	U	0.72	U
1024-57-3	Heptachlor epoxide	1.04	U	1.04	U	1.01	U	1.02	U	1-04	U	1.02	U
959-98-8	Endosulfan I	0,962	U	0.961	U	0.942	U	0,948	U	0.966	U	0.95	U
60-57-1	Dieldrin	1.78	U	1.77	U	1.74	U	1.75	U	1.78	U	t.75	U
72-55-9	4,4'-DDE	4.59		4.81	J	1.36	U	1.34	U	1.39	U	1.37	U
72-20-8	Endrin	1.72	U	1.72	U	1.69	U	1.7	U	1.73	U	1.7	U
33213-65-9	Endosulfan II	1.6	U	1.6	U	1+56	U	1-57	U	1.6	U	1.58	U
72-54-8	4,4'-DDD	1.76	U	1.75	U	1.72	U	1.73	U	1.76	U	1.73	U
1031-07-8	Endosulfan sulfate	1.38	U	1.38	U	t.36	U	1.36	U	1.39	U	1-37	U
50-29-3	4,4'-DDT	4.61	J	5.95	J	1.74	U	1.75	U	1.78	U	1.75	U
72-43-5	Methoxychlor	20.6	UJ	20.6	UJ	20.2	UJ	20.3	UJ	20.7	UJ	20.4	UJ
53494-70-5	Endrin ketone	1.41	U	1.4	U	1.38	U	1.38	U	1.41	U	1-39	U
7421-93-4	Endrin aldehydc	2.79	U	2.79	U	2.73	U	2.75	U	2.8	U	2.76	U
5103-71-9	alpha-Chlordane	0.698	U	0.697	U	0.683	U	0.687	U	0,701	U	0.689	U
5103-74-2	gamma-Chlordane	0.677	U	0.676	U	0.663	U	0.667	U	0.679	U	0.668	U
8001-35-2	Toxaphene	162.	U	162.	U	158.	U	159.	U	162.	U	160.	U
12674-11-2	Aroclor-1016	34.9	U	34.9	U	34.2	U	34.4	U	35.	U	34.4	U
11104-28-2	Aroclor-1221	69.8	U	69.7	U	68.3	U	68.7	U	70.1	U	68.9	U
11141-16-5	Aroclor-1232	34.9	U	34.9	U	34.2	U	34.4	U	35.	U	34.4	U
53469-21-9	Aroclor-1242	34.9	U	34.9	U	34.2	U	34.4	U	35.	U	34.4	U
12672-29-6	Aroclor-1248	34.9	U	34.9	U	34.2	U	34.4	U	35.	U	34.4	U
11097-69-1	Aroclor-1254	34.9	U	34.9	U	34.2	U	34.4	U	35.	U	34.4	U
11096-82-S	Aroclor-1260	34.9	U	34.9	U	34.2	U	34.4	U	35.	U	34A	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

PEST															
	SAMPLE ID ------->	007-S-0003-01		007-S-0003-07		007-S-0004-01		007-S-0004-07		007-G-GS01-01		007-G-GS01-01 DE	
	ORIGINAL ID ----->	007S000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0101	
	LAB SAMPLE ID --->	5606-22		5606-23		5606-24		5606-25		5643-04		5643-04RX	
	ID FROM REPORT -->	007S000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0101	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		05/06/96		05/06/96	
	DATE EXTRACTED -->	04/11/96		04/11/96		04/11/96		04/11/96		05/07/96		05/15/96	
	DATE ANALYZED --->	04/15/96		04/15/96		04/15/96		04/15/96		05/13/96		05/21/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Water		Water	
	UNITS ---------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/L	<	UG/L	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE7W	VAL	SITE7W	VAL
319-84-6	alpha-BHC	0.762	U	0.757	U	0.791	U	0.748	U	0.04	UR	0.04	UJ
319-85-7	beta-BHC	0.614	U	0.61	U	0.638	U	0.603	U	0.03	UR	0.03	U
319-86-8	delta-BHC	0.731	U	0.725	U	0.758	U	0.717	U	0.03	UR	0.03	U
58-89-9	gamma-BHC (Lindane)	0.836	U	0.83	U	0.868	U	0.821	U	0.04	UR	0.04	U
76-44-8	Heptachlor	0.72	U	0.715	U	0.747	U	0.706	U	0.04	UR	0.04	U
309-00-2	Aldrin	0.731	U	0.725	U	0.758	U	0.717	U	0.05	UR	0.05	U
1024-57-3	Heptachlor epoxide	1.04	U	1.03	U	1.08	U	1.02	U	0.03	UR	0.03	U
959-98-8	Endosulfan I	0.964	U	0.957	U	1.	U	0.946	U	0.04	UR	0.04	U
60-57-1	Dieldrin	1.78	U	1.77	U	1.85	U	1.75	U	0.08	UR	0.08	U
72-55-9	4,4'-DDE	1.39	U	1.38	U	1.44	U	1.36	U	0.06	UR	0.06	U
72-20-8	Endrin	1.73	U	1.71	U	1.79	U	1.69	U	0.1	UR	0.1	U
33213-65-9	Endosulfan II	1.6	U	1.59	U	1.66	U	1.57	U	0.06	UR	0.06	U
72-54-8	4,4'-DDD	1.76	U	1.74	U	1.82	U	1.72	U	0.08	UR	0.08	U
1031-07-8	Endosulfan sulfate	1.39	U	1.38	U	1.44	U	1.36	U	0.06	UR	0.06	U
50-29-3	4,4'-DDT	2.24	J	1.77	U	1.85	U	1.75	U	0.08	UR	0.08	U
72-43-5	Methoxychlor	20.7	UJ	20.5	UJ	21.4	UJ	20.3	UJ	0.35	UR	0.35	UJ
53494-70-5	Endrin ketone	1.41	U	1.4	U	1.46	U	1.38	U	0.06	UR	0.06	U
7421-93-4	Endrin aldehyde	2.8	U	2.78	U	2.9	U	2.74	U	0.1	UR	0.1	U
5103-71-9	alpha-Chlordane	0.699	U	0.694	U	0.725	U	0.686	U	0.03	UR	0.03	U
5103-74-2	gamma-Chlordane	0.884	J	0.673	U	0.704	U	0.665	U	0.03	UR	0.03	U
8001-35-2	Toxaphene	162.	U	161.	U	168.	U	159.	U	4.8	UR	4.8	U
12674-11-2	Aroclor-1016	34.9	U	34.7	U	36.3	U	34.3	U	0.2	UR	0.2	U
11104-28-2	Aroclor-1221	69.9	U	69.4	U	72.5	U	68.6	U	0.4	UR	0.4	U
11141-16-5	Aroclor-1232	34.9	U	34.7	U	36.3	U	34.3	U	0.2	UR	0.2	U
53469-21-9	Aroclor-1242	34.9	U	34.7	U	36.3	U	34.3	U	1.	UR	1.	U
12672-29-6	Aroclor-1248	34.9	U	34.7	U	36.3	U	34.3	U	0.2	UR	0.2	U
11097-69-1	Aroclor-1254	34.9	U	34.7	U	36.3	U	34.3	U	0.2	UR	0.2	U
11096-82-5	Aroclor-1260	34.9	U	34.7	U	36.3	U	34.3	U	0.2	UR	0.2	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

PEST						
SAMPLE ID ------->	007-G-GS02-01	007-G-GS02-01 MS	007-G-GS02-01 MSD	007-G-GS02-01 MSDR	007-G-GS02-01 MSRX	007-G-GS02-01 RE
ORIGINAL ID ----->	007GGS0201	007GGS0201	007GGS0201	007GGS0201	007GGS0201	007GGS0201
LAB SAMPLE ID --->	5643-05	5643-05MS	5643-05MSD	5643-05MSDRX	5643-05MSRX	5643-05RX
ID FROM REPORT -->	007GGS0201	007GGS0201	007GGS0201	007GGS0201	007GGS0201	007GGS0201
SAMPLE DATE ----->	05/06/96	05/06/96	05/06/96	05/06/96	05/06/96	05/06/96
DATE EXTRACTED -->	05,07196	05/07/96	05/07/96	05/15/96	05/15/96	05/15/96
DATE ANALYZED --->	05/13/96	05/13/96	05/13/96	05/21/96	05/21/96	05/21/96
MATRIX ---------->	Uater	Water	Water	Water	Water	Water
UNITS ---------->	UG/L C	UG/L E	UG/L E	UG/L E	UG/L E	UG/L A

CAS #	Parameter	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL
319-84-6	alpha-BHC	0.04	UR	0.04	U	0.04	U	0.04	U	0.04	U	0.04	UJ
319-85-7	beta-BHC	0.03	UR	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U
319-86-8	delta-BHC	0.03	UR	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U
58-89-9	gamma-BHC (Lindane)	0.04	UR	0.085		0.078		0.075		0.089		0.04	U
76-44-8	Heptachlor	0.04	UR	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U
309-00-2	Aldrin	0.05	UR	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.03	UR	0.088		0.089		0.084		0.096		0.03	U
959-98-8	Endosulfan I	0.04	UR	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U
60-57-1	Dieldrin	0.08	UR	0.185		0.175		0.175		0,202		0.08	U
72-55-9	4,4'-DDE	0.06	UR	0,152		0.145		0.135		0.17		0.06	U
72-20-8	Endrin	0.1	UR	0.188		0.17		0.183		0.21		0.1	U
33213-65-9	Endosulfan II	0.06	UR	0.06	U	0.06	U	0.06	U	0.06	U	0.06	U
72-54-8	4,4'-DDD	0.08	UR	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U
1031-07-8	Endosulfan sulfate	0.06	UR	0.06	U	0.06	U	0.165		0.188		0.06	U
50-29-3	4,4'-DDT	0.08	UR	0.08	U	0.08	U	0.08	U	0,808	U	0.08	U
72-43-5	Methoxychlor	0.35	UR	0.35	U	0.35	U	0.35	U	0.35	U	0.35	UJ
53494-70-5	Endrin ketone	0.06	UR	0.06	U	0.06	U	0.06	U	0.06	U	0.06	U
7421-93-4	Endrin aldehyde	0.1	UR	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
5103-71-9	alpha-Chlordane	0.03	UR	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U
5103-74-2	gamma-Chlordane	0.03	UR	0.083		0.079		0,079		0.094		0.03	U
8001-35-2	Toxaphene	4.8	UR	4.8	U	4.8	U	4.8	U	4.8	U	4.8	U
12674-11-2	Aroclor-1016	0.2	UR	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
11104-28-2	Aroclor-1221	0.4	UR	0.4	U	0.4	U	0.4	U	0.1	U	0.4	U
11141-16-5	Aroclor-1232	0.2	UR	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
53469-21-9	Aroctor-1242	1.	UR	1.	U	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	0.2	UR	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
11097-69-1	Aroclor-1254	0.2	UR	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
11096-82-5	Aroclor-1260	0.2	UR	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

PEST													
	SAMPLE ID ------->	007-G-GS03-01		007-G-GS03-01 RE		007-G-GS04-01		007-G-GS04-01 RE		007-E-S001-01		007-F-S001-01	
	ORIGINAL ID ----->	007GGS0301		007GGS0301		007GGS0401		007GGS0401		007ES00101		007FS00101	
	LAB SAMPLE ID --->	5643-06		5643-06RX		5643-07		5643-07RX		5606-09RE		5606-13RE	
	ID FROM REPORT -->	007GGS0301		007GGS0301		007GGS0401		007GGS0401		007ES00101		007FS00101	
	SAMPLE DATE ----->	05/06/96		05/06/96		05/06/96		05/06/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	05/07/96		05/15/96		05/07/96		05/15/96		04/10/96		04/10/96	
	DATE ANALYZED --->	05/13/96		05/21/96		05/13/96		05/21/96		04/16/96		04/16/96	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L	C	UG/L	A	UG/L	C	UG/L	A	UG/L	B	UG/L	B
CAS #	Parameter	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE07	VAL	SITE07	VAL
319-84-6	alpha-BHC	0.04	UR	0.04	UJ	0.04	UR	0.04	UJ	0.022	U	0.022	U
319-85-7	beta-BHC	0.03	UR	0.03	U	0.03	UR	0.03	U	0.017	U	0.017	U
319-86-8	delta-BHC	0.03	UR	0.03	U	0.03	UR	0.03	U	0.017	U	0.017	U
58-89-9	gamma-BHC (Lindane)	0.04	UR	0.04	U	0.04	UR	0.04	U	0.022	U	0.022	U
76-44-8	Heptachlor	0.04	UR	0.04	U	0.06	UR	0.04	U	0.022	U	0.022	U
309-00-2	Aldrin	0.05	UR	0.05	U	0.05	UR	0.05	U	0.028	U	0.028	U
1024-57-3	Heptachlor epoxide	0.03	UR	0.03	U	0.03	UR	0.03	U	0.017	U	0.017	U
959-98-8	Endosulfan I	0.04	UR	0.04	U	0.04	UR	0.04	U	0.022	U	0,022	U
60-57-1	Dieldrin	0.08	UR	0.08	U	0.08	UR	0.08	U	0,044	U	0.044	U
72-55-9	4,4'-DDE	0.06	UR	0.06	U	0.06	UR	0.06	U	0.033	U	0.033	U
72-20-8	Endrin	0.1	UR	0.1	U	0.1	UR	0.1	U	0.056	U	0.056	U
33213-65-9	Endosulfan II	0.06	UR	0.06	U	0.06	UR	0.06	U	0,033	U	0.033	U
72-54-8	4,4'-DDD	0.08	UR	0.08	U	0.08	UR	0.08	U	0.044	U	0.044	U
1031-07-8	Endosulfan sulfate	0.06	UR	0.06	U	0.06	UR	0.06	U	0,033	U	0,033	U
50-29-3	4,4'-DDT	0.08	UR	0.08	U	0.08	UR	0.08	U	0,044	U	0.044	U
72-43-5	Methoxychlor	0.35	UR	0.35	UJ	0.35	UR	0.35	UJ	0.194	U	0.194	U
53494-70-5	Endrin ketone	0.06	UR	0.06	U	0.06	UR	0.06	U	0.033	U	0.033	U
7421-93-4	Endrin aldehyde	0.1	UR	0.1	U	0.1	UR	0.1	U	0,056	U	0,056	U
5103-71-9	alpha-Chlordane	0.03	UR	0.03	U	0.03	UR	0.03	U	0.017	U	0,017	U
5103-74-2	gamma-Chlordane	0.03	UR	0.03	U	0.03	UR	0.03	U	0,017	U	0.017	U
8001-35-2	Toxaphene	4.8	UR	4.8	U	4.8	UR	4.8	U	2.66	U	2.66	U
12674-11-2	Aroclor-1016	0.2	UR	0.2	U	0.2	UR	0.2	U	0.111	U	0,111	U
11104-28-2	Aroclor-3221	0.4	UR	0.4	U	0.4	UR	0.4	U	0,2222	U	0.222	U
11141-16-5	Aroclor-1232	0.2	UR	0.2	U	0.2	UR	0.2	U	0.111	U	0.111	U
53469-21-9	Aroclor-1242	1.	UR	1.	U	1.	UR	1.	U	0.555	U	0.555	U
12672-29-6	Aroclor-1248	0.2	UR	0.2	U	0.2	UR	0.2	U	0.111	U	0.111	U
11097-69-1	Aroclor-1254	0.2	UR	0.2	U	0.2	UR	0.2	U	0.111	U	0.111	U
11096-82-5	Aroclor-1260	0.2	UR	0.2	U	0.2	UR	0.2	U	0.111	U	0.111	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

SVOA													
	SAMPLE ID ------->	007-S-0001-01		007-C-0001-01		007-S-0001-07		007-S-0001-09		007-S-0002-01		007-S-0002-07	
	ORIGINAL ID ----->	007S000101		007C000101		007S000107		007S000109		007S000201		007S000207	
	LAB SAMPLE ID --->	5606-17		5606-08		5606-18		5606-19		5606-20		5606-21	
	ID FROM REPORT -->	007S000101		007C000101		007S000107		007S000109		007S000201		007S000207	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	04/11/96		04/11/96		04/11/96		04/11/96		04/11/96		04/11/96	
	DATE ANALYZED --->	04/12/96		04/12/96		04/13/96		04/12/96		04/12/96		04/12/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL
108-95-2	Phenol	36.1	U	36.	U	36.	U	36.	U	37.	U	36.	U
111-44-4	bis(2-Chloroethyl)ether	54.	U	54.	U	53.	U	53.	U	54.	U	53.	U
95-57-8	2-Chlorophenol	36.	U	36.	U	36.	U	36.	U	37.	U	36.	U
95-48-7	2-Methylphenol (o-Cresol)	34.	U	34.	U	33.	U	33.	U	34.	U	33.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	30.	U	30.	U	30.	U	30.	U	30.	U	30.	U
106-44-5	4-Methylphenol (p-Cresol)	37.	U	37.	U	36.	U	36.	U	37.	U	37.	U
621-64-7	N-Nitroso-di-n-propylamine	60.	U	60.	U	59.	U	60.	U	61.	U	60.	U
67-72-1	Hexachloroethane	78.	U	78.	U	77.	U	77*	U	78.	U	77.	U
98-95-3	Nitrobenzene	38.	U	38.	U	37.	U	37.	U	38.	U	37.	U
78-59-1	Isophorone	36.	U	36.	U	35.	U	35.	U	36.	U	35+	U
88-75-5	2-Nitrophenol	34.	U	34.	U	33.	U	33.	U	34.	U	34.	U
105-67-9	2,4-Dimethylphenol	40.	U	40.	U	39.	U	39.	U	40.	U	39.	U
111-91-1	bis(2-Chloroethoxy)methane	36.	U	36.	U	36.	U	36.	U	37,	U	36.	U
120-83-2	2,4-Dichlorophenol	66.	U	66.	U	65.	U	65.	U	66.	U	65.	U
120-82-3	1,2,4-Trichlorobenzene	36.	U	36.	U	35.	U	35.	U	36.	U	36,	U
91-20-3	Naphthelene	36.	U	36.	U	35.	U	35.	U	36,	U	36.	U
106-47-8	4-Chloroaniline	44.	U	44.	U	43.	U	43.	U	44.	U	43.	U
87-68-3	Hexachlorobutadiene	41.	U	41.	U	40.	U	40.	U	41.	U	40.	U
59-50-7	4-Chloro-3-methylphenol	30.	U	30+	U	29.	U	29.	U	30.	U	29.	U
91-57-6	2-Methylnaphthalene	35.	U	3s.	U	34.	U	34.	U	35.	U	34.	U
77-47-4	Hexachlorocyclopentadiene	130,	U	130.	U	120.	U	120.	U	130.	U	120.	U
88-06-2	2,4,6-Trichlorophenol	31.	U	31.	U	30.	U	30.	U	31.	U	30.	U
95-95-4	2,4,5-Trichlorophenol	43.	U	43.	U	43.	U	43.	U	44.	U	43.	U
91-58-7	2-Chloronaphthalene	38.	U	38.	U	37.	U	37.	U	38.	U	38,	U
88-74-4	2-Nitroaniline	30.	U	30.	U	30.	U	30.	U	30.	U	30.	U
131-11-3	Dimethyl phthalate	36.	U	36.	U	35.	U	35.	U	36.	U	35.	U
208-96-8	Acenaphthylene	37.	U	37.	U	37.	U	37.	U	38.	U	37.	U
606-20-2	2,6-Dinitrotoluene	39.	U	30.	U	38.	U	38.	U	39.	U	38.	U
99-09-2	3-Nitroaniline	41.	U	41.	U	40.	U	40.	U	41.	U	40.	U
83-32-9	Acenaphthene	24.	U	24.	U	24.	U	24.	U	25.	U	24.	U
51-28-5	2,4-Dinitrophenol	160.	U	160.	U	160.	U	160.	U	160.	U	160.	U
100-02-7	4-Nitrophenol	200.	U	200.	U	190.	U	200.	U	200.	U	200.	U
132-64-9	Dibenzofuran	26.	U	26.	U	26.	U	26.	U	26.	U	26.	U
121-14-2	2,4-Dinitrotoluene	28.	U	28.	U	27.	U	27,	U	28.	U	27.	U
84-66-2	Diethylphthalate	32.	U	32.	U	31.	U	31.	U	32.	U	32.	U
7005-72-3	4-Chlorophenylphenylether	37.	U	37.	U	36.	U	36.	U	37+	U	36.	U

*** Validation Complete +**

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

SVOA						
SAMPLE ID ------->	007-S-0001-01	007-C-0001-01	007-S-0001-07	007-S-0001-09	007-S-0002-01	007-S-0002-07
ORIGINAL ID ----->	007S000101	007C000101	007S000107	007S000109	007S000201	007S000207
LAB SAMPLE ID --->	5606-17	5606-08	5606-18	5606-19	5606-20	5606-21
ID FROM REPORT -->	007S000101	007C000101	007S000107	007S000109	007S000201	007S000207
SAMPLE DATE ----->	04/08/96	04/08/96	04/08/96	04/08/96	04/08/96	04/08/96
DATE EXTRACTED -->	04/11/96	04/11/96	04/11/96	04/11/96	04/11/96	04/11/96
DATE ANALYZED --->	04/12/96	04/12/96	04/13/96	04/12/96	04/12/96	04/12/96
MATRIX ---------->	Soil	Soil	Soil	Soil	Soil	Soil
UNITS ---------->	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG A

CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL
86-73-7	Fluorene	36.	U	36.	U	35.	U	35.	U	36.	U	35.	U
100-01-6	4-Nitroaniline	46.	U	46.	U	45.	U	45.	U	46.	U	46.	U
534-52-1	2-Methyl-4,6-Dinitrophenol	180.	U	180.	U	170,	U	180.	U	180.	U	180.	U
86-30-6	N-Nitrosodiphenylamine	37.	U	37.	U	36.	U	36.	U	37.	U	36.	U
101-55-3	4-Bromophenyl-phenylether	60.	U	60.	U	59.	U	59.	U	61.	U	60.	U
118-74-1	Hexachlorobenzene	49.	U	49.	U	49.	U	49.	U	50.	U	49.	U
87-86-5	Pentachlorophenol	130.	U	130.	U	130.	U	130.	U	130.	U	130.	U
05-01-8	Phenanthrene	34.	U	34.	U	34.	U	34.	U	34.	U	34.	U
120-12-7	Anthracene	36.	U	36.	U	36.	U	36.	U	37.	U	36.	U
86-74-8	Carbazole	41.	U	41.	U	40.	U	40.	U	41.	U	41.	U
84-74-2	Di-n-butylphthalate	40.	U	40.	U	39.	U	39.	U	40.	U	40.	U
206-44-0	Fluoranthene	38.	U	38.	U	37,	U	38.	U	38.	U	30.	U
129-00-0	Pyrene	38.	U	38.	U	37.	U	37.	U	38.	U	38.	U
85-68-7	Butylbenzylphthalate	33.	U	33.	U	33.	U	33.	U	34.	U	33.	U
91-94-1	3,3'-Dichlorobenzidine	100.	U	100.	U	100,	U	100.	U	100.	U	100.	U
56-55-3	Benzo(a)anthracene	49.	U	49.	U	49.	U	49.	U	50.	U	49.	U
218-01-9	Chrysene	39.	U	39.	U	39.	U	39.	U	40.	U	39.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	52.	U	52.	U	51.	U	51.	U	52.	U	51.	U
117-84-0	Di-n-octyl phthalate	42.	U	41.	U	41.	U	41.	U	42.	U	41.	U
205-99-2	Benzo(b)fluoranthene	82.	U	82.	U	81.	U	81.	U	83.	U	ai.	U
207-08-9	Benzo(k)fluoranthene	54.	U	54.	U	s3,	U	[illegible]	U	54.	U	53.	U
50-32-8	Benzo(a)pyrene	50.	U	50.	U	49.	U	49.	U	50.	U	50.	U
193-39-5	Indeno(1,2,3-cd)pyrene	50.	U	50.	U	50.	U	50.	U	51.	U	50.	U
53-70-3	Dibenz(a,h)anthracene	42.	U	42.	U	41.	U	41.	U	42.	U	41.	U
191-24-2	Benzo(g,h,i)perylene	41.	U	41.	U	40.	U	41.	U	41.	U	41.	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

SVOA													
	SAMPLE ID ------->	007-S-0003-01		007-S-0003-07		007-S-0004-01		007-S-0004-07		007-G-GS01-01		007-G-GS02-01	
	ORIGINAL ID ----->	0075000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0201	
	LAB SAMPLE ID --->	5606-22		5606-23		5606-24		5606-25		5643-04		5643-05	
	ID FROM REPORT -->	007S000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0201	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		05f06/96		05/06/96	
	DATE EXTRACTED -->	04/11/96		04/11/96		04/11/96		04/11/96		05/07/96		05/07/96	
	DATE ANALYZED --->	04/12/96		04/12/96		04/12/96		04/13/96		05/10/96		05/10/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Water		Water	
	UNITS ---------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/L	A	UG/L	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE7W	VAL	SITE7W	VAL
108-95-2	Phenol	37.	U	36.	U	38.	U	36.	U	1.	U	1.	U
111-44-4	bis(2-Chloroethyl)ether	54.	U	54.	U	56.	U	53.		0.7	U	0.7	U
95-57-8	2-Chlorophenol	36.	U	36.	U	38.	U	36.	U	1.	U	1.	U
95-48-7	2-Methylphenol (o-Cresol)	34.	U	33.	U	35.	U	33.	U	0.9	U	0.9	U
108-60-1	2,2'-oxybis(1-Chloropropane)	30.	U	30.	U	32.	U	30.	U	0.8	U	0.8	U
106-44-5	4-Methylphenol (p-Cresol)	37.	U	37.	U	38.	U	36.	U	1.	U	1.	U
621-64-7	N-Nitroso-di-n-propylamine	61.	U	60.	U	63.	U	60.	U	0.9	U	0.9	U
67-72-1	Hexachloroethane	78.	U	77.	U	81.	U	77.	U	1.	U	1.	U
98-95-3	Nitrobenzene	38.	U	38.	U	39.	U	37.	U	1.	U	1.	U
78-59-1	Isophorone	36.	U	35.	U	37.	U	35.	U	0.8	U	0.8	U
88-75-5	2-Nitrophenol	34.	U	34.	U	35.	U	33.	U	1.	U	1.	U
105-67-9	2,4-Dimethylphenol	40.	U	40.	U	41.	U	39.	U	2.	U	2.	U
111-91-1	bis(2-Chloroethoxy)methane	37.	U	36.	U	30.	U	36.	U	1.	U	1.	U
120-83-2	2,4-Dichlorophenol	66.	U	66.	U	69.	U	65.	U	1.	U	1.	U
120-82-1	1,2,4-Trichlorobenzene	36.	U	36.	U	37.	U	35.	U	0.8	U	0.8	U
91-20-3	Naphthalene	36.	U	36.	U	37,	U	35.	U	0.9	U	0.9	U
106-47-8	4-Chloroaniline	44.	U	44.	U	46.	U	43.	U	9.	U	9.	U
87-68-3	Hexachlorobutadiene	41.	U	41.	U	43.	U	40.	U	1.	U	1.	U
59-50-7	4-Chloro-3-methylphenol	30.	U	30.	U	31.	U	29.	U	1.	U	1.	U
91-57-6	2-Methylnaphthalene	35.	U	34.	U	36.	U	34.	U	1.	U	3,	U
77-47-4	Hexachlorocyclopentadiene	130.	U	130.	U	130.	U	120,	U	1.	U	1.	U
88-06-2	2,4,6-Trichlorophenol	31.	U	31.	U	32.	U	30.	U	1.	U	1.	U
95-95-4	2,4,5-Trichlorophenol	43.	U	43.	U	45.	U	43.	U	1.	U	1.	U
91-58-7	2-Chloronaphthalene	38.	U	38.	U	39.	U	37,	U	1.	U	1.	U
88-74-4	2-Nitroaniline	30.	U	30.	U	32.	U	30.	U	1.	U	1.	U
131-11-3	Dimethyl phthalate	36.	U	36.	U	37.	U	35.	U	1.	U	1.	U
208-96-8	Acenaphthylene	38.	U	37.	U	39.	U	37.	U	1.	U	1.	U
606-20-2	2,6-Dinitrotoluene	39.	U	38.	U	40.	U	30.	U	1.	U	1.	U
99-09-2	3-Nitroaniline	41.	U	41.	U	42.	U	40.	U	4.	U	4.	U
83-32-9	Acenaphthene	24.	U	24.	U	25.	U	24.	U	1.	U	1.	U
51-28-5	2,4-Dinitrophenol	160.	U	160.	U	170.	U	160,	U	15.	U	15.	U
100-02-7	4-Nitrophenol	200.	U	200.	U	210,	U	200.	U	2.	U	2.	U
132-64-9	Dibenzofuran	26.	U	26.	U	27.	U	26.	U	1.	U	1.	U
121-14-2	2,4-Dinitrotoluene	28.	U	27.	U	29.	U	27.	U	2.	U	2.	U
84-66-2	Diethylphthalate	32.	U	32.	U	33.	U	31.	U	2.	U	2.	U
7005-72-3	4-Chlorophenylphenylether	37,	U	37.	U	30.	U	36.	U	1.	U	1.	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CAT EGORY 7, SITE 7
Firefighting School

SVOA													
	SAMPLE ID ------->	007-S-0003-01		007-S-0003-07		007-S-0004-01		007-S-0004-07		007-G-GS01-01		007-G-GS02-01	
	ORIGINAL ID ----->	007S000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0201	
	LAB SAMPLE ID --->	5606-22		5606-23		5606-24		5606-25		5643-04		5643-05	
	ID FROM REPORT -->	007S000301		007S000307		007S000401		007S000407		007GGS0101		007GGS0201	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		05/06/96		05/06/96	
	DATE EXTRACTED -->	04/11/96		04/11/96		04/11/96		04/11/96		05/07/96		05/07/96	
	DATE ANALYZED --->	04/12/96		04/12/96		04/12/96		04/13/96		05/10/96		05/10/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Water		Water	
	UNITS ---------->	UG/KG	D	UG/KG	A	UG/KG	A	UG/KG	A	UG/L	A	UG/L	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE7W	VAL	SITE7W	VAL
86-73-7	Fluorene	36.	U	35.	U	37.	U	35.	U	2.	U	2.	U
100-01-6	4-Nitroaniline	46.	U	46.	U	48.	U	45.	U	2.	U	2.	U
534-52-1	2-Methyl-4,6-Dinitrophenol	180.	U	180.	U	180.	U	180.	U	2.	U	2.	U
86-30-6	N-Nitrosodiphenylamine	37.	U	36.	U	38.	U	36.	U	2.	U	2.	U
101-55-3	4-Bromophenyl-phenylether	60.	U	60.	U	63.	U	59.	U	2.	U	2.	U
118-74-1	Hexachlorobenzene	49.	U	49.	U	51.	U	49.	U	2.	U	2.	U
87-86-5	Pentachlorophenol	130.	U	130.	U	140.	U	130.	U	2.	U	2.	U
85-01-8	Phenanthrene	34.	U	34.	U	36.	U	34.	U	1.	U	1.	U
120-12-7	Anthracene	36.	U	36.	U	38.	U	36.	U	1.	U	1.	U
86-74-8	Carbazole	41.	U	41.	U	43.	U	40.	U	2.	U	2.	U
84-74-2	Di-n-butylphthalate	40.	U	40.	U	42.	U	39.	U	2.	U	2.	U
206-44-0	Fluoranthene	38.	U	38.	U	40.	U	38.	U	1.	U	1.	U
129-00-0	Pyrene	38.	U	38.	U	40.	U	37.	U	1.	U	1.	U
85-68-7	Butylbenzylphthalate	34.	U	33.	U	35.	U	33.	U	3.	U	3.	U
91-94-1	3,3'-Dichlorobenzidine	100.	U	100.	U	110.	U	100.	U	9.	U	9.	U
56-55-3	Benzo(a)anthracene	49.	U	49.	U	51.	U	49.	U	1.	U	1.	U
218-01-9	Chrysene	39.	U	39.	U	41.	U	39.	U	1.	U	1.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	52.	U	51.	U	54.	U	51.	U	2.	U	2.	U
117-84-0	Di-n-octyl phthalate	42.	U	41.	U	43.	U	41.	U	2.	U	2.	U
205-99-2	Benzo(b)fluoranthene	82.	U	82.	U	86.	U	81.	U	2.	U	2.	U
207-08-9	Benzo(k)fluoranthene	54.	U	53.	U	56.	U	53.	U	4.	U	4.	U
50-32-8	Benzo(a)pyrene	50.	U	50.	U	52.	U	49.	U	1.	U	1.	U
193-39-5	Indeno(1,2,3-cd)pyrene	50.	U	50.	U	52.	U	50.	U	1.	U	1.	U
53-70-3	Dibenz(a,h)anthracene	42.	U	41.	U	43.	U	41.	U	1.	U	1.	U
191-24-2	Benzo(g,h,i)perylene	41.	U	41.	U	43.	U	41.	U	1.	U	1.	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

SVOA													
	SAMPLE ID ------->	007-G-GS02-01 MS		007-G-GS02-01 MSD		007-G-GS03-01		007-G-GS04-01		007-E-S001-01		007-F-S001-01	
	ORIGINAL ID ----->	007GGS0201		007GGS0201		007GGS0301		007GGS0401		007ES00101		007FS00101	
	LAB SAMPLE ID --->	5643-05MS		5643-05MSD		5643-06		5643-07		5606-09		5606-13	
	ID FROM REPORT -->	007GGS0201		007GGS0201		007GGS0301		007GGS0401		007ES00101		007FS00101	
	SAMPLE DATE ----->	05/06/96		05/06/96		05/06/96		05/06/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	05/07/96		05/07/96		05/07/96		05/07/96		04/10/96		04/10/96	
	DATE ANALYZED --->	05/10/96		05/10/96		05/10/96		05/10/96		04/12/96		04/12/96	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L	E	UG/L	E	UG/L	A	UG/L	A	UG/L	B	UG/L	B
CAS #	Parameter	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE07	VAL	SITE07	VAL
108-95-2	Phenol	33.		33.		1.	U	1.	U	1.	U	1.	U
111-44-4	bis(2-Chloroethyl)ether	15.		15.		0.7	U	0.7	U	0.7	U	0.7	U
95-57-8	2-Chlorophenol	32.		33.		1.	U	1.	U	1.	U	1.	U
95-48-7	2-Methylphenol (o-Cresol)	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U
108-60-1	2,2'-oxybis(1-Chloropropane)	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
106-44-5	4-Methylphenol (p-Cresol)	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
621-64-7	N-Nitroso-di-n-propylamine	16.		16.		0.9	U	0.9	U	0.9	U	0.9	U
67-72-1	Hexachloroethane	14.		14.		1.	U	1.	U	1.	U	1.	U
98-95-3	Nitrobenzene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
78-59-1	Isophorone	36.		16.		0.8	U	0.8	U	0.8	U	0.8	U
88-75-5	2-Nitrophenol	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
105-67-9	2,4-Dimethylphenol	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
111-91-1	bis(2-Chloroethoxy)methane	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
120-83-2	2,4-Dichlorophenol	1.	U	1.	U	1.	U	1.	U	1.	U	3.	U
120-82-1	1,2,4-Trichlorobenzene	15.		16.		0.8	U	0.8	U	0.8	U	0.8	U
91-20-3	Naphthalene	16.		16.		0.9	U	0.9	U	0.9	U	0.9	U
106-47-8	4-Chloroaniline	17.		26.		9.	U	9.	U	9.	U	9.	U
87-68-3	Hexachlorobutadiene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
59-50-7	4-Chloro-3-methylphenol	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
91-57-6	2-Methylnaphthalene	1.	U	1.	U	0.2	J	1.	U	1.	U	1.	U
77-47-4	Hexachlorocyclopentadiene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
88-06-2	2,4,6-Trichlorophenol	35.		33.		1.	U	1.	U	1.	U	1.	U
95-95-4	2,4,5-Trichlorophenol	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
91-58-7	2-Chloronaphthalene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
88-74-4	2-Nitroaniline	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
131-11-3	Dimethyl phthalate	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
208-96-8	Acenaphthylene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
606-20-2	2,6-Dinitrotoluene	1.	U	1.	U	1.	U	1.	U	3.	U	1.	U
99-09-2	3-Nitroaniline	4.	U	4.	U	4.	U	4.	U	4.	U	4.	U
83-32-9	Acenaphthene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
51-28-5	2,4-Dinitrophenol	15.	U	15.	U	15.	U	15.	U	15.	U	15.	U
100-02-7	4-Nitrophenol	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
132-64-9	Dibenzofuran	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
121-14-2	2,4-Dinitrotoluene	15.		15.		2.	U	2.	U	2.	U	2.	U
84-66-2	Diethylphthalate	20.		18.		2.	U	2.	U	2.	U	2.	U
7005-72-3	4-Chlorophenylphenylether	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U

*** Validation Complete ***

NAVAL AIR STATION PENSACULA
CATEGORY 7, SITE 7
Firefighting School

SVOA													
	SAMPLE ID ------->	007-G-GS02-01 MS		007-G-GS02-01 MSD		007-G-GS03-01		007-G-GS04-01		007-E-S001-01		007-F-S001-01	
	ORIGINAL ID ----->	007GGS0201		007GGS0201		007GGS0301		007GGS0401		007ES00101		007FS00101	
	LAB SAMPLE ID --->	5643-05MS		5643-05MSD		5643-06		5643-07		5606-09		5606-13	
	ID FROM REPORT -->	007GGS0201		007GGS0201		007GGS0301		007GGS0401		007ES00101		007FS00101	
	SAMPLE DATE ----->	05/06/96		05/06/96		05/06/96		05/06/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	05/07/96		05/07/96		05/07/96		05/07/96		04/10/96		04/10/96	
	DATE ANALYZED --->	05/10/96		05/10/96		05/10/96		05/10/96		04/12/96		04/12/96	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L	E	UG/L	E	UG/L	A	UG/L	A	UG/L	B	UG/L	B
CAS #	Parameter	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE07	VAL	SITE07	VAL
86-73-7	Fluorene	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
100-01-6	4-Nitroaniline	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
534-52-1	2-Methyl-4,6-Dinitrophenol	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
86-30-6	N-Nitrosodiphenylamine	17.		15.		2.	U	2.	U	2.	U	2.	U
101-55-3	4-Bromophenyl-phenylether	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
118-74-1	Hexachlorobenzene	14.		12.		2.	U	2.	U	2.	U	2.	U
87-86-5	Pentachlorophenol	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
85-01-8	Phenanthrene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
120-12-7	Anthracene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
86-74-8	Carbazole	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
84-74-2	Di-n-butylphthalate	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
206-44-0	Fluoranthene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
129-00-0	Pyrene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
85-68-7	Butylbenzylphthalate	3.	U	a.		3.	U	3.	U	3.	U	3.	U
91-94-1	3,3'-Dichlorobenzidine	9.	U	9.	U	9.	U	9.	U	9.	U	9.	U
56-55-3	Benzo(a)anthracene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
218-01-9	Chrysene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
117-84-0	Di-n-octyl phthalate	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
205-99-2	Benzo(b)fluoranthene	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
207-08-9	Benzo(k)fluoranthene	4.	U	4.	U	4.	U	4.	U	4.	U	4.	U
50-32-8	Benzo(a)pyrene	7.		5.		1.	U	1.	U	1.	U	1.	U
193-39-5	Indeno(1,2,3-cd)pyrene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53-70-3	Dibenz(a,h)anthracene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
191-24-2	Benzo(g,h,i)perylene	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

VOA													
	SAMPLE ID ------->	007-S-0001-01		007-S-0001-01 RE		007-C-0001-01		007-C-0001-01 RE		007-S-0001-07		007-S-0001-09	
	ORIGINAL ID ----->	007S000101		007S000101		007C000101		007C000101		007S000107		007S000109	
	LAB SAMPLE ID --->	5606-17		5606-17RE		5606-08		5606-08RE		5606-18		5606-19	
	ID FROM REPORT -->	007S000101		007S000101		007C000101		007C000101		007S000107		007S000109	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	04/10/96		04/11/96		04/11/96		04/11/96		04/11/96		04/11/96	
	DATE ANALYZED --->	04/10/96		04/10/96		04/10/96		04/10/96		04/10/96		04/10/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG	C	UG/KG	A	UG/KG	A	UG/KG	C	UG/KG	A	UG/KG	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL
74-97-5	Chlorobromomethane	0.1	UR	0.1	U	0.1	UJ	0.1	UR	0.1	U	0.1	U
74-87-3	Chloromethane	0.6	UR	0.6	U	0.6	UJ	0.6	UR	0.6	U	0.6	U
74-83-9	Bromomethane	1.	UR	1.	U	1.	UJ	1.	UR	1.	U	1.	U
75-01-4	Vinyl chloride	0.9	UR	0.9	U	0.9	UJ	0.9	UR	0.9	U	0.9	U
75-00-3	Chloroethane	0.3	UR	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.3	U
75-09-2	Methylene chloride	0.9	UR	0.9	U	0.9	UJ	0.9	UR	0.8	U	0.8	U
67-64-1	Acetone	1.	UR	1.	U	1.	UJ	1.	UR	8.	U	11.	U
75-15-0	Carbon disulfide	0.7	UR	0.7	U	0.7	UJ	0.7	UR	0.7	U	0.7	U
75-35-4	1,1-Dichloroethene	1.	UR	1.	U	1.	UJ	1.	UR	1.	U	1.	U
75-34-3	1,1-Dichloroethane	0.4	UR	0.4	U	0.4	UJ	0.4	UR	0.4	U	0.4	U
156-59-2	cis-1,2-Dichloroethene	0.3	UR	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.3	U
156-60-5	trans-1,2-Dichloroethene	0.3	UR	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.3	U
67-66-3	Chloroform	0.3	UR	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.3	U
107-06-2	1,2-Dichloroethane	0.5	UR	0.5	U	0.5	UJ	0.5	UR	0.5	U	0.5	U
78-93-3	2-Butanone (MEK)	2.	UR	2.	U	2.	UJ	2.	UR	2.	U	2.	U
71-55-6	1,1,1-Trichloroethane	0.4	UR	0.4	U	0.4	U	0.4	UR	0.4	U	0.4	U
56-23-5	Carbon tetrachloride	0.5	UR	0.5	U	0.5	U	0.5	UR	0.5	U	0.5	U
75-27-4	Bromodichloromethane	1.	UR	1.	U	1.	U	1.	UR	1.	U	1.	U
78-87-5	1,2-Dichloropropane	0.2	UR	0.2	U	0.2	U	0.2	UR	0.2	U	0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.3	UR	0.3	U	0.3	U	0.3	UR	0.3	U	0.3	U
79-01-6	Trichloroethene	0.8	UR	0.8	U	0.8	U	0.8	UR	0.8	U	0.8	U
124-48-1	Dibromochloromethane	0.5	UR	0.5	U	0.5	U	0.5	UR	0.5	U	0.5	U
79-00-5	1,1,2-Trichloroethane	0.3	UR	0.3	U	0.3	U	0.3	UR	0.3	U	0.3	U
71-43-2	Benzene	0.8	UR	0.8	U	0.8	U	0.8	UR	0.7	U	0.8	U
10061-02-6	trans-1,3-Dichloropropene	0.6	UR	0.6	U	0.6	U	0.6	UR	0.6	U	0.6	U
75-25-2	Bromoform	0.4	UR	0.4	U	0.4	U	0.4	UR	0.4	U	0.4	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.	UR	1.	U	1.	U	1.	UR	1.	U	1.	U
591-78-6	2-Hexanone	2.	UR	2.	U	2.	UJ	2.	UR	2.	U	2.	UJ
127-18-4	Tetrachloroethene	0.8	UR	0.8	U	0.8	UJ	0.8	UR	0.8	U	0.8	UJ
79-34-5	1,1,2,2-Tetrachloroethane	0.8	UR	0.8	U	0.8	UJ	0.8	UR	0.8	U	0.8	UJ
106-93-4	1,2-Dibromoethane	1.	UR	1.	U	1.	UJ	1.	UR	0.9	U	0.9	UJ
108-88-3	Toluene	0.3	UR	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.3	UJ
108-90-7	Chlorobenzene	0.2	UR	0.2	U	0.2	UJ	0.2	UR	0.2	U	0.2	UJ
100-41-4	Ethylbenzene	0.3	UR	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.3	UJ
100-42-5	Styrene	0.2	UR	0.2	U	0.2	UJ	0.2	UR	0.2	U	0.2	UJ
1330-20-7	Xylene (Total)	0.2	UR	0.2	U	0.2	UJ	0.2	UR	0.2	U	0.2	UJ

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

VOA													
	SAMPLE ID ------->	007-S-0001-01		007-S-0001-01 RE		007-C-0001-01		007-C-0001-01 RE		007-S-0001-07		007-S-0001-09	
	ORIGINAL ID ----->	007S000101		007S000101		007C00010 *		007C000101		007S000107		007S000109	
	LAB SAMPLE ID --->	5606-17		5606-17RE		5606-08		5606-08RE		5606-18		5606-19	
	ID FROM REPORT -->	007S000101		007S000101		007C000101		007C000101		007S000107		007S000109	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	04/10/96		04/11/96		04/11/96		04/11/96		04/11/96		04/11/96	
	DATE ANALYZED --->	04/10/96		04/10/96		04/10/96		04/10/96		04/10/96		04/10/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG	C	UG/KG	A	UG/KG	A	UG/KG	C	UG/KG	A	UG/KG	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL
541-73-1	1,3-Dichlorobenzene	0.5	UR	0.5	U	0.4	UJ	0.4	UR	0.4	U	0.4	UJ
106-46-7	1,4-Dichlorobenzene	0.2	UR	0.2	U	0.2	UJ	0.2	UR	0.2	U	0.2	UJ
95-50-1	1,2-Dichlorobenzene	0.4	UR	0.4	U	0.4	UJ	0.4	UR	0.4	U	0.4	UJ
96-12-8	1,2-Dibromo-3-Chloropropane	1.	UR	1.	U	1.	UJ	1.	UR	0.9	U	0.9	UJ

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

VOA													
	SAMPLE ID ------->	007-S-0002-01		007-S-0002-07		007-S-0003-01		007-S-0003-01 RE		007-S-0003-07		007-S-0004-01	
	ORIGINAL ID ----->	007S000201		007S000207		007S000301		007S000301		007S000307		007S000401	
	LAB SAMPLE ID --->	5606-20		5606-21		5606-22		5606-22RE		5606-23		5606-24	
	ID FROM REPORT -->	007S000201		007S000207		007S000301		007S000301		007S000307		007S000401	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	04/11/96		04/11/96		04/11/96		04/11/96		04/11/96		04/11/96	
	DATE ANALYZED --->	04/10/96		04/10/96		04/10/96		04/10/96		04/10/96		04/10/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	C	UG/KG	A	UG/KG	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL
74-97-5	Chlorobromomethane	0.1	UJ	0.1	U	0.1	UJ	0.1	UR	0.1	U	0.1	UJ
74-87-3	Chloromethane	0.6	UJ	0.6	U	0.6	UJ	0.6	UR	0.6	U	0.6	UJ
74-83-9	Bromomethane	1.	UJ	1.	U	1.	UJ	1.	UR	1.	U	1.	UJ
75-01-4	Vinyl chloride	0.9	UJ	0.9	U	0.9	UJ	0.9	UR	0.9	U	0.9	UJ
75-00-3	Chloroethane	0.3	UJ	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.3	UJ
75-09-2	Methylene chloride	0.9	UJ	0.9	U	0.9	UJ	0.9	UR	0.9	U	0.9	UJ
67-64-1	Acetone	9.	UJ	17.	U	1.	UJ	1.	UR	9.	U	1.	UJ
75-15-0	Carbon disulfide	0.7	UJ	0.7	U	0.7	UJ	0.7	UR	0.7	U	0.8	UJ
75-35-4	1,1-Dichloroethene	1.	UJ	1.	U	1.	UJ	1.	UR	1.	U	1.	UJ
75-34-3	1,1-Dichloroethane	0.4	UJ	0.4	U	0.4	UJ	0.4	UR	0.4	U	0.4	UJ
156-59-2	cis-1,2-Dichloroethene	0.3	UJ	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.4	UJ
156-60-5	trans-1,2-Dichloroethene	0.3	UJ	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.3	UJ
67-66-3	Chloroform	0.4	UJ	0.3	U	0.3	UJ	0.3	UR	0.3	U	0.4	UJ
107-06-2	1,2-Dichloroethano	0.5	UJ	0.5	U	0.5	UJ	0.5	UR	0.5	U	0.5	UJ
78-93-3	2-Butanone (MEK)	2.	UJ	2.	U	2.	UJ	2.	UR	2.	U	2.	UJ
71-55-6	1,1,1-Trichloroethane	0.4	UJ	0.4	U	0.4	U	0.4	UR	0.4	U	0.4	U
56-23-5	Carbon tetrachloride	0.5	UJ	0.5	U	0.5	U	0.5	UR	0.5	U	0.5	U
75-27-4	Bromodichloromethane	1.	UJ	1.	U	1.	U	1.	UR	1.	U	1.	U
78-87-5	1,2-Dichloropropane	0.2	UJ	0.2	U	0.2	U	0.2	UR	0.2	U	0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.3	UJ	0.3	U	0.3	U	0.3	UR	0.3	U	0.4	U
79-01-6	Trichloroethene	0.8	UJ	0.8	U	0.8	U	0.8	UR	0.8	U	0.8	U
124-48-1	Dibromochloromethane	0.5	UJ	0.5	U	0.5	U	0.5	UR	0.5	U	0.5	U
79-00-5	1,1,2-Trichloroethane	0.3	UJ	0.3	U	0.3	U	0.3	UR	0.3	U	0.3	U
71-43-2	Benzene	0.8	UJ	0.8	U	0.8	U	0.8	UR	0.8	U	0.8	U
10061-02-6	trans-1,3-Dichloropropene	0.6	UJ	0.6	U	0.6	U	0.6	UR	0.6	U	0.7	U
75-25-2	Bromoform	0.4	UJ	0.4	U	0.4	U	0.4	UR	0.4	U	0.4	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.	UJ	1.	U	1.	U	1.	UR	1.	U	1.	U
591-78-6	2-Hexanone	2.	UJ	2.	U	2.	UJ	2.	UR	2.	UJ	2.	UJ
127-18-4	Tetrachloroethene	0.8	UJ	0.8	U	0.8	UJ	0.8	UR	0.8	UJ	0.9	UJ
79-34-5	1,1,2,2-Tetrachloroethane	0.8	UJ	0.8	U	0.8	UJ	0.8	UR	0.8	UJ	0.8	UJ
106-93-4	1,2-Dibromoethane	1.	UJ	1.	U	1.	UJ	1.	UR	1.	UJ	1.	UJ
108-88-3	Toluene	0.3	UJ	0.3	U	0.3	UJ	0.3	UR	0.3	UJ	0.3	UJ
108-90-7	Chlorobenzene	0.2	UJ	0.2	U	0.2	UJ	0.2	UR	0.2	UJ	0.2	UJ
100-41-4	Ethylbenzene	0.3	UJ	0.3	U	0.3	UJ	0.3	UR	0.3	UJ	0.3	UJ
100-42-5	Styrene	0.2	UJ	0.2	U	0.2	UJ	0.2	UR	0.2	UJ	0.2	UJ
1330-20-7	Xylene (Total)	0.2	UJ	0.2	U	0.2	UJ	0.2	UR	0.2	UJ	0.2	UJ

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATE Y 7, SITE 7
Firefighting School

VOA													
	SAMPLE ID ------->	007-S-0002-01		007-S-0002-07		007-S-0003-01		007-S-0003-01 RE		007-S-0003-07		007-S-0004-01	
	ORIGINAL ID ----->	007S000201		007S000207		007S000301		007S000301		007S000307		007S000401	
	LAB SAMPLE ID --->	5606-20		5606-21		5606-22		5606-22RE		5606-23		5606-24	
	ID FROM REPORT -->	007S000201		007S000207		007S000301		007S000301		007S000307		007S000401	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		04/08/96		04/08/96		04/08/96	
	DATE EXTRACTED -->	04/11/96		04/11/96		04/11/96		04/11/96		04/11/96		04/11/96	
	DATE ANALYZED --->	04/10/96		04/10/96		04/10/96		04/10/96		04/10/96		04/10/96	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ---------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	C	UG/KG	A	UG/KG	
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE07	VAL
541-73-1	1,3-Dichlorobenzene	0.5	UJ	0.4	U	[illegible]	UJ	0.5	UR	0.4	UJ	0.5	UJ
106-46-7	1,4-Dichlorobenzene	0.2	J	0.2	U	[illegible]	UJ	0.2	UR	0.2	UJ	0.2	UJ
95-50-1	1,2-Dichlorobenzene	0.4	UJ	0.4	U	[illegible]	UJ	0.4	UR	0.4	UJ	0.4	UJ
96-12-8	1,2-Dibromo-3-Chloropropane	4.	J	1.	U	[illegible]	UJ	1.	UR	1.	UJ	1.	UJ

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

VOA													
	SAMPLE ID ------->	007-S-0004-01 RE		007-S-0004-07		007-T-B001-01		007-T-G001-01		007-G-GS01-01		007-G-GS02	
	ORIGINAL ID ----->	007S000401		007S000407		007TB00101		007TG00101		007GGS0101		007GGS0201	
	LAB SAMPLE ID --->	5606-24RE		5606-25		5606-26		5643-08RE		5643-04RE		5643-05	
	ID FROM REPORT -->	007S000401		007S000407		007TB00101		007TG00101		007GGS0101		007GGS0201	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		05/06/96		05/06/96		05/06/96	
	DATE EXTRACTED -->	04/11/96		04/11/96		04/11/96							
	DATE ANALYZED --->	04/10/96		04/10/96		04/10/96		05/08/96		05/08/96		05/07/96	
	MATRIX ---------->	Soil		Soil		Water		Water		Water		Water	
	UNITS ---------->	UG/KG	C	UG/KG	A	UG/L	B	UG/L		UG/L	A	UG/L	
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE7W		SITE7W	VAL	SITE7W	VA
74-97-5	Chlorobromomethane	0.1	UR	0.1	U	0.1	U	0.1		0.1	U	0.1	U
74-87-3	Chloromethane	0.6	UR	0.6	U	0.2	U	0.2		0.2	U	0.2	U
74-83-9	Bromomethane	1.	UR	1.	U	0.2	U	0.2		0.2	U	0.2	U
75-01-4	Vinyl chloride	0.9	UR	0.9	U	0.2	U	0.2		0.2	U	0.2	U
75-00-3	Chloroethane	0.3	UR	0.3	U	0.2	U	0.2		0.2	U	0.2	U
75-09-2	Methylene chloride	2.	UR	0.8	U	1.		1.		1.	U	1.	U
67-64-1	Acetone	1.	UR	16.	U	0.3	U	3.		0.3	UR	0.3	UR
75-15-0	Carbon disulfide	0.8	UR	0.7	U	0.3		0.2		0.2	U	0.2	U
75-35-4	1,1-Dichloroethene	1.	UR	1.	U	0.2	U	0.2		0.2	U	0.2	U
75-34-3	1,1-Dichloroethane	0.4	UR	0.4	U	0.1	U	0.1		0.1	U	0.1	U
156-59-2	cis-1,2-Dichloroethene	0.4	UR	0.3	U	0.3	U	0.3		0.3	U	0.3	U
156-60-5	trans-1,2-Dichloroethene	0.3	UR	0.3	U	0.3	U	0.3		0.3	U	0.3	U
67-66-3	Chloroform	0.4	UR	0.3	U	0.1		0.1		0.2	U	0.2	U
107-06-2	1,2-Dichloroethane	0.5	UR	0.5	U	0.1	U	0.1		0.1	U	0.1	U
78-93-3	2-Butanone (MEK)	2.	UR	2.	U	0.2	U	0.2		0.2	UR	0.2	UR
71-55-6	1,1,1-Trichloroethane	0.4	UR	0.4	U	0.1	U	0.1		0.1	U	0.1	U
56-23-5	Carbon tetrachloride	0.5	UR	0.5	U	0.2	U	0.2		0.2	U	0.2	U
75-27-4	Bromodichloromethane	1.	UR	1.	U	0.1	U	0.1		0.1	U	0.1	U
78-87-5	1,2-Dichloropropane	0.2	UR	0.2	U	0.2	U	0.2		0.2	U	0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.4	UR	0.3	U	0.1	U	0.1		0.1	U	0.1	U
79-01-6	Trichloroethene	0.8	UR	0.8	U	0.1	U	0.1		0.1	U	0.1	U
124-48-1	Dibromochloromethane	0.5	UR	0.5	U	0.3	U	0.3		0.3	U	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	UR	0.3	U	0.3	U	0.3		0.3	U	0.3	U
71-43-2	Benzene	1.	UR	0.7	U	0.1	U	0.1		0.1	U	0.1	U
10061-02-6	trans-1,3-Dichloropropene	0.7	UR	0.6	U	0.2	U	0.2		0.2	U	0.2	U
75-25-2	Bromoform	0.4	UR	0.4	U	0.2	U	0.2		0.2	U	0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.	UR	1.	U	0.2	U	0.2		0.2	U	0.2	U
591-78-6	2-Hexanone	2.	UR	2.	U	0.4	U	0.4		0.4	U	0.4	U
127-18-4	Tetrachloroethene	0.9	UR	0.8	U	0.2	U	0.2		0.2	U	0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.8	UR	0.8	U	0.2	U	0.2		0.2	U	0.2	U
106-93-4	1,2-Dibromoethane	1.	UR	0.9	U	0.6	U	0.6		0.6	U	0.6	U
108-88-3	Toluene	0.3	UR	0.3	U	0.1	U	0.1		0.1	U	0.1	U
108-90-7	Chlorobenzene	0.2	UR	0.2	U	0.1	U	0.1		0.1	U	0.1	U
100-41-4	Ethylbenzene	0.3	UR	0.3	U	0.1	U	0.1		0.1	U	0.1	U
100-42-5	Styrene	0.2	UR	0.2	U	0.1	U	0.1		0.1	U	0.1	U
1330-20-7	Xylene (Total)	0.2	UR	0.2	U	0.1	U	0.1		0.1	U	0.1	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

VOA													
	SAMPLE ID ------->	007-S-0004-01 RE		007-S-0004-07		007-T-B001-01		007-T-G001-01		007-G-GS01-01		007-G-GS02-01	
	ORIGINAL ID ----->	007S000401		007S000407		007TB00101		007TG00101		007GGS0101		007GGS0201	
	LAB SAMPLE ID --->	5606-24RE		5606-25		5606-26		5643-08RE		5643-04RE		5643-05	
	ID FROM REPORT -->	007S000401		007S000407		007TB00101		007TG00101		007GGS0101		007GGS0201	
	SAMPLE DATE ----->	04/08/96		04/08/96		04/08/96		05/06/96		05/06/96		05/06/96	
	DATE EXTRACTED -->	04/11/96		04/11/96		04/11/96							
	DATE ANALYZED --->	04/10/96		04/10/96		04/10/96		05/08/96		05/08/96		05/07/96	
	MATRIX ---------->	Soil		Soil		Water		Water		Water		Water	
	UNITS ---------->	UG/KG	C	UG/KG	A	UG/L	B	UG/L	B	UG/L	A	UG/L	A
CAS #	Parameter	SITE07	VAL	SITE07	VAL	SITE07	VAL	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL
541-73-1	1,3-Dichlorobenzene	0.5	UR	0.4	U	0.3	U	0.3	U	0.3	U	0.3	U
106-46-7	1,4-Dichlorobenzene	0.2	UR	0.2	U	0.4	U	0.4	U	0.4	U	0.4	U
95-50-1	1,2-Dichlorobenzene	0.4	UR	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.	UR	0.9	U	0.8	U	0.8	U	0.8	UR	0.8	UR

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

VOA															
	SAMPLE ID ------->	007-G-GS02-01 MS		007-G-GS02-01 MSD		007-G-GS03-01		007-G-GS04-01		007-T-S001-01		007-E-S001-01	
	ORIGINAL ID ----->	007GGS0201		007GGS0201		007GGS0301		007GGS0401		007TS00101		007ES00101	
	LAB SAMPLE ID --->	5643-05MS		4643-05MSD		5643-06		5643-07RE		5606-27		5606-11	
	ID FROM REPORT -->	007GGS0201		007GGS0201		007GGS0301		007GGS0401		007TS00101		007ES00101	
	SAMPLE DATE ----->	05/06/96		05/06/96		05/06/96		05/06/96		04/08/96		04/08/96	
	DATE EXTRACTED -->									04/11/96		04/10/96	
	DATE ANALYZED --->	05/07/96		05/07/96		05/07/96		05/08/96		04/10/96		04/10/96	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L	E	UG/L	E	UG/L	A	UG/L	A	UG/L	B	UG/L	B
CAS #	Parameter	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE07	VAL	SITE07	VAL
74-97-5	Chlorobromomethane	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
74-87-3	Chloromethane	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
74-83-9	Bromomethane	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
75-01-4	Vinyl chloride	5.		5.		0.2	U	0.2	U	0.2	U	0.2	U
75-00-3	Chloroethane	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
75-09-2	Methylene chloride	1.	U	1.	U	1.	U	1.	U	1.		1.	U
67-64-1	Acetone	0.3	U	0.3	U	0.3	UR	0.3	UR	3.		0.3	U
75-15-0	Carbon disulfide	0.2	U	0.2	U	0.2	U	0.2	U	0.5		0.2	U
75-35-4	1,1-Dichloroethene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
75-34-3	1,1-Dichloroethane	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
156-59-2	cis-1,2-Dichloroethene	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
156-60-5	trans-1,2-Dichloroethene	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
67-66-3	Chloroform	0.2		0.2		0.1	U	0.6	U	0.2		0.1	U
107-06-2	1,2-Dichloroethane	7.		6.		0.1	U	0.1	U	0.1	U	0.1	U
78-93-3	2-Butanone (MEK)	0.2	U	0.2	U	0.2	UR	0.2	UR	0.2	U	0.2	U
71-55-6	1,1,1-Trichloroethane	0.1	U		U	0.1	U	0.1	U	0.1	U	0.1	U
56-23-5	Carbon tetrachloride	5.		5.		0.2	U	0.2	U	0.2	U	0.2	U
75-27-4	Bromodichloromethane	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
78-87-5	1,2-Dichloropropane	5.		5.		0.2	U	0.2	U	0.2	U	0.2	U
10061-01-5	cis-1,3-Dichloropropene	5.		5.		0.1	U	0.1	U	0.1	U	0.1	U
79-01-6	Trichloroethene	5.		5.		0.1	U	0.1	U	0.1	U	0.1	U
124-48-1	Dibromochloromethane	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
79-00-5	1,1,2-Trichloroethane	5.		5.		0.3	U	0.3	U	0.3	U	0.3	U
71-43-2	Benzene	5.		5.		0.1	U	0.1	U	0.1	U	0.1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
75-25-2	Bromoform	5.		5.		0.2	U	0.2	U	0.2	U	0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
591-78-6	2-Hexanone	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
127-18-4	Tetrachloroethene	0.2	U	5.		0.2	U	0.2	U	0.2	U	0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
106-93-4	1,2-Dibromoethane	6.		6.		0.6	U	0.6	U	0.6	U	0.6	U
108-88-3	Toluene	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
108-90-7	Chlorobenzene	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
100-41-4	Ethylbenzene	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
100-42-5	Styrene	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1330-20-7	Xylene (Total)	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

VOA													
	SAMPLE ID ------->	007-G-GS02-01 MS		007-G-GS02-01 MSD		007-G-GS03-01		007-G-GS04-01		007-T-S001-01		007-E-S001-01	
	ORIGINAL ID ----->	007GGS0201		007GGS0201		007GGS0301		007GGS0401		007TS00101		007ES00101	
	LAB SAMPLE ID --->	5643-05MS		4643-05MSD		5643-06		5643-07RE		5606-27		5606-11	
	ID FROM REPORT -->	007GGS0201		007GGS0201		007GGS0301		007GGS0401		007TS00101		007ES00101	
	SAMPLE DATE ----->	05/06/96		05/06/96		05/06/96		05/06/96		04/08/96		04/08/96	
	DATE EXTRACTED -->									04/11/96		04/10/96	
	DATE ANALYZED --->	05/07/96		05/07/96		05/07/96		05/08/96		04/10/96		04/10/96	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L	E	UG/L	E	UG/L	A	UG/L	A	UG/L	II	UG/L	
CAS #	Parameter	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE7W	VAL	SITE07	VAL	SITE07	VAL
541-73-1	1,3-Dichlorobenzene	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
106-46-7	1,4-Dichlorobenzene	5.		5.		0.4	U	0.4	U	0.4	U	0.4	U
95-50-1	1,2-Dichlorobenzene	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.8	U	0.8	U	0.8	UR	0.8	UR	0.8	U	0.8	U

*** Validation Complete ***

NAVAL AIR STATION PENSACOLA
CATEGORY 7, SITE 7
Firefighting School

VOA

SAMPLE ID ------->	007-F-S001-01
ORIGINAL ID ----->	007FS00101
LAB SAMPLE ID --->	5606-15
ID FROM REPORT -->	007FS00101
SAMPLE DATE ----->	04/08/96
DATE EXTRACTED -->	04/10/96
DATE ANALYZED --->	04/10/96
MATRIX ---------->	Water
UNITS ---------->	UG/L B

CAS #	Parameter	SITE07	VAL
74-97-5	Chlorobromomethane	0.1	U
74-87-3	Chloromethane	0.5	
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl chloride	0.2	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene chloride	1.	U
67-64-1	Acetone	6.	
75-15-0	Carbon disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.2	U
75-34-3	1,1-Dichloroethane	0.1	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
156-60-5	trans-1,2-Dichloroethene	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone (MEK)	0.2	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carban tetrachloride	0.2	U
75-27-4	Bromodichloromethane	0.2	
78-87-5	1,2-Dichloropropane	0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.1	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
71-43-2	Benzene	0.1	U
10061-02-6	trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.2	U
591-78-6	2-Hexanone	0.4	U
127-18-4	Tetrachloroethene	0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
106-93-4	1,2-Dibromoethane	0.6	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.1	U
1330-20-7	Xylene (Total)	0.1	U

*** Validation Complete ***

NAVAL AIR STATION PE ACOLA
CATEGORY 7, SITE 7
Firefighting School

VOA

SAMPLE ID ------->	007-F-S001-01
ORIGINAL ID ----->	007FS00101
LAB SAMPLE ID --->	5606-15
ID FROM REPORT -->	007FS00101
SAMPLE DATE ----->	04/08/96
DATE EXTRACTED -->	04/10/96
DATE ANALYZED --->	04/10/96
MATRIX ---------->	Water
UNITS ---------->	UG/L B

CAS #	Parameter	SITE07	VAL
541-73-1	1,3-Dichlorobenzene	0.3	U
106-46-7	1,4-Dichlorobenzene	0.4	U
95-50-1	1,2-Dichlorobenzene	0.4	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.8	U

*** Validation Complete ***

Appendix F

Grain Size Analysis Results

1

MISC. INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

0075000207

Name: S-CUBED

Contract:

Lab Code: s3 Case No.: 0070-00038 SAS No.: SDG No.: SITE4/7

Lab Sample ID: 5606-21

Matrix (soil/water): SOIL

Level (low/med): LOW

Date Received: 04/09/96

% Solids: NA

CAS No.	Analyte	Dil Fact	Concentration	C	Q	M	Units
S-100		1.0		U		NA	
S-101	4.75mm to 2.00mm	1.0		U		NA	
S-102	2.00mm to 425um	1.0	43.9			G	
S-103	425um to 75um	1.0	55.8			G	
S-104	< 35 um	1.0	0.17			G	
S-105	% Recovery	1.0	99.9			G	%

Comments:

1

MISC. INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

007S000407

Lab Name: S-CUBED Contract:

Lab Code: s3 Case No.: 0070-00038 SAS No.: SDG No.: SITE4/7

Matrix (soil/water): SOIL Lab Sample ID: 5606-25

Level (low/med): LOW Date Received: 04/09/96

% Solids: NA

CAS No.	Analyte	Dil Fact.	Concentration	C	Q	M	Units
S-100	4.75mm	1.0		U		NA	%
S-101	4.75mm to 2.00mm	1.0	0.14			G	%
s-102	2.00mm to 425um	1.0	44.7			G	%
S-103	425um to 75um	1.0	54.5			G	%
S-104	< 75 um	1.0	0.36			G	%
S-105	% Recovery	1.0	99.7			G	%

Comments:

7

MAXWELL
S-CUBED

PROJECT: 0070-00038
ANALYST: LC
DATE: 4/18/96

GRAIN
SIZE
(D422)

SAMPLE ID.	INITIAL TARE (g)	WET WT. (g)	DRY WT. (g)	INITIAL WT. (g)	TOTAL WT. RECOVERY (g)	%REC (g)	CLIENT SAMPLE ID
5613-05	5.29	200.38	177.44	172.15	171.77	99.78	016S001004
5613-05REP	5.55	200.54	176.48	170.93	170.36	99.67	016S001004REP
5614-03	5.49	200.86	195.20	189.71	189.50	99.89	022S000107
5614-06	5.34	200.46	194.12	188.78	188.59	99.90	022S000207

MAXWELL
S-CUBED

PROJECT: 0070-00038
ANALYST: MM,CC
DATE: 4/8/96

GRAIN
SIZE
(D422)

SAMPLE ID.	INIMIAL TARE (g)	WET WT. (g)	DRY WT. (g)	INITIAL WT.(g)	TOTAL WT. RECOVERY(g)	%REC (g)	CLIENT SAMPLE ID
5602-03	5.46	200.04	191.72	186.26	185.85	99.78	008S000407
5602-07	5.54	201.13	190.00	184.46	183.87	99.68	008S000707
5606-04	5.52	200.14	184.51	178.99	178.31	99.62	00<S000206
5606-21	5.53	200.11	191.4	185.65	185.40	99.87	007S000207
5606-25	5.49	200.05	192.18	186.69	186.17	99.72	007S000407
5610-03	5.49	200.06	188.34	182.85	182.60	99.86	016S000104
5610-11	5.53	200.08	192.16	186.63	186.10	99.72	016S000607

MAXWELL
S-CUBED

PROJECT: 0070-00038
ANALYST: LC
DATE: 4/19/96

GRAIN SIZE
(D422)

SAMPLE ID	SAMPLE WT. (g)	REATER THA 4.75mm	BETWEEN .75 & 2.00m	BETWEEN 00mm & 425	BETWEEN 425 & 75um	MALLER THA 75um	TOTAL WT. ECOVERED	CLIENT SAMPLE ID
5613-05	172.15	0	0.41	64.59	100.72	6.05	171.77	016S001004
5613-05REP	170.93	0	0.82	63.48	99.95	6.11	170.36	016S001004REP
5614-03	189.71	0	2.06	91.65	95.17	0.62	189.50	022S000107
5614-06	188.78	0.59	0.20	74.26	112.97	0.57	188.59	022S000207

037 17

MAXWELL
S-CUBED

PROJECT: 0070-00038
ANALYST : LC
DATE: 4/18/96

GRAIN SIZE
(D422)

SAMPLE ID	SAMPLE WT. (g)	REATER THA 4.75mm	BETWEEN .75 & 2.00m	BETWEEN 00mm & 425	BETWEEN 425 & 75um	MALLER THA 75um	TOTAL WT. ECOVERED(	CLIENT SAMPLE ID
5602-03	186.26	0	0	55.11	129.76	0.98	185.85	008S000407
5602-07	184.46	2.57	5.74	47.04	127.19	1.33	183.87	008S000707
5606-04	178.99	0	0	40.31	136.73	1.27	178.31	004S000206
5606-21	185.65	0	0	81.57	103.51	0.32	185.40	007S000207
5606-25	186.69	0	0.26	83.48	101.76	0.67	186.17	007S000407
5610-03	182.85	0	0	79.14	99.94	3.52	182.60	016S000104
5610-11	186.63	0	0	37.28	147.06	1.76	186.10	016S000607

MAXWELL
S-CUBED

PROJECT: 0070-00038
ANALYST: LC
DATE: 4/19/96

GRAINSIZE
(D422)

SAMPLE ID	%Recovery Greater than 4.75mm	%Recovery Between 4.75 & 2.00mm	%Recovery Between .00mm & 425u	%Recovery Between 425 & 75um	%Recovery Smaller than 75um	Client Sample ID
5613-05	0.00	0.24	37.52	58.51	3.51	016S0ω1ωω4
5613-05REP	0.00	0.48	37.14	58.47	3.57	016S001004REP
5614-03	0.00	1.09	48.31	50.17	0.33	022S000107
5614-06	0.31	0.11	39.34	59.84	0.30	022S000207

T01-97-00-7401 CEMIC CORPORATION
'97 P15 JAN 10 '97 08:43
035 15

MAXWELL
S-CUBED

PROJECT: 0070-00038
ANALYST: LC
DATE: 4/18/96

GRAINSIZE
(D422)

SAMPLE ID	%Recovery Greater than 4.75mm	%Recovery Between 4.75 & 2.00mm	%Recovery Between 2.00mm & 425um	%Recovery Between 425 & 75um	%Recovery Smaller than 75um	Cliemt Sample ID
5602-03	0.00	0.00	29.59	69.67	0.53	008S000407
5602-07	1.39	3.11	25.50	68.95	0.72	008S000707
5606-04	0.00	0.00	22.52	76.39	0.71	004S000206
5606-21	0.00	0.00	43.94	55.76	0.17	007S000207
5606-25	0.00	0.14	44.72	54.51	0.36	007S000407
5610-03	0.00	0.00	43.28	54.66	1.93	016S000104
5610-11	0.00	0.00	19.98	78.80	0.94	016S000607

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