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NAS PENSACOLA
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REMEDIAL INVESTIGATION FOR COMPREHENSIVE LONG TERM ENVIRONMENTAL ACTION AT SITE 2 NAS PENSACOLA FL

12/22/1996

ENSAFE/ALLEN AND HOSHALL

REMEDIAL INVESTIGATION
SITE 2
NAVAL AIR STATION
PENSACOLA, FLORIDA

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NAVAL SUPPORT ACTIVITY
NAVAL AIR STATION
PENSACOLA, FLORIDA

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19. Abstract

A remedial investigation was conducted for Site 2, Pensacola Bay waterfront at the Naval Air Station (NAS) Pensacola. The purpose of this investigation was to identify the nature and extent of contaminants in surface waters and sediments, and groundwater influence, as a result of past disposal practices from shore-based facilities. The following summary and recommendations are based on the findings of this investigation.

- Historical records revealed that operations in facilities adjacent to Site 2 may have impacted the site from 1939 to 1973. These operations included painting, stripping, and cleaning airplanes, metal plating, and sanitary waste treatment. Wastes were discharged directly to Pensacola Bay at Site 2 via storm drains, trenches, and sanitary sewer outfalls. Other potential impacts to the site may have occurred from vessel operations at the pier and docking facilities in the immediate area.

- Analytical results show sediments in the northeast portion of the site to be contaminated with the heavy metals cadmium, copper, mercury, lead and zinc, in addition to organics such as polycyclic aromatic hydrocarbons, and pesticides and polychlorinated biphenyls. Four stations were elevated when compared to risk levels and relative bay concentrations.

- A second phase ecological risk assessment indicated that impacts likely are occuring to benthic communities at four of the ten locations selected for additional study. If impacts are occuring to nekton from contamination it would be difficult to quantify. Overall spatial impacts appear limited when compared to the site and adjacent bay areas.

- The human health risk associated with exposure to environmental media was assessed by modeling uptake potential of PAHs in crabs. From this model, a potential for exposure to humans was predicted. Crab sampling was undertaken to collect edible tissue for analyses and thereby calculate risk as a result of human exposure to crab tissue ingestion. Based on conservative exposure scenarios for crab consumption, risk levels were determined to be below levels of concern for contaminants of concern.

In conclusion, due to the moderate ecological impacts associated with contamination found within sediments at the site, a lack of contamination in overlying surface waters, and no risks expected from human consumption of shellfish found in the area, E/A&H recommends no further delineation or assessment for Site 2. It is further recommended that the site does warrant the detailed evaluation of remedial alternatives associated with a feasibility study.

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List of Acronyms

ARARs	Applicable and Appropriate Requirements
ASTM	American Society of Testing and Materials
bls	below land surface
BOD	biological oxygen demand
BTOC	Below top of casing
CDI	Chronic Daily Intake
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-term Environmental Action Navy
CLP	USEPA Contract Laboratory Program
COC	Chemicals of Concern
COD	Chemical oxygen demand
COPC	Chemicals of Potential Concern
CPSS	Chemicals Present in Site Samples
CRQL	Contract Required Qualifications Limits
CSAP	Comprehensive Sampling and Analysis Plan
DDT	Dichloro-Diphenyl-Trichlorethane
DI	Deionized
DO	Dissolved Oxygen
DOC	Dissolved Oxygen Content
DQO	Data Quality Objective
E/A&H	EnSafe/Allen & Hoshall
E&E	Ecology & Environment
EEQ	Environmental Effects Quotient
EIS	Environmental Impact Statement
EPC	Exposure Point Concentrations
ERA	Ecological Risk Assessment
FDA	Florida Department of Agriculture
FDEP	Florida Department of Environmental Protection
FGFWFC	Florida Game and Freshwater Fish Commission
FNAI	Florida Natural Areas Inventory
FS	Feasibility Study
gpd	Gallons per Day
G&M	Gerahty & Miller
gpm	Gallons per Minute
HEAST	Health Effects Assessment Summary Tables
HPC	Heterotrophic Plate Count
HI	Hazard Index
HQ	Hazard Quotient
ICP	Inductively Coupled Plasma
ICSA	Interference Check Sample Analysis

ID	Internal Diameter
ILCR	Incremental Lifetime Cancer Risk
IRIS	Integrated Risk Information System
IRP	Installation Restoration Program
IWTP	Industrial Water Treatment Plant
LCSA	Laboratory Control Sample Analysis
LWA	Lifetime Weighted Average
mg/kg	Milligrams/Kilogram
mg/L	Milligrams/Liter
ml	Milliliter
MS/MSD	Matrix Spike/Matrix Spike Duplicate
msl	Mean Sea Level
NACIP	Navy Assessment and Control of Installation Pollutants
NADEP	Naval Aviation Depot
NARF	Naval Air Rework Facilities
NAS	Naval Air Station
ND	Nondetect
NEESA	Naval Energy and Environmental Support Activity
NOAA	National Oceanic and Atmospheric Association
NSF	Non-Subsistence Fisherman (Scenario)
PAH	Polycyclic aromatic hydrocarbons
PCL	Practical Quantitation Limit
pH	Negative logarithm of the Hydrogen Ion Concentration
ppb	Parts per Billion
ppm	Parts per Million
PRC	Preliminary Risk Characterization
QA/QC	Quality Assurance/Quality Control
RBC	Risk-based Concentrations (see page 10-109 Risk-based residential COC screening concentrations
RDA	Recommended Daily Allowance
RfD	Reference Dose
RfDi	Inhalation Reference Dose
RfDo	Oral Reference Dose
RI	Remedial Investigation
RRF	Relative Response Factor
RSD	Relative Standard Deviation
RME	Reasonable Maximum Exposure
SAP	Sampling and Analysis Plan
SDG	Sample Delivery Group
SG	Specific Gravity
SF	Slope Factor
Sfi	inhalation slope factor
Sfo	oral slope factor
SOW	Statement of Work

SSC	Species of Specific Concern
SSV	Sediment Screening Metals
SVOCs	Semivolatile Organic Compounds
TAL	Target Analyte List
TCE	Trichloroethylene
TCL	Target Compound List
TICs	Tentatively Identified Compounds
TKN	Total Kjeldahl Nitrogen
tDDT	Total DDT
tPAH	Total Polycyclic Aromatic Hydrocarbons
TSS	Total Suspended Solids
TOC	Total Organic Compounds
ug/L	Micrograms/liter
UCL	Upper Confidence Level
USACE	United States Army Corps of Engineers
USCS	United Soil Classification System
USGS	United States Geological Survey
USEPA	United States Environment Protection Agency Region IV
USFWS	United States Fish and Wildlife Service
VTSR	Verified Time of Sample Receipt
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compounds

EXECUTIVE SUMMARY

This investigation's objectives were to identify the nature and extent of contamination in surface water and sediments, and to measure the influence of groundwater at Site 2 and determine risks to ecological and human receptors associated with identified contamination concentrations. The following sections summarize the findings and recommend remedial actions.

Historical records indicated that operations in facilities adjacent to Site 2 may have impacted the site from 1939 to 1973. These operations included painting, stripping, and cleaning airplanes, metal plating, and sanitary waste treatment. Industrial and sanitary wastes were discharged directly into Pensacola Bay at Site 2 via storm drains, trenches, and sewer outfalls. Other potential impacts may have occurred from vessel operations at the pier and docking facilities in the immediate area. Additionally, because of transport mechanisms characteristic of open bay systems such as Pensacola Bay, offsite sources may have impacted the site.

Sediment types across the site range from fine- to medium-grained sand, silty sand, and silty clays. A band of fine-grained sediment (clayey, silty sands to silty clays) extend from approximately 200 to 400 feet offshore. TOC values ranged from <0.01 to 0.22 percent; there was no apparent correlation between percent fine-grained sediment and TOC. Water depths across the site range from 3 to 27 feet.

The hydrodynamic regime of the area is characterized by tides, tidal currents, and waves. Tidal ranges are typically 2 feet or less but extreme tides may occur during storms. Tidal data collected in the area indicated that tides influence onshore groundwater flow characteristics, reversing the flow during high tide.

Sediment contamination was primarily in the northeast quadrant of the site. The metals cadmium, copper, lead, and zinc appear to be elevated when compared to natural concentrations. However, these elevated concentrations are not of a magnitude to indicate severe ecological risk to receptors in this marine habitat. Organic compounds including PAHs, pesticides, and PCBs were present, but limited distribution and overall concentrations do not indicate that risk to receptors is high or measurable. Overall, elevated concentrations along with a diverse mix of constituents indicates that four locations may be considered hotspots.

The human health risk and hazard associated with exposure to environmental media at NAS Pensacola Site 2 was assessed for hypothetical current and future (combined) child, and hypothetical current and future (combined) adult recreationists crabbing exclusively at Site 2. The uncertainty inherent in the risk assessment process is great, and the exposure assumptions are highly conservative. Based on the conservative exposure assumptions and inherent conservative nature of the risk assessment process, the calculations would be expected to overestimate risk to human receptors. No human health risks can be expected based on exposure scenarios developed for Site 2.

Effects to marine biota may have or are currently occurring as a result of sediment contaminant concentrations at some stations across Site 2. The impact of these effects to the overall marine ecosystem near Naval Air Station Pensacola would be difficult to measure. Benthic assemblages appear to have been altered at some stations as a result of higher chemical concentrations, but the limited spatial extent of these impacts may be imperceptible from a bay-wide perspective. Toxicity observed to fish and shrimp test organisms were from laboratory static-water test systems and therefore do not reflect potential mitigating effects from tidal mixing and water depth at Site 2. These two variables may reduce actual effects to indigenous biota.

It appears that use of the hazard quotient approach for risk assessment may be appropriate in conjunction with other ecological effects information. Although an HI of 10 for sediment contamination at Site 2 appears to indicate effects, this value may be inappropriate for other sites or ecosystem types.

It is recommended the a feasibility study be conducted to determine the most appropriate approach for dealing with the contaminated sediment.

1.0 INTRODUCTION

As part of the U.S. Navy Comprehensive Long-Term Environmental Action Navy (CLEAN) program, a Remedial Investigation (RI) was completed at Site 2, the waterfront area, at the Naval Air Station (NAS) Pensacola. The RI took place from July 15 to October 1994. Site 2 is adjacent to the NAS installation waterfront seaward of the historic seaplane tarmac.

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 of 1980 (CERCLA) program, which administers the investigation and cleanup of former hazardous waste sites. The RI report summarizes the activities, results, and conclusions of the investigation and provides the basis for a future feasibility study (FS) to be completed at the site. The objectives of the RI are outlined below.

- To determine the sources, nature, magnitude, and extent of any sediment, surface water, and groundwater contamination.
- To facilitate the evaluation of human health and ecological risk posed by contaminated media onsite through the baseline risk assessment (BRA) process.

1.1 Project Organization

The RI was organized into three parts. Previous reports in the administrative record and aerial photographs were first reviewed to sketch the site history and background. Next, preliminary field studies yielded data on total organic carbon (TOC) and grain-size distributions in sediments across the site to help characterize field conditions in the study area and identify areas of concern for subsequent full scan analytical sampling. Information on endemic biota within the site vicinity was obtained from previous agency and academic studies conducted on Pensacola Bay and the vicinity. Finally, the field investigation segment included: completion of monitoring wells; sampling of sediment, surface water, and groundwater for contamination and physical analysis;

and collection of crab tissue for assessment of health risk posed by contaminants found. Based on information produced during the Phase IIA assessment, a subsequent Phase IIB was conducted to determine potential effects to ecological receptors. This phase included sediment chemistry and toxicology along with benthic community analyses.

1.2 Purpose of Report

This RI report summarizes the activities, results, and conclusions of the investigation and provides the basis for determining if an FS will be completed at the site.

2.0 BACKGROUND INFORMATION

2.1 Site Description

Site 2 is on the southeastern shoreline of NAS Pensacola, along the Pensacola Bay waterfront (Figure 2-1). This site is the area of nearshore sediments along the southeast waterfront area, where numerous sewer outfalls are present. The southeast waterfront is dominated by a protective concrete seawall with several seaplane ramps, and it is adjacent to a large paved parking apron. The approximately 3- to 4-foot high seawall rests on a concrete platform. Fifty-six outfalls, ranging in diameter from 1 to 42 inches, were previously identified along the seawall (E&E, 1991). The seawall also accommodates numerous scuppers to drain surface water runoff from the adjacent parking areas. The waterfront outfalls begin near the McDonald's restaurant, and extend east to Allegheny Pier. Many of the outfalls discharged untreated industrial wastes into Pensacola Bay from 1939 to 1973, when NAS Pensacola's industrial wastestream was diverted to the Industrial Wastewater Treatment Plant (IWTP) (E&E, 1991, 1992a, 1992b).

Previous studies have described the bay sediments as fine sands to a water depth of 30 feet, with silty sands and muds in deeper parts of the ship channel (E&E, 1992a). However, relatively few sediment samples were collected in the immediate area of Site 2 before to this study.

2.2 Site History

From 1939 to 1973, untreated industrial wastes from the Naval Aviation Depot (NADEP) and the Naval Air Rework Facilities (NARF) operations were routinely discharged into Pensacola Bay, near Site 2. Approximately 83 million gallons of the following were disposed of in the bay: waste containing paint, paint solvents and thinners, ketones, trichloroethylene, Alodine, mercury, radium paint, and concentrated plating wastes (primarily chromium, cadmium, lead, nickel, and cyanide) (G&M, 1984).

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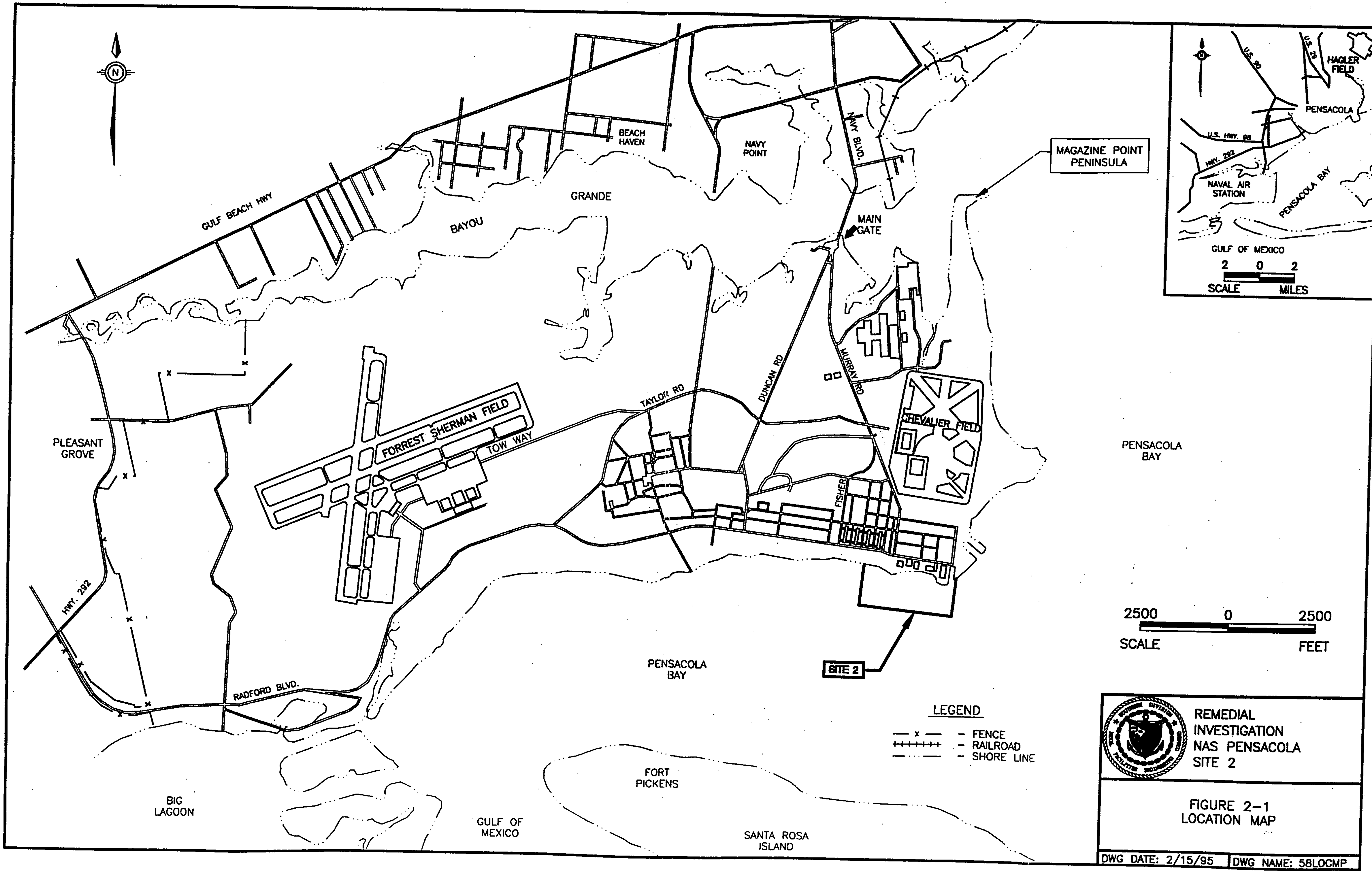

GULF BEACH HWY
BEACH HAVEN
NAVY POINT
NAVY BLVD.
GRANDE
BAYOU
MAIN GATE
MAGAZINE POINT PENINSULA
PLEASANT GROVE
FORREST SHERMAN FIELD
TOW WAY
TAYLOR RD
DUNCAN RD
MURRAY RD
CHEVALIER FIELD
FISHER
PENSACOLA BAY
HWY. 292
RADFORD BLVD.
SITE 2
BIG LAGOON
GULF OF MEXICO
FORT PICKENS
SANTA ROSA ISLAND
U.S. 90
U.S. 29
HAGLER FIELD
PENSACOLA
U.S. HWY. 98
HWY. 292
NAVAL AIR STATION
PENSACOLA BAY
GULF OF MEXICO
2 0 2
SCALE MILES
2500 0 2500
SCALE FEET
LEGEND
FENCE
RAILROAD
SHORE LINE
REMEDIAL INVESTIGATION
NAS PENSACOLA
SITE 2
FIGURE 2-1
LOCATION MAP
DWG DATE: 2/15/95
DWG NAME: 58LOCMP

Early environmental studies of Site 2 were conducted under the direction of the Navy Assessment and Control of Installation Pollutants (NACIP) Department (NEESA, 1983). Nearshore sediment samples were collected and analyzed using Extraction Procedure (EP) toxicity methods. Results of analysis showed that concentrations of lead and chromium in sediment exceeded screening levels.

Based on a 1984 study by Thompson Engineering and Testing, Inc. (TET), of the turning basin area sediments, grain-size varies from sandy silt/clayey silt with sand on the northeastern side of the turning basin, to fine sands and fine sands with silts on the southwestern side. Samples were also collected for laboratory analysis; no elevated concentrations of metals or PCBs were detected. However, the analytical methods were not approved for marine sediment analysis.

Also in 1984, Geraghty and Miller, Inc. (G&M), conducted a verification and characterization study at Site 2. During this study, six samples were collected approximately 300 feet offshore from the storm sewer outfalls, at approximately 30 feet. EP toxicity methods were used for analysis and it is thought that the arsenic values reported were from elutriate tests rather than derived through metal extraction methods.

The Navy conducted a 1986 study in support of an environmental impact statement (EIS) to investigate the feasibility of expanding the facilities at NAS Pensacola (E&E, 1992a). Water and sediment samples were collected in the turning basin and analyzed for heavy metals. Although methods recommended by the Florida Department of Environmental Regulation (now the Florida Department of Environmental Protection or FDEP) were employed, results for both media are suspect because incorrect analytical methods were used, and detection limits and laboratory quality assurance/quality control (QA/QC) data were not provided. Results suggest the presence of elevated concentrations of chromium and zinc in sediments.

To determine if sediments were enriched from anthropogenic sources of nitrogen, ratios of total Kjeldahl nitrogen (TKN) to TOC were examined during the Navy EIS study (E&E, 1992a). Although only one station, number 10, had ratios indicative of elevated nitrogen concentrations, the location of this station could not be determined from the referenced figure.

FDEP routinely collects sediment data from various areas across Pensacola Bay. Generally, elevated mercury concentrations have been present west and east of Site 2 along with higher lead concentrations east of the turning basin. Enriched sediment nitrogen concentrations were also observed at NAS Pensacola.

Previous studies near Site 2 indicate that sampling has been inadequate near the storm sewer outfalls. Heavy metal contamination of sediment appears to be a constant in all studies, but no clear source is indicated.

3.0 ENVIRONMENTAL SETTING

3.1 Physiography

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

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

3.2 Stratigraphy and Hydrogeology

3.2.1 Regional Characterization

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

Sand-and-Gravel Aquifer (Surficial Aquifer)

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

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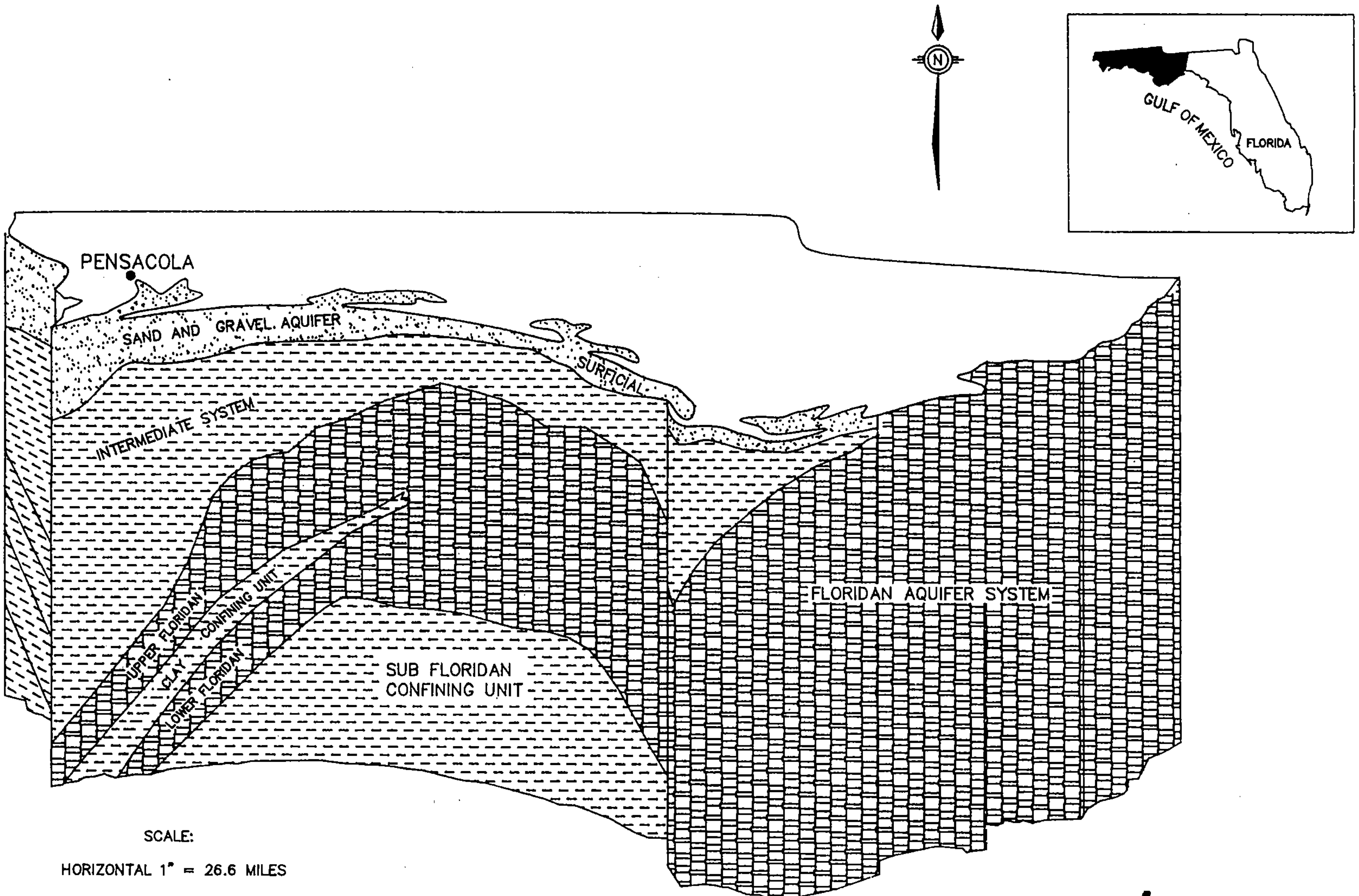

SCALE:

HORIZONTAL 1" = 26.6 MILES

VERTICAL 1" = 500 FEET

VERTICAL EXAGGERATION = 281

SOURCE: E&E 1992c.

REMEDIAL INVESTIGATION REPORT
SITE 2
NAS PENSACOLA

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

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Pleistocene-Holocene terrace deposits, the Pliocene Citronelle formation, and underlying Miocene coarse clastics (Wilkins et al., 1985). West of the Choctawhatchee River in northwest Florida, the Surficial Aquifer is referred to as the Sand-and-Gravel Aquifer, and is a major source of drinking water (SEGS 1986). The FDEP classification of the Surficial Aquifer is G-1 with a U.S. Environmental Protection Agency (USEPA) classification of IIA. Because the Sand-and-Gravel Aquifer is the uppermost unit contiguous with land surface and recharges 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 lower permeability zone, and the main producing zone (Wilkins et al., 1985). This investigation focuses on the upper (shallow depth) and basal (intermediate depth) portions of the surficial zone. A generalized cross section of the Sand-and-Gravel Aquifer produced by G&M (1984), as shown in Figure 3-2, illustrates the stratigraphic relationship of these zones.

Surficial Zone

The surficial zone is contiguous with land surface and contains groundwater under water table or perched conditions. At NAS Pensacola, the surficial zone is approximately 40 to 60 feet thick and is generally composed of a poorly graded quartz sand (G&M, 1984, 1986). Beneath the western side of the base, a substantial stratum of sand with abundant organic matter occurs within the zone and pinches out to the east. Depth to groundwater ranges from 0 to 20 feet, depending on ground surface elevation. Aquifer tests have yielded high hydraulic conductivities, on the order of 10^{+1} to 10^{+2} feet/day (E&E, 1990). The lower contact with the low-permeability zone is transitional, resulting in increased clay content in the lower portion of the surficial zone proper. This more clayey zone is thicker (on the order of 5 to 15 feet thick) to the west, and thins to the east. This increased clay content in the transition from surficial to the low-permeability zone is responsible for lower hydraulic conductivities measured in the base of the surficial zone.

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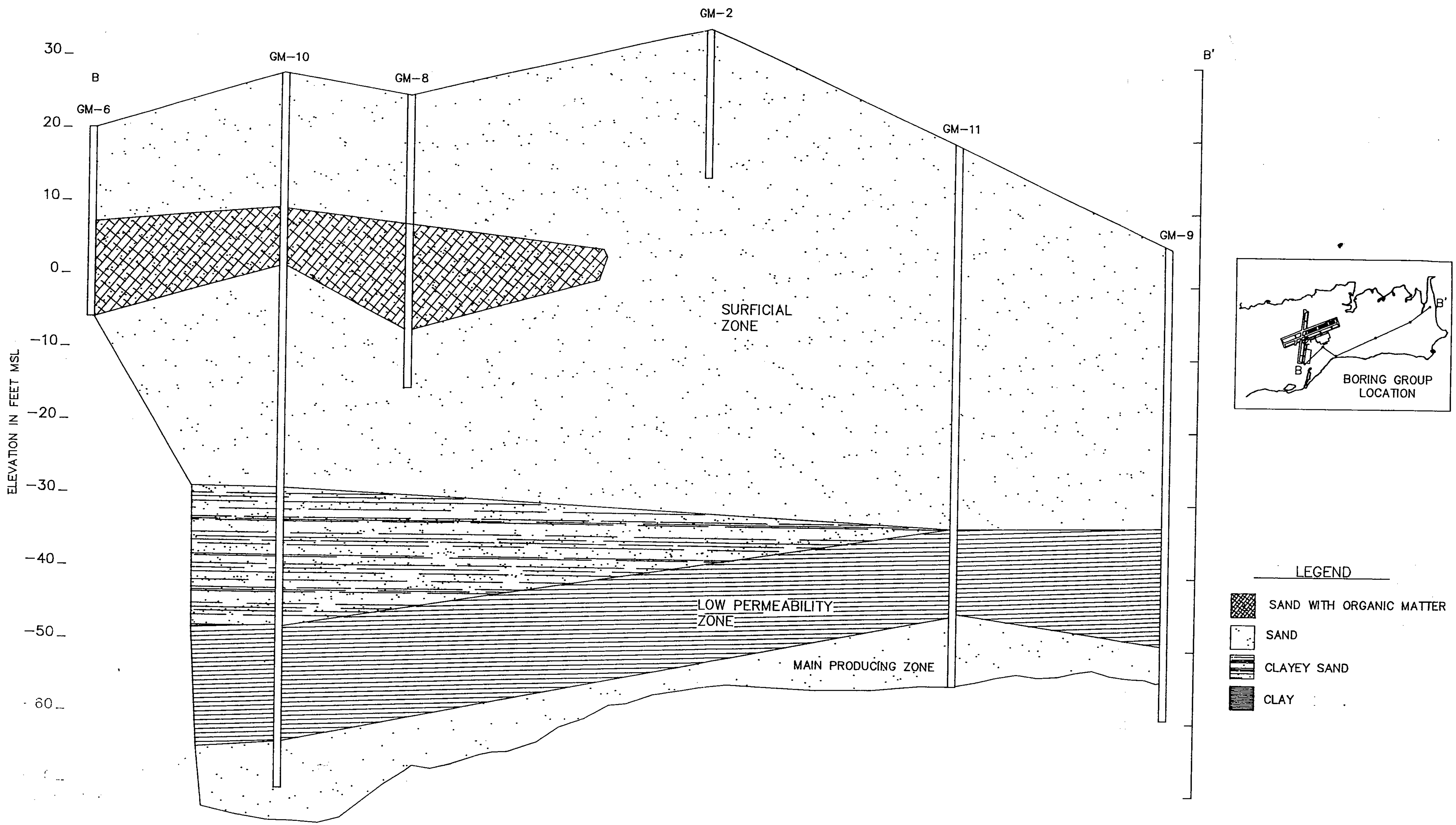

SOURCE: GERAGHTY & MILLER, 1986

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

DATE: 02/21/95 | DWG NAME: 59SITCS1

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

Low-Permeability Zone

The low-permeability zone underlying the surficial zone is characterized by clay and silt-sized sediments. At NAS Pensacola, this zone comprises gray to blue, sandy and silty marine clay with some shell fragments and clayey sands, from 8 to 40 feet thick (G&M, 1984, 1986). The upper contact is transitional with the overlying surficial zone; however, the top of the low-permeability zone is marked by the first occurrence of a stiff blue-gray clay. Studies at NAS Pensacola indicate the low-permeability zone is continuous beneath the air station, given that the limited number of borings completed to the appropriate depth encountered the clays and silty clays. Hydraulic conductivities of the low-permeability zone are much lower than the overlying surficial zone, ranging between the orders of 10^{-4} feet/day for clays and 10^{+0} feet/day for clayey sands (G&M, 1986). Hence, the low-permeability zone acts as a confining or semiconfining layer to inhibit groundwater flow between the overlying surficial and underlying main producing zone.

Main Producing Zone

The main producing zone underlies the low-permeability zone and makes up 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 it is estimated to be approximately 300 feet thick at NAS Pensacola. Of the three zones in the Sand-and-Gravel Aquifer, this one is generally the most permeable and is the principal source of water supply for the Pensacola area (Wilkins et al., 1985). Groundwater in this zone generally is confined, and in southern Escambia County, it recharges primarily by leakage through the low-permeability zone supplemented by direct recharge in the northern parts of the county, where it is present at the surface. Regional groundwater flows generally east toward Pensacola Bay and south toward the Gulf of Mexico. Three supply wells at NAS Pensacola produce water from this zone; however, they are used only as a supplement to the base water supply and for fire protection due to its high iron content (G&M, 1984, 1986). For potable water, NAS Pensacola depends on an offsite water source provided from main producing zone wells at Corry Field, approximately three miles to the north.

Intermediate System

The Intermediate System, a regionally and vertically extensive, laterally persistent hydrologic unit, underlies the Surficial/Sand-and-Gravel Aquifer. The system is composed 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. Near NAS Pensacola, depth to the top of the unit is approximately 300 feet, with a thickness of approximately 1,100 feet (Wilkins et al., 1985, SEGS, 1986). The system is regionally characterized by poor to non-water-bearing conditions. Permeabilities are much lower than those of the overlying Sand-and-Gravel Aquifer and the underlying Floridan Aquifer System. 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 approximately 1,400 feet deep in the NAS Pensacola area. The unit is composed predominantly of limestone, but is separated into upper and lower units by a significant clay layer called the Bucatunna Clay (see Figure 3-1). Groundwater within the Floridan System is highly mineralized near NAS Pensacola and is not used for water supply (Wagner et al., 1984). However, groundwater from the Upper Floridan Aquifer is used for water supply as close as approximately 25 miles east of NAS Pensacola.

3.2.2 Site-Specific Stratigraphy and Hydrogeology

Stratigraphic and hydrogeologic investigations of the onshore area at Site 2 were performed only to preliminarily assess the groundwater-surface water interaction. Because no wells were installed in the Site 2 waterfront area prior to this investigation, no data were available on the area's stratigraphy and hydrogeology. Additional information on the stratigraphy and hydrology of the waterfront area at Site 2 can be found in the report for Site 38 RI (E/A&H, 1994a), which is being investigated at the same time as Site 2 Borings completed in this investigation were limited to the surficial sediments of the Sand-and-Gravel Aquifer. The surficial zone is composed primarily of light gray to gray to dark brown fine- to medium-grained quartz sand extending approximately 35 feet deep. According to borings from the Site 38 RI (E/A&H, 1994a), the surficial zone is approximately 42 feet thick. The surficial zone is underlain by a low-permeability zone comprising gray to dark gray, clay and silty, sandy clay, containing seams of fine- to coarse-grained sand, and shell and wood fragments. The low-permeability zone varies from approximately 2 to 12 feet thick (E/A&H, 1994a).

Because only two wells were installed and used as part of the Site 2 investigation, the shallow groundwater flow in the waterfront area could not be accurately assessed. However, using these and the wells installed at Site 38 (Building 71), it was determined that groundwater flow in this area is generally to the south toward Pensacola Bay. Depth to groundwater measured in site wells varies depending on tidal influence and ground surface elevation. Site hydrology is discussed in Section 6.3 of this report.

3.3 Ecological Setting

3.3.1 Regional Setting

The Florida Panhandle contains a wide variety of surface waters and physiographic regions, leading to an ecological diversity found in few other areas of the United States. Watersheds of the panhandle support a diverse array of habitats and vegetative communities. Bottomland hardwoods predominate in river floodplains, and pines mixed with a variety of other shrubs prevail in upland areas. Wetlands are prevalent along the coastal fringe and river floodplains.

Barrier islands support dune vegetation communities and salt marshes. Bays support seagrass meadows, and oyster reefs are prevalent in intertidal and subtidal areas (Wolfe et al., 1988).

Seven major rivers in the region discharge into seven bar-built estuaries formed at their mouths. 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 Florida peninsular species are also distributed there. Due to the wet temperate climate of the region, the panhandle area may support the highest diversity of species of any other similar-size territory in the U.S. (Wolfe et al., 1988).

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 (Wolfe et al., 1988).

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

3.3.2 NAS Pensacola Setting

NAS Pensacola, which occupies approximately 5,800 acres, is bounded by Bayou Grande to the north and Pensacola Bay to the east and south. On the west, the installation abuts to a less developed portion of Escambia County with 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, widely varied aquatic and terrestrial habitats, from coastal strand and estuarine environments along the bay and bayou to inland pine flatwoods 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 otherwise return to a more 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 flatwoods communities are short, with a wide variety of small shrubs and herbaceous plants in the understory. Hardwood/pine communities are a highly diverse mixture of hardwood trees and pines. Sand pine scrub communities on well-drained sandy soils contain sand pines, oaks, and various shrubs. Bay swamps are wetlands with titi and cypress swamps identified by 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 facility. 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 C of the Group A work plan lists the rare, threatened, and endangered species that may be found within NAS Pensacola boundaries (E&E, 1992c). E/A&H investigations of different areas of NAS Pensacola thus far have identified the presence of osprey, great blue heron (as well as other shorebirds), alligator snapping turtle, Godfrey's golden aster, Carolina lilaeopsis, white-top pitcher plant, and spoon-leaved sundew. All are considered rare or endangered for Escambia County, Florida, by the Florida Natural Areas Inventory (FNAI, 1988).

3.4 Bay Characteristics

The Pensacola Bay System (PB) receives water from four major rivers: the Escambia, Yellow, Blackwater, and East Bay. These rivers and their associated drainage basins form an approximately 6,700-square-mile drainage area for the PB system. This extensive drainage and tributary system encompasses parts of northwest Florida and extends into southern Alabama (Olinger et al., 1975 and Collard, 1991). Primarily located in Escambia County, the Pensacola Bay occupies approximately 52 square miles of surface area (Olinger et al., 1975). Approximately 11 miles of Pensacola Bay coastline borders NAS Pensacola property. Near NAS

Pensacola, Pensacola Bay receives waters from Bayous Chico and Grande. The mean depth of Pensacola Bay is approximately 19.5 feet.

Collard (1991) stated "the PB system is a mosaic of different types of estuaries whose characteristics change with river flow, seasons, tides, and the chronic and episodic activities and influences of man." Using a system classifying estuaries based on predominant tidal ranges, the PBS best fits the definition of a microtidal estuary system (Collard, 1991). In this system, tides range from 0 to 6 feet high and tidal currents assume importance only at the mouth of the system and at inlets (bayous). Coarse sediments are found in the mouths of rivers and deltas in this type of system, while finer silts and clays are transported to its deeper central portions. Sediment transport occurs mainly by wind-driven, storm-driven, and/or induced currents or waves (Collard, 1991). Since its sediments are derived from rivers, PB system can be classified as a "positive-filled" estuary (Collard, 1991). Salinity within the PBS ranges from 0.5 parts per thousand (ppt) near the tributary rivers to approximately 40 ppt at the mouth of the system (Collard, 1991). Pensacola Bay, adjacent to the mouth of the system, is characterized by the higher salinity of this range. Olinger et al. (1975) found that mean temperature extremes in Pensacola Bay ranged from approximately 16°C in February to 28°C in August.

The PB system has supported commercial and recreational fishing activities since the 1800s. Presently, and throughout most of this century, this water system has been heavily used for commercial shipping and recreational boating. In recent decades, these and other area industrial, agricultural, forest-clearing, domestic source, and trawling activities have increased sediment loads into the system (Collard, 1991). A sedimentation problem, at least partially attributable to these activities, has developed in the PBS where fine-grained sediments have been retained in the system and cover an estimated 70 percent of the bay system's bottom. These sediments tend to trap certain types of pollutants, including synthetic organic compounds and trace metals (Collard, 1991).

Pensacola Bay is dredged periodically to provide a navigable channel for naval and commercial shipping. Dredging projects in Pensacola Bay have been performed by the United States Army Corps of Engineers (USACE), Mobile District, since the turn of the century as authorized by the River and Harbor Acts of 1902, 1935, 1937, and 1962 (NWFMD, 1990). Dredging activities associated with these acts were completed in May 1965, providing an entrance channel from the Gulf of Mexico into the lower Pensacola Bay, a bay channel, an inner-harbor channel, two parallel approach channels to opposite ends of the inner-harbor channel, an approach channel to the south of Muscogee Wharf (immediately southeast of Pensacola), an entrance channel into Bayou Chico, and a turning basin within Bayou Chico (NWFMD, 1990). Since approximately 1973, few dredging activities have occurred in the bay to significantly change existing channels or make new ones. During the past 20 years, Pensacola Bay has been dredged every three to four years to maintain established channel dimensions (USACE, 1992). The most recent significant dredging project was a modification to the NAS Pensacola aircraft carrier turning basin to accommodate the USS Forrestal. This project began in 1988 and lasted about three years.

3.5 Climate

NAS Pensacola has a mild, subtropical climate, with average annual temperatures ranging from 55°F in the winter to 81°F in the summer. Daily temperatures can be more extreme, ranging from less than 7°F in the winter to more than 102°F in the summer. Thunderstorms, which occur on approximately half the summer days, can cause a precipitous drop in temperature of 10 to 20 degrees in a matter of minutes (E&E, 1992c).

November is the driest month of the year, with an average rainfall of 3.2 inches, based on climatological data from 1962 to 1991. Annual rainfall averages approximately 60 inches, with the highest amounts in July and August 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, 1992c).

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, six hurricanes have passed within 50 miles of Pensacola.

3.6 Site-Specific Ecological Resources

Pensacola Bay, in the vicinity of Site 2, is considered a lower estuarine environment characterized by irregular tidal flushing and polyhaline to euhaline salinities (Collard, 1991). A master species list compiled by Collard (1991) for the PBS, from literature collected over 35 years, included more than 400 species, consisting primarily of sessile macroinfauna taxa. Some of the species on the list may have since emigrated or become locally extinct due to changing conditions in the bay. Species diversity is comparatively low compared to the cumulative record, with most individual sampling programs yielding only four to 28 species (E&E, 1992b).

Although species diversity is relatively low in Pensacola Bay, the Bay supports a significant variety of ecological communities. It provides habitat, including critical nursery areas for many commercially and recreationally important fish, crustacean, and shellfish species. In addition, the bay contains ecologically important habitats, namely seagrass beds and oyster reefs. These areas are more diverse and productive than other estuarine habitats.

In the soft bottom benthic communities of lower Pensacola Bay, the dominant species are tubiculous, surface deposit-feeding polychaetes (*Aricidea* spp., *Capitella* spp.) various spionids, (*Haploscoloplos* spp.), amphipods, and small suspension-feeding bivalve mollusks (*Anodontia* *alba* and *Tellina* spp.). Gastropods, hermit crabs, ctenophores, algae, sponges, bryozoans, and barnacles are also present in Pensacola Bay. Few individual species are abundant, although more species representing different trophic levels are present in higher-salinity water in the lower bay than in other parts of the estuary. Overall species abundance is greater in winter than in other seasons (Collard, 1991).

Information on ichthyofauna is generally limited to species of recreational or commercial importance. Based on landing statistics, 21 species or species groups compose the majority of game or commercially caught fish from Pensacola Bay (Collard, 1991). Species diversity is greatest in more saline waters near NAS Pensacola during spring and summer. The number of individuals peak at various periods throughout the summer (Cooley, 1978). Menhaden and striped mullet are the two most important target species of Pensacola Bay fisheries (Collard, 1991). Other abundant species in Pensacola Bay, not of major commercial or recreational importance, include pinfish *Lagodon rhombiodes*, bay anchovy *Anchoa mitchelli*, longspine porgy *Stenotomus caprinus*, silver perch *Bairdiella chrysoura*, southern hake *Urophycis floridanus*, inshore lizardfish *Synodus foetens*, and spotted hake *Urophycis regius* (Cooley, 1978).

Other commercially harvested species include blue crabs *Callinectes sapidus*, stone crabs *Menippe mercenaria, M. adina* and hybrids, shrimp *Penaeus aztecus, P. setiferus*, and *P. duorarum*, oysters *Crassostrea virginica*, scallops *Argopecten irradians* and squid *Loligunculus* spp. The distribution and abundance of these species is mainly determined by their salinity preference. The area of Pensacola Bay in the vicinity of Site 2 is permanently closed to oyster harvesting due to the effluent outfall of the City of Pensacola main sewage treatment plant being only three miles northeast from NAS Pensacola. Scallops are found principally in seagrass beds in Santa Rosa Sound and Big Lagoon (Collard, 1991).

Seagrass beds, once an abundant habitat throughout Pensacola Bay, no longer occur in the lower reaches of the bay (Collard, 1991). The nearest seagrass beds to Site 2 are in Big Lagoon along the southwest portion of the base.

Terrestrial or semiterrestrial animals feeding on aquatic biota from Pensacola Bay include ghost crabs *Ocyopode* spp., common along sandy shorelines of Magazine Point, and various shore birds. Birds are among the highest-level consumers in the Pensacola Bay ecosystem. Many of these species prey exclusively on fish and aquatic organisms, whereas others may also consume terrestrial fauna.

Table 3-1 provides information on threatened and endangered species which could likely occur within the vicinity of Site 2. Atlantic bottlenose dolphin *Tursiops truncatus* occur regularly in bay waters surrounding Site 2. In addition, brown pelicans *Pelicanus occidentalis* are very common to the area.

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

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

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

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

Source: Ecology and Environment, Inc., 1992c after Florida Natural Areas Inventory 1988.

Key:
a = Status of species on the NAS Pensacola facility:
R = Resident
M = Migrant
P = Possible resident due to available habitat; survey required
U = Unknown; survey required
SSC = Species of Special Concern
b = State and Federal Status:
E = Endangered
T = Threatened

AC = Agency concern: not currently listed or a candidate for listing
UR 2 = Under review, insufficient biological data available
NOAA = National Oceanic and Atmospheric Association
FDA = Florida Department of Agriculture
FGFWFC = Florida Game and Freshwater Fish Commission
USFWS = U. S. Fish and Wildlife Service

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4.0 PRELIMINARY SURVEY

4.1 Document Review

Before conducting the site survey, reports of previous investigations (sediment assessment and contaminant assessment sampling) were reviewed. Documents from each investigation discussed in Section 2.2 were reviewed to provide background information. These reports include NEESA (1983), TET (1984), G&M (1984), and Ecology and Environment, Inc. (E&E, 1992a). In addition to these site-specific studies, reports by the FDER, which routinely collects data from Pensacola Bay, were also reviewed.

Other reports reviewed included environmental documents for buildings near Site 2 that may have had an environmental impact on the site. For example, information collected for development of a work plan for Site 38 (Building 71) provided details on activities at the site which, most likely, related to contamination at Site 2 (E&E, 1992d).

A review of historical engineering drawings and utility maps for NAS Pensacola showed drainage systems and discharge pipes along the seawall at Site 2. Site-specific building plans for facilities near Site 2 were also evaluated to identify drainage systems associated with activities that could have impacted the site.

4.2 Aerial Photography

Before initiating fieldwork, available aerial photographs were examined to identify any features, events, or conditions that may aid in directing the investigative approach. Evaluation of aerial photographs of the southeastern portion of NAS Pensacola from 1951 to 1992 provided only limited information on specific discharge zones across the site. Review of photographs from 1958 and 1989 indicated possible discharge plumes at Site 2. The 1958 photo shows a plume extending bayward from the area of Building 71. Several plumes identified on the 1989 photograph appear to be from storm water discharge or possibly sediment entrained in the apparent falling (ebb) tidal currents. Based on discussions with NADEP employees working in shops along the Site 2 waterfront, aerial photographs exist showing bright green plumes of Alodine (phosphorescent dye) discharging into Pensacola Bay near Building 71. These photographs were not found.

Many of the buildings near Site 2 were constructed in the 1920s and 1930s before the earliest available aerial photography. Although activities have changed at these facilities, development along the seawall has remained virtually the same since their construction. Aerial photographs helped identify longshore drift and the effects of tidal flow across the site. Observations made during the aerial photograph review were consistent with the findings of E&E's (1991) aerial photograph analysis from the Phase I investigation of Site 2.

4.3 Site Reconnaissance

In July 1993, a shore-based physical reconnaissance of Site 2 was conducted before the beginning of field activities. The objective of the reconnaissance was to provide the investigators with a general overview of site characteristics and physical attributes that could be critical to sampling and remedial investigation efforts.

Initially, the buildings along the waterfront were surveyed to identify or confirm the activities within them based on previous reports. Secondly, a survey of the drainage and sewer systems associated with each building, active and inactive, was completed to identify the source of outfalls discharging at Site 2. Lastly, the nearshore area was surveyed to identify types of bottom sediments, hydrographic conditions, and marine biota and flora.

4.3.1 Facility Survey

Facilities identified as potentially having an environmental impact on Site 2 are along the seawall adjacent to the site, including Facilities 177, 146, 38, 44, 26, 104, 71, 72, 73, 27, 74, 75, and

76 (Figure 4-1). Building 604 also was included in the survey because, historically, its wastestreams were discharged at Site 2.

Facility 146 houses the offices for the Navy Port Operations, which operates and services the boats in the boat basin, Facility 177. Several boats, 25 to 60 feet in length, are located in the basin and are maintained and refueled in this area. A fuel pump island supplied by an underground storage tank is east of Building 146. No information was found on the age or condition of the tank; however, personnel in Port Operations indicated it had recently been replaced and was equipped with leak detection equipment. A grassy area to the east of the facility showed signs of small spills from refueling vessels.

Facility 38 also houses Port Operations. Large bays in the building are used to maintain small boats. Shop areas and office space are in the facility. Before Port Operations moved there, the building was a machine shop for the NADEP. Sheet metal, carpentry, and welding shops were in the building during this timeframe. According to engineering drawings in Facility 44, Building 38 was built in 1882. The area surrounding the facility is paved with concrete and asphalt. No current impact on Site 2 was identified. Facility 38a was used to maintain industrial instruments.

Facility 44, built in 1906, currently houses a machine shop and small tool repair shop for NADEP and has been in operation for the past 30 years. Prior to the early 1960s, the facility also served as a motorpool for NADEP vehicles. A paint booth was in the eastern part of the building in the early 1960s. An exact date when painting operations ceased was not determined.

Facility 26 was constructed in 1882 as a blacksmith shop and is currently a foundry for NADEP. According to shop personnel in Facility 44, the foundry is still operational. At the time of the survey, no foundry operations were under way and the facility appeared to be used for storage.

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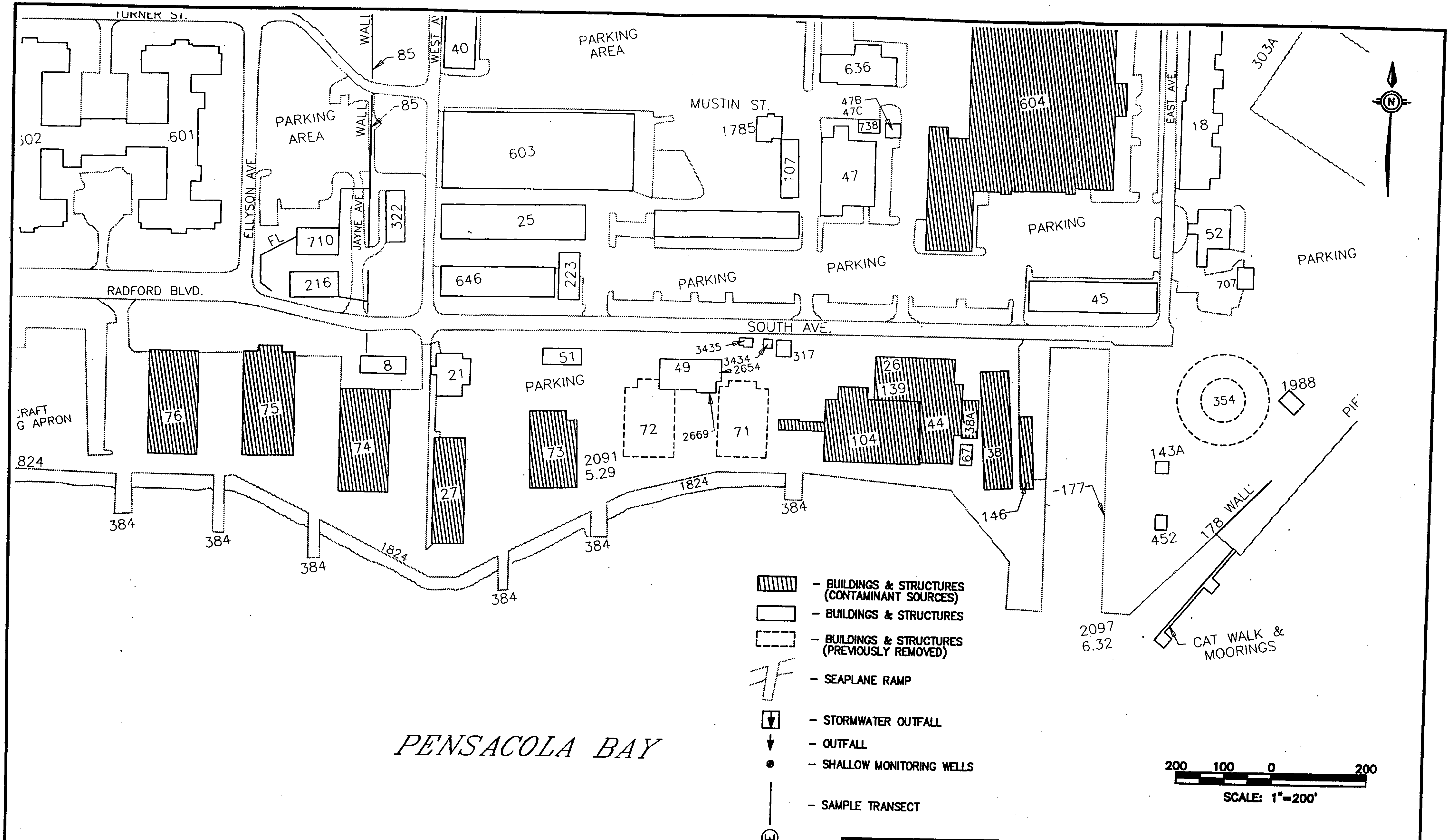

REMEDIAL INVESTIGATION
SITE 2
NAS-PENSACOLA
PENSACOLA, FLORIDA

FIGURE 4-1
FACILITIES ADJACENT TO SITE 2

DWG DATE:	1/24/95	DWG NAME:	58FACIL

Facility 104 was constructed as an seaplane aircraft hangar and is currently a Navy Exchange warehouse where large appliances, motor oil, and other bulk items are stored. At the time of the initial survey, the warehouse was operated by the Navy Commissary. In the 1960s the facility was a sheet metal shop. Aircraft paint stripping operations were conducted in the facility before its use for sheet metal operations.

Facility 71 was constructed as a seaplane aircraft hangar and later converted to an aircraft paint and stripping facility. The building has also been used as a hazardous waste storage area. At the time of the site survey, the facility was scheduled for demolition and was vacant. Several drainage trenches used in past operations were observed running parallel with the seawall. These drains connected with three drainage trenches that led to sediment traps and then to drainage lines that exited through outfalls south of the facility (see Figure 4-1). Another drainage line observed on the east side of the building was traced to the outfall along the seawall. The paved area around the building contained assorted construction debris. During the sediment assessment phase (August-September 1993) of the fieldwork, Building 71 was demolished.

Building 72 was also an aircraft hangar later converted to an aircraft painting and stripping facility. During the survey, the building was vacant. One drainage trench was observed exiting the south end of the building and entering a sediment trap which led via a drain line to the bay. The area surrounding the building was paved with concrete.

Building 73 was constructed as an aircraft hangar and converted into a chromatizing facility in the late 1940s. During the survey, the building served as storage, possibly for the Navy moving company. A large drainage trench identified on facility maps was observed during the survey. The trench ran parallel to the seawall and exited the building on the east and west side into drains that led to outfalls in the seawall. Another drain was observed on the west side incorporating two sediment traps and leading to an outfall in the seawall. The area surrounding the facility was paved with concrete.

Building 27 currently houses the Navy Exchange. Historically, paint spray operations took place in the northeast corner of the facility. Two drainage outfalls of unknown origin were observed south of Building 27.

Buildings 74, 75, and 76 were each constructed as aircraft hangars. In 1950, Building 74 was converted to a gymnasium and is still being used as such. Although painting and stripping operations were likely to have occurred at the facility, no drains were observed leading from the building. Building 75 was converted to a Deep Sea Survival Training Facility in the 1960s and training operations were observed during the survey. Three drains were observed south of the facility, apparently leading from Building 75. Discharge from the easternmost drain south of the facility was observed during the survey. Interviews with personnel involved in the training operations indicated the discharge was water from a washdown area used by personnel for rinsing off after training exercises. Building 76 was converted to a gymnasium in the 1950s and is still used for this purpose. One outfall of unknown origin was observed south of the building.

Building 604 currently houses the NADEP metal plating operations. It was constructed in 1972 at the site of Buildings 29/604a, which were also used in plating operations.

NADEP in the area of Site 2 was closed in 1995. The buildings in this area are currently unoccupied, and some of them have been razed. The industrial waste sewer line in the area was flushed and closed in 1995 as well.

4.3.2 Drainage Systems

Outfalls along the waterfront area discharging in the Site 2 area were surveyed during the survey. The locations of these outfalls are presented **in Figures 6-1, 6-2, and 6-3**. Where possible these outfalls were associated with the facilities where the drains originated. Figure 4-2 shows the drainage system associated with Buildings 71, 72, and 49. Storm water discharges through four primary storm water outfalls and through scuppers along the seawall (Figure 4-3). Another large storm drain is immediately west of the site. Along the eastern part of the site, storm water collects from the south and west side of Building 604, along South Avenue, and in the areas surrounding Buildings 44 and 38 and discharges through outfall 1 (Reference NAVFAC Drawing No. 1276909, Outfall G) (Figure 4-3). Along the east side of Building 44, storm water drains south through a small outfall, Outfall F (Figure 4-3). Storm water collects north of Site 2 along South Avenue and discharges south of Building 104 (unnumbered outfall) (Figure 4-2). In the vicinity of Building 73, storm water drains to Outfall H (Figure 4-3). Along the western end of the site and in the remaining land areas immediately north of Site 2, storm water runoff flows southward and into the bay through scuppers along the seawall.

Historically, sanitary sewage was discharged at Site 2 via sanitary sewer lines adjacent to Building 104 that extended 200 to 300 feet offshore and along the east side of Building 146, entering the bay at the entrance to the boat basin (Reference NAVFAC Drawing No.1276939) (Figure 4-4). **These lines were flushed and closed in 1995 and are no longer considered a conduit for contaminant migration.**

No other sanitary sewer lines are along the seawall at Site 2. The IWTP sewer line runs along the waterfront area south of Buildings 71, 72, and 104 which is being investigated as part of Sites 36 and 38. **The IWTP line was lcosed and flushed in 1995 and is no longer considered a conduit for contaminant migration.**

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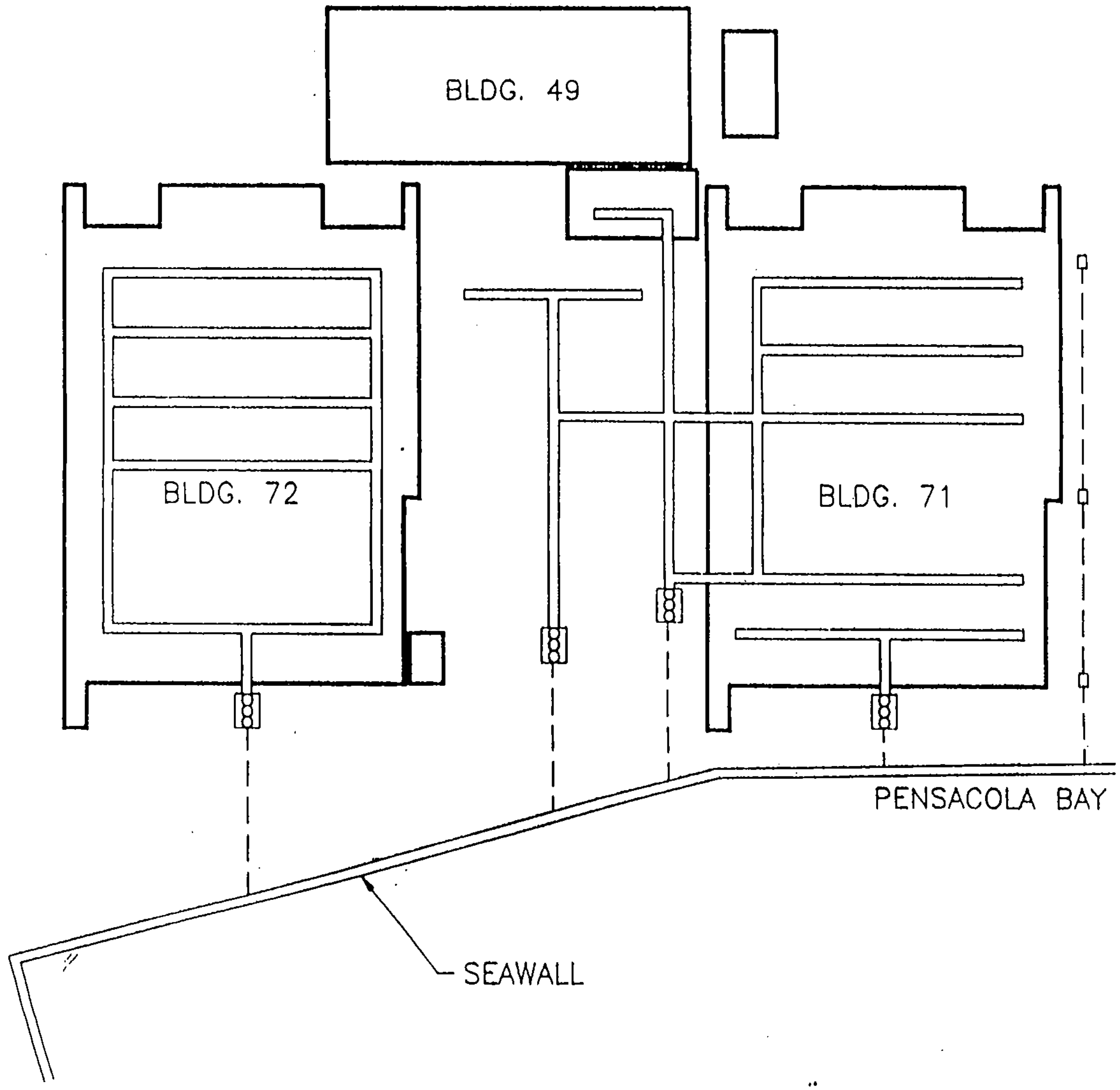

LEGEND

- EXISTING SEDIMENT TRAPS
- EXISTING DRAIN LINES
- EXISTING TRENCHES

REMEDIAL INVESTIGATION REPORT
SITE 2
NAS PENSACOLA

FIGURE 4-2
DRAINAGE SYSTEMS FOR
BUILDINGS 71,72 AND 49

DATE: 09/21/94 | DWG NAME: 058DSYS1

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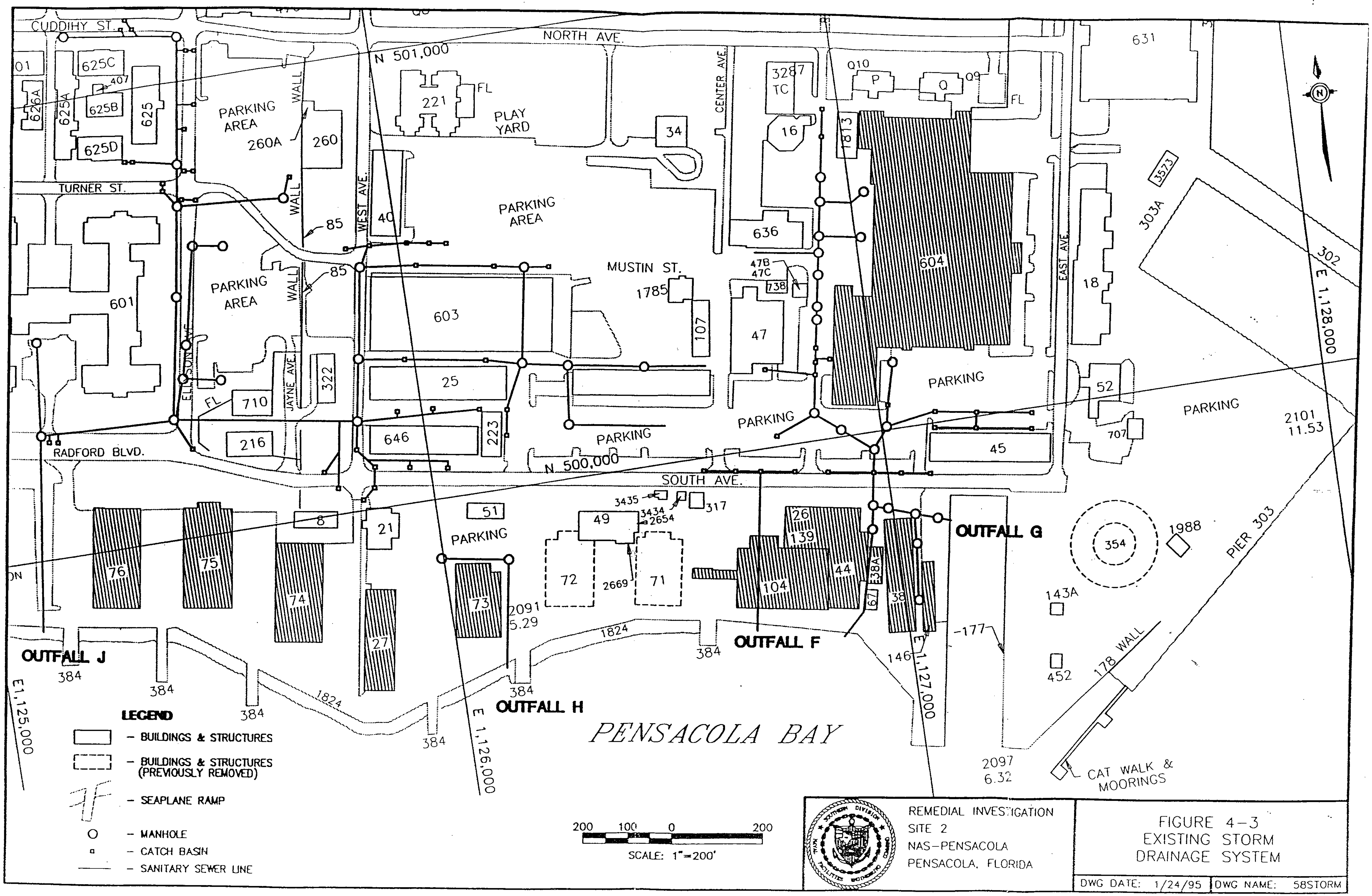
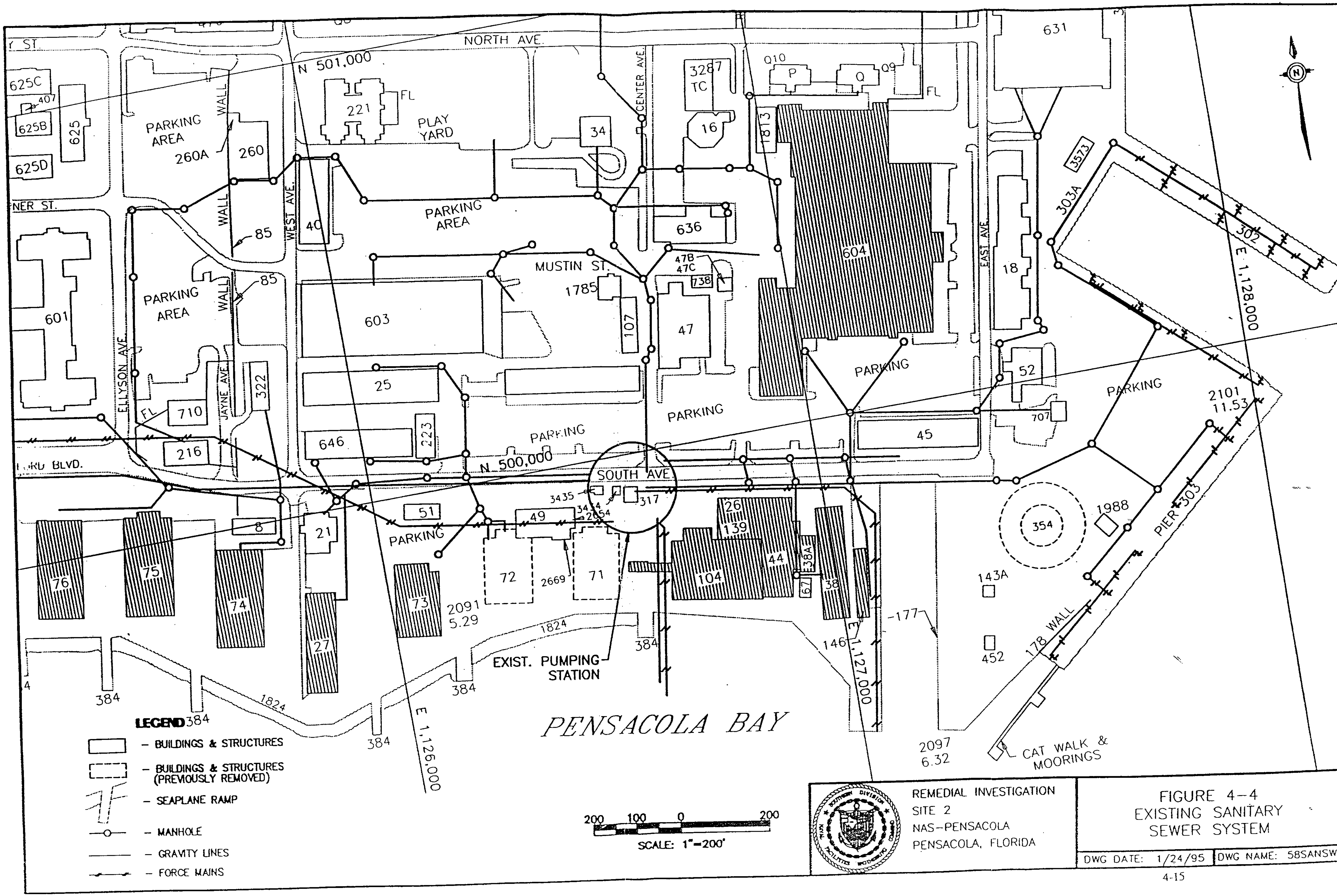


FIGURE 4-3
EXISTING STORM
DRAINAGE SYSTEM



NORTH AVE.
N 501,000
N 500,000
E 1,126,000
E 1,127,000
E 1,128,000
CENTER AVE.
WEST AVE.
EAST AVE.
ELLYSON AVE.
JAYNE AVE.
MUSTIN ST.
SOUTH AVE
PARKING AREA
PLAY YARD
PARKING
WALL
FL
PIER 303
CAT WALK & MOORINGS
EXIST. PUMPING STATION
PENSACOLA BAY
LEGEND
- BUILDINGS & STRUCTURES
- BUILDINGS & STRUCTURES (PREVIOUSLY REMOVED)
- SEAPLANE RAMP
- MANHOLE
- GRAVITY LINES
- FORCE MAINS
SCALE: 1"=200'
200 100 0 200
REMEDIAL INVESTIGATION
SITE 2
NAS-PENSACOLA
PENSACOLA, FLORIDA
FIGURE 4-4
EXISTING SANITARY SEWER SYSTEM
DWG DATE: 1/24/95
DWG NAME: 58SANSWR

4.4 Contaminant Source Survey

A contaminant source survey was conducted prior to initiating the field investigation to determine past and present activities related to releases of potential contamination to the nearshore environment at Site 2. The survey included a review of relevant environmental documents, facility and utility plans, incident reports, and site histories for facilities near Site 2.

If environmental effects have occurred at Site 2, they are probably a result of aircraft painting and stripping operations and metal plating operations that occurred in the facilities and shops along the shorefront adjacent to Site 2 beginning around 1939. The Navy established a permanent air station in 1914 that centered around seaplane operations along the waterfront area near Buildings 71, 72, and 382. From about 1922 to 1939, ground-based aircraft, seaplanes, and airships were stationed at NAS Pensacola; however, limited information is available concerning operations during this time period (NEESA 1983). In 1939, industrial activities expanded. Between 1939 and 1973, industrial waste from the facilities along the Site 2 waterfront discharged via storm sewers, drains, trenches, and sanitary sewer systems into Pensacola Bay. Sanitary wastes were also discharged into Pensacola Bay at Site 2 area before 1948. Industrial wastes disposed of in these drainage systems included:

- Paint and paint strippers, ketones, and trichloroethylene (TCE)
- Metal plating solutions
- Wastewater containing radium paint waste
- Mercury from the gauge room of the power plant (Building 782)
- Degreasers

Beginning in approximately 1940, several buildings had water-wall paint booths for painting aircraft and their components. Paints used include: cellulose nitrate lacquer, zinc chromate, nitrate dope, acetate dope, "day-glow," epoxy and enamel (NEESA, 1983). Lacquer thinner, toluene, and M-T-6096 were the main paint thinners used at NAS Pensacola. Before 1973, paint sludges and waste thinners generally were reportedly poured into drains and trenches leading to the bay or disposed of directly into the bay (NEESA, 1983).

Buildings 71, 72, and 49 housed the major paint-stripping operations. Acrylic and epoxy strippers were sprayed onto the airplanes to dissolve the paint; runoff went into drains that emptied into Pensacola Bay at Site 2. About 400 gallons of stripper was used per day between 1939 and 1973 at Buildings 71 and 72. In 1973, drains were connected to IWTP, and in 1979 all stripping activity ceased at Buildings 71 and 72. Ketone compounds were also used in these facilities to clean the aircraft surfaces. Excess ketone dripped from the aircraft's surface and flowed into drains discharging into the bay. About 400 gallons per day of ketone were used at Buildings 71 and 72 (NEESA, 1983).

In the southern portions of Buildings 71 and 49, ten 500-gallon tanks containing paint strippers, ketones, and TCE were used for cleaning small parts. The tanks were drained once every six to eight weeks into drains discharging into Pensacola Bay at Site 2 (NEESA, 1983).

Paint stripping has also been performed in Buildings 104 and 603. These operations may have contributed to potential contamination of Site 2; however, stripping waste from these areas is estimated at less than 50 gallons per day (gpd). Paint stripping operations that impacted the Site 2 are summarized in Table 4-1.

Table 4-1
Summary of Paint-Stripping Operations at NAS Pensacola

Bldg.	Approximate Dates of Operation	Map Coords.	Average Amount of Waste Per Year (gallons)			Disposal Practices
			Strippers	Ketone	TCE[a]	
71	1935-1979	K25	80,000	80,000	30,000	Waste went to bay until 1973.
72	1935-1979	K24	50,000	50,000	0	Waste went to bay until 1973.
104	1935-1970	K25	10,000[b]	10,000[b]	0[b]	Waste went to bay.

Notes:
a = Trichloroethylene
b = Exact data unavailable, number presented is best engineering estimate.

Source: NEESA, 1983

Metal plating operations, beginning around 1940, also contributed contaminants to Site 2. Plating operations were conducted in Buildings 29/604a, Old Plating Shop, which are on the current location of Building 604 from around 1960 until the shop was demolished around 1970 (NEESA 1983). Three cadmium plating lines and a magnesium treatment line were in the shop. Chromium was used in the magnesium treatment process. NEESA (1983) reports that 50-gallon tanks containing chromium solutions were drained once a month; larger tanks were drained less frequently. These tanks were emptied into sewer lines discharging into Pensacola Bay. Cyanide solutions were also used in the plating process. Prior to 1962, cyanide waste was disposed of in the sanitary sewer; however, these discharges may have caused operational problems at the sewage treatment facility. Because plating wastes could upset the operation at the sewage treatment plant, cyanide and chromate wastes that were dumped into the sewer system were routed to bypass the treatment plant and flow untreated into Pensacola Bay. Table 4-2 lists some of the chemicals used in Buildings 29/604a.

Table 4-2
Partial List of Chemicals Used at Building 29/604A in 1966

Sodium Cyanide
Hydrofluoric Acid
Resin Stripper (Phenol)
Alodine (Chromium)
Sodium Carbonate
Nitric Acid
Sodium Hydroxide
Ammonium Nitrate
Hydrochloric Acid
Sodium Dichromate (Chromium)
Chromium Trioxide (Chromium)
Sulfuric Acid

Source: NEESA 1983

In 1972, a much larger plating shop, Building 604, was constructed on the site. Approximately 30 plating process tanks were present in the shop ranging in capacity from 40 to 2,000 gallons. These tanks were drained about once a month. From 1972 to 1973, discharge was through sewer lines that emptied into the bay. After 1973, most drain lines were connected to the IWTP; however NEESA (1983) reports that some of the lines may not have been connected to the IWTP until 1979, and untreated liquid waste may have been unintentionally discharged to Pensacola Bay. According to an interview with Frank Stewart, Environmental Engineer for NADEP, work on the storm sewer lines from Building 604 around 1985 showed that the line leading to outfall 1 at Site

2 had not been sufficiently plugged or diverted and that liquid waste from the facility may have been unintentionally discharged up until this time.

Fish kills along the waterfront area at Site 2 occasionally occurred in the 40s, 50s, and 60s, likely from the paint strippers, solvents, and metal plating waste emptied into the bay. In August 1969, approximately 30 gallons of a cadmium plating solution spilled, entered the storm drain, and flowed into the bay. At the same time, approximately 146 gallons of chromic acid were emptied into the bay. These spills resulted in a large fish kill that received local public attention. Various fuel spills associated with port operations at Pier 303 (carrier dock) have also impacted Site 2.

5.0 FIELD INVESTIGATION AND METHODOLOGY

The Navy-, USEPA- and FDEP-approved work plan outlined an extensive sediment, surface water, and biota investigation and sampling program for Site 2. A phased approach for contamination delineation across the waterfront area was employed. In this approach, a preliminary assessment was conducted to determine total organic compound (TOC) and grain-size distributions in sediments across the site. The results of this preliminary survey were then used to select areas within Site 2 that would have higher probability of contamination than other areas onsite. These higher probability areas were then selectively sampled for surface water and sediment chemistry.

Sampling and investigation procedures were conducted in accordance with the Sampling and Analysis Plan (SAP) for Site 2, except in cases where specific field changes were requested or where site conditions and field decisions warranted changes. Specific procedures employed for each sampling and investigative task are presented in Section 5.1 and 5.2 of this report. General methods, sample handling, field QA/QC and decontamination procedures are presented in Section 5.3. Section 5.4 provides global positioning system methods.

Analytical Parameters

Samples of all media were collected for contamination assessment and/or physical characterization. Contamination assessment analyses provided a basis for determining the nature and extent of site contamination, and physical characterization analyses aided in determining the potential bioavailability of contaminants within the source media. Sampling and analytical requirements for Phases IIA and IIB of the Site 2 investigation are summarized in Table 5-1. Samples designated for contamination assessment were analyzed for Target Analyte List (TAL) and Target Compound List (TCL) parameters using USEPA Contract Laboratory Program (CLP) protocol.

Table 5-1
RI Sampling and Analytical Requirements
Site 2

Medium	No. of Stations[a] Phase IIA	Phase IIB	Analytical Parameters	[DQO Level]	Comments
Surface Water	8 (5)	0	FSA PPW	[IV]	Number sample per station depth dependent
Sediment	56 (56)	11	FSA PPS	[IV]	
Tissue	6	0	FSA[b]	[IV]	
TOTAL	[64] [(61)]	11	FSA[b]	[IV]	

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

Notes:
a = The number of samples shown in parentheses were analyzed for the additional parameters indicated.
b = Full scan of analysis, excluding TCL VOCs and cyanide.
[NA] = Not applicable

Analytical Parameters
Full Scan of Analysis (FSA) = TCL volatile organic compounds (VOCs); TCL base-neutral/acid extractable organic compounds (BNAs); TCL pesticides and polychlorinated biphenyls (PCBs); TAL metals (total [i.e., unfiltered], water only); and TCL cyanide.

Physical Parameters
Water (PPW) = Five-day biological oxygen demand (BOD), chemical oxygen demand (COD), hardness, total suspended solids, alkalinity, total phosphorus, nitrate-N, TKN, heterotrophic plate count and total suspended solids (TSS).

[Sediment] (PPS) = Total phosphorus, nitrate-N, TKN, heterotrophic plate count, total organic carbon, cation exchange capacity, bulk density, particle size, percent moisture, and specific gravity.

Samples designated for physical characterization were analyzed for the selected physical and physicochemical parameters listed in Table 5-2. International Technology Corp. in Knoxville, Tennessee, conducted the analyses for the contamination assessment parameters in Phase IIA. Savannah Laboratories in Mobile, Alabama, conducted the analyses for physicochemical characterization and TET analyzed the grain size. Ceimic Laboratories conducted the analytical analyses for Phase IIB.

Table 5-2
Analytical Parameters for Physical Characterization

Media	Parameter	Method
Sediment	Physical:	
	Permeability	ASTM D2434 (for sand)
	Porosity	ASTM D5084 (for clay)
	Particle Size	ASTM D422
	Bulk Density	ASTM 4253
	Specific Gravity	ASTM D854
	Moisture Content	ASTM 2216
	Chemical-Physical:	
	Total Phosphorus	USEPA 365.3
	Nitrate-N	USEPA 352.1
	TKN	USEPA 351.4
	Heterotrophic Plate Count	SM 9215B
	Cation Exchange Capacity	SW 846-9080
	TOC	SW 848-9060
Surface Water	Total Phosphorus	USEPA 365.3
	Nitrate-N	USEPA 352.1
	TKN	USEPA 351.4
	Heterotrophic Plate Count	SM 9215B
	5-day BOD	USEPA 405.1
	Chemical Oxygen Demand	USEPA 410 (.1 to .3)
	Hardness	USEPA 200.7
	TSS	USEPA 160.2
	Alkalinity	USEPA 310.1

Note:
ASTM = American Society of Testing and Materials

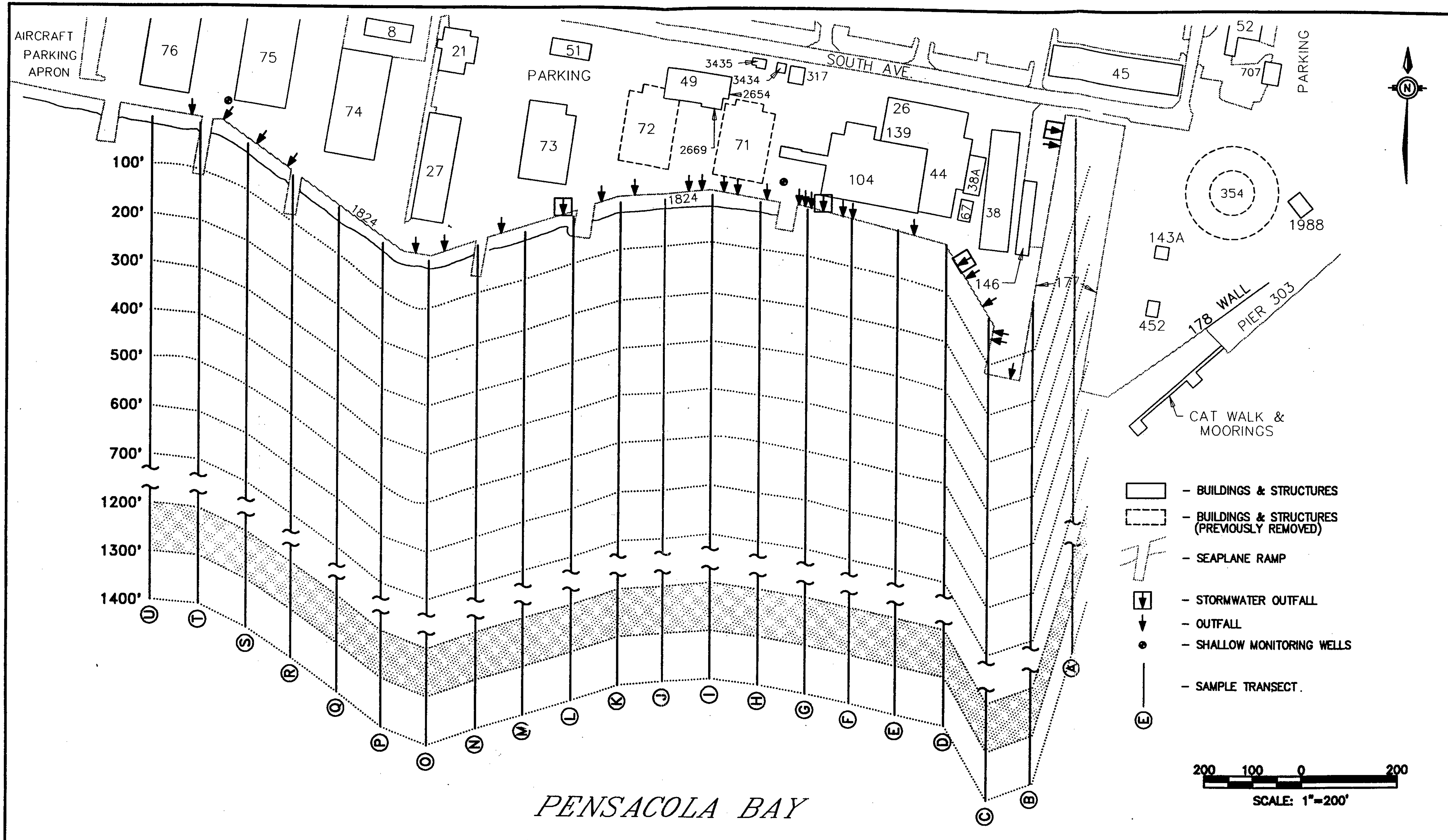
Sample Identification

Due to the unique and somewhat complicated transect arrangement necessary for sample location determination across Site 2, sample identification procedures were modified from those presented in the NAS Pensacola Comprehensive (CSAP). This modified sample identification scheme was used for surface water and sediment samples and proved efficient during field operations. The following is an explanation of the modified identification method:

- The first two alphanumeric symbols of each sample ID represent the medium sampled, as such:
  - SW-surface water
  - SD-sediment
- The third and fourth digits represent the site and were designated "02."
- The fifth and sixth digits represent the transect and sampling position on that transect, for example:
  - K3 represents the sample location 300 feet offshore from the origination node, along transect K (see Figure 5-1 for transect diagram). Control stations were not associated with any particular transect and therefore were denoted with an "X."
- The seventh and eighth digits were reserved for identification of depth-integrated surface water samples (i.e., bottom, middle, top - see Section 5.2.1). Surface to bottom samples were recorded in ascending order starting with 01 (no more than three depth-integrated samples were collected per station).
- Duplicate samples, matrix spike samples, and matrix spike duplicate samples all used the previously discussed identification scheme, along with the respective suffix D, MS, or MSD, respectively.

For example, a mid, surface water sample collected at transect M, 200 feet from shore, that was a duplicate, had the sample identification:

- SW-02-M202-D



REMEDIAL INVESTIGATION
SITE 2
NAS-PENSACOLA
PENSACOLA, FLORIDA

FIGURE 5-1

TRANSECT SCHEMATIC

DWG DATE: 1/24/95 | DWG NAME: 58GRID2

Equipment rinsate samples and trip blanks followed sample designation procedures as outlined in the CSAP (E/A&H, 1994b).

5.1 Sediment Assessment

Sediment at Site 2 was assessed from July 28 to August 31, 1993. The assessment involved a systematic approach along established transects off the seawall to determine sediment characteristics and to collect sediment samples for subsequent TOC and grain-size analyses. Prior to sampling, a cadastral survey was conducted to establish a sampling baseline and transect nodes. A 2,000-foot baseline, running east to west along the waterfront seawall, was established. At 100-foot intervals along the baseline, reference nodes with due-south trending transects, perpendicular to the baseline, were established (see Figure 5-1). Offshore sampling along transects was accomplished by visual alignment of shore-based pylons, and distance to sampling points was subjectively determined. Initially, sediment was collected at approximately 100-foot intervals, along every other transect, to approximately 1,200 feet offshore. Visual characterization of these sediments was performed using Unified Soil Classification System (USCS) Standards. Based on these visual results, additional samples were collected for laboratory grain-size and TOC analysis at 100-foot intervals, along every other transect, to approximately 500 feet offshore.

Sediment samples for visual characterization were collected with a mini Ponar grab, described on board the boat, and discarded. Samples for laboratory grain-size and TOC analysis were collected using a split-spoon sampler with stainless-steel inserts. The split spoon was advanced 2 feet into the sediment and retrieved using a motor-driven winch on board. Sediments were described for the entire 2-foot interval; however, samples were generally collected from the zero to 1-foot interval. When sediment characteristics differed greatly between the zero to 1 and 1 to 2-foot intervals, an additional sample was taken from the 1- to 2-foot interval. After collection, samples were sealed with Teflon liners and plastic caps for transport to the laboratory. The split-spoon sampler was decontaminated between each station using a Liquinox wash and seawater rinse.

5.2 Contaminant Assessment Sampling

Contaminant assessment sampling occurred at Site 2 from November 31 to December 9, 1993. Based on the results from the sediment assessment, areas of relatively higher TOC concentrations and/or high percentages of fine-grained sediment were selected for further contaminant assessment. At selected sediment sampling locations, water chemistry samples were also collected. Once again, the transect method discussed in Section 5.1 was used to field-identify sample locations. Although distances from nodes were subjectively determined, an on-board global positioning system (GPS) unit was used to identify the specific location.

5.2.1 Surface Water Sampling

Surface water sampling adhered to procedures outlined in Appendix B of the SAP. The SAP procedure to sample weekly over four weeks was modified because physicochemical parameters were not observed to vary at the site. Because the sampling period for Site 2 took place over two weeks, short-term temporal variations in water chemistry were likely detected.

Water samples were collected from five locations (A1, D1, H5, M5 and Q1) within Site 2, along with three of the four control locations (X1, X3, and X4) (Figure 5-2). Sample station locations were selected to provide for variance in depths and proximity to the shoreline. Control stations were selected to reflect background water quality within Pensacola Bay without influence from point or nonpoint sources. Analyses were conducted for inorganic, pesticide polychlorinated biphenyl (PCB), semivolatile and volatile constituents. Samples were collected from different depth strata (surface-0.5 meters [m], mid-depth, and bottom-0.5 m off substrate) as appropriate.

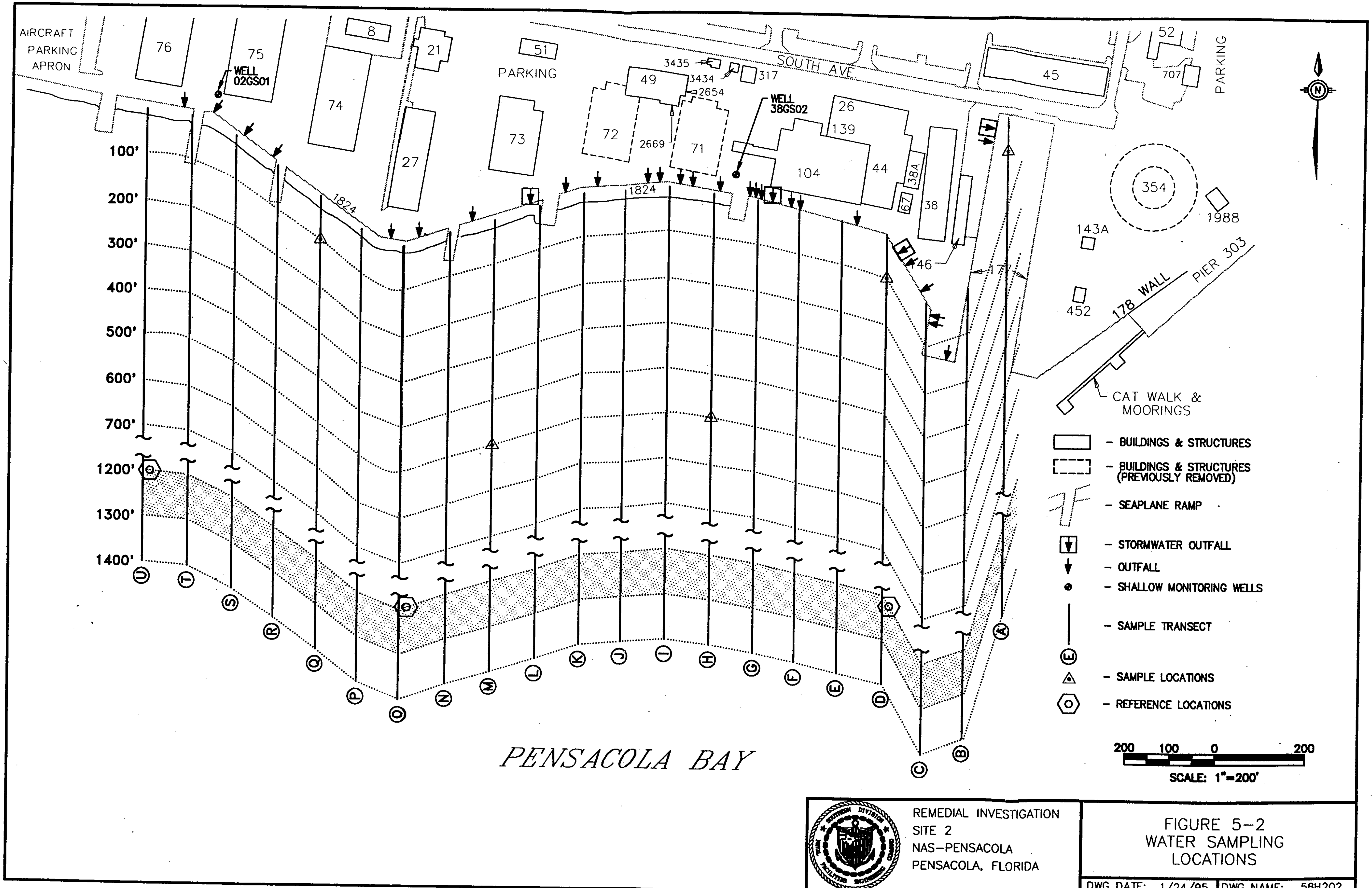


FIGURE 5-2
WATER SAMPLING LOCATIONS

Water samples were collected in a 1.1 liter stainless steel Kemmerer sampling bottle. The sampler was lowered into the water in a "set" position. When the desired depth was attained a messenger was sent down the cable to trip the sampler. This method allowed for a discrete sample of depth stratum. Decontamination was conducted between sampling stations and is discussed in Section 5.3. Surface water quality assessment also included collecting in-situ physicochemical parameters. A field change request was submitted for deletion of proposed in-situ current meters and Hydrolab datalogger units based on the assumption that short-term data would neither reveal long-term trends nor be cost-effective. In lieu of the datalogger, a portable Hydrolab unit was leased to collect these physicochemical parameters: pH, dissolved oxygen (DO), conductivity, salinity, temperature, and redox potential. Depths at which readings were taken either corresponded to those for surface water sampling or were field determined based on water depths (See Appendix B, Surface Water Sampling Procedures, Site 2 SAP). Hydrolab readings were collected at all surface water and sediment sampling locations.

5.2.2 Sediment Sampling

Sediment sampling procedures generally followed those found in Appendix C of the SAP. Using the coring device to retrieve sediment was abandoned after split-spoon sleeve test samples indicated the sediment was too incohesive to remain in the core sleeves during retrieval. Instead, a stainless-steel Ponar grab sampler (sampling area = 529 square centimeters) was employed. After the Ponar grab was "set," it was deployed to the sediment surface and the deployment cable was allowed to go slack. Subsequent retrieval of the grab caused the jaw-like mechanism to close, retaining the sediment sample. Upon placing the sediment samples in a stainless-steel bowl, aliquots for **VOC analysis were either immediately** hand-cored from the sediment "cake" with a stainless-steel sleeve or were collected with a stainless-steel spoon. **After the VOC sample was collected, the remaining sample was homogenized in the bowl with a stainless-steel spoon and the aliquots for the remaining analyses were collected.** Care was taken to ensure that the entire sediment sample profile was sampled **for all analyses**. Decontamination procedures are detailed in Section 5.3. Sediment sampling locations were selected based on the phased approach described in Section 5.0 and are shown on Figure 5-3. Reference (control) stations were selected to represent "background" concentrations close to Site 2. It was predicted that sediment type could vary considerably from locations within Site 2 but this variability seemed inherent and unavoidable in the sediment assessment approach.

5.2.3 Onshore Environmental Assessment

The groundwater chemistry and hydrologic assessment was conducted in January 1994 to gather preliminary information on the interaction between groundwater and surface water (Pensacola Bay) at Site 2. To assess the groundwater chemistry of the onshore area adjacent to Site 2, two shallow monitoring wells, located approximately 50 feet inland of the seawall, were sampled. The wells were sampled for CLP TAL/TCL analysis to identify potential sources of groundwater/surface water contaminants. The two wells included in the Site 2 investigation were sampled in conjunction with the Site 38 well sampling program in January 1994. The lag time between the Site 2 offshore sampling effort (December 1993) and sampling of the onshore monitoring wells was not considered to be significant. Additionally, because of Site 38's proximity to Site 2, data from the hydrologic assessment performed as part of the Site 38 RI investigation were used for the hydrologic assessment at Site 2. The methodologies for well installation and the hydrologic assessment are discussed in the following sections.

Monitoring Well Installation

Although installing two wells was proposed in the SAP, only one well was installed in conjunction with the Site 2 field investigation. During the Site 38 RI, a well was installed at the southeast corner of Building 71. Because of this well's proximity to Site 2, it was used for this investigation to save the costs of installing an additional well.

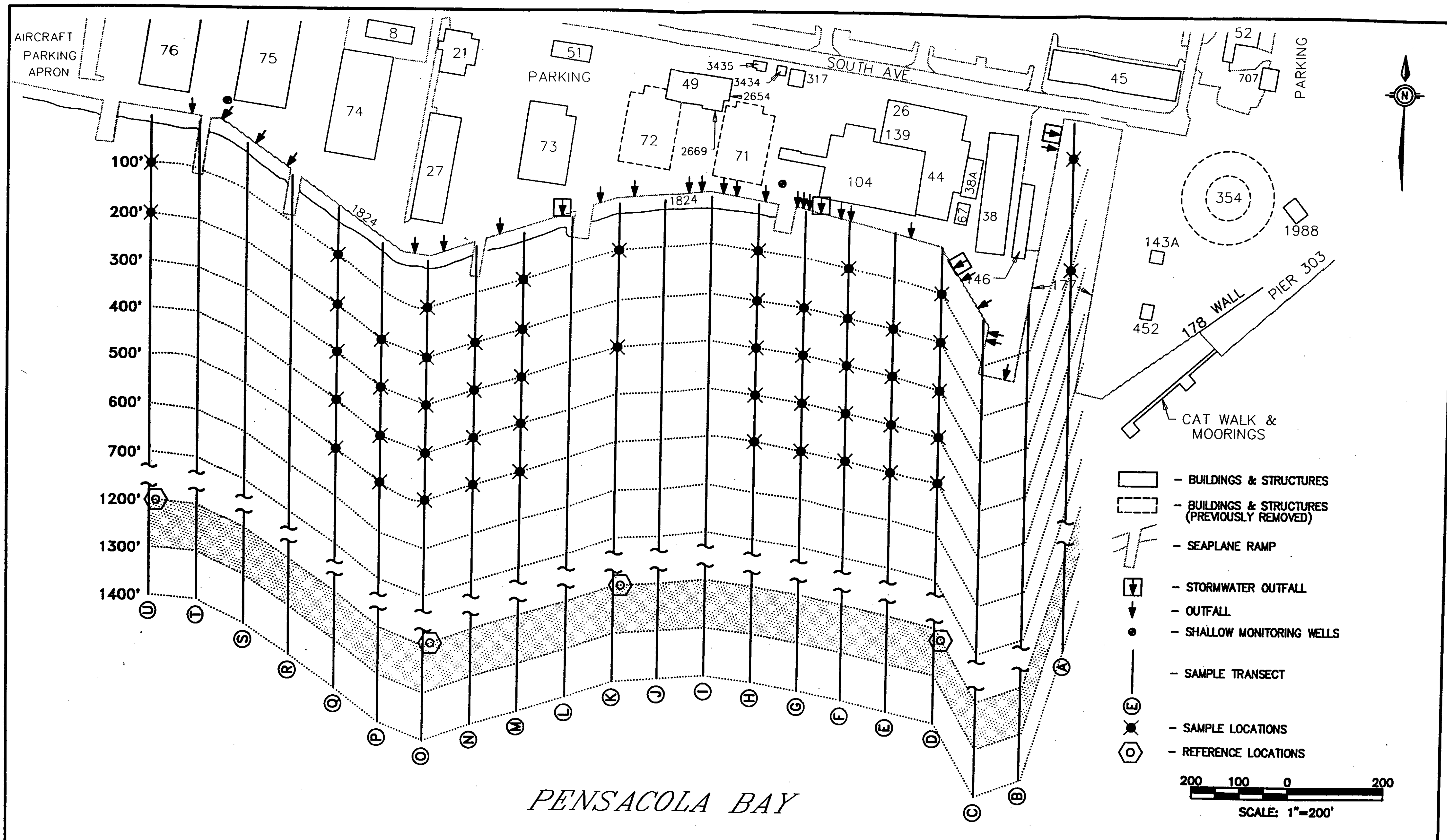


FIGURE 5-3
SEDIMENT
SAMPLING LOCATIONS

One permanent shallow monitoring well was installed in August 1993 at the southwest corner of Building 75 (Figure 5-3). The other shallow monitoring well used in the survey was installed in July 1993 and is southeast of Building 71 (now demolished) at Site 38 (Figure 5-3). Well construction information for these wells is presented in Table 5-3.

Table 5-3
Well Construction Information

Well No.	Date of Installation	Surface Elevation feet msl	Casing Elevation feet msl	Total Depth (feet)	Screened Interval feet BLS	Depth to Water feet Below Casing	Groundwater Elevation feet msl
38GS02	7/30/93	4.18	4.18	12.59	2.54-12.54	3.49	.69 (6/3/94)
02GS01	7/30/93	6.42	6.42	13	3-13	4.92	1.5 (1/6/94)

Notes:
BLS = below land surface
BTOC = below top of casing

Monitoring well installation was performed by Kelly Environmental under the supervision of an E/A&H geologist. Hollow-stem auger techniques were used to install shallow monitoring wells. Shallow subsurface stratigraphy was described from cuttings returned to the surface during drilling. Pertinent geologic and well construction information was recorded in the site logbook and on boring log forms. The boring logs for both wells used are presented as Figures 5-4 and 5-5.

The shallow wells were installed using 4.25-inch inner diameter (ID) hollow-stem augers that created boreholes with a minimum diameter of 6.5 inches. Hollow-stem augers were used to avoid introducing drilling mud to the aquifer. To prohibit flowing sands from entering the augers, a

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DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	BLOWS/FT.	USCS SYMBOL	DESCRIPTION OF SUBSURFACE MATERIALS BORING DATE: 08/05/94
SURFACE CONDITIONS– APPROXIMATELY 6" OF CONCRETE					
				SP SM	0–3' TAN TO DARK BROWN QUARTZ SAND FINE TO MEDIUM GRAINED, ORGANIC RICH.
5				SP	3–14' LIGHT GRAY TO GRAY, MEDIUM GRAINED QUARTZ SAND, MODERATELY WELL SORTED, FEW COARSE-GRAINED QUARTZ SAND GRAINS, SHELL FRAGMENTS PRESENT (<5%), TRACE HEAVY MINERALS.
10					
					BOH = 14' –SATURATED – 5.0' BLS
15					
20					
25					
30					
35					
40					
45					KEY (SP) – UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOL B.L.S. – BELOW LAND SURFACE B.O.H. – BOTTOM OF HOLE
50					

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 5–4
BORING 02S01

DATE: 01/20/95 | DWG NAME: 58BL0201

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DEPTH (FEET)	SAMPLE TYPE	% RECOVERY	BLOWS/FT.	USCS SYMBOL	DESCRIPTION OF SUBSURFACE MATERIALS BORING DATE: 08/05/94
SURFACE CONDITIONS– APPROXIMATELY 12" OF CONCRETE					
	SS	79		SP	0–2' BROWNISH MEDIUM TO FINE GRAINED SAND AND SOME SMALL GRAVEL.
	SS	92		SW	2–4' MEDIUM TO FINE GRAINED BROWN SAND, BECOMES DARK GREEN TO GRAY AT 3 FT.
5					
				SW	8–12' CUTTINGS. WHITE, MEDIUM TO FINE GRAINED SAND. DRILL IN LEVEL C PPE.
10					
					MONITORING WELL 38GS02 SET AT APPROXIMATELY 13 FT. BORING TERMINATED AT 13 FT.
15					
20					
25					
30					
35					
40					
45					KEY (SP) – UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOL B.L.S. – BELOW LAND SURFACE B.O.H. – BOTTOM OF HOLE
50					

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 5–5
SITE 2
BORING 38S21

DATE: 01/23/95 DWG NAME: 58BL0S21

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Teflon or polyvinyl chloride (PVC) "knockout" plug was used in the lead auger. For shallow wells, the augers were advanced to approximately 13 feet below the water table where the well was set.

Monitoring wells were constructed to comply with all federal, state, and local agency regulations. Well installation, development, and sampling methods followed procedures outlined in the Site 2 SAP and adhered to guidelines established in the CSAP. Both wells installed were completed as 2-inch diameter wells and constructed of Schedule 40 PVC. The well string consisted of a flush-threaded PVC riser casing and 0.01 slot PVC screen. The screen size was determined to be suitable for monitoring well purposes based on grain-size analysis from other studies in the area (E/A&H 1994c). Typical well construction details are presented in Figure 5-6.

A minimum borehole diameter of 6.5 inches for 2-inch wells allowed a minimum 2-inch annulus around the well string. Silica sand (U.S. Standard sieve size 20-30) was used as backfill and as filter pack around the screened interval. Filter pack sand was tremied through the auger annulus to a depth of approximately 1 foot above the well screen. Sand thickness and uniformity around the well was verified using a weighted tape as the sand was poured into the augers. A bentonite seal, consisting of roughly 0.5-inch triangular bentonite chips, was emplaced above the sand pack to a thickness of approximately 1 foot. Approximately 5 to 10 gallons of deionized water was added to the bentonite pellets to promote hydration. Modifying well construction procedures outlined in the CSAP was necessary due to shallow water table. Because the bentonite seal was less than 2 feet below land surface (bls), a Portland cement-based concrete was added above the bentonite seal to form a stable base in which the protective well cover was set. Both wells were completed with water-tight, bolt-down, flush-mount protective covers set into concrete approximately 1 foot bls.

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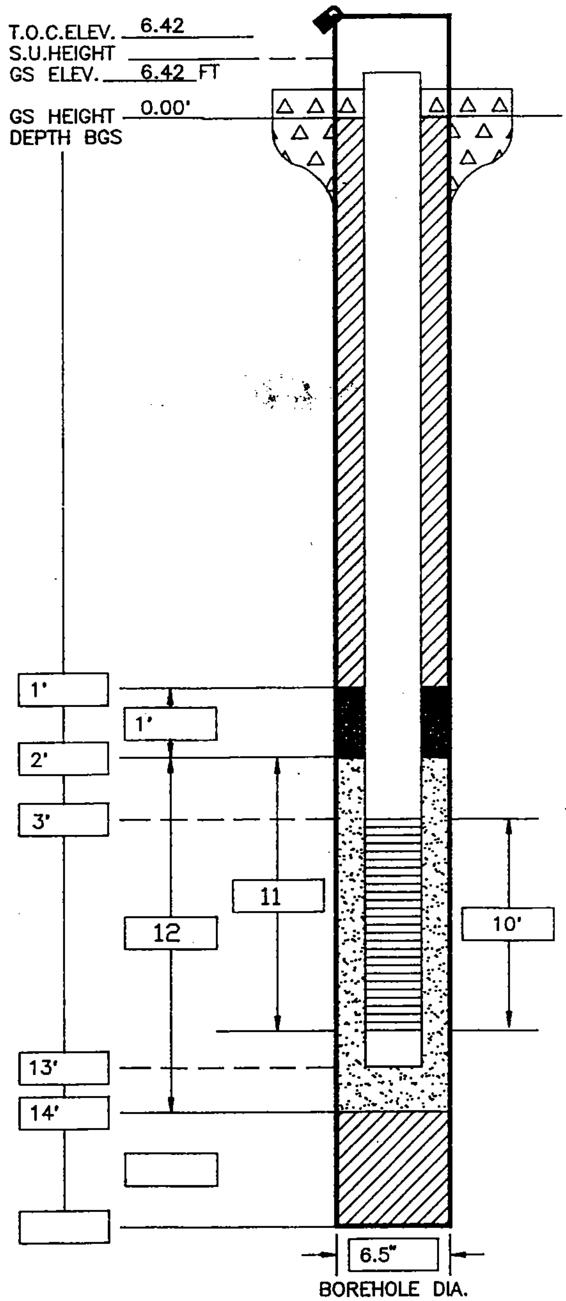
MONITORING WELL CONSTRUCTION LOG — UNCONFINED AQUIFER		
WELL NO.: 02GS01	INSTALLATION: 08/05/93	SITE: 2
PROJECT NO.: 058-0030	CLIENT/PROJECT: U.S. NAVY NAS PENSACOLA	
DRILLER: KELLY ENVIONMENTAL		
GEOLOGIST: S. PARKER		



PROTECTIVE CSG
MATERIAL/TYPE FLUSH MOUNT W/ LOCKING MANHOLE
DIAMETER
ELEVATION ______ WEEP HOLE (Y)/N)

GUARD POSTS (Y/(N))
NO. ______ TYPE

SURFACE PAD
COMPOSITION & SIZE 2' X 2'

RISER PIPE
TYPE SCHEDULE 40 PVC
DIAMETER 2" ID
TOTAL LENGTH(TOC to TOS) 3'
VENTILATED CAP (Y/(N))

GROUT
COMPOSITION & PROPORTIONS

TREMIED (Y/N)
INTERVAL BGS

CENTRALIZERS (Y/N)
DEPTH(s)

SEAL
TYPE BENTONITE CHIPS
SOURCE ENVIROPLUG
SETUP/HYDRATION TIME >8 HOURS
VOL. FLUID ADDED 6 GALLONS
TREMIED (Y/(N))

FILTER PACK
TYPE SILICA QTZ SAND
AMT. USED 4-50 LB BAGS
TREMIED ((Y)/N) INSIDE AUGERS
SOURCE MORI CO. FILTERATION MEDIA
GR. SIZE DIST. 20-30 COUNT SIEVE SIZE

SCREEN
TYPE SCHEDULE 40 PVC
DIAMETER 2" ID
SLOT SIZE & TYPE 0.01" FACTORY SLOTTED

SUMP ((Y)/N)
INTERVAL BGS 12.5'-13.0' LENGTH .5"
BOTTOM CAP ((Y)/N) INCLUDED W/ SUMP

BACKFILL PLUG
MATERIAL NATURAL SAND BACKFILL/COLLAPSE
SETUP/HYDRATION TIME N.A.
TREMIED (Y/N)

REMEDIAL INVESTIGATION
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 5-6
SITE 2
MONITORING WELL
CONSTRUCTION LOG 02GS01

DATE: 01/23/95 | DWG NAME: 58MWGS01

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Well Development

Wells were developed by alternating surging and pumping. A surge block consisting of a 2-inch PVC block with PVC extensions was used to surge the wells. A 5-horsepower centrifuge pump, PVC plastic tubing, and foot valve were used to develop the wells. Pumping and surging was iterated generally two or three times per well.

During development, discharge rate, pH, conductivity, temperature, and turbidity were monitored. In accordance with the SAP, CSAP, and USEPA Region IV Standard Operating Procedures/Quality Assurance Manual (SOP/QAM) (USEPA, 1991b), development proceeded until purged water reached maximum clarity and pH, conductivity, and temperature stabilized. In these shallow wells there was no indication of saltwater intrusion (i.e., conductivity was representative of groundwater in the area).

Groundwater Sampling

Groundwater was sampled in January 1994 from the two shallow wells adjacent to Site 2. Before purging and sampling each well, water level and total well depth were measured with an electronic water-level indicator, and the volume of water within the well was calculated. The water table and well bottom were checked for floating and sinking nonaqueous phase liquids with either a product interface probe or a clear Teflon bailer lowered to the appropriate depth and retrieved for visual inspection. At least three well volumes were then purged from each well using a peristaltic pump equipped with Teflon tubing. Purging was performed at a slow, controlled pumping rate (approximately 0.25 gallons per minute [gpm] or less) while field parameters were monitored. The groundwater field parameters pH, specific conductivity, temperature, and turbidity were measured with each removed well volume to monitor water stabilization. Water was considered stable and ready for sampling after three consecutive readings of pH, specific conductivity, and temperature within 10 percent of previous readings were obtained.

Immediately after purging, the same Teflon tubing and the peristaltic pump were used to collect the groundwater sample. Groundwater was lifted from the well under low vacuum pressure via an inline collection/transfer bottle apparatus. This apparatus consisted of a two-aperture Teflon cap attached to a laboratory-certified, 300 series 80-ounce glass container. Teflon tubing from the well was attached to one aperture while the tubing from the peristaltic pump was attached to the other. The vacuum created by the pump was sufficient to raise groundwater from the well, filling the collection/transfer bottle at a low controlled flow rate (approximately 380 milliliters [ml] per minute). Using this technique, groundwater with minimal turbidity was collected and transferred to the appropriate sample containers for TAL/TCL analysis. Sample volumes for volatile organic compound (VOCs) analysis were collected by removing the Teflon tubing from the well and the transfer cap, and allowing the unagitated groundwater retained in the line to flow backward into 40-ml volatile organic analysis (VOA) vials.

Weather conditions, initial water levels, purging and sampling times, purge volumes, groundwater temperature, pH, specific conductance, and turbidity were recorded on groundwater sampling forms while purging and sampling.

Hydrologic Assessment

A limited tidal study was completed as part of the Site 38 RI. Transducers were installed in five wells across Site 38 and a sixth transducer was placed at a fixed point in Pensacola Bay adjacent to Site 38 (Site 2). The transducers measured the relative change in each well and the bay for approximately 42 hours. The results of this study are detailed in Section 6.

5.3 Sampling Protocol

All sampling activities were conducted in accordance with the U.S. Navy-, FDEP- and USEPA-approved SAP for Site 2, and the SOP/QAM (USEPA 1991). Where warranted by field conditions, deviations from the approved procedures were carried out and appropriately documented in accordance with the SOP/QAM. Specific sampling procedures varied with each task and are detailed in Sections 5.2.1, 5.2.2, and 5.2.3 of this report.

Sample Handling

Sample handling was minimized. When it was necessary to transfer material from sampling devices to containers, the operation was conducted expediently in as clean an environment as possible. New gloves were donned before collecting each sample. Empty containers were kept packaged until they were used. Sampling was not conducted in rain. Where sample aliquots were collected for separate analyses, those for volatile analyses were containerized first from unhomogenized material to minimize any degassing. Containerized samples immediately were chilled and isolated from the environment in coolers.

QA/QC Samples

QA/QC samples were collected as quality checks on field and laboratory procedures to test for the level of reproducibility attainable in the sampling and analytical process, quality of equipment decontamination, quality of source waters and materials, sample exposure to ambient contamination during handling, and level of laboratory precision.

All field QA/QC samples were collected in accordance with the Site 2 SAP and the SOP/QAM. The samples taken are as follows.

Type and frequency:

- Duplicate samples were collected for every 10 samples for each sampling task.
- Equipment rinsates were collected from the sampling equipment specific to each task at a frequency of one for every batch decontamination of identical sampling devices.
- One field blank per week was collected from a deionized, organic-removal water system at the E/A&H field trailer.

- Matrix spike and matrix spike duplicate (MS/MSD) samples were collected at a frequency of (1:20) for the groundwater sampling tasks. MS/MSD sediment sample aliquots were chosen and separated in the laboratory from one of every 20 samples submitted.
- QA/QC samples were analyzed for the same contamination assessment parameters as the environmental samples.

Sample Containers and Preservation

Stainless-steel sleeves were supplied by Envirotech, Inc. All other sample containers were supplied by IT (for chemical analysis) and Savannah Laboratories (for chemical-physical analysis). The laboratory-provided containers were precleaned and certified. The stainless-steel sleeves were decontaminated by E/A&H staff at the field trailer. Table 5-4 lists the sample containers, sample media, and analyses for which they were used. Sample preservation followed guidelines presented in the Site 2 SAP, CSAP, and the SOP/QAM, and is also detailed in Table 5-4.

Sample Packaging and Shipment

All samples were packed and transported in sturdy coolers. Bagged and sealed ice was arranged within containers in sufficient volume to maintain uniform and appropriate preservation temperatures during shipment. Temperature blanks were placed in all coolers. Trip blanks were placed in coolers containing samples for VOC analysis. All sample coolers were lined with large plastic bags in which sample containers, bagged ice, and packing materials were placed. Vermiculite was used as a packing material to fill voids, keep breakable containers separated, and provide cushion during shipment. Chain-of-custody records were completed separately for each cooler and placed inside with the samples. The cooler lids were secured with strapping tape and sealed with a signed custody seal.

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

Medium	Analysis	Sample Container	Preservative
Surface Water	CLP TCL VOCs	40-ml. glass vial	4°C - HCL, pH<2
Surface Water	CLP TCL SVOCs CLP TCL Pesticides/PCBs	1-liter amber bottle	4°C
Surface Water	CLP TAL Metals-unfiltered	1-liter Nalgene bottle	4°C - HNO_3, pH2
Surface Water	Cyanide	1-liter Nalgene bottle	4°C - NaOH, pH> 10
Surface Water	BOD, TSS, Alkalinity, Nitrogen	1-liter polyethylene bottle	4°C
Surface Water	COD, Phosphorus, TKN	120-ml. polyethylene bottle	4°C - H_2SO_4, pH<2
Surface Water	Hardness	120-ml. polyethylene bottle	4°C - HNO_3, pH<2
Surface Water	Heterotrophic Plate Count	130-ml. sterile polyethylene bottle	4°C
Sediment	CLP TAL/TCL VOC	60-ml. glass jar	4°C
Sediment	CLP TAL/TCL BNA	250 ml. amber bottle	4°C
Sediment	CLP TAL metals/cyanide	120-ml. glass jar	4°C
Sediment	Density, % moisture, p. size, S.G.	500-ml. plastic jar	4°C
Sediment	NO_3, Phosphorus, TKN, TOC, CEC, HPC	120-ml. sterile poly bottle	4°C

Notes:

VOC = Volatile organic compound
SVOCs = Semivolatile organic compound
BOD = Biological oxygen demand (5-day)
TSS = Total suspended solids
COD = Chemical oxygen demand
TKN = Total Kjeldahl nitrogen
ml = milliliter
SG = Specific gravity

The packaged samples were shipped overnight via FedEx priority service for next-morning delivery. The receiving laboratory was notified to expect a next-day delivery, and a follow-up phone call verified the shipment's arrival. All samples were shipped to the laboratory on the same day of collection. All sample shipments were reported to have arrived at the laboratory in good condition and at appropriate temperatures, and all samples were extracted and analyzed within the required holding times.

Chain-of-Custody

To ensure the integrity of the sample-transfer process, a strict chain-of-custody procedure was implemented for all samples collected. This procedure was initiated in the field for each sampling event and carried out through custody transfer to the contract laboratory. A chain-of-custody form was completed for each shipping cooler, itemizing sample numbers, containerization, preservative, analyses requested, date and time of sampling, and FedEx shipment number. Custody transfers were recorded by signature, date and time of relinquishing, or receipt of custody by the parties involved. Coolers or packages were sealed with custody seals during transport.

Auxiliary Data

Auxiliary data pertinent to sampling activities were collected for each sampling event. Field information included identifying personnel; time of sampling; describing location, weather conditions, and equipment/sample containers used; sampling methods and test equipment used; any physical/chemical parameters measured; problems encountered; procedural deviations, etc. This information was recorded in appropriate field logbooks dedicated to sampling activities.

Decontamination

Equipment used in the field investigation was decontaminated in accordance with guidelines in the Site 2 SAP, CSAP and the SOP/QAM. Sampling equipment was decontaminated before its use at each sampling station and sampling equipment that touched the actual sampled material was decontaminated between each sample collection at any given station. Decontaminated sampling equipment intended for transport or storage before use was wrapped in aluminum foil. Decontamination of the Kemmerer sampler and Ponar dredge, while on board the sampling boat, included a soap and water wash, triple deionized (DI) water rinse and flush with ambient water just before to the sampling event.

5.4 Global Positioning System

Sampling in water environments can produce location identification constraints different from those typical to land-based environmental sites. A unique procedure to determine specifically where each sample was taken was necessary since flags, survey hubs, or paint marks could not be used to establish points. To determine where the sampling team was located at any given time, a global positioning system (GPS) was employed. The GPS eliminates the problems associated with trying to use classical surveying methods in this environment.

Global positioning survey techniques have recently become the accepted method for several reasons, speed, accuracy, and mobility in varying field conditions makes it highly attractive to many industries and disciplines. Recently, additional applications for the use of GPS have included air traffic control and marine navigation. With this in mind, E/A&H decided to use the technology for a variety of applications at NAS Pensacola; one was the identification of sampling locations in bay areas.

GPS has been used commercially only for a short time. Initially developed by the Department of Defense, the concept is based on using satellites in orbit above the earth for high-tech "triangulation-like" positioning. The satellites emit digital signals (pseudo-random code) on the L-band group of radio frequencies and a GPS receiver on earth receives two forms of this code (one may be encrypted for military use only). As these signals travel through space to earth, atmospheric disturbances create ambiguity and degradation in the signals. Using a technique called *differential GPS*, two receivers, a reference receiver and a rover receiver, are used to eliminate the degradation and improve accuracy of the position. With the location of the reference receiver being known, and because signals from both receivers are degraded by the same amount, the location of the rover unit can be determined using an available microcomputer software package.

It is necessary for the receivers to track at least four satellites for data to be recorded. Depending upon the constellation of the satellites, it is sometimes possible that less than four satellites will be available to track. Obstructions such as buildings and trees or, merely satellite positions being at or near the horizon can keep the signals from reaching the receivers.

At NAS Pensacola, the GPS unit used was a Wild GPS-System 200. A stationary reference receiver placed at a surveyed location continually recorded signals from satellites during each day. Prior to field sampling, a rover unit was initialized on land (to resolve initial ambiguities) before being carefully moved to the boat. The objective was a stop-and-go survey, performed by merely pausing for a few seconds at each sampling point. Using the hand-held controller, the user recorded each point and gave an appropriate description for each. This process of initialization and subsequent recording is termed a "chain." At each day's end, the memory cards were downloaded into a personal computer containing SKI software and a map of the sampling points was viewed and the accuracy of each point noted. An advantage of using the GPS method for water-based sampling is that re-sampling at the same location (+ 0.1 meter) is possible via "way-point" techniques.

On several occasions during the first sampling day, satellite reception problems were encountered after the boat was anchored at the sample location. When this happened it was necessary to travel back to shore, re-initialize, and then return to the sample location. This proved to be a very inefficient use of field time. To eliminate this problem, buoys were deployed to mark the locations and thus allow sampling to continue. At the end of the day, a trip was made to each buoy location, at which GPS information was logged. This method proved to be much more time efficient. Normal field variables such as buoy drift and boat re-positioning biased the GPS data points only slightly. Reducing these field variables was critical to the usefulness of the GPS technique for this biased survey. Future field efforts will attempt to limit the effect of these variables even more.

5.5 Crab Tissue Sampling Procedures

Based on data from the initial contaminant survey and recommendations determined during the Baseline Risk Assessment (Section 10), a study was initiated to collect blue crabs for tissue analysis. This study was directed at determining the human health risk that may be present due to local recreational and commercial fishing for the species in the Site 2 vicinity. The following provides detailed information on procedures used to collect, transport, and analyze crab tissue.

From September 13 to September 17, 1994, a sampling program was conducted to collect blue crabs from portions of Pensacola Bay adjacent to Site 2. Before collecting crabs, sampling equipment was decontaminated to reduce the likelihood of cross contamination. Ice chests, stainless-steel buckets, and crab tongs were first washed with soap and water, rinsed with hexane, and then rinsed again with DI water. Equipment was then sealed to prevent contamination during transport to the field.

Ten new crab traps were purchased and rinsed repeatedly with DI water to remove any visual contamination. Traps were then transported by boat to locations previously identified for crab sampling (Figure 5-7). These locations were selected to best represent both the spatial contamination trend observed during the RI process and to provide information on fishable areas along the seawall.

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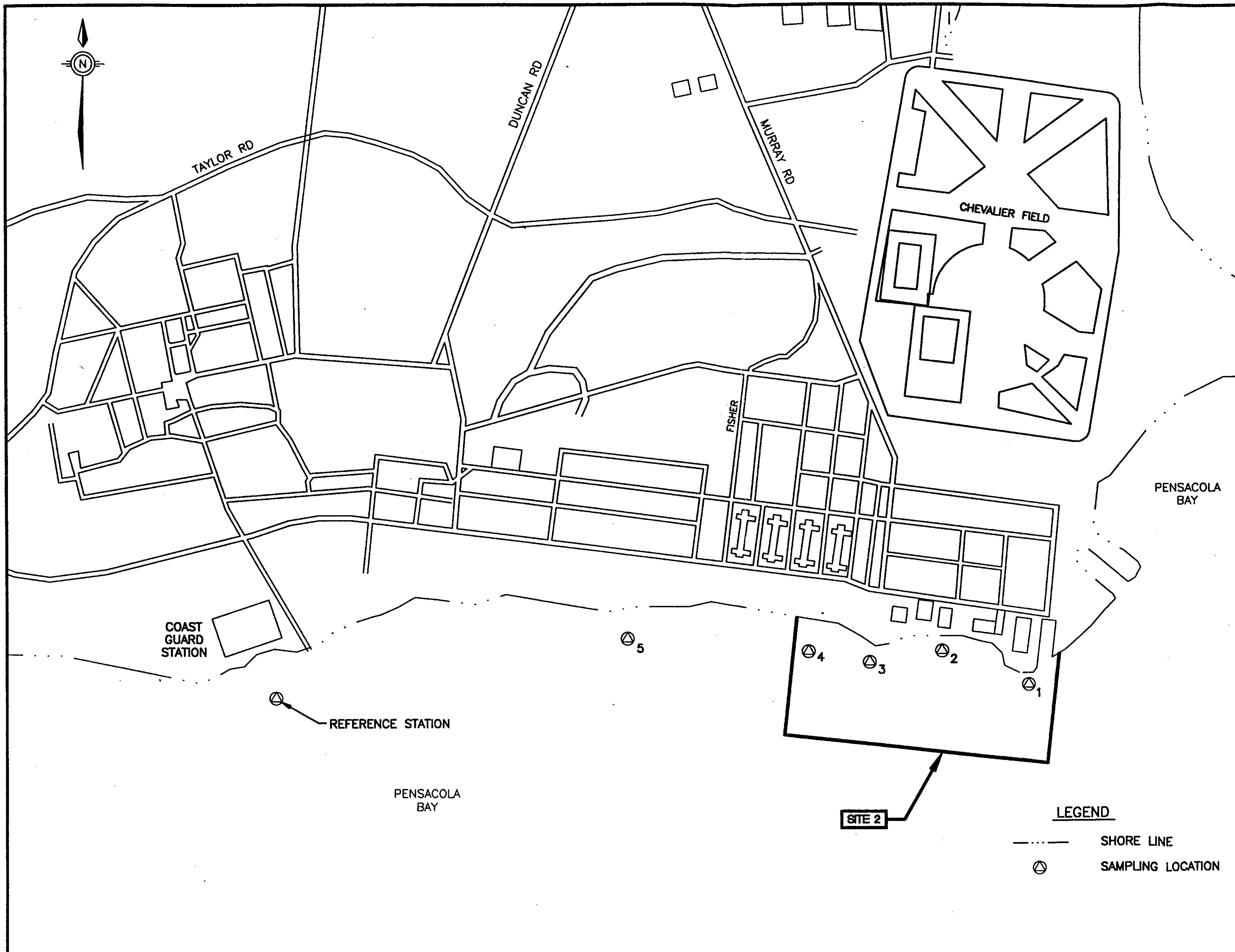

REMEDIAL INVESTIGATION
SITE 2
NAS–PENSACOLA
PENSACOLA, FLORIDA

FIGURE 5–7
CRAB TISSUE
SAMPLING LOCATIONS

DWG DATE: 1/24/95 | DWG NAME: TMCRABSM

Traps were baited with menhaden purchased from a local fish market and placed on the bottom. On three consecutive days the traps were checked and emptied. Crabs collected each day were placed on ice in stainless-steel buckets and labeled with station, time of day, and Loran C readings for the location.

Crabs were transported to the field laboratory at NAS Pensacola and processed. Total length (carapace width), sex, and maturation stage was recorded. Crabs were then wrapped in aluminum foil which had previously been DI water/hexane rinsed. Wrapped crabs were placed in resealable plastic bags also rinsed with DI water/hexane and placed in a freezer. The plastic bags were labeled with the sample number on the outside in addition to a tag on the inside.

Crabs were processed as above until a sufficient number (12 to 14) per location was collected. Finally, frozen crabs were packed in ice chests and shipped overnight to Savannah Laboratory in Savannah, Georgia.

Laboratory processing included excising edible tissue from the cephalothorax and chelipeds. Approximately 100 grams of tissue were used in analysis of semivolatile organics, pesticides and metals using USEPA CLP protocols.

5.6 Phase IIB Bioassay Test Methods

Sheepshead Minnow *(Cyprinodon variegatus)*

Methods for the 7-day static renewal toxicity test were based on method 1004 entitled: "Sheepshead Minnow *(Cyprinodon variegatus)*Larval Survival and Growth" in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" (EPA/600/4-91/003 - U.S. EPA, 1994).

Testing consisted of exposure of sheepshead minnow *(Cyprinodon variegatus)* to 100 g of control sediment consisting of "aged" washed coarse sand or test sediment and 300 mL of the appropriate dilution water. In the first test the laboratory saltwater possessed the following initial water quality ranges: salinity of 21 to 23 parts per thousand (ppt) and a pH of 8.0 to 8.4. The Pensacola Bay saltwater possessed the following initial water quality ranges: salinity of 20 to 22 ppt and a pH of 8.0. In the second test, the laboratory saltwater possessed the following initial water quality ranges: salinity of 21 ppt and a pH of 8.1 to 8.3. The EnSafe saltwater possessed the following initial water quality ranges: salinity of 20 to 22 ppt and a pH of 7.9 to 8.0.

Larval sheepshead minnow were tested in 450-mL glass crystallizing dishes containing 300 mL of control water or test solution providing a water depth of approximately 4.5 cm. The first test series was initiated on January 25, 1996, and the second test series on February 6, 1996, by impartially distributing fish to the test chambers by ones or twos. Ten sheepshead minnow were tested per replicate and all treatments were replicated seven times, resulting in 70 fish per treatment. At least 80 percent of the test solution volume was replaced daily with the appropriate dilution water. All solution replacements were conducted with samples which had been stored at approximately 4°C until use. Test solutions were aerated during the test due to dissolved oxygen concentrations falling below 4.0 mg/L. Fish were fed approximately 0.10 g (total wet weight) of concentrated live brine shrimp *(Artemia)* nauplii daily from day 0 to day 2, and were fed approximately 0.15 g (total) from day 3 to day 6.

The test was conducted in a temperature-controlled waterbath to maintain a test temperature of 25 $\pm$ 1°C under fluorescent lighting on a photoperiod of 16 hours light and 8 hours dark. The light intensity ranged between 10.8 and 14.5 microEinsteins per square meter per second ($\mu E/m^2/s$) over the test chambers.

Survival of sheepshead minnow was monitored daily and any dead fish observed were removed. Any abnormalities in the behavior or physical appearance of the sheepshead minnow were also noted. At test termination, the surviving larvae in each test chamber were counted and prepared as a replicate for dry weight determination. Immediately prior to the dry weight analysis, each group of larvae was rinsed with deionized water to remove food particles, transferred to a tared weighing boat, and dried at 60°C for a minimum of 24 hours. Upon removal from the drying oven, the weighing boats were placed in a desiccator to cool. Dry weights were measured to 0.01 mg.

Temperature, salinity, dissolved oxygen concentrations and pH were measured at the beginning and end of each 24-hour renewal period in composites of both controls (i.e., both old and new dilution waters). Dissolved oxygen concentrations and pH were measured at the end of each 24-hour renewal period in composite test solutions of the treatments. The diurnal temperature range of the waterbath was monitored and recorded daily by a minimum/maximum thermometer.

Mysids *(Mysidopsis bahia)*

Methods for the 7-day static renewal test was based on method 1007 "Mysid, *Mysidopsis bahia,* Survival, Growth, and Fecundity Test" in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" (EPA/600/4-91/003 - U.S. EPA, 1994).

Testing consisted of exposure of mysid shrimp *(Mysidopsis bahia)* to 100 g of control sediment consisting of "aged" washed coarse sand or test sediment and 150 mL of the appropriate dilution water. In the first test series, the laboratory saltwater possessed the following initial water quality ranges: salinity of 21 to 23 ppt and a pH of 8.0 to 8.4. The Pensacola Bay saltwater possessed the following initial water quality ranges: salinity of 20 to 22 ppt and a pH of 8.0. In the second test series, the laboratory saltwater possessed the following initial water quality ranges: salinity of 21 ppt and a pH of 8.2 to 8.4. The Pensacola Bay saltwater possessed the following initial water quality ranges: salinity of 20 to 22 ppt and a pH of 7.9 to 8.0.

Mysids were tested in 300-mL glass crystallizing dishes containing 100 g of control sediment or test sediment and 150 mL of the appropriate dilution water providing a water depth of approximately 2.4 cm. The tests were initiated by impartially distributing mysids to the test chambers by ones and twos until 5 mysids per replicate was obtained. Each treatment was replicated seven times, resulting in a total of 35 organisms per treatment. Approximately 80 percent or more of the test solution volume was replaced daily with the appropriate dilution water. All solution replacements were conducted with samples which had been stored at approximately 4°C until use. Test solutions were aerated during the test due to dissolved oxygen concentrations below 4.0 mg/L. Mysids *(Mysidopsis behia)* tested were post-larva obtained from TES cultures and were 7 days old at test initiation on January 24, 1996, for the first test and February 8, 1996, for the second test. Mysid shrimp were fed approximately 150 live brine shrimp *(Artemia)* nauplii per mysid.

The test was conducted in a temperature-controlled waterbath to maintain a test temperature of 26 $\pm$ 1°C under fluorescent lighting on a photoperiod of 16 hours light and 8 hours darkness. The light intensity ranged between 10.3 and 18.2 $\mu E/m^2/s$ over the test chambers.

Survival of mysids was monitored daily and any dead shrimp observed were removed. Any abnormalities in the behavior or physical appearance of the mysids were also noted. At test termination, the surviving larvae in each test chamber were counted and prepared as a replicate for sexing and dry weight determination. Immediately prior to the dry weight analysis, each group of larvae was sexed using a dissecting scope, rinsed with deionized water to remove food particles, transferred to a tared weighing boat, and dried at 60°C for at lease 24 hours. Upon removal from the drying oven, the weighing boats were placed in a desiccator to cool. Dry weights were measured to 0.01 mg.

Temperature, salinity, dissolved oxygen concentrations and pH were measured at the beginning and end of each 24-hour renewal period in composites of both controls (i.e., both old and new dilution waters). Dissolved oxygen concentrations and pH were measured at the end of each 24-hour renewal period in composite test solutions of the treatments. The diurnal temperature range minimum/maximum thermometer.

5.6.1 Reference Toxicant Tests

Acute and chronic reference toxicant tests using sodium dodecyl sulfate (SDS) were conducted within 30 days of the toxicity tests on the sediments.

5.6.2 Statistical Analyses

Based on results of the tests, the appropriate NOEC, LOEC, LC^{50} and EC^{50} values and their 95 percent confidence limits were calculated whenever possible. Statistical analysis was completed by a computer program (ToxCalc 5.0) using the preferred EPA statistical analysis as outlined in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" (EPA/600/4-91/003-U.S. EPA, 1994). The method selected for reporting the test results was determined by the characteristics of the data, i.e., the presence or absence of 0 percent and 100 percent mortality and the number of concentrations in which mortalities between 0 and 100 percent occurred (Stephan, 1977). Statistical comparisons were run between the TES control and the Pensacola Bay control; then between the Pensacola Bay control and the test sediment.

5.7 Phase IIB Benthic Sampling Procedures

Taxonomic identification and community parameter enumeration of sediment samples were simultaneously conducted on sediment samples collected during the Phase IIB assessment. A portion of each (1-3L) sample was sieved in a 3-gallon #30 mesh littoral sample bucket, washed into glass jars and fixed in 10 percent formalin. Samples were shipped to Barry Vittor & Associates, Inc. for laboratory identification of the biotic components using standard dissection microscope techniques.

6.0 BATHYMETRIC, SEDIMENTOLOGIC, AND HYDROLOGIC RESULTS

6.1 Bathymetry

Water depths across Site 2 were measured in August 1993 during the preliminary sediment investigation. Depths ranged from approximately 3 feet at the seawall to 45 feet in the area of the dredged carrier turning basin beyond the southeastern extent of the site, approximately 1200 feet offshore (Figure 6-1). Within the site proper, the greatest depths observed were approximately 27 feet. At the eastern end, where the Port Operations marina is located, depths were commonly 7 to 9 feet. The average water depth across the site was 16.5 feet.

Topography gradients along the bay bottom varied from east to west across the site between approximately 200 to 500 feet offshore. South of Building 71, in the eastern part of the site, gradients were 0.03. In the western half, gradients noticeably increased to 0.09. Beyond 400 to 500 feet offshore, the bay floor was relatively flat except for the abrupt slope into the carrier turning basin to the southeast (Figure 6-1).

6.2 Sedimentologic Results

During a preliminary assessment of the bottom sediments, grab samples were collected at 100-foot increments along north-south transects and classified using the USCS descriptors. The results of this preliminary investigation are presented in Table 6-1. Based on this preliminary investigation, locations were selected for collecting grain size and TOC samples for laboratory analysis. The sediment distribution based on these samples is presented in Figure 6-2. Much of the site is covered with poorly graded coarse- to fine-grained quartz sand to silty sand. Gravel, composed primarily of shells and shell fragments, is intermixed with the sand; however, some quartz gravel is present in the sediment as a result of the abundant concrete rubble in the area.

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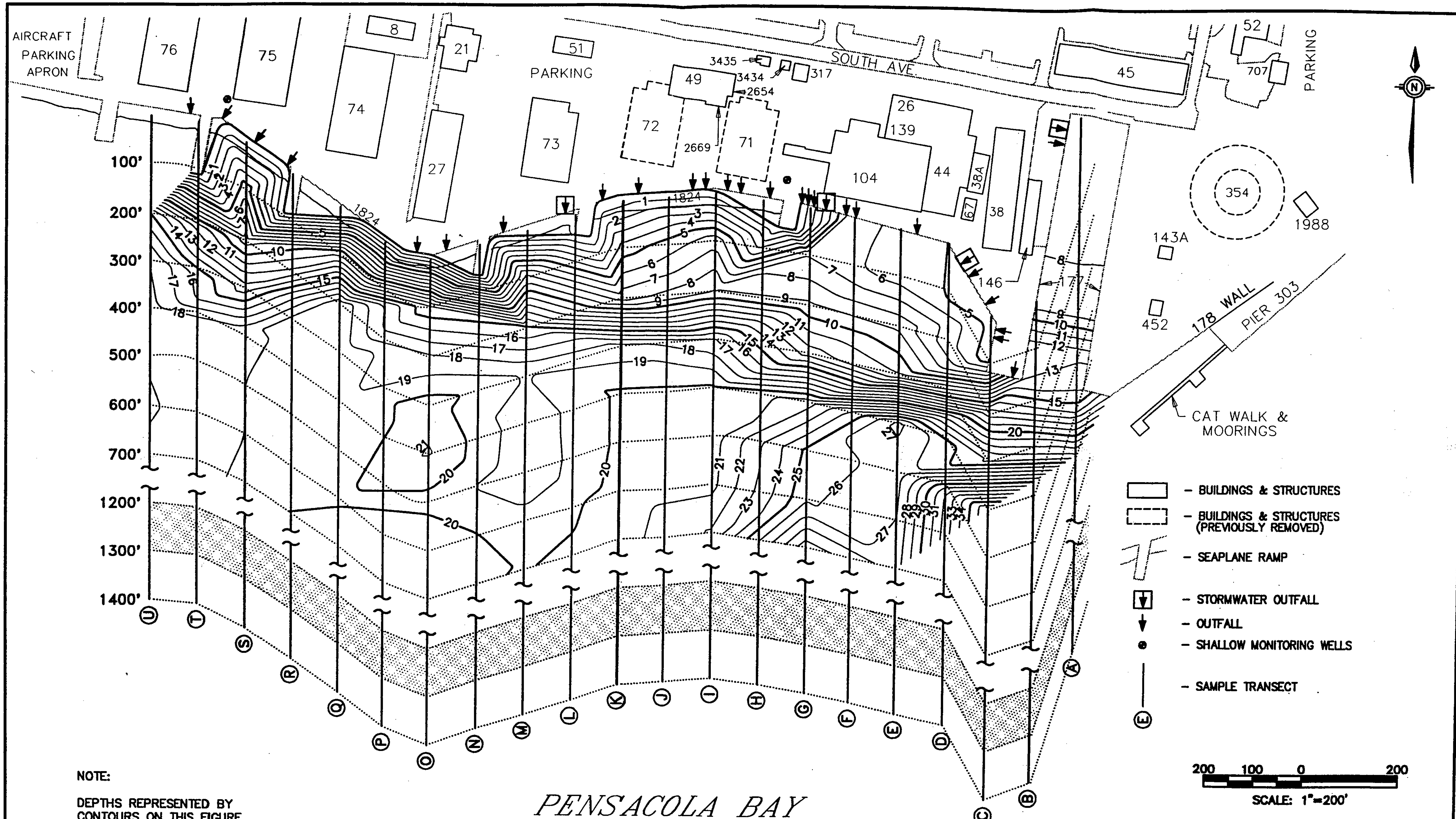


NOTE:

DEPTHS REPRESENTED BY CONTOURS ON THIS FIGURE ARE EXPRESSED IN FEET.

REMEDIAL INVESTIGATION SITE 2 NAS-PENSACOLA PENSACOLA, FLORIDA	FIGURE 6-1 SITE BATHYMETRY
DWG DATE: 1/25/95	DWG NAME: 58BATHYM

Table 6-1
Sediment Assessment Sampling Survey (8/4/93 through 9/8/93)
Site 2

Grid Code	Water Depth (feet)	Sample ID	Analytical Data				Visual Assessment of Sediment Based on USCS Methodology
			TOC (%)	Grain Size (%)			
				G	S	F	
A0	6	02M0101	0.13	10.3	84	5.7	SC-black sandy clay with shell
A1	7.8	02M5701	0.04	1.3	96.1	2.6	0-6": coarse sand, medium gray black with various colored granules
A2	8						[brown-gray muddy sand, shells and worms]
A3	8.5	02M5801	0.04	0.9	93.4	5.7	0-6": medium sand, gray, few shell with granules of debris, only slightly muddy
A4	12.8	02M5901	0.18	14.4	62.4	23.2	0-6": sandy clay, "ooze", dark gray
A5	15.6	02M6001	0.22	44.8	38.6	16.6	0-6": clay, some sand, pieces of rock, shell, dk gray
A6	23.3						[sandy clay, some shell, slight ooze]
A7	>42						[sandy clay, shell hash, H_2S smell]
C1	4.4	02M5301	0.06	12.8	83.8	3.4	0-6": gravelly sand, pebbles, grayish brown
C2	17.3	02M5401	0.20	0	86.7	13.3	0-24": clay sand (f-md gr.) 5% shell, dark. gray
C3	23.8	02M5501	0.15	3.5	90.7	5.8	0-6": clayey sand-10% shell, dk gray, H_2S smell
C4	37	02M5601	0.05	0.2	95.2	4.6	0-6": sand (f-medium gray), grayish brown, slightly muddy, 5% shell
C5	>42						[clay ooze, H_2S smell, no sand]
C6	>42						NO RECOVERY
C7	>42						[sandy clay, few shells]
C8	>42						[sandy clay, few shells, brittle stars]
C9	>42						[clay, H_2S smell, little sand]

Table 6-1
Sediment Assessment Sampling Survey (8/4/93 through 9/8/93)
Site 2

Grid Code	Water Depth (feet)	Sample ID	Analytical Data				Visual Assessment of Sediment Based on USCS Methodology
			TOC (%)	Grain Size (%)			
				G	S	F	
C10	>42						[sandy clay, worms, shells]
D0	3	02M0201	<0.01	14.2	85.0	0.8	
E1	5.4	02M4201	0.04	0.2	95.6	4.2	0-6": sand (med. grain) grayish-brown-few shells
E2	8.8	02M4301	0.16	0	35.5	64.5	0-6": sandy clay, few shells, dark gray
E3	11	02M4401	0.18	6.3	71.1	22.6	0-6": clay, dark gray, 2%-3% sand
E4	27.2	02M5101	0.22	16.3	75.5	8.2	0-4": shell hash (100%);4-24", shelly sandy clay, stiff clay @20"-24", dk gray 20%-25% shell
E5	26.5	02M5201	0.09	0.0	92.4	7.6	[sandy clay, mud lumps]
E7	27.5						[gray brwn sand, few shell, trace mud]
E8	32.2						[muddy sand with shell, gray]
E9	30.8						[muddy sand, worms, some shell]
E12	42						[sandy clay with ooze, no worms, H_2S smell]
G1	6.9	02M3901	<.01	0.7	96.0	3.3	0-6": medium gray sand, few shells (<5%), little mud, gray-brown
G2	9.2	02M4001	0.13	4.0	77.9	18.1	0-6": clayey sand, 5% shell, dark gray
G2		02M4002	0.13				18-24": clayey sand, more clay rich than upper 6", shelly
G3	12.5	02M4101	0.13	0	15.4	84.6	0-6": clay "ooze" dark gray to black, <2-3% sand, Hydrogen sulfide odor
G4	21.5	02M4901	0.14	3.0	85.9	11.1	0-6": fine to medium gray. sand, 5-10% shell, gray to grayish brown

Table 6-1
Sediment Assessment Sampling Survey (8/4/93 through 9/8/93)
Site 2

Grid Code	Water Depth (feet)	Sample ID	Analytical Data				Visual Assessment of Sediment Based on USCS Methodology
			TOC (%)	Grain Size (%)			
				G	S	F	
		02M4902	0.12	0.3	89.0	10.7	18-24": sand clay-clay sand gray with shell
G5	25.2	02M5001	0.08	0.7	95.4	3.9	0-18": sand clayey, fine to medium gray sand, becoming slightly clayey near 18", gray
G6	25.8						[sand and clay, shell]
G7	29.6						[sand with mud, some shells and worms]
G8	30.6						[sand with clay lumps and shells]
G9	>42						[clay ooze, little sand, H_2S smell]
G10	>42						[clay, <1% sand, not many shells or worms]
H0	4	02M0301	0.08	4.5	89.4	6.1	
I1	6.7	02M3601	0.04	0	97.1	2.9	0-12": medium sand, gray-brown, 5% shell, slightly muddy
I2	9.1	02M3701	0.17	0.8	79.5	19.7	0-18": 0-6" dark gray to black clay, <5% sand/10% shell; 12"-18" more sandy
I3	17.2	02M3801	0.10	0.7	75.5	23.8	0-12": 0-6" clay to clayey sand, dark gray becoming more sandy near 12"
I4	20.1	02M4701	0.06	0.8	91.6	7.6	0-14": sand, muddy; 5%-10% shell, gray
I5	20.6	02M4801	0.05	0	97.2	2.8	0-12": fine to medium gray sand; 5%-10% shell, gray-slightly muddy, near 12" clay rich
I6	20.7						[muddy sand, few worms]
I7	22.1						[sand, some mud, with shells and worms]
I8	22.5						[clean sand, no mud, shells]

Table 6-1
Sediment Assessment Sampling Survey (8/4/93 through 9/8/93)
Site 2

Grid Code	Water Depth (feet)	Sample ID	Analytical Data				Visual Assessment of Sediment Based on USCS Methodology
			TOC (%)	Grain Size (%)			
				G	S	F	
I10	25.7						[sand, 20% shell, worms, trace of clay]
I12	29.6						[brown-gray sand/clay, worms and shell]
K1	4.4	02M3301	0.02	1.9	95.1	3.0	0-12": sand-medium gray, 10%-15% shells
K2	7.6	02M3401	0.02	0	91.2	8.8	0-12": medium sand-clayey, grey-brown, few shells, more clay-rich 8-12"
K3	18.4	02M3501	0.10	0.1	89.0	10.9	0-6": sand clayey, dark grey more clay rich than previous, few shells
K4	20.2	02M4501	0.14	0.8	95.9	3.3	0-6": gray fine to medium grain sand, 10% shell, slightly muddy
K5	20.2	02M4601	0.02	0	96.1	3.9	0-6": medium sand grey, 1%-15% shell
K6	20.4						[clayey sand, with shells and clay lumps]
K7	20.6						[sand with mud, shells, and worms]
K8	21.8						[sand shells, live brittle stars, and worms]
K11	22.9						[sand with shell and worms]
K12	25.3						[sand with shell, some mud, large shell fragments, oyster and clam]
K13	28.8						[sand with mud lumps some shell]
M0	4	02M0401	0.02	5.8	92.2	2.0	
M1	8.3	02M2801	<.01	0	92.9	7.1	0-18": medium sand-slightly clayey-dark gray; few shells
M2	15.1	02M2901	<.01	0.5	91.8	7.7	0-18": medium sand slightly clayey, dark gray; few shells; clay rich at depth
M3	19	02M3001	<0.02	0	38.2	61.8	0-18": dark gray clay "ooze", becoming stiffer @ 8"; some sand @ 8-18"

Table 6-1
Sediment Assessment Sampling Survey (8/4/93 through 9/8/93)
Site 2

Grid Code	Water Depth (feet)	Sample ID	Analytical Data				Visual Assessment of Sediment Based on USCS Methodology
			TOC (%)	Grain Size (%)			
				G	S	F	
M4	18.3	02M3101	0.02	0.5	90.3	9.2	0-12": line to medium sand-clayey with shell, gray-brown; more clay rich 6-12"
M5	18.2	02M3201	<.01	0.1	95.5	4.4	0-8": fine/medium sand becoming muddy @ 6-8"; 10% shell, gray-brown
M6	19.3						[clayey sand with shell and worms]
M7	19.9						[sand and mud with shells and worms]
M8	19.9						[sand with clay lumps and shell]
M9	20.9						[sand with shell and worms]
M11	25.9						[sand with shell and clay lumps]
O1	14.1	02M2301	0.02	0.0	36.9	63.1	0-12": dark gray clay; slightly sand; some shells
O2	18.1	02M2401	0.18	3.3	56.8	39.9	clay-sandy with shell, dark gray
O3	20.5	02M2501	0.16	0.5	82.7	16.8	0-6": sand clay, with shell-med. sand, dark gray
O4	21.1	02M2601	0.04	0.1	87.4	12.5	0-6": sandy clay with shell, gray
O5	19.7	02M2701	0.07	0.9	94.0	5.1	0-6": sandy clay, medium gray with shell, gray
O6	20.8						[sand with shells and worms]
O7	20.5						[sand with shell]
O8	21.2						[sand with worms]
O9	21.5						[sand with worms]
O10	21.8						[sand with shell and mud lumps]

Table 6-1
Sediment Assessment Sampling Survey (8/4/93 through 9/8/93)
Site 2

Grid Code	Water Depth (feet)	Sample ID	Analytical Data				Visual Assessment of Sediment Based on USCS Methodology
			TOC (%)	Grain Size (%)			
				G	S	F	
O11	23.2						[sand with shell hash and worms]
P0	4	02M0501	0.06	0.3	96.0	3.7	
Q1	11.0	02M1801	0.06	0.0	93.0	7.0	0-18": sandy clay to clayey sand; dark gray with shells
Q2	19.9	02M1901	0.15	0.4	80.5	19.1	0-12": sandy clay with shell, dark gray
Q3	19.6	02M2001	0.15	0.7	89.8	9.5	0-12": clayey sand with shell to sandy clay, dark gray
Q4	19.2	02M2101	<0.1	0.6	90.5	8.9	0-12": clayey sand with shell to sandy clay, dark gray
Q5	19.2	02M2201	0.15	0.0	95.9	4.1	0-12": fine to medium sand, slightly muddy with shell, grayish brown
Q6	19.8						[sand with shell]
Q7	20.9						[sand with worms]
Q8	21.2						[sand with worms]
Q9	21.2						[sand with worms]
Q10	25.7						[sand with worms]
Q12	22.9						[sand with shell and slag]
S1	5.8	02M1401	0.04	0.0	96.0	4.0	0-14": clayey, slightly sandy; dark gray
S2	8.5	02M1001	0.16	0.8	95.3	3.9	SC-muddy sand, gray somewhat shelly
S3		02M1101	0.17	0.9	80.7	18.4	sandy clay-clayey sand with shell, dark gray
S4	18.8	02M1501	0.21	0	71.8	28.2	0-14": sandy clay with shell, dark gray

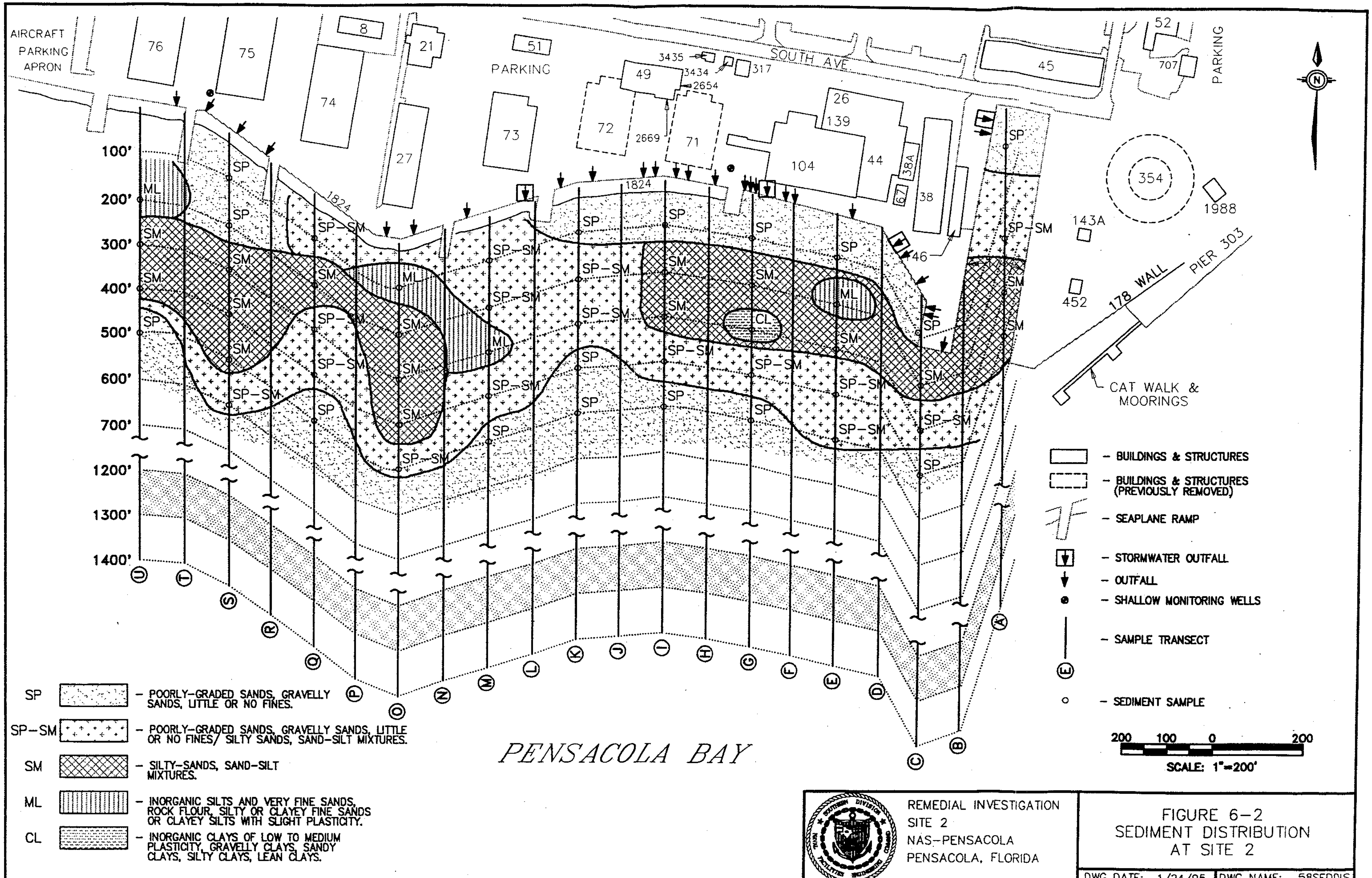
Table 6-1
Sediment Assessment Sampling Survey (8/4/93 through 9/8/93)
Site 2

Grid Code	Water Depth (feet)	Sample ID	Analytical Data				Visual Assessment of Sediment Based on USCS Methodology
			TOC (%)	Grain Size (%)			
				G	S	F	
S5	19	02M1601	0.01	0.2	83.6	16.2	0-12": sandy clay to clayey sand with shell, fine medium gray sand, dark gray
S6	19	02M1701	0.12	0.0	91.4	8.6	0-18": clayey sand, shelly, fine-medium sand, dark gray
S7	19.2						[sand with worms]
S8	19						[sand with worms]
S9	21.7						[sand with worms]
S11	21.3						[sand]
S12	24.8						[sand]
T0	4	02M0601	0.06	0.0	97.6	2.4	
U1	4.5	02M0701	0.08	0.1	98.2	1.7	
U2	15	02M0801	0.04	0.0	39.3	60.7	0-6": black ooze-clay
U3	17.9	02M1201	0.16	0.2	74.4	25.4	sandy clay with few shells, dark gray
U4	18.3	02M0901	0.13	0.0	83.7	16.3	0-14": clayey shelly sand-gray
U5	18.1	02M1301	<.01	0.0	95.4	4.6	clayey sand with shell, dark gray
U6	17.9						[sand with worm tubes]
U7	18.2						[sand with worm tubes]
U8	19.6						[sand with worm tubes]
U9	19.9						[sand with worm tubes]

Table 6-1
Sediment Assessment Sampling Survey (8/4/93 through 9/8/93)
Site 2

Grid Code	Water Depth (feet)	Sample ID	Analytical Data				Visual Assessment of Sediment Based on USCS Methodology
			TOC (%)	Grain Size (%)			
				G	S	F	
U10	20.5						[sand with worm tubes]
U11							[sand with worm tubes]
U12	22.3						[sand with worm tubes]
U13	23.6						[sand with worm tubes]
U14	21.8						[sand with worm tubes]

Notes:
G = Gravel (>4.8 mm)
S = Sand (>.75 mm, <4.8 mm)
F = Fines (silt and clay; <0.75 mm)


AIRCRAFT PARKING APRON
PARKING
SOUTH AVE.
PARKING
PIER 303
178 WALL
CAT WALK & MOORINGS
PENSACOLA BAY
SP
POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
SP–SM
POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES/ SILTY SANDS, SAND-SILT MIXTURES.
SM
SILTY-SANDS, SAND-SILT MIXTURES.
ML
INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY.
CL
INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.
BUILDINGS & STRUCTURES
BUILDINGS & STRUCTURES (PREVIOUSLY REMOVED)
SEAPLANE RAMP
STORMWATER OUTFALL
OUTFALL
SHALLOW MONITORING WELLS
SAMPLE TRANSECT
SEDIMENT SAMPLE
SCALE: 1"=200'
REMEDIAL INVESTIGATION
SITE 2
NAS-PENSACOLA
PENSACOLA, FLORIDA
FIGURE 6-2
SEDIMENT DISTRIBUTION
AT SITE 2
DWG DATE: 1/24/95
DWG NAME: 58SEDDIS

Two distinct bands of fine-grained sediment, silty sand to silt, and clay, occur between approximately 200 to 400 feet offshore (Figure 6-2). One area extends from south of Building 27 to the site's western boundary; the other extends from south of Building 71 to the eastern boundary. The thickness of this fine-grained sediment was not determined definitively; however, these areas were probed and the thickness was estimated to be 6 to 8 feet thick. Percent fines, which includes the silt and clay fractions (grain size diameters less than 0.074 millimeters [mm]), is presented in Figure 6-3.

Sediment distribution is a result of the hydraulic regime at Site 2. Close to shore, water depths are apparently above normal wave base, resulting in the deposition of coarser sediment, sand, and gravel. Beyond approximately 500 feet offshore, coarse sediment deposition is the result of swift tidal currents moving through the pass. These strong currents were observed during the fieldwork and preclude the deposition of fine-grained sediment. The areas of fine-grained deposition are apparently below the depth of normal wave base and are possibly in an eddy formed as the ebb tidal currents move around the eastern end of the peninsula. The shoreline's configuration also contributes to the deposition of fine-grained sediment. The carrier dock further protects the Site 2 area from ebb tidal currents and produces a low-energy area downcurrent, resulting in fine-grained deposition. The distribution of sediment at Site 2 is important because of the contaminant's affinity to fine-grained sediment. This relationship will be discussed further in Section 7.

Percent TOC distribution is presented in Figure 6-4. Percent TOC ranged from <0.01 to 0.22; for unknown reasons, higher TOC percentages were associated with samples with more shell material. Possibly the shell material occurred as shell hash associated with detrital material, thus the higher TOC values. A lack of correlation appeared between TOC values and percent fines was confirmed through regression analysis.

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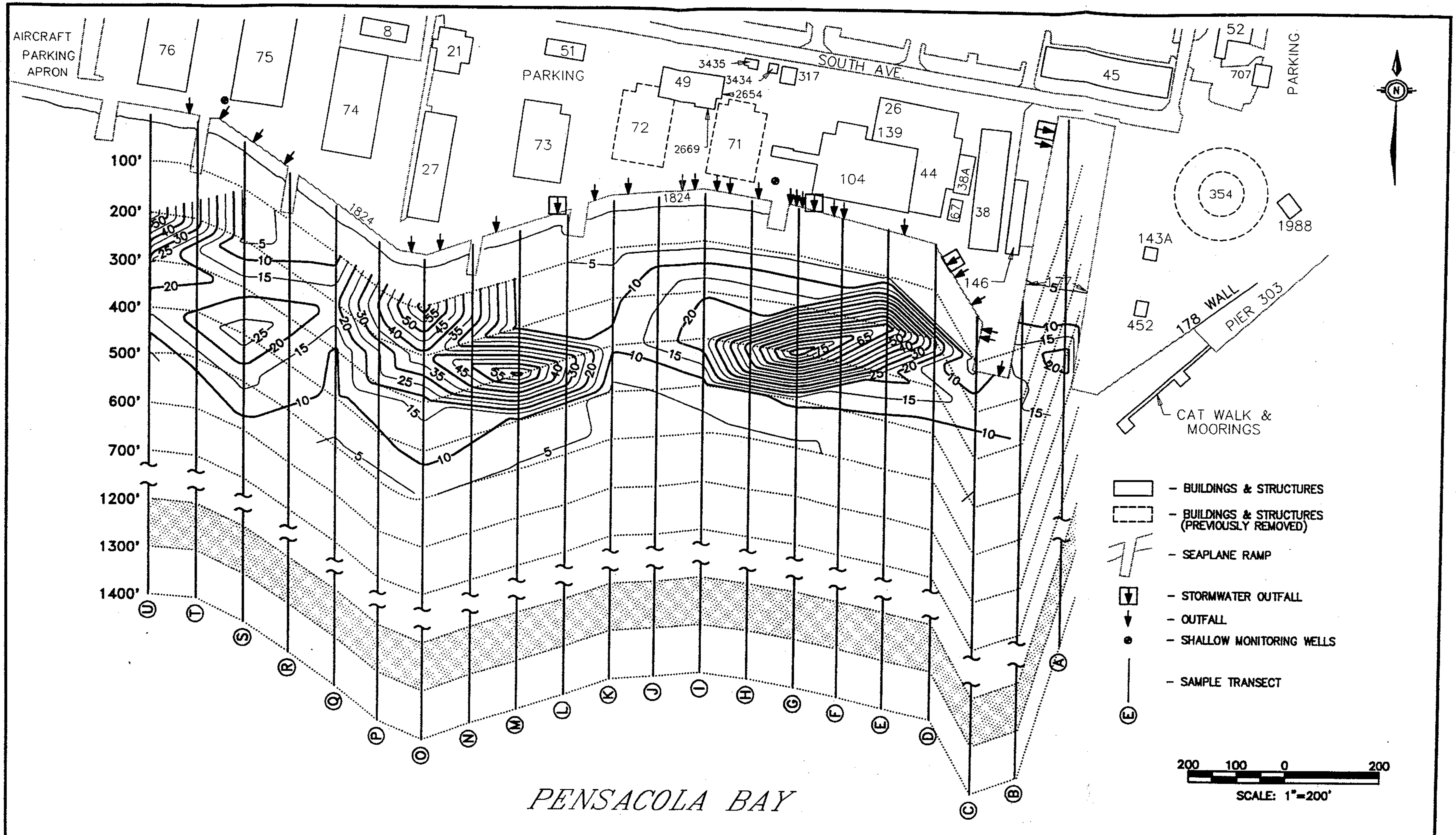
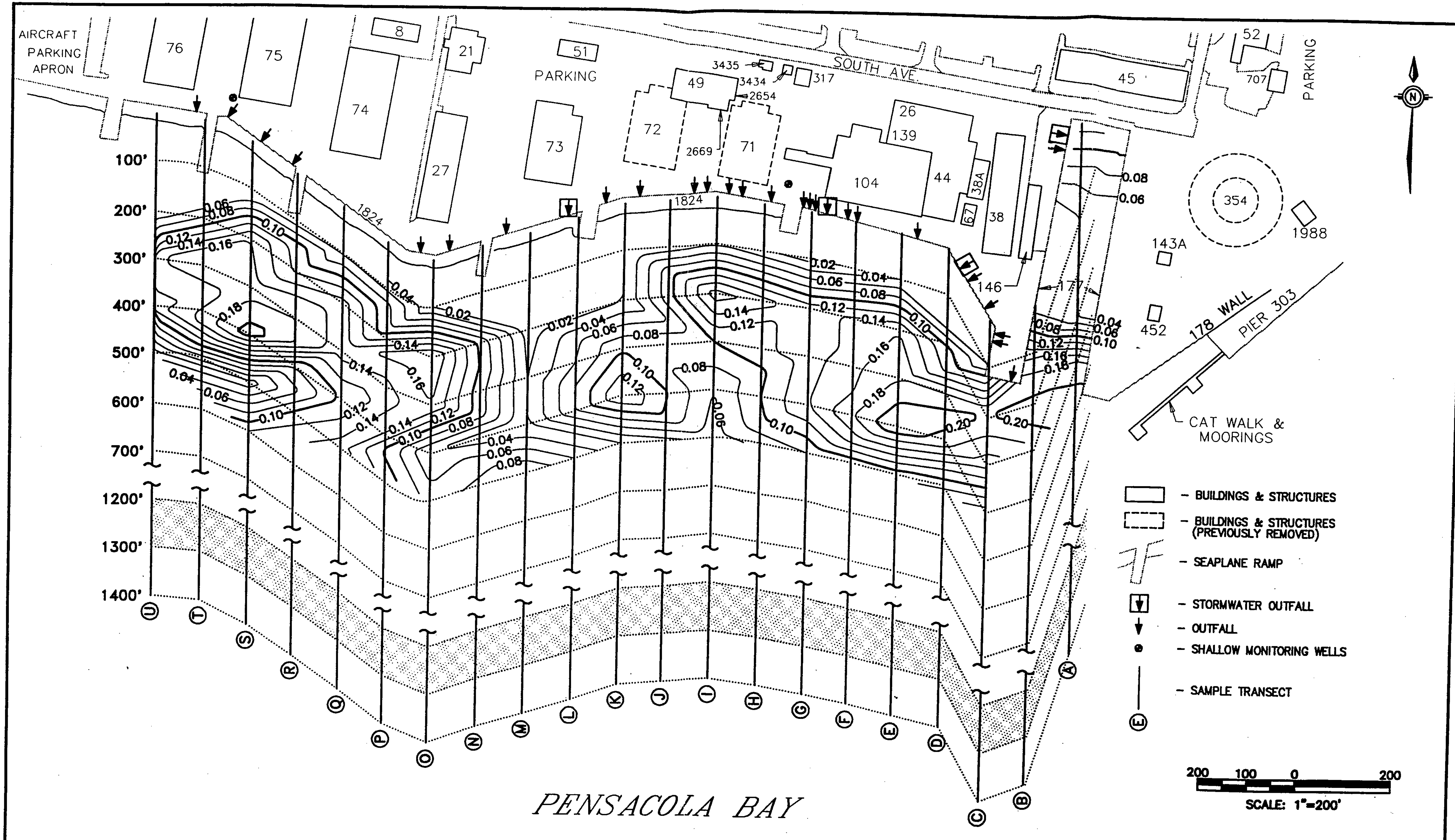


REMEDIAL INVESTIGATION
SITE 2
NAS-PENSACOLA
PENSACOLA, FLORIDA

FIGURE 6-3
PERCENT FINES IN
SEDIMENT AT SITE 2

DWG DATE: 1/25/95	DWG NAME: 58AFINES



REMEDIAL INVESTIGATION
SITE 2
NAS-PENSACOLA
PENSACOLA, FLORIDA

FIGURE 6-4
PERCENT TOC IN SEDIMENT AT SITE 2

DWG DATE: 1/25/95 | DWG NAME: 58ATOC

6.3 Hydrologic Assessment

The hydrologic assessment at Site 2 consisted of reviewing published tidal and current information and historical tidal data. In addition, a tidal study was performed as part of the Site 38 RI to determine the interaction between the tidal cycle and groundwater flow. The study included a time lag study in January 1994 and high and low tide water level measurements in August 1994.

Tidal Influence Study

Aquifers connected to tidally influenced surface water bodies are subject to short-term fluctuations in head due to the tidal change. The amplitude of fluctuation is greatest at wells nearest the shore and diminishes with distance inland. The rise and fall of groundwater elevation can affect flow gradients, pore velocity, and flow directions and parallel the tidal fluctuations. A tidal study conducted as part of the Site 38 RI to estimate the tidal influence on the surficial aquifer, includes a time lag study and high to low tide water-level measurements. The study was also helpful in understanding the potential influence of groundwater on the surface waters and sediments at Site 2.

Time Lag

The difference in time between the tidal peak and the water level peak in a given well inland is defined as time lag (Fetter 1988) and depends on the tidal period, and the storativity and transmissivity of the aquifer. The following equation presents the relationship between time lag, tidal period, storativity, and transmissivity of the aquifer and distance inland:

$$t = x\sqrt{t_o\, S/4\,T}$$

where

t	=	time lag
x	=	distance inland
t_o	=	tidal period
S	=	Storativity of the aquifer
T	=	Transmissivity of the aquifer

Electronic pressure transducers were placed in five monitoring wells across Site 38 and at a station in Pensacola Bay at the seawall adjacent to Site 38 to measure the tidal and groundwater level fluctuations. The water level fluctuations were measured over 42 hours using a Hermit datalogger between January 10 and 12, 1994. **Figures 6-5 and 6-5a** shows the well locations at Site 38. Table 6-2 lists the wells used in the study, their distance inland from the shore, and the estimated time lag (as measured in the wells). During the test period, tides fluctuated 2.5 feet. Barometric pressure dropped slightly during the study, which would theoretically cause the water levels in the wells to rise slightly. Since the pressure drop was small, the effects on groundwater levels are considered minimal.

Figure 6-6 shows the tidal fluctuations and the resulting impact on groundwater elevations. The time lag for each well was determined from the graph in Figure 6-6. The time lag was approximately 4.5 hours for 38GS03 and eight hours for 38GS01. The water levels in monitoring wells 38GS08 and 38GS21 did not vary greatly nor did they appear to fluctuate parallel to the tidal fluctuations, suggesting that they are beyond the tidal influence zone.

High Tide Water Elevations

According to National Oceanic Survey records, the normal sea level elevation in Pensacola, Florida, is 1.2 feet msl. On average, normal high tides are less than 2 feet msl; however, extreme tides may occur due to storms. The predicted highest high tide for 1994 was

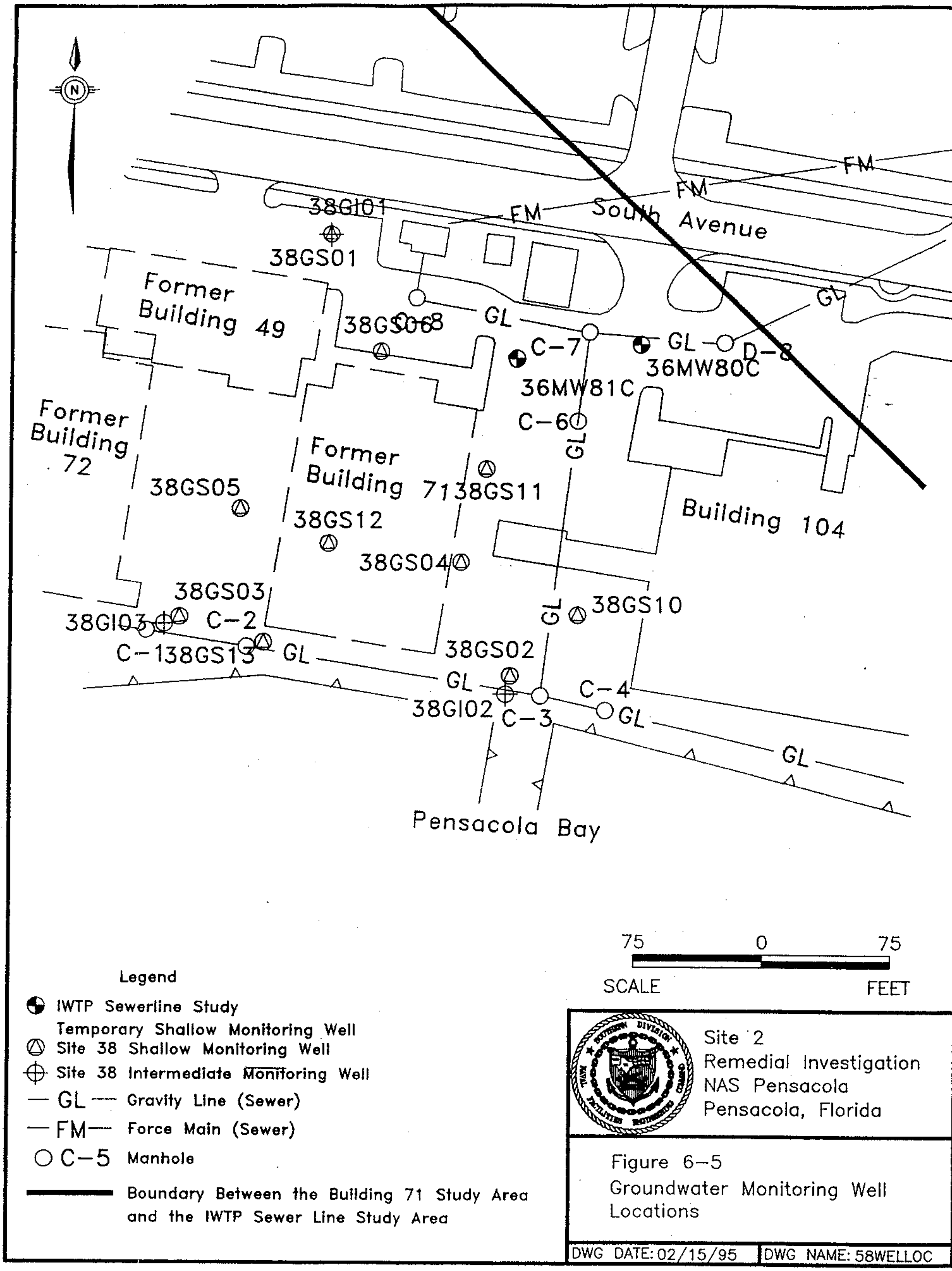
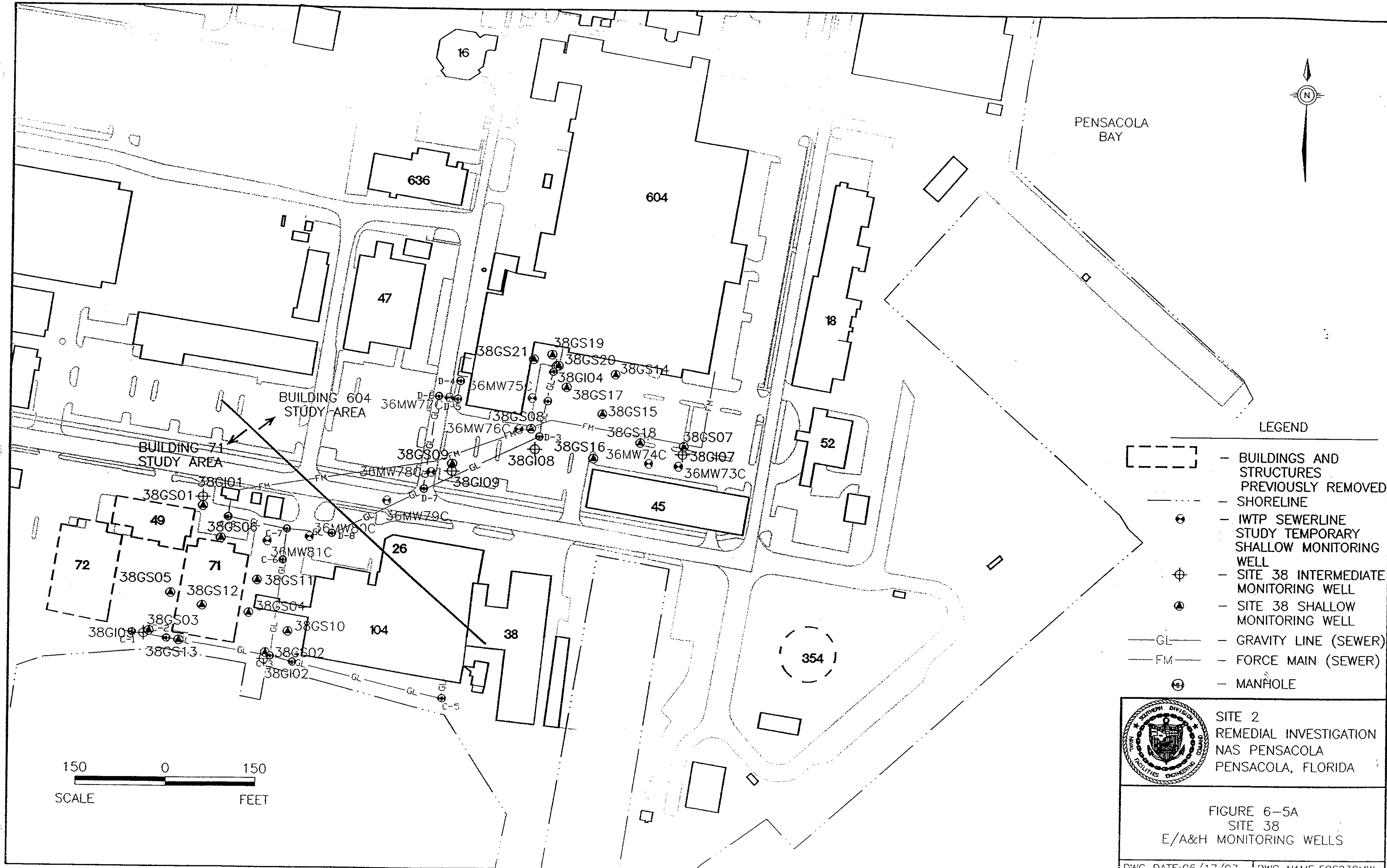


Figure 6-5
Groundwater Monitoring Well Locations



PENSACOLA BAY
16
636
604
47
18
52
45
26
104
38
49
72
71
354
BUILDING 604 STUDY AREA
BUILDING 71 STUDY AREA
38GS19
38GS21
38GS20
38GS14
38GI04
36MW75C
38GS17
38GS15
36MW77C
38GS08
36MW76C
38GS18
38GS07
38GS16
38GI07
36MW74C
36MW73C
38GS09
38GI08
36MW78C
38GI09
38GI01
38GS01
36MW79C
38GS06
36MW80C
36MW81C
38GS05
38GS11
38GS12
38GS04
38GS03
38GS10
38GI05
38GS13
38GS02
38GI02
150 0 150
SCALE
FEET
LEGEND
– BUILDINGS AND STRUCTURES PREVIOUSLY REMOVED
– SHORELINE
– IWTP SEWERLINE STUDY TEMPORARY SHALLOW MONITORING WELL
– SITE 38 INTERMEDIATE MONITORING WELL
– SITE 38 SHALLOW MONITORING WELL
GL – GRAVITY LINE (SEWER)
FM – FORCE MAIN (SEWER)
– MANHOLE
SITE 2
REMEDIAL INVESTIGATION
NAS PENSACOLA
PENSACOLA, FLORIDA
FIGURE 6–5A
SITE 38
E/A&H MONITORING WELLS
DWG DATE:06/17/97
DWG NAME:59S238MW

Table 6-2
Time Lag Study

Well Number	Distance Inland (Feet)	Water Level Change (Feet)[a]	Time Lag (Hours)[b]
38GS01	240	0.184	8.0
38GS02	30	0.419	3.0
38GS03	53	0.421	4.5
Day	**High Tide Time/ft msl**		**Low Tide Time/ft msl**
01/10/94	2145/1.3	2.0	0808/-0.7
01/11/94	2232/1.2	1.8	0852/-0.6
01/12/94	2315/1.1	1.6	0933/-0.5

Notes:

a = The values shown for 38GS01, 38GS02, and 38GS03 reflect the water levels recorded at the 01/11/94 low tide and high tide marks. 38GS21 indicate maximum water level fluctuations during the tidal period.

b = The values shown for 38GS01, 38GS02, and 38GS03 reflect the water level associated with the 01/11/94 low tide to high tide cycle.

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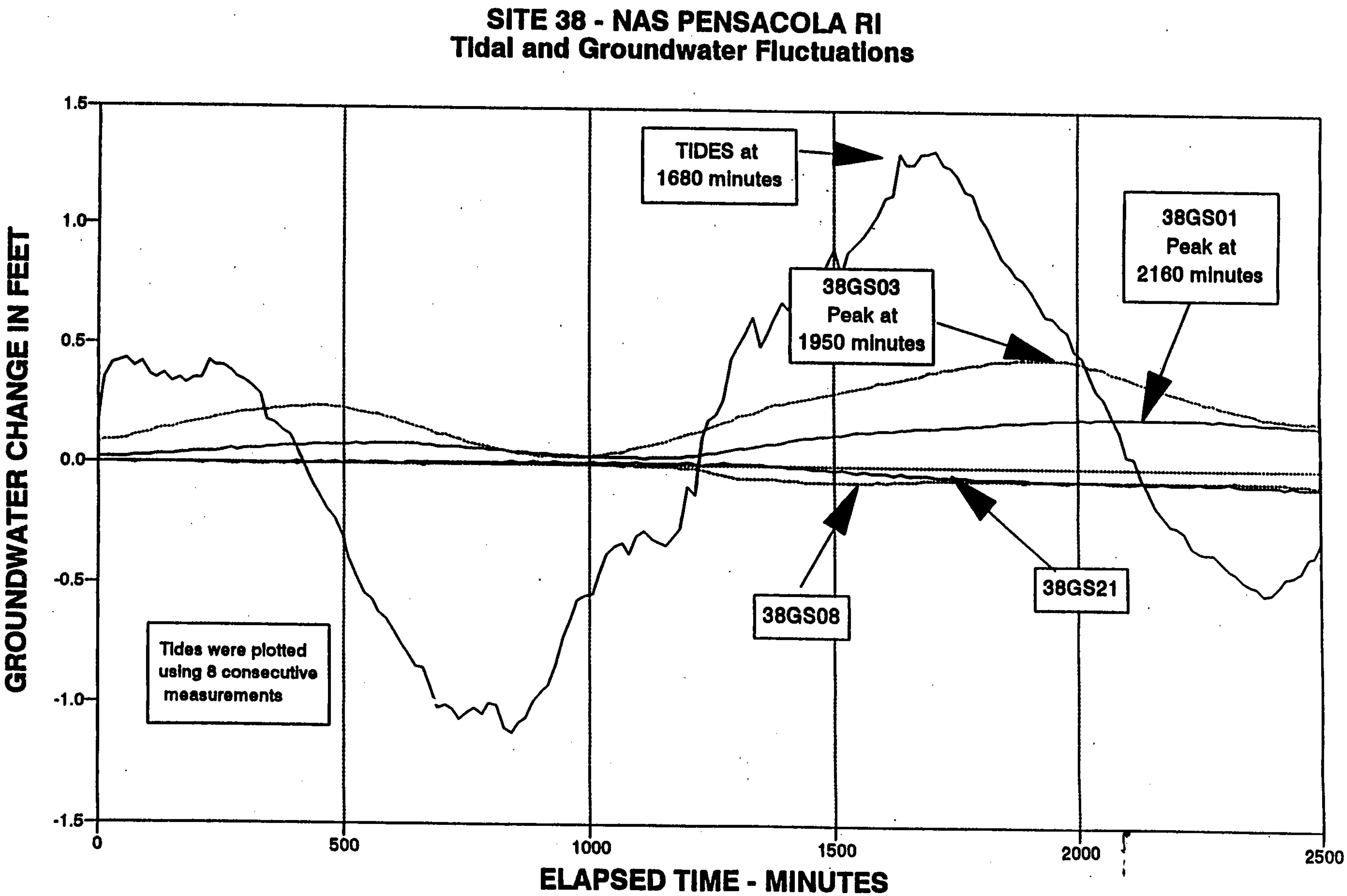

Site 2 Remedial Investigation NAS Pensacola Pensacola, Florida	Figure 6-6 Tidal Effects On Ground Water Levels
	DWG DATE: 02/07/95	DWG NAME: 58PASTE1

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1.9 feet. On August 18, 1994, high tide was predicted to occur at 0824 hours and reach 1.8 feet msl very close to the predicted highest high tide of 1.9 feet msl for 1994. The August 18 high tide was selected to represent a typical seasonal high tide for the NAS Pensacola area. On this date, water levels were measured from the wells listed in Table 6-3 every hour from 0800 hours through 1600 hours.

Figures 6-7 and 6-8 are potentiometric maps for 0900 (approximate high tide) and 1200 (approximate low tide), respectively. Groundwater flow patterns observed in wells approximately 200 feet inland from the shoreline remain toward the bay throughout the tidal cycle. However, wells along the shoreline exhibit patterns influenced by the fluctuation from high to low tide. At high tide, an inland groundwater flow pattern was observed in the wells along the shoreline, apparently converging in the area of well 38GS11 (Figure 6-7). An anomalous low groundwater elevation at well 38GS11 remains lower than the surrounding wells throughout the tidal cycle. Groundwater flow at the shoreline apparently reverses at the approach of low tide, and the general flow across the area is toward Pensacola Bay (disregarding the anomalous flow around well 38GS11) (Figure 6-8). Gradients calculated in wells adjacent to the shoreline are higher for the southerly flow pattern during low tide (.0024) than for the reverse flow during high tide (.0011).

The results of the time lag survey and the limited tidal/groundwater level survey indicate that tides do affect the groundwater flow patterns in the immediate onshore area adjacent to Site 2.

Table 6-3
Water Elevation Data
High-Low Tides[a]

Time	38GS01	38GS02	38GS03	38GS04	38GS05	38GS06	38GS10	38GS11	38GS12	38GS13
0800	1.30	1.22	1.18	1.14	1.19	1.15	1.26	~~1.73~~	1.16	1.25
0900	1.32	1.23	**1.24**	1.13	1.20	1.15	1.29	1.05	1.17	1.24
1000	1.29	**1.25**	1.19	1.16	1.21	1.16	1.30	1.06	1.19	1.24
1100	1.29	1.24	1.19	1.16	1.22	1.17	1.32	1.07	1.19	**1.28**
1200	1.29	1.21	1.17	**1.18**	**1.23**	1.17	**1.32**	1.08	**1.21**	1.21
1300	1.30	1.18	1.13	1.17	1.22	1.18	1.30	1.09	1.20	1.18
1400	1.31	1.18	1.08	1.16	1.21	**1.19**	1.27	**1.10**	1.18	1.12
1500	**1.33**	1.08	1.02	1.15	1.19	1.18	1.25	1.07	1.16	1.07
1600	1.31	1.04	0.96	1.12	1.17	1.17	1.21	~~0.87~~	1.14	1.00

Notes:

a = The tidal forecast on 08/16/94 indicated high tide at 0824 hours at 1.8 feet msl, and low tide at 1925 hours at 0.1 feet msl.

The shaded lines indicated the data presented in potentiometric maps on Figures 6-7, 6-8, and 6-9.

Bold indicates observed high water level elevation in the well.

~~Strikeout~~ indicates erroneous datum due to field measurement error.

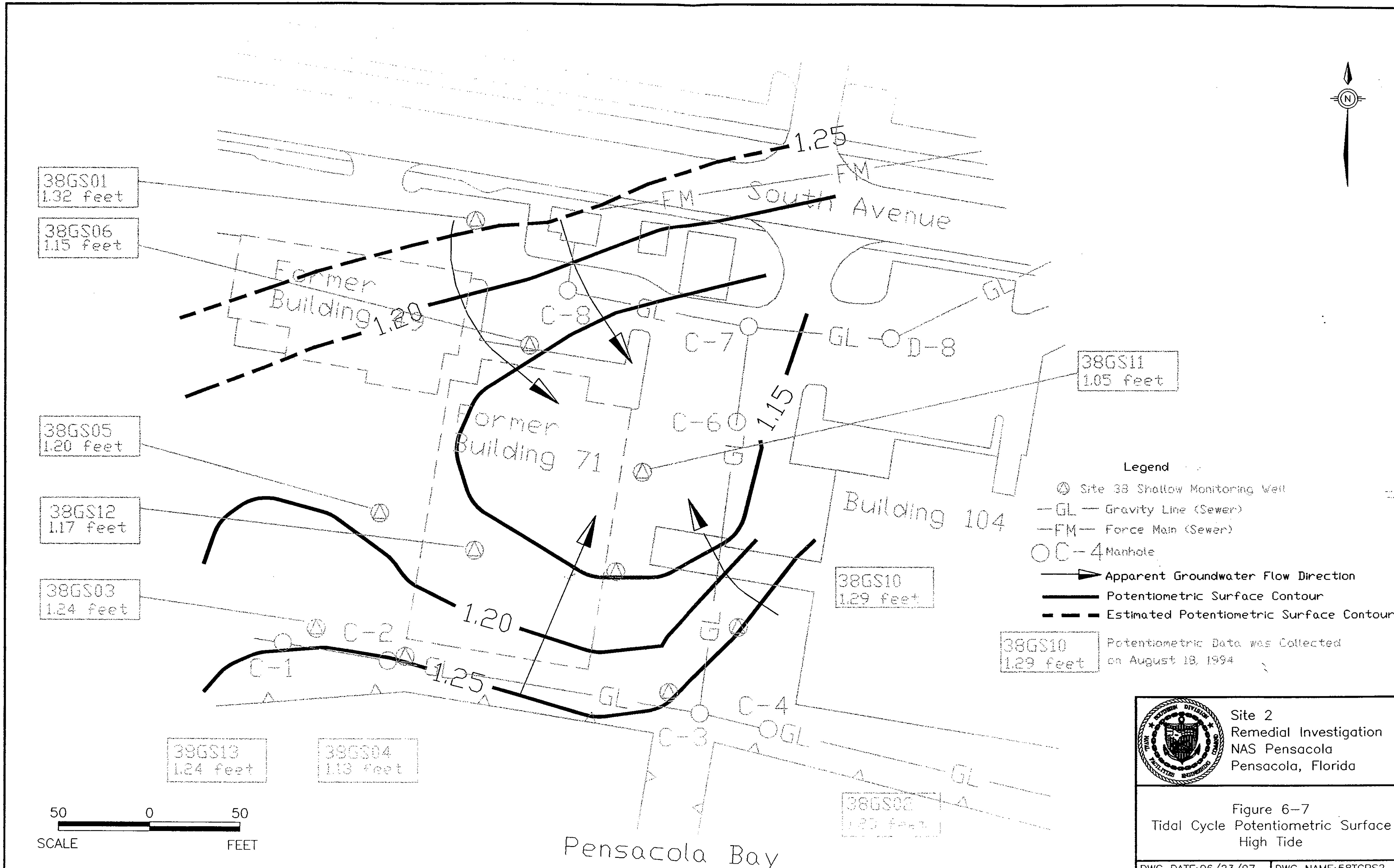

Figure 6-7
Tidal Cycle Potentiometric Surface
High Tide

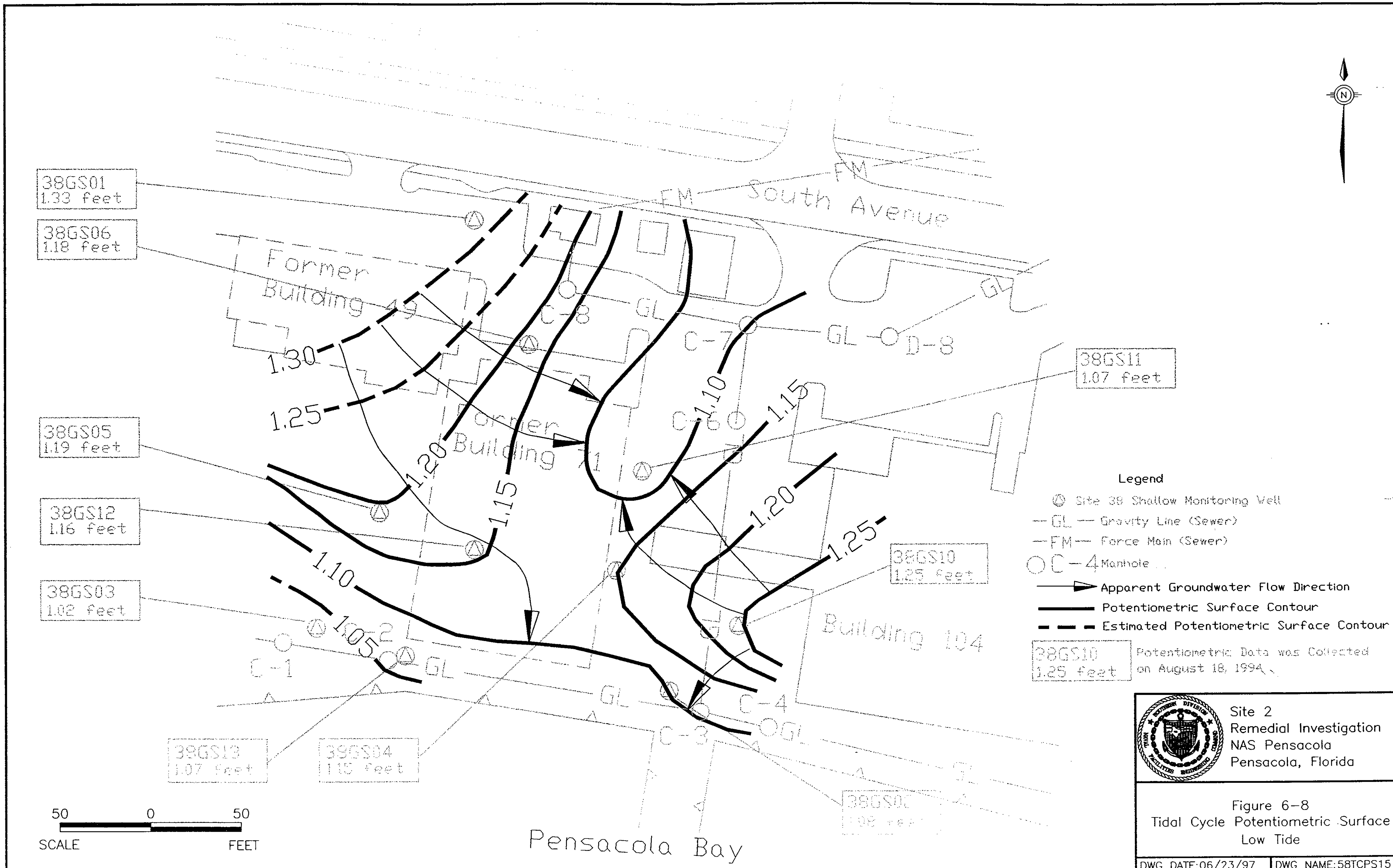

Figure 6-8
Tidal Cycle Potentiometric Surface
Low Tide

7.0 NATURE AND EXTENT

7.1 Surface Water Chemistry

No pesticides, PCB congeners, or volatiles were detected in any of the water samples (Appendix A). Four metals, — aluminum, antimony, silver, zinc — were detected in water. Negligible amounts of various unknown semivolatile substances (tentatively identified compounds [TICs]) were ubiquitous across the site and total concentrations ranged only from 100 to 200 parts per billion (ppb). Control stations exhibited semivolatile TICs at concentrations similar to those observed within the site proper.

Physicochemical parameters were consistent across the site with ranges of 25.4 to 33.4 ppt for salinity and 5.60 to 8.05 milligrams per liter (mg/L) for dissolved oxygen. Redox values were near 400 mV with pH and temperature consistently near 8 and 17 degrees centigrade (°C), respectively. Generally, dissolved oxygen concentrations decreased with depth while the opposite trend occurred for salinity. No significant spatial-or depth-related trends for any of the parameters measured were observed (Appendix C).

Results for surface water nutrient parameters were in ranges expected for high salinity estuarine systems (Table 7-1). Little difference was noted between site and control area values or between surface and bottom water.

7.2 Sediment Chemistry (Phase IIA)

The tendency for neutral organic contaminants to be correlated to sediment organic content concentrations has been well documented (DiToro et al., 1991, Lyman, 1982). In addition, for Florida coastal sediments, it has been shown that grain-size effect is important in determining metal input to sediment from anthropogenic sources (Windom et al., 1989). Sediment particle size influences sorption of both metals and neutral organic chemicals (Clark and McFarland, 1991), although the bioaccumulation potential relative to both of these constituents differs.

Table 7-1
Site 2
Water Chemistry Nutrient Parameters

Parameter	5-day BOD	TSS	Alkalinity	NO_3-N	COD	TKN	TPhos	Hardness	HPC
SW-02-A101	<1.0	5.0	98	0.56	260	<0.10	<0.050	5100	30
SW-02-A102	<1.0	12.0	94	0.79	210	<0.10	<0.050	5200	190
SW-02-D1	<1.0	22	110	0.30	210	0.20	0.062	5700	40
SW-02-H501	<1.0	13	100	0.51	200	<0.050	0.10	5400	50
SW-02-H502	<1.0	9.4	100	0.32	200	<0.050	0.13	5400	30
SW-02-H503	<1.0	4.6	100	0.35	180	<0.050	0.17	5400	20
SW-02-X101	<1.0	7.2	100	0.35	250	0.061	<0.10	4900	10
SW-02-X102	<1.0	8.4	110	<0.10	250	0.056	0.19	2800	10
SW-02-X103	<1.0	11	110	0.20	320	0.070	0.16	2700	50
SW-02-M501	1.4	6.8	96	<0.10	350	<0.10	<0.050	2300	3
SW-02-M502	1.1	3.4	96	0.18	310	<0.10	<0.050	2200	4
SW-02-M503	<1.0	14	100	0.28	360	<0.10	<0.050	2500	2

Notes:

BOD = Biochemical Oxygen Demand (mg/L)
TSS = Total Suspended Solids (mg/L)
COD = Chemical Oxygen Demand
TKN = Total Kjeldahl Nitrogen (mg/L)
HPC = Heterotrophic Plate Count

Based on the relationship of sediment physical characteristics to contaminant loading, as discussed above, it was decided that an initial distribution assessment for sediment TOC and grain size at Site 2 would provide information useful for the subsequent contaminant assessment phase. Areas with relatively higher TOC concentrations and those with higher percentages of fine-grained particles were ranked for sampling and full-scan analyses. Although seasonal hydraulic conditions will affect sediment movement and distribution, this approach was determined to be more definitive, and thus cost-effective, than a random sampling approach across the entire site for chemical analysis.

Sediment physical and nutrient parameters collected during the contaminant assessment survey (Phase IIA) are presented in Table 7-2. Percent fines and TOC distributions are presented in Figures 7-1 and 7-2, respectively. Low sediment TOC values were observed. Percent TOC ranged from 0.01 to 0.38 within the site and all control station values were 0.04 percent or less. Both TKN and phosphate concentrations were higher at site stations than at control stations, as expected due to the storm water outfalls along the seawall. Higher concentrations of both parameters were associated with higher TOC and fine-grained sediment percentages. Nitrate-nitrogen (NO_3-N) concentrations in sediments were negligible at Site 2; most locations were <2.0 milligrams per kilogram (mg/kg) or slightly higher. One anomaly was a concentration of 7.2 mg/kg control station X4; no explanation for this was determined.

Results of means and ranges for Phase IIA sediment chemistry metal concentrations are presented in Table 7-3. An in-depth discussion of the relevance of metal concentrations observed at Site 2 is presented in Section 10, the Baseline Risk Assessment. The most notable organic constituents of concern in sediments at Site 2 appears to be polycyclic aromatic hydrocarbons (PAHs). Although total DDT (tDDT) concentrations were sparsely distributed, their concentrations were noteworthy. Organic concentrations observed across the site and their relative significance are

Table 7-2
Site 2
Contaminant Assessment Sediment Physical and Nutrient Parameters

Sample ID	Water Depth (meter)	Analytical Data (in mg/kg unless noted)						
		TOC (%)	Grain Size (%)			TPhos	NO_3-N	TKN
			G	S	F			
A1	2.0	0.02	22.8	70.3	6.9	150	<2.0	560
A2		0.08	0.4	87.4	12.2	99	<2.0	740
D1	1.2	0.03	1.4	96.4	2.2	120	<2.0	170
D2	3.2	0.05	1.0	92.2	6.8	240	<2.0	330
D3	5.8	0.24	0.0	48.7	51.3	260	<2.0	1,600
D4	7.5	0.02	1.2	86.9	11.9	250	<2.0	340
D5	10.0	0.01	0.0	93.5	6.5	72	2.3	200
E2	2.5	0.14	1.1	84.3	14.6	190	<2.0	340
E3	3.5	0.28	0.0	20.0	80.0	770	<2.0	2,900
E4	9.0	0.16	13.1	73.5	13.4	150	<2.0	490
E5	8.2	0.05	0.3	92.7	7.0	5.4	2.8	100
F1	1.5	0.04	2.3	95.9	1.8	<10	<2.0	110
F2	2.3	0.06	0.8	95.0	4.2	15	2.0	90
F3	3.5	0.38	0.0	24.8	75.2	640	<2.0	2,600

Table 7-2
Site 2
Contaminant Assessment Sediment Physical and Nutrient Parameters

Sample ID	Water Depth (meter)	Analytical Data (in mg/kg unless noted)						
		TOC (%)	Grain Size (%)			TPhos	NO_3-N	TKN
			G	S	F			
F4	3.5	0.01	0.0	24.6	75.4	360	<2.0	1,300
F5	8.1	0.32	0.1	89.7	10.2	98	2.2	200
G2	2.5	0.04	0.1	95.1	4.8	30	3.9	100
G3	3.0	0.03	0.4	46.0	53.6	340	<2.0	1,300
G4	3.6	0.05	0.0	14.9	85.1	490	2.4	1,700
G5	6.5	0.07	0.0	84.8	15.2	140	2.4	470
H1	2.6	0.07	0.0	62.2	37.8	140	<2.0	1,200
H2	3.0	0.05	0.0	14.2	85.8	210	3.4	1,400
H3	4.0	0.05	0.0	13.7	86.3	320	3.6	1,400
H4	6.2	0.03	0.0	89.2	10.8	64	2.9	250
H5	6.8	0.03	0.1	92.2	7.7	<10	2.6	37
K1	1.4	0.05	0.0	97.2	2.8	16	<2.0	86
K3	2.7	0.03	0.0	18.3	81.7	430	<2.0	1,500
M1	1.9	0.02	0.2	97.3	2.5	16	<2.0	89

Table 7-2
Site 2
Contaminant Assessment Sediment Physical and Nutrient Parameters

Sample ID	Water Depth (meter)	Analytical Data (in mg/kg unless noted)						
		TOC (%)	Grain Size (%)			TPhos	NO_3-N	TKN
			G	S	F			
M2	4.0	0.02	0.0	85.0	15.0	180	<2.0	610
M3	6.5	0.03	0.0	91.4	8.6	79	2.1	240
M4	6.5	0.02	0.3	95.8	3.9	98	<2.0	110
M5	6.5	0.02	0.6	97.2	2.2	36	<2.0	60
N2	4.0	<.01	0.2	78.5	21.3	210	2.9	570
N3	6.2	0.16	0.0	26.2	73.8	380	<2.0	830
N4	6.1	0.06	0.0	95.1	4.9	70	<2.0	180
N5	6.1	0.05	0.1	95.0	4.0	44	<2.0	140
O1	4.0	0.03	0.0	92.7	7.3	88	<2.0	320
O2	7.0	0.07	0.0	51.6	48.4	300	<2.0	1,100
O3	6.9	0.03	0.0	60.3	39.7	360	<2.0	1,200
O4	6.5	0.03	0.0	94.4	5.6	71	2.2	210
O5	6.5	0.03	0.0	97.3	2.7	210	3.0	140
P2	3.5	0.28	0.0	15.8	84.2	950	<2.0	2,600

Table 7-2
Site 2
Contaminant Assessment Sediment Physical and Nutrient Parameters

Sample ID	Water Depth (meter)	Analytical Data (in mg/kg unless noted)						
		TOC (%)	Grain Size (%)			TPhos	NO_3-N	TKN
			G	S	F			
P3	6.5	0.09	0.0	77.6	22.4	180	<2.0	660
P4	6.5	0.02	0.4	90.1	9.5	130	<2.0	290
P5	6.6	0.05	0.0	94.5	5.5	97	<2.0	260
Q1	2.0	0.06	0.6	94.4	5.0	85	<2.0	340
Q2	4.0	0.31	0.0	20.0	80.0	850	4.6	3,000
Q3	6.1	0.09	0.0	81.0	19.0	220	<2.0	700
Q4	6.0	0.02	0.0	94.1	5.9	69	<2.0	240
Q5	6.0	0.04	0.0	95.5	4.5	54	<2.0	200
U1	3.1	0.28	0.0	32.1	67.9	640	3.3	1,900
U2	6.4	0.14	0.0	76.6	23.4	380	<2.0	640
X1	9.5	0.04	0.1	98.1	1.8	15	<2.0	<20
X2	6.5	0.02	0.2	97.4	2.4	22	<2.0	76
X3	6.2	0.03	0.0	98.4	1.6	26	<2.0	100
X4	6.5	0.03	0.0	97.7	2.3	32	7.2	81

Notes:

G	=	Gravel (>4.8 mm)
S	=	Sand (>.75 mm, <4.8 mm)
F	=	Fines (silt and clay; <0.75 mm)
TPhos	=	Total Phosphates
NO_3-N	=	Nitrate Nitrogen
TKN	=	Total Kjeldahl Nitrogen

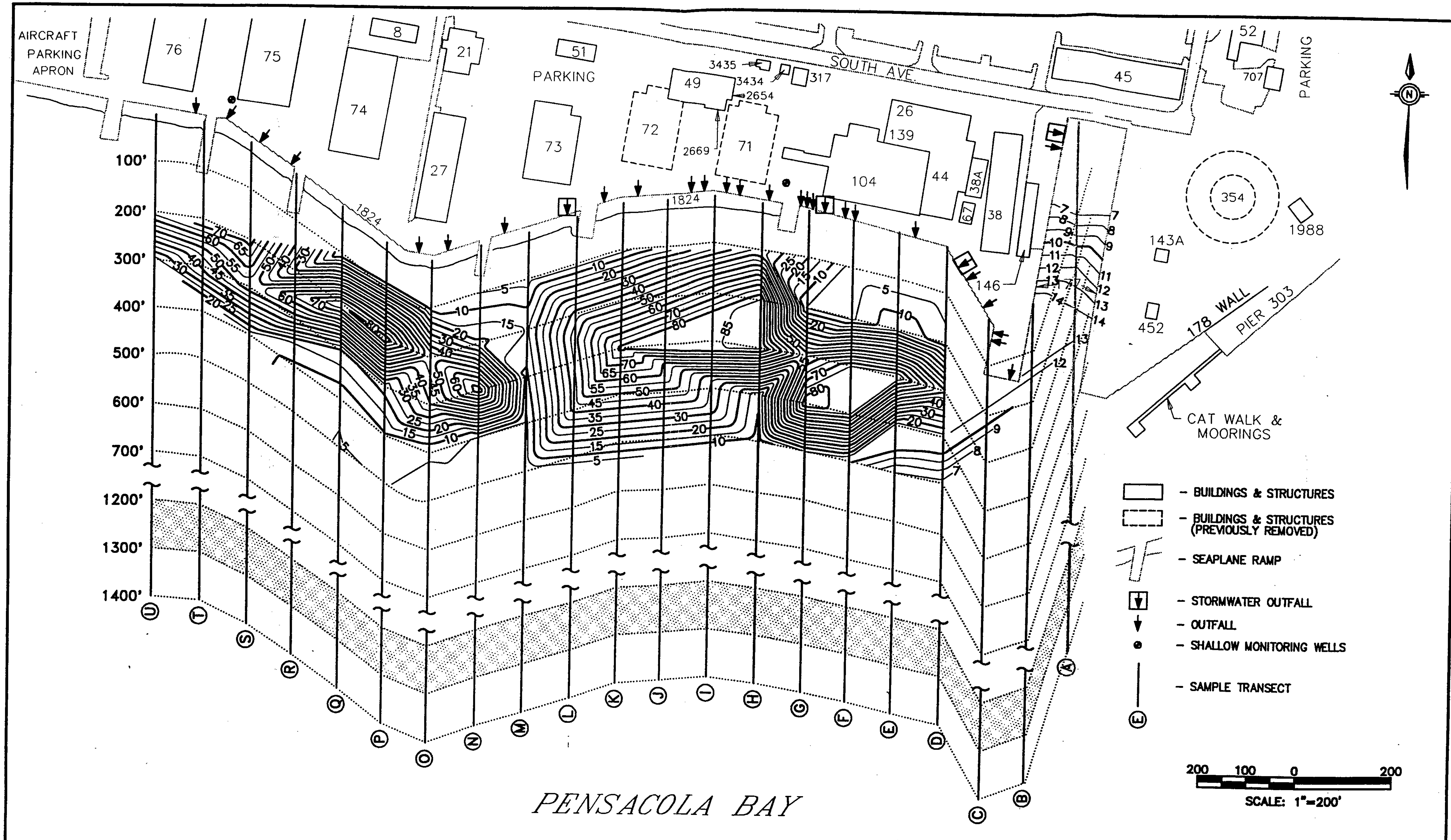

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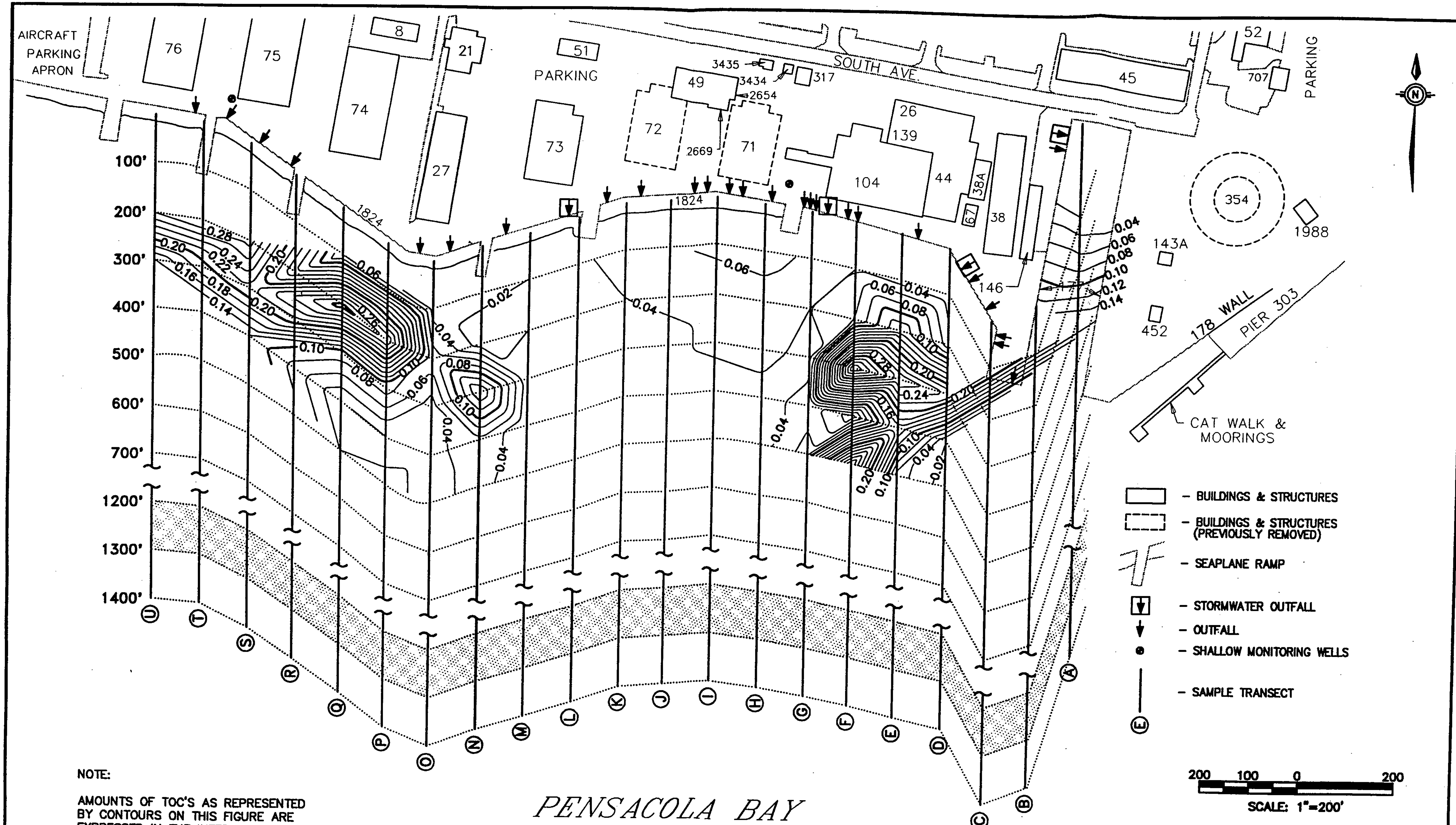
FIGURE 7–1
PERCENT FINES IN SEDIMENT DURING SEDIMENT CHEMISTRY ASSESSMENT

DWG DATE: 1/25/95 | DWG NAME: 58BFINES



NOTE:

AMOUNTS OF TOC'S AS REPRESENTED BY CONTOURS ON THIS FIGURE ARE EXPRESSED IN THE INTERVAL OF 0.02%.

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SITE 2
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FIGURE 7–2
PERCENT TOC IN SEDIMENT DURING SEDIMENT CHEMISTRY ASSESSMENT PHASE

DWG DATE: 1/25/95 | DWG NAME: 58BTOC

Table 7-3
Sediment Concentrations for Major Metal and Organic Constituents at Site 2 (Phase IIA)

Parameter	Number of Sample Locations	Number of Detected Locations	Range[a]	Geomean	Median[a]	Mean[a]	Standard Deviation[a]	Control Stations' Mean Concentration
Metals (ppm)								
Arsenic	52	46	0.59 - 20.4	2.5	2.1	5.8	6.8	0.10
Cadmium	52	5	2.2 - 24	4.9	3.3	7.6	9.3	ND
Chromium	52	43	2.6 - 220	14.8	15.7	27.6	36.4	ND
Copper	52	36	2.7 - 316	14.9	16.4	31.1	61.2	ND
Lead	52	47	0.8 - 262	10.4	9.7	32.8	65.6	0.58
Mercury	52	11	0.1 - 3.4	.336	.290	0.65	0.98	ND
Nickel	52	10	6.3 - 17.5			10.5	4.5	ND
Silver	52	4	1.4 - 4.1			2.5	1.3	0.30
Zinc	52	41	1.4 - 1,790	25.1	25.2	95.2	280.7	2.42
Organics (ppb)								
DDD	52	4	6.4 - 12.0			7.8	2.8	ND
DDT	52	3	5.8 - 46			19.9	22.6	ND
PCB (1242 & 1260)	52	2	77 - 220			149	–	ND
Benzo(a)anthracene	52	15	43 - 1,200			314	348	ND
Benzo(b)fluoranthene	52	17	59 - 1,700			378	372	ND
Benzo(k)fluoranthene	52	16	80 - 1,300			402	340	ND
Chrysene	52	16	50 - 2,000			425	510	ND

Table 7-3
Sediment Concentrations for Major Metal and Organic Constituents at Site 2 (Phase IIA)

Parameter	Number of Sample Locations	Number of Detected Locations	Range[a]	Geomean	Median[a]	Mean[a]	Standard Deviation[a]	Control Stations' Mean Concentration
Fluoranthene	52	23	69 - 1,400			410	336	ND
Anthracene	52	5	190 - 3,000			846	1216	ND
Benzo(a)pyrene	52	12	73 - 1,000			371	258	ND
Pyrene	52	19	46 - 2,000			458	448	ND

Notes:
a = Represents detected concentrations only.
ppm = Parts per million
ppb = Parts per billion
ND = Nondetect

discussed in depth in Section 10. Sediment chemistry results of selected stations from Phase IIB are presented in Table 10-4.

Metals

Nine major metals were detected in sediments across Site 2: arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc. All except mercury occur naturally in the environment and detection in sediments is expected. The environmental relevance for those metals appearing elevated above natural concentrations is presented in Section 10.

Arsenic

Arsenic was found at 46 (88 percent) of the 52 sample locations. Concentrations ranged from 0.59 to 20.4 parts per million (ppm) with an arithmetic mean of 5.8 ppm (see Table 7-3). The low geometric mean and median, 2.5 and 2.1, respectively, indicate the positively skewed distributions for arsenic. These statistics better represent the overall arsenic concentrations observed. Concentrations at the control stations averaged 0.1 ppm.

Spatially, higher concentrations were found in the northeast portion of the site (Figure 7-3) and were associated with fine-grained sediments.

Cadmium

Cadmium was found at five of the 52 (9.6 percent) locations sampled. Detected concentrations ranged from 2.2 to 24 ppm. No cadmium was detected at the control stations. Spatially, all but one of the locations observed were closest to shore (100-foot transect) and thus are most likely subjected to frequent input from storm water runoff (Figure 7-4).

Chromium

Chromium was found at 43 (83 percent) of 52 locations with a range of 2.6 to 220 ppm and a mean of 28.1 ppm. The overall concentration distribution was better represented by the geometric mean and median values of 14.8 and 15.7, respectively. All control locations were nondetect for chromium, which appeared to be highly correlated with shallow water and fine-grain substrates. Highest concentrations were found in the northeast portion of the site (Figure 7-3).

Copper

Copper was found at 36 (69 percent) of the 52 locations. Concentrations ranged from 2.7 to 316 ppm and the mean value was 32.8 ppm. A skewed distribution was indicated by the data and the geometric mean of 14.9 and median of 16.4 support this. For unknown reasons, copper concentrations were higher at sandy substrate stations than in areas of fine-grained sediment. These higher concentrations were found at closer, in-shore locations (Figure 7-4). Copper was not detected at the control stations.

Lead

Lead was found at 47 (90 percent) of the 52 locations across Site 2. Concentrations ranged from 0.8 to 262 ppm and the mean was 32.8 ppm. Geometric mean and median values of 10.4 and 9.7, respectively, better represent lead concentration distribution. Spatially, the higher concentrations were in the eastern portion of the site (Figure 7-3). Control stations had a mean concentration of 0.58 ppm.

Zinc

Zinc was found at 41 (79 percent) of the 52 locations. Concentrations ranged from 1.4 to 1,790 ppm, with a mean of 95.2 ppm. The zinc distribution was also better represented by geometric mean and median values of 25.1 and 25.2, respectively. The high concentration of 1,790 ppm was found at location Q2; no explanation for this high concentration was found, but

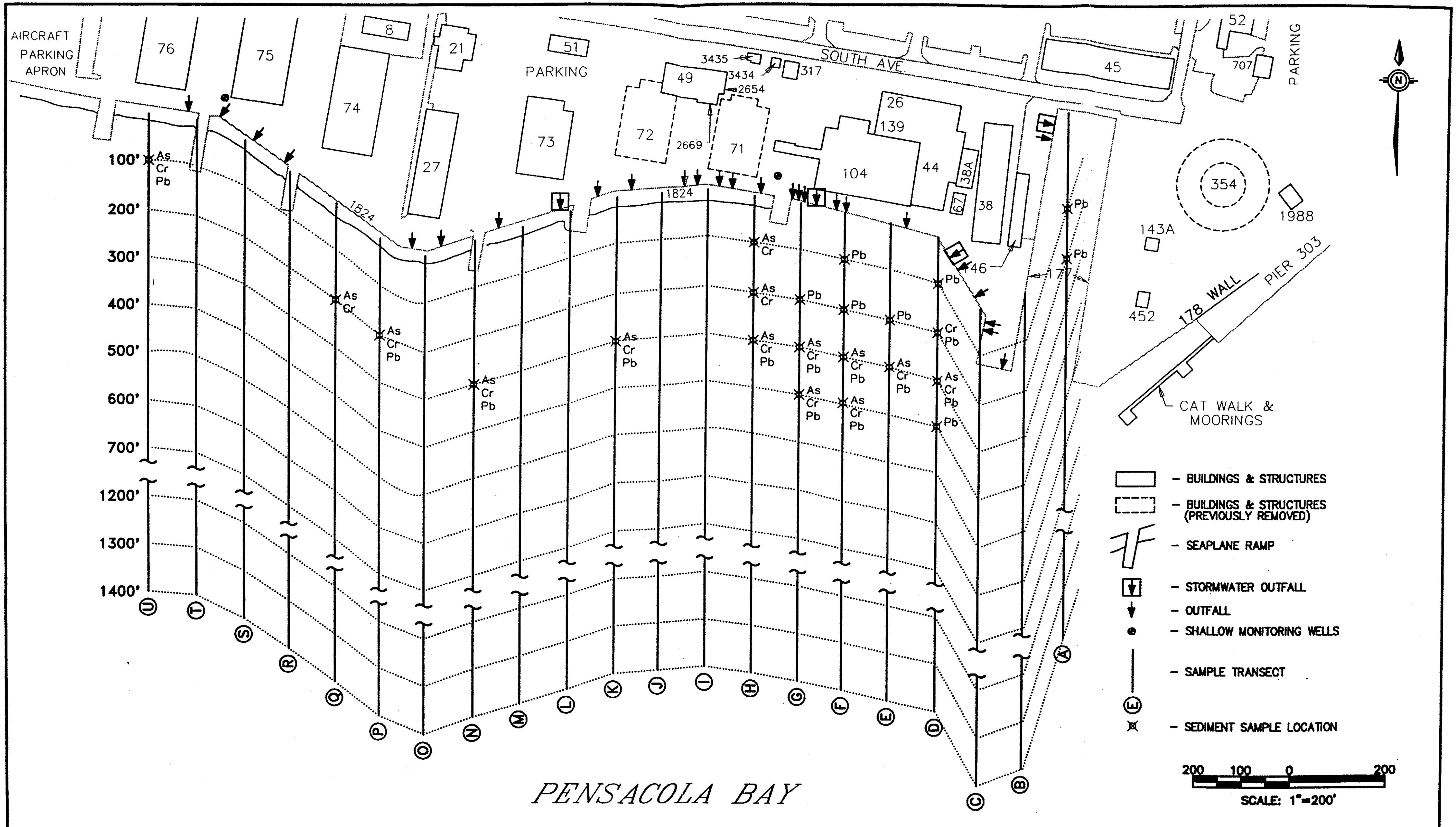

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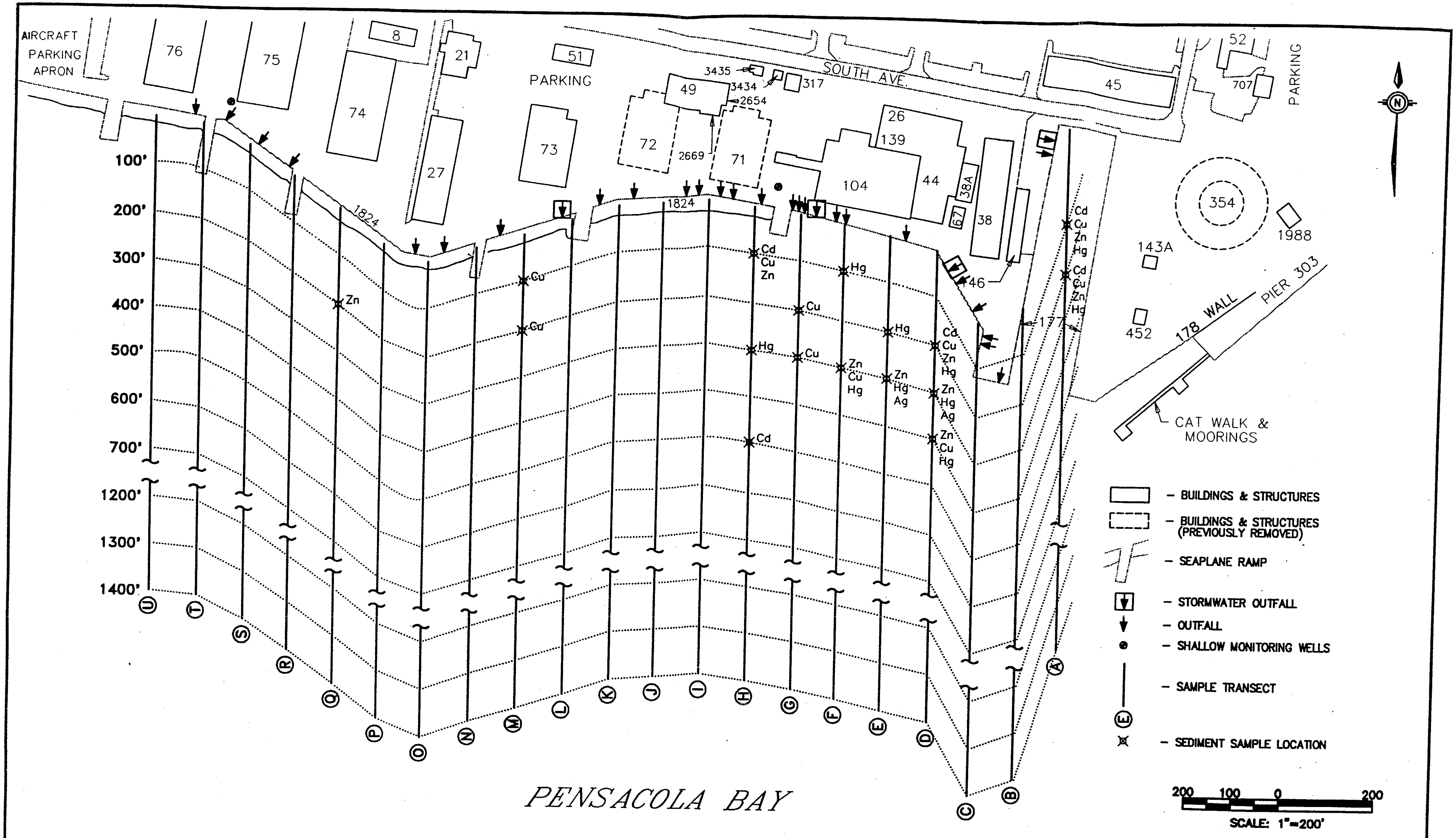
FIGURE 7–3
DISTRIBUTIONS OF ARSENIC, CHROMIUM, & LEAD EXCEEDING SSV'S

DWG DATE: 1/24/95	DWG NAME: 58ACLDIS



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SITE 2
NAS-PENSACOLA
PENSACOLA, FLORIDA

FIGURE 7-4
DISTRIBUTIONS OF CADMIUM, COPPER, MERCURY, SILVER & ZINC EXCEEDING SSV'S

DWG DATE: 1/24/95 | DWG NAME: 58CCZDIS

it was included in calculating the mean. Highest zinc concentrations were most often found in the northeast portion of the site (Figure 7-4). The control station mean concentration was 2.42 ppm.

Mercury

Mercury was detected at 11 (21 percent) of the 52 sample locations. The range of detected concentrations was from 0.1 to 3.4 ppm, with a mean of 0.65 ppm. Geometric mean and median values were .336 and .290, respectively. All detected concentrations were from the northeast portion of the site (Figure 7-4). Mercury was not detected above laboratory detection limits at the control station.

Nickel

Nickel was found at 10 (19 percent) of the sample locations. The mean concentration for those detected locations was 10.5 ppm. Again, most of the detections were from the northeast portion of the site. Control stations were all nondetect.

Silver

Silver was detected at four (8 percent) locations of the 52 sampled. Concentrations ranged from 1.4 to 4.1 ppm, with a mean of 2.5 ppm. The mean silver concentration at the control stations was 0.3 ppm.

Organics

Polycyclic Aromatic Hydrocarbons

Discussion of PAHs refers to both low and high molecular weight compounds and will be considered total PAH (tPAH). Although environmental impacts differ between the two groups, the variability in the specific compounds found between locations would make discussion difficult. When critical concentrations for specific compounds were noticed at individual locations, these are discussed separately. Specific information on the major compounds detected is provided in Table 7-3 (shown previously).

PAHs were found at 25 of 52 (48 percent) locations across the site. Fluoranthene was detected most often (19 locations) but the compounds anthracene, pyrene, and chrysene had highest concentrations.

PAHs were found primarily in the northeast portion of the site (Figure 7-5). As mentioned previously, this area receives considerable input from storm water runoff. Additionally, this area includes the boat slip for port operations, which houses several boats. Boat maintenance also occurs here. Most PAHs were found in shallow to mid-depth areas associated with fine-grained sediments.

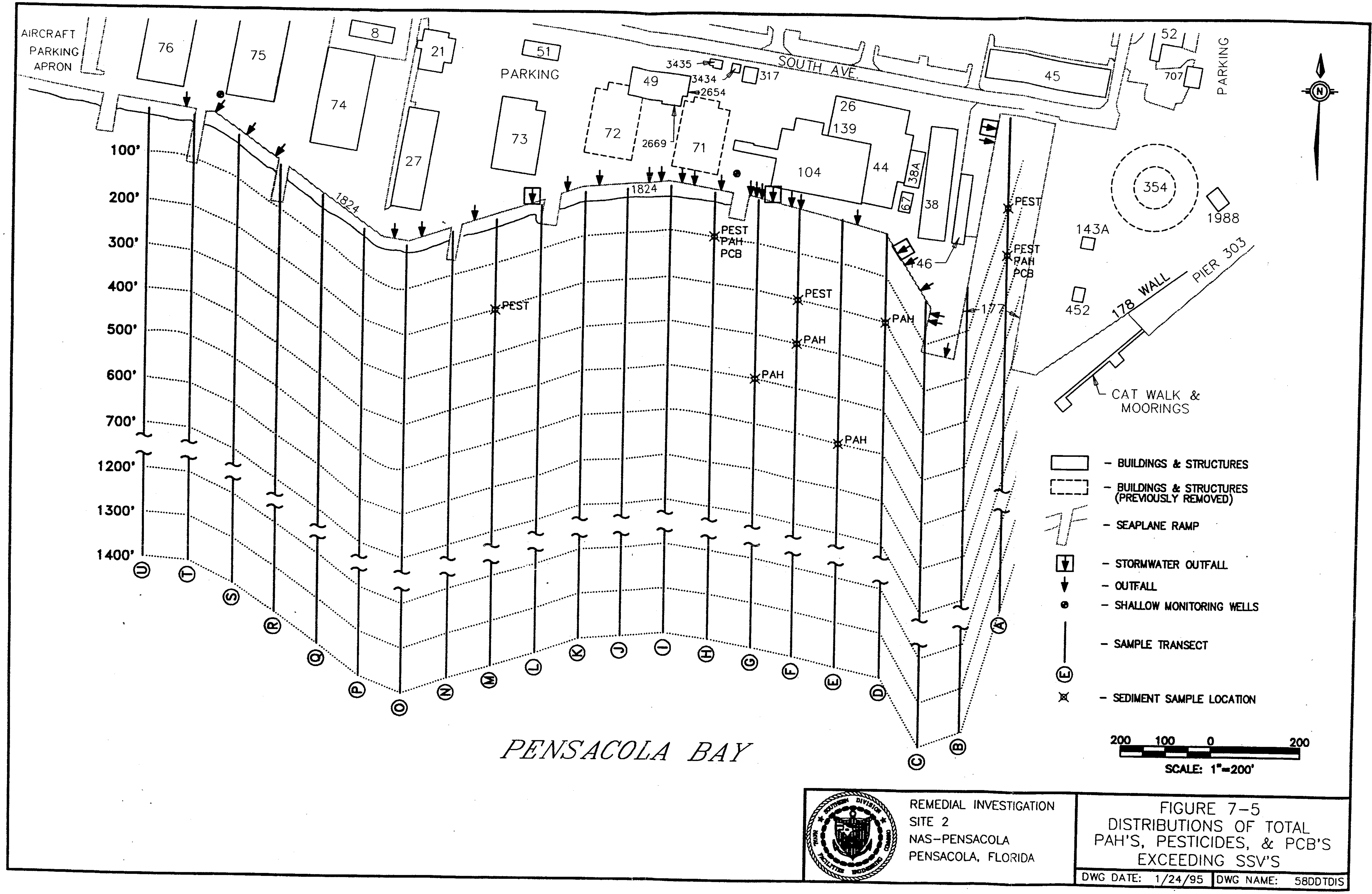
The most common PAH compounds detected in substantial amounts included anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, pyrene, benzo(k)fluoranthene, chrysene, and fluoranthene. Most of these are four- to five-ring compounds, which tend to remain longer in sediments.

Volatiles

Concentrations of volatiles in sediment samples were below method detection limits. No significant individual compound was noticed and no markedly high values were observed.

Pesticides/PCBs

Pesticides and PCBs were found at a very limited number of locations across the site (Figure 7-5). Pesticides and PCBs were both found at locations A2 and H1 (along with PAHs). It is suspected that both of these areas are strongly influenced by proximal discharge culverts or pipes into the bay, accounting for the accumulation of contaminants.


AIRCRAFT PARKING APRON
PARKING
SOUTH AVE
PENSACOLA BAY
CAT WALK & MOORINGS
178 WALL
PIER 303
PEST
PAH
PCB
- BUILDINGS & STRUCTURES
- BUILDINGS & STRUCTURES (PREVIOUSLY REMOVED)
- SEAPLANE RAMP
- STORMWATER OUTFALL
- OUTFALL
- SHALLOW MONITORING WELLS
- SAMPLE TRANSECT
- SEDIMENT SAMPLE LOCATION
SCALE: 1"=200'
REMEDIAL INVESTIGATION
SITE 2
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PENSACOLA, FLORIDA
FIGURE 7-5
DISTRIBUTIONS OF TOTAL PAH'S, PESTICIDES, & PCB'S EXCEEDING SSV'S
DWG DATE: 1/24/95
DWG NAME: 58DDTDIS

Summary

Overall spatial distribution of major constituents was in the northeast portion of the site. This distributional pattern was moderately correlated with fine-grain sediments and shallow waters in that portion of the site. Generally, location H1 had the highest concentrations and most diverse mix of constituents across the site. Higher concentrations of both metals and organics were found at Station H1, which is near the discharge trench that originated in Building 71 (as discussed in Section 4.3.2). Sampling locations near H1 did not exhibit similar concentrations.

7.3 Crab Tissue Chemistry

Crab tissue analysis results are presented in Table 7-4. Both mercury and zinc were found in crab tissue at all sample locations and the reference site. Other metals, such as silver and copper, were found intermittently between the five sample locations. Pesticides were the only organic constituents detected and these were at low concentrations at all locations. The compound 4,4'-DDT had the highest concentrations for those pesticides identified. The significance of the reported concentrations is discussed in Section 10.

Table 7-4
Results of Crab Tissue Sampling at Site 2

Parameter	Station 1	Station 2	Station 3	Station 4	Station 5	Station 5 Duplicate	Reference Station
Metals (ppm)							
Calcium	678.0 J	5,370.0 J	2,420.0 J	1,220.0 J	798.0 J	921.0 J	882.0 J
Copper	ND	14.5 J	ND	ND	ND	ND	ND
Mercury	0.15	0.21	0.16	0.2	0.2	0.14	0.2
Magnesium	362.0 J	682.0 J	552.0 J	475.0 J	419.0 J	375.0 J	361.0 J
Potassium	2,710.0	2,970.0	2,600.0	2,850.0	2,870.0	2,870.0	2,630.0
Selenium	0.8 J	0.7 J	1.5	0.81 J	0.77 J	0.9 J	0.87 J
Silver	1.1 J	ND	ND	ND	ND	ND	ND
Sodium	3,740.0	3,500.0	3,570.0	3,470.0	3,730.0	3,340.0	4,020.0
Zinc	41.8 J	28.7 J	59.1 J	40.5 J	29.3 J	46.2 J	29.2 J
Pesticides (ppb)							
4,4'-DDD	ND	ND	ND	ND	ND	0.56	ND
4,4'-DDE	0.89 J	3.3 J	0.73 J	1.7 J	2.7 J	6.5 J	1.3 J
4,4'-DDT	1.9 J	4.3 J	4.2 J	2.5 J	4.3 J	9.6 J	1.3 J
Aldrin	0.49 J	ND	ND	0.93 J	ND	0.84 J	0.64 J
Dieldrin	ND	ND	ND	ND	ND	ND	0.2 J
Endrin	ND	0.23 J	0.53 J	ND	0.52 J	0.59 J	ND
Heptachlor epoxide	0.26 J	0.69 J	0.84 J	0.31 J	0.45 J	2.5	0.37 J

8.0 DATA VALIDATION

Data have been validated on all field and analytical samples collected from the remedial investigation of Site 2 at NAS Pensacola. The analytical work was conducted primarily by International Technology Analytical Services (ITAS), Knoxville, Tennessee, and included sediment and surface water sample analysis. Analysis of one soil sample was performed by National Environmental Testing, Inc. (NET), Cambridge Division, Bedford, Massachusetts. Tissue ecological sample analyses were performed by Savannah Laboratories and Environmental Services, Inc., Savannah, Georgia. Several sediment samples were analyzed by Ceimic Corporation, Narragansett, Rhode Island. The analytical protocols were performed in accordance with the following guidance documents:

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

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

- Determination of hexavalent chromium in soil and aqueous samples based on Method 7196A, contained in *Test Methods for Evaluating Solid Wastes* (SW-846, 3rd Edition).

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

- USEPA Contract Laboratory Program, *National Functional Guidelines for Organic Data Review, which includes the Multi-Media Multi-Concentration Organic Analysis method, and the Low Concentration Water Organic Analysis method* (February 1994).

- USEPA Contract Laboratory Program, *National Functional Guidelines for Inorganic Data Review,* (February 1994).

8.1 Data Quality

The overall quality of data received for Site 2 has been validated with the appropriate data qualifiers based on data usability and contractual satisfaction. Sample analyses for Site 2 was performed under 12 Sample Delivery Groups (SDGs). Seven tissue samples were analyzed by Savannah Laboratories in SDG ENP01. ITAS analyzed sediment and surface water samples in nine SDGs: PN006, PN026, PN027, PN028, PN029, PN030, PN031, PN032, and PN033. Analysis of one soil sample was performed by NET in SDG FD108. Eleven sediment samples were analyzed by Ceimic Corporation in SDG MA2000. Data qualifiers used in the qualification of all sample results are explained and listed at the end of this section.

8.2 Organic Analysis

Each SDG was received by the laboratory in good condition with the proper custody documents and seals intact. Most contractual holding times from the Verified Time of Sample Receipt (VTSR) until the time of sample extraction and/or analysis complied with contract requirements. In SDG PN026, samples SD02D2, SD02H4, and SD02H5 were analyzed at five-fold dilutions and samples SD02A1, SD02F1, SD02E2, SD02E4, SD02E5, SD02A2, SD02D3, SD02F2, SD02F3, and SD02D1 were analyzed at two-fold dilutions based on the appearance of the extracts. Validation of sample results indicated that acetone, methylene chloride, and 2-butanone were not sample constituents.

In SDG PN028, the laboratory indicated that sample SD02G3 required a 1:2.5 dilution due to the high concentration of acetone. Validation of the sample results indicated that acetone was not a sample constituent. Samples SD02G2, SD02G3, SD02G4, SD02G4D, and SD02G5 were analyzed at a five-fold dilution based on the appearance of the extracts at the time of analysis.

Re-analysis of the samples indicated the presence of acetone, methylene chloride, and/or 2-butanone. Evaluation of the sample results indicated that these compounds were not sample constituents. Samples SD02H1 and SD02G5 required further 1:10 dilutions to get the recoveries of bis(2-ethylhexyl)phthalate within the calibration range. Data validation of these samples resulted in all positive results for the initial semivolatile analysis being qualified as nondetects, because all reported sample contamination was not considered to be sample constituents. Also, the laboratory indicated that samples SD02G2, SD02G3, SD02G4, SD02G4D, and SD02G5 had a high moisture content and all associated blanks and samples underwent sulfur cleanup. The high moisture content of the these samples elevated their respective contract required quantitation limits (CRQLs).

In SDG PN030, sample SD02Q3 was analyzed as the MS/MSD set. Recovery of surrogate 1,2-dichloroethane-d4 was outside of QC limits in sample SD02Q3, but was compliant in the MS/MSD. The percent difference for vinyl chloride did not meet CLP requirements in continuing calibration sample BLM01; however, this analyte was not detected in any blank or sample associated with this SDG. In addition, pesticide/PCB sample SD02Q3 was re-extracted due to low surrogate recoveries. Upon re-extraction, the MS and MSD sample had acceptable recoveries. Because the re-extraction occurred after the sample holding times had expired, the original and the re-extraction analysis were reported. However, all associated sample data reported in the re-extraction analysis was qualified as estimated.

The Gel Permeation Chromatography (GPC) weekly calibration check M2012S1 did not meet the 80 percent to 100 percent criteria as compared to the initial calibration. The same standard used to calibrate the GPC instrument was also analyzed on the Gas Chromatography (GC) instrument without undergoing the GPC cleanup procedure. [*Note:* GPC is used as a method of cleanup for semivolatile and pesticide/PCB samples.] Although the sample was re-extracted and acceptable surrogate recoveries were obtained, the second extraction exceeded holding times by three days and all associated positive values were qualified as estimated (J-flag).

In SDG MA2000, the internal standard area for chlorobenzene-$_{d5}$ was outside the lower QC limits for samples 002MI05001 and 002MQ20001. The samples were reanalyzed with similar results. Therefore, the original sample results were used for interpretation.

8.2.1 Blanks

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

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

Two types of blanks were created in the laboratory during preparation and sample analysis. Each sample designation will be followed by a number corresponding to that blank. For example, the third volatile method blank would be designated "VBLK03."

Method Blank

VBLK — Volatile Method Blank

SBLK — Semivolatile Method Blank

PBLK — Pesticide/PCB Method Blank

These blanks are used by the laboratory to determine the concentrations of contamination associated with the processing and analysis of samples. Method blanks are identified by the laboratory using the first letter of the analysis fraction performed followed by the abbreviation BLK for "Blank."

Instrument Blank

PIBLK — Pesticide/PCB Instrument Blank

An instrument blank is used by the laboratory to determine if any contamination is present before, during, or after pesticide/PCB sample analysis that can be attributed to the GC.

During data validation procedures for SDG PN026, volatile analysis indicated high concentrations of acetone, methylene chloride, and 2-butanone in several samples. These samples were diluted and reanalyzed and all associated positive sample results for these analytes were qualified as nondetects with a "U-flag" based on the action levels calculated.

In SDG PN033, the common volatile laboratory artifacts methylene chloride, acetone, and 2-butanone were identified as contaminants in the associated method blanks, trip blanks, and field blanks (field blanks were designated as Deionized system blanks and associated potable water blanks). In MA2000, methylene chloride and acetone were detected in the method blanks and trip blank. Also, in SDG PN033, the laboratory indicated that methylene chloride and acetone were reported at concentrations ranging from 3 to 1,000 ppb in the samples with acetone concentrations being the highest in samples SD02U1 and SD02U1D. In the volatile method blanks, methylene chloride was the most prevalent compound. This indicates that methylene chloride was present within the atmosphere in and around the sample analysis instrumentation and location; therefore, action levels were calculated and all associated positive sample results were qualified accordingly. The trip blanks, potable water blanks, and DI system blanks contained 2-propanol, aldol condensation products, and unknowns listed as dodecane, octane and ketones isomers at concentrations between 50 and 100 ppb. Although these compounds are not considered to be common laboratory artifacts, action levels were calculated and all associated sample data were qualified accordingly.

In the semivolatile analysis, common laboratory artifacts bis(2-ethylhexyl)phthalate, butylbenzylphthalate, diethylphthalate, and di-n-butylphthalate were present at low concentrations in the method blanks and in several samples for SDG PN033.

During pesticide/PCB analysis, the laboratory reported low concentrations of various pesticides/PCBs in the method blanks of several organic SDGs. For instance, the pesticide/PCB instrument blanks PIBLKAK, PIBLKAN, PIBLKAS, PIBLKAT, PIBLKAZ, and PIBLKAM for SDG PN033 each contained low concentrations of the target analytes heptachlor epoxide, 4,4'-DDD, delta-BHC, aldrin, endrin ketone, and gamma-Chlordane while instrument blanks PIBLKAN, PIBLKAS, PIBLKAT, PIBLKAY, PIBLKBA, PIBLKVM, and PIBLKNJ reported low concentrations of the analytes 4,4'-DDT, aldrin, dieldrin, heptachlor epoxide, endrin, and endrin ketone contamination.

Since no target pesticide and/or PCB analyte is considered to be a common laboratory artifact, E/A&H believes that the associated QA/QC blank sample contamination was introduced by the laboratory at the time of sample preparation, dilution, and/or analysis. Therefore, action levels were calculated based on analyte concentrations indicated for each SDG and all associated sample results were qualified accordingly.

Nontarget compounds identified by analysis are labeled as TICs, and in CLP analyses, these compounds are reported for volatiles and semivolatiles. TICs found in the volatile sample analysis were characterized as unknowns and laboratory artifacts. TICs reported for semivolatile analysis were characterized as unknowns, unknown hydrocarbons, ketones, and chlorinated cyclic hydrocarbons. TICs found in all the samples for SDG PN027 for volatile analysis were identified as unknowns, unknown hydrocarbons, ketones, aldehydes, and laboratory artifacts. Semivolatile analysis of the TICs in SDG PN027 were characterized as unknowns, hydrocarbons, ketones, derivatives of benzene, alcohols, aldehydes, and laboratory artifacts. Many of the unknown compounds identified as TICs were reported at high concentrations, resulting in elevated quantitation concentrations for several samples. However, this is a common consequence of matrix effects due to compounds that are not target compounds.

No TICs were reported for volatile analysis in SDGs PN030, PN031 and PN032; however, for semivolatile analysis, the TICs were characterized as unknowns, ketones, aldehydes, cyclic hydrocarbons, unknown alkanes, alcohols, and benzene derivatives. Analysis of volatiles in SDG PN033 indicated that TICs were characterized as laboratory artifacts or 2-propanol unknowns. Since the spectrum of these TICs indicated the presence of methylene chloride, acetone, 2-butanone, and an unknown, the TICs were identified as unknowns and TCL analytes.

In evaluating the data provided by these QC samples, all frequencies and compliance requirements were satisfactory. E/A&H believes these common laboratory artifacts and other blank contaminants are partially, if not all, a result of laboratory conditions at the time of sample analysis, so no conclusions or recommendations for Site 2 at NAS Pensacola are based on laboratory artifacts.

8.2.2 Calibration

Requirements for instrument calibration were established to ensure that the data provided are acceptable qualitatively and quantitatively. The initial calibration measures the instrument's stability, which indicates its sensitivity and capabilities before the analytical run. The continuing calibration indicates the instrument's performance throughout and at the end of each subsequent analytical run. Historical performance data indicate poor response and/or erratic behavior by compounds known to be common laboratory artifacts. Since no contractual criteria for these compounds exist, for review and data validation purposes, all compounds including the common laboratory artifacts were considered for qualification when the following criteria were met.

- Initial/continuing calibration standard relative response factors (RRFs) for all target compounds and surrogates less than 0.05.

- Percent relative standard deviation (%RSD) is less than ± 30 percent in the initial calibration.

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

Several volatile compounds — including methylene chloride, acetone and 2-butanone — consistently failed %RSD criteria during the initial calibration analysis for almost every organic SDG. Also, acetone, 2-butanone, 2-hexanone, chloromethane, 1,2-dichloroethane, and the surrogate 1,2-dichloroethane-d5 each failed %D criteria during the continuing calibration analysis for several SDGs. However, the RRFs for each compound mentioned above were within CLP QC criteria.

In the case of semivolatile analysis, the compounds 2,2'-oxybis(1-chloropropane), 2-nitroaniline, di-n-octylphthalate, bis(2-ethylhexyl)phthalate, hexachlorobutadiene, and the surrogate

2,4,6-tribromophenol failed %D criteria because of poor response and/or frequent intervals of erratic behavior. Although this was a systematic occurrence, these poor responders represent the large majority of compounds which failed both %D and %RSD for nearly each SDG. If the %RSD was greater than 30 percent, and elimination of either the high point and or low point on the initial calibration curve and recalculation of the %RSD value does not restore the %RSD result to a value less than or equal to 30 percent, then all associated positive sample results outside the linear portion of the initial calibration curve were qualified with a J flag as estimated. However, if this action did restore the %RSD result to a value below 30 percent, no action was deemed necessary based on CLP QC protocols.

In SDG MA2000, several semivolatile compounds were outside the %D criteria: carbazole, chrysene, benzo(k)fluoranthene, 4-nitroanaline, butylbenzylphthalate, 2,4-dinitrophenol, 4-nitrophenol, and 3,3'-dichlorobenzidine. If the compound %D was greater than 25% but less than 50%, positive compounds were flagged J. Positive and undetected results were flagged J and UJ, respectively, if the %D was greater than 50%.

8.2.3 Precision

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

In SDG PN026, volatile analysis of the MS/MSD indicated a recovery of 152 percent for toluene in the MSD sample. This was the only compound reported outside QC limits in the MS and/or MSD within this SDG. In SDG PN027, volatile MS and MSD results were within QC control limits; however, semivolatile analysis of the spike sample SW02Q1 indicated that analytes 4-chloro-3-methylphenol, 4-nitrophenol, and pentachlorophenol each reported spike recoveries that were biased high in the MS and/or MSD. No action was deemed necessary based on CLP protocols and because these analytes were not reported within any of the samples. Also, pesticide/PCBs samples PBLK1, PBLK2, SW02H502, SW02M501, SW02M502, SW02M503, SW02Q1, SW02Q1D, SW02X101, SW02X102, SW02X103, SW02X301, SW02Q1MS, and SW02Q1MSD failed surrogate recoveries for Tetrachloro-m-xylene (TCX) on confirmation column and/or Decachlorobiphenyl (DCB) on the primary column.

In SDG PN030, volatile and semivolatile MS/MSD compounds were within QC criteria. Pesticide and PCB compounds g-BHC (Lindane), dieldrin, and endrin were reported outside QC limits for the MS during sample analysis and the percent recovery for g-BHC and endrin in the MSD were also outside QC criteria. The %RPD for dieldrin was outside QC limits due to the low spike recoveries.

MS/MSD results in SDG PN033 for volatiles, semivolatiles, and pesticides/PCBs were within QC criteria. However, the compounds heptachlor, aldrin, and dieldrin in the MSD exhibited high %RPDs that were attributed to matrix interferences generally experienced by less efficient spike recoveries during extraction and analysis of spiked soil samples. In SDG PN031, volatile sample SD02X2, semivolatile sample SD02Q3, and pesticide/PCB sample SD02X3 were spiked and all the associated QA/QC sample criteria were within CLP control limits. All associated positive sample results were qualified accordingly and using informed professional judgment since CLP protocols concerning MS/MSD data are advisory only.

E/A&H believes that the MS/MSD results indicate the effect of sample matrix on the associated sample data, including the MS/MSD samples themselves. This can be acknowledged by consistent high percent recoveries when deionized water is analyzed and the inconsistent percent recoveries and %RPDs reported when soil samples are analyzed. As a general rule, no action is taken on MS/MSD data alone. However, the MS and MSD results are used in conjunction with other QC criteria such as surrogate recoveries, internal standard area QC requirements, and the comparison of %RSD results of nonspiked compounds between the original sample result, MS, and MSD to determine the need to qualify some of the associated sample results as estimated.

8.2.4 Accuracy

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

Also, the accuracy of the overall measurement system indicates any bias in the environmental laboratory and/or in the field sampling/analysis plan. Possible sources of error may include the sampling process, field and/or laboratory contamination, preservation, and handling, or the sample matrix itself. Other methods used to determine field inaccuracies include trip blanks and preparing and analyzing field blanks and equipment rinsate blanks.

Volatile and semivolatile sample analysis of SDG PN026 indicated that surrogates for all samples were within QC criteria. Samples PBLK4, 02ME0101 reported surrogate recoveries below 60 percent for DCB on both the primary and/or confirmation columns. Also, samples PBLK6 reported a surrogate recovery of 54 percent for DCB and sample SD02A1 reported surrogate recoveries of 16 percent and 14 percent, respectively, for TCX on both the primary and confirmation columns. All associated positive sample results were qualified as estimated with a J flag.

Volatile and semivolatile sample analysis of SDG PN031 indicated that all surrogates for both fractions were within QC criteria. However, during pesticide and PCB analysis of the samples, 02ME06 failed surrogate recovery for DCB on both the primary and confirmation columns. All positive sample results for volatile and semivolatile sample analysis were qualified based on CLP protocol for samples with low and/or unusually high surrogate recoveries; however, all associated pesticide/PCB sample results were qualified accordingly using informed professional judgment since surrogate CLP QC limits for pesticides and PCBs are advisory only.

In SDG PN033, pesticide/PCB surrogate recovery criteria for DCB was not met for the equipment blank 02ME07. DCB failed surrogate recovery on both the primary and the confirmation columns at less than 60 percent. Although CLP QC limits are advisory and no action is provided for samples with failing surrogate recoveries, all associated pesticide/PCB analytical data within this SDG are believed to be reliable and usable with the appropriate data qualifiers.

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

8.2.5 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent the characteristic of a population, parameter variations at a sampling point, or an environmental condition. The duplicate 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. In all cases, the duplicate results were found to be in close agreement with the original results since most variations are due mainly to common laboratory artifacts.

8.2.6 Completeness

Completeness is defined as the percentage of measurements made which are judged to be valid. Approximately 95 samples initially were analyzed for the investigation of Site 2 with several inorganic sample parameters considered to be invalid and all other sample results determined to be valid with some qualification. Therefore, the data meet the 90 percent completeness level.

8.2.7 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. All samples for Site 2 were collected using the USEPA Region IV SOPs and analyzed according to CLP SOW protocol.

8.3 Inorganic Analysis

The analytical methods were performed in accordance with the USEPA CLP SOW for Inorganics Analyses (3/90) guidelines. For hexavalent chromium analysis, the laboratory employed Method 7196A contained in *Test Methods for Evaluating Solid Wastes,* SW-846, 3rd Edition. Results were reported according to CLP format outlined including, but not limited to, forms listed under NEESA Level D guidelines.

8.3.1 Holding Times

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

8.3.2 Calibration

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

8.3.3 Blanks

Blank results are used to determine the presence and magnitude of any contamination problems. After reviewing the data, it was determined that the preparation blank and/or calibration blanks in SDG PN026 contained low concentrations of calcium, silver, selenium, magnesium, iron, and zinc at or above the instrument detection limits. Equipment blank 02ME07 indicated high concentrations of calcium, magnesium, potassium, and sodium. Low concentrations of zinc were also reported as required under CLP QC guidelines: all associated sample results were qualified based on a calculated action level of 5X as determined from the concentrations of blank contaminants found in each SDG. In SDG PN027, antimony was found in the initial and continuing calibration blank at 35.4 micrograms per liter (μg/L) and 30.5 μg/L, respectively. Iron was found in the preparation blank at a concentration of 57.57 μg/L. In SDG PN028, the analytes antimony, potassium, and thallium were reported in the initial and continuing calibration blanks and the analyte magnesium was reported in the continuing calibration blank and the preparation blank. Initial and continuing calibration blanks in SDG PN029 indicated concentrations of calcium, magnesium, sodium, and zinc. In SDG MA2000, antimony, chromium, zinc, and thallium were reported in the preparation blank. All associated sample data were qualified as nondetects based on the action levels calculated for each SDG.

Antimony was the only analyte found in the initial calibration blank in SDG PN030. All other calibration blanks and preparation blanks indicated no other analyte contamination. Although antimony was reported as a contaminant in one blank it was also reported with a low spike recovery; therefore, all associated sample results were qualified according to CLP protocols.

8.3.4 Inductive Coupled Plasma Interference Check Sample Analyses

The inductive coupled plasma (ICP) interference check sample analysis (ICSA) is performed to check the laboratory's instrument and the background correction factors. The ICSA was analyzed without any indication of interferences. Analysis of the ICSA was also found to satisfactorily meet the compliance requirements as stated under CLP.

8.3.5 Laboratory Control Sample Analyses

The Laboratory Control Sample Analysis (LCSA) is designed to monitor the efficiency of the overall performances in all steps of analysis, including the digestion procedures. LCSA and results were found to be within contractual compliance requirements.

8.3.6 Duplicate/Spike

Duplicate samples are used to determine the precision of analytical methods for each parameter. In SDG ENP01, sample 002-J-0003-00 was used to prepare the duplicate and spike pair and the analytes calcium, copper, nickel, and zinc were reported outside QC limits in the duplicate analysis. In the case of duplicate sample analysis, laboratory variability arising from the sub-sampling of nonhomogeneous soil samples is common. Therefore, no action was deemed necessary. Spike recovery results were also outside QC limits for silver and zinc in the spike analyses; however, a post-digestion spike performed for silver and zinc was within QC criteria.

The spiked samples are designed to provide information about the effects of the sample matrix on the digestion and measurement methodology.

In SDG PN026, all spiked analytes and duplicate analyses were within QC limits. As a result and according to CLP guidelines, all associated nondetected sample results for antimony and selenium were qualified as unusable while nondetected sample results for thallium were qualified as approximates at the reported quantitation limit, as indicated with a UJ flag. In SDG PN026, spike sample recovery for mercury was above 129 percent. In SDG PN030, the analytes aluminum, chromium, lead, and manganese were reported outside QC limits for duplicate recoveries and the analytes antimony, selenium, and cyanide each had spike recoveries below 71 percent. Therefore, all associated positive sample results were qualified according to CLP QC guidelines as estimated values and nondetects were qualified as estimated at the quantitation limits.

In SDG PN030, the duplicate/spike pair was prepared using sample SD02Q3 and duplicate RPD results were out of QC limits for aluminum, chromium, lead, and manganese. Spike recovery results for antimony, selenium and cyanide were 62.6 percent, 70.2 percent, and 27.2 percent, respectively. All associated positive sample results for antimony and selenium were qualified as estimated with a J-flag and all nondetects were qualified as estimated at the quantitation limit with a UJ flag. All cyanide sample results, including nondetects, were qualified as unusable due to a spike recovery of less than 30 percent. In SDG PN032 and PN033, all analyte recoveries were within QC control limits.

In SDG MA2000, spike recovery was outside acceptable control limits in sample 002MF30001 for the following elements: silver (68%), cadmium (354%), chromium (179%), copper, (354%), zinc (136%), and antimony (22%). All silver was qualified as estimated (J) for positive results and (UJ) for nondetects. All cadmium, chromium, copper, and zinc were qualified as estimated

(J) for positive results. All antimony results were qualified as estimated (J) and unusable (UR) for nondetects because the percent recovery was less than 30%.

The laboratory duplicate critera was not met in SDG MA2000 for the following elements: aluminum, arsenic, calcium, copper, iron, lead, and zinc. All positive results were qualified estimated (J) in SDG MA2000.

8.3.7 Validation Worksheets

As with every E/A&H validation project, worksheets are used which detail the evaluation of analytical data. On certain sheets, the validation procedures will be equivalent to the Standard Operating Procedures provided by the CLP *National Functional Guidelines for Organic and Inorganic Data Review*. Other sections will cover areas which are more subjective due to the complexities of the analytical methods and will document only the actions taken by the data evaluator. The worksheets will be provided upon request or otherwise will become a part of the NAS Pensacola Site 2 Final Report.

8.3.8 Data Assessment

The trip blanks, potable water blanks, and DI system blanks contained several volatile target compounds that were detected by the laboratory as contamination introduced during preparation, handling, and/or analysis of the samples. These analytes include toluene, methylene chloride, acetone, chloroform, xylenes, 2-butanone, and carbon disulfide. Also, analysis of semivolatile method blanks, equipment rinsate blanks, and potable water blanks indicated low concentrations of bis(2-ethylhexyl)phthalate, butylbenzylphthalate, diethylphthalate, and di-n-butylphthalate contamination in several SDGs and cases. Action levels were calculated for each compound and all associated sample results were qualified as required under CLP protocols.

Discussion with the project geologist indicated that sample identification numbers designated with an L, N, or O are material blanks which were sampled from clay pellets and/or cement used in constructing monitoring wells.

Several metals failed duplicate and/or spike recoveries during inorganic analysis. However, the most evident were antimony, selenium, and cyanide, which showed very low spike recoveries in SDGs PN026 and PN030. As indicated earlier, the poor recoveries of some of these analytes may be attributed to interference caused by the high sodium content in the samples and in some blanks. In the case of cyanide, the poor spiking results were considered a function of laboratory procedures during sample preparation and analysis and were qualified accordingly. Silver results reported in the surface water samples for SDGs PN029 and PN032 were also considered invalid and qualified as nondetects at the quantitation limit and/or reported concentrations due to silver contamination reported in the continuing calibration blanks.

In conclusion, the overall data quality of the analytical work done for Site 2 at NAS Pensacola, except for those sample results that were qualified as unusable, was considered to be satisfactory and usable for site remediation and risk assessment.

DATA QUALIFIER DEFINITIONS

The following definitions explain the data qualifiers as a result of the validation process.

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

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

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

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

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9.0 CONTAMINANT FATE AND TRANSPORT

9.1 Source Definition

Activities associated with Buildings 71 and 72 have likely contributed to significant contaminant input to the water body and bottom substrate in and near Site 2. These facilities were primarily involved in paint stripping and metal plating operations. The primary contaminants expected from these earlier operations, adjacent to or near Site 2, were metals such as chromium, cadmium, lead, copper and cyanide, and solvent constituents such as TCE and ketone compounds. More recently, evidence of boat maintenance and refueling services in the vicinity suggests that petroleum products may also be impacting Site 2 via stormwater runoff.

9.2 Sediment Characteristics Affecting Transport

Contaminant movement and availability in marine sediments can be difficult to assess. Variables such as organic carbon, grain size, and sulfides are critical to sediment loading capacities. In addition, specific contaminant characteristics such as molecular weight, or sediment/water partition coefficients can affect adsorption or chemical degradation rates or potentials. For organic constituents, molecular size parameters, such as molecular weight, molecular volume and area may control persistency in sediments.

9.2.1 Metals

For metals, adsorption potentials for sediments are related to grain-size, and to a lesser extent, to organic carbon. Fine-grained particles, particularly aluminosilicate clays, provide a greater surface area and a crystalline microstructure conducive to the adsorption of inorganic contaminants. These fine-grained sediments are much more susceptible to current movements and may hold relatively higher metal concentrations when compared to coarser-grained sediments.

Mobilization of metals in sediments is a function of pH, temperature and the oxidation-reduction potential (redox). Higher pH surface waters favor precipitation from solution and result in increased sediment concentrations. Lower pH favors dissolution and results in release of metals from sediments. Given equal pH values, salinity effects on metals will favor precipitation of metals from water, with consequent accumulation of these metals in sediments.

At Site 2, the primary transport mechanism for metals bound to sediment will be through physical movement of the sediment itself. Metals can be tightly bound within the mineral structure and thus currents will be the predominant transport mechanism. Over time, sediments will most likely be transported from depositional locations, making distribution and effects difficult to determine.

The fate of metals in sediments involves both chemical and biological transformation. Chemical transformation may involve formation of organo-metallics, complexation with sulfides or methylation occurring from microbial processes. Transfer of metals through biological uptake by benthic infauna is also a possibility, but biomagnification of metals is not considered a critical pathway.

9.2.2 Organics

Organic contaminants, particularly hydrophobic compounds, tend to sorb to water borne particulates (clays, colloids, humic substances) that eventually end up as bottom deposits. From here, they may be transformed into more or less toxic forms, they may migrate from the sediment into benthic organisms via respiration or they may reach overlying waters as physicochemical conditions change.

Sediment organic carbon in the form of humic substances (measured by total organic carbon), is the primary storage compartment for neutral organic chemicals in sediments. Also, particle size and chemical hydrophobicity (i.e., highly insoluble in water will adhere to less-energetic phase) are important environmental influences affecting sorption rates. Increased surface area resulting from decreased particle size, provides more adsorption sites for neutral organic chemicals by means of van der Waals/London forces.

For PAHs in sediments, photolytic degradation rates are a function of the available penetrating radiation (sunlight) and oxygen. In low light/low oxygen environments, and/or where these compounds are tightly bound to organic substances, they may persist indefinitely.

Fate of organic constituents in sediments is influenced by biotransformation and biodegradation by benthic organisms. Neutral organics that are more hydrophobic tend to be more bioavailable and to persistent in the food chain due to their accessibility when they bind with organic substances.

9.3 Water Transport Characteristics

In water, the likelihood that a dissolved contaminant will be retained within the medium is dependent on that chemical's fugacity, or escaping tendency. This fugacity potential is based on both the chemical specific traits and medium thermodynamic influences. The partitioning coefficient of a chemical is an indication of that chemical's affinity for water or another medium (sediment, tissue, suspended particles). Under ideal conditions, the partitioning coefficient for a chemical is constant, but the environmental parameters that can influence partitioning vary with site conditions.

Environmental variables include, but are not limited to, suspended and dissolved materials, light attenuation, pH, and Eh (redox). Eh and pH have strong influence on metals but little effect on neutral organic chemicals. Generally, higher pH environments have more particulate matter and metals can be precipitated out. In seawater, the presence of divalent cations of magnesium (Mg^{++}) and calcium (Ca^{++}) can cause suspended fine-grained sediments, colloids, and dissolved organic matter to flocculate and settle from the water column. Organic contaminants may co-precipitate with metal complexes on these flocculated materials. Dissolved organic carbon (DOC) in water, composed primarily of humic substances produced by the degradation of dead plant material, can also provide binding sites for metal ions and neutral organics.

Biological fate of a contaminant is directly related to its octanol-water partitioning coefficient (K_{ow}). This is the tendency of a chemical to be attracted to organic versus nonorganic environments. With chemicals having a K_{ow} below 5, biomagnification is not significant, but a K_{ow} in the range of 5 to 7, is significant. As in sediment, biological effects may include degradation or transformation into another chemical form. Although chemical concentrations of contaminants in water may be reduced compared to sediment concentrations, availability is increased.

Other less intrinsic factors that may affect biological availability of organic chemicals include; organism lipid content, species physiology, steric hindrance, and physicochemical parameters.

9.4 Onshore to Offshore Transport Characteristics

Shoreline segments are included in this investigation to determine potential contaminant transport pathways from groundwater to water-based sites. The two potential pathways observed were from groundwater flow and surface water runoff to the surface waters and sediments of the site.

9.4.1 Groundwater Transport

Typical groundwater flow patterns at the interface of fresh groundwater and saline groundwater in coastal areas show that fresh groundwater flows upward, along the upper surface of the more dense saline groundwater, and discharges at the surface (Fetter, 1988). A resultant cyclical flow occurs in the saline groundwater causing it to also flow upwards. Because of the vertical components of flow, fresh groundwater generally discharges into the seafloor at some distance offshore. The width of this outflow face depends on the discharge volume from the aquifer at the shoreline, the density difference of the fresh and saline groundwater, the hydraulic conductivity (K) of the aquifer, and the width of the discharge face along the shoreline, and can be calculated using the following equation:

$$x_0 = \frac{-Gq}{2K}$$

where

x_0 = width of the outfall face

G = density difference of fresh and saline groundwater

$g = \frac{pw}{ps - pw}$ pw = density of fresh groundwater; ps = density of saline groundwater

q = discharge of the aquifer

K = hydraulic conductivity

Based on the aquifer characteristics estimated from tests on wells near the shoreline at Site 38 and a width of 2,000 feet (the width of Site 2), the outfall width for groundwater discharge offshore is estimated at 1,970 feet. Clearly, the sampling approach at Site 2 was directed at collecting samples within this zone, specifically in the fine-grained sediment.

Based on the investigation at Site 38, it was concluded that groundwater and soil had been impacted. According to data in the Site 38 RI, the greatest potential impact to Site 2 is from a VOC plume underneath former Building 71. The plume includes degradation products of TCE such as 1,1-dichloroethene, 1,2-dichloroethene, and vinyl chloride (Appendix E). The estimated concentration of the plume at the shoreline was 10 μg/L. A conservative estimate of contaminant introduction to the bay can be calculated assuming advective transport only. Based on 1.6 ft/day as the average horizontal pore velocity, 120 feet as the length and 8 feet as the depth of the total volatile plume at the bay's edge, and 28 percent as the effective porosity of the aquifer (Heath, 1989), the current flux of total volatiles entering the bay is 152 μg/day or 55,400 μg/year. This estimate of the total volatiles did not consider tidal fluctuations which would affect the flux of volatiles into the bay.

Sediment and surface water samples collected at Site 2 did not detect the VOCs found in the groundwater at Site 38. The absence of these VOCs suggests several attenuation possibilities. Primarily, complex transport and mixing processes occurring at the fresh-saline groundwater interface would tend to exacerbate dispersion. Second, processes such as partitioning, adsorption, degradation, and other chemical reactions may occur, as fresh groundwater (and contaminants moving with groundwater) moves first through the aquifer matrix and then through bay-bottom sediments. Additionally, tidal study data (Section 6) indicate that tidal flux creating groundwater flow reversal near the shoreline may trap groundwater contaminants near the shoreline, resulting in greater potential for hydrodynamic and chemical attenuation. Considering these complex mixing zone problems and the fact that contaminant concentrations at the shoreline are at the detection limit, the absence of Site 38 groundwater contaminants in the surface water and sediment at Site 2 is perceivable.

The presence of many inorganics found in the groundwater at Site 38 and in the onshore area of Site 2 were identified in the offshore sediment samples (Appendix E). Complex reactions of inorganics in groundwater, redox-related processes, adsorption, and precipitation as inorganics are transported in groundwater and could result in attenuation of metals concentrations. Additionally, mixing at the fresh groundwater and saline groundwater interface, along with tidal fluctuations, would increase the potential for hydrodynamic and chemical attenuation. Because of these processes, groundwater discharge from Site 38 is not likely a continuous source of inorganic contaminants to Site 2 sediments or surface water at concentrations above risk-based action levels.

9.4.2 Surface Water Transport Characteristics

Much of the onshore area near Site 2 is composed of asphalt or concrete. Stormwater runoff is collected in several catch basins in the surrounding areas and discharged at Site 2 through four outfalls (see Figure 4-3). Scuppers along the seawall also aid in controlling stormwater runoff and direct water into Pensacola Bay in the Site 2 area. Most of the past activities identified in the contaminant source survey (Section 4) as potential sources of contamination no longer exist in the area immediately adjacent to the site. Except for stormwater runoff, which could contribute PAHs to Site 2 sediments, most present activities are not expected to pose a significant environmental impact. Fuel handling at the Port Operations boat basin and the other docking facilities east of Site 2 may also represent a source for petroleum contamination. Routine application of pesticides basewide may represent a potential source to the site; this may be the reason for the detections of these pesticides in Site 2 sediments.

9.5 Conclusions

The introduction and fate of contaminants at Site 2 are ultimately controlled by the chemistry of the contaminant and medium specific physicochemical attributes, in addition to the hydraulic mechanisms of the area. The physical state of the system (saline surface waters, presence of humic substances and clay minerals, and nearby current and past sources for metals and organics) clearly provides for introduction and accumulation of contaminants into Site 2 media. Hydraulically, features such as the bay-gulf channel and intercoastal waterway strongly influence the hydraulic movement of sediment sorbed and dissolved contaminants both into and away from the site. **The dynamics of the overall system, and respective complexity of it, limits a true correlation with sources proximal to Site 2.**

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10.0 BASELINE RISK ASSESSMENT

10.1 Introduction

The objective of the BRA is to determine the potential health hazard and/or cancer risk to humans and the environmental impacts of hazardous substances at the site as it currently exists (i.e., without further remediation). The assessment considers environmental media and exposure pathways that could result in unacceptable levels of exposure now or in the foreseeable future. The value of the risk assessment as a basis for making remedial decisions depends upon an adequate site characterization of chemical contamination. Variables considered in characterizing the site and its associated risk are the amount, type and location of site sources, the pathways of exposure (media type and migration routes), and the type, sensitivities, exposure duration, and dynamics of the exposed populations (receptors). The RI conducted by E/A&H presented in previous chapters provided the site characterization data used in this assessment.

Based on the nature of the site (all marine environment), the approach to health risk assessment (Section 10.3) will be to evaluate the concentrations observed by modeling possible exposure scenarios. The ecological risk assessment will comprehensively compare observed concentrations to proposed and established values that are considered to be critical exposure levels for marine fauna and analyze sediment toxicological and benthological data for selected locations.

Specific BRA Objectives

- Characterize the source media and determine the chemicals of potential concern (COPCs) for Site 2 at NAS Pensacola.

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

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

- Characterize the potential baseline risks associated with Site 2 at NAS Pensacola under current and future conditions.

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

Water and sediment samples were collected and analyzed for the TCL/TAL using CLP March 1990 Statement of Work (3/90 SOW) methods.

Tables 7-5 and 10-8 summarize the findings with respect to those contaminants addressed during the BRA process.

The following BRA was prepared in accordance with the guidelines set forth in:

- *Risk Assessment Guidance for Superfund, Volume I-Human Health Evaluation Manual,* Parts A & B, USEPA/OERR, EPA/540/1-89/002. (December 1989) and EPA/540/R92/003. (December 1991) (Interim). (RAGS, Parts A & B).

- *Risk Assessment Guidance for Superfund, Volume I-Human Health Evaluation Manual. Supplemental Guidance-Standard Default Exposure Factors-Interim Final.* USEPA/OERR. OSWER Directive: 9285.6-03. (March 25, 1991).

- *Risk Assessment Guidance for Superfund, Volume II-Environmental Evaluation Manual, Interim Final.* USEPA/OERR, EPA/540/1-89/001. (March 1989).

- *Risk Assessment Guidance for Superfund, Volume I-Human Health Evaluation Manual, (Part B, Development of Risk-Based Preliminary Remediation Goals)*, USEPA/OERR, USEPA/540/R92/003, December 1991 (Interim). (RAGS Part B).

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

- USEPA Region III *Selection of Contaminants of Concern By Risk-Based Screening* table, March 18, 1994 (Roy L. Smith). (RBC Screening Table).

- *EPA Framework for Ecological Risk Assessment* (EPA/630/R-92001).

- *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments*, (USEPA/ERT September 1994, Revised Draft).

10.2 Ecological Risk Assessment

The purpose of the ecological risk assessment (ERA), a key component of the BRA, is to develop a qualitative and/or quantitative ecological appraisal of the actual or potential effects of Site 2 contamination on the ecosystem. The assessment considers environmental media and exposure pathways potentially resulting in unacceptable concentrations of exposure to flora and fauna now or in the foreseeable future.

10.2.1 Problem Formulation

This section uses basic information about the site setting, potential chemicals-of-concern, and potential receptor species to propose the environmental threat present.

10.2.1.1 Site Description

Site 2 is on the southeastern shoreline of NAS Pensacola, along the Pensacola Bay waterfront (see Figure 2-1). The site is the area of nearshore sediments along the southeast waterfront area. Section 2 of this report provides specific information on the history of the site. General ecology of the area is provided in Section 3.

10.2.1.2 Stressors

Section 7 of this report provides specific nature and extent of contaminants found across the site along with concentration gradients (see Table 7-5). In general, the metals arsenic, cadmium, chromium, copper, lead, mercury, and zinc, along with the organic constituents PAHs and pesticides appeared to exceed background concentrations. The contaminant source survey presented in Section 4 indicates that metal contamination from past practices at Building 71 would be of potential concern. Volatile organics were also thought to be present at the site but semivolatiles and pesticides were not.

10.2.1.3 Ecological Components

Section 3 details the potential ecological receptors found in the immediate area surrounding Site 2. The dynamic nature of this estuarine system would likely produce varied results on species living near Site 2, based on the season and effort of sampling. Species having the highest potential for contamination effects would include sessile benthic macroinvertebrates and other mobile species closely associated with the sediments such as crab, shrimp, and flounder.

10.2.1.4 Endpoints

Determining the potential for negative impacts to benthic and nekton communities from site-related contamination was the primary assessment endpoints selected for the site. A previously approved work plan outlined a phased approach which has been used to assess ecological risks from site contamination. The phased approach included a preliminary assessment in which concentrations were compared to benchmark effects levels for the selected assessment endpoints. The preliminary assessment is included as part of the Phase IIA (Contaminant Assessment/Preliminary Risk Characterization) portion of the RI study, with a more in-depth assessment (to include measurement endpoints such as benthic indices and toxicity tests) of effects provided in Phase IIB.

10.2.2 Phase IIA-Preliminary Risk Characterization (PRC)

To characterize present risks to receptors, contaminant concentrations have been compared to benchmark values or criteria, as appropriate, for the media of concern. To assess potential effects to the nekton community, observed water concentrations were compared to federal and state water quality criteria. For assessment of potential effects to benthic species, site concentrations were compared to several pertinent studies:

- Proposed USEPA Region IV Sediment Screening Values (SSV)

- State of Florida Sediment Quality Assessment Guidelines (SQAGs)

- A comparison on Site 2 metal data to aluminum:metal regression lines produced by Florida Department of Environmental Regulation in 1988.

- A relative comparison of Site 2 metal data to metal concentrations found during the NOAA National Benthic Surveillance Study.

- An ecological screening level assessment Hazard Quotient Approach of the contaminants of concern is presented. This assessment is based on guidelines prepared by USEPA Region III (EPA, 1994a).

10.2.2.1 Effects to Nekton

Few surface water concentrations detected during the contaminant assessment phase of the study exceeded established criteria (Table 10-1). The only significant occurrence was for silver across the site. It is thought that these reported concentrations may be a result of laboratory matrix interference from the high salinity water. During future sampling events, an attempt will be made to determine whether silver is a chemical of potential concern. At present it does not appear that the potential for effects to nekton species is high from water exposure.

10.2.2.2 Effects to Benthos

Sediment contamination in marine ecosystems appears to be the most critical element in assessing long-term effects to biological receptors. In the absence of established sediment criteria, an in-depth analysis of the applicability of state and federal sediment effects and screening values to data collected at Site 2 are analyzed in depth.

To best determine if concentrations detected may be of ecological significance, a discussion of several assessment methods were discussed. Site 2 values were labeled as "exceeded" based on comparison of concentrations to SSVs established by USEPA Region IV. This term does not necessarily imply that these concentrations are a positive indication of environmental injury or impact. Physicochemical conditions and receptor susceptibility serve as mediators to impacts from sediment-borne concentrations. A better way to determine the possibility for impact is to assess all of the factors that may influence a chemical's biological availability.

USEPA Region IV SSV and State of Florida SQAG Comparison

USEPA Region IV SSVs (1994) were proposed after review of three studies (Long & Morgan 1990, MacDonald 1993, and Long et al., 1995) which evaluated effects-based concentrations. SSVs were selected based on the lowest effects value from one of the studies, or placed at the CLP

Table 10-1
Site 2 Surface Water Concentrations Compared to Established Federal and State Water Quality Criteria
(μg/l)

Analyte	N	Range	Mean	Number Detects	Criteria	No Detects > Criteria
Aluminum	21	40.9 - 120.0	66.5	16	1,500[2]	0
Antimony	21	95.8 - 180	137.9	20	4,300[2]	0
Silver	21	6.3 - 144	17.4	18	0.05[2]	18
Zinc	21	5.5 - 14.9	9.6	5	86[1,2]	0
Anthracene	21	10	10	1	110,000[2]	0
Fluorene	21	10	10	1	14,000[2]	0
Pyrene	21	10	10	1	11,000[2]	0
Fluoranthene	21	10	10	1	370[2]	0
Acenaphthene	21	10	10	1	2,700[2]	0
Pentachlorophenol	21	5	5	1	7.9[2]	0
Phenol	21	10	10	1	4,600,000[2]	0
Tetrachloroethene	21	1 - 2	1.5	2	≤ 8.85[2] (AnnAvg)	0
2,4,6-trichlorophenol	21	10	10	1	≤ 6.5[2] (AnnAvg)	1
2,4-dinitrophenol	21	5	5	1	≤ 14,260[2]	0
2,4-dichlorophenol	21	10	10	1	≤ 790[2]	0
2-chlorophenol	21	10	10	1	≤ 400[2]	0
Pentachlorophenol	21	5	5	1	7.9[2]	0

Notes:

1 = USEPA Ambient Water Quality Standard (Chronic-Saltwater).
2 = Florida Surface Water Quality Standard (Class III-Marine).

Practical Quantitation Limit (PQL). State of Florida Sediment Quality Assessment Guidelines (SQAGs) were derived after review of eight previous studies. SQAGs are based on the Long and Morgan data set, but are supplemented by additional toxicity and other biological effects data. Although these proposed SQAGs and SSVs are not true applicable relevant and appropriate requirement (ARARs) and will not be considered as such during this assessment, the lack of sediment criteria results in their being used for comparison and screening.

Again, for discussion purposes, the term "exceeds" refers to those concentrations found at Site 2 which were above USEPA Region IV SSVs or Florida SQAGs.

FDEP Metal-to-Aluminum Ratios

To address the natural concentration of metals in sediments, concentrations present at Site 2 were compared to metal:aluminum ratios as discussed by the FDER (now FDEP) (1988). To summarize FDEP's approach, regional natural metal-to-aluminum ration exist and, anthropogenic input to areas can be assessed by comparing metal concentrations to these "natural" ratios. FDEP produced regression lines which were determined from "clean" sites in Florida, along with 95 percent prediction limits. The extent of the metal concentrations above the prediction limit should indicate the likelihood of metal-enrichment. FDEP (1988) strongly insists that full sediment digestion (hydrofluoric acid) be included in the analytical procedures before true metal:aluminum ratios can be calculated. The Site 2 sediment digestion procedures were not the same as those used by FDEP (1988); instead those required for typical CLP were employed (nitric acid). As stipulated in the FDEP document, "...use of typical digestion procedures (nitric acid)," such as used for Site 2 samples, "...would not be sufficient to completely release aluminum from the clay matrices" due to the inherent strength of the aluminum-silicate bonding. Alternatively, other metallic ions are generally arranged in layers alternating with aluminum and silica, and can be easily mobilized with nitric acid. Because of this, FDEP states "that lack of complete digestion may give metal-to-aluminum ratios which appear unusually high." Based on this, the Navy believes that comparing Site 2 metal-to-aluminum ratios to FDEP's ratios is, at least relevant and conservative.

Subsequent to this assessment, split sediment samples near NAS Pensacola were collected and analyzed for metals using both digestion methods. Results of that investigation showed that metal concentrations for split samples for the inorganics arsenic, chromium, copper, lead, nickel, and zinc were not statistically different based on the digestion procedure used (Appendix F).

NOAA National Benthic Surveillance Project

From 1984 to 1987 sediment and fish tissue samples were collected annually for contaminant analysis as part of NOAA's National Status and Trend Program, National Benthic Surveillance Project (Hanson and Evans, 1991). One of the goals of the project was to develop a nationally uniform long-term database for contaminants in U.S. coastal areas and to establish current status and future trends in contaminant concentrations in sediment and fish. For the purposes of this RI, metal data reported for Station 1, the station closest to NAS Pensacola of the three stations sampled in the Bay, have been compared to raw values reported from Site 2 (Table 10-2). No inference of negative effects to biological receptors is assumed using this information. The concentrations are provided for comparison purposes only.

USEPA Region III Interim Ecological Risk Assessment Guidelines

The screening level approach described in the Region III document (USEPA 1994) was applied to constituent concentrations across Site 2. This screening level approach very conservatively estimates the risk associated with observed concentrations at a site. Basically, using the log-transformed 95 percent upper confidence limit (UCL) of the data, an environmental effects quotient (EEQ) is derived relative to some criteria. As no criteria were available for sediments, appropriate SSVs were used in the calculations. Based on the document, the EEQ calculations resulting in values higher than one are considered to demonstrate a potential risk. Values higher

Table 10-2
Comparison of SSV Exceeded Phase IIA Sediment Contaminant Concentrations at Site 2 to Other Studies

Contaminant[d] (overall mean)	Sta.	Conc.	Region IV SSV	Concentration Compared to FDEP Regressions[e]	NOAA NBS[a] Range
Arsenic (6.79)	D3	12.4	8	A	17.3 - 22.1
	E3	20.4		A	
	F3	15.3		A	
	F4	15.4		A	
	G3	12.5		A	
	G4	16.1		A	
	H1	9.1		A	
	H2	18.2		A	
	H3	21.9		A	
	K3	16.8		B	
	N3	13.6		B	
	P2	17.3		A	
	Q2	15.4		B	
	U1	12.7		A	
Cadmium (7.56)	**A1**	**3.0**	**1**	**C**	**0.13 - 0.23**
	A2	2.2		C	
	D2	3.3		C	
	H1	24.1		C	
	H5	5.3		C	
Chromium (28.10)	D2	51.8	33	B	108 - 138
	D3	49.1		A	
	E3	63.6		A	
	F3	68.3		A	
	F4	50.1		A	
	G3	35.6		A	
	G4	41.8		A	
	H1	220.0		C	
	H2	70.8		A	

Table 10-2
Comparison of SSV Exceeded Phase IIA Sediment Contaminant Concentrations at Site 2 to Other Studies

Contaminant[d] (overall mean)	Sta.	Conc.	Region IV SSV	Concentration Compared to FDEP Regressions[e]	NOAA NBS[a] Range
Chromium (28.10)	H3	57.1	33	A	108 - 138
	K3	49.7		A	
	N3	35.4		A	
	P2	43.2		A	
	Q2	37.2		A	
	U1	36.8		A	
Copper (35.6)	A1	316.0	28	C	22.0 - 24.9
	A2	44.7		C	
	D2	38.8		C	
	D4	43.6		C	
	F3	37.1		B	
	G2	225.0		C	
	G3	58.8		C	
	H1	44.1		C	
	M1	38.0		C	
	M2	31.4		C	
Lead (36.15)	A1	62.7	21	C	40.9 - 45.8
	A2	181.0		C	
	D1	89.3		C	
	D2	406.0		C	
	D3	49.6		C	
	D4	41.9		C	
	E2	21.5		C	
	E3	39.9		C	
	F1	27.3		C	
	F2	133.0		C	
	F3	42.4		C	
	F4	40.5		C	

Table 10-2
Comparison of SSV Exceeded Phase IIA Sediment Contaminant Concentrations at Site 2 to Other Studies

Contaminant[d] (overall mean)	Sta.	Conc.	Region IV SSV	Concentration Compared to FDEP Regressions[e]	NOAA NBS[a] Range
Lead (36.15)	G2	48.9	21	C	40.9 - 45.8
	G3	41.1		C	
	G4	31.6		B	
	H3	31.2		A	
	K3	24.4		B	
	N3	24.5		C	
	P2	26.7		A	
	Q2	29.1		B	
	U1	31.4		B	
Mercury (.65)	A1	3.40	0.1		0.149 - 0.267
	A2	0.63			
	D1	0.11			
	D2	0.20			
	D3	0.19			
	E2	0.12			
	E3	0.29			
	F1	1.40			
	F3	0.35			
	H3	0.40			
Zinc (41.61)	A1	157.0	68	C	131 - 147
	A2	302		C	
	D2	104		C	
	D3	84.1		C	
	D4	307		C	
	E3	101		C	
	F3	109		C	
	H1	192.0		C	
	Q2	1,790		C	

Table 10-2
Comparison of SSV Exceeded Phase IIA Sediment Contaminant Concentrations at Site 2 to Other Studies

Contaminant[d] (overall mean)	Sta.	Conc.	Region IV SSV	Concentration Compared to FDEP Regressions[e]	NOAA NBS[a] Range
DDT (20.0)	A1	5.8	3.3	NA	NA
	A2	7.9		NA	
	M2	46.0		NA	
tDDT	A1	12.2	3.3	NA	NA
	A2	14.3		NA	
	F2	6.5		NA	
	H1	12.0			
tDDT	M2	46.0	3.3		NA
tPCB (149)	A2	77.0	33	NA	NA
	H1	220.0		NA	
tPAH	A2	5,330	2,900	NA	NA
	D2	15,350		NA	
	E5	3,377		NA	
	F3	3,700		NA	
	G4	9,700		NA	
	H1	3,330		NA	

Notes:

a = National Status & Trends Program, 1991.
b = Pensacola Bay Proper
c = Pensacola Bay - Indian Bayou
d = Concentration for metals in ppm; all others in ppb.
e = Study sponsored by formerly titled Florida Dept. Environmental Regulation (FDER); present title Florida Dept. Environment Protection (FDEP).
f = When silt and clay was <20%, concentrations were not normalized.

For FDEP Comparison:

A = Detected concentration exceeded USEPA Region IV Screening Value but were within FDEP 95 percent confidence interval for metal to aluminum ratio.
B = Detected concentration exceeded USEPA Region IV screening value and was just above 95 percent confidence interval for metal to aluminum ratios. It was considered "normal" due to conservative analytical methods.
C = Detected concentration exceeded Region IV Screening Value and was well above FDEP metal-to-aluminum ratio.
NA = Not Applicable for organics.
ERL = Effects Range Low
NOAA = National Oceanic and Atmospheric Administration

than 10 are considered to be of moderately high potential risk and above 100, to have extreme risk. This EPA Region III risk approach points out that "risk to a population is complicated by a number of factors that are not included in the screening level approach. For example, immediate versus long-term impacts are not readily apparent from the screening level approach and it is assumed that the criterion is based upon the most sensitive receptor identified in the literature and that it is found in this habitat and at this site."

The method by which the EEQ is calculated depends on the UCL-to-maximum value relationship. When the UCL is greater than 80 percent of any maximum reported value, the UCL will be used (Equation 1). When the UCL is less than 80 percent of any maximum value, the maximum value will be used (Equation 2).

Equation (1) EEQ = UCL / SSV

Equation (2) EEQ = Maximum Value / SSV

For calculation of the 95 percent UCL, all data from Site 2 were assumed to be right skewed and therefore transformed into logarithmic equivalents:

Equation (3)

$$UCL = e \frac{(X_{\ln} + V/2) + (S_{\ln} x H)}{\sqrt{n-1}}$$

Nondetect values in data sets were substituted with the SSV for appropriate constituents.

The extremely conservative nature of the screening approach was evident when, for all constituents tested, maximum values were required (based on Region III guidelines) to calculate the EEQ. As USEPA notes, risk assessors should recognize maximums and outliers, include them in the UCL calculation, and reserve them for special consideration in the assessment. This approach has been taken at Site 2. Maximum values are included in the EEQ determination and will be addressed during discussions of their relevance to the overall risk determination.

10.2.2.3 Metals in Sediment

Arsenic

Arsenic was widely detected across the site but exceeded the SSV of 8 mg/kg at only 14 of the sample locations (Table 10-2 shown previously). The mean for detected locations was 5.8 mg/kg, well below the proposed SSV.

The calculated risk quotient of 2.7 for arsenic was derived using the maximum concentration observed (Table 10-3). Based on Region III's instructions (value > 1), arsenic is predicted to be a "potential risk" to ecological receptors at Site 2, although no consideration of natural arsenic concentrations are considered in determining this risk quotient. Using FDEP's metal-to-aluminum ratio interpretive tool, "natural" arsenic concentrations may exceed the proposed SSV. This suggests that most arsenic values found across Site 2 may be "natural" concentrations (Figure 10-1) and that use of the concentrations in the risk quotient screening approach may not be truly applicable.

Cadmium

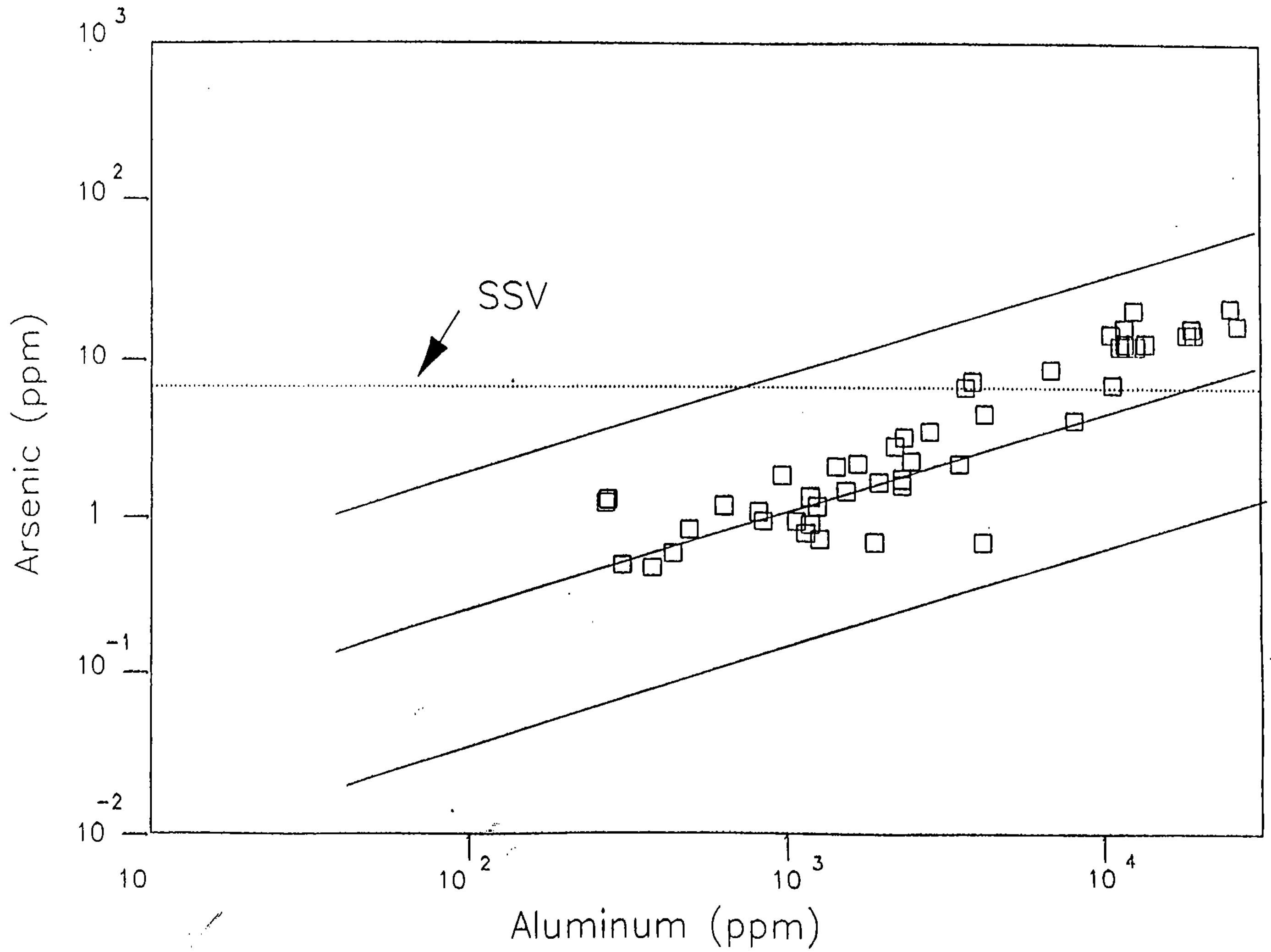
Cadmium was not widely detected across Site 2 but the concentrations present at the five locations appear to be significant. All five concentrations detected exceeded the SSV (Table 10-2) and are well above natural concentrations found in Florida sediments (Figure 10-2).

A risk quotient of 24.1, was derived from the data and appeared to be driven primarily by the high concentration of 24.1 mg/kg present at station H1. When this maximum value was removed from

Table 10-3
Risk Quotients for Site 2 Parameters

Parameter	Number of Detects	Number of Sampling Locations	95% UCL	Maximum Value	SSV	Method[a]	Risk Quotient
Inorganic (mg/kg)							
Arsenic	46	52	13.21	21.9	8	Max	2.7
Cadmium	5	52	1.55	24.1	1	Max	24.1
Mercury	10	52	.20	3.4	.1	Max	34
Chromium	43	52	44.0	220	33	Max	6.7
Copper	36	52	40.0	316	28	Max	11.3
Lead	47	52	73.4	406	21	Max	19.3
Zinc	41	52	153.4	1,790	68	Max	26.3
Organics (μg/kg)							
Total PAHs	26	52	4,057	15,350	2,900	Max	5.2
Total DDT	5	52	4.85	46.0	3.3	Max	13.9

Note:
a = When UCL was < 80% of the maximum value then maximum value (Max) was used in risk calculation.



REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 1
SITE 2
ARSENIC CONCENTRATIONS ON
FDEP REGRESSIONS

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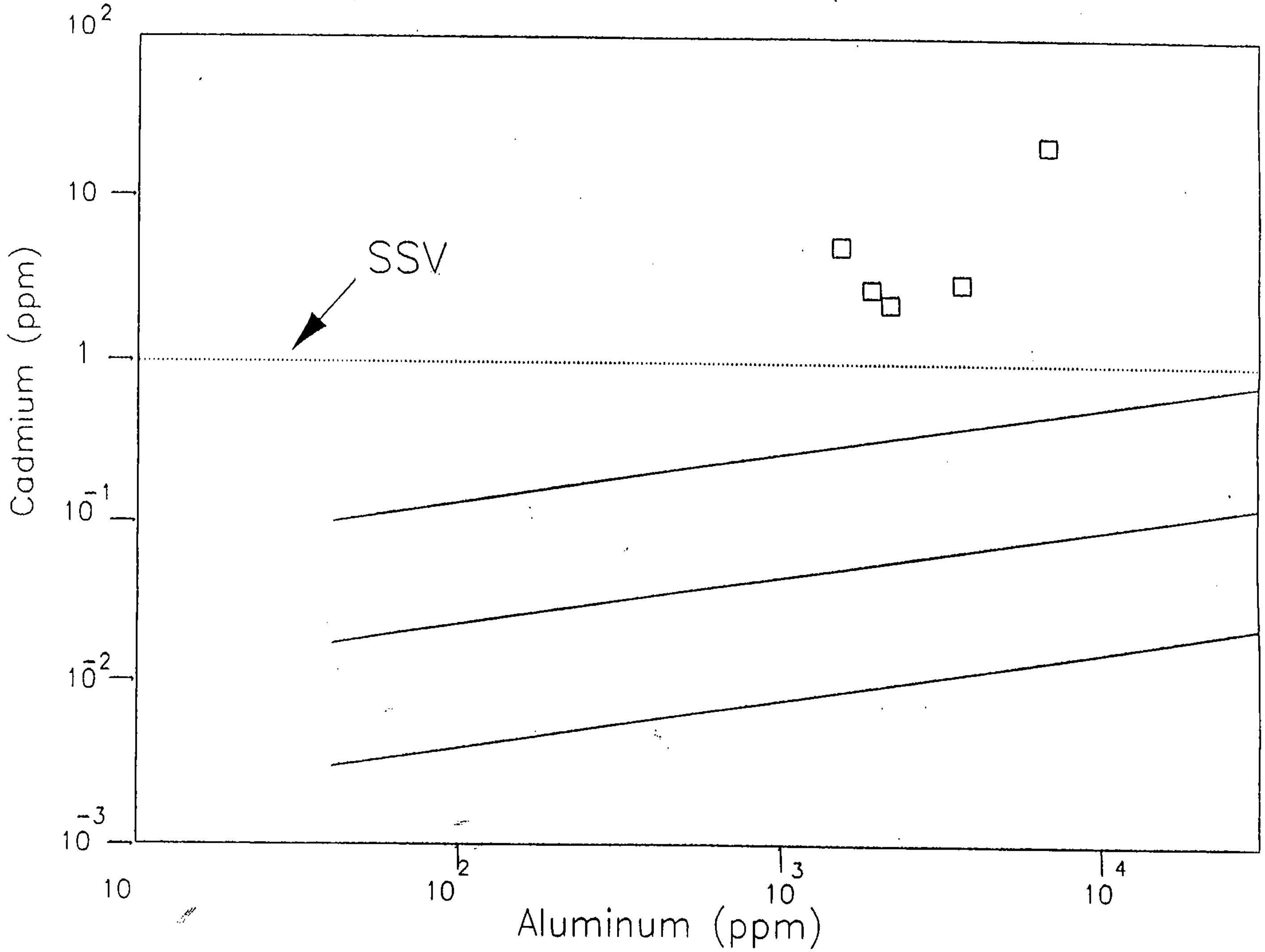

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10-2
SITE 2
CADMIUM CONCENTRATIONS ON
FDEP REGRESSIONS

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the data set, the risk quotient dropped to 5.3. The five stations detected are in the northeast part of the site, but they are not tightly grouped.

Cadmium concentrations appear to be ecologically significant at Site 2 based on the concentrations observed, but distribution across Site 2 is intermittent (see Figure 7-4). The concentration at H1 appears to be significant and the potential risk to receptors in the area may be moderately high.

The chemistry of cadmium in marine sediments indicates that it will typically remain bound and relatively less toxic due to salinity and pH effects. Dredging could increase the chemical's mobility and hence result in a higher potential for bioavailability (Eisler, 1985).

Chromium

Chromium, like arsenic, was widely detected across the site. But most detections were below the SSV of 33 mg/kg established for chromium. Fifteen stations had concentrations exceeding the SSV (Table 10-2). Of these only Station H1 appeared to have concentrations exceeding natural concentrations for chromium in Florida sediments (Figure 10-3).

Most values exceeding the SSV were "natural" when plotted on the FDEP (1988) regression line (Figure 10-3). This indicates that Site 2 concentrations exceeding the SSV may be at "natural" levels for Florida sediments.

The risk quotient determined for chromium at Site 2 was 6.7 (Table 10-3). The calculation was based on the maximum value observed across the site: 220 mg/kg at H1. When this single value was removed from the data set, the risk quotient dropped to 2.1. Station H1 appears to be a "hot spot" when compared to screening values and natural concentrations, and should be treated as such.

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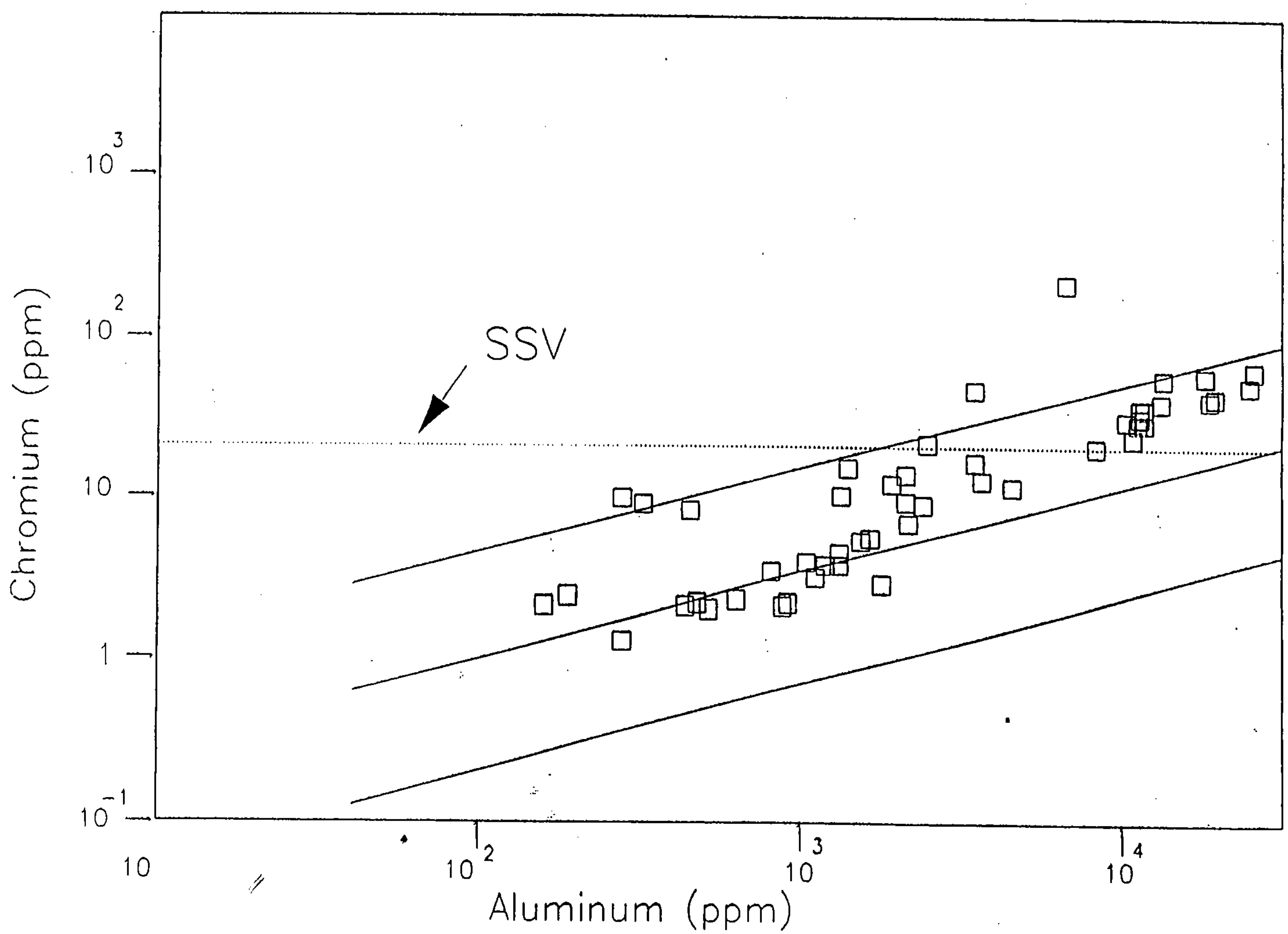

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10-3
SITE 2
CHROMIUM CONCENTRATIONS ON FDEP REGRESSIONS

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Overall risk to receptors at Site 2 from chromium contamination appears low. Eisler (1986) reported that Neff et al., (1978) found that marine invertebrates rarely accumulated chromium from contaminated sediments having concentrations of 82 to 188 mg/kg. Overall, concentrations across Site 2 are much lower than this.

Copper

Copper was detected at most of the stations across the site, but concentrations at only 10 of these exceeded the Region IV SSV of 28 mg/kg. Most Site 2 exceedances appear to be above "natural" concentrations when compared to Florida metal ratios (Figure 10-4). Two in particular, Stations A1 and G2, are well above that level, suggesting negative impacts.

Although some of the concentrations observed at Site 2 were higher than those found by NSB, comparatively, the overall Site 2 mean of 32.8 mg/kg was only slightly above the range observed during the federal study (Table 10-2).

The calculated risk quotient for copper was 11.3 (Table 10-3). This indicates a moderately high risk. Like other metals, the calculation was derived by the maximum reported value.

The biological availability of copper from Site 2 sediments Site 2 should be limited, based on the physicochemical properties of the overlying water. Oxidative conditions, along with high salinities and high pH, would limit the solubility of sediment-bound copper by depressing release of the free ion. The extremely limited use of portions of the bay near and within Site 2 by sensitive estuarine life stages may also reduce the risk for copper concentrations observed.

Stations A1 and G2, mentioned previously, would be considered "hot spots" for copper contamination but other portions of the site appear to represent a reasonable risk, considering the water chemistry and hydrodynamic features of the site.

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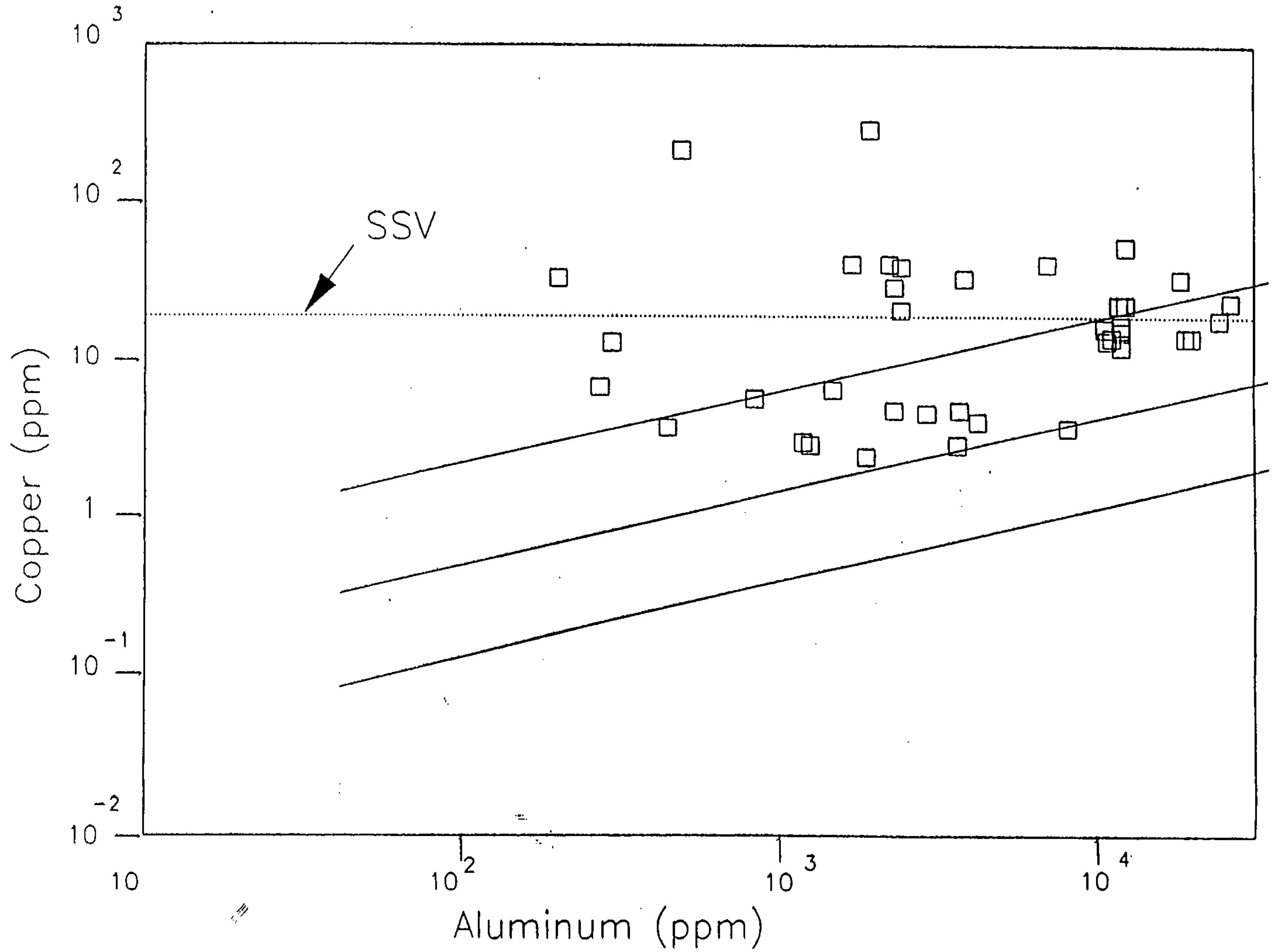

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10-4
SITE 2
COPPER CONCENTRATIONS ON
FDEP REGRESSIONS

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Lead

Lead was detected more than any other constituent across Site 2 and almost half of the detected concentrations exceeded the SSV of 21 mg/kg (Table 10-2). Many SSV exceedances at Site 2 exceeded Florida "natural" sediment concentrations (Figure 10-5). Except for Stations A2, D1, and F2, all of the lead concentrations at Site 2 were below or comparable to data from the NSB study (Table 10-2).

A risk quotient of 19.3 was determined for lead at Site 2 (Table 10-3), based on using the maximum value in the calculation. Like some of the other metals, when the maximum value was omitted from the data set, this value was reduced considerably. For lead this value was reduced to 8.6.

Overall, lead contamination at Site 2 does not appear to be critical. As with other heavy metals, the marine environment is not conducive to the release of free ions from sediment-bound lead. Lead availability to organisms has been associated primarily with uptake from water (Wong et al., 1978) but, based on water chemistry results, this should not be a concern. Stations A2, D2, and F2 can be considered "hot spots" for lead contamination across Site 2. Ecological receptors, common to open bay bottom, would consist primarily of benthic macroinvertebrates. Even with bioaccumulation of lead at "hot spots" by sessile species, significant uptake by higher-level predators would be limited to that portion of their feeding spent in these areas. This contact time would be considered minimal, considering the ranges and feeding habits of most estuarine/marine species. In addition, biomagnification of lead by upper-level species has been shown to be negligible (Eisler, 1988).

Mercury

Mercury exceeded the SSV of 0.1 mg/kg at 10 of the 11 stations where it was detected.

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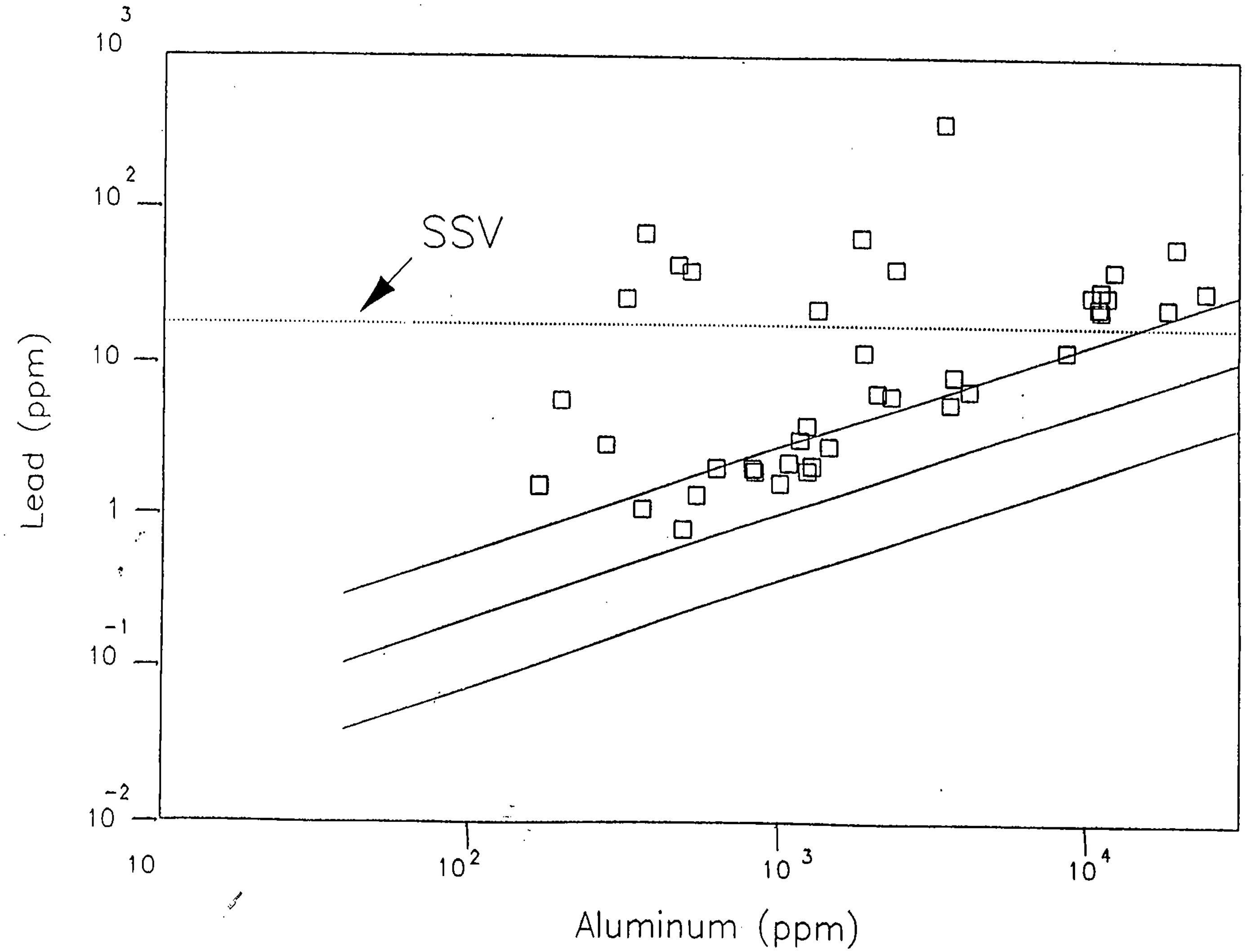

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10-5
SITE 2
LEAD CONCENTRATIONS ON
FDEP REGRESSIONS

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Concentrations reported in the NSB study are lower overall than Site 2 concentrations (Table 10-2) but again, concentrations from the federal study were also above the SSV.

The risk quotient derived for mercury was 34. This value indicates that mercury presents a moderately high potential risk to ecological receptors at Site 2. The relevance of this risk quotient and its applicability in industrially polluted systems can be questioned. Eisler (1987a) suggested a value of 1 mg/kg or less, as an indication of uncontaminated sediment. Although mercury concentrations are elevated in respect to biological effects, site and regional conditions should be considered when evaluating significance.

Silver

Silver concentrations exceeded the SSV of 2 mg/kg at only two locations. Neither exceedance was extreme (2.9 and 4.1 mg/kg) but both were from locations (D3 and E3) in the northeast portion of the site. The two exceedances were, however, above concentrations observed during the NSB study (Table 10-2).

Silver has a fairly low potential to accumulate in aquatic organisms. In addition, information on silver-in-sediment effects have been described as having only a moderate degree of confidence (Long and Morgan, 1991). Based on this variability and the very limited number of detections across Site 2, effects resulting from silver would be extremely difficult to assess.

Zinc

Zinc was widely distributed across Site 2 but exceeded the SSV at only nine of the detected locations (Table 10-2). The mean for detected locations, 95.2 mg/kg, was much lower than the range of concentrations presented for Pensacola Bay in the NSB study (Table 10-2).

Concentrations at Site 2 appeared above "natural" concentrations for Florida (Figure 10-6).

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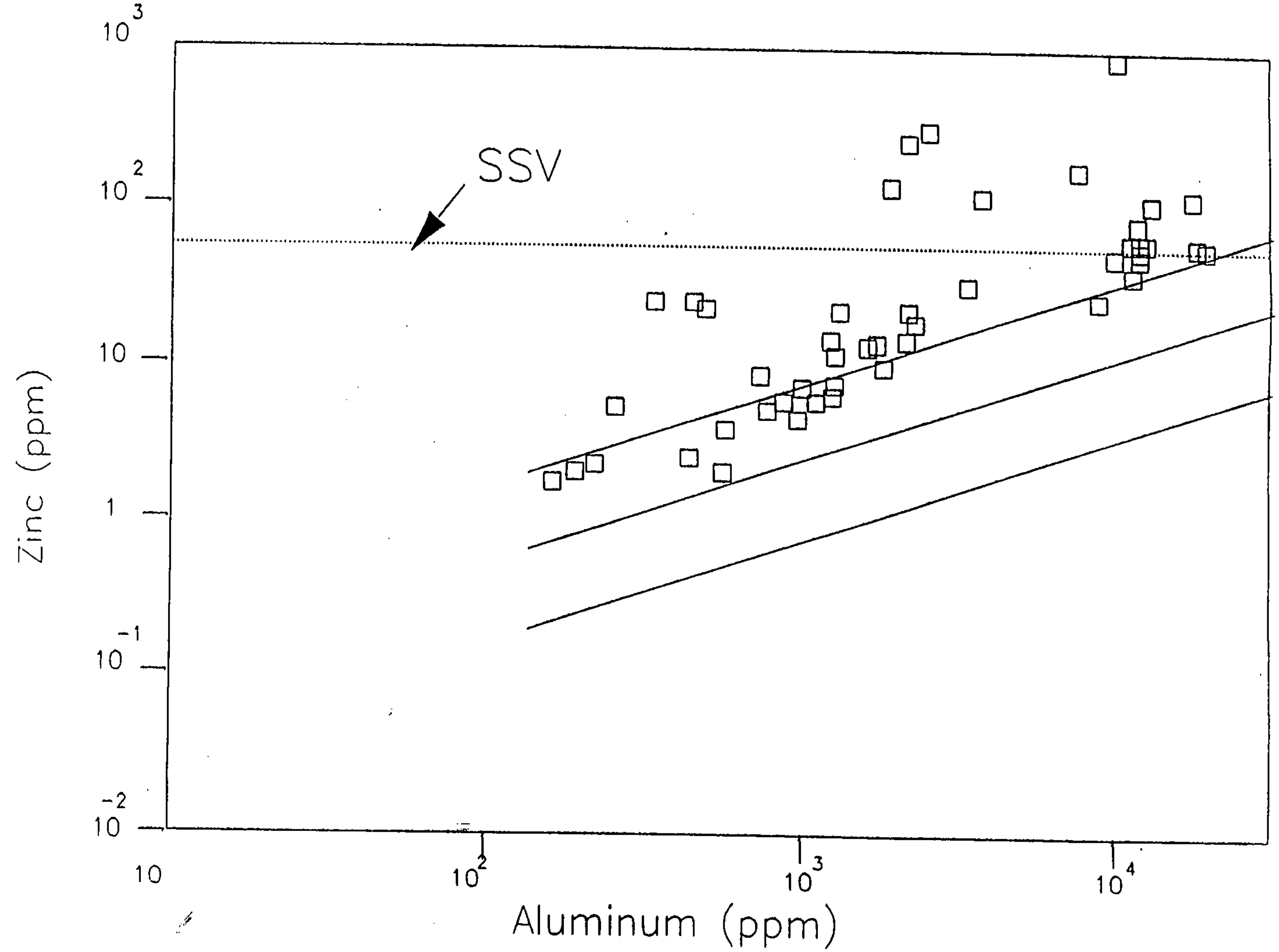

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10-6
SITE 2
ZINC CONCENTRATIONS ON
FDEP REGRESSIONS

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A risk quotient of 26.3 was derived when the maximum value of 1,790 mg/kg, observed at Station Q2, was used in the calculation. The significance of this high concentration was apparent when compared to the calculation with the value omitted; the risk quotient dropped to 4.4. Station Q2 would be considered a zinc "hot spot," based on the observed concentration. However, the elevated concentration for zinc, without correspondingly high values for other metals, could indicate either analytical error or an anomalous zinc source (i.e., zinc cathodic corrosion protector from a boat motor) within the sample.

The bioavailability of zinc in estuarine sediments is a function of pH, alkalinity, dissolved oxygen, and temperature. Soluble chemical species of zinc are the most bioavailable and most toxic (Spear 1981). Site 2 physicochemical conditions (high pH, high salinity, and high dissolved oxygen) would limit the release of zinc ions into solution from sediments. These factors, along with overall concentrations observed, should reduce the exposure risk of zinc to receptors.

10.2.2.4 Organics

Polycyclic Aromatic Hydrocarbons (PAHs)

Discussion of PAHs refers to both low and high molecular weight compounds and will be considered as total PAH (tPAH). Although environmental impacts differ between the two groups, the variability in the specific compounds found between locations would make discussion difficult. When critical concentrations for specific compounds are noticed at individual locations, they are discussed separately.

PAHs were detected at about half of the stations sampled at Site 2, but exceeded the SSV of 2,900 μg/kg for tPAHs at only six of these (Table 10-2). Concentrations of individual compounds did exceed applicable SSVs at discrete locations, but generally the tPAH concentrations reflected the contamination trend.

The risk quotient determined for tPAHs was 5.2 (Table 10-3). Again the maximum concentration was used in the calculation.

As mentioned in Section 7, PAHs were found primarily in the northeast portion of the site. This area receives considerable input from storm water runoff. Additionally, this area includes the boat slip for port operations, which houses several boats. Boats also are maintained in this area.

It is not surprising that PAHs are high in these sediments and others throughout the bay system. Eisler (1987b) notes that PAHs are ubiquitous in the environment and have been detected in all media.

Toxicological effects occurred most often to higher-level vertebrates from sediment contamination having PAH levels much higher (i.e., 50-100+mg/kg) than the maximum value reported at Site 2 (Eisler, 1987b). The sporadic distribution of PAHs across Site 2 and relatively low concentrations, when compared to other portions of Pensacola Bay, suggests that risk to ecological receptors are not critical. The hydrodynamics of the site will aid in dispersing sediment-bound compounds over time, thereby reducing the present risk.

Volatiles

Volatiles concentrations found in sediment samples were negligible (Appendix A). No significant individual compound or elevated concentrations were observed. No risk from volatile organic compounds in sediments is present at Site 2. No further discussion on volatile concentrations is warranted.

Pesticides

Pesticide concentrations will be discussed in relation to concentrations of total DDT (tDDT) observed across Site 2. Discussion of tDDT concentrations and distribution reflect information on the congeners 4,4'-DDT and breakdown products, 4,4'-DDD and 4,4'-DDE. Detected concentrations of other pesticides made up a very small percentage of the total pesticides when compared to tDDT compounds.

Total DDT was found at only a limited number of stations across Site 2, but concentrations at five of these exceeded the SSV of 3.3 μg/kg (Table 10-2). The risk quotient was determined to be 13.9, based on a maximum value of 46 μg/kg (Table 10-3). Removal of that value significantly reduced the risk quotient to 4.3. All SSV exceedances were at stations near the shoreline, suggesting runoff input as a source. No background information was found relative to pesticides in the bay and sandy reference locations did not appear useful for comparison.

Based on distributions and concentrations, observed risk to receptors from pesticides at Site 2 does not appear to be critical. The detected concentration of 46 μg/kg at Station M2 does indicate a "hot spot," but this station did not exhibit any other significant contaminant concentrations.

Polychlorinated Biphenyls

PCBs were found at only two locations across the site (Table 10-2). For these locations, only two congeners were detected and both of these concentrations were above the SSV of 33 μg/kg. PCBs were found at Stations A2 and H1. It is thought that both of these areas are strongly influenced by nearby discharge culverts or pipes, accounting for the accumulation of contaminants in those sediments.

Due to the extremely limited number of detections, no risk quotient was calculated for PCBs. Based solely on the limited distribution, risk to receptors from PCB contamination is considered to be low.

10.2.2.3 Phase IIA/PRC Summary

Anthropogenic input of metals and organics at Site 2 is obvious, based on sediment chemical analyses. Less obvious are the concentrations required to bring about specific ecological effects. Water chemistry results indicate no risks to nekton species from this source. Sediment chemistry results suggests some risks to benthic infauna at a limited number of locations.

The northeast portion of the site is more contaminated than other portions of the site. Overall, Stations A1, A2, D2, G2, and H1 could be considered "hot spots" for both metal and organic sediment contamination. When concentrations across the entire site are compared to other portions of the bay system and to effects-based screening levels, the site appears to have a potential significant risk. With removal of source centers from the base, it is predicted that constituent levels will decline.

The physical variability of the system also contributes to reconfiguration of bottom sediments. Thus, this assessment should be viewed simply as a snapshot in time.

10.2.2.4 Uncertainties

- Inherent uncertainties can be assumed in field-based surveys.

- Field sampling design may lend itself to uncertainties based on the subjective decisions that are necessary and unavoidable.

- Selection of the reference locations for this study did not reflect shoreline-associated bottom types and thus constituent concentrations, but selecting other sectors of shoreline could present other unknown variables.

- Analytical uncertainties exist based on field and laboratory methods employed, but quantification of these is impossible.

- Uncertainties from synergistic or antagonistic relations between contaminants onsite cannot be accounted for, especially when methods employing contaminant-specific benchmark comparisons are used.

- A lack of criteria or screening values for many chemical compounds the uncertainty for screening level assessments such as at Site 2.

- The uncertainties prevalent by use of USEPA Region III's risk quotient approach include: lack of consideration for natural metal concentrations, and sediment grain-size and TOC effects as they relate to bioavailability.

- The dynamic nature of a marine ecosystem itself provide uncertainties, especially when migratory patterns and natural variability are considered in receptor exposure scenarios.

10.2.2.5 Phase IIA/PRC Conclusions

General water chemistry results indicate that no contaminants are of concern to receptor organisms in Pensacola Bay near Site 2 via this medium. Metals and organic concentrations were nondetectable or near background concentrations across the site.

Sediment chemistry results show concentrations for cadmium, copper, lead, mercury, and zinc to be above natural levels. Cadmium concentrations were significant, but distribution was scattered. Copper was found at concentrations suggesting anthropogenic input, but not at levels to suggest that significant effects are occurring. Lead was found at most locations — most were considered anthropogenic in nature. Zinc concentrations were higher and more widely distributed than would normally be expected, but factors affecting bioavailability may reduce its overall effects.

PAHs appear to be the most significant organic contaminants found at the site. It must be noted that the occurrence of PAHs in the Site 2 area may not be attributable to past practices, but to recent oil spills or asphalt road runoff. Pesticides and PCBs were detected at such a limited number of sites that their cumulative effect on the ecological receptors common to the area would be difficult to determine.

Metals and organics were concentrated in the northeast portion of the site, which may be attributed to hydrodynamic features of the area. Incoming tides tend to be swirled, or restricted, in the area just west of the docking pier, thus inhibiting long-shore transfer of sediments. Major outgoing tidal vectors are deflected away from this area, resulting in a low-energy regime. These features, coupled with the high number of discharge points into the area, most likely provide a repository region for fine-grained sediments, and thus contaminants.

Sampling in the "high priority" selected areas, as determined during the sediment assessment phase, showed highest concentrations almost exclusively to the east of Transect K. These concentrations were generally associated with the fine-grained sediments and shallow (<2.5 m) to moderate (2.5 m to 6.0 m) water depths.

Based on the information collected during this study, it is difficult to determine if total contamination detected across the site can be attributed to past disposal practices from shore-based facilities or are a result of hydrodynamic influx. Ecological impacts which are or will result from contamination do not appear to be critical and a cause-effect relationship may be difficult to determine.

10.3 Ecological Risk Assessment: Phase IIB

Subsequent to agency review of the Site 2 Draft Remedial Investigation Report (ERA — Phase IIA), a technical committee was established to develop an approach for further assessment of the ecological risk that may be posed to receptors in or near Site 2. This investigation was essentially the Phase IIB portion of the risk assessment as presented in the NAS Pensacola Comprehensive Work Plan. Paramount to this assessment was the use of biological assays (toxicology tests) to determine if effects from sediment contamination may be occurring at the site. The objectives of the Phase IIB study were to:

- Develop a sampling strategy at Site 2 directed at assessing areas at which the highest concentrations of contamination were observed during Phase IIA

- Determine which toxicological tests would be most applicable to the site and would provide the most effective information to assess risk

- Determine the level of contamination within sediments that impairs benthic diversity and modifies "typical" benthic species composition

- Propose site-specific sediment contaminant levels that are risk related and which can be used by the risk management team for remedial decisions at Site 2, and possibly be useful at other areas presently under investigation (Sites 40, 41, 42)

10.3.1 Phase IIB Approach

The following approach was conducted during January/February 1996:

- Sediment samples were collected from 10 locations across Site 2 in addition to a reference location (Figure 10-7). These locations represented the most significant levels of

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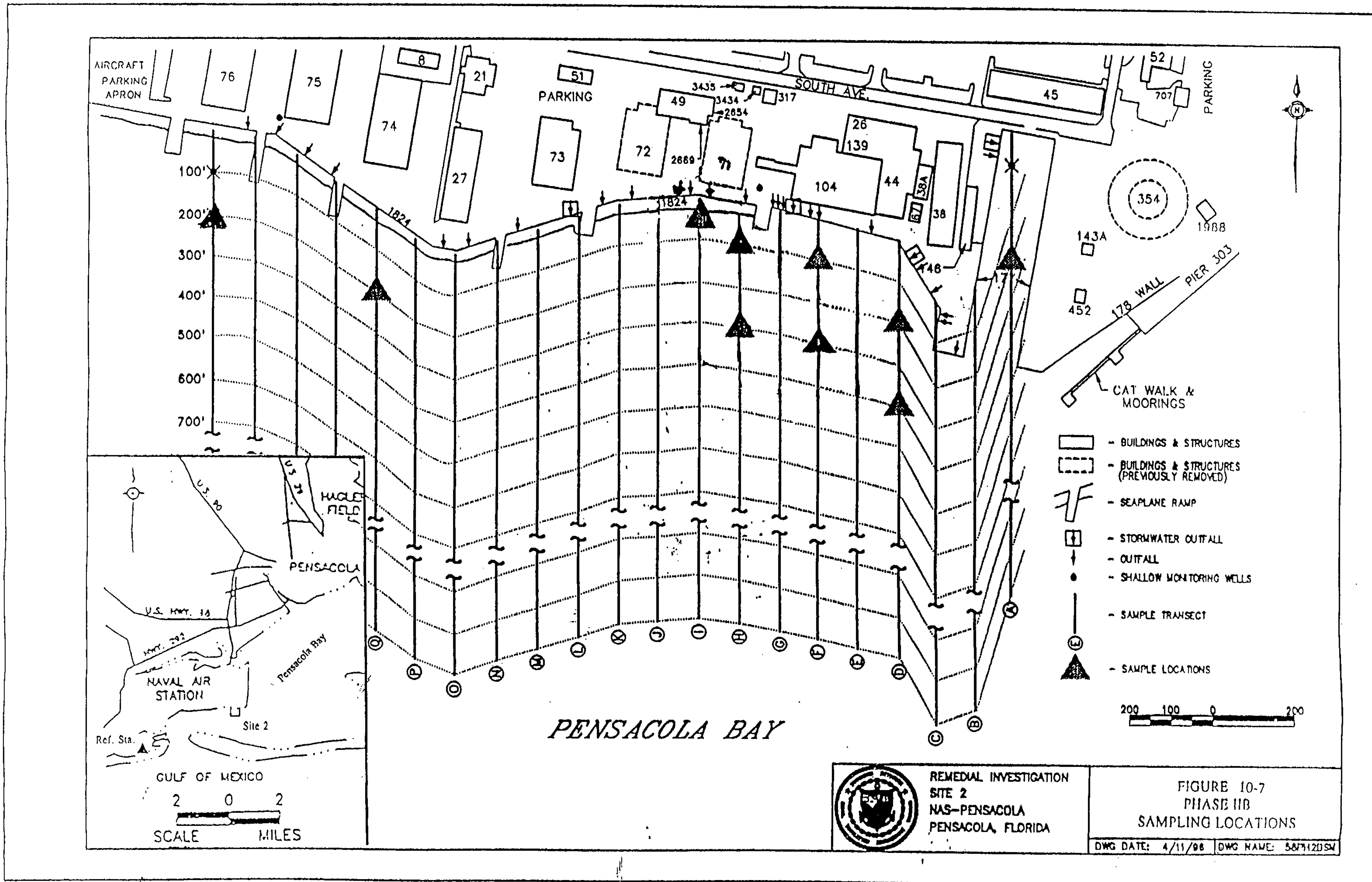
AIRCRAFT PARKING APRON
SOUTH AVE.
PARKING
PENSACOLA BAY
178 WALL
PIER 303
CAT WALK & MOORINGS
100'
200'
300'
400'
500'
600'
700'
- BUILDINGS & STRUCTURES
- BUILDINGS & STRUCTURES (PREVIOUSLY REMOVED)
- SEAPLANE RAMP
- STORMWATER OUTFALL
- OUTFALL
- SHALLOW MONITORING WELLS
- SAMPLE TRANSECT
- SAMPLE LOCATIONS
200 100 0 200
U.S. 90
HAGLER FIELD
PENSACOLA
U.S. HWY. 98
Pensacola Bay
NAVAL AIR STATION
Site 2
Ref. Sta.
GULF OF MEXICO
2 0 2
SCALE MILES
REMEDIAL INVESTIGATION
SITE 2
NAS-PENSACOLA
PENSACOLA, FLORIDA
FIGURE 10-7
PHASE IIB
SAMPLING LOCATIONS
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contamination (organics and inorganics) identified during the PBC (Phase IIA). The reference location was selected because it represented similar substrate but was, as could best be determined, isolated from base or other point sources of contamination. Sampling and full TAC/TCL analytical analysis were identical to that conducted during Phase IIA, and QA/QC procedures did not vary from what was required by DQO level 4.

- To measure the potential for effects to vertebrate and invertebrate species associated with the sediment, 7-day chronic bulk sediment bioassays, using site-overlying water were conducted by Toxicon Environmental Sciences Laboratory on two species, mysid shrimp (*Mysidopsis bahia)* and sheepshead minnow (*Cyprinidon variegatus* post-larval). These two species were selected because they represented both vertebrate and invertebrate receptors and because both are intrinsically associated with bottom substrates during early life stages. For mysids, the endpoints mortality, growth and reproduction were measured. For the minnow, the endpoints mortality and growth were measured. For all tests conducted, effects of the site water used in sediment bioassays were also measured relative to a standard laboratory water source.

- A portion of each sediment sample collected was sieved for analysis of the benthic macroinvertebrate community. Samples were preserved in formalin and shipped to Barry Vittor and Associates, Inc. for taxonomic identification and community parameter enumeration.

10.3.2 Phase IIB Results

Sediment Chemistry

Table 10-4 summarizes concentrations for the major constituents identified across the site during Phase IIB. In general, metals and semivolatile organics were the predominant contaminants detected. Contaminant concentrations during this phase of the investigation were similar to those

Table 10-4
Analytical Chemistry Results - Site 2 Sediments (IIB)

Compound	Range N=10	Mean	Reference Site	Screening Level (SSV or FLSQAG)	Number of Detects >SL
Arsenic	.38 - 18.9	7.74	.29	7.24	5
Cadmium	.15 - 3.2	0.70	ND	0.68	3
Chromium	2.0 - 106	34.2	.9	52.3	2
Copper	1.1 - 560	72.6	1.1	18.7	5
Lead	2.1 - 467	92.1	0.7	30.2	8
Mercury	.1 - .5	.23	ND	.13	6
Nickel	0.71 - 13.1	5.51	ND	15.9	0
Selenium	.8 - 1.4	1.1	ND	NA	NA
Vanadium	.82 - 39.1	16.2	1.4	NA	NA
Zinc	4.1 - 148	68.4	1.4	124	1
BEHP	84 - 5500	94.2	97	182	7
tDDT	3.5	3.5	ND	3.3	1
tPAHs	ND - 12,147	2198	ND	1684	3

Notes:
1 = Metals in mg/kg; organics in μg/kg.
SSV = USEPA Region IV Draft Sediment Screening Value
FLSQAG = Florida Sediment Quality Assessment Guidelines

identified at during Phase IIA. To make a relative comparison of contamination identified at each station during the two phases of investigation, hazard quotients (HQ) [analogous to EEQ in Phase IIA] were produced for constituents having USEPA Region IV Sediment Screening Values (November 1995). HQs are produced by dividing the detected concentration by the SSV for that constituent. At each station, HQ values were summed and an overall hazard index (HI) was produced. Figure 10-8 presents HI values determined from Phase IIA analytical data. Figure 10-9 presents HI values determined for those same stations from Phase IIB results. Generally, the spatial contamination trend found during Phase IIB was similar to that found during the earlier Phase IIA investigation. Figure 10-10 presents the portion of each contaminant type that was represented by the HI value produced at each station during Phase IIB. Metals were the primary contaminants of concern as in Phase IIA, followed by the semivolatile organic compound bis-2(ethyl)hexylphalate (BEHP). Polynuclear aromatic hydrocarbons were moderately elevated across the site but pesticides or PCBs did not appear to be a concern. Of the 10 stations, highest contaminant concentrations were present at Stations A2, F3, H1, H3, and I0.

In addition to the analytical data, the percentage of solids for each sample was measured. The percent solids data were positively correlated with the sediment grain type qualitatively identified during the sampling process (i.e., low percent solids = fine-grained, high moisture type sediment, silts and clays; high percent solids = course-grained, low moisture type sediment, sand).

Sediment Toxicity

The sediment chronic toxicity test results for mysid shrimp and sheepshead minnow are summarized in Table 10-5 (Appendix G). Significant effects (95% confidence level) to mysid shrimp survival (reciprocal of mortality) were observed at Stations F1, F3, H1, H3, and I0, as compared to control tests. For sheepshead minnow, survivability was significantly different from control only at Station H3. Significantly reduced growth effects for minnows occurred at Stations U2, H1, H3, Q2, I0, A2, F3 during test 2.

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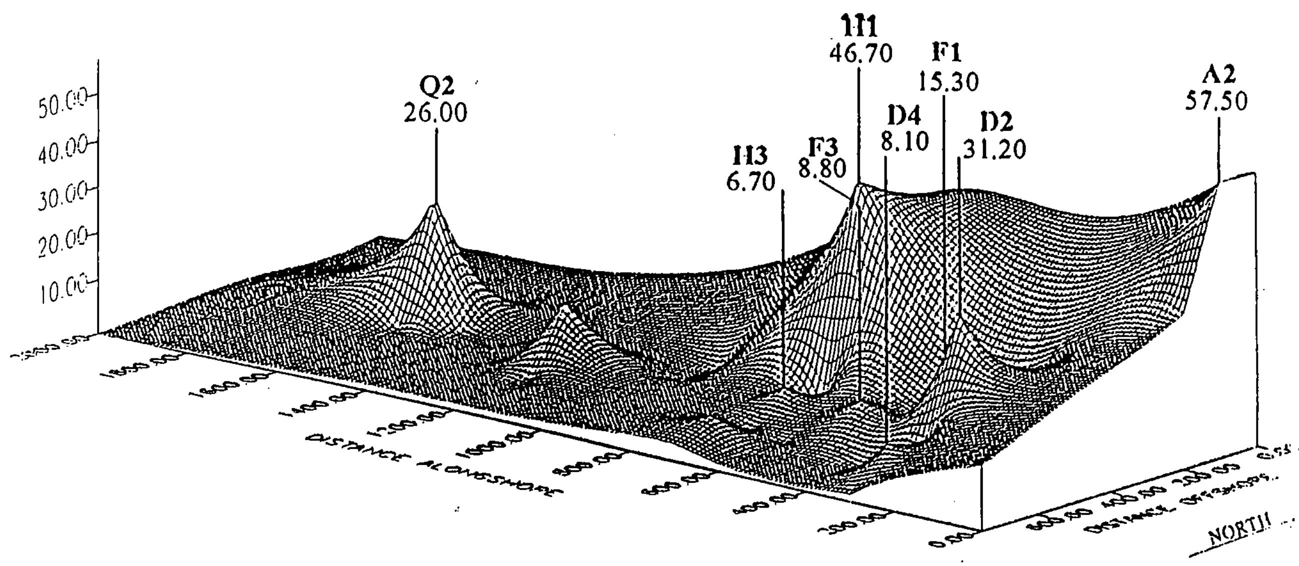

REMEDIAL INVESTIGATION SITE 2 NAS PENSACOLA PENSACOLA, FLORIDA	FIGURE 10-8 SITE 2 PHASE 2A HI VALUES FOR CONTAMINANT CONCENTRATIONS
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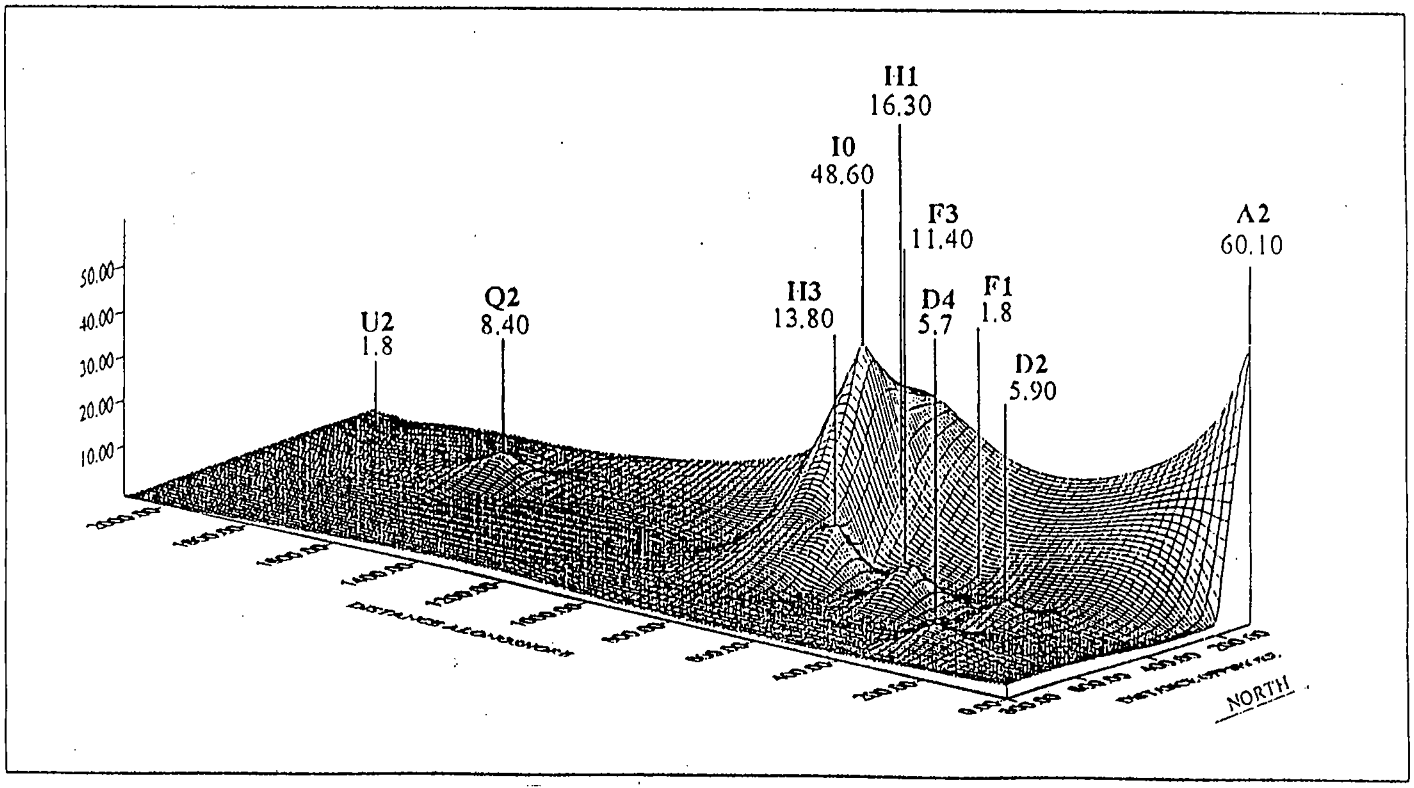

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 9
SITE 2
PHASE 2B HI VALUES FOR
CONTAMINANT CONCENTRATIONS

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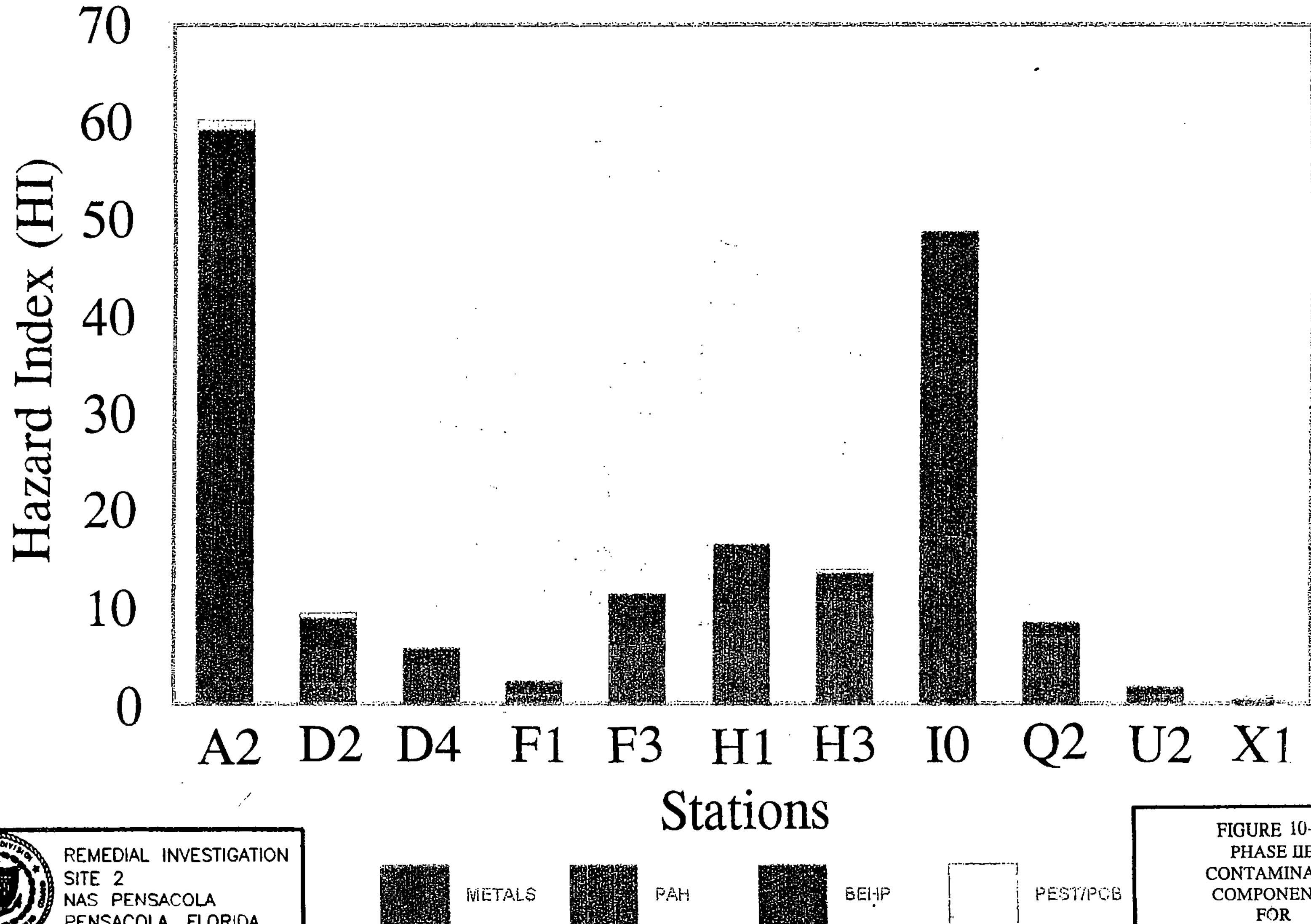

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10-10
PHASE IIB
CONTAMINANT
COMPONENTS
FOR
PRODUCED HAZARD INDICES

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Table 10-5
Sediment Chronic Toxicity Effects Summary for Shrimp and Fish at Site 2 (Phase IIB)

	Site H20 Test												
Endpoint	**I**	**II**	**A2**	**D2**	**D4**	**F1**	**F3**	**H1**	**H3**	**I0**	**Q2**	**U2**	**X1**
Mysid Shrimp													
Survival						*	*	*	*	*			
Growth													
Reproduction													
Sheepshead Minnow													
Survival									*				
Growth		*	*				*	*	*	*	*	*	

Note:
* = Significantly different from control sediment at 95% confidence level.
Shading represents which stations and water tests were associated.

Benthic Community

Benthic community indices determined for the 10 stations across Site 2 and a reference station are presented in Table 10-6 (Appendix D). In addition, benthic community indices reported by FDEP from four stations across Pensacola Bay are provided for comparison. Diversity values at Site 2 were generally lower than historical data from Pensacola Bay, but were comparable to the reference station (X1). Mean densities of individuals were higher at stations that had lower evenness values. These higher densities were a result of higher numbers of polychaetes.

10.3.3 Phase IIB-Risk Characterization

For risk characterization, both regression and correlation analyses were used, followed by a weight-of-evidence approach. Variables measured from all three components of the study were compared to determine any relationships and to what degree these variables appeared to be dependent on each other. As stated previously, the overall objectives were to determine if impacts are potentially occurring to biota from contamination concentrations in sediment at Site 2, and to propose contaminant risk levels to the management team.

Sediment Assessment

To quantitate sediment particle size, the use of moisture content in sediment, reported as a percent solids value, was proposed. Aluminum content in sediments is typically a result of aluminosilicate materials, as found in fine-grained, silt/clay fractions. To verify that the use of a percent solids value was a reasonable assertion for grain-size, a regression of aluminum concentrations to percent solids values was conducted (Figure 10-11). The high correlation substantiated the prediction that percent solids data is represents the grain size in the sediment.

It was determined that low percent (20-50) solids values represented silty, fine-grained sediment, with higher (>70) percent solids values representative of sandy, course-grained sediment. Percentages ranged from 24.8 at Station Q2 to 78.9 at Station U2. When chemical data (i.e., HI

Table 10-6
Benthic Macroinvertebrate Community Parameters
Site 2 Sediments (Phase IIB)

Stations	A2	D2	D4	F1	F3	H1	H3	I0	Q2	U2	X1	PB-1	PB-2	PB-3	PB-4
Species Diversity[a]	2.2	3.2	2.4	2.1	2.2	2.0	2.2	1.7	2.9	1.9	2.4	3.0	3.6	3.6	3.7
Evenness[b]	0.70	0.88	0.68	0.68	0.67	0.59	0.68	0.50	0.84	0.98	0.69				
Richness[c]	5.12	7.95	6.75	4.28	5.16	5.52	4.91	5.19	5.94	2.89	5.71				
Total Taxa	25	38	36	21	26	31	27	31	32	7	31	12	24	16	29
Mean Density (#/m^2)	1090	700	1790	1070	2540	2290	3980	6500	3680	80	1920				
% Polychaeta	69.7	43.8	33.0	27.1	62.0	67.3	61.3	79.7	48.9	12.5	40.9	29.8	14.1	51.1	48.1
% *S. benedicti C. capitata & Mediomastus sp.*	48.6	25.7	16.2	7.5	53.5	53.5	52.7	68.5	11.4	0.1	10.4				

Notes:

a	=	Shannon Weiner Diversity Index (H')
b	=	Pielou's Evenness Index (J')
c	=	Margelef's Richness Index (D)
PB1-PB4	=	Pensacola Bay Reference Sites from FDEP (See Figure 10-18)

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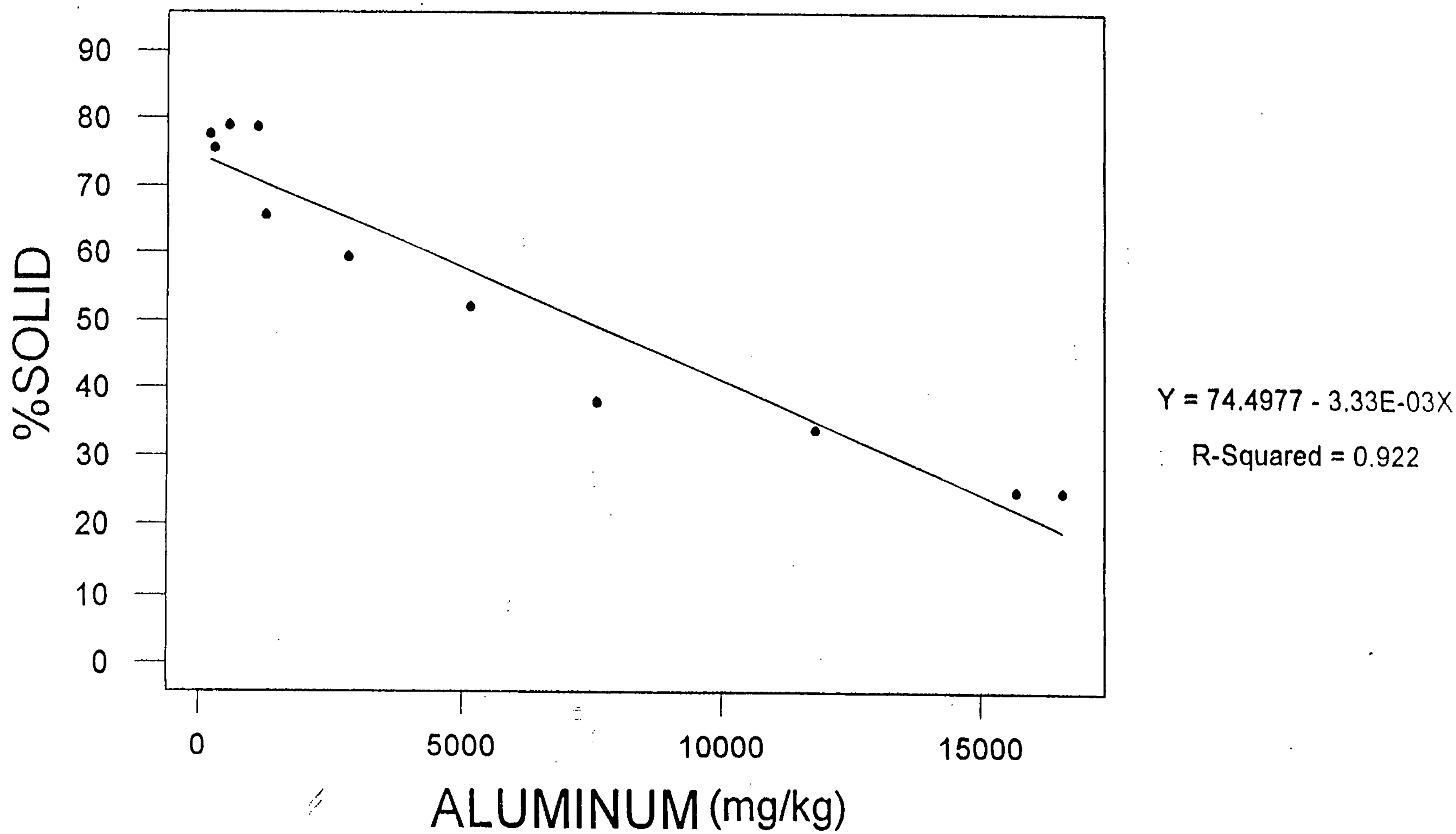

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 11
REGRESSION CORRELATION OF PERCENT SOLIDS TO ALUMINUM

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values representing relative contamination at each location) were compared to percent solids values, no correlation was found (Figure 10-12). The lack of correlation implies that sediment type was not necessarily a good predictor for the amount of contamination. This result was interesting because it was originally thought that contamination would primarily be associated with the fine-grained sediment, which did not prove to be the case.

One issue confounds the use of HI values for assessment of the relative contamination between stations: occurrence and amount of certain inorganics in sediment are closely related to the aluminum content (Windom et al., 1989), thus grain-size. As previously presented, aluminum concentrations are naturally related to the aluminosilicate portion (i.e., clays) of the sediment and typically associated with fine-grained fraction of sediments. This would suggest that a high correlation of aluminum to those inorganics may indicate that those inorganics are in fact normal or natural for that sediment found. High correlations of aluminum to arsenic and nickel at Phase IIB locations was observed (Figures 10-13 and 10-14). Other inorganics in sediment such as chromium, lead and zinc did not show a significant positive relationship to aluminum content (Figures 10-15, 10-16, and 10-17). In any case, to be conservative, whether inorganics appeared natural or otherwise, HQ values for that constituent were determined using the USEPA Region IV SSV.

Sediment Toxicity

Toxicity tests measured the differences between a control group and a sample group for the endpoints mortalility (survivability), growth (fish and shrimp), and reproductive viability (shrimp only). Replicates were used to evaluate the variability within each test group. A finding of significant difference is relative only to that test set and the control group it is being compared to. For these reasons, specific mortality, (survivability), growth, or reproductive values from each test set are unique and therefore have not been compared to each other. Table 10-5 presents the

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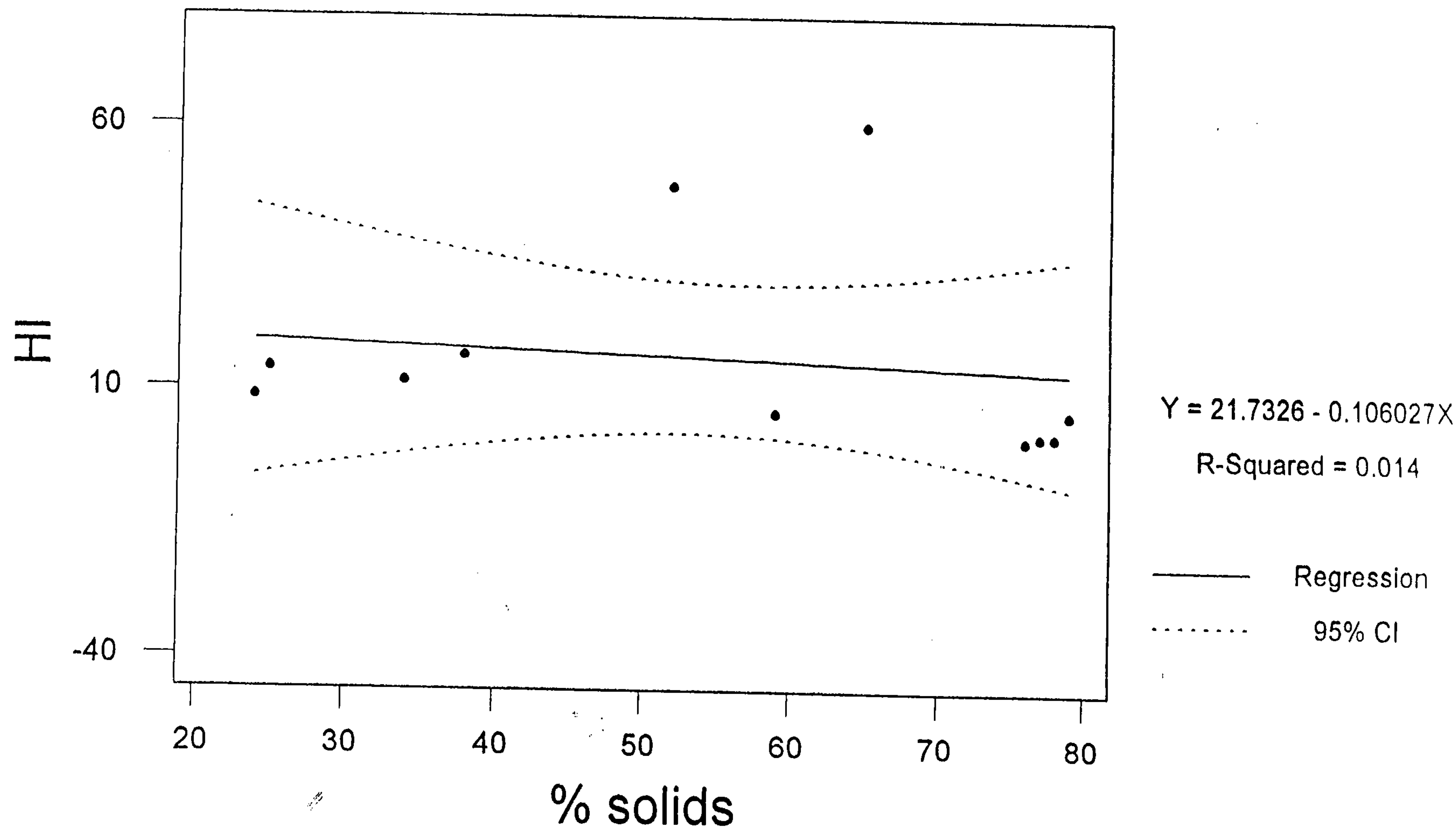

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 12
REGRESSION CORRELATION OF
HI VALUES TO PERCENT SOLIDS

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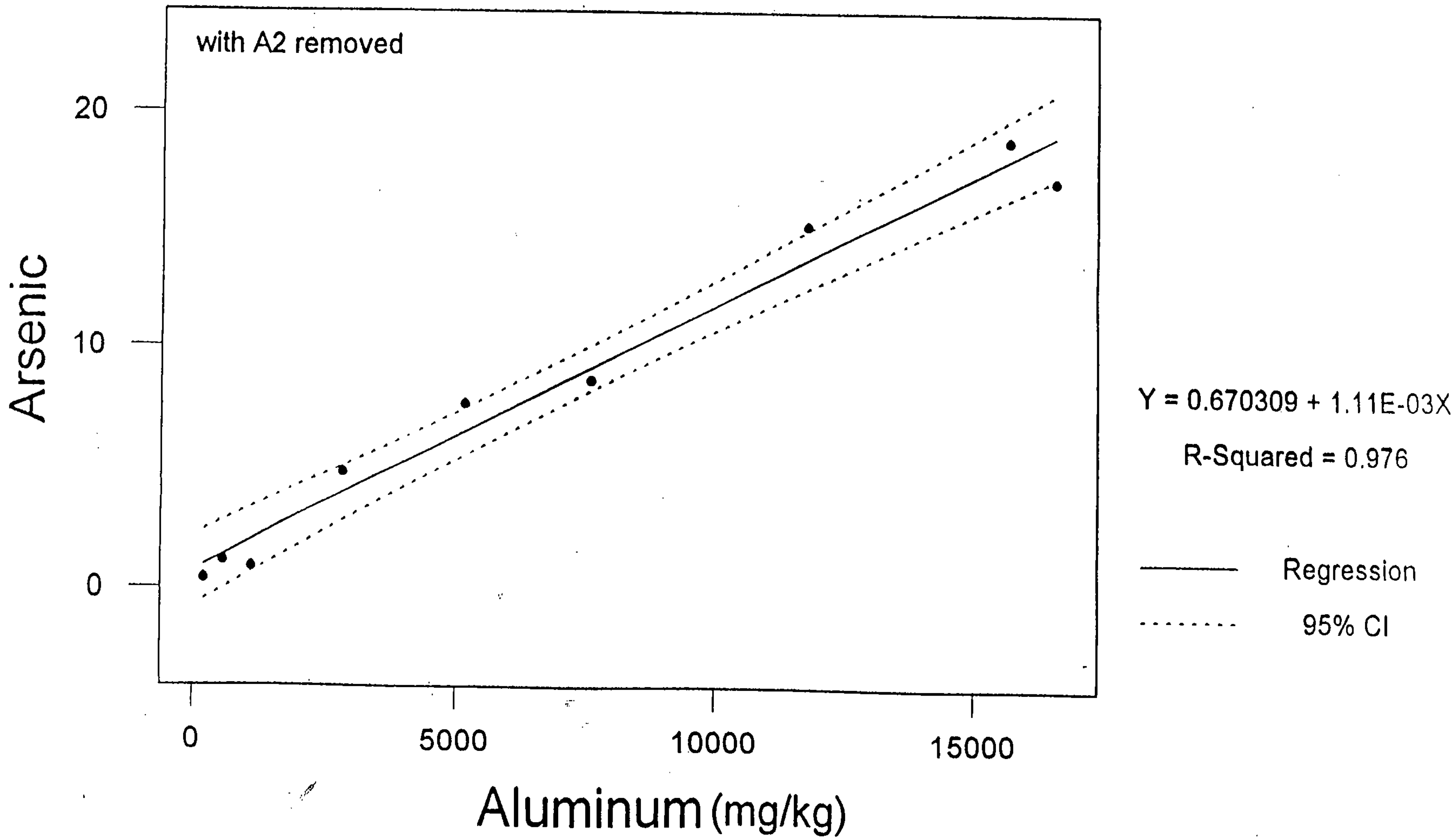

REMEDIAL INVESTIGATION,
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 13
REGRESSION CORRELATION OF SEDIMENT ARSENIC TO ALUMINUM

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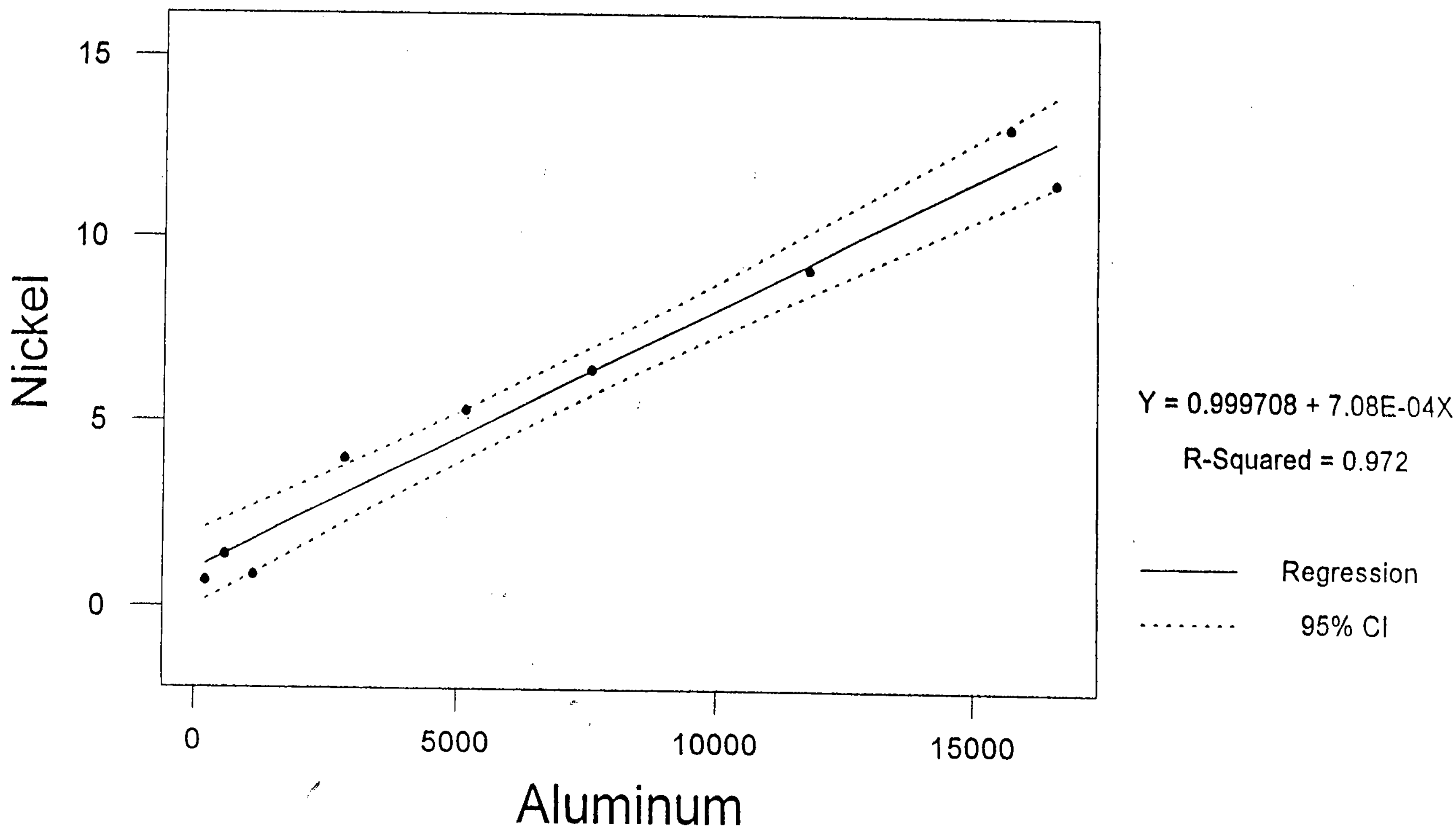

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 14
REGRESSION CORRELATION OF
SEDIMENT NICKEL TO ALUMINUM

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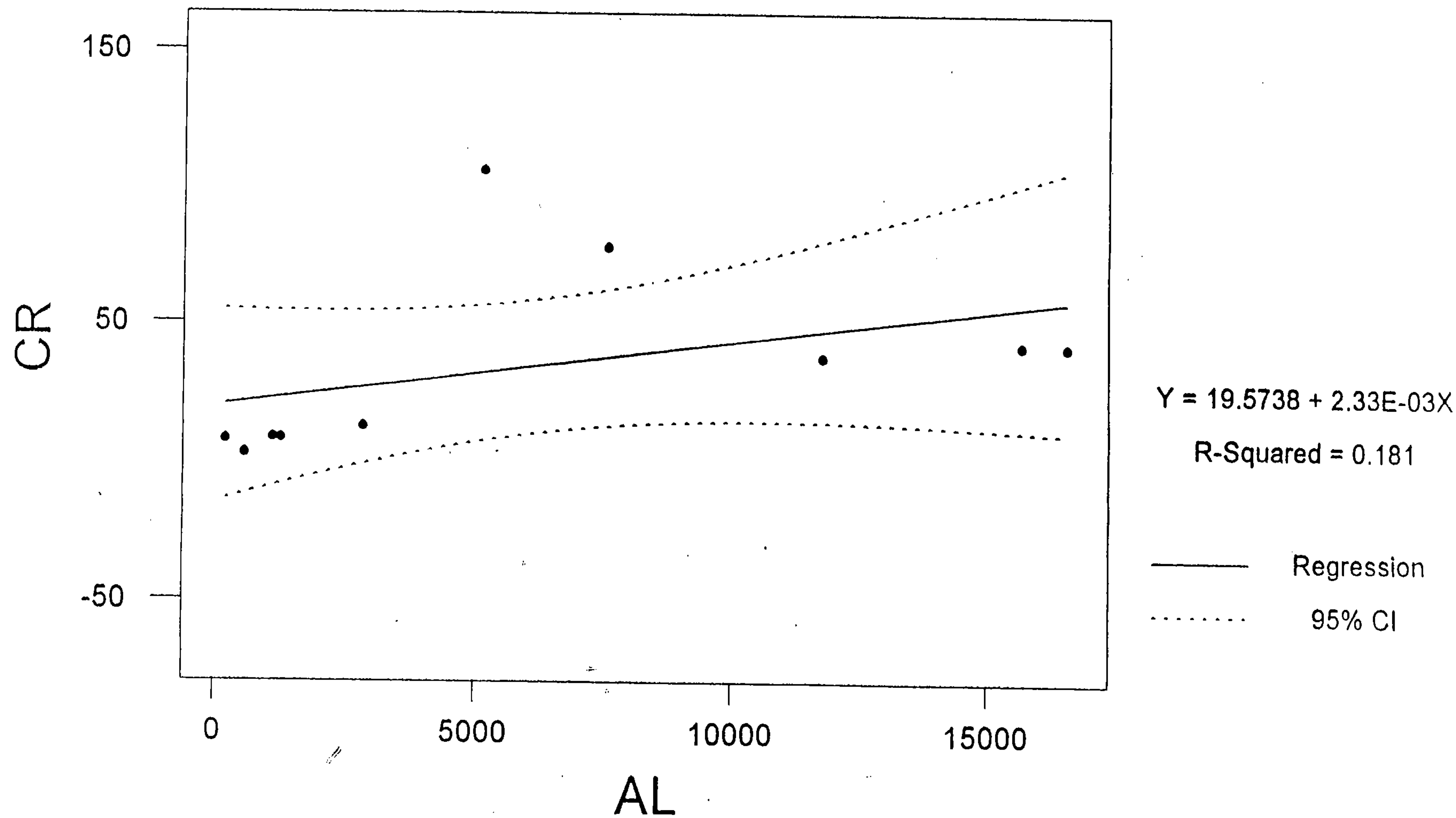

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 15
REGRESSION CORRELATION OF SEDIMENT CHROMIUM TO ALUMINUM

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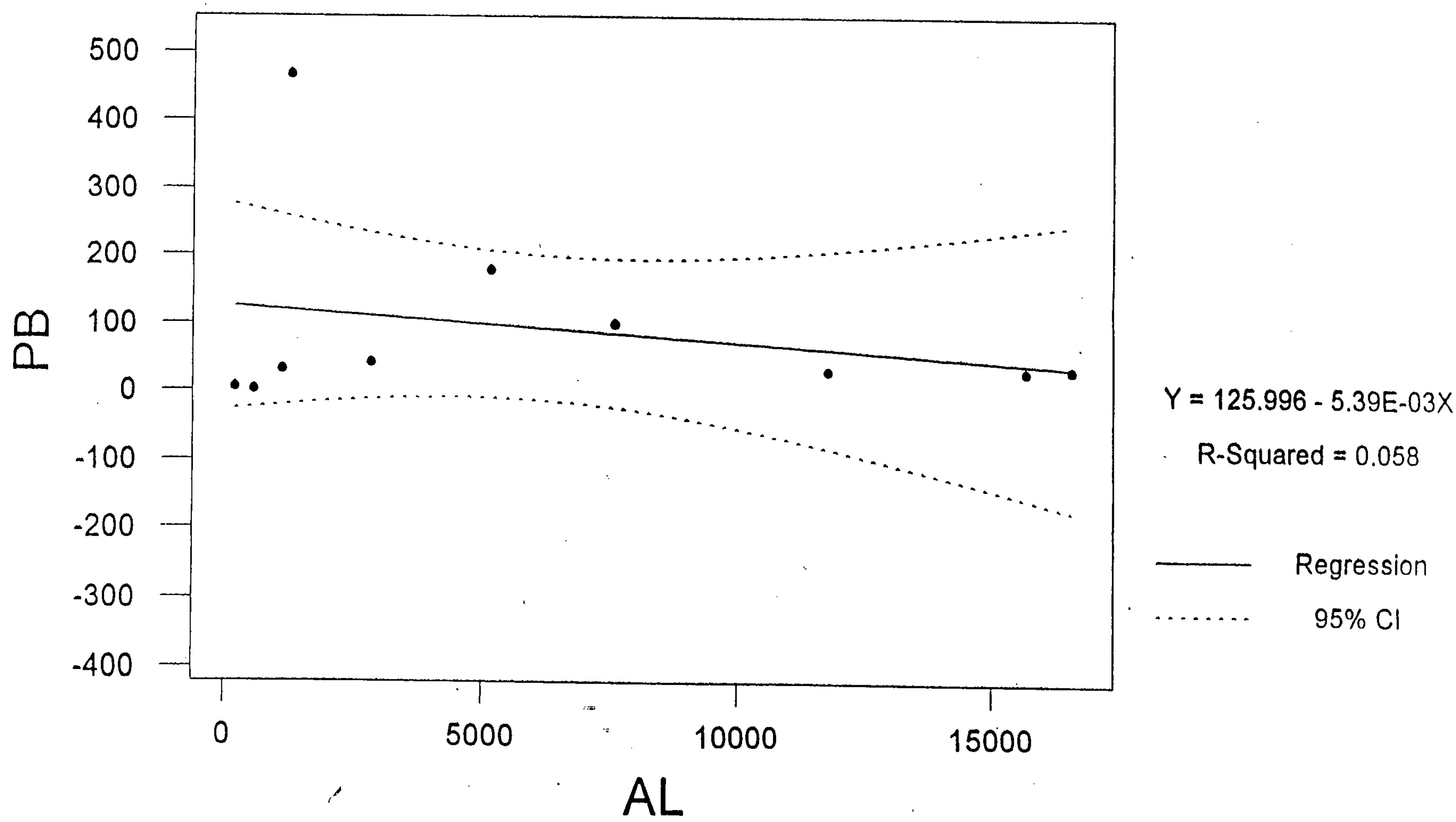

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 16
REGRESSION CORRELATION OF SEDIMENT LEAD TO ALUMINUM

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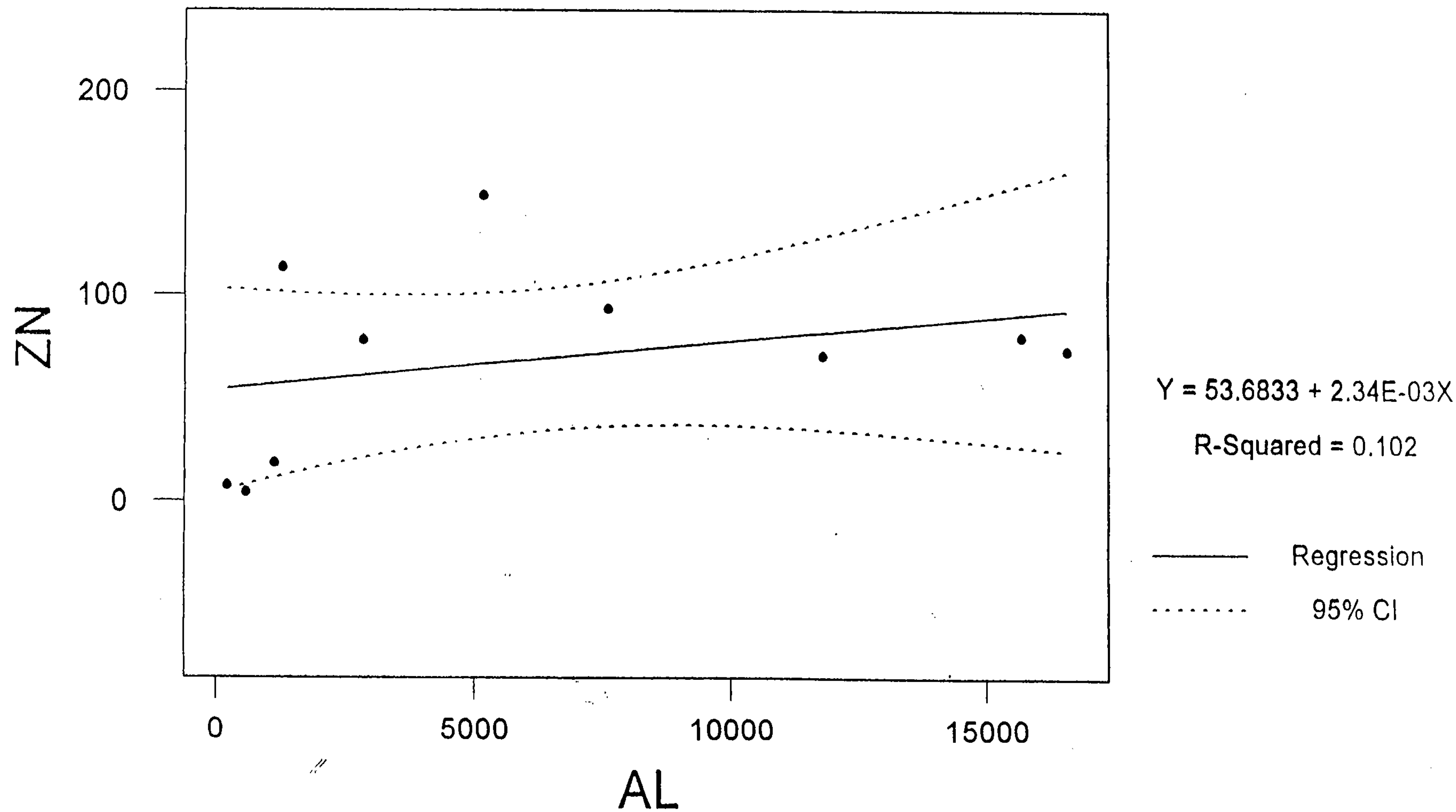

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 17
REGRESSION CORRELATION OF SEDIMENT ZINC TO ALUMINUM

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findings of whether the endpoint in question was or was not significantly different from the associated control group. For these reasons, toxicity data must be taken solely as presented, significantly different or not significantly different. No statistical comparison to other measured variables can be made.

Benthic Community

Impacts to the benthic community have been shown to be an important indicator of organic pollution in marine systems (Wass, 1967). Although benthic community parameters were measured for the Site 2 Phase IIB investigation, it should be noted that indices developed represent only a point-in-time assessment and not long-term trends. To assess bay-wide relativity to our values, comparison of community parameter data were compared to the reference site and to four sites assessed by FDEP (FDER 1992a, 1992b, 1992c, and 1993) (Figure 10-18). No correlation to sediment type found during the FDEP study was made during this comparison. In addition, due to the condition of the substrate observed at Station A2 (concrete rubble, granite block foundation below shallow sand), which appeared to be limiting to establishment of benthos, this station was removed from subsequent analysis.

As mentioned, diversity values determined at Site 2 were lower than those from other Pensacola Bay locations, but the number of taxonomic groups observed was higher. This could be because Site 2 is near higher saline marine waters. The area near Site 2 provides less variation in water chemistry and thus a more stable environment, resulting in a mix of both marine and estuarine assemblages. The portion of the community made up of polychaetes was lower at Pensacola Bay locations than at Site 2.

Benthic abundance (number per meter^2) at Site 2 increased as the contamination levels also increased (Figure 10-19). The degree of this relationship was moderate when analyzed statistically (r^2=0.746) (Figure 10-20) but, no correlation between benthic abundance and substrate type was

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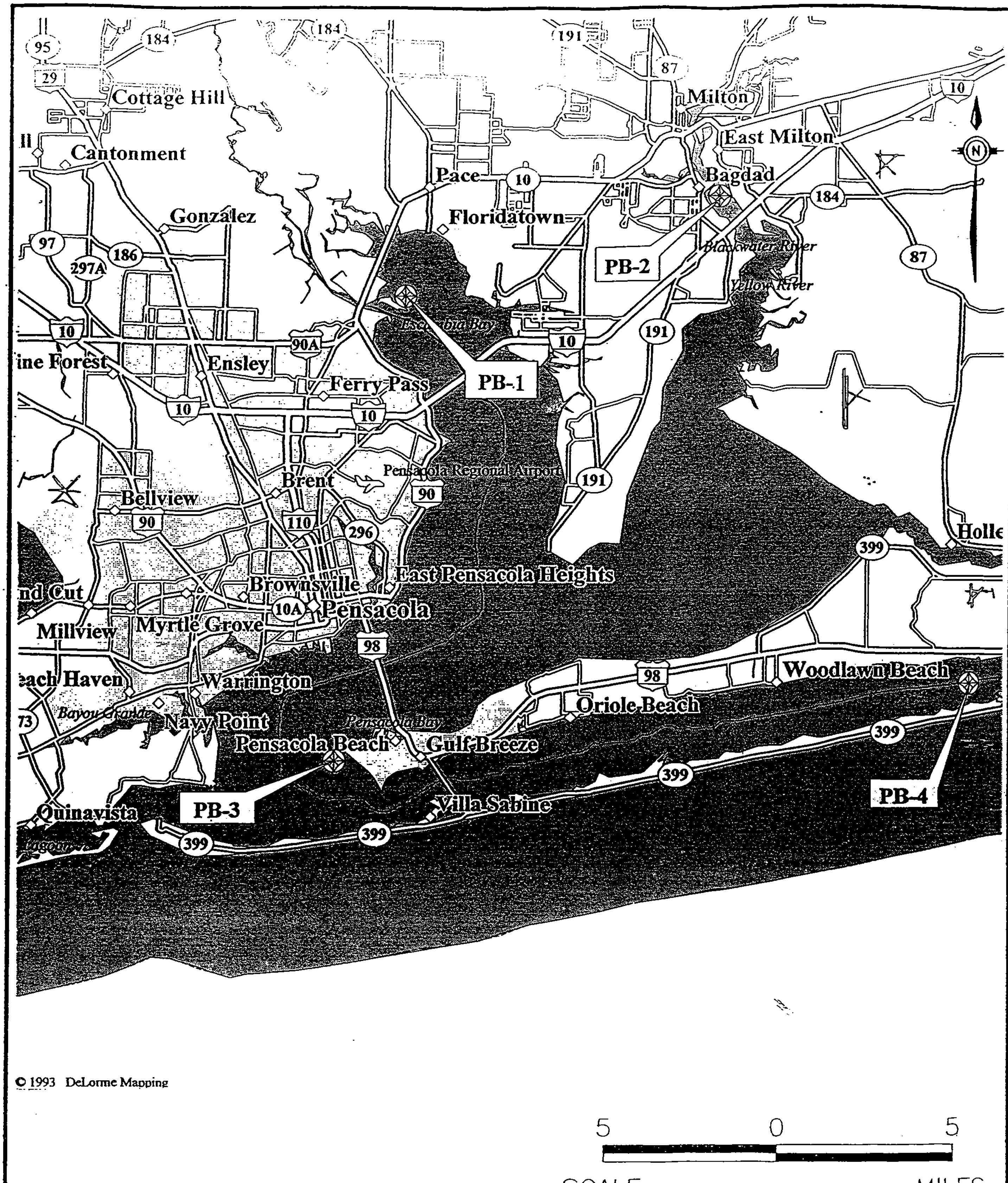

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10-18
PENSACOLA BAY
BENTHIC STUDY
STATIONS — FDEP

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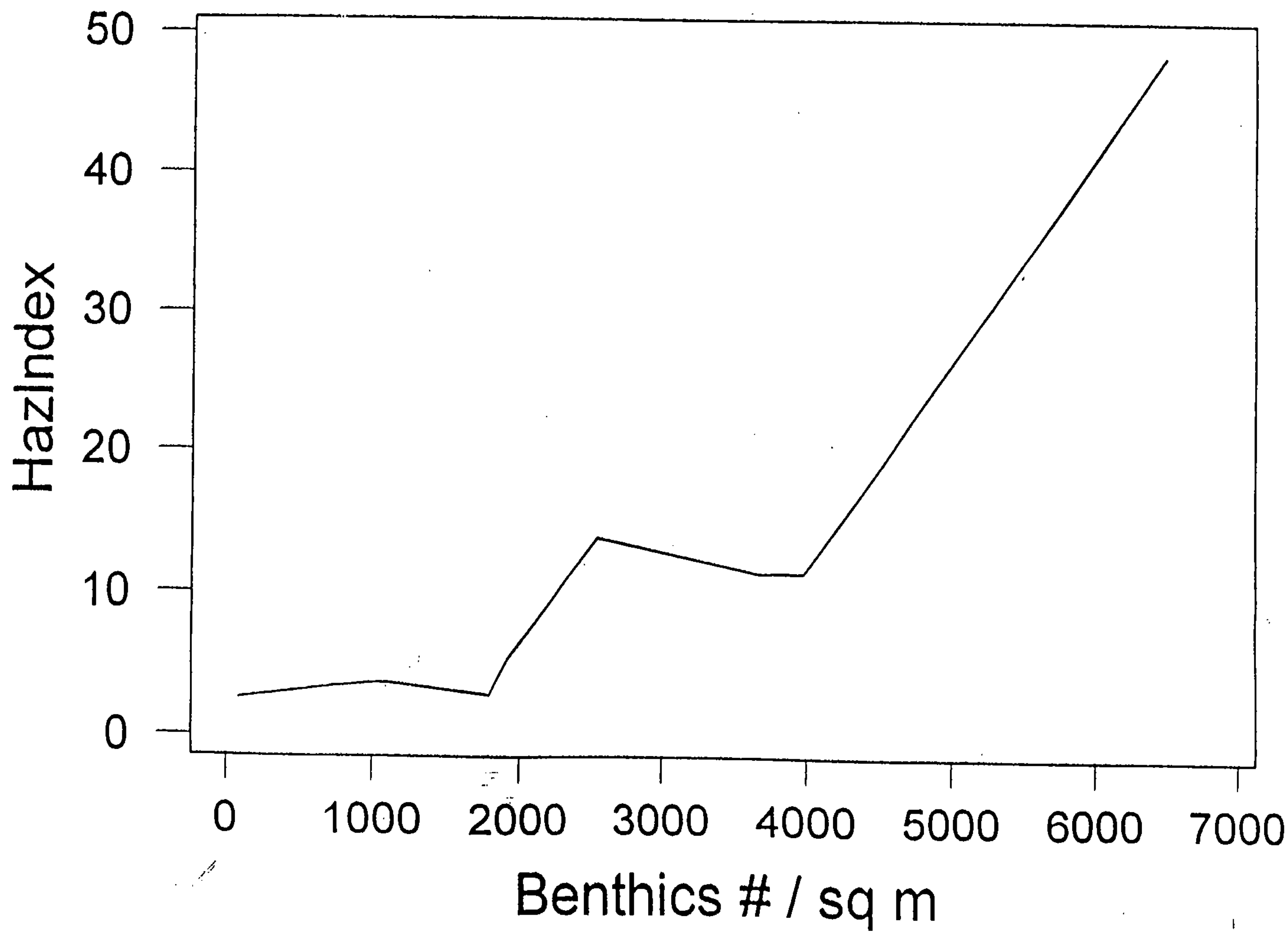

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 19
RELATIONSHIP OF HI VALUES TO BENTHOS ABUNDANCE

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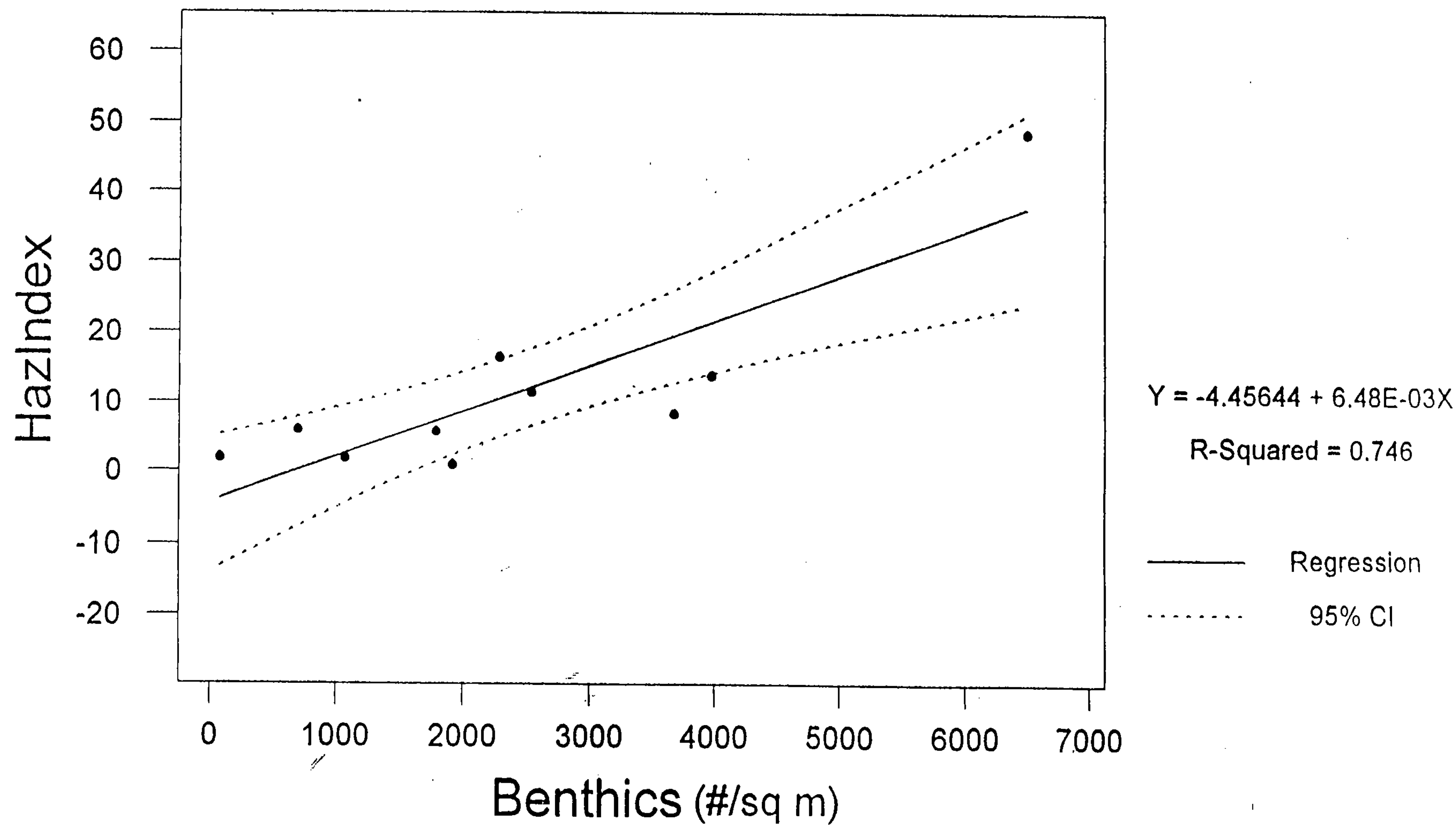

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 20
REGRESSION CORRELATION OF
HI VALUES TO BENTHOS ABUNDANCE

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found (r^2=0.38) (Figure 10-21). Thus a factor other than the sediment type at Site 2 appears to be responsible for the density of organisms found. Olinger et al. (1975), in Collard's 1989 unpublished review on Pensacola Bay, indicated that polychaetes dominated the benthos community in areas near industrial outfalls. Several polychaete species found by Olinger et al. (1975) were considered to be opportunistic, often associated with disturbed or low quality estuaries. These included *Heteromastus* sp. and *Streblospio benedicti*. At most stations across Site 2, polychaetes dominated the benthos assemblage and both of these species made up a major portion of that group. *Capitella capitata,* also found consistently at Site 2, has also been considered as a pollution indicator species, and reported as such by, Reish (1960) and Gilet (1960).

Wass (1967) suggested a logical means of presenting a pattern of pollution enrichment would be by showing faunal components as part of a fraction for each sampling station. Figure 10-22 presents composition information for polychaetes at each station along with the portion that the three previously presented indicator organisms made up. These three indicator species dominated the polychaete community at Stations F3, H1, H3 and I0. As with abundance, there was no apparent relationship of these indicator species to substrate type (Figure 10-23) but, their increase in abundance and relative dominance at each site presented above appeared to be related to the chemical concentrations observed (Figures 10-24 and 10-25).

10.3.4 Phase IIB-Risk Evaluation

To compile and evaluate the information collected from the components of this assessment, an ecological effects matrix was created (Table 10-7). This matrix evaluation presents a weight-of-evidence approach for the observable effects detected within the study results.

Results from analysis of the three components of the study indicated that sediment type was not an important criteria for observed benthic community fluctuations or contaminant concentrations

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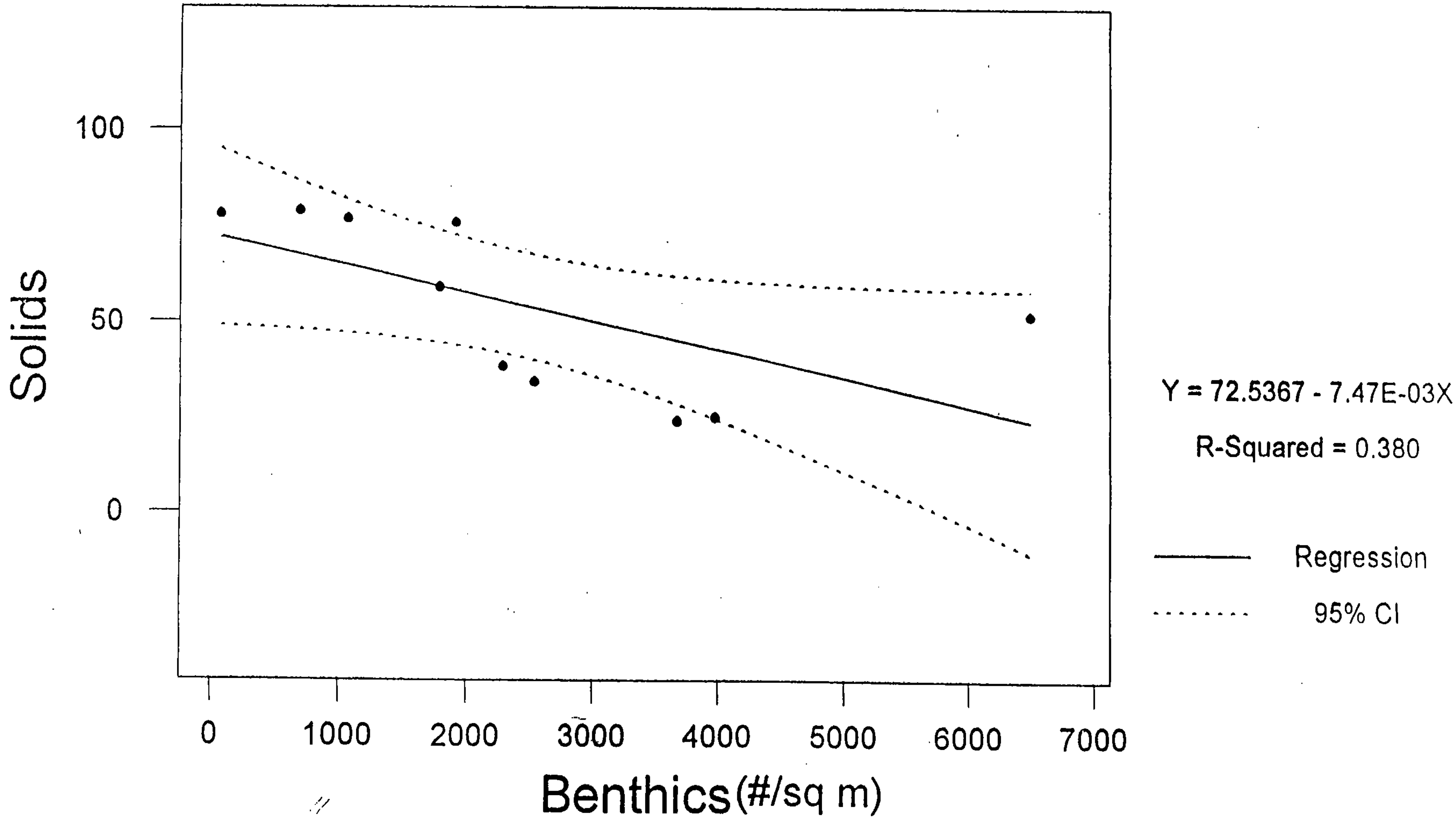

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 21
REGRESSION CORRELATION OF PERCENT SOLIDS TO BENTHOS ABUNDANCE

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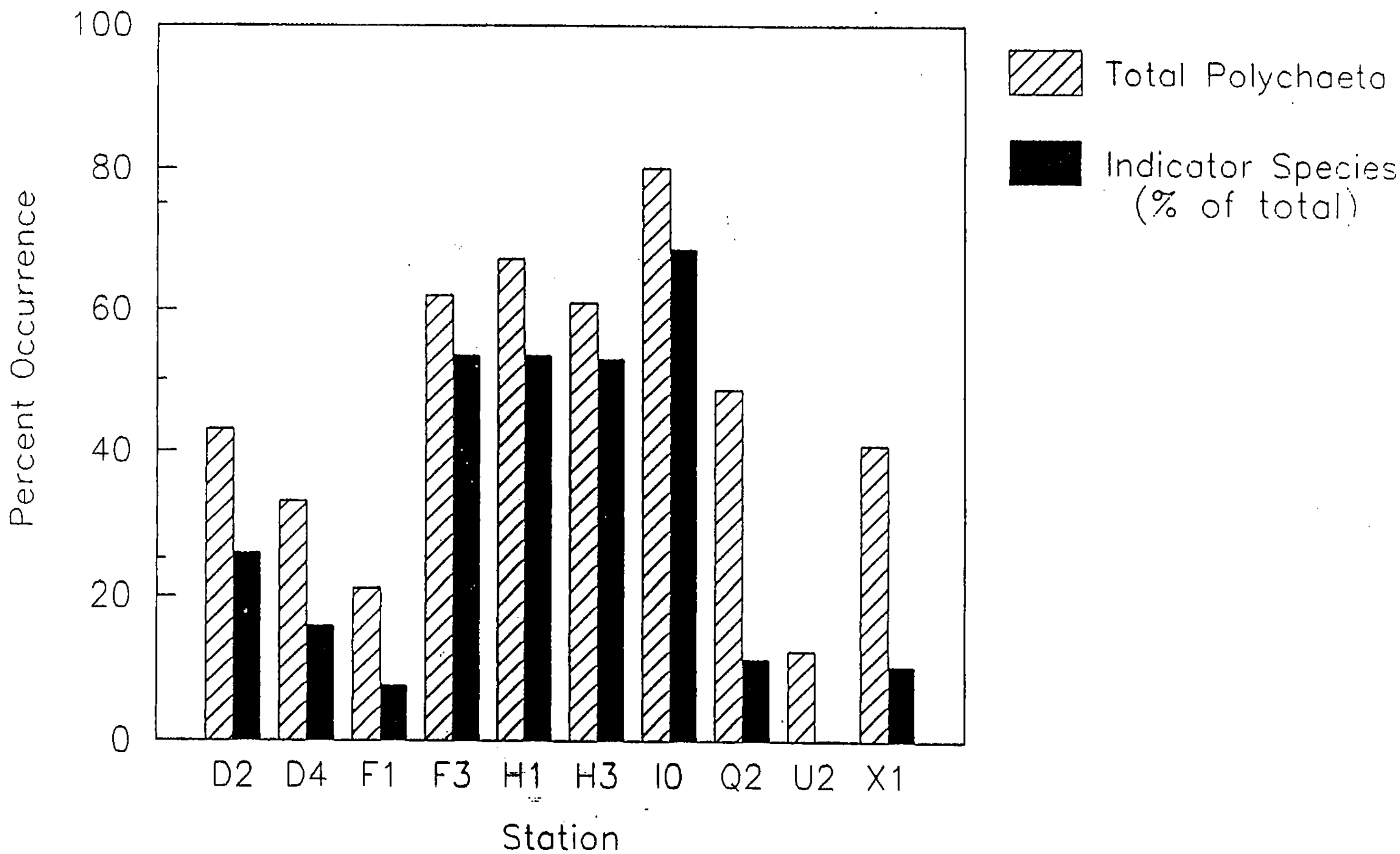

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 22
BENTHIC INDICATOR SPECIES COMPOSITION RELATIVE TO TOTAL POLYCHAETE ABUNDANCE

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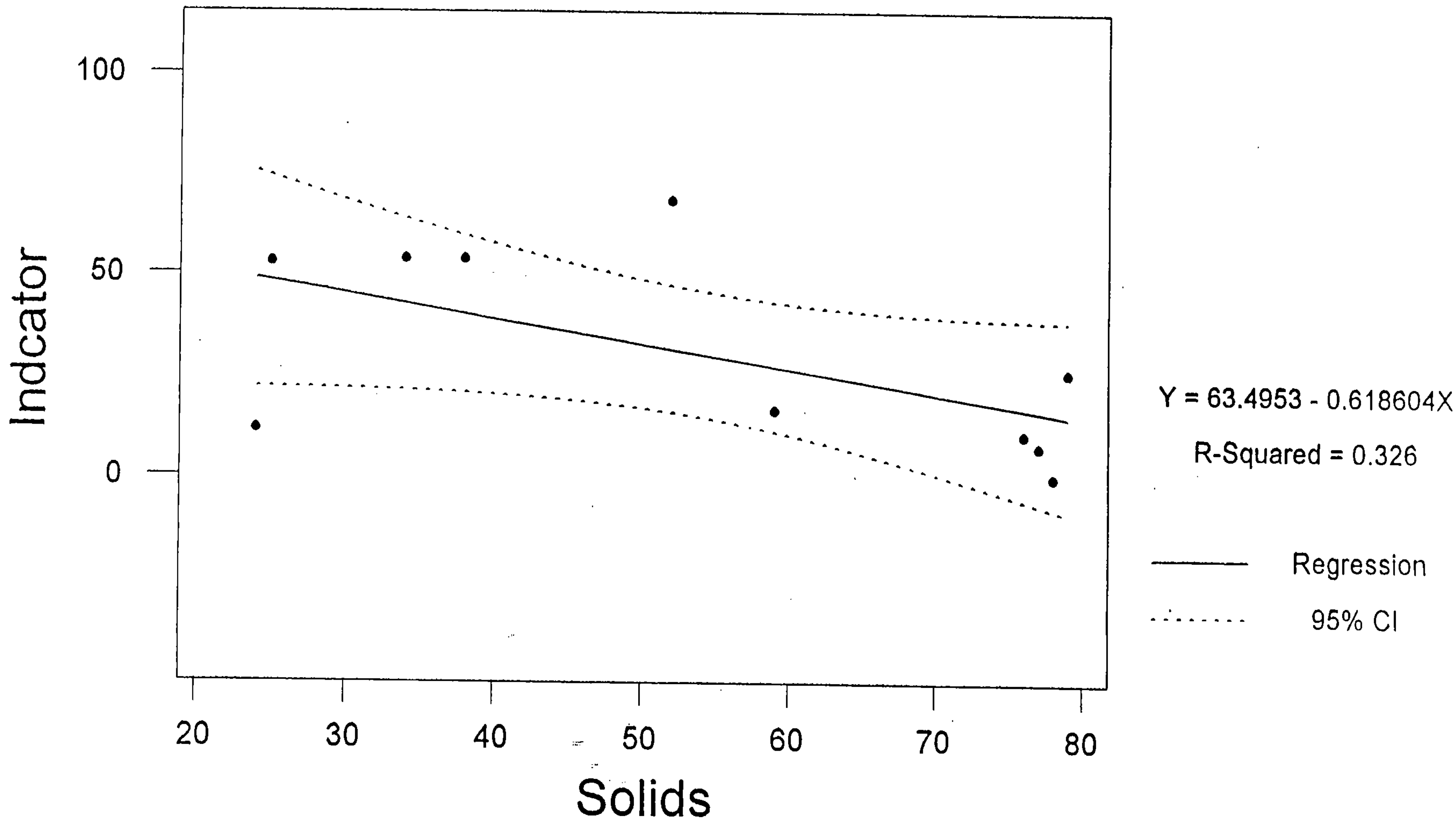

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 23
REGRESSION CORRELATION OF BENTHIC INDICATOR ABUNDANCE TO PERCENT SOLIDS

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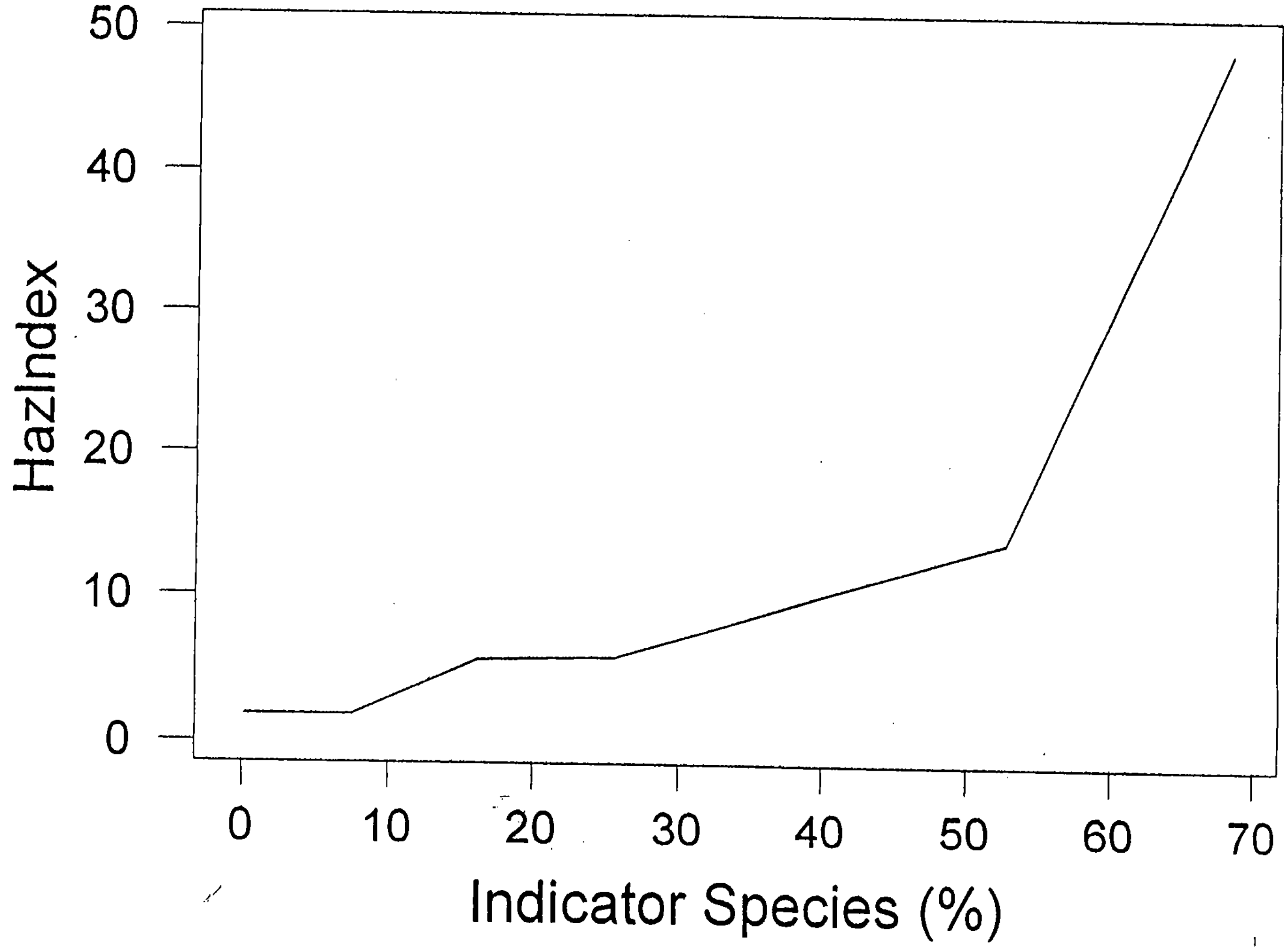

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 24
RELATIONSHIP OF HI VALUE TO BENTHIC INDICATOR SPECIES ABUNDANCE

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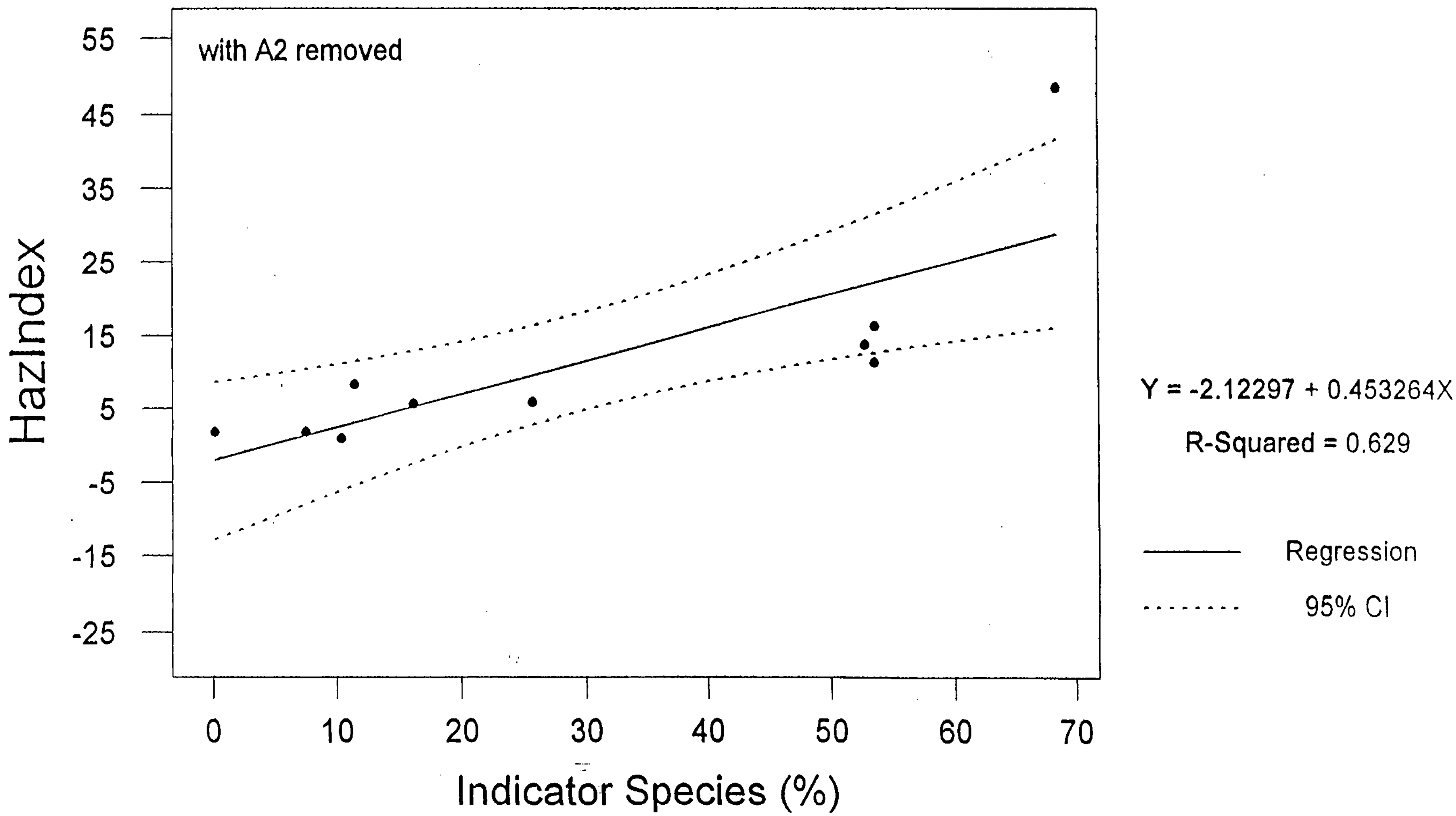

REMEDIAL INVESTIGATION
SITE 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 10 - 25
REGRESSION CORRELATION OF HI VALUES TO BENTHIC INDICATOR SPECIES ABUNDANCE

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Table 10-7
Ecological Effects Assessment Matrix
Site 2

Variable	A2	D2	D4	F1	F3	H1	H3	I0	Q2	U2
Total H1 > 10	*				*	*	*	*		
Metals H1 > 10	*						*	*		
Organics H1 > 10								*		
BEHP H1 > 10								*		
< mean Diversity Index	*			*	*	*	*	*		*
> mean % Polychaeta	*					*		*		
> 40% Indicator Species	*				*	*	*	*		
Mysid Toxicity				*	*	*	*	*		
Fish Toxicity	*				*	*	*	*	*	*

Note:
* = Indicates a positive response to selected variable.

observed. Instead, the level of contamination was actually a more reliable indicator of benthic species composition. The level at which contaminant concentrations significantly alter benthic assemblages was one of the objectives of the study. Use of the hazard index approach (EPA, 1989) suggests that a moderate risk to receptors may occur when HQ values (or a cumulative HI value) exceed 1. A first attempt to correlate contamination at this level with observed benthic community changes and significant effects data from toxicological tests was unsuccessful. HQ levels suggested by EPA typically are more conservative than field exposure scenarios indicate, and therefore a second attempt was made to identify a level at which impacts might be distinguished. The next order of magnitude, 10, was selected; EPA suggests that in a screening level assessment, levels above 10 may indicate a moderately high potential risk. At an HI of 10, it appeared that changes to the benthic assemblage at Site 2 were distinguishable.

Based on the relative percentage of benthic indicator species found at those stations having high polychaete abundance (Figure 10-23), and considering the percentage of indicator species abundance found at an HI of 10 (Figure 10-25), a level of 40 percent was selected to represent the point at which contamination effects to benthos can be observed. In addition, stations having polychaete abundance and diversity values lower than means determined from all stations were also included in the matrix assessment. Inclusion of these data was based on an assumption that a station's overall benthic health might be relatively assessed by comparing individual station abundance and diversity value to sitewide values.

Toxicity tests results for both shrimp and fish which showed significant effects (compared to controls) for either mortality, growth, or reproduction, were also included in the matrix.

A review of the matrix produced indicates that, generally stations having HIs above 10 (A2, F3, H1, H3, and I0) also exhibited changes to the benthic assemblage relative to what might be expected (i.e, relatively higher percentage of polychaetes and/or indicator species abundance greater than 40 percent). Also, at these same stations toxicity to both shrimp and fish was indicated. Station I0 met all of the criteria provided in the matrix, suggesting that it may be the most toxic-impacted station investigated.

10.3.5 Conclusion

Effects to marine biota have occurred or are presently occurring as a result of sediment contaminant concentrations found at some stations across Site 2. The impact of these effects to the overall marine ecosystem near NAS Pensacola would be difficult to measure. It appears that benthic assemblages have been altered at some stations, possibly due to higher chemical concentrations, but the limited spatial extent of these changes may be imperceptible when bay-wide distributions are considered. Toxicity results to fish and shrimp were from laboratory static-water test systems and therefore do not reflect mixing action from tides and water depth at Site 2. These two variables may reduce actual effects to indigenous biota.

It appears that use of the Hazard Quotient approach for risk assessment is appropriate in conjunction with other ecological effects information. Although an HI of 10 for sediment contamination at Site 2 appears to be indicative of effects, this value may be inappropriate for other sites or ecosystem types.

From a spatial perspective the five stations having HIs above 10, and thus negative impacts represent only 3.9% of the total area under investigation at Site 2. Based on this, receptor exposure at Site 2 appears to be extremely limited and, relative to the bay system proper, probably indistinguishable.

10.4 Human Health Risk Assessment

10.4.1 Site Background

NAS Pensacola is five miles southwest of the City of Pensacola, on a peninsula in southern Escambia County. Site 2 is on the southeastern shoreline of NAS Pensacola, along the Pensacola Bay waterfront. The location of Site 2 is shown on Figure 2-1 earlier in this report. This site is the area of nearshore sediments along the southeast NAS Pensacola waterfront, where there are numerous sewer and industrial wastewater outfalls. The southeast waterfront is dominated by a protective seawall containing numerous seaplane ramps, with large adjacent paved parking aprons. The seawall is approximately 3 to 4 feet high, and rests on a concrete platform. Fifty-six outfalls, ranging in diameter from 1 to 42 inches, were previously identified along the seawall (E&E 1991). The seawall also accommodates numerous scuppers (i.e., holes) that drain surface water from the adjacent parking areas. The waterfront outfalls begin near the McDonald's restaurant, and extend east to the projected dock location for the USS Forrestal. Many outfalls in this area discharged untreated industrial wastes into Pensacola Bay from approximately 1939 to 1973, when the base's industrial wastestream was diverted to the industrial waste treatment plant (IWTP) (E&E, 1991, 1992a/b).

Previous studies have described the bay sediments to be fine sands to a water depth of 30 feet and silty sands and muds from a depth of 30 feet to the deepest parts of the ship channel (E&E 1992a). However, prior to this RI, few sediment samples had been collected in the immediate vicinity of Site 2. Refer to Section 2 for additional historical information pertaining to Site 2.

10.4.2 Organization

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

- Site characterization — Data on site geography, geology, hydrogeology, climate, and demographics of populations in the area are evaluated.

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

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

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

- Toxicity assessment — The adverse effects of the COPCs are qualitatively evaluated, and the relationship between exposure and severity or probability of effect are quantitatively estimated.

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

- Uncertainty — The areas of recognized uncertainty in human health risk assessments are discussed and evaluated, in addition to medium- and exposure pathway-specific influences.

- Risk/Hazard Summary — The results of the quantification of exposure (risk and hazard) for the potential receptors and their exposure pathways identified are presented and discussed under the current and future conditions.

- Remedial Goal Options — Exposure concentrations are quantified which equate with residual risk within the within the USEPA target risk range of 10^{-6} to 10^{-4} for carcinogenic COCs and hazard quotients 0.1, 1, and 10 for noncarcinogenic COCs.

10.4.3 Identification of Chemicals of Potential Concern

When performing a HHRA, data for environmental media are compiled to determine potential site-related chemicals and exposures for each medium as outlined in RAGS Part A.

10.4.3.1 Data Sources

Data for NAS Pensacola, specifically Site 2, have been gathered during multiple investigative phases. During the E/A&H investigation, sediment, surface water, and blue crab tissues were sampled to assess the distribution of contamination at Site 2.

All samples were analyzed for the TAL/TCL at Data Quality Objective (DQO) Level IV, in accordance with the *Analytical Support Branch Laboratory Operations and Quality Control Manual*, September 1990. All sampling, sample handling, chain of custody protocol, and field QA/QC were performed in accordance with the Environmental Compliance Branch SOP/QAM, February 1, 1991. Surface water, sediment, and tissue data are presented and discussed in Section 7 (Nature and Extent of Contamination).

Table 10-8 shows the samples included in the BRA. Additional sample data collected during the RI (i.e., surface water and sediment) are presented in Section 7. These data were not used in this BRA due to absence of viable exposure pathways as discussed in Section 10.4.4.3.

Table 10-8
Sample Identification Numbers for Tissue Samples
NAS Pensacola, Site 2
Pensacola, Florida

Sample Identification Number	Sample Location	Sample Type
002-J-0001-00	1	grab tissue sample
002-J-0002-00	2	grab tissue sample
002-J-0003-00	3	grab tissue sample
002-J-0004-00	4	grab tissue sample
002-J-0005-00	5	grab tissue sample
002-J-0005-01	5 (duplicate)	grab tissue sample
002-J-0099-00	reference location	grab tissue sample

Notes:

- Blue crabs collected at one sample location were dissected by the laboratory, and tissue analysis was performed on the combined edible tissues.
- As indicated in the table above, a duplicate sample was collected at sample location 5; for any specific chemical, either the highest reported concentration in the sample or the duplicate was used as the concentration for sample location 5.
- The reference location noted above is shown in Figure 5-7 and is discussed in the Nature and Extent of Contamination Section of this RI.
- As shown by the table above, the ingestion of tissue exposure pathway was selected as an indicator of potential risk. This exposure pathway would be expected to serve as a sink for environmental contaminants, and these contaminants could bioaccumulate in the tissues. Because detected concentrations would potentially be greater in tissues than other media and this exposure pathway is viable, no additional exposure pathways were addressed.

10.4.3.2 Data Validation

Data validation is an after-the-fact, independent, systematic process of evaluating data and comparing them to pre-established criteria to confirm that they are of the technical quality necessary to support the decisions made in the RI/FS process. Specific parameters associated with the data are reviewed to determine whether they meet the stipulated DQOs. The quality objectives address five principal parameters: precision, accuracy, completeness, comparability, and representativeness. To verify that these objectives are met, field measurements, sampling and handling procedures, laboratory analysis and reporting, and nonconformances and discrepancies in the data are examined to determine compliance with appropriate and applicable procedures. The procedures and criteria for validation are defined in the RI/FS *Data Validation Program Guidelines*, which are based on the USEPA *National Functional Guidelines for Data Review* (USEPA 1988a; USEPA 1988b). For further discussion of data validation, please refer to the Data Validation Section (Section 8) of the RI.

10.4.3.3 Site-Related Data

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

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

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

Once the data set was complete, statistical methods were used to evaluate the RI analytical results to (1) identify: COPCs and (2) establish exposure point concentrations (EPC) of potential receptor locations. The statistical methods used in data evaluation are discussed below. The rationale used to develop this methodology and the statistical techniques are based on RAGS Part A and Statistical Methods for Environmental Pollution Monitoring (Gilbert 1987).

Quattro Pro version 5.0 for DOS was used to calculate statistics. The following information was tabulated for the data set used to describe the concentration of chemicals in a potentially contaminated area: frequency of detection, range of detected values, mean concentrations, and 95% UCL on the mean of the concentration (assuming a lognormal distribution, as requested by USEPA Region IV).

10.4.3.4 Selection of Chemicals of Potential Concern

The objective of this section of the BRA is to screen information that is available on the substances detected at Site 2 (chemicals present in site samples or CPSS) to develop a list or group of chemicals referred to as COPCs. Before evaluating the potential risks/hazards at Site 2, it was first necessary to determine the nature and extent of any contamination identified onsite. This was accomplished by noting the chemicals detected in each medium. These chemicals represent the CPSS for Site 2. The nature and extent of CPSS was discussed in detail in Section 7 of the RI.

Screening values, determined by USEPA, consist of medium-specific USEPA Region III risk-based residential COC screening concentrations (RBC) dated March 18, 1994, for tissue ingestion. As stated in the referenced USEPA document, these screening concentrations were calculated by USEPA based on a target hazard quotient of 0.1 and a target risk goal of 1E-6 for noncarcinogens and carcinogens, respectively. The maximum concentration of each chemical detected in crab tissue was compared to the screening values. If the maximum detected concentration exceeded the screening value, the corresponding reference concentration was compared to it.

Reference concentrations were determined using the twice background criterion recommended by USEPA Region IV. Two-times the background concentration was used as the reference concentration and was compared to the maximum concentration detected in Site 2 tissues. Any chemical reported at a concentration greater than both the corresponding screening value and the reference concentration was retained as a COPC. This screening process was used to focus the formal risk assessment on chemicals which would be most likely to pose a significant risk or hazard to human health. The tissue reference location sampled for Site 2, ID number J0099, was collected approximately one mile west of Site 2 (see Figure 5-7 earlier in this report).

COPCs are those chemicals selected in consideration of their comparison to screening concentrations (risk-based and NAS Pensacola-specific reference concentrations), intrinsic toxicological properties, persistence, fate and transport characteristics, and cross-media transfer potential. Any COPC is referred to as a COC if it meets the following criteria: It is carried through the risk assessment process and found to contribute to a pathway that exceeds a 10^4 risk or a hazard index greater than 1 for any of the exposure scenarios evaluated in this risk assessment. It has an incremental lifetime cancer risk (ILCR) greater than 10^6 or HQ greater than 0.1.

Calculation of Risk and Hazard

Those CPSS with chemical-specific exceedances of both RBCs and reference concentrations are considered to be COPCs. The final step in identifying COCs from the list of COPCs involves calculating chemical-specific cancer risks and hazard quotients for COPCs, and evaluating frequency and consistency of detection and relative chemical toxicity.

An individual cancer risk threshold of 10^{-6}, based on the FDEP and USEPA standard risk threshold, was used in the COC selection process if the corresponding exposure pathway resulted in a total cancer risk of 10^{-4} or greater. Any COPC meeting the criteria was retained as a COC.

COPCs if they contributed to a hazard index of 1 or greater for an exposure pathway and had a calculated hazard quotient of 0.1 or greater. Section 10.4.5, Toxicity Assessment discusses cancer risk thresholds and noncancer toxicity in detail.

10.4.3.5 COPCs in Tissues

Table 10-9 summarizes the results of the screening procedure and reference concentrations comparisons used to identify COPCs. CPSSs that exceed both the tissue ingestion RBCs and reference concentrations are denoted as COPCs in the tables by the symbol (*) next to the chemical name. Those CPSSs eliminated from further consideration in this risk assessment due to screening comparisons are denoted in the tables by the numerical symbols of 4 and 5. As shown in Table 10-9, six COPCs were identified in Site 2 crab tissues: copper, silver, zinc, 4,4'-DDD, 4,4'-DDT, and heptachlor epoxide.

10.4.4 Exposure Assessment

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

- Characterization of the physical setting and land use of the site.

- Identification of COPC release and migration pathways.

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

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

Table 10-9
Chemicals Detected in Crab Tissue Samples (in mg/kg)
NAS Pensacola, Site 2
Pensacola, Florida

Chemical	Frequency of Detection	Default Concentrations	Range of Detected Concentrations	Screening Value	Reference Concentration	Notes
Calcium	5/5	NA	678 - 5,370		1,764	3
*Copper	1/5	4.85	14.5	5	ND	
Magnesium	5/5	NA	362 - 682		722	2,3
Mercury	5/5	NA	0.15 - 0.21	0.41	0.4	1,2
Potassium	5/5	NA	2,600 - 2,970		5,260	2,3
Selenium	5/5	NA	0.7 - 1.5	0.68	1.74	2
*Silver	1/5	0.495	1.1	0.68	ND	
Sodium	5/5	NA	3,470 - 3,730		8,040	2,3
*Zinc	5/5	NA	28.7 - 59.1	41	58.4	
*4,4'-DDD	1/5	0.00056	0.00056	0.013	ND	1
4,4'-DDE	5/5	NA	0.00073 - 0.00065	0.0093	0.0026	1
*d,d'-DDT	5/5	NA	0.0019 - 0.0096	0.0093	0.0026	
Aldrin	3/5	NA	0.00049 - 0.00093	0.00019	0.00128	2
Endrin	3/5	0.00023	0.00023 - 0.00059	0.041	ND	1
*Heptachlor epoxide	5/5	NA	0.00026 - 0.0025	0.00035	0.00074	

Notes:

*	=	Retained as a chemical of potential concern based on comparison to screening value and reference concentration.
1	=	Does not exceed the screening value.
2	=	Does not exceed the reference concentration.
3	=	Chemical is considered an essential human nutrient.
NA	=	Not applicable.
ND	=	Not detected.

10.4.4.1 Characterization of Exposure Setting

Physical Setting

NAS Pensacola is a 5,800-acre facility on the western edge of the Florida panhandle, on a peninsula bounded by Pensacola Bay to the east and south and Bayou Grande to the north. Site 2 is on the southeastern shoreline of NAS Pensacola, along the Pensacola Bay waterfront. Site 2's location is shown on Figure 2-1. This site is the area of nearshore sediments along the southeast NAS Pensacola waterfront, where numerous sewer outfalls exist. The southeast waterfront is dominated by a protective seawall containing numerous seaplane ramps, with large adjacent paved parking aprons. The history and background of Site 2 are detailed in Section 2 of this RI.

Climate — NAS Pensacola has a mild, subtropical climate with average annual temperature ranges from 55°F in the winter to 81°F in the summer. Extremes in temperatures can range from less than 7°F in the winter to more than 102°F in the summer. November is the driest month of the year, with an average rainfall of 3.2 inches based on climatological data from 1962 to 1991. Annual rainfall averages approximately 60 inches, with the highest amounts in July and August. During the spring and fall, rainfall is the lowest (an average of 4 inches per month).

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

Hydrogeology — Three main regional hydrogeologic units have been identified/defined within the stratigraphy beneath the Florida Panhandle. In descending order the units are the Surficial/Sand-and-Gravel Aquifer, the Intermediate System, and the Floridan Aquifer System. The surficial aquifer is composed of unconsolidated clastic deposits approximately 300 feet thick at NAS Pensacola. Referred to as the Sand-and-Gravel Aquifer, it is used as a major source of drinking water in locations other than NAS Pensacola (SEGS 1986). Because Sand-and-Gravel Aquifer is the uppermost unit contiguous with land surface and receiving recharge through direct infiltration, it is susceptible to contamination from surface activities. Neither the Sand-and-Gravel Aquifer nor the deep water-bearing zone is used as a potable water source within the boundaries of Site 2. The deep aquifer is used to derive industrial process water at NAS Pensacola locations other than Site 2.

Site groundwater is downgradient from NAS Pensacola RI Site 38. Site 38 data were compared to Site 2 data in Section 7 of this RI, and no COPCs identified in the Site 38 RI were identified as COPCs for Site 2. Although these observations cannot definitely prove that Site 38 contaminants have not migrated, they do show that any resultant impacts at Site 2 are not quantifiable due to dilution effects.

10.4.4.2 Potentially Exposed Populations

Under current land use conditions at Site 2, access onto NAS Pensacola is restricted, but collection and ingestion of cooked crabs (obtained at Site 2) is a viable exposure pathway. An assumption was made that a current or future land use receptor crabbing in the area, exposed via the tissue ingestion exposure pathway, would be limited to six months per year. FDEP and USEPA were contacted (February 2, 1995, and February 14, 1995, telephone conversations with David Clowes and Glenn Adams, respectively) regarding Florida- and USEPA Region IV-specific shellfish tissue ingestion rate assumptions. No specific ingestion rate was available but information provided by these individuals indicates many states recommend 6.5 gallons per day as an ingestion rate assumption. Since no state- or USEPA Region IV-specific ingestion rates were available and the consumption rate of fish and shellfish might be higher in a coastal area, 20 gallons per day was selected as a more appropriate and conservative ingestion rate for blue crabs. Blue crab was selected as an indicator for potential bioaccumulation effects from Site 2 chemicals because blue crab ingestion is currently a viable exposure pathway. Because crabs were sampled just prior to migration into the gulf for seasonal spawning, bioaccumulation would be expected to be at its peak.

At this time, there are no reported plans to decommission NAS Pensacola or substantially alter Site 2. Because Site 2 is expected to remain accessible to the general public by boat regardless of any potential construction activities, current and future land use are assumed to be equivalent. As a result, existing exposure scenarios are expected to continue unaltered for the foreseeable future.

10.4.4.3 Identification of Exposure Pathways

As previously mentioned, the tissue ingestion exposure pathway was selected as a highly conservative indication of potential risk at Site 2 for two primary reasons: because the potential for bioaccumulation of contaminants in blue crabs and because these organisms are currently harvested in Pensacola Bay for consumption. Surface water and sediment were sampled and analyzed, and the results were detailed in Section 7 of this RI. The areas along the seawall are not suitable for recreational swimming, and a shipping channel traverses the area near Site 2. As discussed in Section 7, Site 2 surface waters are not impacted, based on the comparison to Florida-specific benchmarks. It would be difficult at best to identify the source of any contamination identified in Pensacola Bay. Surface water and sediment exposure were not addressed in this BRA due to the comparison to background, tidal influences, and conditions not conducive to swimming. Complete exposure pathways are known to currently exist at Site 2 for nonsubsistence fishermen crabbing in the Site 2 area. Table 10-10 lists the potential pathways of exposure to chemicals detected in tissues evaluated during the BRA and details regarding the rationale for exposure pathway selection/rejection for the respective media.

10.4.4.4 Exposure Point Concentrations

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

Table 10-10
Exposure Pathways Summary
NAS Pensacola Site 2
Pensacola, Florida

Potentially Exposed Population	Medium and Exposure Pathway	Pathway Selected for Evaluation	Reason for Selection or Exclusion
Potential Future Land Use — Site Worker	Air — Inhalation of gaseous contaminants emanating from soil	No	The gaseous air pathway not is considered due to the media sampled; Site 2 is in Pensacola Bay
	Air — Inhalation of chemicals entrained in fugitive dust	No	Surface soil is nonexistent; Site 2 is in Pensacola Bay
	Groundwater — Ingestion of contaminants during potable or general use	No	Groundwater is not currently used as a source of potable or industrial water at Site 2; Site 2 is in Pensacola Bay
	Groundwater — Inhalation of volatilized groundwater contaminants	No	Groundwater is not currently used as a source of potable or industrial water at Site 2; Site 2 is in Pensacola Bay
	Soil — Incidental ingestion All soil depth intervals	No	Surface soil is nonexistent; Site 2 is in Pensacola Bay
	Soil — Dermal contact All soil depth intervals	No	Surface soil is nonexistent; Site 2 is in Pensacola Bay
	Sediment — Incidental ingestion	No	Although Pensacola Bay is characterized as a recreational water body, Site 2 is near a shipping lane and docking bays. Swimming would not be expected to occur here.
	Sediment — Dermal contact	No	Although Pensacola Bay is characterized as a recreational water body, Site 2 is near a shipping lane and docking bays. Swimming would not be expected to occur here.
	Surface Water — Incidental ingestion	No	Although Pensacola Bay is characterized as a recreational water body, Site 2 is near a shipping lane and docking bays. Swimming would not be expected to occur here

Table 10-10
Exposure Pathways Summary
NAS Pensacola Site 2
Pensacola, Florida

Potentially Exposed Population	Medium and Exposure Pathway	Pathway Selected for Evaluation	Reason for Selection or Exclusion
Potential Current and Future Land Use – Site Recreationists (Child and Adult)	Air — Inhalation of gaseous contaminants emanating from soil	No	The gaseous air pathway is not considered due to the media sampled; Site 2 is in Pensacola Bay
	Air — Inhalation of chemicals entrained in fugitive dust	No	Surface soil is nonexistent; Site 2 is in Pensacola Bay
	Groundwater — Ingestion of contaminants during potable or general use	No	Groundwater is not currently used as a source of potable or industrial water at Site 2; Site 2 is in Pensacola Bay
	Groundwater — Inhalation of volatilized contaminants during domestic use	No	Groundwater is not currently used as a source of potable or industrial water at Site 2; Site 2 is in Pensacola Bay
	Soil — Incidental ingestion	No	Surface soil is nonexistent; Site 2 is in Pensacola Bay
	Soil — Dermal contact	No	Surface soil is nonexistent; Site 2 is in Pensacola Bay
	Surface Water — Incidental ingestion during recreational activities	No	Although Pensacola Bay is characterized as a recreational water body, Site 2 is near a shipping lane and docking bays. Swimming would not be expected to occur here.
	Sediment — Incidental ingestion	No	Although Pensacola Bay is characterized as a recreational water body, Site 2 is near a shipping lane and docking bays. Swimming would not be expected to occur here.
	Sediment — Dermal contact	No	Although Pensacola Bay is characterized as a recreational water body, Site 2 is near a shipping lane and docking bays. Swimming would not be expected to occur here.
	Fish and shellfish — Ingestion of species obtained from contaminated surface water	Yes	Edible aquatic species were identified at Site 2; this exposure pathway was selected as the primary pathway of concern; tissues could be sink for any low-concentration level sediment and surface water contamination not detected due to the limitations of present-day analytical technology (quantitation limits); bioaccumulation could result in elevated concentrations; and these potentially elevated concentrations should be assessed
	Wild game or domestic animals — Ingestion of tissue-impacted by media contamination	No	Exposure to additional species was not evaluated in this BRA.

Table 10-10
Exposure Pathways Summary
NAS Pensacola Site 2
Pensacola, Florida

Potentially Exposed Population	Medium and Exposure Pathway	Pathway Selected for Evaluation	Reason for Selection or Exclusion
	Fruits and vegetables — Ingestion of plant tissues grown in contaminated media	No	Surface soil is nonexistent; Site 2 is in Pensacola Bay. The presence of aquaculture and mariculture is extremely low in the Pensacola Bay area.

Notes:
As shown by the table above, the ingestion of tissue exposure pathway was selected as an indicator of potential risk. This exposure pathway would be expected to serve as a sink for environmental contaminants, and these contaminants could bioaccumulate in the tissues. Because detected concentrations would potentially be greater in tissues than in other media and this exposure pathway is viable, no additional exposure pathways were addressed.

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

USEPA Region IV recommends assuming lognormal distributions for environmental data and the calculation of 95% UCL of the mean for use in exposure quantification. Because of the uncertainty associated with characterizing potentially nonhomogeneous areas, both the mean (natural log transformed) and the UCL on the mean for a lognormal distribution are reported for each COPC identified in Site 2 tissue samples. In general, outliers have been included in calculating the UCL because high values seldom appear as outliers for a lognormal distribution.

Including outliers increases the overall uncertainty of the calculated risks and increases the estimate of the risk conservatively. Although the UCL was calculated and presented in this BRA, no UCL is used because the number of samples is less than 10. Therefore, these UCLs have been included for reference only.

The UCL was calculated for a lognormal distribution as follows:

$$UCL = e^{\{\bar{a}+(0.5s_y^2)+[(H_{0.95})*(s_y)/(n-1)^{0.5}]\}}$$

where:

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

The calculated values for upper 95% confidence limit are presented in Table 10-11 for COPCs identified in Site 2 tissues. The table also statistically summarizes COPCs identified in tissues at Site 2, which includes the frequency of detection, mean and standard deviation of the natural log transformed data, the H-statistic, the maximum of detected concentrations, default concentrations (discussed below) and the reference criterion, where applicable for each COPC. The maximum of positive detections of each COPC-identified tissue was used to compute the corresponding risk/hazard. The value to be applied in subsequent exposure assessments as the EPC is designated for reference.

Analytical results are presented as "nondetects" whenever chemical concentrations in samples do not exceed the detection or quantitation limits for the analytical procedures. Generally, the detection limit is the lowest concentration of a chemical that can be quantified above the normal, random noise of an analytical instrument or method. To apply the above-mentioned statistical procedures to a data set with reported "nondetects," it was assumed that the chemical was present

Table 10-11
Statistical Analysis of COPC Detected in Crab Tissue Samples
NAS Pensacola, Site 2
Pensacola, Florida

Chemical	n	Natural Log Transformed mean	Natural Log Transformed SD	H-Stat	UCL (mg/kg)	Maximum Detect Concentration (mg/kg)	Reference Concentration (mg/kg)
Copper	5	1.798	0.490	2.917	13.9	14.5	ND
Silver	5	-0.544	0.357	2.544	0.975	1.1	ND
Zinc	5	3.741	0.261	2.322	58.99	59.1	58.4
4,4'-DDD	5	-1.134	0.310	2.427	0.00049	0.00056	ND
4,4'-DDE	5	0.633	0.911	4.525	0.022	0.0065	0.0026
4,4'-DDT	5	1.343	0.620	3.364	0.013	0.0096	0.0026
Endrin	5	-1.392	0.793	4.034	0.0017	0.00059	ND
Heptachlor epoxide	5	-0.429	0.904	4.497	0.0075	0.0025	0.00074

Notes:

n = Number of samples
mean = Arithmetic mean or average of detected concentrations including default concentration
SD = Standard deviation for a sample of a population of data.
H-stat = "H" statistic from Gilbert 1987; cuboidal interpolation was used to determine the value in accordance with USEPA Guidance, Calculating the Concentration Term.
ND = Not detected in background.
UCL = 95% Upper Confidence Level Mean.

at a default concentration. One-half of the lowest sample quantitation limit and one-half the lowest reported hit for the specific medium were compared, and the lesser of the two values was used as the default concentration. This default concentration was inserted into all reported "nondetects," and the UCL was statistically calculated for this data set. Use of this algorithm as suggested in RAGS Part A is a reasonable compromise between use of zero and the sample quantitation limit to reduce the bias (positive or negative) in the calculated UCL. Depending on the standard deviation and the number of samples, the UCL concentration is sometimes greater than the maximum concentration detected onsite.

10.4.4.5 Quantification of Exposure

This section describes the models, equations, and input parameter values used to quantify doses or intakes of the COPCs through the exposure pathways discussed in Section 10.4.4.3. The models are designed to estimate route- and medium-specific factors, which are multiplied by the EPC to estimate chronic daily dose. The intake model variables generally reflect 50th or 95th percentile values. When applied to the EPCs, these values ensure that the estimated intakes represent the reasonable maximum exposure (RME). Formulae were derived from RAGS, Part A, unless otherwise indicated.

Age-adjusted ingestion factors were derived for the potential future residential receptors (resident adult and resident child combined) for carcinogenic endpoints. These factors account for the difference in body weights and exposure durations for children ages 1 to 6, and others ages 7 to 31. The exposure frequency is assumed to be identical for a child and adult.

10.4.4.6 Ingestion of COPCs in Tissues

Quantification of the tissue ingestion pathway chronic daily intake (CDI) for COPCs identified in edible portions of blue crab tissues is estimated from the general equation:

$$I_t = (C_t)(IR)(FI)(EF)(ED)(CF)/(BW)(AT)$$

where:

I_t	=	ingested dose of COPC (mg/kg-day)
C_t	=	concentration of COPC in tissue (mg/kg)
IR	=	ingestion rate of tissue (mg/d)
FI	=	fraction of daily intake from contaminated source (unitless)
EF	=	exposure frequency (d/yr)
ED	=	exposure duration (yr)
BW	=	body weight (kg)
AT	=	averaging time (d)

Table 10-12 shows the exposure assumptions used in the formulae used to calculate the CDI for the tissue ingestion pathway based on a non-subsistence fishermen exposure scenario, and Figure 10-27 provides the formulae used. Tissue ingestion exposure parameters for each receptor, reflective of the RME, are listed beneath the formulae in the figure.

10.4.5 Toxicity Assessment

10.4.5.1 Carcinogenicity and Noncancer Effects

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

Table 10-12
Parameters Used to Estimate Potential Exposures for Future Land Use Receptors

Future Land Use

Pathway Parameters	Resident Adult	Resident Child	Units
Ingestion of Tissue			
Ingestion Rate	20,000[f]	2,000[f]	mg/day
Exposure Frequency	175[b]	175[b]	days/year
Exposure Duration	24[c]	6[c]	years
Exposure Duration$_{LWA}$	24[c]	6[c]	years
Body Weight	70[a]	15[a]	kg
AT-Noncancer	8,760[d]	2,190[d]	days
AT-Cancer	25,550[e]	25,550[e]	days

Notes:

a = USEPA (1989a) *Risk Assessment Guidance for Superfund Vol. I, Human Health Evaluation Manual (Part A)*."

b = Assumes a non-subsistence fisherman exposure frequency of 175 days per year.

c = USEPA (Nov, 1994) *RAGS Supplemental Guidance Bulletins.*

d = Calculated as the product of ED (years) x 365 days/year.

e = Calculated as the product of 70 years (assumed lifetime) x 365 days per year.

f = Specific guidance from USEPA Region IV (February 11, 1992 New Interim Region IV Guidance).

Figure 10-27

Formulae for Calculating CDI for Tissue

Tissue INGESTION PATHWAY

Non-Subsistence Fisherman (NSF) Scenario:

$$IF_{tissue/age1\text{-}6} = \frac{Ir_{tissue/age1\text{-}6} * EF_{res} * ED_{age1\text{-}6}}{Bw_{age1\text{-}6}}$$

$$IF_{tissue/age7\text{-}31} = \frac{Ir_{tissue/age7\text{-}31} * EF_{res} * ED_{age7\text{-}31}}{Bw_{age7\text{-}31}}$$

Variable	Description	Default Value
$Bw_{age1\text{-}6}$	average body weight ages1-6	15 kg
$Bw_{age7\text{-}31}$	average body weight ages7-31	70 kg
$Ed_{age1\text{-}6}$	exposure duration ages1-6	6 years
$Ed_{age7\text{-}31}$	exposure duration ages7-31	24 years
Ef_{res}	NSF exposure frequency	175 days/year
$Ir_{tissue/age1\text{-}6}$	tissue intake rate- ages 1-6	20,000 mg/day
$Ir_{tissue/age7\text{-}31}$	tissue intake rate- ages 7-31	20,000 mg/day

Noncarcinogens — Child-NSF Scenario:

$$CDI_{NC\text{-}C} = \frac{[C_t] * \{IR_{tissue/age1\text{-}6} *}{AT_{NC\text{-}C}}$$

Ingestion-child

Noncarcinogens — Adult-NSF Scenario:

$$CDI_{NC\text{-}A} = \frac{[C_t] * \{IR_{tissue/age7\text{-}31} *}{AT_{NC\text{-}A}}$$

Ingestion-adult

Carcinogens — Child- and Adult- NSF Scenario:
(lifetime weighted average = $IF_{tissue/age1-6} + IF_{tissue/age7-31}$):

$$CDI_C = \frac{C_t * \{(IF_{age1-6} + IF_{age7-31}) *}{AT_C}$$

Ingestion-age adjusted

Note: The formulae above are separated for ease of understanding.

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

For carcinogens, the potential risk posed by a chemical is computed by multiplying the CDI (as mg/kg-day) by the SF (in reciprocal mg/kg-day). The hazard quotient (for noncarcinogens) is computed by dividing the CDI by the RfD. The USEPA has set standard limits (or points of departure) for carcinogens and noncarcinogens to evaluate whether significant risk is posed by a chemical (or combination of chemicals). For carcinogens, the point-of-departure range is 1E-6 with a generally excepted range of 1E-4 to 1E-6. These risk values correlate with 1 in 10,000 and 1 in 1 million excess cancer incidence resulting from exposure to xenobiotics.

For noncarcinogens, other toxic effects are generally considered possible if the hazard quotient (or sum of hazard quotients for a pathway – that is, the hazard index) exceeds unity (a value of 1). Although both cancer risk and noncancer hazard are generally additive (within each target organ/effect group) only if the target organ is common to multiple chemicals, a most conservative estimate of each may be obtained by summing the individual risks or hazards regardless of target organ. This BRA has taken the universal summation approach for each class of toxicant.

Table 10-13 summarizes toxicological data in the form of RfDs and SFs obtained for each COPC identified in Site 2 media. Critical studies used to establish USEPA toxicity classifications by USEPA are shown in the Integrated Risk Information System (IRIS) database (primary source) and/or Health Effects Assessment Summary Tables (HEAST) Fiscal Year 1994 (secondary source). In addition, the USEPA Region III, RBC Tables, Third Quarter 1994 were found to contain toxicological values not listed in primary or secondary sources. Where applicable, these values were also included in the data base for this BRA.

Table 10-13
Toxicity Data Base Information (in mg/kg)
NAS Pensacola — Site 2
Pensacola, Florida

Chemical	RfDo	RfDi	Sfo
Copper	3.71E-02 b	NA	NA
Silver	5.00E-03 a	NA	NA
Zinc	3.00E-01 a	NA	NA
4.4'-DDD	NA	NA	2.40E-01 a
4.4'-DDT	5.00E-04 a	NA	3.40E-01 a
Heptachlor epoxide	1.30E-05 a	NA	******** a

Notes:
a = The parameters above were listed in the information system (IRIS).
b = The parameters above were listed in the assessment summary Tables (HE)

10.4.5.2 Toxicity Profiles for COPCs at Site 2

As required for BRAs by USEPA Region IV, brief toxicological profiles are included for all COPCs. Most information for these profiles was gleaned from IRIS as a primary source, and HEAST, as mentioned in the preceding text and toxicological data base information table. Another primary source of information was USEPA's Screening Concentration Table. Any additional references are noted specifically in the briefs below (in parentheses). The profiles summarize adverse effects of COPCs and the amount of the COPC associated with adverse effects.

This means that the inhalation reference dose (RfDi), oral reference dose (RfDo), inhalation slope factor (SFi), and oral slope factor (SFo) are included in the discussion where applicable.

Copper is a nutritionally essential element, necessary for many of the body's enzymes. In the past, lead pipes and solder were used for residential water pipes, and resulting lead concentrations in drinking water exceeded the guidelines set by the USEPA. Copper has been used to replace water pipes in residences due to its lower toxicity to man. Short-term exposure to copper can result in anemia (the lack of iron), the breakdown of red blood cells, and liver and kidney lesions. The target organs for copper are the liver, kidney, and red blood cells. Vitamin C reduces copper uptake from the gut, and other substances can also influence copper uptake. Copper fumes can cause metal fume fever. The RfD set by the USEPA for copper is 0.0371 mg/kg-day, which is 2.6 mg/day for the average adult (70 kg). In typical vitamin supplements, 2 mg/day is the approximate dose (NRC 1989) (Klaassen et al., 1986).

Silver is an element often found in marine sediments. Salts of this element can cause blackening of mucous membranes and eventually the skin. If exposure is not interrupted, there is no cure for the darkened pigmentation. USEPA determined that the RfDo is 0.005 mg/kg-day.

Zinc is an essential, ubiquitous element present in food, water, and soil. The average American daily intake is approximately 12 to 15 mg, and the recommended daily allowance (RDA) is 15 mg. Excessive exposure to zinc is relatively uncommon and requires exposure to high concentrations. This element does not accumulate under chronic exposure conditions, and body content is self-regulated by zinc liver concentrations and absorption mechanisms. Inhalation of zinc dust can cause metal fume fever, and the primary effect of zinc ingestion (at toxic concentrations) is gastrointestinal disturbance and irritation. Other effects on the blood, liver, and kidney are possible at higher concentrations. Twelve grams of elemental zinc per day were not shown to elicit effects other than gastrointestinal disturbances over two days. Experimental animals have been given 100 times the dietary requirements without discernible effects. USEPA determined that the RfDo is 0.3 mg/kg-day (Klaassen et al., 1986).

Heptachlor epoxide, a pesticide, causes increased liver-to-body weight ratio in beagles. As a result of this testing, USEPA determined the RfDo to be 0.000013 mg/kg-day. In addition, this pesticide is a B2 carcinogen, and USEPA determined the SFo to be 9.1 $(mg/kg\text{-}day)^{-1}$ IRIS.

4,4'-DDT was used historically as a pesticide, and because of its toxicity and tendency to accumulate in fats, use of this chemical was discontinued in the United States. DDT is a B2 cancer class chemical, having formed tumors in various mouse studies. Noncarcinogenic toxic effects in the form of liver lesions have also been identified by USEPA. Liver was used as the critical target organ and effect in DDT studies, which led USEPA to determine the RfDo to be 0.0005 mg/kg-day. The SFo was determined to be 0.34 $(mg/kg\text{-}day)^{-1}$ IRIS.

4,4'-DDD, a by-product of the pesticide DDT, is a compound typical of halobenzene derivatives. It is soluble in fat, but not in water, and its target organ is the brain. This analogue of DDT is the least toxic of the three primary DDT analogues (i.e., the least likely to cause cancer). Other DDD effects could include cell death in the liver, fatty change of heart muscles, and kidney damage. In a study mentioned in Dreisbach, et al., no adverse health effects were observed in workers exposed to DDT with up to 648 ppm DDT in their body fat. If an individual loses body fat, DDD concentrations are not stored at sufficient concentrations to induce toxic effects. This compound is listed as a B2 carcinogen, and USEPA set the SFo for DDD to 0.24 $(mg/kg\text{-}day)^{-1}$ (Dreisbach et al., 1987).

10.4.6 Risk Characterization

Risk characterization combines the results of the exposure assessment and toxicity assessment to yield qualitative and quantitative expressions of risk for the potentially exposed receptors. The risk characterization is used to guide risk management decisions. The quantitative component expresses the probability of developing cancer, or is a nonprobabalistic comparison of estimated dose with a reference dose for noncancer effects. These quantitative estimates are developed for individual chemicals, exposure pathways, transfer media and source media, and for each receptor for all media to which one may be exposed. The qualitative component usually involves comparing COPC concentrations in media with established criteria or standards for chemicals for which there are no suitable toxicity values.

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

This section characterizes the potential health risks associated with the intake of chemicals originating from Site 2. The methods are used to estimate the types and magnitudes of health effects associated with exposure to chemicals.

10.4.6.1 Risk Characterization Methodology

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

10.4.6.2 Carcinogenic Effects of Chemicals

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

$$ILCR = (CDI)(SF)$$

where

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

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

where

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

where

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

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

10.4.6.3 Noncarcinogenic Effects of Chemicals

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

$$HQ = I/RfD$$

where

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

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

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

$$HI = I_1/RfD_1 + I_2/RfD_2 + \ldots I_i/RfD_i$$

where

HI	=	Hazard Index (unitless)
I_i	=	Intake for the ith toxicant
RfD_i	=	Reference dose for the ith toxicant

10.4.6.4 Tissue Pathway

Exposure to tissues collected at Site 2 was evaluated under one scenario: current and future site NSF ingesting shellfish 20 g/day for 175 days per year. For noncarcinogenic contaminants evaluated relative to future site residents, hazard computations were performed separately to address child and adult exposure. Child and adult exposure to potential carcinogens were combined as a lifetime weighted average to calculate ILCR.

Table 10-14 presents the calculated risk and hazard for the tissue exposure pathways. As shown in the tables below, an ILCR of 3E-6 (rounded) was identified for the possible carcinogens detected onsite. HIs of 0.7 and 0.2 were calculated for child and adult exposure to Site 2 tissues, respectively. The primary contributor to ILCR was heptachlor epoxide, and the primary contributor to HI was copper. No COCs were identified for this exposure pathway. Because the ILCR for heptachlor epoxide exceeded 1E-6, it is important to note that the calculations were based on the maximum concentration detected in Site 2 blue crab tissues. An ILCR based on the arithmetic average tissue concentration reported for heptachlor epoxide (0.00092 mg/kg) would not exceed the most stringent USEPA and FDEP threshold (1E-6).

10.4.7 Risk Uncertainty

This section presents and discusses the uncertainty inherent in the risk assessment process in addition to medium- and exposure pathway-specific influences. Risk assessment sections are discussed separately below. Specific examples of uncertainty sources are included where appropriate.

General

Uncertainty is a factor in each step of the exposure and toxicity assessments presented in the preceding sections. Overall, uncertainties associated with the initial stages of the risk assessment process become magnified when they are combined with other uncertainties. For example, the use

Table 10-14
Risk Projections for COPCs Based on Tissue Ingestion
NAS Pensacola — Site 2
Pensacola, Florida

			Potential Future Use		
Chemical	**RfD used (mg/kg-day)**	**SF used (mg/kg-day)**	**HQ Child — nc**	**HQ Adult — nc**	**ILCR lwa — c**
Copper	0.0371	NA	0.2	0.09	NA
Silver	0.005	NA	0.1	0.05	NA
Zinc	0.3	NA	0.1	0.05	NA
4'4'-DDD	NA	0.24	NA	NA	1.4E-08
4'4'-DDT	0.0005	0.34	0.01	0.005	3.3E-07
Heptachlor epoxide	0.000013	9.1	0.1	0.05	2.3E-06
Hazard Indices			0.7	0.2	
Sum ICLR					3E-06

Notes:
HQ = Hazard quotient
ICLR = Incremental lifetime excess cancer risk
LWA = Lifetime weighted average
child = Childhood exposure assumptions
adult = Adult exposure assumptions
nc = Noncarcinogen-based exposure assumptions
c = Carcinogen-based exposure assumptions
SF = Slope factors

of the 95th percentile UCL as the EPC is a method of reducing uncertainty with respect to falsely concluding that insignificant risk is posed. However, a safety factor based on the standard deviation and number of samples is included in the UCL. During the risk characterization process, individual chemical risk is added to determine the incremental excess cancer risk for each exposure pathway. Calculation of individual risk projections were based on the UCL. The safety factor of the incremental risk is the sum of all the individual safety factors. This multiplicative influence on conservatism, which is inherent in the risk assessment process, is also evident in the uncertainty factor and modifying factor applied to RfDs. It is not possible to eliminate all uncertainties; however, recognizing the uncertainties is fundamental to understanding and subsequently using risk assessment results.

This section presents the uncertainty of site-specific and medium/pathway-specific factors introduced as part of the risk assessment process, in addition to other factors influencing the uncertainty of the calculated incremental excess cancer risks and hazard quotients/indices. It is important to note that the exposure assumptions for the tissue ingestion pathway selected in Section 10.4.4, Exposure Assessment, are highly conservative when compared to ingestion rates typically recommended by many states' risk assessment guidance. Assumptions are made as part of the risk assessment process based on population studies and USEPA guidance. This guidance divides the assumptions into two basic categories: the upper-bound (90 to 95th percentile) and the mean or 50th percentile (central tendency) exposure assumptions. As discussed in Section 10.4.4, the RME exposure is based on the upper-bound assumptions. Therefore, risk/hazard calculated using RME exposure assumptions is generally overestimated rather than underestimated. The following paragraphs discuss sources of uncertainty pertinent to the exposure pathway evaluated.

Risk-Based Screening

Prior to addressing risk/hazard for all chemicals detected, screening values were compared to focus the BRA on COPCs which may individually pose a threat to human health. The maximum concentration detected in tissues was compared to the corresponding screening value. As discussed previously in this BRA, the comparison used the most conservative screening value provided by USEPA Region III, USEPA Region IV, and FDEP for tissue ingestion. Using the maximum concentrations, along with the low range risk/hazard thresholds, eliminates much of the uncertainity associated with the potential for adverse cumulative effects. In addition, few COPCs were identified as a result of the screening comparison.

Comparison to Reference Concentrations (Background)

Because the BRA's objective is to estimate the excess cancer risk or health hazard posed by COPCs, reference concentrations were compared after comparison to screening values. The maximum concentration detected for each chemical which exceeded its corresponding screening value was compared to two times the reference concentration, if available. Low frequency of detection could indicate a contaminant should not be addressed in the BRA. However, all detected chemicals which failed both screening comparisons were included as COPCs. Using this conservative screening approach, COPCs were further evaluated for frequency of detection or consideration relative to essential nutrient status, where necessary, as part of the medium-specific uncertainty discussions. Other sources of uncertainty are discussed below.

Additional uncertainty is introduced by comparing site data to nonspecific screening values reference data. This uncertainty stems from the use of reference concentrations obtained from a limited number of samples and locations. The limited number of samples and sample locations increases the uncertainty because natural variability in media composition may not be fully characterized. Tidal influences on surface water and sediments in Pensacola Bay could change surface water and sediment composition daily, and storms could significantly alter these media. Blue crabs are almost continuously exposed to surface water and sediment. These organisms lack the enzyme necessary to metabolize some organic contaminants, and the bioaccumulation potential for many semivolatiles is higher for this species. As previously discussed, blue crabs were selected as an indicator of risk and hazard for the current and future use NSF receptor. Use of this ingestion exposure pathway for Site 2 is an upper-bound estimate of human exposure to COPCs.

Quality of Data

As described in previous sections of this RI report, the DQO was CLP Level IV for all Site 2 RI sampling. Uncertainty is, however, inherent in a report based on five sample locations. Areas conducive to creating a localized contaminant sink (i.e., TOC, grain size, etc.), were targeted with a biased sampling effort to reduce uncertainty and to err toward conservatism as suggested in RAGS Part A.

Due to conditions in Pensacola Bay, saltwater should be considered a source for typical seawater constituents. The inorganic COPCs (copper, zinc, and silver) are commonly detected in seawater, sediment, and marine organisms. Naturally occurring elements can be present at concentrations in edible marine organisms to such an extent that hematologic analysis can detect elevated concentrations in individuals who frequently eat seafood.

One duplicate tissue sample was collected and analyzed for the tissue data set, and the maximum concentration of any contaminant was used as the applicable concentration for the 002-J-0005 sample location. Comparing duplicate sample results indicates that uncertainty present in using the maximum of the concentrations could result in overestimating the ICLR and hazard index. For example, heptachlor epoxide was detected at 0.45 and 2.5 mg/kg in samples 002-J-0005-00 and 002-J-0005-01 tissues. The maximum concentration detected for heptachlor epoxide was 2.5 mg/kg, and as is evident by the duplicate sample results, the concentration ranges from 2.5 mg/kg down to 18% of the maximum detected at one sample location.

The arithmetic mean concentrations are listed below in mg/kg:

- copper 6.78
- silver 0.62
- zinc 43.3
- 4,4'-DDD 0.00034
- 4,4'-DDT 0.0045
- heptachlor epoxide 0.00092

For a detailed description of Site 2 data, refer to Section 7 of this RI.

Characterization of Exposure Setting and Identification of Exposure Pathways

Uncertainty in the exposure assumptions and pathways is due to the use of the high intake rate selected for shellfish consumption and the extremely conservative exposure frequency (175 days per year). NSF receptors would not be likely to have two crab boils per week during crabbing season, which is much less than 175 days per year. The corresponding exposure assumptions and risk projections are, therefore, highly conservative. Site 2 is accessible by boat, and crabbing does occur. Crabbing in the area will remain unrestricted for the foreseeable future, so the crab ingestion exposure pathway was an appropriate, conservative estimate of upper-bound risk potentially related to Site 2. The exposure assumptions would result in an overestimate of risk/hazard under anticipated use conditions.

Determination of Exposure Concentrations

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

Statistical Estimation of Exposure Point Concentrations

USEPA provided supplemental guidance which outlines a statistical estimation of EPC. These calculated concentrations are 95% UCL, which are based on certain assumptions. USEPA assumes that most (if not all) environmental data are lognormally distributed. Uncertainty exists in this assumption because many environmental data are neither normally nor lognormally distributed. Generally, the UCL does not apply to data sets with fewer than 10 samples. As a result, the maximum concentration detected in edible portions of Site 2 blue crab tissues was used as the EPC for all COPCs. The UCL was presented for comparison only, and the uncertainty in using UCLs is discussed below.

The UCL calculation is provided in the *Supplemental Guidance to RAGS: Calculating the Concentration Term*, May 1992. This calculation includes the H-statistic, which is based on the number of samples analyzed for each COPC and the standard deviation of the results. To obtain this number, the value is interpolated (estimated) from a table. The equation for the H-statistic has not been provided in the supplemental guidance, nor does the document referenced in the guidance provide the equation. Although the statistic appears to be nonlinear, a linear assumption was made to facilitate interpolation of the statistic for each COPC addressed in the BRA.

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

As previously discussed, the statistical determination used in this assessment should not be applied to data sets with fewer than 10 samples. Uncertainty was reduced slightly by analyzing approximately five crabs per sample location. However, using maximum concentrations is an overly conservative estimation of risk. It is doubtful that the mean concentration in all blue crabs living in and around Site 2 exceeds the 1 hazard quotient and 1E-6 ILCR threshold.

Although RAGS does not advocate the use of worst-case scenarios or maximum concentrations as EPCs, the use of the H-statistic often necessitates the use of the reported maximum concentration as EPC. Whichever number is smaller, either the maximum concentration or the UCL, is used as the EPC for data sets with more than 10 samples. However, the maximum concentration detected in blue crab tissues was used as EPC in this BRA. Summation of risk based on maximum concentrations leads to overestimating risk/hazard, especially in the case of low detection frequency or spatially segregated COPCs. No COC was identified, despite the highly conservative use of maximum detected concentrations.

Frequency of Detection and Spatial Distribution

Because of the influence of the standard deviation on EPC, low frequency of detection can cause COPCs to be inappropriately addressed in the risk assessment. More specifically, COPCs detected only once or twice in all samples analyzed would be expected to have relatively higher standard deviation as concentration variability or range widens. The samples analyzed were those in which concentrations exceeded the RBCs and reference concentrations. Higher standard deviation results in a high H-statistic, which typically leads to a UCL greater than the maximum concentration detected onsite. If that is the case, then the use of the UCL or maximum concentration detected as EPC (or possibly the inclusion of the COPC in question) may not be appropriate when the EPC is assumed to be ubiquitous. Specific frequency of detection uncertainty is discussed on a medium-specific basis in subsequent paragraphs.

For example, if 10 chemicals were detected at relatively high concentrations at two of 10 separate locations, and these three locations were the only sample locations where the chemicals were detected, the 95% UCL would likely be greater than the maximum concentrations (due to a high H value). In cases where the UCL is greater than the maximum concentration, the maximum concentration is used as the exposure point concentration in the risk assessment. The use of three maximum concentrations to calculate risk, and the sum of the risks, would skew the risk assessment to increased risk levels under the selected exposure scenarios. The likelihood that a receptor is simultaneously exposed to maximum concentrations at several locations is infinitesimally small.

Toxicity Assessment Information

There is a generally recognized uncertainty in human risk values developed from experimental data primarily due to the uncertainty of data extrapolation in the areas of: (1) high- to low-dose exposure and (2) animal data to human experience. The site-specific uncertainty is mainly in the degree of accuracy of the exposure assumptions. Most of the assumptions used in this and any risk assessment have not been verified. For example, the degree of chemical absorption from the gut or through the skin or the amount of soil contact is not known with certainty. Generally accepted default values provided in USEPA guidance were used. However, little guidance or data are available on the interaction and biologic fate of the COPCs identified in this BRA. Possible reactions during cooking processes were not considered, and it was assumed that the oral-based human toxic responses would not be altered by individual receptors' gastrointestinal systems.

Uncertainty factors assigned to the toxicity values used in this BRA account for acute to chronic dose extrapolation, study inadequacies, and sensitive subpopulations, among other factors. Although uncertainty factors for a specific compound may be 1,000 or higher, these safety factors are applied by USEPA to assist in guaranteeing the overall assessment of risk/hazard is conservative toward human health concerns. In the presence of such uncertainty, the USEPA and the risk assessor are obligated to make conservative assumptions, so the chance is very small for the actual health risk to be greater than what is determined through the risk assessment process. On the other hand, the process is not to yield absurdly conservative risk values that have no basis in reality. This balance was kept in mind in developing exposure assumptions and pathways and in interpreting data and guidance for this BRA.

Evaluation of Chemicals for Which No Toxicity Values Are Available

In addition to the typical uncertainties inherent in toxicity values, parameters which do not have corresponding RBCs due to the lack of approved toxicological values do not apply to the COPCs for the tissue ingestion exposure pathway.

10.4.8 Risk Summary

The human health risk and hazard associated with exposure to environmental media at NAS Pensacola Site 2 was assessed for hypothetical current and future (combined) child, and hypothetical current and future (combined) adult recreationists crabbing exclusively at Site 2. The tissue ingestion exposure pathway was selected as an indicator of potential human health risk, and because of the tidal influences of Pensacola Bay, sediment and surface water were not addressed. Based on the tissue data presented in this RI, no COCs were identified for this exposure pathway. As indicated by the discussions in Section 10.4.7, the uncertainty inherent in the risk assessment process is great, and the exposure assumptions are highly conservative. Based on the conservative exposure assumptions and inherent conservative nature of the risk assessment process, the calculations would be expected to overestimate risk.

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11.0 CONCLUSIONS AND RECOMMENDATIONS

This investigations's objectives were to identify the nature and extent of contamination in sediments, and to measure the influence of groundwater at Site 2 and determine risks to ecological and human receptors associated with identified contamination concentrations. The following sections summarize the findings and recommend remedial actions.

Historical records indicated that operations in facilities adjacent to Site 2 may have impacted the site from 1939 to 1973. These operations included painting, stripping, and cleaning airplanes, metal plating, and sanitary waste treatment. Industrial and sanitary wastes were discharged directly into Pensacola Bay at Site 2 via storm drains, trenches, and sewer outfalls. Other potential impacts may have occurred from vessel operations at the pier and docking facilities in the immediate area. Additionally, because of transport mechanisms characteristic of open bay systems such as Pensacola Bay, offsite sources may have impacted the site.

Sediment types across the site range from fine- to medium-grained sand, silty sand, and silty clays. A band of fine-grained sediment (clayey, silty sands to silty clays) extend from approximately 200 to 400 feet offshore. TOC values ranged from <0.01 to 0.22 percent; there was no apparent correlation between percent fine-grained sediment and TOC. Water depths across the site range from 3 to 27 feet.

The hydrodynamic regime of the area is characterized by tides, tidal currents, and waves. Tidal ranges are typically 2 feet or less but extreme tides may occur during storms. Tidal data collected in the area indicated that tides influence onshore groundwater flow characteristics, reversing the flow during high tide.

Considering the complex processes affecting contaminant transport, Site 38 is not likely a continuous source of contaminants to Site 2 at concentrations above risk-based action levels.

Sediment contamination was primarily in the northeast quadrant of the site. The metals cadmium, copper, lead, and zinc appear to be elevated when compared to natural concentrations. However, these elevated concentrations are not of a magnitude to indicate severe ecological risk to receptors in this marine habitat. Organic compounds including PAHs, pesticides, and PCBs were present, but limited distribution and overall concentrations do not indicate that risk to receptors is high or measurable. Overall, elevated concentrations along with a diverse mix of constituents indicates that four locations may be considered hotspots.

The human health risk and hazard associated with exposure to environmental media at NAS Pensacola Site 2 was assessed for hypothetical current and future (combined) child, and hypothetical current and future (combined) adult recreationists crabbing exclusively at Site 2. The uncertainty inherent in the risk assessment process is great, and the exposure assumptions are highly conservative. Based on the conservative exposure assumptions and inherent conservative nature of the risk assessment process, the calculations would be expected to overestimate risk to human receptors. No human health risks can be expected based on exposure scenarios developed for Site 2.

Effects to marine biota may have or are currently occurring as a result of sediment contaminant concentrations at some stations across Site 2. The impact of these effects to the overall marine ecosystem near Naval Air Station Pensacola would be difficult to measure. Benthic assemblages appear to have been altered at some stations as a result of higher chemical concentrations, but the limited spatial extent of these impacts may be imperceptible from a bay-wide perspective. Toxicity observed to fish and shrimp test organisms were from laboratory static-water test systems and therefore do not reflect potential mitigating effects from tidal mixing and water depth at Site 2.

It appears that use of the hazard quotient approach for risk assessment may be appropriate in conjunction with other ecological effects information. Although an HI of 10 for sediment contamination at Site 2 appears to indicate effects, this value may be inappropriate for other sites or ecosystem types.

It is recommended the a feasibility study be conducted to determine the most appropriate approach for dealing with the contaminated sediment.

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13.0 FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have read and approve of this Remedial Investigation Report, NAS Pensacola Site 2, 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:	Henry H. Beiro
License Number:	#1847
State:	Florida
Expiration Date:	July 31, 1998

Henry H. Beiro

Henry H. Beiro

22 December 1996

Date

Appendix A

Analytical Chemistry Data

Phase IIA

Surface Water Results

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Surface Water

Page: 1
Time: 15:18

METAL		002-W-00A1-01		002-W-00A1-02		002-W-00D1-00		002-W-00H5-01		002-W-00H5-02		002-W-00H5-03	
	SAMPLE ID ------->	002-W-00A1-01		002-W-00A1-02		002-W-00D1-00		002-W-00H5-01		002-W-00H5-02		002-W-00H5-03	
	ORIGINAL ID ----->	SW02A101		SW02A102		SW02D1		SW02H501		SW02H502		SW02H503	
	LAB SAMPLE ID --->	AB2462		AB2463		AB2545		AB2649		AB2650		AB2651	
	ID FROM REPORT -->	SW02A101		SW02A102		SW02D1		SW02H501		SW02H502		SW02H503	
	SAMPLE DATE ----->	11/30/93		11/30/93		12/01/93		12/02/93		12/02/93		12/02/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
AL	Aluminum	64.4		79.1		462.		79.1		78.8		120.	
SB	Antimony	111.	J	158.	J	177.		176.	J	141.	J	155.	
AS	Arsenic	2.	U	2.	U	2.	U	2.	U	2.	U	10.	U
BA	Barium	14.9		14.8		17.		13.3		13.6		13.4	
BE	Beryllium	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
CD	Cadmium	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
CA	Calcium	264000.	J	266000.	J	304000.	J	276000.	J	282000.	J	279000.	J
CR	Chromium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
CO	Cobalt	20.	U	20.	U	20.	U	20.	U	20.	U	20.	U
CU	Copper	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
CN	Cyanide	11.	U	10.	U	10.	U	10.	U	10.	U	10.	U
FE	Iron	35.1		51.5		495.		47.5		35.8		75.3	
PB	Lead	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
MG	Magnesium	1180000.		1050000.		1190000.		1060000.		1080000.		1090000.	
MN	Manganese	2.	U	2.	U	4.2		2.	U	2.	U	2.	U
HG	Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
NI	Nickel	20.	U	20.	U	20.	U	20.	U	20.	U	20.	U
K	Potassium	357000.		354000.		419000.		371000.		378000.		383000.	
SE	Selenium	2.	U	2.	U	10.	U	10.	U	10.	U	10.	U
AG	Silver	6.3		11.7		12.1		9.6		10.7		10.6	U
NA	Sodium	9270000.		8250000.		9260000.		8280000.		4000.	U	8580000.	
TL	Thallium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
V	Vanadium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
ZN	Zinc	5.	U	10.5		5.	U	5.	U	5.	U	5.	U

PENSACOLA, SITE 02
Primary Samples
Surface Water

METAL													
	SAMPLE ID -------->	002-W-00M5-01		002-W-00M5-02		002-W-00M5-03		002-W-00Q1-00		002-W-00X1-01		002-W-00X1-02	
	ORIGINAL ID ----->	SW02M501		SW02M502		SW02M503		SW02Q1		SW02X101		SW02X102	
	LAB SAMPLE ID --->	AB2998		AB3000		AB3001		AB3117		AB2818		AB2819	
	ID FROM REPORT -->	SW02M501		SW02M502		SW02M503		SW02Q1		SW02X101		SW02X102	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/07/93		12/08/93		12/06/93		12/06/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
AL	Aluminum	40.	U	65.2		56.7		46.3		50.8		40.	U
SB	Antimony	134.	J	138.	J	145.	J	95.8	J	168.	J	130.	J
AS	Arsenic	2.	U	10.	U	10.	U	10.	U	2.	U	2.	U
BA	Barium	14.6		14.4		14.2		15.3		13.2		12.5	
BE	Beryllium	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
CD	Cadmium	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
CA	Calcium	250000.	J	250000.	J	275000.	J	254000.	J	285000.	J	285000.	J
CR	Chromium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
CO	Cobalt	20.	U	20.	U	20.	U	20.	U	20.	U	20.	U
CU	Copper	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
CN	Cyanide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
FE	Iron	20.2		28.3		18.2		59.		17.7		55.9	
PB	Lead	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
MG	Magnesium	981000.		982000.		1070000.		982000.		1080000.		1120000.	
MN	Manganese	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
HG	Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
NI	Nickel	20.	U	20.	U	20.	U	20.	U	20.	U	20.	U
K	Potassium	327000.		324000.		368000.		338000.		384000.		389000.	
SE	Selenium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
AG	Silver	7.4	U	7.7		10.6		10.1		9.5		9.3	
NA	Sodium	7660000.		7680000.		8450000.		7740000.		8440000.		8750000.	
TL	Thallium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
V	Vanadium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
ZN	Zinc	10.8		5.	U	5.5		5.	U	5.	U	5.	U

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PENSACOLA, SITE 02
Primary Samples
Surface Water

METAL	SAMPLE ID ------->	002-W-00X1-03		002-W-00X3-01		002-W-00X3-02		002-W-00X3-03		002-W-00X4-01		002-W-00X4-02	
	ORIGINAL ID ----->	SW02X103		SW02X301		SW02X302		SW02X303		SW02X401		SW02X402	
	LAB SAMPLE ID --->	AB2820		AB3121		AB3122		AB3123		AB3349		AB3341	
	ID FROM REPORT -->	SW02X103		SW02X301		SW02X302		SW02X303		SW02X401		SW0X402	
	SAMPLE DATE ----->	12/06/93		12/08/93		12/08/93		12/08/93		12/09/93		12/09/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN032	VAL	PN033	VAL
AL	Aluminum	59.4		53.2		54.8		40.	U	45.3		40.	U
SB	Antimony	119.	J	146.	J	180.	J	116.	J	103.		154.	
AS	Arsenic	10.	U	10.	U	10.	U	10.	U	2.	U	2.	U
BA	Barium	14.6		15.1		14.9		13.9		15.4		15.6	
BE	Beryllium	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
CD	Cadmium	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
CA	Calcium	301000.	J	255000.	J	256000.	J	297000.	J	250000.		254000.	
CR	Chromium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
CO	Cobalt	20.	U	20.	U	20.	U	20.	U	20.	U	20.	U
CU	Copper	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
CN	Cyanide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
FE	Iron	52.3		12.2		10.	U	27.1		16.2		10.	U
PB	Lead	10.	U	10.	U	10.	U	10.	U	2.	U	2.	U
MG	Magnesium	1210000.		966000.		977000.		1190000.		831000.		842000.	
MN	Manganese	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
HG	Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
NI	Nickel	20.	U	20.	U	20.	U	20.	U	20.	U	20.	U
K	Potassium	413000.		337000.		338000.		410000.		317000.		320000.	
SE	Selenium	10.	U	10.	U	10.	U	10.	U	2.	U	10.	U
AG	Silver	9.3		10.6		8.		10.2		13.1		14.4	
NA	Sodium	9430000.		7630000.		7660000.		9310000.		200.	U	200.	U
TL	Thallium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
V	Vanadium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
ZN	Zinc	6.6		5.	U	5.	U	5.	U	5.	U	5.	U

*** Validation Complete ***

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Surface Water

METAL									
	SAMPLE ID ------->	002-W-00X4-02		002-W-00X4-03		002-W-00X4-03				
	ORIGINAL ID ----->	SW02X402		SW02X403		SW02X403				
	LAB SAMPLE ID --->	AB3350		AB3342		AB3351				
	ID FROM REPORT -->	SW02X402		SW02X403		SW02X403				
	SAMPLE DATE ----->	12/09/93		12/09/93		12/09/93				
	MATRIX ---------->	Water		Water		Water				
	UNITS ----------->	UG/L		UG/L		UG/L				
CAS #	Parameter	PN032	VAL	PN033	VAL	PN032	VAL			
AL	Aluminum	40.	U	101.	U	101.				
SB	Antimony	154.		137.		137.				
AS	Arsenic	2.	U	2.	U	2.	U			
BA	Barium	15.6		14.6		14.6				
BE	Beryllium	1.	U	1.	U	1.	U			
CD	Cadmium	5.	U	5.	U	5.	U			
CA	Calcium	254000.		295000.		295000.				
CR	Chromium	10.	U	10.	U	10.	U			
CO	Cobalt	20.	U	20.	U	20.	U			
CU	Copper	10.	U	10.	U	10.	U			
CN	Cyanide	10.	U	10.	U	10.	U			
FE	Iron	30.7		139.	U	139.				
PB	Lead	2.	U	10.	U	10.	U			
MG	Magnesium	842000.		983000.		983000.				
MN	Manganese	2.	U	2.	U	2.	U			
HG	Mercury	0.2	U	0.2	U	0.2	U			
NI	Nickel	20.	U	20.	U	20.	U			
K	Potassium	320000.		392000.		392000.				
SE	Selenium	10.	U	10.	U	10.	U			
AG	Silver	144.		12.7		12.7				
NA	Sodium	200.	U	200.	U	200.	U			
TL	Thallium	10.	U	10.	U	10.	U			
V	Vanadium	10.	U	10.	U	10.	U			
ZN	Zinc	5.	U	5.	U	5.	U			

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Surface Water

PEST		002-W-00A1-01		002-W-00A1-02		002-W-00D1-00		002-W-00H5-01		002-W-00H5-02		002-W-00H5-03	
	ORIGINAL ID ----->	SW02A101		SW02A102		SW02D1		SW02H501		SW02H502		SW02H503	
	LAB SAMPLE ID --->	AB2460		AB2461		AB2544		AB2643		AB2644		AB2645	
	ID FROM REPORT -->	SW02A101		SW02A102		SW02D1		SW02H501		SW02H502		SW02H503	
	SAMPLE DATE ----->	11/30/93		11/30/93		12/01/93		12/02/93		12/02/93		12/02/93	
	DATE ANALYZED --->	12/10/93		12/10/93		12/13/93		12/10/93		12/10/93		12/10/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	2.	U	2.	
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U	1.	
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Surface Water

PEST													
	SAMPLE ID ------->	002-W-00M5-01		002-W-00M5-02		002-W-00M5-03		002-W-00Q1-00		002-W-00Q1-00 MSD		002-W-00Q1-00 MS	
	ORIGINAL ID ----->	SW02M501		SW02M502		SW02M503		SW02Q1		SW02Q1MSD		SW02Q1MS	
	LAB SAMPLE ID --->	AB2994		AB2996		AB2997		AB3110		AB3112		AB3111	
	ID FROM REPORT -->	SW02M501		SW02M502		SW02M503		SW02Q1		SW02Q1MSD		SW02Q1MS	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/07/93		12/08/93		12/08/93		12/08/93	
	DATE ANALYZED --->	12/16/93		12/16/93		12/16/93		12/17/93		12/17/93		12/17/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.49		0.51	
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	1.	U	1.	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	2.	U	2.	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	1.	U	1.	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	1.	U	1.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	0.8		0.9	
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	0.05	U	0.05	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	0.1	U	0.1	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.9		1.	
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.45		0.45	
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.05	U	0.05	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.5	U	0.5	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	5.	U	5.	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.05	U	0.05	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	0.05	U	0.05	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.43		0.47	
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	48.		43.	
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	10.	U	10.	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	10.	U	10.	U

PENSACOLA, SITE 02
Primary Samples
Surface Water

PEST							
	SAMPLE ID ------->	002-W-00X1-01	002-W-00X1-02	002-W-00X1-03	002-W-00X3-01	002-W-00X3-02	002-W-00X3-03
	ORIGINAL ID ----->	SW02X101	SW02X102	SW02X103	SW02X301	SW02X302	SW02X303
	LAB SAMPLE ID --->	AB2815	AB2816	AB2817	AB3114	AB3115	AB3116
	ID FROM REPORT -->	SW02X101	SW02X102	SW02X103	SW02X301	SW02X302	SW02X303
	SAMPLE DATE ----->	12/06/93	12/06/93	12/06/93	12/08/93	12/08/93	12/08/93
	DATE ANALYZED --->	12/16/93	12/16/93	12/16/93	12/17/93	12/17/93	12/17/93
	MATRIX ---------->	Water	Water	Water	Water	Water	Water
	UNITS ----------->	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
CAS #	Parameter	PN027 VAL	PN027 VAL	PN027 VAL	PN027 VAL	PN027 VAL	PN027 VAL
72-54-8	4,4'-DDD	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
72-55-9	4,4'-DDE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
50-29-3	4,4'-DDT	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
309-00-2	Aldrin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
12674-11-2	Aroclor-1016	1. U	1. U	1. U	1. U	1. U	1. U
11104-28-2	Aroclor-1221	2. U	2. U	2. U	2. U	2. U	2. U
11141-16-5	Aroclor-1232	1. U	1. U	1. U	1. U	1. U	1. U
53469-21-9	Aroclor-1242	1. U	1. U	1. U	1. U	1. U	1. U
12672-29-6	Aroclor-1248	1. U	1. U	1. U	1. U	1. U	1. U
11097-69-1	Aroclor-1254	1. U	1. U	1. U	1. U	1. U	1. U
11096-82-5	Aroclor-1260	1. U	1. U	1. U	1. U	1. U	1. U
60-57-1	Dieldrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
959-98-8	Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
33213-65-9	Endosulfan II	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
1031-07-8	Endosulfan sulfate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
72-20-8	Endrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
7421-93-4	Endrin aldehyde	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
53494-70-5	Endrin ketone	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
76-44-8	Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1024-57-3	Heptachlor epoxide	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
72-43-5	Methoxychlor	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
8001-35-2	Toxaphene	5. U	5. U	5. U	5. U	5. U	5. U
319-84-6	alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
5103-71-9	alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
319-85-7	beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
319-86-8	delta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
58-89-9	gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
5103-74-2	gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

*** Validation Complete ***

PENSACOLA, SITE 02
Primary Samples
Surface Water

PEST							
	SAMPLE ID ------->	002-W-00X4-01		002-W-00X4-02		002-W-00X4-03	
	ORIGINAL ID ----->	SW02X401		SW02X402		SW02X403	
	LAB SAMPLE ID --->	AB3346		AB3347		AB3348	
	ID FROM REPORT -->	SW02X401		SW02X402		SW02X403	
	SAMPLE DATE ----->	12/09/93		12/09/93		12/09/93	
	DATE ANALYZED --->	12/22/93		12/22/93		12/22/93	
	MATRIX ---------->	Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L	
CAS #	Parameter	PN032	VAL	PN032	VAL	PN032	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U

PENSACOLA, SITE 02
Primary Samples
Surface Water

SVOA													
	SAMPLE ID ------->	002-W-00A1-01		002-W-00A1-02		002-W-00D1-00		002-W-00H5-01		002-W-00H5-02		002-W-00H5-03	
	ORIGINAL ID ----->	SW02A101		SW02A102		SW02D1		SW02H501		SW02H502		SW02H503	
	LAB SAMPLE ID --->	AB2458		AB2459		AB2543		AB2637		AB2638		AB2639	
	ID FROM REPORT -->	SW02A101		SW02A102		SW02D1		SW02H501		SW02H502		SW02H503	
	SAMPLE DATE ----->	11/30/93		11/30/93		12/01/93		12/02/93		12/02/93		12/02/93	
	DATE ANALYZED --->	12/09/93		12/08/93		12/08/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	5.	
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	5.	
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	5.	
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	5.	
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	5.	
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	5.	
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	5.	
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	

PENSACOLA, SITE 02
Primary Samples
Surface Water

SVOA													
	SAMPLE ID ------->	002-W-00A1-01		002-W-00A1-02		002-W-00D1-00		002-W-00H5-01		002-W-00H5-02		002-W-00H5-03	
	ORIGINAL ID ----->	SW02A101		SW02A102		SW02D1		SW02H501		SW02H502		SW02H503	
	LAB SAMPLE ID --->	AB2458		AB2459		AB2543		AB2637		AB2638		AB2639	
	ID FROM REPORT -->	SW02A101		SW02A102		SW02D1		SW02H501		SW02H502		SW02H503	
	SAMPLE DATE ----->	11/30/93		11/30/93		12/01/93		12/02/93		12/02/93		12/02/93	
	DATE ANALYZED --->	12/09/93		12/08/93		12/08/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	5.	
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	2.	J	10.	U	10.	U	10.	
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	

PENSACOLA, SITE 02
Primary Samples
Surface Water

SVOA	SAMPLE ID ------->	002-W-00M5-01		002-W-00M5-02		002-W-00M5-03		002-W-00Q1-00		002-W-00Q1-00 MSD		002-W-00Q1-00 MS	
	ORIGINAL ID ----->	SW02M501		SW02M502		SW02M503		SW02Q1		SW02Q1MSD		SW02Q1MS	
	LAB SAMPLE ID --->	AB2990		AB2992		AB2993		AB3103		AB3105		AB3104	
	ID FROM REPORT -->	SW02M501		SW02M502		SW02M503		SW02Q1		SW02Q1MSD		SW02Q1MS	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/07/93		12/08/93		12/08/93		12/08/93	
	DATE ANALYZED --->	12/14/93		12/14/93		12/14/93		12/15/93		12/15/93		12/15/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	48.		43.	
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	43.		40.	
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	48.		47.	
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	78.		72.	
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	72.		75.	
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	80.		71.	
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	52.		46.	
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Surface Water

SVOA												
	SAMPLE ID ------->	002-W-00M5-01		002-W-00M5-02		002-W-00M5-03		002-W-00Q1-00		002-W-00Q1-00 MSD		002-W-00Q1-00 MS	
	ORIGINAL ID ----->	SW02M501		SW02M502		SW02M503		SW02Q1		SW02Q1MSD		SW02Q1MS	
	LAB SAMPLE ID --->	AB2990		AB2992		AB2993		AB3103		AB3105		AB3104	
	ID FROM REPORT -->	SW02M501		SW02M502		SW02M503		SW02Q1		SW02Q1MSD		SW02Q1MS	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/07/93		12/08/93		12/08/93		12/08/93	
	DATE ANALYZED --->	12/14/93		12/14/93		12/14/93		12/15/93		12/15/93		12/15/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	42.		44.	
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	80.		82.	
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U	66.		66.	
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	47.	U	43.	
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Surface Water

SVOA	SAMPLE ID ------->	002-W-00X1-01		002-W-00X1-02		002-W-00X1-03		002-W-00X3-01		002-W-00X3-02		002-W-00X3-03	
	ORIGINAL ID ----->	SW02X101		SW02X102		SW02X103		SW02X301		SW02X302		SW02X303	
	LAB SAMPLE ID --->	AB2812		AB2813		AB2814		AB3107		AB3108		AB3109	
	ID FROM REPORT -->	SW02X101		SW02X102		SW02X103		SW02X301		SW02X302		SW02X303	
	SAMPLE DATE ----->	12/06/93		12/06/93		12/06/93		12/08/93		12/08/93		12/08/93	
	DATE ANALYZED --->	12/14/93		12/14/93		12/14/93		12/15/93		12/15/93		12/15/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	10.	U	25.	U	25.	U	25.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Surface Water

SVOA	SAMPLE ID ------->	002-W-00X1-01		002-W-00X1-02		002-W-00X1-03		002-W-00X3-01		002-W-00X3-02		002-W-00X3-03	
	ORIGINAL ID ----->	SW02X101		SW02X102		SW02X103		SW02X301		SW02X302		SW02X303	
	LAB SAMPLE ID --->	AB2812		AB2813		AB2814		AB3107		AB3108		AB3109	
	ID FROM REPORT -->	SW02X101		SW02X102		SW02X103		SW02X301		SW02X302		SW02X303	
	SAMPLE DATE ----->	12/06/93		12/06/93		12/06/93		12/08/93		12/08/93		12/08/93	
	DATE ANALYZED --->	12/14/93		12/14/93		12/14/93		12/15/93		12/15/93		12/15/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 02
Primary Samples
Surface Water

SVOA											
	SAMPLE ID ------->	002-W-00X4-01		002-W-00X4-02		002-W-00X4-03		002-W-S001-00			
	ORIGINAL ID ----->	SW02X401		SW02X402		SW02X403		02S01			
	LAB SAMPLE ID --->	AB3343		AB3344		AB3345		ZZ1581			
	ID FROM REPORT -->	SW02X401		SW02X402		SW02X403		02S01			
	SAMPLE DATE ----->	12/09/93		12/09/93		12/09/93		08/09/93			
	DATE ANALYZED --->	12/16/93		12/16/93		12/17/93		09/02/93			
	MATRIX ---------->	Water		Water		Water		Water			
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L			
CAS #	Parameter	PN032	VAL	PN032	VAL	PN032	VAL	PN006	VAL		
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	40.	U		
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	40.	U		
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	40.	U		
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	40.	U		
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	100.	U		
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	40.	U		
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	40.	U		
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	40.	U		
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	100.	U		
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	40.	U		
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	40.	U		
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	40.	U		
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	40.	U		
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	40.	U		
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	40.	U		
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	100.	U		
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	40.	U		
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	40.	U		
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	100.	U		
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	100.	U		
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	40.	U		
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	40.	U		
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	40.	U		
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	40.	U		
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	40.	U		
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	100.	U		
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	100.	U		
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	40.	U		
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	40.	U		
120-12-7	Anthracene	10.	U	10.	U	10.	U	40.	U		
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	40.	U		
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	40.	U		
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	40.	U		
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	40.	U		
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	40.	U		
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	40.	U		
86-74-8	Carbazole	10.	U	10.	U	10.	U	40.	U		

PENSACOLA, SITE 02
Primary Samples
Surface Water

SVOA	SAMPLE ID ------->	002-W-00X4-01		002-W-00X4-02		002-W-00X4-03		002-W-S001-00			
	ORIGINAL ID ----->	SW02X401		SW02X402		SW02X403		02S01			
	LAB SAMPLE ID --->	AB3343		AB3344		AB3345		ZZ1581			
	ID FROM REPORT -->	SW02X401		SW02X402		SW02X403		02S01			
	SAMPLE DATE ----->	12/09/93		12/09/93		12/09/93		08/09/93			
	DATE ANALYZED --->	12/16/93		12/16/93		12/17/93		09/02/93			
	MATRIX ---------->	Water		Water		Water		Water			
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L			
CAS #	Parameter	PN032	VAL	PN032	VAL	PN032	VAL	PN006	VAL		
218-01-9	Chrysene	10.	U	10.	U	10.	U	40.	U		
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	40.	U		
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	40.	U		
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	40.	U		
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	40.	U		
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	40.	U		
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	40.	U		
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	40.	U		
86-73-7	Fluorene	10.	U	10.	U	10.	U	40.	U		
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	40.	U		
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	40.	U		
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	40.	U		
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	40.	U		
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	40.	U		
78-59-1	Isophorone	10.	U	10.	U	10.	U	40.	U		
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	40.	U		
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	40.	U		
91-20-3	Naphthalene	10.	U	10.	U	10.	U	40.	U		
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	40.	U		
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	40.	U		
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	40.	U		
108-95-2	Phenol	10.	U	10.	U	10.	U	40.	U		
129-00-0	Pyrene	10.	U	10.	U	10.	U	40.	U		
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	40.	U		
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U	40.	U		
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	40.	U		
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	40.	U		

PENSACOLA, SITE 02
Primary Samples
Surface Water

VOA	SAMPLE ID ------->	002-W-00A1-01		002-W-00A1-02		002-W-00D1-00		002-W-00D1-00 MSD		002-W-00D1-00 MS		002-W-00H5-01	
	ORIGINAL ID ----->	SW02A101		SW02A102		SW02D1		SW02D1MSD		SW02D1MS		SW02H501	
	LAB SAMPLE ID --->	AB2455		AB2456		AB2543		AB2541		AB2541		AB2629	
	ID FROM REPORT -->	SW02A101		SW02A102		SW02D1		SW02D1MSD		SW02D1MS		SW02H501	
	SAMPLE DATE ----->	11/30/93		11/30/93		12/01/93		12/01/93		12/01/93		12/02/93	
	DATE ANALYZED --->	12/07/93		12/07/93		12/07/93		12/07/93		12/07/93		12/07/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	J	10.	J	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	41.		46.		10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	47.		50.		10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	46.		49.		10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	10.	U	10.	U	10.	U	1.	U	2.	U	10.	U
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	1.	J	46.		49.		10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	46.		49.		10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Surface Water

VOA	SAMPLE ID ------->	002-W-00H5-02		002-W-00H5-03		002-W-00M5-01		002-W-00M5-02		002-W-00M5-03		002-W-00Q1-00	
	ORIGINAL ID ----->	SW02H502		SW02H503		SW02M501		SW02M502		SW02M503		SW02Q1	
	LAB SAMPLE ID --->	AB2630		AB2631		AB2986		AB2988		AB2989		AB3096	
	ID FROM REPORT -->	SW02H502		SW02H503		SW02M501		SW02M502		SW02M503		SW02Q1	
	SAMPLE DATE ----->	12/02/93		12/02/93		12/07/93		12/07/93		12/07/93		12/08/93	
	DATE ANALYZED --->	12/07/93		12/07/93		12/08/93		12/08/93		12/08/93		12/10/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	10.	U	10.	U	10.	U	10.	U	10.	U	3.	U
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.		10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 02
Primary Samples
Surface Water

VOA		SAMPLE ID ------->	002-W-00Q1-00 MSD		002-W-00X1-02		002-W-00X1-03		002-W-00X3-01		002-W-00X3-02		002-W-00X3-03	
		ORIGINAL ID ----->	SW02Q1MSD		SW02X102		SW02X103		SW02X301		SW02X302		SW02X303	
		LAB SAMPLE ID --->	AB3098		AB2809		AB2810		AB3100		AB3101		AB3102	
		ID FROM REPORT -->	SW02Q1MSD		SW02X102		SW02X103		SW02X301		SW02X302		SW02X303	
		SAMPLE DATE ----->	12/08/93		12/06/93		12/06/93		12/08/93		12/08/93		12/08/93	
		DATE ANALYZED --->	12/10/93		12/08/93		12/08/93		12/10/93		12/10/93		12/10/93	
		MATRIX ---------->	Water		Water		Water		Water		Water		Water	
		UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter		PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
71-55-6	1,1,1-Trichloroethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene		38.		10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene		49.		10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene		46.		10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride		4.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-42-5	Styrene		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene		46.		10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene		47.		10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene		10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Surface Water

VOA	SAMPLE ID ------->	002-W-00X4-01		002-W-00X4-02		002-W-00X4-03		002-W-0X10-01		002-W-S001-00		
	ORIGINAL ID ----->	SW02X401		SW02X402		SW02X403		SW02X101		02S01		
	LAB SAMPLE ID --->	AB3340		AB3341		AB3342		AB2808		ZZ1577		
	ID FROM REPORT -->	SW02X401		SW02X402		SW02X403		SW02X101		02S01		
	SAMPLE DATE ----->	12/09/93		12/09/93		12/09/93		12/06/93		08/09/93		
	DATE ANALYZED --->	12/10/93		12/10/93		12/10/93		12/08/93		08/31/93		
	MATRIX ---------->	Water		Water		Water		Water		Water		
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		
CAS #	Parameter	PN032	VAL	PN032	VAL	PN032	VAL	PN027	VAL	PN006	VAL	
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	25.	U	
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	25.	U	
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	25.	U	
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	25.	U	
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	25.	U	
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	25.	U	
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	25.	U	
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	25.	U	
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	50.	U	
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	50.	U	
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	9.	J	
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	74.	U	
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	25.	U	
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	25.	U	
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	25.	U	
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	50.	U	
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	25.	U	
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	25.	U	
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	25.	U	
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	50.	U	
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	25.	U	
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	50.	U	
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	25.	U	
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	25.	U	
75-09-2	Methylene chloride	10.	U	10.	U	10.	U	10.	U	170.	U	
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	25.	U	
127-18-4	Tetrachloroethene	10.	U	10.	U	2.	J	10.	U	25.	U	
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	25.	U	
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	25.	U	
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	50.	U	
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	50.	U	
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	25.	U	
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	25.	U	

*** Validation Complete ***

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

VOA					
	SAMPLE ID ------->	002-W-0X10-01 MS		002-W-0X10-01 MSD	
	ORIGINAL ID ----->	SW02X101MS		SW02X101MSD	
	LAB SAMPLE ID --->	AB2808		AB2808	
	ID FROM REPORT -->	SW02X101MS		SW02X101MSD	
	SAMPLE DATE ----->	12/06/93		12/06/93	
	DATE ANALYZED --->	12/08/93		12/08/93	
	MATRIX ---------->	Water		Water	
	UNITS ----------->	UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U
75-35-4	1,1-Dichloroethene	48.		43.	
107-06-2	1,2-Dichloroethane	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U
71-43-2	Benzene	49.		46.	
75-27-4	Bromodichloromethane	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U
108-90-7	Chlorobenzene	49.		46.	
75-00-3	Chloroethane	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U
75-09-2	Methylene chloride	1.	U	10.	U
100-42-5	Styrene	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U
108-88-3	Toluene	48.		46.	
79-01-6	Trichloroethene	47.		45.	
75-01-4	Vinyl chloride	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U

*** Validation Complete ***

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

Page: 2
Time: 15:51

PEST						
SAMPLE ID ------->	LCS-T-1771-00	LCS-T-1771-00	LCS-T-1771-01	LCS-T-1771-02	LCS-T-1889-00	LCS-T-1889-00
ORIGINAL ID ----->	M1771S1-LCS	M1771S1-LCS	PBLK1	PBLK2	M1889S1LCS	M1889S1LCS
LAB SAMPLE ID --->	M1771S	M1771S	M1887B	M1769B	M1889S	M1889S
ID FROM REPORT -->	M1771S1-LCS	M1771S	PBLK1	PBLK2	M1889S1LCS	M1889S
SAMPLE DATE ----->	11/19/93	11/19/93			12/03/93	12/03/93
DATE ANALYZED --->	12/01/93	12/01/09	12/09/09	12/01/09	12/09/93	
MATRIX ---------->	Water	Water	Water	Water	Water	Water
UNITS ----------->	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

CAS #	Parameter	PN026	VAL	PN026	VAL	PN027	VAL	PN026	VAL	PN027	VAL	PN027	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.56		0.56		0.1	U	0.1	U	NR		NR	
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	2.4	J	2.4	J	1.	U	1.	U	2.1		2.1	
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.27		0.27		0.1	U	0.1	U	0.25		0.25	
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

*** Validation Complete ***

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

PEST													
	SAMPLE ID ------->	LCS-T-1915-00		LCS-T-1915-00		LCS-T-1946-00		LCS-T-1946-00		LCS-T-2001-00		LCS-T-2001-00	
	ORIGINAL ID ----->	M1915S1-LCS		M1915S1-LCS		M1946S1-LCS		M1946S1-LCS		M2001S1-LCS		M2001S1-LCS	
	LAB SAMPLE ID --->	M1915S		M1915S		M1946S		M1946S		M2001S		M2001S	
	ID FROM REPORT -->	M1915S1-LCS		M1915S		M1946S1-LCS		M1946S		M2001S1-LCS		M2001S	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/09/93		12/09/93		12/10/93		12/10/93	
	DATE ANALYZED --->	12/16/93		12/16/09		12/16/93		12/16/09		12/21/93		12/21/09	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN032	VAL	PN032	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.52		0.52		0.53		0.53		0.49		0.49	
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	2.3	J	2.3	J	2.4		2.4		2.1		2.1	
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.25		0.25		0.26		0.26		0.26		0.26	
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

PEST							
	SAMPLE ID ------->	LCS-T-2027-00	LCS-T-2027-00	PBL-T-00K1-00	PBL-T-00K1-01	PBL-T-00K1-02	PBL-T-00K2-00
	ORIGINAL ID ----->	M2027S1-LCS	M2027S1-LCS	PBLK1	PBLK1	PBLK1	PBLK2
	LAB SAMPLE ID --->	M2027S	M2027S	M1914B	M1944B	M1999B	M1944B
	ID FROM REPORT -->	M2027S1-LCS	M2027S	PBLK1	PBLK1	PBLK1	PBLK2
	SAMPLE DATE ----->	12/09/93	12/09/93				
	DATE ANALYZED --->	12/21/93	12/21/09	12/16/09	12/20/09	12/21/09	12/16/09
	MATRIX ---------->	Water	Water	Water	Water	Water	Water
	UNITS ----------->	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
CAS #	Parameter	PN031 VAL	PN031 VAL	PN030 VAL	PN031 VAL	PN032 VAL	PN027 VAL
72-54-8	4,4'-DDD	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
72-55-9	4,4'-DDE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
50-29-3	4,4'-DDT	0.54	0.54	0.1 U	0.1 U	0.1 U	0.1 U
309-00-2	Aldrin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
12674-11-2	Aroclor-1016	1. U	1. U	1. U	1. U	1. U	1. U
11104-28-2	Aroclor-1221	2. U	2. U	2. U	2. U	2. U	2. U
11141-16-5	Aroclor-1232	1. U	1. U	1. U	1. U	1. U	1. U
53469-21-9	Aroclor-1242	2.3	2.3	1. U	1. U	1. U	1. U
12672-29-6	Aroclor-1248	1. U	1. U	1. U	1. U	1. U	1. U
11097-69-1	Aroclor-1254	1. U	1. U	1. U	1. U	1. U	1. U
11096-82-5	Aroclor-1260	1. U	1. U	1. U	1. U	1. U	1. U
60-57-1	Dieldrin	0.26	0.26	0.1 U	0.1 U	0.1 U	0.1 U
959-98-8	Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
33213-65-9	Endosulfan II	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
1031-07-8	Endosulfan sulfate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
72-20-8	Endrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
7421-93-4	Endrin aldehyde	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
53494-70-5	Endrin ketone	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
76-44-8	Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1024-57-3	Heptachlor epoxide	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
72-43-5	Methoxychlor	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
8001-35-2	Toxaphene	5. U	5. U	5. U	5. U	5. U	5. U
319-84-6	alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
5103-71-9	alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
319-85-7	beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
319-86-8	delta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
58-89-9	gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
5103-74-2	gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

*** Validation Complete ***

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

PEST						
SAMPLE ID ------->	PBL-T-00K2-01	PBL-T-00K3-00	PBL-T-00K3-01	PBL-T-00K4-00	PBL-T-N026-05	PBL-T-N026-07
ORIGINAL ID ----->	PBLK2	PBLK3	PBLK3	PBLK4	PBLK2	PBLK2
LAB SAMPLE ID --->	M2025B	M1914B	M1913B	M1888B	M1769B	M1944B
ID FROM REPORT -->	PBLK2	PBLK3	PBLK3	PBLK4	PBLK2	PBLK2
SAMPLE DATE ----->						
DATE ANALYZED --->	12/21/09	12/16/09		12/09/09	12/01/93	12/16/93
MATRIX ---------->	Water	Water	Water	Water	Water	Water
UNITS ----------->	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

CAS #	Parameter	PN031	VAL	PN027	VAL	PN027	VAL	PN026	VAL	PN026	VAL	PN027	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

*** Validation Complete ***

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

PEST	SAMPLE ID ------->	PBL-T-N026-08		PBL-T-N026-10		PBL-T-N027-01		PBL-T-N027-02		PBL-T-N027-03		PBL-T-N027-04	
	ORIGINAL ID ----->	PBLK2		PBLK4		PBLK1		PBLK1		PBLK1		PBLK1	
	LAB SAMPLE ID --->	M2025B		M1888B		M1887B		M1914B		M1944B		M1999B	
	ID FROM REPORT -->	PBLK2		PBLK4		PBLK1		PBLK1		PBLK1		PBLK1	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/21/93		12/09/93		12/09/93		12/16/93		12/20/93		12/21/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN031	VAL	PN026	VAL	PN027	VAL	PN030	VAL	PN031	VAL	PN032	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

PEST											
	SAMPLE ID ------->	PBL-T-N027-08		PBL-T-N027-09							
	ORIGINAL ID ----->	PBLK3		PBLK3							
	LAB SAMPLE ID --->	M1913B		M1914B							
	ID FROM REPORT -->	PBLK3		PBLK3							
	SAMPLE DATE ----->										
	DATE ANALYZED --->			12/16/93							
	MATRIX ---------->	Water		Water							
	UNITS ----------->	UG/L		UG/L							
CAS #	Parameter	PN027	VAL	PN027	VAL						
72-54-8	4,4'-DDD	0.1	U	0.1	U						
72-55-9	4,4'-DDE	0.1	U	0.1	U						
50-29-3	4,4'-DDT	0.1	U	0.1	U						
309-00-2	Aldrin	0.05	U	0.05	U						
12674-11-2	Aroclor-1016	1.	U	1.	U						
11104-28-2	Aroclor-1221	2.	U	2.	U						
11141-16-5	Aroclor-1232	1.	U	1.	U						
53469-21-9	Aroclor-1242	1.	U	1.	U						
12672-29-6	Aroclor-1248	1.	U	1.	U						
11097-69-1	Aroclor-1254	1.	U	1.	U						
11096-82-5	Aroclor-1260	1.	U	1.	U						
60-57-1	Dieldrin	0.1	U	0.1	U						
959-98-8	Endosulfan I	0.05	U	0.05	U						
33213-65-9	Endosulfan II	0.1	U	0.1	U						
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U						
72-20-8	Endrin	0.1	U	0.1	U						
7421-93-4	Endrin aldehyde	0.1	U	0.1	U						
53494-70-5	Endrin ketone	0.1	U	0.1	U						
76-44-8	Heptachlor	0.05	U	0.05	U						
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U						
72-43-5	Methoxychlor	0.5	U	0.5	U						
8001-35-2	Toxaphene	5.	U	5.	U						
319-84-6	alpha-BHC	0.05	U	0.05	U						
5103-71-9	alpha-Chlordane	0.05	U	0.05	U						
319-85-7	beta-BHC	0.05	U	0.05	U						
319-86-8	delta-BHC	0.05	U	0.05	U						
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U						
5103-74-2	gamma-Chlordane	0.05	U	0.05	U						

*** Validation Complete ***

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA													
	SAMPLE ID ------->	SBL-T-OK1B-00		SBL-T-OK1B-00		SBL-T-OK1B-01		SBL-T-OK1B-02		SBL-T-OK1B-03		SBL-T-OK1B-04	
	ORIGINAL ID ----->	SBLK1B		SBLK1B		SBLK1B		SBLK1B		SBLK1B		SBLK1B	
	LAB SAMPLE ID --->	M1997		M1997		M1916		M1942		M2023		E2513	
	ID FROM REPORT -->	SBLK1B		SBLK1B		SBLK1B		SBLK1B		SBLK1B		SBLK1B	
	SAMPLE DATE ----->												
	DATE ANALYZED --->			12/21/09		12/15/09		12/15/09		12/17/09		09/02/09	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN032	VAL	PN032	VAL	PN030	VAL	PN031	VAL	PN033	VAL	PN006	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	100.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	100.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	100.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	100.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	100.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	100.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	100.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA													
	SAMPLE ID ------->	SBL-T-0K1B-00		SBL-T-0K1B-00		SBL-T-0K1B-01		SBL-T-0K1B-02		SBL-T-0K1B-03		SBL-T-0K1B-04	
	ORIGINAL ID ----->	SBLK1B		SBLK1B		SBLK1B		SBLK1B		SBLK1B		SBLK1B	
	LAB SAMPLE ID --->	M1997		M1997		M1916		M1942		M2023		E2513	
	ID FROM REPORT -->	SBLK1B		SBLK1B		SBLK1B		SBLK1B		SBLK1B		SBLK1B	
	SAMPLE DATE ----->												
	DATE ANALYZED --->			12/21/09		12/15/09		12/15/09		12/17/09		09/02/09	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN032	VAL	PN032	VAL	PN030	VAL	PN031	VAL	PN033	VAL	PN006	VAL
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	100.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	40.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA												
	SAMPLE ID ------->	SBL-T-0K1G-00		SBL-T-0K1G-01		SBL-T-0K1G-02		SBL-T-0K2A-00		SBL-T-0K2G-00		SBL-T-0K3A-00	
	ORIGINAL ID ----->	SBLK1G		SBLK1G		SBLK1G		SBLK2A		SBLK2G		SBLK3A	
	LAB SAMPLE ID --->	M1865		M1890		M1942		M1976		M2099		M1916	
	ID FROM REPORT -->	SBLK1G		SBLK1G		SBLK1G		SBLK2A		SBLK2G		SBLK3A	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/09/09		12/09/09						12/22/09		12/14/09	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN026	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA													
	SAMPLE ID ------->	SBL-T-0K1G-00		SBL-T-0K1G-01		SBL-T-0K1G-02		SBL-T-0K2A-00		SBL-T-0K2G-00		SBL-T-0K3A-00	
	ORIGINAL ID ----->	SBLK1G		SBLK1G		SBLK1G		SBLK2A		SBLK2G		SBLK3A	
	LAB SAMPLE ID --->	M1865		M1890		M1942		M1976		M2099		M1916	
	ID FROM REPORT -->	SBLK1G		SBLK1G		SBLK1G		SBLK2A		SBLK2G		SBLK3A	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/09/09		12/09/09						12/22/09		12/14/09	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN026	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA													
	SAMPLE ID ------->	SBL-T-K1A1-00		SBL-T-K1B1-00		SBL-T-K1B2-00		SBL-T-K1B2-00		SBL-T-N006-20		SBL-T-N026-12	
	ORIGINAL ID ----->	SBLK1A		SBLK1B		SBLK1B		SBLK1B		SBLK1B6		SBLK1B	
	LAB SAMPLE ID --->	M1977		M1772		M1864		M1864		E2513		M1772	
	ID FROM REPORT -->	SBLK1A		SBLK1B		SBLK1B		SBLK1B		SBLK1B6		SBLK1B	
	SAMPLE DATE ----->									08/10/93		11/19/93	
	DATE ANALYZED --->	12/19/09		12/07/09				12/08/09		09/02/93		12/07/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN029	VAL	PN026	VAL	PN027	VAL	PN027	VAL	PN006	VAL	PN026	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	100.	U	25.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	100.	U	25.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	100.	U	25.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	100.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	100.	U	25.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	100.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	100.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA		SBL-T-K1A1-00		SBL-T-K1B1-00		SBL-T-K1B2-00		SBL-T-K1B2-00		SBL-T-N006-20		SBL-T-N026-12	
	ORIGINAL ID ----->	SBLK1A		SBLK1B		SBLK1B		SBLK1B		SBLK1B6		SBLK1B	
	LAB SAMPLE ID --->	M1977		M1772		M1864		M1864		E2513		M1772	
	ID FROM REPORT -->	SBLK1A		SBLK1B		SBLK1B		SBLK1B		SBLK1B6		SBLK1B	
	SAMPLE DATE ----->									08/10/93		11/19/93	
	DATE ANALYZED --->	12/19/09		12/07/09				12/08/09		09/02/93		12/07/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN029	VAL	PN026	VAL	PN027	VAL	PN027	VAL	PN006	VAL	PN026	VAL
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	100.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	1.	J	10.	U	10.	U	40.	U	1.	J
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	40.	U	10.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA	SAMPLE ID ------->	SBL-T-N026-13		SBL-T-N026-14		SBL-T-N026-21		SBL-T-N026-23		SBL-T-N026-24		SBL-T-N026-27	
	ORIGINAL ID ----->	SBLK1B		SBLK1B		SBLK1G		SBLK1G		SBLK1G		SBLK82	
	LAB SAMPLE ID --->	M1864		M1997		M1865		M1890		M1942		M1772	
	ID FROM REPORT -->	SBLK1B		SBLK1B		SBLK1G		SBLK1G		SBLK1G		SBLK82	
	SAMPLE DATE ----->					12/02/93		12/04/93				11/19/93	
	DATE ANALYZED --->					12/09/93		12/09/93				12/07/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN032	VAL	PN026	VAL	PN027	VAL	PN027	VAL	PN026	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

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Time: 15:51

SVOA	SAMPLE ID ------->	SBL-T-N026-13		SBL-T-N026-14		SBL-T-N026-21		SBL-T-N026-23		SBL-T-N026-24		SBL-T-N026-27	
	ORIGINAL ID ----->	SBLK1B		SBLK1B		SBLK1G		SBLK1G		SBLK1G		SBLK82	
	LAB SAMPLE ID --->	M1864		M1997		M1865		M1890		M1942		M1772	
	ID FROM REPORT -->	SBLK1B		SBLK1B		SBLK1G		SBLK1G		SBLK1G		SBLK82	
	SAMPLE DATE ----->					12/02/93		12/04/93				11/19/93	
	DATE ANALYZED --->					12/09/93		12/09/93				12/07/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN032	VAL	PN026	VAL	PN027	VAL	PN027	VAL	PN026	VAL
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U	10.	U	10.	U	1.	J
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA							
	SAMPLE ID ------->	SBL-T-N027-15	SBL-T-N027-24	SBL-T-N027-25	SBL-T-N027-26	SBL-T-N029-11	SBL-T-N030-16
	ORIGINAL ID ----->	SBLK1B1	SBLK2A	SBLK2G	SBLK3A	SBLK1A	SBLK1B2
	LAB SAMPLE ID --->	M1864	M1976	M2099	M1916	M1977	M1916
	ID FROM REPORT -->	SBLK1B1	SBLK2A	SBLK2G	SBLK3A	SBLK1A	SBLK1B2
	SAMPLE DATE ----->	12/02/93		12/09/93	12/07/93	12/07/93	12/08/93
	DATE ANALYZED --->	12/08/93		12/22/93	12/14/93	12/19/93	12/15/93
	MATRIX ---------->	Water	Water	Water	Water	Water	Water
	UNITS ----------->	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN029	VAL	PN030	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA	SAMPLE ID ------->	SBL-T-N027-15		SBL-T-N027-24		SBL-T-N027-25		SBL-T-N027-26		SBL-T-N029-11		SBL-T-N030-16	
	ORIGINAL ID ----->	SBLK1B1		SBLK2A		SBLK2G		SBLK3A		SBLK1A		SBLK1B2	
	LAB SAMPLE ID --->	M1864		M1976		M2099		M1916		M1977		M1916	
	ID FROM REPORT -->	SBLK1B1		SBLK2A		SBLK2G		SBLK3A		SBLK1A		SBLK1B2	
	SAMPLE DATE ----->	12/02/93				12/09/93		12/07/93		12/07/93		12/08/93	
	DATE ANALYZED --->	12/08/93				12/22/93		12/14/93		12/19/93		12/15/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN027	VAL	PN029	VAL	PN030	VAL
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA						
SAMPLE ID ------->	SBL-T-N031-17		SBL-T-N032-18		SBL-T-N033-19	
ORIGINAL ID ----->	SBLK1B3		SBLK1B4		SBLK1B5	
LAB SAMPLE ID --->	M1942		M1997		M2023	
ID FROM REPORT -->	SBLK1B3		SBLK1B4		SBLK1B5	
SAMPLE DATE ----->	12/10/93		12/10/93		12/10/93	
DATE ANALYZED --->	12/15/93		12/21/93		12/17/93	
MATRIX ---------->	Water		Water		Water	
UNITS ----------->	UG/L		UG/L		UG/L	

CAS #	Parameter	PN031	VAL	PN032	VAL	PN033	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

SVOA									
	SAMPLE ID ------->	SBL-T-N031-17		SBL-T-N032-18		SBL-T-N033-19			
	ORIGINAL ID ----->	SBLK1B3		SBLK1B4		SBLK1B5			
	LAB SAMPLE ID --->	M1942		M1997		M2023			
	ID FROM REPORT -->	SBLK1B3		SBLK1B4		SBLK1B5			
	SAMPLE DATE ----->	12/10/93		12/10/93		12/10/93			
	DATE ANALYZED --->	12/15/93		12/21/93		12/17/93			
	MATRIX ---------->	Water		Water		Water			
	UNITS ----------->	UG/L		UG/L		UG/L			
CAS #	Parameter	PN031	VAL	PN032	VAL	PN033	VAL		
218-01-9	Chrysene	10.	U	10.	U	10.	U		
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U		
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U		
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U		
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U		
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U		
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U		
206-44-0	Fluoranthene	10.	U	10.	U	10.	U		
86-73-7	Fluorene	10.	U	10.	U	10.	U		
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U		
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U		
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U		
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U		
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U		
78-59-1	Isophorone	10.	U	10.	U	10.	U		
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U		
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U		
91-20-3	Naphthalene	10.	U	10.	U	10.	U		
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U		
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U		
85-01-8	Phenanthrene	10.	U	10.	U	10.	U		
108-95-2	Phenol	10.	U	10.	U	10.	U		
129-00-0	Pyrene	10.	U	10.	U	10.	U		
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U		
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U		
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U		
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U		

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

VOA													
	SAMPLE ID -------->	BLK-T-1201-93		BLK-T-1201-93		BLK-T-TCLP-00		BLK-T-TCLP-00		BLK-T-TCLP-01		BLK-T-TCLP-01	
	ORIGINAL ID ------>	TB120193		TB120193		TCLPBLANK		TCLPBLANK		TCLPBLANKSA		TCLPBLANKSA	
	LAB SAMPLE ID --->	AB2542		AB2542		E2515		E2515		E2515S		E2515S	
	ID FROM REPORT -->	TB120193		TB1201		TCLPBLANK		TCLPBL		TCLPBLANKSA		TCLPBL	
	SAMPLE DATE ------>												
	DATE ANALYZED --->					08/31/93		08/31/09		08/31/93		08/31/09	
	MATRIX ----------->	Water		Water		Water		Water		Water		Water	
	UNITS ------------>	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN006	VAL	PN006	VAL	PN006	VAL	PN006	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	25.	U	25.	U	320.		320.	
107-06-2	1,2-Dichloroethane	10.	U	10.	U	25.	U	25.	U	270.		270.	
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	50.	U	50.	U	250.		250.	
591-78-6	2-Hexanone	10.	U	10.	U	50.	U	50.	U	50.	U	50.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	50.	U	50.	U	50.	U	50.	U
67-64-1	Acetone	10.	U	10.	U	66.		66.		66.		66.	
71-43-2	Benzene	10.	U	10.	U	25.	U	25.	U	270.		270.	
75-27-4	Bromodichloromethane	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
75-25-2	Bromoform	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
74-83-9	Bromomethane	10.	U	10.	U	50.	U	50.	U	50.	U	50.	U
75-15-0	Carbon disulfide	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	25.	U	25.	U	290.		290.	
108-90-7	Chlorobenzene	10.	U	10.	U	25.	U	25.	U	250.		250.	
75-00-3	Chloroethane	10.	U	10.	U	50.	U	50.	U	50.	U	50.	U
67-66-3	Chloroform	10.	U	10.	U	25.	U	25.	U	270.		270.	
74-87-3	Chloromethane	10.	U	10.	U	50.	U	50.	U	50.	U	50.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
100-41-4	Ethylbenzene	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
75-09-2	Methylene chloride	3.	J	3.	J	180.	J	180.	J	62.	J	62.	J
100-42-5	Styrene	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	25.	U	25.	U	240.		240.	
108-88-3	Toluene	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
79-01-6	Trichloroethene	10.	U	10.	U	25.	U	25.	U	260.		260.	
75-01-4	Vinyl chloride	10.	U	10.	U	50.	U	50.	U	540.		540.	
1330-20-7	Xylene (Total)	10.	U	10.	U	50.	U	50.	U	50.	U	50.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	25.	U	25.	U	25.	U	25.	U

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

VOA													
	SAMPLE ID ------->	BLK-T-TRIP-00		BLK-T-TRIP-00		BLK-T-TRIP-00		BLK-T-TRIP-01		BLK-T-TRIP-01		BLK-T-TRIP-02	
	ORIGINAL ID ------>	TRIPBLANK		TRIPBLANK		TRIPBLANK		TRIPBLANK		TRIPBLANK		TRIPBLANK1	
	LAB SAMPLE ID --->	AB2457		AB2457		AB2457		AB2466		AB2466		AB2457	
	ID FROM REPORT -->	TRIPBLANK		TRIPBL		TRIPBL		TRIPBLANK		TRIPBL		TRIPBLANK1	
	SAMPLE DATE ----->							11/20/93		11/20/93		11/30/93	
	DATE ANALYZED --->					12/07/09		12/07/93		12/07/09		12/07/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN027	VAL	PN027	VAL	PN026	VAL	PN026	VAL	PN027	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	3.	J	3.	J	3.	J	2.	J	2.	J	3.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

VOA	SAMPLE ID ------->	LCS-T-0000-00		VBL-T-0K1P-00		VBL-T-0K1Q-00		VBL-T-0K1W-00		VBL-T-0K1W-01		VBL-T-0K1W-02	
	ORIGINAL ID ----->	VLCS1W		VBLK1P		VBLK1Q		VBLK1W		VBLK1W		VBLK1W	
	LAB SAMPLE ID --->	WLCS12		PB1119		QB0831		1WB121		WB1207		WB1210	
	ID FROM REPORT -->	VLCS1W		VBLK1P		VBLK1Q		VBLK1W		VBLK1W		VBLK1W	
	SAMPLE DATE ----->	12/09/93											
	DATE ANALYZED --->	12/10/93		11/19/09		08/31/09				12/07/09		12/10/09	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN026	VAL	PN006	VAL	PN032	VAL	PN027	VAL	PN030	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	39.		10.	U	5.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	2.	J	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	46.		10.	U	5.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	42.		10.	U	5.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	3.	J	4.	J	3.	J	2.	J	2.	J	2.	J
100-42-5	Styrene	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	43.		10.	U	5.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	44.		10.	U	5.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	5.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

VOA	SAMPLE ID ------->	VBL-T-0K2W-00		VBL-T-0K3W-00		VBL-T-0K3W-01		VBL-T-0K4W-00		VBL-T-N006-29		VBL-T-N026-28	
	ORIGINAL ID ----->	VBLK2W		VBLK3W		VBLK3W		VBLK4W		VBLK1Q		VBLK1P	
	LAB SAMPLE ID --->	WB1208		WB1207		WB1210		WB1210		QB0831		PB1119	
	ID FROM REPORT -->	VBLK2W		VBLK3W		VBLK3W		VBLK4W		VBLK1Q		VBLK1P	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/08/09		12/07/09		12/10/09		12/10/09		08/31/93		11/19/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN027	VAL	PN026	VAL	PN027	VAL	PN031	VAL	PN006	VAL	PN026	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	2.	J
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
75-09-2	Methylene chloride	2.	J	2.	J	2.	J	2.	J	3.	J	4.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	5.	U	10.	U

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

VOA						
	SAMPLE ID ------->	VBL-T-N026-34	VBL-T-N026-35	VBL-T-N027-33	VBL-T-N031-36	VBL-T-N032-30	VBL-T-N032-31
	ORIGINAL ID ----->	VBLK3W	VBLK3W	VBLK2W	VBLK4W	VBLK1W	VBLK1W
	LAB SAMPLE ID --->	WB1207	WB1210	WB1208	WB1210	1WB121	WB1207
	ID FROM REPORT -->	VBLK3W	VBLK3W	VBLK2W	VBLK4W	VBLK1W	VBLK1W
	SAMPLE DATE ----->						
	DATE ANALYZED --->	12/07/93	12/10/93	12/08/93	12/10/93		12/07/93
	MATRIX ---------->	Water	Water	Water	Water	Water	Water
	UNITS ----------->	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

CAS #	Parameter	PN026	VAL	PN027	VAL	PN027	VAL	PN031	VAL	PN032	VAL	PN027	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	2.	J	2.	J	2.	J	2.	J	2.	J	2.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 02
QA/QC Samples
Surface Water

VOA							
	SAMPLE ID ------->	VBL-T-N032-32					
	ORIGINAL ID ----->	VBLK1W					
	LAB SAMPLE ID --->	WB1210					
	ID FROM REPORT -->	VBLK1W					
	SAMPLE DATE ----->						
	DATE ANALYZED --->	12/10/93					
	MATRIX ---------->	Water					
	UNITS ----------->	UG/L					
CAS #	Parameter	PN030	VAL				
71-55-6	1,1,1-Trichloroethane	10.	U				
79-34-5	1,1,2,2-Tetrachloroethane	10.	U				
79-00-5	1,1,2-Trichloroethane	10.	U				
75-34-3	1,1-Dichloroethane	10.	U				
75-35-4	1,1-Dichloroethene	10.	U				
107-06-2	1,2-Dichloroethane	10.	U				
540-59-0	1,2-Dichloroethene (total)	10.	U				
78-87-5	1,2-Dichloropropane	10.	U				
78-93-3	2-Butanone (MEK)	10.	U				
591-78-6	2-Hexanone	10.	U				
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U				
67-64-1	Acetone	10.	U				
71-43-2	Benzene	10.	U				
75-27-4	Bromodichloromethane	10.	U				
75-25-2	Bromoform	10.	U				
74-83-9	Bromomethane	10.	U				
75-15-0	Carbon disulfide	10.	U				
56-23-5	Carbon tetrachloride	10.	U				
108-90-7	Chlorobenzene	10.	U				
75-00-3	Chloroethane	10.	U				
67-66-3	Chloroform	10.	U				
74-87-3	Chloromethane	10.	U				
124-48-1	Dibromochloromethane	10.	U				
100-41-4	Ethylbenzene	10.	U				
75-09-2	Methylene chloride	2.	J				
100-42-5	Styrene	10.	U				
127-18-4	Tetrachloroethene	10.	U				
108-88-3	Toluene	10.	U				
79-01-6	Trichloroethene	10.	U				
75-01-4	Vinyl chloride	10.	U				
1330-20-7	Xylene (Total)	10.	U				
10061-01-5	cis-1,3-Dichloropropene	10.	U				
10061-02-6	trans-1,3-Dichloropropene	10.	U				

DATALCP3
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PENSACOLA, SITE 02
QA/QC Samples

METAL													
	SAMPLE ID ------->	002-E-00ME-05		002-E-00ME-06		002-E-ME01-01		002-E-ME03-00		002-E-ME04-00		002-E-ME07-00	
	ORIGINAL ID ----->	02ME05		02ME06		02ME0101		02ME03		02ME04		02ME07	
	LAB SAMPLE ID --->	AB3061		AB3306		AB2539		AB2755		AB2849		AB3375	
	ID FROM REPORT -->	02ME05		02ME06		02ME0101		02ME03		02ME04		02ME07	
	SAMPLE DATE ----->	12/07/93		12/08/93		12/01/93		12/03/93		12/06/93		12/09/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN030	VAL	PN031	VAL	PN026	VAL	PN029	VAL	PN029	VAL	PN033	VAL
AL	Aluminum	58.8	J	40.	U	47.7	B	40.	U	40.	U	40.	U
SB	Antimony	38.4	J	30.	U	30.	U	30.	U	30.	U	30.	U
AS	Arsenic	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
BA	Barium	3.1	J	2.	U	2.5	B	2.	J	2.	U	2.	U
BE	Beryllium	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
CD	Cadmium	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
CA	Calcium	289.	J	142.	J	301.	B	171.	J	128.	J	262.	B
CR	Chromium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
CO	Cobalt	20.	U	20.	U	20.	U	20.	U	20.	U	20.	U
CU	Copper	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
CN	Cyanide	10.	U	10.	U	10.		10.	U	10.	U	10.	U
FE	Iron	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
PB	Lead	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
MG	Magnesium	55.1	J	30.	U	37.8	B	30.	U	30.	U	609.	B
MN	Manganese	2.	U	2.	U	2.6	B	2.2	J	2.	U	2.	U
HG	Mercury	0.2	U	0.2	U	0.2	U	20.	U	0.2	U	0.2	U
NI	Nickel	20.	U	20.	U	20.	U	20.	U	20.	U	20.	U
K	Potassium	1000.	U	1000.	U	1000.	U	1000.	U	1000.	U	1100.	B
SE	Selenium	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
AG	Silver	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
NA	Sodium	433.	J	200.	U	200.	U	200.	U	200.	U	3920.	B
TL	Thallium	10.	U	2.	U	2.	U	2.	U	2.	U	2.	U
V	Vanadium	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
ZN	Zinc	8.6	J	5.	U	9.4	B	5.	U	5.	U	5.	U

PENSACOLA, SITE 02
QA/QC Samples

PEST													
	SAMPLE ID ------->	002-E-00ME-05		002-E-00ME-06		002-E-ME01-01		002-E-ME03-00		002-E-ME04-00		002-E-ME07-00	
	ORIGINAL ID ----->	02ME05		02ME06		02ME0101		02ME03		02ME04		02ME07	
	LAB SAMPLE ID --->	AB3059		AB3304		AB2538		AB2753		AB2847		AB3374	
	ID FROM REPORT -->	02ME05		02ME06		02ME0101		02ME03		02ME04		02ME07	
	SAMPLE DATE ----->	12/07/93		12/08/93		12/01/93		12/03/93		12/06/93		12/09/93	
	DATE ANALYZED --->	12/16/93		12/21/93		12/09/93		12/13/93		12/16/93		12/22/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN030	VAL	PN031	VAL	PN026	VAL	PN029	VAL	PN029	VAL	PN033	VAL
72-54-8	4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-55-9	4,4'-DDE	0.1	U	0.1	U	0.01	U	0.1	U	0.1	U	0.1	U
50-29-3	4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
309-00-2	Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
12674-11-2	Aroclor-1016	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11104-28-2	Aroclor-1221	2.	U	2.	U	2.	U	2.	U	2.	U	2.	U
11141-16-5	Aroclor-1232	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
53469-21-9	Aroclor-1242	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
12672-29-6	Aroclor-1248	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11097-69-1	Aroclor-1254	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
11096-82-5	Aroclor-1260	1.	U	1.	U	1.	U	1.	U	1.	U	1.	U
60-57-1	Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
959-98-8	Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
33213-65-9	Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1031-07-8	Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
72-20-8	Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
7421-93-4	Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
53494-70-5	Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
76-44-8	Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
72-43-5	Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
8001-35-2	Toxaphene	5.	U	5.	U	5.	U	5.	U	5.	U	5.	U
319-84-6	alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-71-9	alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-85-7	beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
319-86-8	delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
5103-74-2	gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

PENSACOLA, SITE 02
QA/QC Samples

SVOA	SAMPLE ID ------->	002-E-00ME-05		002-E-00ME-06		002-E-ME01-01		002-E-ME03-00		002-E-ME04-00		002-E-ME07-00	
	ORIGINAL ID ----->	02ME05		02ME06		02ME0101		02ME03		02ME04		02ME07	
	LAB SAMPLE ID --->	AB3057		AB3302		AB2537		AB2751		AB2843		AB3373	
	ID FROM REPORT -->	02ME05		02ME06		02ME0101		02ME03		02ME04		02ME07	
	SAMPLE DATE ----->	12/07/93		12/08/93		12/01/93		12/03/93		12/06/93		12/09/93	
	DATE ANALYZED --->	12/15/93		12/15/93		12/09/93		12/13/93		12/19/93		12/17/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN030	VAL	PN031	VAL	PN026	VAL	PN029	VAL	PN029	VAL	PN033	VAL
120-82-1	1,2,4-Trichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-95-4	2,4,5-Trichlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-06-2	2,4,6-Trichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-83-2	2,4-Dichlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
105-67-9	2,4-Dimethylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
51-28-5	2,4-Dinitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
121-14-2	2,4-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-58-7	2-Chloronaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-57-8	2-Chlorophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-57-6	2-Methylnaphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
95-48-7	2-Methylphenol (o-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
88-74-4	2-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
88-75-5	2-Nitrophenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-94-1	3,3'-Dichlorobenzidine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
99-09-2	3-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
534-52-1	4,6-Dinitro-2-methylphenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
101-55-3	4-Bromophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-47-8	4-Chloroaniline	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
106-44-5	4-Methylphenol (p-Cresol)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-01-6	4-Nitroaniline	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
100-02-7	4-Nitrophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
83-32-9	Acenaphthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
208-96-8	Acenaphthylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
120-12-7	Anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-55-3	Benzo(a)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
50-32-8	Benzo(a)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
85-68-7	Butylbenzylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-74-8	Carbazole	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples

SVOA													
	SAMPLE ID ------->	002-E-00ME-05		002-E-00ME-06		002-E-ME01-01		002-E-ME03-00		002-E-ME04-00		002-E-ME07-00	
	ORIGINAL ID ----->	02ME05		02ME06		02ME0101		02ME03		02ME04		02ME07	
	LAB SAMPLE ID --->	AB3057		AB3302		AB2537		AB2751		AB2843		AB3373	
	ID FROM REPORT -->	02ME05		02ME06		02ME0101		02ME03		02ME04		02ME07	
	SAMPLE DATE ----->	12/07/93		12/08/93		12/01/93		12/03/93		12/06/93		12/09/93	
	DATE ANALYZED --->	12/15/93		12/15/93		12/09/93		12/13/93		12/19/93		12/17/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN030	VAL	PN031	VAL	PN026	VAL	PN029	VAL	PN029	VAL	PN033	VAL
218-01-9	Chrysene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-74-2	Di-n-butylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-84-0	Di-n-octylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
132-64-9	Dibenzofuran	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
84-66-2	Diethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
131-11-3	Dimethylphthalate	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
206-44-0	Fluoranthene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-73-7	Fluorene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
118-74-1	Hexachlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-68-3	Hexachlorobutadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-72-1	Hexachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-59-1	Isophorone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
621-64-7	N-Nitroso-di-n-propylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
86-30-6	N-Nitrosodiphenylamine	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
91-20-3	Naphthalene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
98-95-3	Nitrobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
87-86-5	Pentachlorophenol	25.	U	25.	U	25.	U	25.	U	25.	U	25.	U
85-01-8	Phenanthrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-95-2	Phenol	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
129-00-0	Pyrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 02
QA/QC Samples

VOA													
	SAMPLE ID ------->	002-E-00ME-05		002-E-00ME-06		002-T-00MT-06		002-E-ME01-01		002-E-ME03-00		002-E-ME04-00	
	ORIGINAL ID ----->	02ME05		02ME06		02MT06		02ME0101		02ME03		02ME04	
	LAB SAMPLE ID --->	AB3054		AB3298		AB3299		AB2535		AB2748		AB2845	
	ID FROM REPORT -->	02ME05		02ME06		02MT06		02ME0101		02ME03		02ME04	
	SAMPLE DATE ----->	12/07/93		12/08/93		12/08/93		12/01/93		12/03/93		12/06/93	
	DATE ANALYZED --->	12/10/93		12/10/93		12/10/93		12/07/93		12/07/93		12/08/93	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN030	VAL	PN031	VAL	PN031	VAL	PN026	VAL	PN029	VAL	PN029	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	370.	E
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	10.	U	10.	U	3.	BJ	10.	U	10.	U	10.	U
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples

VOA									
	SAMPLE ID -------->	002-E-ME07-00		002-T-MT03-00		002-T-MT05-00		002-T-MT12-01	
	ORIGINAL ID ----->	02ME07		02MT03		02MT05		02MT1201	
	LAB SAMPLE ID --->	AB3371		AB2750		AB3056		AB2536	
	ID FROM REPORT -->	02ME07		02MT03		02MT05		02MT1201	
	SAMPLE DATE ----->	12/09/93		12/03/93		12/07/93		12/01/93	
	DATE ANALYZED --->	12/10/93		12/07/93		12/10/93		12/07/93	
	MATRIX ---------->	Water		Water		Water		Water	
	UNITS ----------->	UG/L		UG/L		UG/L		UG/L	
CAS #	Parameter	PN033	VAL	PN029	VAL	PN030	VAL	PN026	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	10.	U	2.	BJ	3.	J	2.	BJ
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U

*** Validation Complete ***

Phase IIA

Sediment Chemistry Results

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL	SAMPLE ID ------->	000-M-00A1-00		002-M-0001-00		002-M-0002-00		002-M-0002-G2		002-M-0002-G3		002-M-0002-G4	
	ORIGINAL ID ----->	SD02A1		SD0201		SD0202		SD02G2		SD02G3		SD02G4	
	LAB SAMPLE ID --->	AB2473		AB3011		AB3012		AB2733		AB2734		AB2735	
	ID FROM REPORT -->	SD02A1		SD0201		SD0202		SD02G2		SD02G3		SD02G4	
	SAMPLE DATE ----->	11/30/93		12/07/93		12/07/93		12/03/93		12/03/93		12/03/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	PN026	VAL	PN029	VAL	PN029	VAL	PN028	VAL	PN028	VAL	PN028	VAL
AL	Aluminum	2300.		1080.		10500.		523.		14500.		13400.	
SB	Antimony	7.6	U	8.1	U	15.2	U	6.2	U	14.7	U	20.5	
AS	Arsenic	1.9		0.98		6.8		0.88		12.5		16.1	
BA	Barium	18.2		4.5		18.3		8.3		16.3		19.7	
BE	Beryllium	0.29		0.27	U	0.58		0.21	U	0.78		1.1	
CD	Cadmium	3.		1.3	U	2.5	U	1.	U	2.5	U	3.4	U
CA	Calcium	12200.		8060.		25100.		3850.		21200.		34900.	
CR	Chromium	15.7		4.6		28.6		8.		35.6		41.8	
CO	Cobalt	5.1	U	5.4	U	10.1	U	4.1	U	9.8	U	13.7	U
CU	Copper	316.		2.7	U	14.2		225.		58.8		17.	
CN	Cyanide	4.1	U	1.3	U	2.5	U	1.3	U	2.5	U	3.6	U
FE	Iron	2680.		1740.		14100.		735.	J	19000.		25500.	
PB	Lead	62.7		2.5		0.15		48.9	J	41.1		31.6	
MG	Magnesium	2100.		1080.		5800.		528.		6830.		10200.	
MN	Manganese	69.7		26.		167.		10.4		218.		358.	
HG	Mercury	3.4	J	0.12	U	0.2	U	0.12	U	0.26	U	0.37	U
NI	Nickel	6.7		5.4	U	10.1	U	4.1	U	9.8	U	13.7	U
K	Potassium	424.		310.		1730.		206.	U	2010.		2800.	
SE	Selenium	0.51	U	0.53	U	0.98	U	0.41	U	0.9	U	1.5	U
AG	Silver	1.3	U	1.3	U	2.5	U	1.	U	2.5	U	3.4	U
NA	Sodium	3790.		4890.		16100.		2950.		16600.		29100.	
TL	Thallium	0.51	U	0.53	U	0.98	U	0.41	U	0.9	U	1.5	U
V	Vanadium	4.3		2.7	U	23.1		2.1	U	30.6		36.4	
ZN	Zinc	157.		8.		52.2		25.2	J	52.2	J	62.3	J

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

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Time: 14:46

METAL		002-M-0002-G5		002-M-0002-K1		002-M-0002-K3		002-M-0002-M1		002-M-0002-M2		002-M-0003-00	
	ORIGINAL ID	SD02G5		SD02K1		SD02K3		SD02M1		SD02M2		SD0203	
	LAB SAMPLE ID	AB2739		AB2744		AB2745		AB2746		AB2747		AB3013	
	ID FROM REPORT	SD02G5		SD02K1		SD02K3		SD02M1		SD02M2		SD0203	
	SAMPLE DATE	12/03/93		12/03/93		12/03/93		12/03/93		12/03/93		12/07/93	
	DATE ANALYZED									12/04/93			
	MATRIX	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	PN028	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL
AL	Aluminum	1970.		197.		22500.		229.		2710.		8140.	
SB	Antimony	7.2	U	7.5	U	21.2	U	7.4	U	9.4	U	11.9	U
AS	Arsenic	2.5		0.49	U	16.8	J	0.48	U	1.8		4.9	
BA	Barium	3.9		0.5	U	35.1		0.49	U	5.2		11.2	
BE	Beryllium	0.24	U	0.25	U	1.		0.25	U	0.31	U	0.4	
CD	Cadmium	1.2	U	1.2	U	3.5	U	1.2	U	1.6	U	2.	U
CA	Calcium	12300.		520.		35700.		1890.		7090.		22100.	
CR	Chromium	6.1		2.7		49.7		2.9		7.7		20.7	
CO	Cobalt	4.8	U	5.	U	14.2	U	4.9	U	6.2	U	7.9	U
CU	Copper	2.4	U	2.5	U	15.		38.		31.4		4.2	
CN	Cyanide	1.3	U	1.2	U	3.6	U	1.2	U	1.6	U	2.	U
FE	Iron	3660.		310.		25400.		367.		3400.		11700.	
PB	Lead	11.1	U	1.7		24.4		6.9		7.9		12.1	
MG	Magnesium	1560.		402.		10200.	J	425.		1770.	J	4740.	
MN	Manganese	46.8		4.7		363.		10.2		41.		132.	
HG	Mercury	0.11	U	0.12	U	0.31	U	0.11	U	0.13	U	0.2	U
NI	Nickel	4.8	U	5.	U	16.1		4.9	U	6.2	U	7.9	U
K	Potassium	357.		249.	U	3260.		245.	U	574.		1250.	
SE	Selenium	0.45	U	0.49	U	1.4	U	0.48	U	0.62	U	0.79	U
AG	Silver	1.2	U	1.2	U	3.5	U	1.2	U	1.6	U	2.	U
NA	Sodium	4810.		2510.		28000.		2460.		6850.		11700.	
TL	Thallium	0.45	U	0.49	U	1.4	U	0.48	U	0.62	U	0.79	U
V	Vanadium	4.6		2.5	U	43.1		2.5	U	5.6		17.9	
ZN	Zinc	16.2	J	2.1		55.5		2.1		14.4		29.2	

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL		SAMPLE ID ------->	002-M-0004-00		002-M-0005-00		002-M-00A2-00		002-M-00D1-00		002-M-00D2-00		002-M-00D3-00	
		ORIGINAL ID ----->	SD0204		SD0205		SD02A2		SD02D1		SD02D2		SD02D3	
		LAB SAMPLE ID --->	AB3014		AB3015		AB2530		AB2534		AB2475		AB2531	
		ID FROM REPORT -->	SD0204		SD0205		SD02A2		SD02D1		SD02D2		SD02D3	
		SAMPLE DATE ----->	12/07/93		12/07/93		12/01/93		12/01/93		11/30/93		12/01/93	
		MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
		UNITS ----------->	MG/KG		MG/KG		MG/KG		mg/Kg		MG/KG		MG/KG	
CAS #	Parameter		PN029	VAL	PN029	VAL	PN026	VAL	PN026	VAL	PN026	VAL	PN026	VAL
AL	Aluminum		985.		251.		2620.		346.		4430.		13100.	
SB	Antimony		7.6	U	7.5	U	10.1	U	7.5	U	8.2	U	14.5	U
AS	Arsenic		1.		0.48	U	3.2		0.56		8.	J	12.4	J
BA	Barium		3.		0.86		23.3		11.1		25.		24.2	
BE	Beryllium		0.25	U	0.25	U	0.34	J	0.25	U	0.29		0.83	
CD	Cadmium		1.3	U	1.2	U	2.2		1.2	U	3.3		2.4	U
CA	Calcium		6860.		2280.		19600.		11200.		32700.		35000.	
CR	Chromium		3.1		2.5	U	17.		9.5		51.8		49.1	
CO	Cobalt		5.	U	5.	U	6.7	U	5.	U	5.5	U	9.7	U
CU	Copper		2.5	U	2.5	U	44.7		14.		38.8		22.6	
CN	Cyanide		1.2	U	1.3	U	1.7	U	1.2	U	12.6	U	2.4	U
FE	Iron		1710.		449.		3920.		6480.		5540.		18100.	
PB	Lead		1.9		0.48	U	181.		89.3		406.		49.6	J
MG	Magnesium		875.		584.		1660.		849.		2590.		6860.	
MN	Manganese		28.3		10.7		51.7		29.5		100.		303.	
HG	Mercury		0.11	U	0.11	U	0.63	J	0.11	U	0.2	J	0.19	UJ
NI	Nickel		5.	U	5.	U	6.8		5.	U	6.3		12.9	
K	Potassium		252.	U	250.	U	446.		250.	U	782.		1950.	
SE	Selenium		0.5	U	0.48	U	0.67	U	0.5	U	0.55	U	0.99	J
AG	Silver		1.3	U	1.2	U	1.7	U	1.2	U	1.4	U	2.9	
NA	Sodium		2580.		3430.		5040.		4490.		7190.		17200.	
TL	Thallium		0.5	U	0.48	U	0.67	U	0.5	U	0.55	U	0.97	U
V	Vanadium		2.6		2.5	U	6.		3.5		8.8		32.	
ZN	Zinc		5.3		1.5		302.		28.9		104.		84.1	

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL		SAMPLE ID ------->	002-M-00D4-00		002-M-00D5-00		002-M-00E2-00	
		ORIGINAL ID ----->	SD02D4		SD02D5		SD02E2	
		LAB SAMPLE ID --->	AB2833		AB2834		AB2526	
		ID FROM REPORT -->	SD02D4		SD02D5		SD02E2	
		SAMPLE DATE ----->	12/06/93		12/06/93		12/01/93	
		MATRIX ---------->	Sediment		Sediment		Sediment	
		UNITS ----------->	MG/KG		MG/KG		MG/KG	
CAS #	Parameter		PN029	VAL	PN029	VAL	PN026	VAL
AL	Aluminum		2910.		1450.		1680.	
SB	Antimony		8.1	U	7.2	U	9.1	U
AS	Arsenic		2.7		0.78		2.3	
BA	Barium		41.2		4.6		7.2	
BE	Beryllium		0.27	U	0.24	U	0.3	U
CD	Cadmium		1.3	U	1.2	U	1.5	U
CA	Calcium		14000.		5260.		10300.	
CR	Chromium		25.		4.3		18.9	
CO	Cobalt		5.4	U	4.8	U	6.1	U
CU	Copper		43.6		3.2		7.6	
CN	Cyanide		1.3	U	1.2	U	1.5	U
FE	Iron		4420.		1980.		3250.	
PB	Lead		41.9		2.5		21.5	
MG	Magnesium		1750.	J	1130.		1490.	
MN	Manganese		54.9		26.4		36.9	
HG	Mercury		0.11	U	0.11	U	0.12	J
NI	Nickel		5.4	U	4.8	U	6.1	U
K	Potassium		504.		338.		566.	
SE	Selenium		0.54	U	0.49	U	0.61	U
AG	Silver		1.3	U	1.2	U	1.5	U
NA	Sodium		4830.		4590.		6920.	
TL	Thallium		0.54	U	0.49	U	0.61	U
V	Vanadium		7.3		3.5		5.8	
ZN	Zinc		307.		11.9		22.4	

METAL		SAMPLE ID ------->	002-M-00E3-00		002-M-00E4-00		002-M-00E5-00	
		ORIGINAL ID ----->	SD02E3		SD02E4		SD02E5	
		LAB SAMPLE ID --->	AB2527		AB2528		AB2529	
		ID FROM REPORT -->	SD02E3		SD02E4		SD02E5	
		SAMPLE DATE ----->	12/01/93		12/01/93		12/01/93	
		MATRIX ---------->	Sediment		Sediment		Sediment	
		UNITS ----------->	MG/KG		MG/KG		MG/KG	
CAS #	Parameter		PN026	VAL	PN026	VAL	PN026	VAL
AL	Aluminum		14300.		2770.		1210.	
SB	Antimony		22.1	U	9.4	U	7.8	U
AS	Arsenic		20.4		2.		0.84	
BA	Barium		23.5		14.3		5.3	
BE	Beryllium		1.3		0.34		0.26	U
CD	Cadmium		3.7	U	1.6	U	1.3	U
CA	Calcium		34200.		14300.		6010.	
CR	Chromium		63.6		9.3		3.5	
CO	Cobalt		14.7	U	6.3	U	5.2	U
CU	Copper		22.7		5.4		2.6	U
CN	Cyanide		3.6	U	2.1	U	1.3	U
FE	Iron		26900.		3940.		1540.	
PB	Lead		39.9		7.1		2.	
MG	Magnesium		10200.		2140.		1030.	
MN	Manganese		397.		51.6		28.	
HG	Mercury		0.29	J	0.13	UJ	0.09	U
NI	Nickel		17.5		6.3	U	5.2	U
K	Potassium		2980.		703.		329.	
SE	Selenium		1.5	U	0.63	U	0.52	U
AG	Silver		4.1		1.6	U	1.3	U
NA	Sodium		28300.		8690.		4230.	
TL	Thallium		1.5	U	0.63	U	0.52	U
V	Vanadium		41.2		7.		3.	
ZN	Zinc		101.		21.6		6.4	

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL	SAMPLE ID ------->	002-M-00F1-00		002-M-00F2-00		002-M-00F3-00		002-M-00F5-00		002-N-00G4-00		002-M-00H1-00	
	ORIGINAL ID ----->	SD02F1		SD02F2		SD02F3		SD02F5		SD02G4D		SD02H1	
	LAB SAMPLE ID --->	AB2474		AB2532		AB2533		AB2836		AB2738		AB2614	
	ID FROM REPORT -->	SD02F1		SD02F2		SD02F3		SD02F5		SD02G4D		SD02H1	
	SAMPLE DATE ----->	11/30/93		12/01/93		12/01/93		12/06/93		12/03/93		12/02/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	PN026	VAL	PN026	VAL	PN026	VAL	PN029	VAL	PN028	VAL	PN028	VAL
AL	Aluminum	312.		498.		21700.		844.		13900.		7020.	
SB	Antimony	7.3	U	7.9	U	22.1	U	7.2	U	21.2	U	10.9	U
AS	Arsenic	1.3		0.64		15.3	J	0.97		16.7		9.1	
BA	Barium	2.2		2.9		29.8		17.1		23.		27.	U
BE	Beryllium	0.24	U	0.26	U	1.2		0.24	U	1.1		0.46	
CD	Cadmium	1.2	U	1.3	U	3.7	U	1.2	U	3.5	U	24.1	
CA	Calcium	1550.		6130.		31600.		2800.		36700.		19900.	
CR	Chromium	10.1		2.6	U	68.3		2.6		46.1		220.	
CO	Cobalt	4.9	U	5.3	U	14.8	U	4.8	U	14.1	U	7.2	U
CU	Copper	7.4		4.2		37.1		6.8		21.5		44.1	
CN	Cyanide	1.2	U	1.3	U	3.6	U	1.3	U	3.7	U	2.	U
FE	Iron	532.		807.		25500.		1550.		26300.		11600.	
PB	Lead	27.3		133.		42.4		2.1		30.3		262.	
MG	Magnesium	401.		756.		9760.		895.		10400.		4270.	
MN	Manganese	6.8		24.3		328.		24.		372.		154.	
HG	Mercury	1.4		0.1	J	0.35	J	0.11	U	0.33	U	0.18	U
NI	Nickel	4.9	U	5.3	U	14.8	U	4.8	U	14.1	U	7.8	
K	Potassium	245.	U	290.		3210.		311.		3040.		1150.	
SE	Selenium	0.49	U	0.53	U	1.5	U	0.48	U	1.4	U	0.8	U
AG	Silver	1.2	U	1.4		3.7	U	1.2	U	3.5	U	1.8	U
NA	Sodium	2270.		4640.		28200.		3810.		30000.		900.	U
TL	Thallium	0.49	U	0.53	U	1.5	U	0.48	U	1.4	U	0.8	U
V	Vanadium	2.4	U	2.6	U	43.2		2.4	U	38.6		17.5	
ZN	Zinc	6.9		25.2		109.		7.1		65.9	J	192.	J

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL													
	SAMPLE ID ------->	002-M-00H2-00		002-M-00H3-00		002-M-00H4-00		002-M-00H5-00		002-M-00M3-00		002-M-00M4-00	
	ORIGINAL ID ----->	SD02H2		SD02H3		SD02H4		SD02H5		SD02M3		SD02M4	
	LAB SAMPLE ID --->	AB2615		AB2616		AB2551		AB2552		AB3034		AB3035	
	ID FROM REPORT -->	SD02H2		SD02H3		SD02H4		SD02H5		SD02M3		SD02M4	
	SAMPLE DATE ----->	12/02/93		12/02/93		12/02/93		12/02/93		12/07/93		12/07/93	
	DATE ANALYZED --->									12/08/93		12/08/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN026	VAL	PN026	VAL	PN030	VAL	PN030	VAL
AL	Aluminum	30400.		29800.		1410.		1740.		1310.	J	310.	J
SB	Antimony	21.9	U	25.2	U	8.8	U	8.3	U	6.7	UJ	6.5	UJ
AS	Arsenic	18.2		21.9	J	1.3		1.6		0.93		1.5	
BA	Barium	36.3		35.4		3.4		5.8		2.8	U	1.1	U
BE	Beryllium	1.6		1.3		0.29	U	0.28	U	0.22	U	0.22	U
CD	Cadmium	3.6	U	4.2	U	1.5	U	5.3		1.1	U	1.1	U
CA	Calcium	35200.		40300.		5260.		4260.		5750.		3480.	
CR	Chromium	70.8		57.1		4.5		5.3		4.2	J	2.2	UJ
CO	Cobalt	14.6	U	16.8		5.8	U	5.5	U	4.5	U	4.3	U
CU	Copper	24.9		19.		2.9	U	2.8	U	2.2	U	2.2	U
CN	Cyanide	4.	U	4.2	U	1.5	U	1.4	U	0.01	R	0.01	R
FE	Iron	31800.	U	30500.		2510.		2430.		2230.		573.	
PB	Lead	20.8	U	31.2		3.5		3.5		3.7	J	3.2	J
MG	Magnesium	11800.		12100.		1390.		1360.		1060.		533.	
MN	Manganese	403.		566.		34.9		37.5		25.6	J	8.9	J
HG	Mercury	0.39	U	0.4		0.11	U	0.11	U	0.11	U	0.12	U
NI	Nickel	14.6	U	16.8	U	5.8	U	5.5	U	4.5	U	4.3	U
K	Potassium	3790.		3560.		365.		441.		421.		217.	
SE	Selenium	1.5	U	1.6	U	0.58	U	0.55	U	0.45	UJ	0.4	UJ
AG	Silver	3.6	U	4.2	U	1.5		1.4	U	1.1	U	1.1	U
NA	Sodium	32900.		34900.		5870.		5410.		3620.		2850.	
TL	Thallium	1.5	U	1.6	U	0.58	U	0.55	J	0.45	U	0.4	U
V	Vanadium	53.8		50.3		4.3		4.3		3.7		2.2	U
ZN	Zinc	120.	U	74.4	J	8.7		13.2		6.7	U	2.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL		002-M-00M5-00		002-N-00M5-00 D		002-M-00N2-00		002-M-00N3-00		002-M-00N4-00		002-M-00N5-00	
	ORIGINAL ID ----->	SD02M5		SD02M5		SD02N2		SD02N3		SD02N4		SD02N5	
	LAB SAMPLE ID --->	AB3036		AB3037		AB2837		AB2838		AB2839		AB2840	
	ID FROM REPORT -->	SD02M5		SD02M5D		SD02N2		SD02N3		SD02N4		SD02N5	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/06/93		12/06/93		12/06/93		12/06/93	
	DATE ANALYZED --->	12/08/93		12/08/93		12/07/93		12/07/93		12/07/93		12/07/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	PN030	VAL	PN030	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL
AL	Aluminum	215.	U	302.	J	4090.		13300.		557.		576.	
SB	Antimony	5.7	UJ	5.9	UJ	8.6	U	17.8	U	7.4	U	6.9	U
AS	Arsenic	0.42	U	1.4		2.5		13.6	J	0.47	U	0.47	U
BA	Barium	1.1	U	2.8	U	6.8		21.3		3.4		1.3	
BE	Beryllium	0.19	U	0.2	U	0.29	U	0.68		0.25	U	0.23	U
CD	Cadmium	0.95	U	0.99	U	1.4	U	3.	U	1.2	U	1.1	U
CA	Calcium	1500.		5330.		14000.		35800.		7490.		4020.	
CR	Chromium	1.9	UJ	2.	UJ	19.		35.4		2.5	U	2.3	U
CO	Cobalt	3.8	U	4.	U	5.7	U	11.9	U	4.9	U	4.6	U
CU	Copper	1.9	U	2.	U	3.2		10.2		2.5	U	2.3	U
CN	Cyanide	0.01	R	0.01	R	1.6	U	3.	U	1.2	U	1.2	U
FE	Iron	332.		451.		5480.		22500.		792.		764.	
PB	Lead	0.65	J	1.9	J	6.3		24.5		0.8		1.5	
MG	Magnesium	478.		603.		2480.		8900.	J	707.		765.	
MN	Manganese	13.3	J	15.2	J	70.4		309.		15.7		12.	
HG	Mercury	0.12	U	0.12	U	0.13	U	0.24	U	0.11	U	0.12	U
NI	Nickel	3.8	U	4.	U	7.5		13.9		4.9	U	4.6	U
K	Potassium	216.		232.		688.		2460.		247.	U	229.	U
SE	Selenium	0.42	UJ	0.44	UJ	0.63	U	1.2	U	0.47	U	0.47	U
AG	Silver	0.95	U	0.99	U	1.4	U	3.	U	1.2	U	1.1	U
NA	Sodium	2960.		3160.		7710.		23200.		3730.		3980.	
TL	Thallium	0.42	U	0.44	U	0.63	U	1.2	U	0.47	U	0.47	U
V	Vanadium	1.9	U	2.	U	9.		33.1		2.5	U	2.3	U
ZN	Zinc	1.4	U	1.6	U	35.		44.9		4.6		2.	

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL	SAMPLE ID ------->	002-M-00P2-00		002-M-00P3-00		002-M-00P4-00		002-M-00P5-00		002-M-00Q1-00		002-M-00Q2-00	
	ORIGINAL ID ----->	SD02P2		SD02P3		SD02P4		SD02P5		SD02Q1		SD02Q2	
	LAB SAMPLE ID --->	AB3278		AB3279		AB3280		AB3281		AB3136		AB3137	
	ID FROM REPORT -->	SD02P2		SD02P3		SD02P4		SD02P5		SD02Q1		SD02Q2	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/08/93		12/08/93		12/08/93		12/08/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/09/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	PN031	VAL	PN031	VAL	PN031	VAL	PN031	VAL	PN030	VAL	PN030	VAL
AL	Aluminum	12900.		4800.		1330.		821.		2160.	J	10300.	J
SB	Antimony	21.5	U	8.7	U	8.7	U	6.3	U	6.8	UJ	18.5	J
AS	Arsenic	17.3	J	5.1	J	1.5	J	1.1	J	0.75		15.4	J
BA	Barium	22.4		6.4		3.5		3.6		8.5	U	16.4	
BE	Beryllium	1.2		0.4		0.29	U	0.21	U	0.46		0.93	
CD	Cadmium	3.6	U	1.5	U	1.5	U	1.1	U	1.1	U	2.9	U
CA	Calcium	46200.	J	13900.	J	9010.	J	5380.	J	14800.		40300.	
CR	Chromium	43.2		14.2		11.	U	4.2	U	3.1	J	37.2	J
CO	Cobalt	14.3	U	5.8	U	5.8	U	4.2	U	4.5	U	11.5	U
CU	Copper	16.4		4.8		3.4		2.1	U	2.7		16.4	
CN	Cyanide	3.6	UJ	1.6	UJ	1.6	UJ	1.3	UJ	0.01	R	0.03	R
FE	Iron	25700.		8210.		3050.	U	1770.		1250.		22800.	
PB	Lead	26.7		7.1		4.4		2.1	U	13.7	J	29.1	J
MG	Magnesium	10300.		3360.		1520.		1060.		1270.		9160.	
MN	Manganese	348.		90.5		40.5		33.2		49.3	J	319.	J
HG	Mercury	0.24	U	0.13	U	0.13	U	0.08	U	0.13	U	0.33	U
NI	Nickel	14.3	U	5.8	U	5.8	U	4.2	U	4.5	U	11.5	U
K	Potassium	3000.		1100.		535.		401.		445.		2780.	
SE	Selenium	1.3	U	0.65	U	0.56	U	0.41	U	0.48	UJ	1.3	UJ
AG	Silver	3.6	U	1.5	U	1.5	U	1.1	U	1.1	U	2.9	U
NA	Sodium	27500.		9270.		5040.	U	4340.		3420.		25100.	
TL	Thallium	1.3	U	0.65	U	0.56	U	0.41	U	0.48	U	1.3	U
V	Vanadium	36.4		11.9		4.		2.7		2.6		32.5	
ZN	Zinc	61.1		20.4	U	17.5		6.7		9.8	U	1790.	

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL	SAMPLE ID ------->	002-M-00Q3-00		002-M-00Q4-00		002-M-00Q5-00		002-M-00U1-00		002-M-00U1-00 D		002-M-00U2-00	
	ORIGINAL ID ----->	SD02Q3		SD02Q4		SD02Q5		SD02U1		SD02U1		SD02U2	
	LAB SAMPLE ID --->	AB3138		AB3282		AB3283		AB3358		AB3359		AB3360	
	ID FROM REPORT -->	SD02Q3		SD02Q4		SD02Q5		SD02U1		SD02U1D		SD02U2	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/08/93		12/09/93		12/09/93		12/09/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/09/93		12/10/93		12/10/93		12/10/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	PN030	VAL	PN031	VAL	PN031	VAL	PN031	VAL	PN031	VAL	PN031	VAL
AL	Aluminum	4230.	J	436.		663.		12700.		9980.		2820.	
SB	Antimony	8.6	UJ	4.9	U	7.3	U	23.2		19.2	U	8.2	U
AS	Arsenic	7.3	J	0.52	J	1.2	J	12.7		13.6	J	3.9	J
BA	Barium	19.7		1.3		2.9		17.3		15.4		5.7	
BE	Beryllium	0.51		0.16	U	0.24	U	1.		0.89		0.3	
CD	Cadmium	1.4	U	0.82	U	1.2	U	3.1	U	3.2	U	1.4	U
CA	Calcium	13900.		4430.		6980.	J	24200.		27300.	J	15100.	J
CR	Chromium	14.3	J	1.6	U	2.7		36.8		32.7	U	9.3	
CO	Cobalt	5.7	U	3.3	U	4.9	U	12.3	U	12.8	U	5.5	U
CU	Copper	5.5		1.6	U	2.4	U	16.5		14.9		20.6	
CN	Cyanide	0.02	R	1.	UJ	1.3	UJ	3.4	UJ	3.5	UJ	1.6	UJ
FE	Iron	8760.		773.		1510.		21800.		20500.		6380.	
PB	Lead	9.7	J	1.4		2.4		31.4		44.5		7.4	
MG	Magnesium	3430.		608.		890.		8580.		8460.		2710.	
MN	Manganese	189.	J	11.9		25.4		359.		339.		82.8	
HG	Mercury	0.13	U	0.08	U	0.08	U	0.26	U	0.33	U	0.13	U
NI	Nickel	5.7	U	3.3	U	4.9	U	12.3	U	12.8	U	5.5	U
K	Potassium	1170.		183.		243.	U	2960.		2400.		755.	
SE	Selenium	0.64	UJ	0.4	U	0.44	U	1.1	U	1.2	U	0.59	U
AG	Silver	1.4	U	0.82	U	1.2	U	3.1	U	3.2	U	1.4	U
NA	Sodium	8880.		2880.		3620.		23700.		25000.		7640.	
TL	Thallium	0.64	U	0.4	U	0.44	U	1.1	U	1.2	U	0.59	U
V	Vanadium	14.		1.6	U	2.4	U	35.2		31.		8.5	
ZN	Zinc	17.3	U	2.8		8.8		59.4		51.8		19.9	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL													
	SAMPLE ID ------->	002-N-00U2-00 D		002-M-00X1-00		002-M-00X2-00		002-M-00X3-00		002-N-00X3-00 D		002-M-00X4-00	
	ORIGINAL ID ----->	SD02U2		SD02X1		SD02X2		SD02X3		SD02X3		SD02X4	
	LAB SAMPLE ID --->	AB3366		AB2841		AB3033		AB3284		AB3287		AB3367	
	ID FROM REPORT -->	SD02U2D		SD02X1		SD02X2		SD02X3		SD02X3D		SD02X4	
	SAMPLE DATE ----->	12/09/93		12/06/93		12/07/93		12/08/93		12/08/93		12/09/93	
	DATE ANALYZED --->	12/30/93		12/07/93		12/08/93		12/09/93		12/09/93		12/30/93	
	MATRIX ----------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ------------>	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
CAS #	Parameter	PN033	VAL	PN029	VAL	PN030	VAL	PN031	VAL	PN031	VAL	PN033	VAL
AL	Aluminum	3440.	J	132.		203.	U	130.		196.		159.	J
SB	Antimony	9.2	U	6.9	U	9.8	U	6.	U	7.5	U	11.8	
AS	Arsenic	4.2	J	0.47	U	0.45	U	0.39	U	0.48	U	0.47	U
BA	Barium	6.1		0.85		0.85		0.62		1.3		1.3	
BE	Beryllium	0.41		0.23	U	0.25	U	0.2	U	0.25	U	0.24	U
CD	Cadmium	1.5	U	1.2	U	1.2	U	1.	U	1.2	U	1.2	U
CA	Calcium	14900.		533.		5840.		5790.	J	10800.	J	10900.	
CR	Chromium	11.8		2.3	U	2.5	U	2.	U	2.5	U	2.4	U
CO	Cobalt	6.1	U	4.6	U	4.9	U	4.	U	5.	U	4.7	U
CU	Copper	5.1		2.3	U	2.5	U	2.	U	2.5	U	2.4	U
CN	Cyanide	1.6	U	1.2	U	0.01	R	1.3	UJ	1.3	UJ	1.3	U
FE	Iron	6820.	J	224.		326.		340.		332.		335.	J
PB	Lead	7.8		0.57		0.46		0.75		1.		0.52	U
MG	Magnesium	2780.		279.		650.		655.		479.		702.	J
MN	Manganese	91.1		14.		16.2	J	6.9		7.4		29.	
HG	Mercury	0.16	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
NI	Nickel	6.1	U	4.6	U	4.9	U	4.	U	5.	U	4.7	U
K	Potassium	1010.		230.	U	246.	U	201.	U	249.	U	301.	J
SE	Selenium	0.63	U	0.47	U	0.45	UJ	0.39	U	0.48	U	0.47	U
AG	Silver	1.5	U	1.2	U	1.2	U	1.	U	1.2	U	1.3	J
NA	Sodium	7910.		1790.		2800.		2840.		2890.		2870.	
TL	Thallium	0.63	U	0.47	U	0.45	U	0.39	U	0.48	U	0.47	U
V	Vanadium	9.3		2.3	U	2.5	U	2.	U	2.5	U	2.4	U
ZN	Zinc	12.3		1.2	U	6.4	U	1.6		2.1		1.7	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

METAL							
	SAMPLE ID ------->	002-N-00X4-00 D	002-M-02F4-00				
	ORIGINAL ID ----->	SD02X4	SD02F4				
	LAB SAMPLE ID --->	AB3370	AB2835				
	ID FROM REPORT -->	SD02X4D	SD02F4				
	SAMPLE DATE ----->	12/09/93	12/06/93				
	DATE ANALYZED --->	12/30/93					
	MATRIX ---------->	Sediment	Sediment				
	UNITS ----------->	MG/KG	MG/KG				

CAS #	Parameter	PN033	VAL	PN029	VAL				
AL	Aluminum	161.	J	23300.					
SB	Antimony	7.2	U	18.2	U				
AS	Arsenic	0.48	U	15.4					
BA	Barium	0.96		29.					
BE	Beryllium	0.24	U	1.1					
CD	Cadmium	1.2	U	3.	U				
CA	Calcium	2890.		26500.					
CR	Chromium	2.4	U	50.1					
CO	Cobalt	4.8	U	12.2	U				
CU	Copper	2.4	U	15.					
CN	Cyanide	1.3	U	3.3	U				
FE	Iron	286.	J	23300.					
PB	Lead	0.48	U	40.5					
MG	Magnesium	550.	J	9470.					
MN	Manganese	20.6		260.					
HG	Mercury	0.12	U	0.33	U				
NI	Nickel	4.8	U	15.4					
K	Potassium	312.	J	3130.					
SE	Selenium	0.48	U	1.3	U				
AG	Silver	1.5	U	3.	U				
NA	Sodium	3600.		26600.					
TL	Thallium	0.48	U	1.3	U				
V	Vanadium	2.4	U	44.6					
ZN	Zinc	1.4	U	58.					

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

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PEST													
	SAMPLE ID ------->	002-M-0001-00		002-M-0002-00		002-M-0002-A2		002-M-0002-D3		002-M-0002-E2		002-M-0002-E3	
	ORIGINAL ID ----->	SD0201		SD0202		SD02A2		SD02D3		SD02E2		SD02E3	
	LAB SAMPLE ID --->	AB3011		AB3012		AB2521		AB2522		AB2517		AB2518	
	ID FROM REPORT -->	SD0201		SD0202		SD02A2		SD02D3		SD02E2		SD02E3	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/01/93		12/01/93		12/01/93		12/01/93	
	DATE EXTRACTED -->	12/18/93		12/18/93		12/09/93		12/09/93		12/09/93		12/09/93	
	DATE ANALYZED --->	12/18/93		12/18/93		12/09/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN026	VAL	PN026	VAL	PN026	VAL	PN026	VAL
72-54-8	4,4'-DDD	4.5	U	8.2	U	6.4		8.	U	5.	U	12.	U
72-55-9	4,4'-DDE	4.5	U	8.2	U	5.5	U	8.	U	5.	U	12.	U
50-29-3	4,4'-DDT	4.5	U	8.2	U	7.9		8.	U	5.	U	12.	U
309-00-2	Aldrin	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U
12674-11-2	Aroclor-1016	45.	U	82.	U	55.	U	80.	U	50.	U	120.	U
11104-28-2	Aroclor-1221	91.	U	170.	U	110.	U	160.	U	100.	U	250.	U
11141-16-5	Aroclor-1232	45.	U	82.	U	55.	U	80.	U	50.	U	120.	U
53469-21-9	Aroclor-1242	45.	U	82.	U	77.		80.	U	50.	U	120.	U
12672-29-6	Aroclor-1248	45.	U	82.	U	55.	U	80.	U	50.	U	120.	U
11097-69-1	Aroclor-1254	45.	U	82.	U	55.	U	80.	U	50.	U	120.	U
11096-82-5	Aroclor-1260	45.	U	82.	U	55.	U	80.	U	50.	U	120.	U
60-57-1	Dieldrin	4.5	U	8.2	U	5.5	U	8.	U	5.	U	12.	U
959-98-8	Endosulfan I	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U
33213-65-9	Endosulfan II	4.5	U	8.2	U	5.5	U	8.	U	5.	U	12.	U
1031-07-8	Endosulfan sulfate	4.5	U	8.2	U	5.5	U	8.	U	5.	U	12.	U
72-20-8	Endrin	4.5	U	8.2	U	5.5	U	8.	U	5.	U	12.	U
7421-93-4	Endrin aldehyde	4.5	U	8.2	U	5.5	U	8.	U	5.	U	12.	U
53494-70-5	Endrin ketone	4.5	U	8.2	U	5.5	U	8.	U	5.	U	12.	U
76-44-8	Heptachlor	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U
1024-57-3	Heptachlor epoxide	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U
72-43-5	Methoxychlor	23.	U	42.	U	28.	U	41.	U	26.	U	63.	U
8001-35-2	Toxaphene	230.	U	420.	U	280.	U	410.	U	260.	U	630.	U
319-84-6	alpha-BHC	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U
5103-71-9	alpha-Chlordane	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U
319-85-7	beta-BHC	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U
319-86-8	delta-BHC	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U
58-89-9	gamma-BHC (Lindane)	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U
5103-74-2	gamma-Chlordane	2.3	U	4.2	U	2.8	U	4.1	U	2.6	U	6.3	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

PEST													
	SAMPLE ID ------->	002-M-0002-E4		002-M-0002-E5		002-M-0002-F2		002-M-0002-F3		002-M-0002-G2		002-M-0002-G3	
	ORIGINAL ID ----->	SD02E4		SD02E5		SD02F2		SD02F3		SD02G2		SD02G3	
	LAB SAMPLE ID --->	AB2519		AB2520		AB2523		AB2524		AB2733		AB2734	
	ID FROM REPORT -->	SD02E4		SD02E5		SD02F2		SD02F3		SD02G2		SD02G3	
	SAMPLE DATE ----->	12/01/93		12/01/93		12/01/93		12/01/93		12/03/93		12/03/93	
	DATE EXTRACTED -->	12/09/93		12/09/93		12/09/93		12/09/93		12/17/93		12/17/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/09/93		12/09/93		12/17/93		12/17/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN026	VAL	PN026	VAL	PN026	VAL	PN026	VAL	PN028	VAL	PN028	VAL
72-54-8	4,4'-DDD	5.1	U	4.3	U	6.5	J	12.	U	4.2	U	8.4	U
72-55-9	4,4'-DDE	5.1	U	4.3	U	4.3	U	12.	U	4.2	U	8.4	U
50-29-3	4,4'-DDT	5.1	U	4.3	U	4.3	U	12.	U	4.2	U	8.4	U
309-00-2	Aldrin	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U
12674-11-2	Aroclor-1016	51.	U	43.	U	43.	U	120.	U	42.	U	84.	U
11104-28-2	Aroclor-1221	100.	U	87.	U	88.	U	250.	U	86.	U	170.	U
11141-16-5	Aroclor-1232	51.	U	43.	U	43.	U	120.	U	42.	U	84.	U
53469-21-9	Aroclor-1242	51.	U	43.	U	43.	U	120.	U	42.	U	84.	U
12672-29-6	Aroclor-1248	51.	U	43.	U	43.	U	120.	U	42.	U	84.	U
11097-69-1	Aroclor-1254	51.	U	43.	U	43.	U	120.	U	42.	U	84.	U
11096-82-5	Aroclor-1260	51.	U	43.	U	43.	U	120.	U	42.	U	84.	U
60-57-1	Dieldrin	5.1	U	4.3	U	4.3	U	12.	U	4.2	U	8.4	U
959-98-8	Endosulfan I	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U
33213-65-9	Endosulfan II	5.1	U	4.3	U	4.3	U	12.	U	4.2	U	8.4	U
1031-07-8	Endosulfan sulfate	5.1	U	4.3	U	4.3	U	12.	U	4.2	U	8.4	U
72-20-8	Endrin	5.1	U	4.3	U	4.3	U	12.	U	4.2	U	8.4	U
7421-93-4	Endrin aldehyde	5.1	U	4.3	U	4.3	U	12.	U	4.2	U	8.4	U
53494-70-5	Endrin ketone	5.1	U	4.3	U	4.3	U	12.	U	4.2	U	8.4	U
76-44-8	Heptachlor	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U
1024-57-3	Heptachlor epoxide	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U
72-43-5	Methoxychlor	26.	U	22.	U	22.	U	63.	U	22.	U	43.	U
8001-35-2	Toxaphene	260.	U	220.	U	220.	U	630.	U	220.	U	430.	U
319-84-6	alpha-BHC	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U
5103-71-9	alpha-Chlordane	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U
319-85-7	beta-BHC	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U
319-86-8	delta-BHC	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U
58-89-9	gamma-BHC (Lindane)	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U
5103-74-2	gamma-Chlordane	2.6	U	2.2	U	2.2	U	6.3	U	2.2	U	4.3	U

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

PEST	SAMPLE ID -------->	002-M-0002-G4		002-M-0002-G5		002-M-0002-K1		002-M-0002-K3		002-M-0002-M1		002-M-0002-M2	
	ORIGINAL ID ----->	SD02G4		SD02G5		SD02K1		SD02K3		SD02M1		SD02M2	
	LAB SAMPLE ID --->	AB2735		AB2739		AB2744		AB2745		AB2746		AB2747	
	ID FROM REPORT -->	SD02G4		SD02G5		SD02K1		SD02K3		SD02M1		SD02M2	
	SAMPLE DATE ----->	12/03/93		12/03/93		12/03/93		12/03/93		12/03/93		12/03/93	
	DATE EXTRACTED -->	12/17/93		12/17/93		12/15/93		12/15/93		12/15/93		12/18/93	
	DATE ANALYZED --->	12/17/93		12/17/93		12/15/93		12/15/93		12/15/93		12/18/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL
72-54-8	4,4'-DDD	12.	U	4.5	U	4.1	U	12.	U	4.1	U	5.1	U
72-55-9	4,4'-DDE	12.	U	4.5	U	4.1	U	12.	U	4.1	U	5.1	U
50-29-3	4,4'-DDT	12.	U	4.5	U	4.1	U	12.	U	4.1	U	46.	
309-00-2	Aldrin	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U
12674-11-2	Aroclor-1016	120.	U	45.	U	41.	U	120.	U	41.	U	51.	U
11104-28-2	Aroclor-1221	250.	U	92.	U	83.	U	250.	U	84.	U	100.	U
11141-16-5	Aroclor-1232	120.	U	45.	U	41.	U	120.	U	41.	U	51.	U
53469-21-9	Aroclor-1242	120.	U	45.	U	41.	U	120.	U	41.	U	51.	U
12672-29-6	Aroclor-1248	120.	U	45.	U	41.	U	120.	U	41.	U	51.	U
11097-69-1	Aroclor-1254	120.	U	45.	U	41.	U	120.	U	41.	U	51.	U
11096-82-5	Aroclor-1260	120.	U	45.	U	41.	U	120.	U	41.	U	51.	U
60-57-1	Dieldrin	12.	U	4.5	U	4.1	U	12.	U	4.1	U	5.1	U
959-98-8	Endosulfan I	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U
33213-65-9	Endosulfan II	12.	U	4.5	U	4.1	U	12.	U	4.1	U	5.1	U
1031-07-8	Endosulfan sulfate	12.	U	4.5	U	4.1	U	12.	U	4.1	U	5.1	U
72-20-8	Endrin	12.	U	4.5	U	4.1	U	12.	U	4.1	U	5.1	U
7421-93-4	Endrin aldehyde	12.	U	4.5	U	4.1	U	12.	U	4.1	U	5.1	U
53494-70-5	Endrin ketone	12.	U	4.5	U	4.1	U	12.	U	4.1	U	5.1	U
76-44-8	Heptachlor	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U
1024-57-3	Heptachlor epoxide	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U
72-43-5	Methoxychlor	63.	U	23.	U	21.	U	63.	U	21.	U	26.	U
8001-35-2	Toxaphene	630.	U	230.	U	210.	U	630.	U	210.	U	260.	U
319-84-6	alpha-BHC	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U
5103-71-9	alpha-Chlordane	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U
319-85-7	beta-BHC	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U
319-86-8	delta-BHC	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U
58-89-9	gamma-BHC (Lindane)	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U
5103-74-2	gamma-Chlordane	6.3	U	2.3	U	2.1	U	6.3	U	2.1	U	2.6	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

PEST	SAMPLE ID ------->	002-M-0002-M2		002-M-0003-00		002-M-0004-00		002-M-0005-00		002-M-00A1-00		002-M-00D2-00	
	ORIGINAL ID ----->	SD02M2		SD0203		SD0204		SD0205		SD02A1		SD02D2	
	LAB SAMPLE ID --->	AB2747RE		AB3013		AB3014		AB3015		AB2470		AB2472	
	ID FROM REPORT -->	SD02M2		SD0203		SD0204		SD0205		SD02A1		SD02D2	
	SAMPLE DATE ----->	12/03/93		12/07/93		12/07/93		12/07/93		11/30/93		11/30/93	
	DATE EXTRACTED -->	12/18/93		12/18/93		12/18/93		12/18/93		12/09/93		12/14/93	
	DATE ANALYZED --->	12/04/93		12/18/93		12/18/93		12/18/93		12/09/93		12/14/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN026	VAL	PN026	VAL
72-54-8	4,4'-DDD	5.1	U	6.7	U	4.1	U	4.1	U	6.4		4.5	U
72-55-9	4,4'-DDE	5.1	U	6.7	U	4.1	U	4.1	U	4.2	U	4.5	U
50-29-3	4,4'-DDT	46.		6.7	U	4.1	U	4.1	U	5.8		4.5	U
309-00-2	Aldrin	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U
12674-11-2	Aroclor-1016	51.	U	67.	U	41.	U	41.	U	42.	U	45.	U
11104-28-2	Aroclor-1221	100.	U	140.	U	84.	U	84.	U	85.	U	92.	U
11141-16-5	Aroclor-1232	51.	U	67.	U	41.	U	41.	U	42.	U	45.	U
53469-21-9	Aroclor-1242	51.	U	67.	U	41.	U	41.	U	42.	U	45.	U
12672-29-6	Aroclor-1248	51.	U	67.	U	41.	U	41.	U	42.	U	45.	U
11097-69-1	Aroclor-1254	51.	U	67.	U	41.	U	41.	U	42.	U	45.	U
11096-82-5	Aroclor-1260	51.	U	67.	U	41.	U	41.	U	42.	U	45.	U
60-57-1	Dieldrin	5.1	U	6.7	U	4.1	U	4.1	U	4.2	U	4.5	U
959-98-8	Endosulfan I	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U
33213-65-9	Endosulfan II	5.1	U	6.7	U	4.1	U	4.1	U	4.2	U	4.5	U
1031-07-8	Endosulfan sulfate	5.1	U	6.7	U	4.1	U	4.1	U	4.2	U	4.5	U
72-20-8	Endrin	5.1	U	6.7	U	4.1	U	4.1	U	4.2	U	4.5	U
7421-93-4	Endrin aldehyde	5.1	U	6.7	U	4.1	U	4.1	U	4.2	U	4.5	U
53494-70-5	Endrin ketone	5.1	U	6.7	U	4.1	U	4.1	U	4.2	U	4.5	U
76-44-8	Heptachlor	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U
1024-57-3	Heptachlor epoxide	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U
72-43-5	Methoxychlor	26.	U	34.	U	21.	U	21.	U	21.	U	23.	U
8001-35-2	Toxaphene	260.	U	340.	U	210.	U	210.	U	210.	U	230.	U
319-84-6	alpha-BHC	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U
5103-71-9	alpha-Chlordane	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U
319-85-7	beta-BHC	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U
319-86-8	delta-BHC	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U
58-89-9	gamma-BHC (Lindane)	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U
5103-74-2	gamma-Chlordane	2.6	U	3.4	U	2.1	U	2.1	U	2.1	U	2.3	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

PEST													
	SAMPLE ID ------->	002-M-00D4-00		002-M-00D5-00		002-M-00F1-00		002-M-00F5-00		002-N-00G4-00		002-M-00H1-00	
	ORIGINAL ID ----->	SD02D4		SD02D5		SD02F1		SD02F5		SD02G4D		SD02H1	
	LAB SAMPLE ID --->	AB2833		AB2834		AB2471		AB2836		AB2738		AB2614	
	ID FROM REPORT -->	SD02D4		SD02D5		SD02F1		SD02F5		SD02G4D		SD02H1	
	SAMPLE DATE ----->	12/06/93		12/06/93		11/30/93		12/06/93		12/03/93		12/02/93	
	DATE EXTRACTED -->	12/19/93		12/19/93		12/14/93		12/19/93		12/17/93		12/17/93	
	DATE ANALYZED --->	12/19/93		12/19/93		12/14/93		12/19/93		12/17/93		12/17/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN026	VAL	PN029	VAL	PN028	VAL	PN028	VAL
72-54-8	4,4'-DDD	4.5	U	4.3	U	4.	U	4.1	U	13.	U	12.	J
72-55-9	4,4'-DDE	4.5	U	4.3	U	4.	U	4.1	U	13.	U	6.6	U
50-29-3	4,4'-DDT	4.5	U	4.3	U	4.	U	4.1	U	13.	U	6.6	U
309-00-2	Aldrin	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.4	U
12674-11-2	Aroclor-1016	45.	U	43.	U	40.	U	41.	U	130.	U	66.	U
11104-28-2	Aroclor-1221	92.	U	86.	U	82.	U	84.	U	260.	U	130.	U
11141-16-5	Aroclor-1232	45.	U	43.	U	40.	U	41.	U	130.	U	66.	U
53469-21-9	Aroclor-1242	45.	U	43.	U	40.	U	41.	U	130.	U	66.	U
12672-29-6	Aroclor-1248	45.	U	43.	U	40.	U	41.	U	130.	U	66.	U
11097-69-1	Aroclor-1254	45.	U	43.	U	40.	U	41.	U	130.	U	66.	U
11096-82-5	Aroclor-1260	45.	U	43.	U	40.	U	41.	U	130.	U	220.	
60-57-1	Dieldrin	4.5	U	4.3	U	4.	U	4.1	U	13.	U	6.6	U
959-98-8	Endosulfan I	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.4	U
33213-65-9	Endosulfan II	4.5	U	4.3	U	4.	U	4.1	U	13.	U	6.6	U
1031-07-8	Endosulfan sulfate	4.5	U	4.3	U	4.	U	4.1	U	13.	U	6.6	U
72-20-8	Endrin	4.5	U	4.3	U	4.	U	4.1	U	13.	U	6.6	U
7421-93-4	Endrin aldehyde	4.5	U	4.3	U	4.	U	4.1	U	13.	U	6.6	U
53494-70-5	Endrin ketone	4.5	U	4.3	U	4.	U	4.1	U	13.	U	6.6	U
76-44-8	Heptachlor	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.4	U
1024-57-3	Heptachlor epoxide	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.4	U
72-43-5	Methoxychlor	23.	U	22.	U	21.	U	21.	U	65.	U	34.	U
8001-35-2	Toxaphene	230.	U	220.	U	210.	U	210.	U	650.	U	340.	U
319-84-6	alpha-BHC	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.4	U
5103-71-9	alpha-Chlordane	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.8	
319-85-7	beta-BHC	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.4	U
319-86-8	delta-BHC	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.4	U
58-89-9	gamma-BHC (Lindane)	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.4	U
5103-74-2	gamma-Chlordane	2.3	U	2.2	U	2.1	U	2.1	U	6.5	U	3.4	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

PEST													
	SAMPLE ID ------->	002-M-00H2-00		002-M-00H3-00		002-M-00H4-00		002-M-00H5-00		002-M-00M3-00		002-M-00M4-00	
	ORIGINAL ID ----->	SD02H2		SD02H3		SD02H4		SD02H5		SD02M3		SD02M4	
	LAB SAMPLE ID --->	AB2615		AB2616		AB2553		AB2554		AB3034		AB3035	
	ID FROM REPORT -->	SD02H2		SD02H3		SD02H4		SD02H5		SD02M3		SD02M4	
	SAMPLE DATE ----->	12/02/93		12/02/93		12/02/93		12/02/93		12/07/93		12/07/93	
	DATE EXTRACTED -->	12/17/93		12/17/93		12/16/93		12/16/93		12/22/93		12/22/93	
	DATE ANALYZED --->	12/17/93		12/17/93		12/16/93		12/16/93		12/08/93		12/08/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN026	VAL	PN026	VAL	PN030	VAL	PN030	VAL
72-54-8	4,4'-DDD	13.	U	14.	U	4.8	U	4.6	U	4.2	U	4.1	U
72-55-9	4,4'-DDE	13.	U	14.	U	4.8	U	4.6	U	4.2	U	4.1	U
50-29-3	4,4'-DDT	13.	U	14.	U	4.8	U	4.6	U	4.2	U	4.1	U
309-00-2	Aldrin	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U
12674-11-2	Aroclor-1016	130.	U	140.	U	48.	U	46.	U	42.	U	41.	U
11104-28-2	Aroclor-1221	270.	U	280.	U	98.	U	93.	U	86.	U	83.	U
11141-16-5	Aroclor-1232	130.	U	140.	U	48.	U	46.	U	42.	U	41.	U
53469-21-9	Aroclor-1242	130.	U	140.	U	48.	U	46.	U	42.	U	41.	U
12672-29-6	Aroclor-1248	130.	U	140.	U	48.	U	46.	U	42.	U	41.	U
11097-69-1	Aroclor-1254	130.	U	140.	U	48.	U	46.	U	42.	U	41.	U
11096-82-5	Aroclor-1260	130.	U	140.	U	48.	U	46.	U	42.	U	41.	U
60-57-1	Dieldrin	13.	U	14.	U	4.8	U	4.6	U	4.2	U	4.1	U
959-98-8	Endosulfan I	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U
33213-65-9	Endosulfan II	13.	U	14.	U	4.8	U	4.6	U	4.2	U	4.1	U
1031-07-8	Endosulfan sulfate	13.	U	14.	U	4.8	U	4.6	U	4.2	U	4.1	U
72-20-8	Endrin	13.	U	14.	U	4.8	U	4.6	U	4.2	U	4.1	U
7421-93-4	Endrin aldehyde	13.	U	14.	U	4.8	U	4.6	U	4.2	U	4.1	U
53494-70-5	Endrin ketone	13.	U	14.	U	4.8	U	4.6	U	4.2	U	4.1	U
76-44-8	Heptachlor	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U
1024-57-3	Heptachlor epoxide	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U
72-43-5	Methoxychlor	68.	U	71.	U	25.	U	24.	U	22.	U	21.	U
8001-35-2	Toxaphene	680.	U	710.	U	250.	U	240.	U	220.	U	210.	U
319-84-6	alpha-BHC	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U
5103-71-9	alpha-Chlordane	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U
319-85-7	beta-BHC	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U
319-86-8	delta-BHC	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U
58-89-9	gamma-BHC (Lindane)	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U
5103-74-2	gamma-Chlordane	6.8	U	7.1	U	2.5	U	2.4	U	2.2	U	2.1	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

PEST		002-M-00M5-00		002-N-00M5-00		002-M-00N2-00		002-M-00N3-00		002-M-00N4-00		002-M-00N5-00	
	ORIGINAL ID ----->	SD02M5		SD02M5D		SD02N2		SD02N3		SD02N4		SD02N5	
	LAB SAMPLE ID --->	AB3036		AB3037		AB2837		AB2838		AB2839		AB2840	
	ID FROM REPORT -->	SD02M5		SD02M5D		SD02N2		SD02N3		SD02N4		SD02N5	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/06/93		12/06/93		12/06/93		12/06/93	
	DATE EXTRACTED -->	12/22/93		12/22/93		12/19/93		12/19/93		12/19/93		12/19/93	
	DATE ANALYZED --->	12/08/93		12/08/93		12/07/93		12/07/93		12/07/93		12/07/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN030	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL
72-54-8	4,4'-DDD	4.2	U	4.2	U	5.3	U	10.	U	4.2	U	4.1	U
72-55-9	4,4'-DDE	4.2	U	4.2	U	5.3	U	10.	U	4.2	U	4.1	U
50-29-3	4,4'-DDT	4.2	U	4.2	U	5.3	U	10.	U	4.2	U	4.1	U
309-00-2	Aldrin	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U
12674-11-2	Aroclor-1016	42.	U	42.	U	53.	U	100.	U	42.	U	41.	U
11104-28-2	Aroclor-1221	85.	U	85.	U	110.	U	210.	U	85.	U	83.	U
11141-16-5	Aroclor-1232	42.	U	42.	U	53.	U	100.	U	42.	U	41.	U
53469-21-9	Aroclor-1242	42.	U	42.	U	53.	U	100.	U	42.	U	41.	U
12672-29-6	Aroclor-1248	42.	U	42.	U	53.	U	100.	U	42.	U	41.	U
11097-69-1	Aroclor-1254	42.	U	42.	U	53.	U	100.	U	42.	U	41.	U
11096-82-5	Aroclor-1260	42.	U	42.	U	53.	U	100.	U	42.	U	41.	U
60-57-1	Dieldrin	4.2	U	4.2	U	5.3	U	10.	U	4.2	U	4.1	U
959-98-8	Endosulfan I	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U
33213-65-9	Endosulfan II	4.2	U	4.2	U	5.3	U	10.	U	4.2	U	4.1	U
1031-07-8	Endosulfan sulfate	4.2	U	4.2	U	5.3	U	10.	U	4.2	U	4.1	U
72-20-8	Endrin	4.2	U	4.2	U	5.3	U	10.	U	4.2	U	4.1	U
7421-93-4	Endrin aldehyde	4.2	U	4.2	U	5.3	U	10.	U	4.2	U	4.1	U
53494-70-5	Endrin ketone	4.2	U	4.2	U	5.3	U	10.	U	4.2	U	4.1	U
76-44-8	Heptachlor	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U
1024-57-3	Heptachlor epoxide	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U
72-43-5	Methoxychlor	22.	U	22.	U	28.	U	52.	U	22.	U	21.	U
8001-35-2	Toxaphene	220.	U	220.	U	280.	U	520.	U	220.	U	210.	U
319-84-6	alpha-BHC	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U
5103-71-9	alpha-Chlordane	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U
319-85-7	beta-BHC	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U
319-86-8	delta-BHC	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U
58-89-9	gamma-BHC (Lindane)	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U
5103-74-2	gamma-Chlordane	2.2	U	2.2	U	2.8	U	5.2	U	2.2	U	2.1	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

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PEST												
	SAMPLE ID ------->	002-M-00P2-00		002-M-00P3-00		002-M-00P4-00		002-M-00P5-00		002-M-00Q1-00		002-M-00Q2-00	
	ORIGINAL ID ----->	SD02P2		SD02P3		SD02P4		SD02P5		SD02Q1		SD02Q2	
	LAB SAMPLE ID --->	AB3278		AB3279		AB3280		AB3281		AB3136		AB3137	
	ID FROM REPORT -->	SD02P2		SD02P3		SD02P4		SD02P5		SD02Q1		SD02Q2	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/08/93		12/08/93		12/08/93		12/08/93	
	DATE EXTRACTED -->	12/23/93		12/23/93		12/23/93		12/23/93		12/23/93		12/23/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/09/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN031	VAL	PN031	VAL	PN031	VAL	PN030	VAL	PN030	VAL
72-54-8	4,4'-DDD	12.	U	5.4	U	5.1	U	4.3	U	4.1	U	11.	U
72-55-9	4,4'-DDE	12.	U	5.4	U	5.1	U	4.3	U	4.1	U	11.	U
50-29-3	4,4'-DDT	12.	U	5.4	U	5.1	U	4.3	U	4.1	U	11.	U
309-00-2	Aldrin	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U
12674-11-2	Aroclor-1016	120.	U	54.	U	51.	U	43.	U	41.	U	110.	U
11104-28-2	Aroclor-1221	240.	U	110.	U	100.	U	88.	U	84.	U	220.	U
11141-16-5	Aroclor-1232	120.	U	54.	U	51.	U	43.	U	41.	U	110.	U
53469-21-9	Aroclor-1242	120.	U	54.	U	51.	U	43.	U	41.	U	110.	U
12672-29-6	Aroclor-1248	120.	U	54.	U	51.	U	43.	U	41.	U	110.	U
11097-69-1	Aroclor-1254	120.	U	54.	U	51.	U	43.	U	41.	U	110.	U
11096-82-5	Aroclor-1260	120.	U	54.	U	51.	U	43.	U	41.	U	110.	U
60-57-1	Dieldrin	12.	U	5.4	U	5.1	U	4.3	U	4.1	U	11.	U
959-98-8	Endosulfan I	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U
33213-65-9	Endosulfan II	12.	U	5.4	U	5.1	U	4.3	U	4.1	U	11.	U
1031-07-8	Endosulfan sulfate	12.	U	5.4	U	5.1	U	4.3	U	4.1	U	11.	U
72-20-8	Endrin	12.	U	5.4	U	5.1	U	4.3	U	4.1	U	11.	U
7421-93-4	Endrin aldehyde	12.	U	5.4	U	5.1	U	4.3	U	4.1	U	11.	U
53494-70-5	Endrin ketone	12.	U	5.4	U	5.1	U	4.3	U	4.1	U	11.	U
76-44-8	Heptachlor	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U
1024-57-3	Heptachlor epoxide	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U
72-43-5	Methoxychlor	60.	U	28.	U	26.	U	22.	U	21.	U	55.	U
8001-35-2	Toxaphene	600.	U	280.	U	260.	U	220.	U	210.	U	550.	U
319-84-6	alpha-BHC	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U
5103-71-9	alpha-Chlordane	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U
319-85-7	beta-BHC	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U
319-86-8	delta-BHC	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U
58-89-9	gamma-BHC (Lindane)	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U
5103-74-2	gamma-Chlordane	6.	U	2.8	U	2.6	U	2.2	U	2.1	U	5.5	U

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

PEST													
	SAMPLE ID ------->	002-M-00Q3-00		002-M-00Q4-00		002-M-00Q5-00		002-M-00U1-00		002-M-00U2-00		002-M-00X1-00	
	ORIGINAL ID ----->	SD02Q3		SD02Q4		SD02Q5		SD02U1		SD02U2		SD02X1	
	LAB SAMPLE ID --->	AB3138		AB3282		AB3283		AB3358		AB3360		AB2841	
	ID FROM REPORT -->	SD02Q3		SD02Q4		SD02Q5		SD02U1		SD02U2		SD02X1	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/08/93		12/09/93		12/09/93		12/06/93	
	DATE EXTRACTED -->	12/23/93		12/23/93		12/23/93		12/24/93		12/24/93		12/19/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/09/93		12/10/93		12/10/93		12/07/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN031	VAL	PN031	VAL	PN031	VAL	PN031	VAL	PN029	VAL
72-54-8	4,4'-DDD	5.2	U	3.4	U	4.2	U	11.	U	5.4	U	4.1	U
72-55-9	4,4'-DDE	5.2	U	3.4	U	4.2	U	11.	U	5.4	U	4.1	U
50-29-3	4,4'-DDT	5.2	U	3.4	U	4.2	U	11.	U	5.4	U	4.1	U
309-00-2	Aldrin	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U
12674-11-2	Aroclor-1016	52.	U	34.	U	42.	U	110.	U	54.	U	41.	U
11104-28-2	Aroclor-1221	100.	U	69.	U	85.	U	230.	U	110.	U	82.	U
11141-16-5	Aroclor-1232	52.	U	34.	U	42.	U	110.	U	54.	U	41.	U
53469-21-9	Aroclor-1242	52.	U	34.	U	42.	U	110.	U	54.	U	41.	U
12672-29-6	Aroclor-1248	52.	U	34.	U	42.	U	110.	U	54.	U	41.	U
11097-69-1	Aroclor-1254	52.	U	34.	U	42.	U	110.	U	54.	U	41.	U
11096-82-5	Aroclor-1260	52.	U	34.	U	42.	U	110.	U	54.	U	41.	U
60-57-1	Dieldrin	5.2	U	3.4	U	4.2	U	11.	U	5.4	U	4.1	U
959-98-8	Endosulfan I	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U
33213-65-9	Endosulfan II	5.2	U	3.4	U	4.2	U	11.	U	5.4	U	4.1	U
1031-07-8	Endosulfan sulfate	5.2	U	3.4	U	4.2	U	11.	U	5.4	U	4.1	U
72-20-8	Endrin	5.2	U	3.4	U	4.2	U	11.	U	5.4	U	4.1	U
7421-93-4	Endrin aldehyde	5.2	U	3.4	U	4.2	U	11.	U	5.4	U	4.1	U
53494-70-5	Endrin ketone	5.2	U	3.4	U	4.2	U	11.	U	5.4	U	4.1	U
76-44-8	Heptachlor	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U
1024-57-3	Heptachlor epoxide	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U
72-43-5	Methoxychlor	27.	U	18.	U	21.	U	58.	U	28.	U	21.	U
8001-35-2	Toxaphene	270.	U	180.	U	210.	U	580.	U	280.	U	210.	U
319-84-6	alpha-BHC	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U
5103-71-9	alpha-Chlordane	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U
319-85-7	beta-BHC	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U
319-86-8	delta-BHC	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U
58-89-9	gamma-BHC (Lindane)	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U
5103-74-2	gamma-Chlordane	2.7	U	1.8	U	2.1	U	5.8	U	2.8	U	2.1	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

PEST		002-M-00X2-00		002-M-00X3-00		002-M-00X4-00		002-M-02F4-00			
	SAMPLE ID ------->	002-M-00X2-00		002-M-00X3-00		002-M-00X4-00		002-M-02F4-00			
	ORIGINAL ID ------>	SD02X2		SD02X3		SD02X4		SD02F4			
	LAB SAMPLE ID --->	AB3033		AB3284		AB3367		AB2835			
	ID FROM REPORT -->	SD02X2		SD02X3		SD02X4		SD02F4			
	SAMPLE DATE ------>	12/07/93		12/08/93		12/09/93		12/06/93			
	DATE EXTRACTED -->	12/22/93		12/23/93		01/02/94		12/19/93			
	DATE ANALYZED --->	12/08/93		12/09/93		12/10/93		12/19/93			
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment			
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG			
CAS #	Parameter	PN030	VAL	PN031	VAL	PN033	VAL	PN029	VAL		
72-54-8	4,4'-DDD	4.1	U	4.2	U	4.3	U	11.	U		
72-55-9	4,4'-DDE	4.1	U	4.2	U	4.3	U	11.	U		
50-29-3	4,4'-DDT	4.1	U	4.2	U	4.3	U	11.	U		
309-00-2	Aldrin	2.1	U	2.2	U	2.2	U	5.7	U		
12674-11-2	Aroclor-1016	41.	U	42.	U	43.	U	110.	U		
11104-28-2	Aroclor-1221	84.	U	85.	U	86.	U	230.	U		
11141-16-5	Aroclor-1232	41.	U	42.	U	43.	U	110.	U		
53469-21-9	Aroclor-1242	41.	U	42.	U	43.	U	110.	U		
12672-29-6	Aroclor-1248	41.	U	42.	U	43.	U	110.	U		
11097-69-1	Aroclor-1254	41.	U	42.	U	43.	U	110.	U		
11096-82-5	Aroclor-1260	41.	U	42.	U	43.	U	110.	U		
60-57-1	Dieldrin	4.1	U	4.2	U	4.3	U	11.	U		
959-98-8	Endosulfan I	2.1	U	2.2	U	2.2	U	5.7	U		
33213-65-9	Endosulfan II	4.1	U	4.2	U	4.3	U	11.	U		
1031-07-8	Endosulfan sulfate	4.1	U	4.2	U	4.3	U	11.	U		
72-20-8	Endrin	4.1	U	4.2	U	4.3	U	11.	U		
7421-93-4	Endrin aldehyde	4.1	U	4.2	U	4.3	U	11.	U		
53494-70-5	Endrin ketone	4.1	U	4.2	U	4.3	U	11.	U		
76-44-8	Heptachlor	2.1	U	2.2	U	2.2	U	5.7	U		
1024-57-3	Heptachlor epoxide	2.1	U	2.2	U	2.2	U	5.7	U		
72-43-5	Methoxychlor	21.	U	22.	U	22.	U	57.	U		
8001-35-2	Toxaphene	210.	U	220.	U	220.	U	570.	U		
319-84-6	alpha-BHC	2.1	U	2.2	U	2.2	U	5.7	U		
5103-71-9	alpha-Chlordane	2.1	U	2.2	U	2.2	U	5.7	U		
319-85-7	beta-BHC	2.1	U	2.2	U	2.2	U	5.7	U		
319-86-8	delta-BHC	2.1	U	2.2	U	2.2	U	5.7	U		
58-89-9	gamma-BHC (Lindane)	2.1	U	2.2	U	2.2	U	5.7	U		
5103-74-2	gamma-Chlordane	2.1	U	2.2	U	2.2	U	5.7	U		

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

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SVOA	SAMPLE ID ------->	002-M-0001-00		002-M-0002-00		002-M-0002-A2		002-M-0002-D3		002-M-0002-E2		002-M-0002-E3	
	ORIGINAL ID ----->	SD0201		SD0202		SD02A2		SD02D3		SD02E2		SD02E3	
	LAB SAMPLE ID --->	AB3011		AB3012		AB2521		AB2522		AB2517		AB2518	
	ID FROM REPORT -->	SD0201		SD0202		SD02A2		SD02D3		SD02E2		SD02E3	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/01/93		12/01/93		12/01/93		12/01/93	
	DATE EXTRACTED -->	12/15/93		12/15/93		12/10/93		12/10/93		12/10/93		12/10/93	
	DATE ANALYZED --->	12/15/93		12/15/93		12/10/93		12/10/93		12/10/93		12/10/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN026	VAL	PN026	VAL	PN026	VAL	PN026	VAL
120-82-1	1,2,4-Trichlorobenzene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
95-50-1	1,2-Dichlorobenzene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
541-73-1	1,3-Dichlorobenzene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
106-46-7	1,4-Dichlorobenzene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
95-95-4	2,4,5-Trichlorophenol	2200.	U	4000.	U	2700.	U	3900.	U	2400.	U	5900.	U
88-06-2	2,4,6-Trichlorophenol	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
120-83-2	2,4-Dichlorophenol	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
105-67-9	2,4-Dimethylphenol	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
51-28-5	2,4-Dinitrophenol	2200.	U	4000.	U	2700.	U	3900.	U	2400.	U	5900.	U
121-14-2	2,4-Dinitrotoluene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
606-20-2	2,6-Dinitrotoluene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
91-58-7	2-Chloronaphthalene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
95-57-8	2-Chlorophenol	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
91-57-6	2-Methylnaphthalene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
95-48-7	2-Methylphenol (o-Cresol)	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
88-74-4	2-Nitroaniline	2200.	U	4000.	U	2700.	U	3900.	U	2400.	U	5900.	U
88-75-5	2-Nitrophenol	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
91-94-1	3,3'-Dichlorobenzidine	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
99-09-2	3-Nitroaniline	2200.	U	4000.	U	2700.	U	3900.	U	2400.	U	5900.	U
534-52-1	4,6-Dinitro-2-methylphenol	2200.	U	4000.	U	2700.	U	3900.	U	2400.	U	5900.	U
101-55-3	4-Bromophenyl-phenylether	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
59-50-7	4-Chloro-3-methylphenol	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
106-47-8	4-Chloroaniline	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
7005-72-3	4-Chlorophenyl-phenylether	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
106-44-5	4-Methylphenol (p-Cresol)	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
100-01-6	4-Nitroaniline	2200.	U	4000.	U	2700.	U	3900.	U	2400.	U	5900.	U
100-02-7	4-Nitrophenol	2200.	U	4000.	U	2700.	U	3900.	U	2400.	U	5900.	U
83-32-9	Acenaphthene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
208-96-8	Acenaphthylene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
120-12-7	Anthracene	890.	U	1600.	U	240.	J	1600.	U	1000.	U	2400.	U
56-55-3	Benzo(a)anthracene	130.	J	1600.	U	430.	J	240.	J	180.	J	2400.	U
50-32-8	Benzo(a)pyrene	120.	J	1600.	U	550.	J	250.	J	240.	J	320.	J
205-99-2	Benzo(b)fluoranthene	240.	J	220.	J	480.	J	280.	J	250.	J	340.	J
191-24-2	Benzo(g,h,i)perylene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
207-08-9	Benzo(k)fluoranthene	890.	U	1600.	U	540.	J	240.	J	240.	J	290.	J
85-68-7	Butylbenzylphthalate	890.	U	1600.	U	1100.	U	1600.	U	280.	J	2400.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA	SAMPLE ID ------->	002-M-0001-00		002-M-0002-00		002-M-0002-A2		002-M-0002-D3		002-M-0002-E2		002-M-0002-E3	
	ORIGINAL ID ----->	SD0201		SD0202		SD02A2		SD02D3		SD02E2		SD02E3	
	LAB SAMPLE ID --->	AB3011		AB3012		AB2521		AB2522		AB2517		AB2518	
	ID FROM REPORT -->	SD0201		SD0202		SD02A2		SD02D3		SD02E2		SD02E3	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/01/93		12/01/93		12/01/93		12/01/93	
	DATE EXTRACTED -->	12/15/93		12/15/93		12/10/93		12/10/93		12/10/93		12/10/93	
	DATE ANALYZED --->	12/15/93		12/15/93		12/10/93		12/10/93		12/10/93		12/10/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN026	VAL	PN026	VAL	PN026	VAL	PN026	VAL
86-74-8	Carbazole	890.	U	1600.	U	120.	J	1600.	U	1000.	U	2400.	U
218-01-9	Chrysene	130.	J	1600.	U	530.	J	270.	J	200.	J	400.	J
84-74-2	Di-n-butylphthalate	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
117-84-0	Di-n-octylphthalate	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
53-70-3	Dibenzo(a,h)anthracene	890.	U	1600.	U	150.	J	1600.	U	1000.	U	2400.	U
132-64-9	Dibenzofuran	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
84-66-2	Diethylphthalate	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
131-11-3	Dimethylphthalate	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
206-44-0	Fluoranthene	280.	J	230.	J	960.	J	360.	J	160.	J	350.	J
86-73-7	Fluorene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
118-74-1	Hexachlorobenzene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
87-68-3	Hexachlorobutadiene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
77-47-4	Hexachlorocyclopentadiene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
67-72-1	Hexachloroethane	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
193-39-5	Indeno(1,2,3-cd)pyrene	890.	U	1600.	U	330.	J	1600.	U	1000.	U	2400.	U
78-59-1	Isophorone	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
621-64-7	N-Nitroso-di-n-propylamine	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
86-30-6	N-Nitrosodiphenylamine	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
91-20-3	Naphthalene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
98-95-3	Nitrobenzene	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
87-86-5	Pentachlorophenol	2200.	U	4000.	U	2700.	U	3900.	U	2400.	U	5900.	U
85-01-8	Phenanthrene	100.	J	1600.	U	520.	J	1600.	U	1000.	U	2400.	U
108-95-2	Phenol	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
129-00-0	Pyrene	240.	U	290.	U	600.	J	340.	J	260.	J	310.	J
111-91-1	bis(2-Chloroethoxy)methane	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	170.	U	240.	U	450.	U	460.	U	420.	U	470.	U
111-44-4	bis(2-Chloroethyl)ether	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	890.	U	1600.	U	1100.	U	1600.	U	1000.	U	2400.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA						
SAMPLE ID ------->	002-M-0002-E4	002-M-0002-E5	002-M-0002-F2	002-M-0002-F3	002-M-0002-G2	002-M-0002-G3
ORIGINAL ID ----->	SD02E4	SD02E5	SD02F2	SD02F3	SD02G2	SD02G3
LAB SAMPLE ID --->	AB2519	AB2520	AB2523	AB2524	AB2733	AB2734
ID FROM REPORT -->	SD02E4	SD02E5	SD02F2	SD02F3	SD02G2	SD02G3
SAMPLE DATE ----->	12/01/93	12/01/93	12/01/93	12/01/93	12/03/93	12/03/93
DATE EXTRACTED -->	12/10/93	12/10/93	12/10/93	12/10/93	12/16/93	12/16/93
DATE ANALYZED --->	12/10/93	12/10/93	12/10/93	12/10/93	12/16/93	12/16/93
MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
UNITS ----------->	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG

CAS #	Parameter	PN026	VAL	PN026	VAL	PN026	VAL	PN026	VAL	PN028	VAL	PN028	VAL
120-82-1	1,2,4-Trichlorobenzene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
95-50-1	1,2-Dichlorobenzene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
541-73-1	1,3-Dichlorobenzene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
106-46-7	1,4-Dichlorobenzene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
95-95-4	2,4,5-Trichlorophenol	2500.	U	2100.	U	2100.	U	5900.	U	5100.	U	10000.	U
88-06-2	2,4,6-Trichlorophenol	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
120-83-2	2,4-Dichlorophenol	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
105-67-9	2,4-Dimethylphenol	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
51-28-5	2,4-Dinitrophenol	2500.	U	2100.	U	2100.	U	5900.	U	5100.	U	10000.	U
121-14-2	2,4-Dinitrotoluene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
606-20-2	2,6-Dinitrotoluene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
91-58-7	2-Chloronaphthalene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
95-57-8	2-Chlorophenol	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
91-57-6	2-Methylnaphthalene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
95-48-7	2-Methylphenol (o-Cresol)	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
88-74-4	2-Nitroaniline	2500.	U	2100.	U	2100.	U	5900.	U	5100.	U	10000.	U
88-75-5	2-Nitrophenol	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
91-94-1	3,3'-Dichlorobenzidine	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
99-09-2	3-Nitroaniline	2500.	U	2100.	U	2100.	U	5900.	U	5100.	U	10000.	U
534-52-1	4,6-Dinitro-2-methylphenol	2500.	U	2100.	U	2100.	U	5900.	U	5100.	U	10000.	U
101-55-3	4-Bromophenyl-phenylether	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
59-50-7	4-Chloro-3-methylphenol	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
106-47-8	4-Chloroaniline	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
7005-72-3	4-Chlorophenyl-phenylether	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
106-44-5	4-Methylphenol (p-Cresol)	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
100-01-6	4-Nitroaniline	2500.	U	2100.	U	2100.	U	5900.	U	5100.	U	10000.	U
100-02-7	4-Nitrophenol	2500.	U	2100.	U	2100.	U	5900.	U	5100.	U	10000.	U
83-32-9	Acenaphthene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
208-96-8	Acenaphthylene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
120-12-7	Anthracene	190.	J	860.	U	860.	U	2400.	U	2100.	U	4200.	U
56-55-3	Benzo(a)anthracene	220.	J	340.	J	860.	U	280.	J	2100.	U	4200.	U
50-32-8	Benzo(a)pyrene	420.	J	350.	J	860.	U	400.	J	2100.	U	4200.	U
205-99-2	Benzo(b)fluoranthene	420.	J	300.	J	860.	U	450.	J	2100.	U	4200.	U
191-24-2	Benzo(g,h,i)perylene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
207-08-9	Benzo(k)fluoranthene	430.	J	270.	J	860.	U	350.	J	2100.	U	4200.	U
85-68-7	Butylbenzylphthalate	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-0002-E4		002-M-0002-E5		002-M-0002-F2		002-M-0002-F3		002-M-0002-G2		002-M-0002-G3	
	ORIGINAL ID ----->	SD02E4		SD02E5		SD02F2		SD02F3		SD02G2		SD02G3	
	LAB SAMPLE ID --->	AB2519		AB2520		AB2523		AB2524		AB2733		AB2734	
	ID FROM REPORT -->	SD02E4		SD02E5		SD02F2		SD02F3		SD02G2		SD02G3	
	SAMPLE DATE ----->	12/01/93		12/01/93		12/01/93		12/01/93		12/03/93		12/03/93	
	DATE EXTRACTED -->	12/10/93		12/10/93		12/10/93		12/10/93		12/16/93		12/16/93	
	DATE ANALYZED --->	12/10/93		12/10/93		12/10/93		12/10/93		12/16/93		12/16/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN026	VAL	PN026	VAL	PN026	VAL	PN026	VAL	PN028	VAL	PN028	VAL
86-74-8	Carbazole	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
218-01-9	Chrysene	270.	J	400.	J	860.	U	290.	J	2100.	U	4200.	U
84-74-2	Di-n-butylphthalate	1000.	U	860.	U	860.	U	370.	U	2100.	U	4200.	U
117-84-0	Di-n-octylphthalate	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
53-70-3	Dibenzo(a,h)anthracene	1000.	U	87.	J	860.	U	2400.	U	2100.	U	4200.	U
132-64-9	Dibenzofuran	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
84-66-2	Diethylphthalate	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
131-11-3	Dimethylphthalate	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
206-44-0	Fluoranthene	250.	J	680.	J	110.	J	930.	J	2100.	U	4200.	U
86-73-7	Fluorene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
118-74-1	Hexachlorobenzene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
87-68-3	Hexachlorobutadiene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
77-47-4	Hexachlorocyclopentadiene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
67-72-1	Hexachloroethane	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
193-39-5	Indeno(1,2,3-cd)pyrene	190.	J	210.	J	860.	U	2400.	U	2100.	U	4200.	U
78-59-1	Isophorone	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
621-64-7	N-Nitroso-di-n-propylamine	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
86-30-6	N-Nitrosodiphenylamine	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
91-20-3	Naphthalene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
98-95-3	Nitrobenzene	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
87-86-5	Pentachlorophenol	2500.	U	2100.	U	2100.	U	5900.	U	5100.	U	10000.	U
85-01-8	Phenanthrene	1000.	U	210.	J	860.	U	2400.	U	2100.	U	4200.	U
108-95-2	Phenol	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
129-00-0	Pyrene	220.	J	530.	J	860.	U	630.	J	2100.	U	4200.	U
111-91-1	bis(2-Chloroethoxy)methane	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	1900.	U	860.	U	150.	U	2500.	U	340.	U	750.	U
111-44-4	bis(2-Chloroethyl)ether	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1000.	U	860.	U	860.	U	2400.	U	2100.	U	4200.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-0002-G4		002-M-0002-G5		002-M-0002-K1		002-M-0002-K3		002-M-0002-M1		002-M-0002-M2	
	ORIGINAL ID ----->	SD02G4		SD02G5		SD02K1		SD02K3		SD02M1		SD02M2	
	LAB SAMPLE ID --->	AB2735		AB2739		AB2744		AB2745		AB2746		AB2747	
	ID FROM REPORT -->	SD02G4		SD02G5		SD02K1		SD02K3		SD02M1		SD02M2	
	SAMPLE DATE ----->	12/03/93		12/03/93		12/03/93		12/03/93		12/03/93		12/03/93	
	DATE EXTRACTED -->	12/16/93		12/17/93		12/16/93		12/16/93		12/16/93		12/16/93	
	DATE ANALYZED --->	12/16/93		12/17/93		12/16/93		12/16/93		12/16/93		12/04/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL
120-82-1	1,2,4-Trichlorobenzene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
95-50-1	1,2-Dichlorobenzene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
541-73-1	1,3-Dichlorobenzene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
106-46-7	1,4-Dichlorobenzene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
95-95-4	2,4,5-Trichlorophenol	15000.	U	11000.	U	4900.	U	15000.	U	4900.	U	6100.	U
88-06-2	2,4,6-Trichlorophenol	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
120-83-2	2,4-Dichlorophenol	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
105-67-9	2,4-Dimethylphenol	6100.	U	740.	J	2000.	U	6100.	U	2000.	U	2500.	U
51-28-5	2,4-Dinitrophenol	15000.	U	11000.	U	4900.	U	15000.	U	4900.	U	6100.	U
121-14-2	2,4-Dinitrotoluene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
606-20-2	2,6-Dinitrotoluene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
91-58-7	2-Chloronaphthalene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
95-57-8	2-Chlorophenol	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
91-57-6	2-Methylnaphthalene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
95-48-7	2-Methylphenol (o-Cresol)	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
88-74-4	2-Nitroaniline	15000.	U	11000.	U	4900.	U	15000.	U	4900.	U	6100.	U
88-75-5	2-Nitrophenol	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
91-94-1	3,3'-Dichlorobenzidine	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
99-09-2	3-Nitroaniline	15000.	U	11000.	U	4900.	U	15000.	U	4900.	U	6100.	U
534-52-1	4,6-Dinitro-2-methylphenol	15000.	U	11000.	U	4900.	U	15000.	U	4900.	U	6100.	U
101-55-3	4-Bromophenyl-phenylether	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
59-50-7	4-Chloro-3-methylphenol	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
106-47-8	4-Chloroaniline	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
7005-72-3	4-Chlorophenyl-phenylether	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
106-44-5	4-Methylphenol (p-Cresol)	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
100-01-6	4-Nitroaniline	15000.	U	11000.	U	4900.	U	15000.	U	4900.	U	6100.	U
100-02-7	4-Nitrophenol	15000.	U	11000.	U	4900.	U	15000.	U	4900.	U	6100.	U
83-32-9	Acenaphthene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
208-96-8	Acenaphthylene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
120-12-7	Anthracene	3000.	J	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
56-55-3	Benzo(a)anthracene	1200.	J	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
50-32-8	Benzo(a)pyrene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
205-99-2	Benzo(b)fluoranthene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
191-24-2	Benzo(g,h,i)perylene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
207-08-9	Benzo(k)fluoranthene	1100.	J	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
85-68-7	Butylbenzylphthalate	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA	SAMPLE ID ------->	002-M-0002-G4		002-M-0002-G5		002-M-0002-K1		002-M-0002-K3		002-M-0002-M1		002-M-0002-M2	
	ORIGINAL ID ----->	SD02G4		SD02G5		SD02K1		SD02K3		SD02M1		SD02M2	
	LAB SAMPLE ID --->	AB2735		AB2739		AB2744		AB2745		AB2746		AB2747	
	ID FROM REPORT -->	SD02G4		SD02G5		SD02K1		SD02K3		SD02M1		SD02M2	
	SAMPLE DATE ----->	12/03/93		12/03/93		12/03/93		12/03/93		12/03/93		12/03/93	
	DATE EXTRACTED -->	12/16/93		12/17/93		12/16/93		12/16/93		12/16/93		12/16/93	
	DATE ANALYZED --->	12/16/93		12/17/93		12/16/93		12/16/93		12/16/93		12/04/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL
86-74-8	Carbazole	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
218-01-9	Chrysene	2000.	J	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
84-74-2	Di-n-butylphthalate	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
117-84-0	Di-n-octylphthalate	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
53-70-3	Dibenzo(a,h)anthracene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
132-64-9	Dibenzofuran	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
84-66-2	Diethylphthalate	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
131-11-3	Dimethylphthalate	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
206-44-0	Fluoranthene	1400.	J	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
86-73-7	Fluorene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
118-74-1	Hexachlorobenzene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
87-68-3	Hexachlorobutadiene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
77-47-4	Hexachlorocyclopentadiene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
67-72-1	Hexachloroethane	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
193-39-5	Indeno(1,2,3-cd)pyrene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
78-59-1	Isophorone	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
621-64-7	N-Nitroso-di-n-propylamine	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
86-30-6	N-Nitrosodiphenylamine	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
91-20-3	Naphthalene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
98-95-3	Nitrobenzene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
87-86-5	Pentachlorophenol	15000.	U	11000.	U	4900.	U	15000.	U	4900.	U	6100.	U
85-01-8	Phenanthrene	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
108-95-2	Phenol	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
129-00-0	Pyrene	1000.	J	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
111-91-1	bis(2-Chloroethoxy)methane	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	720.	U	35000.	U	2000.	U	6100.	U	2000.	U	500.	U
111-44-4	bis(2-Chloroethyl)ether	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	6100.	U	4500.	U	2000.	U	6100.	U	2000.	U	2500.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-0003-00		002-M-0004-00		002-M-0005-00		002-M-00A1-00		002-M-00D2-00		002-M-00D4-00	
	ORIGINAL ID ----->	SD0203		SD0204		SD0205		SD02A1		SD02D2		SD02D4	
	LAB SAMPLE ID --->	AB3013		AB3014		AB3015		AB2470		AB2472		AB2833	
	ID FROM REPORT -->	SD0203		SD0204		SD0205		SD02A1		SD02D2		SD02D4	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/07/93		11/30/93		11/30/93		12/06/93	
	DATE EXTRACTED -->	12/16/93		12/16/93		12/16/93		12/10/93		12/10/93		12/19/93	
	DATE ANALYZED --->	12/16/93		12/16/93		12/16/93		12/10/93		12/10/93		12/19/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN029	VAL	PN026	VAL	PN026	VAL	PN029	VAL
120-82-1	1,2,4-Trichlorobenzene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
95-50-1	1,2-Dichlorobenzene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
541-73-1	1,3-Dichlorobenzene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
106-46-7	1,4-Dichlorobenzene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
95-95-4	2,4,5-Trichlorophenol	3300.	U	2000.	U	2000.	U	2000.	U	5500.	U	1100.	U
88-06-2	2,4,6-Trichlorophenol	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
120-83-2	2,4-Dichlorophenol	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
105-67-9	2,4-Dimethylphenol	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
51-28-5	2,4-Dinitrophenol	3300.	U	2000.	U	2000.	U	2000.	U	5500.	U	1100.	U
121-14-2	2,4-Dinitrotoluene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
606-20-2	2,6-Dinitrotoluene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
91-58-7	2-Chloronaphthalene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
95-57-8	2-Chlorophenol	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
91-57-6	2-Methylnaphthalene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
95-48-7	2-Methylphenol (o-Cresol)	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
88-74-4	2-Nitroaniline	3300.	U	2000.	U	2000.	U	2000.	U	5500.	U	1100.	U
88-75-5	2-Nitrophenol	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
91-94-1	3,3'-Dichlorobenzidine	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
99-09-2	3-Nitroaniline	3300.	U	2000.	U	2000.	U	2000.	U	5500.	U	1100.	U
534-52-1	4,6-Dinitro-2-methylphenol	3300.	U	2000.	U	2000.	U	2000.	U	5500.	U	1100.	U
101-55-3	4-Bromophenyl-phenylether	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
59-50-7	4-Chloro-3-methylphenol	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
106-47-8	4-Chloroaniline	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
7005-72-3	4-Chlorophenyl-phenylether	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
106-44-5	4-Methylphenol (p-Cresol)	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
100-01-6	4-Nitroaniline	3300.	U	2000.	U	2000.	U	2000.	U	5500.	U	1100.	U
100-02-7	4-Nitrophenol	3300.	U	2000.	U	2000.	U	2000.	U	5500.	U	1100.	U
83-32-9	Acenaphthene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
208-96-8	Acenaphthylene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
120-12-7	Anthracene	1300.	U	830.	U	820.	U	830.	U	600.	J	440.	U
56-55-3	Benzo(a)anthracene	1300.	U	830.	U	820.	U	94.	J	1100.	J	64.	J
50-32-8	Benzo(a)pyrene	1300.	U	830.	U	820.	U	830.	U	1000.	J	73.	J
205-99-2	Benzo(b)fluoranthene	1300.	U	830.	U	820.	U	180.	J	1700.	J	120.	J
191-24-2	Benzo(g,h,i)perylene	1300.	U	830.	U	820.	U	830.	U	460.	J	45.	J
207-08-9	Benzo(k)fluoranthene	1300.	U	830.	U	820.	U	140.	J	1300.	J	80.	J
85-68-7	Butylbenzylphthalate	1300.	U	830.	U	820.	U	87.	U	2300.	U	440.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-0003-00		002-M-0004-00		002-M-0005-00		002-M-00A1-00		002-M-00D2-00		002-M-00D4-00	
	ORIGINAL ID ----->	SD0203		SD0204		SD0205		SD02A1		SD02D2		SD02D4	
	LAB SAMPLE ID --->	AB3013		AB3014		AB3015		AB2470		AB2472		AB2833	
	ID FROM REPORT -->	SD0203		SD0204		SD0205		SD02A1		SD02D2		SD02D4	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/07/93		11/30/93		11/30/93		12/06/93	
	DATE EXTRACTED -->	12/16/93		12/16/93		12/16/93		12/10/93		12/10/93		12/19/93	
	DATE ANALYZED --->	12/16/93		12/16/93		12/16/93		12/10/93		12/10/93		12/19/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN029	VAL	PN026	VAL	PN026	VAL	PN029	VAL
86-74-8	Carbazole	1300.	U	830.	U	820.	U	830.	U	450.	J	440.	U
218-01-9	Chrysene	1300.	U	830.	U	820.	U	100.	J	1300.	J	70.	J
84-74-2	Di-n-butylphthalate	1300.	U	830.	U	160.	U	130.	U	2300.	U	92.	U
117-84-0	Di-n-octylphthalate	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
53-70-3	Dibenzo(a,h)anthracene	1300.	U	830.	U	820.	U	830.	U	300.	J	440.	U
132-64-9	Dibenzofuran	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
84-66-2	Diethylphthalate	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
131-11-3	Dimethylphthalate	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
206-44-0	Fluoranthene	1300.	U	830.	U	820.	U	210.	J	2600.		110.	J
86-73-7	Fluorene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
118-74-1	Hexachlorobenzene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
87-68-3	Hexachlorobutadiene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
77-47-4	Hexachlorocyclopentadiene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
67-72-1	Hexachloroethane	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
193-39-5	Indeno(1,2,3-cd)pyrene	1300.	U	830.	U	820.	U	830.	U	590.	J	440.	U
78-59-1	Isophorone	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
621-64-7	N-Nitroso-di-n-propylamine	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
86-30-6	N-Nitrosodiphenylamine	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
91-20-3	Naphthalene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
98-95-3	Nitrobenzene	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
87-86-5	Pentachlorophenol	3300.	U	2000.	U	2000.	U	2000.	U	5500.	U	1100.	U
85-01-8	Phenanthrene	1300.	U	830.	U	820.	U	830.	U	2400.		64.	J
108-95-2	Phenol	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
129-00-0	Pyrene	1300.	U	830.	U	820.	U	150.	J	2000.	J	220.	J
111-91-1	bis(2-Chloroethoxy)methane	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	1300.	U	140.	U	190.	U	290.	U	1700.	U	650.	U
111-44-4	bis(2-Chloroethyl)ether	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1300.	U	830.	U	820.	U	830.	U	2300.	U	440.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA		002-M-00D5-00		002-M-00F1-00		002-M-00F5-00		002-N-00G4-00		002-M-00H1-00		002-M-00H2-00	
	SAMPLE ID ------->	002-M-00D5-00		002-M-00F1-00		002-M-00F5-00		002-N-00G4-00		002-M-00H1-00		002-M-00H2-00	
	ORIGINAL ID ----->	SD02D5		SD02F1		SD02F5		SD02G4D		SD02H1		SD02H2	
	LAB SAMPLE ID --->	AB2834		AB2471		AB2836		AB2738		AB2614		AB2615	
	ID FROM REPORT -->	SD02D5		SD02F1		SD02F5		SD02G4D		SD02H1		SD02H2	
	SAMPLE DATE ----->	12/06/93		11/30/93		12/06/93		12/03/93		12/02/93		12/02/93	
	DATE EXTRACTED -->	12/19/93		12/10/93		12/19/93		12/16/93		12/13/93		12/13/93	
	DATE ANALYZED --->	12/19/93		12/10/93		12/19/93		12/16/93		12/13/93		12/13/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN026	VAL	PN029	VAL	PN028	VAL	PN028	VAL	PN028	VAL
120-82-1	1,2,4-Trichlorobenzene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
95-50-1	1,2-Dichlorobenzene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
541-73-1	1,3-Dichlorobenzene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
106-46-7	1,4-Dichlorobenzene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
95-95-4	2,4,5-Trichlorophenol	990.	U	2000.	U	1000.	U	15000.	U	3200.	U	6400.	U
88-06-2	2,4,6-Trichlorophenol	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
120-83-2	2,4-Dichlorophenol	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
105-67-9	2,4-Dimethylphenol	410.	U	800.	U	420.	U	6300.	U	360.	J	2600.	U
51-28-5	2,4-Dinitrophenol	990.	U	2000.	U	1000.	U	15000.	U	3200.	U	6400.	U
121-14-2	2,4-Dinitrotoluene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
606-20-2	2,6-Dinitrotoluene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
91-58-7	2-Chloronaphthalene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
95-57-8	2-Chlorophenol	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
91-57-6	2-Methylnaphthalene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
95-48-7	2-Methylphenol (o-Cresol)	410.	U	800.	U	420.	U	6300.	U	150.	J	2600.	U
88-74-4	2-Nitroaniline	990.	U	2000.	U	1000.	U	15000.	U	3200.	U	6400.	U
88-75-5	2-Nitrophenol	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
91-94-1	3,3'-Dichlorobenzidine	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
99-09-2	3-Nitroaniline	990.	U	2000.	U	1000.	U	15000.	U	3200.	U	6400.	U
534-52-1	4,6-Dinitro-2-methylphenol	990.	U	2000.	U	1000.	U	15000.	U	3200.	U	6400.	U
101-55-3	4-Bromophenyl-phenylether	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
59-50-7	4-Chloro-3-methylphenol	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
106-47-8	4-Chloroaniline	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
7005-72-3	4-Chlorophenyl-phenylether	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
106-44-5	4-Methylphenol (p-Cresol)	410.	U	1600.		420.	U	6300.	U	180.	J	2600.	U
100-01-6	4-Nitroaniline	990.	U	2000.	U	1000.	U	15000.	U	3200.	U	6400.	U
100-02-7	4-Nitrophenol	990.	U	2000.	U	1000.	U	15000.	U	3200.	U	6400.	U
83-32-9	Acenaphthene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
208-96-8	Acenaphthylene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
120-12-7	Anthracene	410.	U	800.	U	420.	U	6300.	U	200.	J	2600.	U
56-55-3	Benzo(a)anthracene	43.	J	800.	U	420.	U	6300.	U	440.	J	2600.	U
50-32-8	Benzo(a)pyrene	410.	U	800.	U	420.	U	6300.	U	610.	J	2600.	U
205-99-2	Benzo(b)fluoranthene	410.	U	800.	U	420.	U	6300.	U	680.	J	2600.	U
191-24-2	Benzo(g,h,i)perylene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
207-08-9	Benzo(k)fluoranthene	410.	U	800.	U	420.	U	6300.	U	520.	J	2600.	U
85-68-7	Butylbenzylphthalate	410.	U	800.	U	420.	U	6300.	U	160.	J	2600.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA		002-M-00D5-00		002-M-00F1-00		002-M-00F5-00		002-N-00G4-00		002-M-00H1-00		002-M-00H2-00	
	ORIGINAL ID ----->	SD02D5		SD02F1		SD02F5		SD02G4D		SD02H1		SD02H2	
	LAB SAMPLE ID --->	AB2834		AB2471		AB2836		AB2738		AB2614		AB2615	
	ID FROM REPORT -->	SD02D5		SD02F1		SD02F5		SD02G4D		SD02H1		SD02H2	
	SAMPLE DATE ----->	12/06/93		11/30/93		12/06/93		12/03/93		12/02/93		12/02/93	
	DATE EXTRACTED -->	12/19/93		12/10/93		12/19/93		12/16/93		12/13/93		12/13/93	
	DATE ANALYZED --->	12/19/93		12/10/93		12/19/93		12/16/93		12/13/93		12/13/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN026	VAL	PN029	VAL	PN028	VAL	PN028	VAL	PN028	VAL
86-74-8	Carbazole	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
218-01-9	Chrysene	50.	J	800.	U	420.	U	6300.	U	1300.	U	2600.	U
84-74-2	Di-n-butylphthalate	120.	U	800.	U	110.	U	6300.	U	1300.	U	2600.	U
117-84-0	Di-n-octylphthalate	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
53-70-3	Dibenzo(a,h)anthracene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
132-64-9	Dibenzofuran	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
84-66-2	Diethylphthalate	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
131-11-3	Dimethylphthalate	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
206-44-0	Fluoranthene	69.	J	800.	U	420.	U	6300.	U	720.	J	350.	J
86-73-7	Fluorene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
118-74-1	Hexachlorobenzene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
87-68-3	Hexachlorobutadiene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
77-47-4	Hexachlorocyclopentadiene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
67-72-1	Hexachloroethane	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
193-39-5	Indeno(1,2,3-cd)pyrene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
78-59-1	Isophorone	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
621-64-7	N-Nitroso-di-n-propylamine	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
86-30-6	N-Nitrosodiphenylamine	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
91-20-3	Naphthalene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
98-95-3	Nitrobenzene	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
87-86-5	Pentachlorophenol	990.	U	2000.	U	1000.	U	15000.	U	3200.	U	6400.	U
85-01-8	Phenanthrene	410.	U	800.	U	420.	U	6300.	U	170.	J	2600.	U
108-95-2	Phenol	410.	U	800.	U	420.	U	6300.	U	150.	J	2600.	U
129-00-0	Pyrene	110.	J	800.	U	46.	J	6300.	U	760.	J	280.	J
111-91-1	bis(2-Chloroethoxy)methane	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	580.	U	230.	U	140.	U	6300.	U	25000.	U	510.	U
111-44-4	bis(2-Chloroethyl)ether	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410.	U	800.	U	420.	U	6300.	U	1300.	U	2600.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

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Time: 14:46

SVOA	SAMPLE ID ------->	002-M-00H3-00		002-M-00H4-00		002-M-00H5-00		002-M-00M3-00		002-M-00M4-00		002-M-00M5-00	
	ORIGINAL ID ----->	SD02H3		SD02H4		SD02H5		SD02M3		SD02M4		SD02M5	
	LAB SAMPLE ID --->	AB2616		AB2553		AB2554		AB3034		AB3035		AB3036	
	ID FROM REPORT -->	SD02H3		SD02H4		SD02H5		SD02M3		SD02M4		SD02M5	
	SAMPLE DATE ----->	12/02/93		12/02/93		12/02/93		12/07/93		12/07/93		12/07/93	
	DATE EXTRACTED -->	12/13/93		12/16/93		12/16/93		12/22/93		12/22/93		12/22/93	
	DATE ANALYZED --->	12/13/93		12/16/93		12/16/93		12/08/93		12/08/93		12/08/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN026	VAL	PN026	VAL	PN030	VAL	PN030	VAL	PN030	VAL
120-82-1	1,2,4-Trichlorobenzene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
95-50-1	1,2-Dichlorobenzene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
541-73-1	1,3-Dichlorobenzene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
106-46-7	1,4-Dichlorobenzene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
95-95-4	2,4,5-Trichlorophenol	6600.	U	5800.	U	5500.	U	1000.	U	990.	U	1000.	U
88-06-2	2,4,6-Trichlorophenol	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
120-83-2	2,4-Dichlorophenol	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
105-67-9	2,4-Dimethylphenol	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
51-28-5	2,4-Dinitrophenol	6600.	U	5800.	U	5500.	U	1000.	U	990.	U	1000.	U
121-14-2	2,4-Dinitrotoluene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
606-20-2	2,6-Dinitrotoluene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
91-58-7	2-Chloronaphthalene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
95-57-8	2-Chlorophenol	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
91-57-6	2-Methylnaphthalene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
95-48-7	2-Methylphenol (o-Cresol)	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
88-74-4	2-Nitroaniline	6600.	U	5800.	U	5500.	U	1000.	U	990.	U	1000.	U
88-75-5	2-Nitrophenol	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
91-94-1	3,3'-Dichlorobenzidine	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
99-09-2	3-Nitroaniline	6600.	U	5800.	U	5500.	U	1000.	U	990.	U	1000.	U
534-52-1	4,6-Dinitro-2-methylphenol	6600.	U	5800.	U	5500.	U	1000.	U	990.	U	1000.	U
101-55-3	4-Bromophenyl-phenylether	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
59-50-7	4-Chloro-3-methylphenol	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
106-47-8	4-Chloroaniline	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
7005-72-3	4-Chlorophenyl-phenylether	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
106-44-5	4-Methylphenol (p-Cresol)	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
100-01-6	4-Nitroaniline	6600.	U	5800.	U	5500.	U	1000.	U	990.	U	1000.	U
100-02-7	4-Nitrophenol	6600.	U	5800.	U	5500.	U	1000.	U	990.	U	1000.	U
83-32-9	Acenaphthene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
208-96-8	Acenaphthylene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
120-12-7	Anthracene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
56-55-3	Benzo(a)anthracene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
50-32-8	Benzo(a)pyrene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
205-99-2	Benzo(b)fluoranthene	300.	J	2400.	U	2300.	U	420.	U	410.	U	410.	U
191-24-2	Benzo(g,h,i)perylene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
207-08-9	Benzo(k)fluoranthene	390.	J	2400.	U	2300.	U	420.	U	410.	U	410.	U
85-68-7	Butylbenzylphthalate	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U

SVOA													
	SAMPLE ID ------->	002-M-00H3-00		002-M-00H4-00		002-M-00H5-00		002-M-00M3-00		002-M-00M4-00		002-M-00M5-00	
	ORIGINAL ID ----->	SD02H3		SD02H4		SD02H5		SD02M3		SD02M4		SD02M5	
	LAB SAMPLE ID --->	AB2616		AB2553		AB2554		AB3034		AB3035		AB3036	
	ID FROM REPORT -->	SD02H3		SD02H4		SD02H5		SD02M3		SD02M4		SD02M5	
	SAMPLE DATE ----->	12/02/93		12/02/93		12/02/93		12/07/93		12/07/93		12/07/93	
	DATE EXTRACTED -->	12/13/93		12/16/93		12/16/93		12/22/93		12/22/93		12/22/93	
	DATE ANALYZED --->	12/13/93		12/16/93		12/16/93		12/08/93		12/08/93		12/08/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN026	VAL	PN026	VAL	PN030	VAL	PN030	VAL	PN030	VAL
86-74-8	Carbazole	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
218-01-9	Chrysene	310.	J	2400.	U	2300.	U	420.	U	410.	U	410.	U
84-74-2	Di-n-butylphthalate	2700.	U	2400.	U	2300.	U	420.	U	410.	U	150.	J
117-84-0	Di-n-octylphthalate	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
53-70-3	Dibenzo(a,h)anthracene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
132-64-9	Dibenzofuran	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
84-66-2	Diethylphthalate	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
131-11-3	Dimethylphthalate	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
206-44-0	Fluoranthene	580.	J	2400.	U	2300.	U	420.	U	410.	U	410.	U
86-73-7	Fluorene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
118-74-1	Hexachlorobenzene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
87-68-3	Hexachlorobutadiene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
77-47-4	Hexachlorocyclopentadiene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
67-72-1	Hexachloroethane	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
193-39-5	Indeno(1,2,3-cd)pyrene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
78-59-1	Isophorone	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
621-64-7	N-Nitroso-di-n-propylamine	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
86-30-6	N-Nitrosodiphenylamine	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
91-20-3	Naphthalene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
98-95-3	Nitrobenzene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
87-86-5	Pentachlorophenol	6600.	U	5800.	U	5500.	U	1000.	U	990.	U	1000.	U
85-01-8	Phenanthrene	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
108-95-2	Phenol	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
129-00-0	Pyrene	530.	J	2400.	U	2300.	U	420.	U	410.	U	410.	U
111-91-1	bis(2-Chloroethoxy)methane	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
111-44-4	bis(2-Chloroethyl)ether	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2700.	U	2400.	U	2300.	U	420.	U	410.	U	410.	U

SVOA	SAMPLE ID ------->	002-M-00N2-00		002-M-00N3-00		002-M-00N4-00		002-M-00N5-00		002-M-00P2-00		002-M-00P3-00	
	ORIGINAL ID ----->	SD02N2		SD02N3		SD02N4		SD02N5		SD02P2		SD02P3	
	LAB SAMPLE ID --->	AB2837		AB2838		AB2839		AB2840		AB3278		AB3279	
	ID FROM REPORT -->	SD02N2		SD02N3		SD02N4		SD02N5		SD02P2		SD02P3	
	SAMPLE DATE ----->	12/06/93		12/06/93		12/06/93		12/06/93		12/08/93		12/08/93	
	DATE EXTRACTED -->	12/19/93		12/20/93		12/20/93		12/20/93		12/21/93		12/21/93	
	DATE ANALYZED --->	12/07/93		12/07/93		12/07/93		12/07/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN031	VAL	PN031	VAL
120-82-1	1,2,4-Trichlorobenzene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
95-50-1	1,2-Dichlorobenzene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
541-73-1	1,3-Dichlorobenzene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
106-46-7	1,4-Dichlorobenzene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
95-95-4	2,4,5-Trichlorophenol	1300.	U	2500.	U	1000.	U	970.	U	5700.	U	2600.	U
88-06-2	2,4,6-Trichlorophenol	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
120-83-2	2,4-Dichlorophenol	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
105-67-9	2,4-Dimethylphenol	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
51-28-5	2,4-Dinitrophenol	1300.	U	2500.	U	1000.	U	970.	U	5700.	U	2600.	U
121-14-2	2,4-Dinitrotoluene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
606-20-2	2,6-Dinitrotoluene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
91-58-7	2-Chloronaphthalene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
95-57-8	2-Chlorophenol	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
91-57-6	2-Methylnaphthalene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
95-48-7	2-Methylphenol (o-Cresol)	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
88-74-4	2-Nitroaniline	1300.	U	2500.	U	1000.	U	970.	U	5700.	U	2600.	U
88-75-5	2-Nitrophenol	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
91-94-1	3,3'-Dichlorobenzidine	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
99-09-2	3-Nitroaniline	1300.	U	2500.	U	1000.	U	970.	U	5700.	U	2600.	U
534-52-1	4,6-Dinitro-2-methylphenol	1300.	U	2500.	U	1000.	U	970.	U	5700.	U	2600.	U
101-55-3	4-Bromophenyl-phenylether	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
59-50-7	4-Chloro-3-methylphenol	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
106-47-8	4-Chloroaniline	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
7005-72-3	4-Chlorophenyl-phenylether	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
106-44-5	4-Methylphenol (p-Cresol)	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
100-01-6	4-Nitroaniline	1300.	U	2500.	U	1000.	U	970.	U	5700.	U	2600.	U
100-02-7	4-Nitrophenol	1300.	U	2500.	U	1000.	U	970.	U	5700.	U	2600.	U
83-32-9	Acenaphthene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
208-96-8	Acenaphthylene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
120-12-7	Anthracene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
56-55-3	Benzo(a)anthracene	530.	U	180.	J	420.	U	400.	U	2300.	U	1100.	U
50-32-8	Benzo(a)pyrene	530.	U	130.	J	420.	U	400.	U	2300.	U	1100.	U
205-99-2	Benzo(b)fluoranthene	59.	J	180.	J	420.	U	400.	U	2300.	U	1100.	U
191-24-2	Benzo(g,h,i)perylene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
207-08-9	Benzo(k)fluoranthene	530.	U	150.	J	420.	U	400.	U	2300.	U	1100.	U
85-68-7	Butylbenzylphthalate	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-00N2-00		002-M-00N3-00		002-M-00N4-00		002-M-00N5-00		002-M-00P2-00		002-M-00P3-00	
	ORIGINAL ID ----->	SD02N2		SD02N3		SD02N4		SD02N5		SD02P2		SD02P3	
	LAB SAMPLE ID --->	AB2837		AB2838		AB2839		AB2840		AB3278		AB3279	
	ID FROM REPORT -->	SD02N2		SD02N3		SD02N4		SD02N5		SD02P2		SD02P3	
	SAMPLE DATE ----->	12/06/93		12/06/93		12/06/93		12/06/93		12/08/93		12/08/93	
	DATE EXTRACTED -->	12/19/93		12/20/93		12/20/93		12/20/93		12/21/93		12/21/93	
	DATE ANALYZED --->	12/07/93		12/07/93		12/07/93		12/07/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN031	VAL	PN031	VAL
86-74-8	Carbazole	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
218-01-9	Chrysene	530.	U	230.	J	420.	U	400.	U	2300.	U	1100.	U
84-74-2	Di-n-butylphthalate	230.	J	790.	J	150.	J	44.	J	2300.	U	1100.	U
117-84-0	Di-n-octylphthalate	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
53-70-3	Dibenzo(a,h)anthracene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
132-64-9	Dibenzofuran	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
84-66-2	Diethylphthalate	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
131-11-3	Dimethylphthalate	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
206-44-0	Fluoranthene	78.	J	330.	J	420.	U	400.	U	2300.	U	1100.	U
86-73-7	Fluorene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
118-74-1	Hexachlorobenzene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
87-68-3	Hexachlorobutadiene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
77-47-4	Hexachlorocyclopentadiene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
67-72-1	Hexachloroethane	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
193-39-5	Indeno(1,2,3-cd)pyrene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
78-59-1	Isophorone	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
621-64-7	N-Nitroso-di-n-propylamine	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
86-30-6	N-Nitrosodiphenylamine	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
91-20-3	Naphthalene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
98-95-3	Nitrobenzene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
87-86-5	Pentachlorophenol	1300.	U	2500.	U	1000.	U	970.	U	5700.	U	2600.	U
85-01-8	Phenanthrene	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
108-95-2	Phenol	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
129-00-0	Pyrene	110.	J	400.	J	420.	U	400.	U	2300.	U	1100.	U
111-91-1	bis(2-Chloroethoxy)methane	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	550.	U	1500.	U	420.	U	400.	U	550.	U	1100.	U
111-44-4	bis(2-Chloroethyl)ether	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	530.	U	1000.	U	420.	U	400.	U	2300.	U	1100.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-00P4-00		002-M-00P5-00		002-M-00Q1-00		002-M-00Q2-00		002-M-00Q3-00		002-M-00Q4-00	
	ORIGINAL ID ----->	SD02P4		SD02P5		SD02Q1		SD02Q2		SD02Q3		SD02Q4	
	LAB SAMPLE ID --->	AB3280		AB3281		AB3136		AB3137		AB3138		AB3282	
	ID FROM REPORT -->	SD02P4		SD02P5		SD02Q1		SD02Q2		SD02Q3		SD02Q4	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/08/93		12/08/93		12/08/93		12/08/93	
	DATE EXTRACTED -->	12/21/93		12/21/93		12/21/93		12/21/93		12/21/93		12/21/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/09/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN031	VAL	PN030	VAL	PN030	VAL	PN030	VAL	PN031	VAL
120-82-1	1,2,4-Trichlorobenzene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
95-50-1	1,2-Dichlorobenzene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
541-73-1	1,3-Dichlorobenzene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
106-46-7	1,4-Dichlorobenzene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
95-95-4	2,4,5-Trichlorophenol	2500.	U	2100.	U	5100.	U	13000.	U	6400.	U	1700.	U
88-06-2	2,4,6-Trichlorophenol	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
120-83-2	2,4-Dichlorophenol	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
105-67-9	2,4-Dimethylphenol	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
51-28-5	2,4-Dinitrophenol	2500.	U	2100.	U	5100.	U	13000.	U	6400.	U	1700.	U
121-14-2	2,4-Dinitrotoluene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
606-20-2	2,6-Dinitrotoluene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
91-58-7	2-Chloronaphthalene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
95-57-8	2-Chlorophenol	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
91-57-6	2-Methylnaphthalene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
95-48-7	2-Methylphenol (o-Cresol)	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
88-74-4	2-Nitroaniline	2500.	U	2100.	U	5100.	U	13000.	U	6400.	U	1700.	U
88-75-5	2-Nitrophenol	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
91-94-1	3,3'-Dichlorobenzidine	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
99-09-2	3-Nitroaniline	2500.	U	2100.	U	5100.	U	13000.	U	6400.	U	1700.	U
534-52-1	4,6-Dinitro-2-methylphenol	2500.	U	2100.	U	5100.	U	13000.	U	6400.	U	1700.	U
101-55-3	4-Bromophenyl-phenylether	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
59-50-7	4-Chloro-3-methylphenol	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
106-47-8	4-Chloroaniline	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
7005-72-3	4-Chlorophenyl-phenylether	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
106-44-5	4-Methylphenol (p-Cresol)	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
100-01-6	4-Nitroaniline	2500.	U	2100.	U	5100.	U	13000.	U	6400.	U	1700.	U
100-02-7	4-Nitrophenol	2500.	U	2100.	U	5100.	U	13000.	U	6400.	U	1700.	U
83-32-9	Acenaphthene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
208-96-8	Acenaphthylene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
120-12-7	Anthracene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
56-55-3	Benzo(a)anthracene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
50-32-8	Benzo(a)pyrene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
205-99-2	Benzo(b)fluoranthene	1000.	U	860.	U	2100.	U	5400.	U	310.	J	680.	U
191-24-2	Benzo(g,h,i)perylene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
207-08-9	Benzo(k)fluoranthene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
85-68-7	Butylbenzylphthalate	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-00P4-00		002-M-00P5-00		002-M-00Q1-00		002-M-00Q2-00		002-M-00Q3-00		002-M-00Q4-00	
	ORIGINAL ID ----->	SD02P4		SD02P5		SD02Q1		SD02Q2		SD02Q3		SD02Q4	
	LAB SAMPLE ID --->	AB3280		AB3281		AB3136		AB3137		AB3138		AB3282	
	ID FROM REPORT -->	SD02P4		SD02P5		SD02Q1		SD02Q2		SD02Q3		SD02Q4	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/08/93		12/08/93		12/08/93		12/08/93	
	DATE EXTRACTED -->	12/21/93		12/21/93		12/21/93		12/21/93		12/21/93		12/21/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/09/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN031	VAL	PN030	VAL	PN030	VAL	PN030	VAL	PN031	VAL
86-74-8	Carbazole	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
218-01-9	Chrysene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
84-74-2	Di-n-butylphthalate	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
117-84-0	Di-n-octylphthalate	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
53-70-3	Dibenzo(a,h)anthracene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
132-64-9	Dibenzofuran	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
84-66-2	Diethylphthalate	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
131-11-3	Dimethylphthalate	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
206-44-0	Fluoranthene	1000.	U	860.	U	2100.	U	560.	J	290.	J	680.	U
86-73-7	Fluorene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
118-74-1	Hexachlorobenzene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
87-68-3	Hexachlorobutadiene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
77-47-4	Hexachlorocyclopentadiene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
67-72-1	Hexachloroethane	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
193-39-5	Indeno(1,2,3-cd)pyrene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
78-59-1	Isophorone	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
621-64-7	N-Nitroso-di-n-propylamine	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
86-30-6	N-Nitrosodiphenylamine	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
91-20-3	Naphthalene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
98-95-3	Nitrobenzene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
87-86-5	Pentachlorophenol	2500.	U	2100.	U	5100.	U	13000.	U	6400.	U	1700.	U
85-01-8	Phenanthrene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
108-95-2	Phenol	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
129-00-0	Pyrene	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
111-91-1	bis(2-Chloroethoxy)methane	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	1000.	U	110.	U	2100.	U	5400.	U	2600.	U	680.	U
111-44-4	bis(2-Chloroethyl)ether	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1000.	U	860.	U	2100.	U	5400.	U	2600.	U	680.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA	SAMPLE ID ------->	002-M-00Q5-00		002-M-00U1-00		002-M-00U2-00		002-M-00X1-00		002-M-00X2-00		002-M-00X3-00	
	ORIGINAL ID ----->	SD02Q5		SD02U1		SD02U2		SD02X1		SD02X2		SD02X3	
	LAB SAMPLE ID --->	AB3283		AB3358		AB3360		AB2841		AB3033		AB3284	
	ID FROM REPORT -->	SD02Q5		SD02U1		SD02U2		SD02X1		SD02X2		SD02X3	
	SAMPLE DATE ----->	12/08/93		12/09/93		12/09/93		12/06/93		12/07/93		12/08/93	
	DATE EXTRACTED -->	12/21/93		12/21/93		12/21/93		12/20/93		12/22/93		12/21/93	
	DATE ANALYZED --->	12/09/93		12/10/93		12/10/93		12/07/93		12/08/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN031	VAL	PN031	VAL	PN029	VAL	PN030	VAL	PN031	VAL
120-82-1	1,2,4-Trichlorobenzene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
95-50-1	1,2-Dichlorobenzene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
541-73-1	1,3-Dichlorobenzene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
106-46-7	1,4-Dichlorobenzene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
95-95-4	2,4,5-Trichlorophenol	2000.	U	5400.	U	2600.	U	960.	U	1000.	U	2000.	U
88-06-2	2,4,6-Trichlorophenol	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
120-83-2	2,4-Dichlorophenol	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
105-67-9	2,4-Dimethylphenol	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
51-28-5	2,4-Dinitrophenol	2000.	U	5400.	U	2600.	U	960.	U	1000.	U	2000.	U
121-14-2	2,4-Dinitrotoluene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
606-20-2	2,6-Dinitrotoluene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
91-58-7	2-Chloronaphthalene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
95-57-8	2-Chlorophenol	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
91-57-6	2-Methylnaphthalene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
95-48-7	2-Methylphenol (o-Cresol)	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
88-74-4	2-Nitroaniline	2000.	U	5400.	U	2600.	U	960.	U	1000.	U	2000.	U
88-75-5	2-Nitrophenol	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
91-94-1	3,3'-Dichlorobenzidine	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
99-09-2	3-Nitroaniline	2000.	U	5400.	U	2600.	U	960.	U	1000.	U	2000.	U
534-52-1	4,6-Dinitro-2-methylphenol	2000.	U	5400.	U	2600.	U	960.	U	1000.	U	2000.	U
101-55-3	4-Bromophenyl-phenylether	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
59-50-7	4-Chloro-3-methylphenol	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
106-47-8	4-Chloroaniline	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
7005-72-3	4-Chlorophenyl-phenylether	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
106-44-5	4-Methylphenol (p-Cresol)	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
100-01-6	4-Nitroaniline	2000.	U	5400.	U	2600.	U	960.	U	1000.	U	2000.	U
100-02-7	4-Nitrophenol	2000.	U	5400.	U	2600.	U	960.	U	1000.	U	2000.	U
83-32-9	Acenaphthene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
208-96-8	Acenaphthylene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
120-12-7	Anthracene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
56-55-3	Benzo(a)anthracene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
50-32-8	Benzo(a)pyrene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
205-99-2	Benzo(b)fluoranthene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
191-24-2	Benzo(g,h,i)perylene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
207-08-9	Benzo(k)fluoranthene	830.	U	230.	J	1100.	U	400.	U	410.	U	840.	U
85-68-7	Butylbenzylphthalate	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-00Q5-00		002-M-00U1-00		002-M-00U2-00		002-M-00X1-00		002-M-00X2-00		002-M-00X3-00	
	ORIGINAL ID ----->	SD02Q5		SD02U1		SD02U2		SD02X1		SD02X2		SD02X3	
	LAB SAMPLE ID --->	AB3283		AB3358		AB3360		AB2841		AB3033		AB3284	
	ID FROM REPORT -->	SD02Q5		SD02U1		SD02U2		SD02X1		SD02X2		SD02X3	
	SAMPLE DATE ----->	12/08/93		12/09/93		12/09/93		12/06/93		12/07/93		12/08/93	
	DATE EXTRACTED -->	12/21/93		12/21/93		12/21/93		12/20/93		12/22/93		12/21/93	
	DATE ANALYZED --->	12/09/93		12/10/93		12/10/93		12/07/93		12/08/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN031	VAL	PN031	VAL	PN029	VAL	PN030	VAL	PN031	VAL
86-74-8	Carbazole	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
218-01-9	Chrysene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
84-74-2	Di-n-butylphthalate	830.	U	2200.	U	1100.	U	53.	U	410.	U	840.	U
117-84-0	Di-n-octylphthalate	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
53-70-3	Dibenzo(a,h)anthracene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
132-64-9	Dibenzofuran	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
84-66-2	Diethylphthalate	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
131-11-3	Dimethylphthalate	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
206-44-0	Fluoranthene	830.	U	300.	J	1100.	U	400.	U	410.	U	840.	U
86-73-7	Fluorene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
118-74-1	Hexachlorobenzene	830.	U	2200.	U	140.	J	400.	U	410.	U	840.	U
87-68-3	Hexachlorobutadiene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
77-47-4	Hexachlorocyclopentadiene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
67-72-1	Hexachloroethane	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
193-39-5	Indeno(1,2,3-cd)pyrene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
78-59-1	Isophorone	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
621-64-7	N-Nitroso-di-n-propylamine	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
86-30-6	N-Nitrosodiphenylamine	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
91-20-3	Naphthalene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
98-95-3	Nitrobenzene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
87-86-5	Pentachlorophenol	2000.	U	5400.	U	2600.	U	960.	U	1000.	U	2000.	U
85-01-8	Phenanthrene	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
108-95-2	Phenol	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
129-00-0	Pyrene	830.	U	330.	J	1100.	U	400.	U	410.	U	840.	U
111-91-1	bis(2-Chloroethoxy)methane	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	830.	U	1200.	U	1100.	U	400.	U	410.	U	840.	U
111-44-4	bis(2-Chloroethyl)ether	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	830.	U	2200.	U	1100.	U	400.	U	410.	U	840.	U

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

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SVOA	SAMPLE ID ------->	002-M-00X4-00		002-M-02F4-00					
	ORIGINAL ID ----->	SD02X4		SD02F4					
	LAB SAMPLE ID --->	AB3367		AB2835					
	ID FROM REPORT -->	SD02X4		SD02F4					
	SAMPLE DATE ----->	12/09/93		12/06/93					
	DATE EXTRACTED -->	12/22/93		12/19/93					
	DATE ANALYZED --->	12/10/93		12/19/93					
	MATRIX ---------->	Sediment		Sediment					
	UNITS ----------->	UG/KG		UG/KG					
CAS #	Parameter	PN033	VAL	PN029	VAL				
120-82-1	1,2,4-Trichlorobenzene	430.	U	1100.	U				
95-50-1	1,2-Dichlorobenzene	430.	U	1100.	U				
541-73-1	1,3-Dichlorobenzene	430.	U	1100.	U				
106-46-7	1,4-Dichlorobenzene	430.	U	1100.	U				
95-95-4	2,4,5-Trichlorophenol	1000.	U	2700.	U				
88-06-2	2,4,6-Trichlorophenol	430.	U	1100.	U				
120-83-2	2,4-Dichlorophenol	430.	U	1100.	U				
105-67-9	2,4-Dimethylphenol	430.	U	1100.	U				
51-28-5	2,4-Dinitrophenol	1000.	U	2700.	U				
121-14-2	2,4-Dinitrotoluene	430.	U	1100.	U				
606-20-2	2,6-Dinitrotoluene	430.	U	1100.	U				
91-58-7	2-Chloronaphthalene	430.	U	1100.	U				
95-57-8	2-Chlorophenol	430.	U	1100.	U				
91-57-6	2-Methylnaphthalene	430.	U	1100.	U				
95-48-7	2-Methylphenol (o-Cresol)	430.	U	1100.	U				
88-74-4	2-Nitroaniline	1000.	U	2700.	U				
88-75-5	2-Nitrophenol	430.	U	1100.	U				
91-94-1	3,3'-Dichlorobenzidine	430.	U	1100.	U				
99-09-2	3-Nitroaniline	1000.	U	2700.	U				
534-52-1	4,6-Dinitro-2-methylphenol	1000.	U	2700.	U				
101-55-3	4-Bromophenyl-phenylether	430.	U	1100.	U				
59-50-7	4-Chloro-3-methylphenol	430.	U	1100.	U				
106-47-8	4-Chloroaniline	430.	U	1100.	U				
7005-72-3	4-Chlorophenyl-phenylether	430.	U	1100.	U				
106-44-5	4-Methylphenol (p-Cresol)	430.	U	1100.	U				
100-01-6	4-Nitroaniline	1000.	U	2700.	U				
100-02-7	4-Nitrophenol	1000.	U	2700.	U				
83-32-9	Acenaphthene	430.	U	1100.	U				
208-96-8	Acenaphthylene	430.	U	1100.	U				
120-12-7	Anthracene	430.	U	1100.	U				
56-55-3	Benzo(a)anthracene	430.	U	230.	J				
50-32-8	Benzo(a)pyrene	430.	U	1100.	U				
205-99-2	Benzo(b)fluoranthene	430.	U	160.	J				
191-24-2	Benzo(g,h,i)perylene	430.	U	1100.	U				
207-08-9	Benzo(k)fluoranthene	430.	U	160.	J				
85-68-7	Butylbenzylphthalate	430.	U	1100.	U				

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

SVOA								
	SAMPLE ID ------->	002-M-00X4-00	002-M-02F4-00					
	ORIGINAL ID ----->	SD02X4	SD02F4					
	LAB SAMPLE ID --->	AB3367	AB2835					
	ID FROM REPORT -->	SD02X4	SD02F4					
	SAMPLE DATE ----->	12/09/93	12/06/93					
	DATE EXTRACTED -->	12/22/93	12/19/93					
	DATE ANALYZED --->	12/10/93	12/19/93					
	MATRIX ---------->	Sediment	Sediment					
	UNITS ----------->	UG/KG	UG/KG					

CAS #	Parameter	PN033	VAL	PN029	VAL				
86-74-8	Carbazole	430.	U	1100.	U				
218-01-9	Chrysene	430.	U	260.	J				
84-74-2	Di-n-butylphthalate	80.	U	720.	U				
117-84-0	Di-n-octylphthalate	430.	U	1100.	U				
53-70-3	Dibenzo(a,h)anthracene	430.	U	1100.	U				
132-64-9	Dibenzofuran	430.	U	1100.	U				
84-66-2	Diethylphthalate	430.	U	1100.	U				
131-11-3	Dimethylphthalate	430.	U	1100.	U				
206-44-0	Fluoranthene	430.	U	130.	J				
86-73-7	Fluorene	430.	U	1100.	U				
118-74-1	Hexachlorobenzene	430.	U	1100.	U				
87-68-3	Hexachlorobutadiene	430.	U	1100.	U				
77-47-4	Hexachlorocyclopentadiene	430.	U	1100.	U				
67-72-1	Hexachloroethane	430.	U	1100.	U				
193-39-5	Indeno(1,2,3-cd)pyrene	430.	U	1100.	U				
78-59-1	Isophorone	430.	U	1100.	U				
621-64-7	N-Nitroso-di-n-propylamine	430.	U	1100.	U				
86-30-6	N-Nitrosodiphenylamine	430.	U	1100.	U				
91-20-3	Naphthalene	430.	U	1100.	U				
98-95-3	Nitrobenzene	430.	U	1100.	U				
87-86-5	Pentachlorophenol	1000.	U	2700.	U				
85-01-8	Phenanthrene	430.	U	110.	J				
108-95-2	Phenol	430.	U	1100.	U				
129-00-0	Pyrene	430.	U	200.	J				
111-91-1	bis(2-Chloroethoxy)methane	430.	U	1100.	U				
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	430.	U	660.	U				
111-44-4	bis(2-Chloroethyl)ether	430.	U	1100.	U				
108-60-1	2,2'-oxybis(1-Chloropropane)	430.	U	1100.	U				

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA													
	SAMPLE ID ------->	002-M-0001-00		002-M-0002-00		002-M-0002-A2		002-M-0002-D3		002-M-0002-E2		002-M-0002-E3	
	ORIGINAL ID ----->	SD0201		SD0202		SD02A2		SD02D3		SD02E2		SD02E3	
	LAB SAMPLE ID --->	AB3006		AB3007		AB2512		AB2513		AB2508		AB2509	
	ID FROM REPORT -->	SD0201		SD0202		SD02A2		SD02D3		SD02E2		SD02E3	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/01/93		12/01/93		12/01/93		12/01/93	
	DATE EXTRACTED -->	12/15/93		12/15/93		12/08/93		12/08/93		12/08/93		12/08/93	
	DATE ANALYZED --->	12/15/93		12/15/93		12/08/93		12/08/93		12/08/93		12/08/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN026	VAL	PN026	VAL	PN026	VAL	PN026	VAL
71-55-6	1,1,1-Trichloroethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
79-34-5	1,1,2,2-Tetrachloroethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
79-00-5	1,1,2-Trichloroethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
75-34-3	1,1-Dichloroethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
75-35-4	1,1-Dichloroethene	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
107-06-2	1,2-Dichloroethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
540-59-0	1,2-Dichloroethene (total)	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
78-87-5	1,2-Dichloropropane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
78-93-3	2-Butanone (MEK)	14.	U	26.		4.	J	6.	J	3.	J	23.	J
591-78-6	2-Hexanone	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
67-64-1	Acetone	17.	U	170.	U	54.	U	92.	U	110.	U	260.	U
71-43-2	Benzene	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
75-27-4	Bromodichloromethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
75-25-2	Bromoform	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
74-83-9	Bromomethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
75-15-0	Carbon disulfide	14.	U	9.	J	17.	U	12.	J	15.	U	37.	U
56-23-5	Carbon tetrachloride	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
108-90-7	Chlorobenzene	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
75-00-3	Chloroethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
67-66-3	Chloroform	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
74-87-3	Chloromethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
124-48-1	Dibromochloromethane	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
100-41-4	Ethylbenzene	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
75-09-2	Methylene chloride	6.	U	9.	U	6.	U	12.	U	9.	U	16.	U
100-42-5	Styrene	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
127-18-4	Tetrachloroethene	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
108-88-3	Toluene	14.	U	25.	U	17.	U	24.	U	2.	J	37.	U
79-01-6	Trichloroethene	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
75-01-4	Vinyl chloride	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
1330-20-7	Xylene (Total)	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
10061-01-5	cis-1,3-Dichloropropene	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U
10061-02-6	trans-1,3-Dichloropropene	14.	U	25.	U	17.	U	24.	U	15.	U	37.	U

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA													
	SAMPLE ID ------->	002-M-0002-E4		002-M-0002-E5		002-M-0002-F2		002-M-0002-F3		002-M-0002-G2		002-M-0002-G3	
	ORIGINAL ID ----->	SD02E4		SD02E5		SD02F2		SD02F3		SD02G2		SD02G3	
	LAB SAMPLE ID --->	AB2510		AB2511		AB2514		AB2515		AB2726		AB2727	
	ID FROM REPORT -->	SD02E4		SD02E5		SD02F2		SD02F3		SD02G2		SD02G3	
	SAMPLE DATE ----->	12/01/93		12/01/93		12/01/93		12/01/93		12/03/93		12/03/93	
	DATE EXTRACTED -->	12/08/93		12/08/93		12/08/93		12/08/93		12/10/93		12/10/93	
	DATE ANALYZED --->	12/08/93		12/08/93		12/08/93		12/08/93		12/10/93		12/10/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN026	VAL	PN026	VAL	PN026	VAL	PN026	VAL	PN028	VAL	PN028	VAL
71-55-6	1,1,1-Trichloroethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
79-34-5	1,1,2,2-Tetrachloroethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
79-00-5	1,1,2-Trichloroethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
75-34-3	1,1-Dichloroethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
75-35-4	1,1-Dichloroethene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
107-06-2	1,2-Dichloroethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
540-59-0	1,2-Dichloroethene (total)	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
78-87-5	1,2-Dichloropropane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
78-93-3	2-Butanone (MEK)	3.	J	13.	U	13.	U	17.	U	13.	U	14.	U
591-78-6	2-Hexanone	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
67-64-1	Acetone	110.	U	9.	U	30.	U	150.	U	150.	U	430.	U
71-43-2	Benzene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
75-27-4	Bromodichloromethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
75-25-2	Bromoform	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
74-83-9	Bromomethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
75-15-0	Carbon disulfide	16.	U	13.	U	13.	U	5.	J	13.	U	24.	U
56-23-5	Carbon tetrachloride	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
108-90-7	Chlorobenzene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
75-00-3	Chloroethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
67-66-3	Chloroform	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
74-87-3	Chloromethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
124-48-1	Dibromochloromethane	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
100-41-4	Ethylbenzene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
75-09-2	Methylene chloride	7.	U	5.	U	6.	U	15.	U	6.	U	27.	U
100-42-5	Styrene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
127-18-4	Tetrachloroethene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
108-88-3	Toluene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
79-01-6	Trichloroethene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
75-01-4	Vinyl chloride	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
1330-20-7	Xylene (Total)	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
10061-01-5	cis-1,3-Dichloropropene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U
10061-02-6	trans-1,3-Dichloropropene	16.	U	13.	U	13.	U	37.	U	13.	U	51.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA	SAMPLE ID ------->	002-M-0002-G4		002-M-0002-G5		002-M-0002-K1		002-M-0002-K3		002-M-0002-M1		002-M-0002-M2	
	ORIGINAL ID ----->	SD02G4		SD02G5		SD02K1		SD02K3		SD02M1		SD02M2	
	LAB SAMPLE ID --->	AB2728		AB2732		AB2740		AB2741		AB2742		AB2743	
	ID FROM REPORT -->	SD02G4		SD02G5		SD02K1		SD02K3		SD02M1		SD02M2	
	SAMPLE DATE ----->	12/03/93		12/03/93		12/03/93		12/03/93		12/03/93		12/03/93	
	DATE EXTRACTED -->	12/11/93		12/10/93		12/11/93		12/12/93		12/12/93		12/12/93	
	DATE ANALYZED --->	12/11/93		12/10/93		12/11/93		12/12/93		12/12/93		12/04/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN029	VAL
71-55-6	1,1,1-Trichloroethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
79-34-5	1,1,2,2-Tetrachloroethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
79-00-5	1,1,2-Trichloroethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
75-34-3	1,1-Dichloroethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
75-35-4	1,1-Dichloroethene	9.	J	14.	U	12.	U	37.	U	12.	U	16.	U
107-06-2	1,2-Dichloroethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
540-59-0	1,2-Dichloroethene (total)	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
78-87-5	1,2-Dichloropropane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
78-93-3	2-Butanone (MEK)	33.	J	2.	U	2.	J	30.	J	12.	U	5.	J
591-78-6	2-Hexanone	37.	U	14.	U	5.	J	37.	U	12.	U	16.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	37.	U	14.	U	4.	J	37.	U	12.	U	16.	U
67-64-1	Acetone	270.	U	110.	U	13.	U	390.	U	29.	U	110.	U
71-43-2	Benzene	7.	J	14.	U	12.	U	37.	U	12.	U	16.	U
75-27-4	Bromodichloromethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
75-25-2	Bromoform	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
74-83-9	Bromomethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
75-15-0	Carbon disulfide	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
56-23-5	Carbon tetrachloride	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
108-90-7	Chlorobenzene	6.	J	14.	U	12.	U	37.	U	12.	U	16.	U
75-00-3	Chloroethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
67-66-3	Chloroform	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
74-87-3	Chloromethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
124-48-1	Dibromochloromethane	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
100-41-4	Ethylbenzene	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
75-09-2	Methylene chloride	12.	U	8.	U	4.	U	29.	U	7.	U	11.	U
100-42-5	Styrene	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
127-18-4	Tetrachloroethene	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
108-88-3	Toluene	9.	J	14.	U	12.	U	37.	U	12.	U	16.	U
79-01-6	Trichloroethene	8.	J	14.	U	12.	U	37.	U	12.	U	16.	U
75-01-4	Vinyl chloride	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
1330-20-7	Xylene (Total)	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
10061-01-5	cis-1,3-Dichloropropene	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U
10061-02-6	trans-1,3-Dichloropropene	37.	U	14.	U	12.	U	37.	U	12.	U	16.	U

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA	SAMPLE ID ------->	002-M-0003-00		002-M-0004-00		002-M-0005-00		002-M-00A1-00		002-M-00D2-00		002-M-00D4-00	
	ORIGINAL ID ----->	SD0203		SD0204		SD0205		SD02A1		SD02D2		SD02D4	
	LAB SAMPLE ID --->	AB3008		AB3009		AB3010		AB2467		AB2469		AB2824	
	ID FROM REPORT -->	SD0203		SD0204		SD0205		SD02A1		SD02D2		SD02D4	
	SAMPLE DATE ----->	12/07/93		12/07/93		12/07/93		11/30/93		11/30/93		12/06/93	
	DATE EXTRACTED -->	12/15/93		12/15/93		12/16/93		12/08/93		12/08/93		12/12/93	
	DATE ANALYZED --->	12/15/93		12/15/93		12/16/93		12/08/93		12/08/93		12/12/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN029	VAL	PN026	VAL	PN026	VAL	PN029	VAL
71-55-6	1,1,1-Trichloroethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
79-34-5	1,1,2,2-Tetrachloroethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
79-00-5	1,1,2-Trichloroethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
75-34-3	1,1-Dichloroethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
75-35-4	1,1-Dichloroethene	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
107-06-2	1,2-Dichloroethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
540-59-0	1,2-Dichloroethene (total)	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
78-87-5	1,2-Dichloropropane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
78-93-3	2-Butanone (MEK)	20.	U	13.	U	12.	U	2.	J	1.	U	14.	U
591-78-6	2-Hexanone	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
67-64-1	Acetone	46.	U	34.	U	12.	U	100.	U	150.	U	32.	U
71-43-2	Benzene	20.	U	13.	U	12.	U	2.	J	14.	U	14.	U
75-27-4	Bromodichloromethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
75-25-2	Bromoform	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
74-83-9	Bromomethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
75-15-0	Carbon disulfide	20.	U	13.	U	12.	U	13.	U	14.	U	2.	J
56-23-5	Carbon tetrachloride	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
108-90-7	Chlorobenzene	20.	U	13.	U	12.	U	2.	J	14.	U	14.	U
75-00-3	Chloroethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
67-66-3	Chloroform	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
74-87-3	Chloromethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
124-48-1	Dibromochloromethane	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
100-41-4	Ethylbenzene	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
75-09-2	Methylene chloride	9.	U	5.	U	4.	U	5.	U	5.	U	5.	U
100-42-5	Styrene	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
127-18-4	Tetrachloroethene	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
108-88-3	Toluene	20.	U	13.	U	12.	U	2.	J	14.	U	14.	U
79-01-6	Trichloroethene	20.	U	13.	U	12.	U	1.	J	14.	U	14.	U
75-01-4	Vinyl chloride	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
1330-20-7	Xylene (Total)	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
10061-01-5	cis-1,3-Dichloropropene	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U
10061-02-6	trans-1,3-Dichloropropene	20.	U	13.	U	12.	U	13.	U	14.	U	14.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA													
	SAMPLE ID ------->	002-M-00D5-00		002-M-00F1-00		002-M-00F5-00		002-M-00H1-00		002-M-00H2-00		002-M-00H3-00	
	ORIGINAL ID ----->	SD02D5		SD02F1		SD02F5		SD02H1		SD02H2		SD02H3	
	LAB SAMPLE ID --->	AB2825		AB2468		AB2827		AB2599		AB2600		AB2601	
	ID FROM REPORT -->	SD02D5		SD02F1		SD02F5		SD02H1		SD02H2		SD02H3	
	SAMPLE DATE ----->	12/06/93		11/30/93		12/06/93		12/02/93		12/02/93		12/02/93	
	DATE EXTRACTED -->	12/12/93		12/08/93		12/12/93		12/09/93		12/09/93		12/09/93	
	DATE ANALYZED --->	12/12/93		12/08/93		12/12/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN026	VAL	PN029	VAL	PN028	VAL	PN028	VAL	PN028	VAL
71-55-6	1,1,1-Trichloroethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
79-34-5	1,1,2,2-Tetrachloroethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
79-00-5	1,1,2-Trichloroethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
75-34-3	1,1-Dichloroethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
75-35-4	1,1-Dichloroethene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
107-06-2	1,2-Dichloroethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
540-59-0	1,2-Dichloroethene (total)	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
78-87-5	1,2-Dichloropropane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
78-93-3	2-Butanone (MEK)	13.	U	2.	U	13.	U	11.	U	44.	U	25.	U
591-78-6	2-Hexanone	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
67-64-1	Acetone	22.	U	110.	U	13.	U	160.	U	370.	U	290.	U
71-43-2	Benzene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
75-27-4	Bromodichloromethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
75-25-2	Bromoform	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
74-83-9	Bromomethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
75-15-0	Carbon disulfide	1.	J	12.	U	13.	U	20.	U	40.	U	42.	U
56-23-5	Carbon tetrachloride	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
108-90-7	Chlorobenzene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
75-00-3	Chloroethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
67-66-3	Chloroform	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
74-87-3	Chloromethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
124-48-1	Dibromochloromethane	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
100-41-4	Ethylbenzene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
75-09-2	Methylene chloride	5.	U	5.	U	5.	U	14.	U	22.	U	20.	U
100-42-5	Styrene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
127-18-4	Tetrachloroethene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
108-88-3	Toluene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
79-01-6	Trichloroethene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
75-01-4	Vinyl chloride	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
1330-20-7	Xylene (Total)	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
10061-01-5	cis-1,3-Dichloropropene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U
10061-02-6	trans-1,3-Dichloropropene	13.	U	12.	U	13.	U	20.	U	40.	U	42.	U

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA	SAMPLE ID ------->	002-M-00H4-00		002-M-00H5-00		002-M-00M3-00		002-M-00M4-00		002-M-00M5-00		002-M-00N2-00	
	ORIGINAL ID ----->	SD02H4		SD02H5		SD02M3		SD02M4		SD02M5		SD02N2	
	LAB SAMPLE ID --->	AB2553		AB2554		AB3017		AB3018		AB3019		AB2828	
	ID FROM REPORT -->	SD02H4		SD02H5		SD02M3		SD02M4		SD02M5		SD02N2	
	SAMPLE DATE ----->	12/02/93		12/02/93		12/07/93		12/07/93		12/07/93		12/06/93	
	DATE EXTRACTED -->	12/10/93		12/10/93		12/14/93		12/14/93		12/14/93		12/13/93	
	DATE ANALYZED --->	12/10/93		12/10/93		12/08/93		12/08/93		12/08/93		12/07/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN026	VAL	PN026	VAL	PN030	VAL	PN030	VAL	PN030	VAL	PN029	VAL
71-55-6	1,1,1-Trichloroethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
79-34-5	1,1,2,2-Tetrachloroethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
79-00-5	1,1,2-Trichloroethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
75-34-3	1,1-Dichloroethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
75-35-4	1,1-Dichloroethene	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
107-06-2	1,2-Dichloroethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
540-59-0	1,2-Dichloroethene (total)	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
78-87-5	1,2-Dichloropropane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
78-93-3	2-Butanone (MEK)	15.	U	3.	J	13.	U	12.	U	13.	U	16.	U
591-78-6	2-Hexanone	15.	U	12.	J	13.	U	12.	U	13.	U	16.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	15.	U	9.	J	13.	U	12.	U	13.	U	16.	U
67-64-1	Acetone	8.	U	44.	U	64.	U	46.	U	49.	U	41.	U
71-43-2	Benzene	15.	U	2.	J	13.	U	12.	U	13.	U	16.	U
75-27-4	Bromodichloromethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
75-25-2	Bromoform	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
74-83-9	Bromomethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
75-15-0	Carbon disulfide	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
56-23-5	Carbon tetrachloride	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
108-90-7	Chlorobenzene	15.	U	2.	J	13.	U	12.	U	13.	U	16.	U
75-00-3	Chloroethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
67-66-3	Chloroform	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
74-87-3	Chloromethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
124-48-1	Dibromochloromethane	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
100-41-4	Ethylbenzene	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
75-09-2	Methylene chloride	8.	U	8.	U	10.	U	11.	U	11.	U	12.	U
100-42-5	Styrene	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
127-18-4	Tetrachloroethene	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
108-88-3	Toluene	15.	U	3.	J	13.	U	12.	U	13.	U	16.	U
79-01-6	Trichloroethene	15.	U	2.	J	13.	U	12.	U	13.	U	16.	U
75-01-4	Vinyl chloride	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
1330-20-7	Xylene (Total)	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
10061-01-5	cis-1,3-Dichloropropene	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U
10061-02-6	trans-1,3-Dichloropropene	15.	U	14.	U	13.	U	12.	U	13.	U	16.	U

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA													
	SAMPLE ID ------->	002-M-00N3-00		002-M-00N4-00		002-M-00N5-00		002-M-00P2-00		002-M-00P3-00		002-M-00P4-00	
	ORIGINAL ID ----->	SD02N3		SD02N4		SD02N5		SD02P2		SD02P3		SD02P4	
	LAB SAMPLE ID --->	AB2829		AB2830		AB2831		AB3259		AB3260		AB3261	
	ID FROM REPORT -->	SD02N3		SD02N4		SD02N5		SD02P2		SD02P3		SD02P4	
	SAMPLE DATE ----->	12/06/93		12/06/93		12/06/93		12/08/93		12/08/93		12/08/93	
	DATE EXTRACTED -->	12/12/93		12/12/93		12/12/93		12/16/93		12/16/93		12/16/93	
	DATE ANALYZED --->	12/07/93		12/07/93		12/07/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN029	VAL	PN029	VAL	PN029	VAL	PN031	VAL	PN031	VAL	PN031	VAL
71-55-6	1,1,1-Trichloroethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
79-34-5	1,1,2,2-Tetrachloroethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
79-00-5	1,1,2-Trichloroethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
75-34-3	1,1-Dichloroethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
75-35-4	1,1-Dichloroethene	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
107-06-2	1,2-Dichloroethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
540-59-0	1,2-Dichloroethene (total)	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
78-87-5	1,2-Dichloropropane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
78-93-3	2-Butanone (MEK)	30.	U	12.	U	12.	U	69.	U	16.	U	16.	U
591-78-6	2-Hexanone	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
67-64-1	Acetone	140.	U	12.	U	12.	U	750.	U	110.	U	140.	U
71-43-2	Benzene	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
75-27-4	Bromodichloromethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
75-25-2	Bromoform	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
74-83-9	Bromomethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
75-15-0	Carbon disulfide	9.	J	12.	U	12.	U	15.	J	4.	J	16.	U
56-23-5	Carbon tetrachloride	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
108-90-7	Chlorobenzene	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
75-00-3	Chloroethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
67-66-3	Chloroform	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
74-87-3	Chloromethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
124-48-1	Dibromochloromethane	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
100-41-4	Ethylbenzene	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
75-09-2	Methylene chloride	43.	U	5.	U	4.	U	11.	U	5.	U	8.	U
100-42-5	Styrene	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
127-18-4	Tetrachloroethene	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
108-88-3	Toluene	30.	U	12.	U	12.	U	36.	U	16.	U	4.	J
79-01-6	Trichloroethene	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
75-01-4	Vinyl chloride	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
1330-20-7	Xylene (Total)	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
10061-01-5	cis-1,3-Dichloropropene	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U
10061-02-6	trans-1,3-Dichloropropene	30.	U	12.	U	12.	U	36.	U	16.	U	16.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA													
	SAMPLE ID ------->	002-M-00P5-00		002-M-00Q1-00		002-M-00Q2-00		002-M-00Q3-00		002-M-00Q4-00		002-M-00Q5-00	
	ORIGINAL ID ----->	SD02P5		SD02Q1		SD02Q2		SD02Q3		SD02Q4		SD02Q5	
	LAB SAMPLE ID --->	AB3262		AB3131		AB3132		AB3133		AB3263		AB3264	
	ID FROM REPORT -->	SD02P5		SD02Q1		SD02Q2		SD02Q3		SD02Q4		SD02Q5	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/08/93		12/08/93		12/08/93		12/08/93	
	DATE EXTRACTED -->	12/16/93		12/14/93		12/14/93		12/14/93		12/16/93		12/16/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/09/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN030	VAL	PN030	VAL	PN030	VAL	PN031	VAL	PN031	VAL
71-55-6	1,1,1-Trichloroethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
79-34-5	1,1,2,2-Tetrachloroethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
79-00-5	1,1,2-Trichloroethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
75-34-3	1,1-Dichloroethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
75-35-4	1,1-Dichloroethene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
107-06-2	1,2-Dichloroethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
540-59-0	1,2-Dichloroethene (total)	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
78-87-5	1,2-Dichloropropane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
78-93-3	2-Butanone (MEK)	13.	U	3.	U	48.	U	9.	U	10.	U	13.	U
591-78-6	2-Hexanone	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
67-64-1	Acetone	64.	U	18.	U	380.	U	190.	U	41.	U	40.	U
71-43-2	Benzene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
75-27-4	Bromodichloromethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
75-25-2	Bromoform	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
74-83-9	Bromomethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
75-15-0	Carbon disulfide	13.	U	13.	U	33.	U	2.	J	10.	U	13.	U
56-23-5	Carbon tetrachloride	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
108-90-7	Chlorobenzene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
75-00-3	Chloroethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
67-66-3	Chloroform	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
74-87-3	Chloromethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
124-48-1	Dibromochloromethane	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
100-41-4	Ethylbenzene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
75-09-2	Methylene chloride	6.	U	13.	U	33.	U	16.	U	4.	U	5.	U
100-42-5	Styrene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
127-18-4	Tetrachloroethene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
108-88-3	Toluene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
79-01-6	Trichloroethene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
75-01-4	Vinyl chloride	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
1330-20-7	Xylene (Total)	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
10061-01-5	cis-1,3-Dichloropropene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U
10061-02-6	trans-1,3-Dichloropropene	13.	U	13.	U	33.	U	16.	U	10.	U	13.	U

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PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA													
	SAMPLE ID ------->	002-M-00U1-00		002-M-00U2-00		002-M-00X1-00		002-M-00X2-00		002-M-00X3-00		002-M-00X4-00	
	ORIGINAL ID ----->	SD02U1		SD02U2		SD02X1		SD02X2		SD02X3		SD02X4	
	LAB SAMPLE ID --->	AB3355		AB3357		AB2832		AB3016		AB3265		AB3362	
	ID FROM REPORT -->	SD02U1		SD02U2		SD02X1		SD02X2		SD02X3		SD02X4	
	SAMPLE DATE ----->	12/09/93		12/09/93		12/06/93		12/07/93		12/08/93		12/09/93	
	DATE EXTRACTED -->	12/16/93		12/16/93		12/12/93		12/14/93		12/16/93		12/14/93	
	DATE ANALYZED --->	12/10/93		12/10/93		12/07/93		12/08/93		12/09/93		12/10/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN031	VAL	PN029	VAL	PN030	VAL	PN031	VAL	PN033	VAL
71-55-6	1,1,1-Trichloroethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
79-34-5	1,1,2,2-Tetrachloroethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
79-00-5	1,1,2-Trichloroethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
75-34-3	1,1-Dichloroethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
75-35-4	1,1-Dichloroethene	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
107-06-2	1,2-Dichloroethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
540-59-0	1,2-Dichloroethene (total)	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
78-87-5	1,2-Dichloropropane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
78-93-3	2-Butanone (MEK)	160.		16.	U	12.	U	13.	U	13.	U	13.	U
591-78-6	2-Hexanone	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
67-64-1	Acetone	1000.	U	240.	U	30.	U	13.	U	13.	U	13.	U
71-43-2	Benzene	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
75-27-4	Bromodichloromethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
75-25-2	Bromoform	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
74-83-9	Bromomethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
75-15-0	Carbon disulfide	27.	J	16.	U	12.	U	13.	U	13.	U	13.	U
56-23-5	Carbon tetrachloride	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
108-90-7	Chlorobenzene	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
75-00-3	Chloroethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
67-66-3	Chloroform	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
74-87-3	Chloromethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
124-48-1	Dibromochloromethane	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
100-41-4	Ethylbenzene	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
75-09-2	Methylene chloride	34.	U	13.	U	5.	U	9.	U	9.	U	9.	U
100-42-5	Styrene	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
127-18-4	Tetrachloroethene	34.	U	16.	U	1.	J	13.	U	13.	U	13.	U
108-88-3	Toluene	34.	U	3.	J	12.	U	13.	U	13.	U	13.	U
79-01-6	Trichloroethene	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
75-01-4	Vinyl chloride	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
1330-20-7	Xylene (Total)	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
10061-01-5	cis-1,3-Dichloropropene	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U
10061-02-6	trans-1,3-Dichloropropene	34.	U	16.	U	12.	U	13.	U	13.	U	13.	U

PENSACOLA, SITE 02
Primary Samples
Sediment Samples

VOA							
	SAMPLE ID ------->	002-M-02F4-00					
	ORIGINAL ID ----->	SD02F4					
	LAB SAMPLE ID --->	AB2826					
	ID FROM REPORT -->	SD02F4					
	SAMPLE DATE ----->	12/06/93					
	DATE EXTRACTED -->	12/12/93					
	DATE ANALYZED --->	12/12/93					
	MATRIX ---------->	Sediment					
	UNITS ----------->	UG/KG					

CAS #	Parameter	PN029	VAL					
71-55-6	1,1,1-Trichloroethane	33.	U					
79-34-5	1,1,2,2-Tetrachloroethane	33.	U					
79-00-5	1,1,2-Trichloroethane	33.	U					
75-34-3	1,1-Dichloroethane	33.	U					
75-35-4	1,1-Dichloroethene	33.	U					
107-06-2	1,2-Dichloroethane	33.	U					
540-59-0	1,2-Dichloroethene (total)	33.	U					
78-87-5	1,2-Dichloropropane	33.	U					
78-93-3	2-Butanone (MEK)	41.	U					
591-78-6	2-Hexanone	33.	U					
108-10-1	4-Methyl-2-Pentanone (MIBK)	33.	U					
67-64-1	Acetone	150.	U					
71-43-2	Benzene	33.	U					
75-27-4	Bromodichloromethane	33.	U					
75-25-2	Bromoform	33.	U					
74-83-9	Bromomethane	33.	U					
75-15-0	Carbon disulfide	7.	J					
56-23-5	Carbon tetrachloride	33.	U					
108-90-7	Chlorobenzene	33.	U					
75-00-3	Chloroethane	33.	U					
67-66-3	Chloroform	33.	U					
74-87-3	Chloromethane	33.	U					
124-48-1	Dibromochloromethane	33.	U					
100-41-4	Ethylbenzene	33.	U					
75-09-2	Methylene chloride	13.	U					
100-42-5	Styrene	33.	U					
127-18-4	Tetrachloroethene	33.	U					
108-88-3	Toluene	33.	U					
79-01-6	Trichloroethene	33.	U					
75-01-4	Vinyl chloride	33.	U					
1330-20-7	Xylene (Total)	33.	U					
10061-01-5	cis-1,3-Dichloropropene	33.	U					
10061-02-6	trans-1,3-Dichloropropene	33.	U					

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PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

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PEST	SAMPLE ID ------->	002-M-0002-G4 MS		002-M-0002-G4 MSD		002-M-0002-M2 D		002-M-0002-M2 MS		002-M-0002-M2 MSD		002-M-0002-Q2 RE	
	ORIGINAL ID ----->	SD02G4		SD02G4		SD02X4		SD02X4		SD02X4		SD02Q2	
	LAB SAMPLE ID --->	AB2736		AB2737		AB3370		AB3368		AB3369		AB3137	
	ID FROM REPORT -->	SD02G4		SD02G4		SD02X4		SD02X4		SD02X4		SD02Q2	
	SAMPLE DATE ----->	12/03/93		12/03/93		12/09/93		12/09/93		12/09/93		12/08/93	
	DATE EXTRACTED -->	12/17/93		12/17/93		01/02/94		01/02/94		01/02/94		01/06/94	
	DATE ANALYZED --->	12/17/93		12/17/93		01/02/94		01/02/94		01/02/94		01/06/94	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN033	VAL	PN033	VAL	PN033	VAL	PN030	VAL
72-54-8	4,4'-DDD	12.	U	12.	U	4.1	U	4.3	U	4.3	U	11.	U
72-55-9	4,4'-DDE	12.	U	12.	U	4.1	U	4.3	U	4.3	U	11.	U
50-29-3	4,4'-DDT	100.		100.		4.1	U	38.		35.		11.	U
309-00-2	Aldrin	62.		59.		2.1	U	24.		21.		5.6	U
12674-11-2	Aroclor-1016	120.	U	120.	U	41.	U	43.	U	43.	U	110.	U
11104-28-2	Aroclor-1221	250.	U	250.	U	84.	U	87.	U	87.	U	220.	U
11141-16-5	Aroclor-1232	120.	U	120.	U	41.	U	43.	U	43.	U	110.	U
53469-21-9	Aroclor-1242	120.	U	120.	U	41.	U	43.	U	43.	U	110.	U
12672-29-6	Aroclor-1248	120.	U	120.	U	41.	U	43.	U	43.	U	110.	U
11097-69-1	Aroclor-1254	120.	U	120.	U	41.	U	43.	U	43.	U	110.	U
11096-82-5	Aroclor-1260	120.	U	120.	U	41.	U	43.	U	43.	U	110.	U
60-57-1	Dieldrin	100.		100.		4.1	U	35.		33.	J	11.	U
959-98-8	Endosulfan I	6.3	U	6.3	U	2.1	U	2.2	U	2.2	U	5.6	U
33213-65-9	Endosulfan II	12.	U	12.	U	4.1	U	4.3	U	4.3	U	11.	U
1031-07-8	Endosulfan sulfate	12.	U	12.	U	4.1	U	4.3	U	4.3	U	11.	U
72-20-8	Endrin	120.		110.		4.1	U	43.		41.	J	11.	U
7421-93-4	Endrin aldehyde	12.	U	12.	U	4.1	U	4.3	U	4.3	U	11.	U
53494-70-5	Endrin ketone	12.	U	12.	U	4.1	U	4.3	U	4.3	U	11.	U
76-44-8	Heptachlor	52.		51.		2.1	U	17.		15.	J	5.6	U
1024-57-3	Heptachlor epoxide	6.3	U	6.3	U	2.1	U	2.2	U	2.2	U	5.6	U
72-43-5	Methoxychlor	63.	U	63.	U	21.	U	22.	U	22.	U	56.	U
8001-35-2	Toxaphene	630.	U	630.	U	210.	U	220.	U	220.	U	560.	U
319-84-6	alpha-BHC	6.3	U	6.3	U	2.1	U	2.2	U	2.2	U	5.6	U
5103-71-9	alpha-Chlordane	6.3	U	6.3	U	2.1	U	2.2	U	2.2	U	5.6	U
319-85-7	beta-BHC	6.3	U	6.3	U	2.1	U	2.2	U	2.2	U	5.6	U
319-86-8	delta-BHC	6.3	U	6.3	U	2.1	U	2.2	U	2.2	U	5.6	U
58-89-9	gamma-BHC (Lindane)	50.		49.		2.1	U	18.		14.	J	5.6	U
5103-74-2	gamma-Chlordane	6.3	U	6.3	U	2.1	U	2.2	U	2.2	U	5.6	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

PEST													
	SAMPLE ID ------->	002-M-0002-Q3 MS		002-M-0002-Q3 MSD		002-M-0002-Q3 MSDR		002-M-0002-Q3 MSRE		002-M-0005-00 MS		002-M-0005-00 MSD	
	ORIGINAL ID ------>	SD02Q3		SD02Q3		SD02Q3		SD02Q3		SD0205		SD0205	
	LAB SAMPLE ID --->	AB3139		AB3140		AB3140		AB3139		AB3052		AB3053	
	ID FROM REPORT -->	SD02Q3		SD02Q3		SD02Q3		SD02Q3		SD0205		SD0205	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/08/93		12/08/93		12/07/93		12/07/93	
	DATE EXTRACTED -->	12/23/93		12/23/93		01/06/94		01/06/94		12/18/93		12/18/93	
	DATE ANALYZED --->	12/23/93		12/23/93		01/06/94		01/06/94		12/18/93		12/18/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN030	VAL	PN030	VAL	PN030	VAL	PN029	VAL	PN029	VAL
72-54-8	4,4'-DDD	5.2	U	5.2	U	5.3	U	5.3	U	4.1	U	4.1	U
72-55-9	4,4'-DDE	5.2	U	5.2	U	5.3	U	5.3	U	4.1	U	4.1	U
50-29-3	4,4'-DDT	18.		19.		50.		53.		34.		32.	
309-00-2	Aldrin	14.		10.		25.		25.	J	22.		21.	
12674-11-2	Aroclor-1016	52.	U	52.	U	53.	U	53.	U	41.	U	41.	U
11104-28-2	Aroclor-1221	110.	U	110.	U	110.	U	110.	U	83.	U	83.	U
11141-16-5	Aroclor-1232	52.	U	52.	U	53.	U	53.	U	41.	U	41.	U
53469-21-9	Aroclor-1242	52.	U	52.	U	53.	U	53.	U	41.	U	41.	U
12672-29-6	Aroclor-1248	52.	U	52.	U	53.	U	53.	U	41.	U	41.	U
11097-69-1	Aroclor-1254	52.	U	52.	U	53.	U	53.	U	41.	U	41.	U
11096-82-5	Aroclor-1260	52.	U	52.	U	53.	U	53.	U	41.	U	41.	U
60-57-1	Dieldrin	11.		18.		40.	J	42.	J	33.		31.	
959-98-8	Endosulfan I	2.7	U	2.7	U	2.7	U	2.7	U	2.1	U	2.1	U
33213-65-9	Endosulfan II	5.2	U	5.2	U	5.3	U	5.3	U	4.1	U	4.1	U
1031-07-8	Endosulfan sulfate	5.2	U	5.2	U	5.3	U	5.3	U	4.1	U	4.1	U
72-20-8	Endrin	13.		20.		55.		57.		38.		35.	
7421-93-4	Endrin aldehyde	5.2	U	5.2	U	5.3	U	5.3	U	4.1	U	4.1	U
53494-70-5	Endrin ketone	5.2	U	5.2	U	5.3	U	5.3	U	4.1	U	4.1	U
76-44-8	Heptachlor	12.		9.2		24.		24.		17.		16.	
1024-57-3	Heptachlor epoxide	2.7	U	2.7	U	2.7	U	2.7	U	2.1	U	2.1	U
72-43-5	Methoxychlor	27.	U	27.	U	27.	U	27.	U	21.	U	21.	U
8001-35-2	Toxaphene	270.	U	270.	U	270.	U	270.	U	210.	U	210.	U
319-84-6	alpha-BHC	2.7	U	2.7	U	2.7	U	2.7	U	2.1	U	2.1	U
5103-71-9	alpha-Chlordane	2.7	U	2.7	U	2.7	U	2.7	U	2.1	U	2.1	U
319-85-7	beta-BHC	2.7	U	2.7	U	2.7	U	2.7	U	2.1	U	2.1	U
319-86-8	delta-BHC	2.7	U	2.7	U	2.7	U	2.7	U	2.1	U	2.1	U
58-89-9	gamma-BHC (Lindane)	6.6		9.7		24.		25.		17.		16.	
5103-74-2	gamma-Chlordane	2.7	U	2.7	U	2.7	U	2.7	U	2.1	U	2.1	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

PEST													
	SAMPLE ID ------->	002-M-00M5-00 D		002-M-00Q2-00 RE		002-M-00Q3-00 MS		002-M-00Q3-00 MSD		002-M-00Q3-00 MSDR		002-M-00Q3-00 MSRE	
	ORIGINAL ID ----->	SD02M5		SD02Q2R		SD02Q3M		SD02Q3M		SD02Q3M		SD02Q3M	
	LAB SAMPLE ID --->	AB3037		AB3137RE		AB3139S		AB3140D		AB3140DRE		AB3139SRE	
	ID FROM REPORT -->	SD02M5		SD02Q2R		SD02Q3M		SD02Q3M		SD02Q3M		SD02Q3M	
	SAMPLE DATE ----->	12/07/93		12/08/93		12/08/93		12/08/93		12/08/93		12/08/93	
	DATE EXTRACTED -->	12/22/93		01/06/94		12/23/93		12/23/93		01/06/94		01/06/94	
	DATE ANALYZED --->	12/22/93		12/09/93		12/09/93		12/09/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN030	VAL	PN030	VAL	PN030	VAL	PN030	VAL	PN030	VAL
72-54-8	4,4'-DDD	4.2	U	11.	U	5.2	U	5.2	U	5.3	U	5.3	U
72-55-9	4,4'-DDE	4.2	U	11.	U	5.2	U	5.2	U	5.3	U	5.3	U
50-29-3	4,4'-DDT	4.2	U	11.	U	18.		19.		50.		53.	
309-00-2	Aldrin	2.2	U	5.6	U	14.		10.		25.		25.	J
12674-11-2	Aroclor-1016	42.	U	110.	U	52.	U	52.	U	53.	U	53.	U
11104-28-2	Aroclor-1221	85.	U	220.	U	110.	U	110.	U	110.	U	110.	U
11141-16-5	Aroclor-1232	42.	U	110.	U	52.	U	52.	U	53.	U	53.	U
53469-21-9	Aroclor-1242	42.	U	110.	U	52.	U	52.	U	53.	U	53.	U
12672-29-6	Aroclor-1248	42.	U	110.	U	52.	U	52.	U	53.	U	53.	U
11097-69-1	Aroclor-1254	42.	U	110.	U	52.	U	52.	U	53.	U	53.	U
11096-82-5	Aroclor-1260	42.	U	110.	U	52.	U	52.	U	53.	U	53.	U
60-57-1	Dieldrin	4.2	U	11.	U	11.		18.		40.	J	42.	J
959-98-8	Endosulfan I	2.2	U	5.6	U	2.7	U	2.7	U	2.7	U	2.7	U
33213-65-9	Endosulfan II	4.2	U	11.	U	5.2	U	5.2	U	5.3	U	5.3	U
1031-07-8	Endosulfan sulfate	4.2	U	11.	U	5.2	U	5.2	U	5.3	U	5.3	U
72-20-8	Endrin	4.2	U	11.	U	13.		20.		55.		57.	
7421-93-4	Endrin aldehyde	4.2	U	11.	U	5.2	U	5.2	U	5.3	U	5.3	U
53494-70-5	Endrin ketone	4.2	U	11.	U	5.2	U	5.2	U	5.3	U	5.3	U
76-44-8	Heptachlor	2.2	U	5.6	U	12.		9.2		24.		24.	
1024-57-3	Heptachlor epoxide	2.2	U	5.6	U	2.7	U	2.7	U	2.7	U	2.7	U
72-43-5	Methoxychlor	22.	U	56.	U	27.	U	27.	U	27.	U	27.	U
8001-35-2	Toxaphene	220.	U	560.	U	270.	U	270.	U	270.	U	270.	U
319-84-6	alpha-BHC	2.2	U	5.6	U	2.7	U	2.7	U	2.7	U	2.7	U
5103-71-9	alpha-Chlordane	2.2	U	5.6	U	2.7	U	2.7	U	2.7	U	2.7	U
319-85-7	beta-BHC	2.2	U	5.6	U	2.7	U	2.7	U	2.7	U	2.7	U
319-86-8	delta-BHC	2.2	U	5.6	U	2.7	U	2.7	U	2.7	U	2.7	U
58-89-9	gamma-BHC (Lindane)	2.2	U	5.6	U	6.6		9.7		24.		25.	
5103-74-2	gamma-Chlordane	2.2	U	5.6	U	2.7	U	2.7	U	2.7	U	2.7	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

PEST	SAMPLE ID ------->	002-M-00U1-00 D		002-N-00U2-00 D		002-M-00X3-00 MS		002-M-00X3-00 MSD		002-N-00X3-00 D		002-M-00X3-MD MSD	
	ORIGINAL ID ----->	SD02U1		SD02U2		SD02X3		SD02X3		SD02X3		SD02X3M	
	LAB SAMPLE ID --->	AB3359		AB3366		AB3285		AB3286		AB3287		AB3286D	
	ID FROM REPORT -->	SD02U1D		SD02U2D		SD02X3		SD02X3		SD02X3D		SD02X3M	
	SAMPLE DATE ----->	12/09/93		12/09/93		12/08/93		12/08/93		12/08/93		12/08/93	
	DATE EXTRACTED -->	12/24/93		01/01/94		12/23/93		12/24/93		01/02/94		12/24/93	
	DATE ANALYZED --->	12/10/93		12/10/93		12/23/93		12/24/93		12/09/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN033	VAL	PN031	VAL	PN031	VAL	PN031	VAL	PN031	VAL
72-54-8	4,4'-DDD	11.	U	5.4	U	4.2	U	4.1	U	4.1	U	4.1	U
72-55-9	4,4'-DDE	11.	U	5.4	U	4.2	U	4.1	U	4.1	U	4.1	U
50-29-3	4,4'-DDT	11.	U	5.4	U	38.		33.		4.1	U	33.	
309-00-2	Aldrin	5.8	U	2.8	U	22.		20.		2.1	U	20.	
12674-11-2	Aroclor-1016	110.	U	54.	U	42.	U	41.	U	41.	U	41.	U
11104-28-2	Aroclor-1221	230.	U	110.	U	85.	U	84.	U	83.	U	84.	U
11141-16-5	Aroclor-1232	110.	U	54.	U	42.	U	41.	U	41.	U	41.	U
53469-21-9	Aroclor-1242	110.	U	54.	U	42.	U	41.	U	41.	U	41.	U
12672-29-6	Aroclor-1248	110.	U	54.	U	42.	U	41.	U	41.	U	41.	U
11097-69-1	Aroclor-1254	110.	U	54.	U	42.	U	41.	U	41.	U	41.	U
11096-82-5	Aroclor-1260	110.	U	54.	U	42.	U	41.	U	41.	U	41.	U
60-57-1	Dieldrin	11.	U	5.4	U	37.		34.		4.1	U	34.	
959-98-8	Endosulfan I	5.8	U	2.8	U	2.1	U	2.1	U	2.1	U	2.1	U
33213-65-9	Endosulfan II	11.	U	5.4	U	4.2	U	4.1	U	4.1	U	4.1	U
1031-07-8	Endosulfan sulfate	11.	U	5.4	U	4.2	U	4.1	U	4.1	U	4.1	U
72-20-8	Endrin	11.	U	5.4	U	41.		36.		4.1	U	36.	
7421-93-4	Endrin aldehyde	11.	U	5.4	U	4.2	U	4.1	U	4.1	U	4.1	U
53494-70-5	Endrin ketone	11.	U	5.4	U	4.2	U	4.1	U	4.1	U	4.1	U
76-44-8	Heptachlor	5.8	U	2.8	U	17.		16.		2.1	U	16.	
1024-57-3	Heptachlor epoxide	5.8	U	2.8	U	2.1	U	2.1	U	2.1	U	2.1	U
72-43-5	Methoxychlor	58.	U	28.	U	21.	U	21.	U	21.	U	21.	U
8001-35-2	Toxaphene	580.	U	280.	U	210.	U	210.	U	210.	U	210.	U
319-84-6	alpha-BHC	5.8	U	2.8	U	2.1	U	2.1	U	2.1	U	2.1	U
5103-71-9	alpha-Chlordane	5.8	U	2.8	U	2.1	U	2.1	U	2.1	U	2.1	U
319-85-7	beta-BHC	5.8	U	2.8	U	2.1	U	2.1	U	2.1	U	2.1	U
319-86-8	delta-BHC	5.8	U	2.8	U	2.1	U	2.1	U	2.1	U	2.1	U
58-89-9	gamma-BHC (Lindane)	5.8	U	2.8	U	20.		18.		2.1	U	18.	
5103-74-2	gamma-Chlordane	5.8	U	2.8	U	2.1	U	2.1	U	2.1	U	2.1	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

PEST										
	SAMPLE ID ------->	002-M-00X3-MS MS		002-M-00X4-00 MS		002-M-00X4-00 MSD		002-N-00X4-00 D		
	ORIGINAL ID ----->	SD02X3M		SD02X4M		SD02X4M		SD02X4		
	LAB SAMPLE ID --->	AB3285S		AB3368S		AB3369D		AB3370		
	ID FROM REPORT -->	SD02X3M		SD02X4M		SD02X4M		SD02X4D		
	SAMPLE DATE ----->	12/08/93		12/09/93		12/09/93		12/09/93		
	DATE EXTRACTED -->	12/23/93		01/02/94		01/02/94		01/02/94		
	DATE ANALYZED --->	12/09/93		12/10/93		12/10/93		12/10/93		
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		
CAS #	Parameter	PN031	VAL	PN033	VAL	PN033	VAL	PN033	VAL	
72-54-8	4,4'-DDD	4.2	U	4.3	U	4.3	U	4.1	U	
72-55-9	4,4'-DDE	4.2	U	4.3	U	4.3	U	4.1	U	
50-29-3	4,4'-DDT	38.		38.		35.		4.1	U	
309-00-2	Aldrin	22.		24.		21.		2.1	U	
12674-11-2	Aroclor-1016	42.	U	43.	U	43.	U	41.	U	
11104-28-2	Aroclor-1221	85.	U	87.	U	87.	U	84.	U	
11141-16-5	Aroclor-1232	42.	U	43.	U	43.	U	41.	U	
53469-21-9	Aroclor-1242	42.	U	43.	U	43.	U	41.	U	
12672-29-6	Aroclor-1248	42.	U	43.	U	43.	U	41.	U	
11097-69-1	Aroclor-1254	42.	U	43.	U	43.	U	41.	U	
11096-82-5	Aroclor-1260	42.	U	43.	U	43.	U	41.	U	
60-57-1	Dieldrin	37.		35.		33.	J	4.1	U	
959-98-8	Endosulfan I	2.1	U	2.2	U	2.2	U	2.1	U	
33213-65-9	Endosulfan II	4.2	U	4.3	U	4.3	U	4.1	U	
1031-07-8	Endosulfan sulfate	4.2	U	4.3	U	4.3	U	4.1	U	
72-20-8	Endrin	41.		43.		41.	J	4.1	U	
7421-93-4	Endrin aldehyde	4.2	U	4.3	U	4.3	U	4.1	U	
53494-70-5	Endrin ketone	4.2	U	4.3	U	4.3	U	4.1	U	
76-44-8	Heptachlor	17.		17.		15.	J	2.1	U	
1024-57-3	Heptachlor epoxide	2.1	U	2.2	U	2.2	U	2.1	U	
72-43-5	Methoxychlor	21.	U	22.	U	22.	U	21.	U	
8001-35-2	Toxaphene	210.	U	220.	U	220.	U	210.	U	
319-84-6	alpha-BHC	2.1	U	2.2	U	2.2	U	2.1	U	
5103-71-9	alpha-Chlordane	2.1	U	2.2	U	2.2	U	2.1	U	
319-85-7	beta-BHC	2.1	U	2.2	U	2.2	U	2.1	U	
319-86-8	delta-BHC	2.1	U	2.2	U	2.2	U	2.1	U	
58-89-9	gamma-BHC (Lindane)	20.		18.		14.	J	2.1	U	
5103-74-2	gamma-Chlordane	2.1	U	2.2	U	2.2	U	2.1	U	

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-0002-G4 MS		002-M-0002-G4 MSD		002-M-0002-M2 D		002-M-0005-00 MS		002-M-0005-00 MSD		002-M-00H1-00 DL	
	ORIGINAL ID ----->	SD02G4		SD02G4		SD02X4		SD0205		SD0205		SD02H1	
	LAB SAMPLE ID --->	AB2736		AB2737		AB3370		AB3052		AB3053		AB2614	
	ID FROM REPORT -->	SD02G4		SD02G4		SD02X4		SD0205		SD0205		SD02H1	
	SAMPLE DATE ----->	12/03/93		12/03/93		12/09/93		12/07/93		12/07/93		12/02/93	
	DATE EXTRACTED -->	12/16/93		12/16/93		12/22/93		12/16/93		12/19/93		12/14/93	
	DATE ANALYZED --->	12/16/93		12/16/93		12/22/93		12/16/93		12/19/93		12/14/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN033	VAL	PN029	VAL	PN029	VAL	PN028	VAL
120-82-1	1,2,4-Trichlorobenzene	4600.	J	4400.	J	420.	U	1700.		1700.		6600.	U
95-50-1	1,2-Dichlorobenzene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
541-73-1	1,3-Dichlorobenzene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
106-46-7	1,4-Dichlorobenzene	4700.	J	4200.	J	420.	U	1500.		1600.		6600.	U
95-95-4	2,4,5-Trichlorophenol	15000.	U	15000.	U	1000.	U	2000.	U	2000.	U	16000.	U
88-06-2	2,4,6-Trichlorophenol	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
120-83-2	2,4-Dichlorophenol	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
105-67-9	2,4-Dimethylphenol	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
51-28-5	2,4-Dinitrophenol	15000.	U	15000.	U	1000.	U	2000.	U	2000.	U	16000.	U
121-14-2	2,4-Dinitrotoluene	4200.	J	4200.	J	420.	U	1600.		1700.		6600.	U
606-20-2	2,6-Dinitrotoluene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
91-58-7	2-Chloronaphthalene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
95-57-8	2-Chlorophenol	8100.		7700.		420.	U	2500.	U	2400.	U	6600.	U
91-57-6	2-Methylnaphthalene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
95-48-7	2-Methylphenol (o-Cresol)	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
88-74-4	2-Nitroaniline	15000.	U	15000.	U	1000.	U	2000.	U	2000.	U	16000.	U
88-75-5	2-Nitrophenol	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
91-94-1	3,3'-Dichlorobenzidine	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
99-09-2	3-Nitroaniline	15000.	U	15000.	U	1000.	U	2000.	U	2000.	U	16000.	U
534-52-1	4,6-Dinitro-2-methylphenol	15000.	U	15000.	U	1000.	U	2000.	U	2000.	U	16000.	U
101-55-3	4-Bromophenyl-phenylether	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
59-50-7	4-Chloro-3-methylphenol	7300.		7400.		420.	U	2500.		2900.		6600.	U
106-47-8	4-Chloroaniline	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
7005-72-3	4-Chlorophenyl-phenylether	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
106-44-5	4-Methylphenol (p-Cresol)	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
100-01-6	4-Nitroaniline	15000.	U	15000.	U	1000.	U	2000.	U	2000.	U	16000.	U
100-02-7	4-Nitrophenol	6100.	J	5900.	J	1000.	U	2400.		2800.		16000.	U
83-32-9	Acenaphthene	5000.	J	5400.	J	420.	U	1600.	U	1600.	U	6600.	U
208-96-8	Acenaphthylene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
120-12-7	Anthracene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
56-55-3	Benzo(a)anthracene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
50-32-8	Benzo(a)pyrene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
205-99-2	Benzo(b)fluoranthene	6100.	U	6100.	U	420.	U	820.	U	820.	U	1300.	
191-24-2	Benzo(g,h,i)perylene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
207-08-9	Benzo(k)fluoranthene	6100.	U	6100.	U	420.	U	820.	U	820.	U	1100.	
85-68-7	Butylbenzylphthalate	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-M-0002-G4 MS		002-M-0002-G4 MSD		002-M-0002-M2 D		002-M-0005-00 MS		002-M-0005-00 MSD		002-M-00H1-00 DL	
	ORIGINAL ID ----->	SD02G4		SD02G4		SD02X4		SD0205		SD0205		SD02H1	
	LAB SAMPLE ID --->	AB2736		AB2737		AB3370		AB3052		AB3053		AB2614	
	ID FROM REPORT -->	SD02G4		SD02G4		SD02X4		SD0205		SD0205		SD02H1	
	SAMPLE DATE ----->	12/03/93		12/03/93		12/09/93		12/07/93		12/07/93		12/02/93	
	DATE EXTRACTED -->	12/16/93		12/16/93		12/22/93		12/16/93		12/19/93		12/14/93	
	DATE ANALYZED --->	12/16/93		12/16/93		12/22/93		12/16/93		12/19/93		12/14/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN033	VAL	PN029	VAL	PN029	VAL	PN028	VAL
86-74-8	Carbazole	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
218-01-9	Chrysene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
84-74-2	Di-n-butylphthalate	6100.	U	6100.	U	90.	U	820.	U	180.	U	6600.	U
117-84-0	Di-n-octylphthalate	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
53-70-3	Dibenzo(a,h)anthracene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
132-64-9	Dibenzofuran	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
84-66-2	Diethylphthalate	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
131-11-3	Dimethylphthalate	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
206-44-0	Fluoranthene	6100.	U	6100.	U	420.	U	820.	U	820.	U	1400.	
86-73-7	Fluorene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
118-74-1	Hexachlorobenzene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
87-68-3	Hexachlorobutadiene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
77-47-4	Hexachlorocyclopentadiene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
67-72-1	Hexachloroethane	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
193-39-5	Indeno(1,2,3-cd)pyrene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
78-59-1	Isophorone	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
621-64-7	N-Nitroso-di-n-propylamine	5200.	J	4600.	J	420.	U	1600.		1700.		6600.	U
86-30-6	N-Nitrosodiphenylamine	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
91-20-3	Naphthalene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
98-95-3	Nitrobenzene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
87-86-5	Pentachlorophenol	6400.	J	6100.	J	1000.	U	2400.		2100.		16000.	U
85-01-8	Phenanthrene	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
108-95-2	Phenol	6800.		6000.	J	420.	U	2300.		2400.		6600.	.U
129-00-0	Pyrene	5400.	J	5500.	J	420.	U	1800.	U	1800.	U	1400.	
111-91-1	bis(2-Chloroethoxy)methane	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	700.	U	6100.	U	420.	U	89.	U	130.	U	29000.	U
111-44-4	bis(2-Chloroethyl)ether	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	6100.	U	6100.	U	420.	U	820.	U	820.	U	6600.	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

SVOA						
SAMPLE ID ------->	002-N-00M5-00 D	002-M-00Q3-00 MS	002-M-00Q3-00 MSD	002-M-00U1-00 D	002-N-00U2-00 D	002-M-00X3-00 MS
ORIGINAL ID ------>	SD02M5	SD02Q3	SD02Q3	SD02U1	SD02U2	SD02X3
LAB SAMPLE ID --->	AB3037	AB3139	AB3140	AB3359	AB3366	AB3285
ID FROM REPORT -->	SD02M5D	SD02Q3M	SD02Q3M	SD02U1D	SD02U2D	SD02X3M
SAMPLE DATE ------>	12/07/93	12/08/93	12/08/93	12/09/93	12/09/93	12/08/93
DATE EXTRACTED -->	12/22/93	12/21/93	12/21/93	12/21/93	12/22/93	12/21/93
DATE ANALYZED --->	12/08/93	12/09/93	12/09/93	12/10/93	12/10/93	12/09/93
MATRIX ----------->	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
UNITS ------------>	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG

CAS #	Parameter	PN030	VAL	PN030	VAL	PN030	VAL	PN031	VAL	PN033	VAL	PN031	VAL
120-82-1	1,2,4-Trichlorobenzene	420.	U	2100.	J	2000.	J	2300.	U	540.	U	1500.	
95-50-1	1,2-Dichlorobenzene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
541-73-1	1,3-Dichlorobenzene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
106-46-7	1,4-Dichlorobenzene	420.	U	2000.	J	2000.	J	2300.	U	540.	U	1400.	
95-95-4	2,4,5-Trichlorophenol	1000.	U	6300.	U	6500.	U	5500.	U	1300.	U	2000.	U
88-06-2	2,4,6-Trichlorophenol	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
120-83-2	2,4-Dichlorophenol	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
105-67-9	2,4-Dimethylphenol	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
51-28-5	2,4-Dinitrophenol	1000.	U	6300.	U	6500.	U	5500.	U	1300.	U	2000.	U
121-14-2	2,4-Dinitrotoluene	420.	U	2100.	J	2000.	J	2300.	U	540.	U	1300.	
606-20-2	2,6-Dinitrotoluene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
91-58-7	2-Chloronaphthalene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
95-57-8	2-Chlorophenol	420.	U	3300.		3200.		2300.	U	540.	U	2300.	
91-57-6	2-Methylnaphthalene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
95-48-7	2-Methylphenol (o-Cresol)	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
88-74-4	2-Nitroaniline	1000.	U	6300.	U	6500.	U	5500.	U	1300.	U	2000.	U
88-75-5	2-Nitrophenol	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
91-94-1	3,3'-Dichlorobenzidine	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
99-09-2	3-Nitroaniline	1000.	U	6300.	U	6500.	U	5500.	U	1300.	U	2000.	U
534-52-1	4,6-Dinitro-2-methylphenol	1000.	U	6300.	U	6500.	U	5500.	U	1300.	U	2000.	U
101-55-3	4-Bromophenyl-phenylether	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
59-50-7	4-Chloro-3-methylphenol	420.	U	3200.		3200.		2300.	U	540.	U	2300.	
106-47-8	4-Chloroaniline	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
7005-72-3	4-Chlorophenyl-phenylether	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
106-44-5	4-Methylphenol (p-Cresol)	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
100-01-6	4-Nitroaniline	1000.	U	6300.	U	6500.	U	5500.	U	1300.	U	2000.	U
100-02-7	4-Nitrophenol	1000.	U	3000.	J	2800.	J	5500.	U	1300.	U	2700.	
83-32-9	Acenaphthene	420.	U	2200.	J	2100.	J	2300.	U	540.	U	1500.	
208-96-8	Acenaphthylene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
120-12-7	Anthracene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
56-55-3	Benzo(a)anthracene	420.	U	2600.	U	2700.	U	380.	J	540.	U	830.	U
50-32-8	Benzo(a)pyrene	420.	U	2600.	U	2700.	U	290.	J	540.	U	830.	U
205-99-2	Benzo(b)fluoranthene	420.	U	2600.	U	2700.	U	370.	J	54.	J	830.	U
191-24-2	Benzo(g,h,i)perylene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
207-08-9	Benzo(k)fluoranthene	420.	U	2600.	U	2700.	U	510.	J	540.	U	830.	U
85-68-7	Butylbenzylphthalate	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

SVOA													
	SAMPLE ID ------->	002-N-00M5-00 D		002-M-00Q3-00 MS		002-M-00Q3-00 MSD		002-M-00U1-00 D		002-N-00U2-00 D		002-M-00X3-00 MS	
	ORIGINAL ID ----->	SD02M5		SD02Q3		SD02Q3		SD02U1		SD02U2		SD02X3	
	LAB SAMPLE ID --->	AB3037		AB3139		AB3140		AB3359		AB3366		AB3285	
	ID FROM REPORT -->	SD02M5D		SD02Q3M		SD02Q3M		SD02U1D		SD02U2D		SD02X3M	
	SAMPLE DATE ----->	12/07/93		12/08/93		12/08/93		12/09/93		12/09/93		12/08/93	
	DATE EXTRACTED -->	12/22/93		12/21/93		12/21/93		12/21/93		12/22/93		12/21/93	
	DATE ANALYZED --->	12/08/93		12/09/93		12/09/93		12/10/93		12/10/93		12/09/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN030	VAL	PN030	VAL	PN031	VAL	PN033	VAL	PN031	VAL
86-74-8	Carbazole	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
218-01-9	Chrysene	420.	U	2600.	U	2700.	U	460.	J	540.	U	830.	U
84-74-2	Di-n-butylphthalate	54.	J	2600.	U	2700.	U	2300.	U	540.	U	830.	U
117-84-0	Di-n-octylphthalate	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
53-70-3	Dibenzo(a,h)anthracene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
132-64-9	Dibenzofuran	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
84-66-2	Diethylphthalate	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
131-11-3	Dimethylphthalate	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
206-44-0	Fluoranthene	420.	U	2600.	U	2700.	U	810.	J	540.	U	830.	U
86-73-7	Fluorene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
118-74-1	Hexachlorobenzene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
87-68-3	Hexachlorobutadiene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
77-47-4	Hexachlorocyclopentadiene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
67-72-1	Hexachloroethane	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
193-39-5	Indeno(1,2,3-cd)pyrene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
78-59-1	Isophorone	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
621-64-7	N-Nitroso-di-n-propylamine	420.	U	1900.	J	1900.	J	2300.	U	540.	U	1300.	
86-30-6	N-Nitrosodiphenylamine	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
91-20-3	Naphthalene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
98-95-3	Nitrobenzene	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
87-86-5	Pentachlorophenol	1000.	U	2100.	J	2000.	J	5500.	U	1300.	U	2200.	
85-01-8	Phenanthrene	420.	U	2600.	U	2700.	U	570.	J	540.	U	830.	U
108-95-2	Phenol	420.	U	2900.		2900.		2300.	U	540.	U	2200.	
129-00-0	Pyrene	420.	U	2300.	J	2200.	J	770.	J	540.	U	1600.	
111-91-1	bis(2-Chloroethoxy)methane	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	230.	U	2600.	U	2700.	U	360.	J	84.	U	830.	U
111-44-4	bis(2-Chloroethyl)ether	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	420.	U	2600.	U	2700.	U	2300.	U	540.	U	830.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

SVOA											
	SAMPLE ID ------->	002-M-00X3-00 MSD		002-N-00X3-00 D		002-M-00X4-00 MS		002-M-00X4-00 MSD		002-N-00X4-00 D	
	ORIGINAL ID ----->	SD02X3		SD02X3		SD02X4		SD02X4		SD02X4	
	LAB SAMPLE ID --->	AB3286		AB3287		AB3368		AB3369		AB3370	
	ID FROM REPORT -->	SD02X3M		SD02X3D		SD02X4M		SD02X4M		SD02X4D	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/09/93		12/09/93		12/09/93	
	DATE EXTRACTED -->	12/21/93		12/21/93		12/22/93		12/22/93		12/22/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/10/93		12/10/93		12/10/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN031	VAL	PN033	VAL	PN033	VAL	PN033	VAL
120-82-1	1,2,4-Trichlorobenzene	1500.		820.	U	1700.		1700.		420.	U
95-50-1	1,2-Dichlorobenzene	830.	U	820.	U	430.	U	420.	U	420.	U
541-73-1	1,3-Dichlorobenzene	830.	U	820.	U	430.	U	420.	U	420.	U
106-46-7	1,4-Dichlorobenzene	1400.		820.	U	1700.		1700.		420.	U
95-95-4	2,4,5-Trichlorophenol	2000.	U	2000.	U	1000.	U	1000.	U	1000.	U
88-06-2	2,4,6-Trichlorophenol	830.	U	820.	U	430.	U	420.	U	420.	U
120-83-2	2,4-Dichlorophenol	830.	U	820.	U	430.	U	420.	U	420.	U
105-67-9	2,4-Dimethylphenol	830.	U	820.	U	430.	U	420.	U	420.	U
51-28-5	2,4-Dinitrophenol	2000.	U	2000.	U	1000.	U	1000.	U	1000.	U
121-14-2	2,4-Dinitrotoluene	1400.		820.	U	1700.		1700.		420.	U
606-20-2	2,6-Dinitrotoluene	830.	U	820.	U	430.	U	420.	U	420.	U
91-58-7	2-Chloronaphthalene	830.	U	820.	U	430.	U	420.	U	420.	U
95-57-8	2-Chlorophenol	2300.		820.	U	2700.		2700.		420.	U
91-57-6	2-Methylnaphthalene	830.	U	820.	U	430.	U	420.	U	420.	U
95-48-7	2-Methylphenol (o-Cresol)	830.	U	820.	U	430.	U	420.	U	420.	U
88-74-4	2-Nitroaniline	2000.	U	2000.	U	1000.	U	1000.	U	1000.	U
88-75-5	2-Nitrophenol	830.	U	820.	U	430.	U	420.	U	420.	U
91-94-1	3,3'-Dichlorobenzidine	830.	U	820.	U	430.	U	420.	U	420.	U
99-09-2	3-Nitroaniline	2000.	U	2000.	U	1000.	U	1000.	U	1000.	U
534-52-1	4,6-Dinitro-2-methylphenol	2000.	U	2000.	U	1000.	U	1000.	U	1000.	U
101-55-3	4-Bromophenyl-phenylether	830.	U	820.	U	430.	U	420.	U	420.	U
59-50-7	4-Chloro-3-methylphenol	2400.		820.	U	2700.		2700.		420.	U
106-47-8	4-Chloroaniline	830.	U	820.	U	430.	U	420.	U	420.	U
7005-72-3	4-Chlorophenyl-phenylether	830.	U	820.	U	430.	U	420.	U	420.	U
106-44-5	4-Methylphenol (p-Cresol)	830.	U	820.	U	430.	U	420.	U	420.	U
100-01-6	4-Nitroaniline	2000.	U	2000.	U	1000.	U	1000.	U	1000.	U
100-02-7	4-Nitrophenol	2700.		2000.	U	2600.		2300.		1000.	U
83-32-9	Acenaphthene	1500.		820.	U	1700.		1700.		420.	U
208-96-8	Acenaphthylene	830.	U	820.	U	430.	U	420.	U	420.	U
120-12-7	Anthracene	830.	U	820.	U	430.	U	420.	U	420.	U
56-55-3	Benzo(a)anthracene	830.	U	820.	U	430.	U	420.	U	420.	U
50-32-8	Benzo(a)pyrene	830.	U	820.	U	430.	U	420.	U	420.	U
205-99-2	Benzo(b)fluoranthene	830.	U	820.	U	430.	U	420.	U	420.	U
191-24-2	Benzo(g,h,i)perylene	830.	U	820.	U	430.	U	420.	U	420.	U
207-08-9	Benzo(k)fluoranthene	830.	U	820.	U	430.	U	420.	U	420.	U
85-68-7	Butylbenzylphthalate	830.	U	820.	U	430.	U	420.	U	420.	U

SVOA											
	SAMPLE ID ------->	002-M-00X3-00 MSD		002-N-00X3-00 D		002-M-00X4-00 MS		002-M-00X4-00 MSD		002-N-00X4-00 D	
	ORIGINAL ID ------>	SD02X3		SD02X3		SD02X4		SD02X4		SD02X4	
	LAB SAMPLE ID --->	AB3286		AB3287		AB3368		AB3369		AB3370	
	ID FROM REPORT -->	SD02X3M		SD02X3D		SD02X4M		SD02X4M		SD02X4D	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/09/93		12/09/93		12/09/93	
	DATE EXTRACTED -->	12/21/93		12/21/93		12/22/93		12/22/93		12/22/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/10/93		12/10/93		12/10/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN031	VAL	PN033	VAL	PN033	VAL	PN033	VAL
86-74-8	Carbazole	830.	U	820.	U	430.	U	420.	U	420.	U
218-01-9	Chrysene	830.	U	820.	U	430.	U	420.	U	420.	U
84-74-2	Di-n-butylphthalate	830.	U	820.	U	76.	U	420.	U	90.	U
117-84-0	Di-n-octylphthalate	830.	U	820.	U	430.	U	420.	U	420.	U
53-70-3	Dibenzo(a,h)anthracene	830.	U	820.	U	430.	U	420.	U	420.	U
132-64-9	Dibenzofuran	830.	U	820.	U	430.	U	420.	U	420.	U
84-66-2	Diethylphthalate	830.	U	820.	U	430.	U	420.	U	420.	U
131-11-3	Dimethylphthalate	830.	U	820.	U	430.	U	420.	U	420.	U
206-44-0	Fluoranthene	830.	U	820.	U	430.	U	420.	U	420.	U
86-73-7	Fluorene	830.	U	820.	U	430.	U	420.	U	420.	U
118-74-1	Hexachlorobenzene	830.	U	820.	U	430.	U	420.	U	420.	U
87-68-3	Hexachlorobutadiene	830.	U	820.	U	430.	U	420.	U	420.	U
77-47-4	Hexachlorocyclopentadiene	830.	U	820.	U	430.	U	420.	U	420.	U
67-72-1	Hexachloroethane	830.	U	820.	U	430.	U	420.	U	420.	U
193-39-5	Indeno(1,2,3-cd)pyrene	830.	U	820.	U	430.	U	420.	U	420.	U
78-59-1	Isophorone	830.	U	820.	U	430.	U	420.	U	420.	U
621-64-7	N-Nitroso-di-n-propylamine	1200.		820.	U	1600.		1600.		420.	U
86-30-6	N-Nitrosodiphenylamine	830.	U	820.	U	430.	U	420.	U	420.	U
91-20-3	Naphthalene	830.	U	820.	U	430.	U	420.	U	420.	U
98-95-3	Nitrobenzene	830.	U	820.	U	430.	U	420.	U	420.	U
87-86-5	Pentachlorophenol	2100.		2000.	U	2200.		1700.		1000.	U
85-01-8	Phenanthrene	830.	U	820.	U	430.	U	420.	U	420.	U
108-95-2	Phenol	2100.		820.	U	2400.		2400.		420.	U
129-00-0	Pyrene	1600.		820.	U	1700.		1800.		420.	U
111-91-1	bis(2-Chloroethoxy)methane	830.	U	820.	U	430.	U	420.	U	420.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	830.	U	820.	U	430.	U	420.	U	420.	U
111-44-4	bis(2-Chloroethyl)ether	830.	U	820.	U	430.	U	420.	U	420.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	830.	U	820.	U	430.	U	420.	U	420.	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

VOA	SAMPLE ID ------->	002-M-0002-G4 D		002-M-0002-G4 MS		002-M-0002-G4 MSD		002-M-0005-00 MS		002-M-0005-00 MSD		002-N-00M5-00 D	
	ORIGINAL ID ----->	SD02G4		SD02G4		SD02G4		SD0205		SD0205		SD02M5	
	LAB SAMPLE ID --->	AB2731		AB2729		AB2730		AB3011		AB3012		AB3020	
	ID FROM REPORT -->	SD02G4		SD02G4		SD02G4		SD0205		SD0205		SD02M5D	
	SAMPLE DATE ----->	12/03/93		12/03/93		12/03/93		12/07/93		12/07/93		12/07/93	
	DATE EXTRACTED -->	12/10/93		12/11/93		12/11/93		12/16/93		12/16/93		12/14/93	
	DATE ANALYZED --->	12/10/93		12/11/93		12/11/93		12/16/93		12/16/93		12/08/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN028	VAL	PN028	VAL	PN028	VAL	PN029	VAL	PN029	VAL	PN030	VAL
71-55-6	1,1,1-Trichloroethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
79-34-5	1,1,2,2-Tetrachloroethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
79-00-5	1,1,2-Trichloroethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
75-34-3	1,1-Dichloroethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
75-35-4	1,1-Dichloroethene	38.	U	130.		160.		68.		69.		13.	U
107-06-2	1,2-Dichloroethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
540-59-0	1,2-Dichloroethene (total)	38.	U	37.	U	4.	J	12.	U	12.	U	13.	U
78-87-5	1,2-Dichloropropane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
78-93-3	2-Butanone (MEK)	9.	J	34.	J	23.	J	12.	U	12.	U	13.	U
591-78-6	2-Hexanone	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
67-64-1	Acetone	75.	U	440.	U	350.	U	12.	U	12.	U	17.	U
71-43-2	Benzene	5.	J	170.		180.		75.		80.		13.	U
75-27-4	Bromodichloromethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
75-25-2	Bromoform	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
74-83-9	Bromomethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
75-15-0	Carbon disulfide	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
56-23-5	Carbon tetrachloride	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
108-90-7	Chlorobenzene	4.	J	170.		180.		66.		67.		13.	U
75-00-3	Chloroethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
67-66-3	Chloroform	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
74-87-3	Chloromethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
124-48-1	Dibromochloromethane	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
100-41-4	Ethylbenzene	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
75-09-2	Methylene chloride	28.	U	15.	U	17.	U	4.	U	4.	U	6.	U
100-42-5	Styrene	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
127-18-4	Tetrachloroethene	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
108-88-3	Toluene	6.	J	190.		210.		67.		68.		13.	U
79-01-6	Trichloroethene	38.	U	160.		160.		74.		79.		13.	U
75-01-4	Vinyl chloride	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
1330-20-7	Xylene (Total)	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
10061-01-5	cis-1,3-Dichloropropene	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U
10061-02-6	trans-1,3-Dichloropropene	38.	U	37.	U	37.	U	12.	U	12.	U	13.	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

VOA													
	SAMPLE ID ------->	002-M-00P2-00 DL		002-M-00Q3-00 MS		002-M-00Q3-00 MSD		002-M-00U1-00 D		002-N-00U1-00 DL		002-N-00U2-00 D	
	ORIGINAL ID ----->	SD02P2		SD02Q3		SD02Q3		SD02U1		SD02U1		SD02U2	
	LAB SAMPLE ID --->	AB3259		AB3134		AB3135		AB3356		AB3355		AB3361	
	ID FROM REPORT -->	SD02P2D		SD02Q3M		SD02Q3M		SD02U1D		SD02U1D		SD02U2D	
	SAMPLE DATE ----->	12/08/93		12/08/93		12/08/93		12/09/93		12/09/93		12/09/93	
	DATE EXTRACTED -->	12/16/93		12/14/93		12/14/93		12/16/93		12/17/93		12/14/93	
	DATE ANALYZED --->	12/09/93		12/09/93		12/09/93		12/10/93		12/10/93		12/10/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN031	VAL	PN030	VAL	PN030	VAL	PN031	VAL	PN031	VAL	PN033	VAL
71-55-6	1,1,1-Trichloroethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
79-34-5	1,1,2,2-Tetrachloroethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
79-00-5	1,1,2-Trichloroethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
75-34-3	1,1-Dichloroethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
75-35-4	1,1-Dichloroethene	71.	U	61.		61.		69.	U	69.	U	23.	U
107-06-2	1,2-Dichloroethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
540-59-0	1,2-Dichloroethene (total)	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
78-87-5	1,2-Dichloropropane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
78-93-3	2-Butanone (MEK)	71.	U	7.	U	8.	U	69.	U	69.	U	23.	U
591-78-6	2-Hexanone	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
67-64-1	Acetone	690.	U	190.	U	150.	U	510.	U	650.	U	30.	U
71-43-2	Benzene	71.	U	72.		75.		69.	U	69.	U	23.	U
75-27-4	Bromodichloromethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
75-25-2	Bromoform	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
74-83-9	Bromomethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
75-15-0	Carbon disulfide	71.	U	16.	U	16.	U	69.	U	27.	U	23.	U
56-23-5	Carbon tetrachloride	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
108-90-7	Chlorobenzene	71.	U	72.		75.		69.	U	69.	U	23.	U
75-00-3	Chloroethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
67-66-3	Chloroform	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
74-87-3	Chloromethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
124-48-1	Dibromochloromethane	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
100-41-4	Ethylbenzene	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
75-09-2	Methylene chloride	33.	U	2.	U	16.	U	43.	U	61.	U	17.	U
100-42-5	Styrene	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
127-18-4	Tetrachloroethene	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
108-88-3	Toluene	71.	U	76.		78.		69.	U	69.	U	8.	J
79-01-6	Trichloroethene	71.	U	72.		74.		69.	U	69.	U	23.	U
75-01-4	Vinyl chloride	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
1330-20-7	Xylene (Total)	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
10061-01-5	cis-1,3-Dichloropropene	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U
10061-02-6	trans-1,3-Dichloropropene	71.	U	16.	U	16.	U	69.	U	69.	U	23.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

VOA	SAMPLE ID ------->	002-M-00X2-00 MS		002-M-00X3-00 D		002-M-00X3-00 MS		002-M-00X3-00 MSD		002-M-00X4-00 MS		002-M-00X4-00 MSD	
	ORIGINAL ID ----->	SD02X2		SD02X3		SD02X3		SD02X3		SD02X4		SD02X4	
	LAB SAMPLE ID --->	AB3016		AB3268		AB3266		AB3267		AB3363		AB3364	
	ID FROM REPORT -->	SD02X2M		SD02X3D		SD02X3M		SD02X3M		SD02X4M		SD02X4M	
	SAMPLE DATE ----->	12/07/93		12/08/93		12/08/93		12/08/93		12/09/93		12/09/93	
	DATE EXTRACTED -->	12/14/93		12/16/93		12/16/93		12/16/93		12/14/93		12/14/93	
	DATE ANALYZED --->	12/08/93		12/09/93		12/09/93		12/09/93		12/10/93		12/10/93	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN031	VAL	PN031	VAL	PN031	VAL	PN033	VAL	PN033	VAL
71-55-6	1,1,1-Trichloroethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
79-34-5	1,1,2,2-Tetrachloroethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
79-00-5	1,1,2-Trichloroethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
75-34-3	1,1-Dichloroethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
75-35-4	1,1-Dichloroethene	76.		12.	U	77.		79.		85.		82.	
107-06-2	1,2-Dichloroethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
540-59-0	1,2-Dichloroethene (total)	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
78-87-5	1,2-Dichloropropane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
78-93-3	2-Butanone (MEK)	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
591-78-6	2-Hexanone	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
67-64-1	Acetone	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
71-43-2	Benzene	73.		12.	U	69.		76.		74.		78.	
75-27-4	Bromodichloromethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
75-25-2	Bromoform	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
74-83-9	Bromomethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
75-15-0	Carbon disulfide	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
56-23-5	Carbon tetrachloride	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
108-90-7	Chlorobenzene	67.		12.	U	69.		70.		69.		70.	
75-00-3	Chloroethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
67-66-3	Chloroform	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
74-87-3	Chloromethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
124-48-1	Dibromochloromethane	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
100-41-4	Ethylbenzene	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
75-09-2	Methylene chloride	9.	U	4.	U	7.	U	14.	U	9.	U	9.	U
100-42-5	Styrene	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
127-18-4	Tetrachloroethene	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
108-88-3	Toluene	70.		12.	U	69.		70.		70.		70.	
79-01-6	Trichloroethene	70.		12.	U	71.		78.		73.		76.	
75-01-4	Vinyl chloride	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
1330-20-7	Xylene (Total)	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
10061-01-5	cis-1,3-Dichloropropene	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U
10061-02-6	trans-1,3-Dichloropropene	13.	U	12.	U	13.	U	13.	U	13.	U	13.	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment Samples

VOA		
SAMPLE ID ------->	002-N-00X4-00 D	
ORIGINAL ID ----->	SD02X4	
LAB SAMPLE ID --->	AB3365	
ID FROM REPORT -->	SD02X4D	
SAMPLE DATE ----->	12/09/93	
DATE EXTRACTED -->	12/14/93	
DATE ANALYZED --->	12/10/93	
MATRIX ---------->	Sediment	
UNITS ----------->	UG/KG	

CAS #	Parameter	PN033	VAL
71-55-6	1,1,1-Trichloroethane	13.	U
79-34-5	1,1,2,2-Tetrachloroethane	13.	U
79-00-5	1,1,2-Trichloroethane	13.	U
75-34-3	1,1-Dichloroethane	13.	U
75-35-4	1,1-Dichloroethene	13.	U
107-06-2	1,2-Dichloroethane	13.	U
540-59-0	1,2-Dichloroethene (total)	13.	U
78-87-5	1,2-Dichloropropane	13.	U
78-93-3	2-Butanone (MEK)	13.	U
591-78-6	2-Hexanone	13.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	13.	U
67-64-1	Acetone	13.	U
71-43-2	Benzene	13.	U
75-27-4	Bromodichloromethane	13.	U
75-25-2	Bromoform	13.	U
74-83-9	Bromomethane	13.	U
75-15-0	Carbon disulfide	13.	U
56-23-5	Carbon tetrachloride	13.	U
108-90-7	Chlorobenzene	13.	U
75-00-3	Chloroethane	13.	U
67-66-3	Chloroform	13.	U
74-87-3	Chloromethane	13.	U
124-48-1	Dibromochloromethane	13.	U
100-41-4	Ethylbenzene	13.	U
75-09-2	Methylene chloride	10.	U
100-42-5	Styrene	13.	U
127-18-4	Tetrachloroethene	13.	U
108-88-3	Toluene	13.	U
79-01-6	Trichloroethene	13.	U
75-01-4	Vinyl chloride	13.	U
1330-20-7	Xylene (Total)	13.	U
10061-01-5	cis-1,3-Dichloropropene	13.	U
10061-02-6	trans-1,3-Dichloropropene	13.	U

DATALCP3
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PENSACOLA, SITE 02
QA/QC Samples
Sediment

PEST													
	SAMPLE ID ------->	BLK-T-1795-00		BLK-T-1871-00		BLK-T-1920-00		BLK-T-1975-00		BLK-T-2008-00		BLK-T-2046-00	
	ORIGINAL ID ----->	M1795S1-LC		M1871S1-LC		M1920S1-LC		M1975S1-LC		M2008S1LCS		M2046S1-LC	
	LAB SAMPLE ID --->	M1795S		M1871S		M1920S		M1975S		M2008S		M2046S	
	ID FROM REPORT -->	M1795S1-LC		M1871S1-LC		M1920S1-LC		M1975S1-LC		M2008S1LCS		M2046S1-LC	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/05/09		12/09/09		12/15/09		12/19/09		12/23/09		01/01/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN026	VAL	PN026	VAL	PN029	VAL	PN029	VAL	PN031	VAL	PN033	VAL
72-54-8	4,4'-DDD	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
72-55-9	4,4'-DDE	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
50-29-3	4,4'-DDT	35.		32.		33.		30.	P	31.		42.	
309-00-2	Aldrin	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
12674-11-2	Aroclor-1016	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11104-28-2	Aroclor-1221	67.	U	67.	U	67.	U	67.	U	67.	U	67.	U
11141-16-5	Aroclor-1232	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
53469-21-9	Aroclor-1242	160.		140.		130.		130.		130.		150.	
12672-29-6	Aroclor-1248	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11097-69-1	Aroclor-1254	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11096-82-5	Aroclor-1260	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
60-57-1	Dieldrin	19.		15.		17.		15.		17.		17.	
959-98-8	Endosulfan I	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
33213-65-9	Endosulfan II	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
72-20-8	Endrin	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
7421-93-4	Endrin aldehyde	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
53494-70-5	Endrin ketone	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
76-44-8	Heptachlor	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
72-43-5	Methoxychlor	17.	U	17.	U	17.	U	17.	U	17.	U	17.	U
8001-35-2	Toxaphene	170.	U	170.	U	170.	U	170.	U	170.	U	170.	U
319-84-6	alpha-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-71-9	alpha-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-85-7	beta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-86-8	delta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-74-2	gamma-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment

PEST													
	SAMPLE ID ------->	BLK-T-2062-00		BLK-T-LACS-02		BLK-T-LACS-03		BLK-T-LACS-04		PBL-T-N026-00		PBL-T-N026-01	
	ORIGINAL ID ----->	M2062S1-LC		LACS2		LACS3		LACS4		PBLK6		PBLK5	
	LAB SAMPLE ID --->	M2062S		M0613S		M0556S		M0569S		M1952B		M1909B	
	ID FROM REPORT -->	M2062S1-LC		LACS2		LACS3		LACS4		PBLK6		PBLK5	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/22/09		12/10/09		12/10/09		07/30/09		12/16/09		12/14/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN027	VAL	PN027	VAL		NV	PN026	VAL	PN026	VAL
72-54-8	4,4'-DDD	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
72-55-9	4,4'-DDE	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
50-29-3	4,4'-DDT	32.		33.	U	27.	U	29.		3.3	U	3.3	U
309-00-2	Aldrin	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
12674-11-2	Aroclor-1016	33.	U	33.	U	33.	U	NR		33.	U	33.	U
11104-28-2	Aroclor-1221	67.	U	67.	U	67.	U	NR		67.	U	67.	U
11141-16-5	Aroclor-1232	33.	U	33.	U	33.	U	NR		33.	U	33.	U
53469-21-9	Aroclor-1242	120.		130.	U	95.	U	NR		33.	U	33.	U
12672-29-6	Aroclor-1248	33.	U	33.	U	33.	U	NR		33.	U	33.	U
11097-69-1	Aroclor-1254	33.	U	33.	U	33.	U	NR		33.	U	33.	U
11096-82-5	Aroclor-1260	33.	U	33.	U	33.	U	NR		33.	U	33.	U
60-57-1	Dieldrin	17.		19.	U	15.	U	14.	U	3.3	U	3.3	U
959-98-8	Endosulfan I	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
33213-65-9	Endosulfan II	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
72-20-8	Endrin	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
7421-93-4	Endrin aldehyde	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
53494-70-5	Endrin ketone	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
76-44-8	Heptachlor	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
72-43-5	Methoxychlor	17.	U	17.	U	17.	U	17.	U	17.	U	17.	U
8001-35-2	Toxaphene	170.	U	170.	U	170.	U	170.	U	170.	U	170.	U
319-84-6	alpha-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-71-9	alpha-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-85-7	beta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-86-8	delta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-74-2	gamma-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U

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PENSACOLA, SITE 02
QA/QC Samples
Sediment

PEST		PBL-T-N026-02		PBL-T-N026-03		PBL-T-N028-02		PBL-T-N029-00		PBL-T-N029-02		PBL-T-N029-03	
	SAMPLE ID ------->	PBL-T-N026-02		PBL-T-N026-03		PBL-T-N028-02		PBL-T-N029-00		PBL-T-N029-02		PBL-T-N029-03	
	ORIGINAL ID ----->	PBLK3		PBLK6		PBLK1		PBLK5		PBLK2		PBLK4	
	LAB SAMPLE ID --->	M1793B		M1985B		M1869B		M1973B		M1918B		M1953B	
	ID FROM REPORT -->	PBLK3		PBLK6		PBLK1		PBLK5		PBLK2		PBLK4	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/05/09		12/18/09		12/08/09		12/19/09		12/15/09		12/18/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN026	VAL	PN029	VAL	PN026	VAL	PN029	VAL	PN029	VAL	PN029	VAL
72-54-8	4,4'-DDD	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
72-55-9	4,4'-DDE	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
50-29-3	4,4'-DDT	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
309-00-2	Aldrin	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
12674-11-2	Aroclor-1016	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11104-28-2	Aroclor-1221	67.	U	67.	U	67.	U	67.	U	67.	U	67.	U
11141-16-5	Aroclor-1232	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
53469-21-9	Aroclor-1242	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
12672-29-6	Aroclor-1248	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11097-69-1	Aroclor-1254	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11096-82-5	Aroclor-1260	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
60-57-1	Dieldrin	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
959-98-8	Endosulfan I	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
33213-65-9	Endosulfan II	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
72-20-8	Endrin	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
7421-93-4	Endrin aldehyde	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
53494-70-5	Endrin ketone	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
76-44-8	Heptachlor	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
72-43-5	Methoxychlor	17.	U	17.	U	17.	U	17.	U	17.	U	17.	U
8001-35-2	Toxaphene	170.	U	170.	U	170.	U	170.	U	170.	U	170.	U
319-84-6	alpha-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-71-9	alpha-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-85-7	beta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-86-8	delta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-74-2	gamma-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U

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PENSACOLA, SITE 02
QA/QC Samples
Sediment

PEST	SAMPLE ID -------->	PBL-T-N030-00		PBL-T-N030-01		PBL-T-N031-00		PBL-T-N031-01		PBL-T-N031-02		PBL-T-N033-00	
	ORIGINAL ID ----->	PBLK2		PBLK3		PBLK3		PBLK4		PBLK4		PBLK2	
	LAB SAMPLE ID --->	M2016B		M2060B		M2006B		M2045B		M2162B		M2044B	
	ID FROM REPORT -->	PBLK2		PBLK3		PBLK3		PBLK4		PBLK4		PBLK2	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/23/09		12/22/09		12/23/09		12/24/09		01/06/09		01/01/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN030	VAL	PN031	VAL	PN031	VAL	PN030	VAL	PN033	VAL
72-54-8	4,4'-DDD	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
72-55-9	4,4'-DDE	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
50-29-3	4,4'-DDT	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
309-00-2	Aldrin	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
12674-11-2	Aroclor-1016	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11104-28-2	Aroclor-1221	67.	U	67.	U	67.	U	67.	U	67.	U	67.	U
11141-16-5	Aroclor-1232	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
53469-21-9	Aroclor-1242	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
12672-29-6	Aroclor-1248	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11097-69-1	Aroclor-1254	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
11096-82-5	Aroclor-1260	33.	U	33.	U	33.	U	33.	U	33.	U	33.	U
60-57-1	Dieldrin	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
959-98-8	Endosulfan I	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
33213-65-9	Endosulfan II	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
72-20-8	Endrin	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
7421-93-4	Endrin aldehyde	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
53494-70-5	Endrin ketone	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
76-44-8	Heptachlor	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
72-43-5	Methoxychlor	17.	U	17.	U	17.	U	17.	U	17.	U	17.	U
8001-35-2	Toxaphene	170.	U	170.	U	170.	U	170.	U	170.	U	170.	U
319-84-6	alpha-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-71-9	alpha-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-85-7	beta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
319-86-8	delta-BHC	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
5103-74-2	gamma-Chlordane	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment

SVOA													
	SAMPLE ID ------->	SBL-T-N026-00		SBL-T-N026-01		SBL-T-N026-02		SBL-T-N029-00		SBL-T-N029-01		SBL-T-N029-02	
	ORIGINAL ID ----->	SBLK1G		SBLK2B		SBLK2G		SBLK1B		SBLK2A		SBLK2G	
	LAB SAMPLE ID --->	M1956		M1791		M1872		M1555		M1971		M1925	
	ID FROM REPORT -->	SBLK1G		SBLK2B		SBLK2G		SBLK1B		SBLK2A		SBLK2G	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/16/09		12/07/09		12/10/09		12/16/09		12/19/09		12/16/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN026	VAL	PN026	VAL	PN026	VAL	PN029	VAL	PN029	VAL	PN029	VAL
120-82-1	1,2,4-Trichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
95-50-1	1,2-Dichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
541-73-1	1,3-Dichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
106-46-7	1,4-Dichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
95-95-4	2,4,5-Trichlorophenol	800.	U	800.	U	800.	U	800.	U	800.	U	800.	U
88-06-2	2,4,6-Trichlorophenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
120-83-2	2,4-Dichlorophenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
105-67-9	2,4-Dimethylphenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
51-28-5	2,4-Dinitrophenol	800.	U	800.	U	800.	U	800.	U	800.	U	800.	U
121-14-2	2,4-Dinitrotoluene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
606-20-2	2,6-Dinitrotoluene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
91-58-7	2-Chloronaphthalene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
95-57-8	2-Chlorophenol	330.	U	330.	U	330.	U	43.	J	330.	U	330.	U
91-57-6	2-Methylnaphthalene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
95-48-7	2-Methylphenol (o-Cresol)	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
88-74-4	2-Nitroaniline	800.	U	800.	U	800.	U	800.	U	800.	U	800.	U
88-75-5	2-Nitrophenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
91-94-1	3,3'-Dichlorobenzidine	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
99-09-2	3-Nitroaniline	800.	U	800.	U	800.	U	800.	U	800.	U	800.	U
534-52-1	4,6-Dinitro-2-methylphenol	800.	U	800.	U	800.	U	800.	U	800.	U	800.	U
101-55-3	4-Bromophenyl-phenylether	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
59-50-7	4-Chloro-3-methylphenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
106-47-8	4-Chloroaniline	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
7005-72-3	4-Chlorophenyl-phenylether	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
106-44-5	4-Methylphenol (p-Cresol)	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
100-01-6	4-Nitroaniline	800.	U	800.	U	800.	U	800.	U	800.	U	800.	U
100-02-7	4-Nitrophenol	800.	U	800.	U	800.	U	800.	U	800.	U	800.	U
83-32-9	Acenaphthene	330.	U	330.	U	330.	U	35.	J	330.	U	330.	U
208-96-8	Acenaphthylene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
120-12-7	Anthracene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
56-55-3	Benzo(a)anthracene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
50-32-8	Benzo(a)pyrene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
205-99-2	Benzo(b)fluoranthene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
191-24-2	Benzo(g,h,i)perylene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
207-08-9	Benzo(k)fluoranthene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
85-68-7	Butylbenzylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
86-74-8	Carbazole	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment

SVOA												
	SAMPLE ID ------->	SBL-T-N026-00		SBL-T-N026-01		SBL-T-N026-02		SBL-T-N029-00		SBL-T-N029-01		SBL-T-N029-02	
	ORIGINAL ID ----->	SBLK1G		SBLK2B		SBLK2G		SBLK1B		SBLK2A		SBLK2G	
	LAB SAMPLE ID --->	M1956		M1791		M1872		M1555		M1971		M1925	
	ID FROM REPORT -->	SBLK1G		SBLK2B		SBLK2G		SBLK1B		SBLK2A		SBLK2G	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/16/09		12/07/09		12/10/09		12/16/09		12/19/09		12/16/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN026	VAL	PN026	VAL	PN026	VAL	PN029	VAL	PN029	VAL	PN029	VAL
218-01-9	Chrysene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
84-74-2	Di-n-butylphthalate	160.	J	330.	U	330.	U	330.	U	330.	U	45.	J
117-84-0	Di-n-octylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
53-70-3	Dibenzo(a,h)anthracene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
132-64-9	Dibenzofuran	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
84-66-2	Diethylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
131-11-3	Dimethylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
206-44-0	Fluoranthene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
86-73-7	Fluorene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
118-74-1	Hexachlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
87-68-3	Hexachlorobutadiene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
77-47-4	Hexachlorocyclopentadiene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
67-72-1	Hexachloroethane	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
193-39-5	Indeno(1,2,3-cd)pyrene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
78-59-1	Isophorone	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
621-64-7	N-Nitroso-di-n-propylamine	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
86-30-6	N-Nitrosodiphenylamine	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
91-20-3	Naphthalene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
98-95-3	Nitrobenzene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
87-86-5	Pentachlorophenol	800.	U	800.	U	800.	U	800.	U	800.	U	800.	U
85-01-8	Phenanthrene	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
108-95-2	Phenol	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
129-00-0	Pyrene	330.	U	330.	U	330.	U	47.	J	330.	U	330.	U
111-91-1	bis(2-Chloroethoxy)methane	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	45.	J	330.	U	330.	U	330.	U	330.	U	330.	U
111-44-4	bis(2-Chloroethyl)ether	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330.	U	330.	U	330.	U	330.	U	330.	U	330.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Sediment

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Time: 15:45

SVOA						
	SAMPLE ID -------->	SBL-T-N030-00	SBL-T-N030-01	SBL-T-N031-00	SBL-T-N031-01	SBL-T-N033-00
	ORIGINAL ID ----->	SBLK2B	SBLK3B	SBLK1A	SBLK2G	SBLK2B
	LAB SAMPLE ID --->	M2019	M2058	M2043	M2009	M2042
	ID FROM REPORT -->	SBLK2B	SBLK3B	SBLK1A	SBLK2G	SBLK2B
	SAMPLE DATE ----->					
	DATE ANALYZED --->	12/27/09	12/22/09	12/21/09	12/21/09	12/22/09
	MATRIX ---------->	Soil	Soil	Soil	Soil	Soil
	UNITS ----------->	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG

CAS #	Parameter	PN030	VAL	PN030	VAL	PN031	VAL	PN031	VAL	PN033	VAL
120-82-1	1,2,4-Trichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U
95-50-1	1,2-Dichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U
541-73-1	1,3-Dichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U
106-46-7	1,4-Dichlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U
95-95-4	2,4,5-Trichlorophenol	800.	U	800.	U	800.	U	800.	U	800.	U
88-06-2	2,4,6-Trichlorophenol	330.	U	330.	U	330.	U	330.	U	330.	U
120-83-2	2,4-Dichlorophenol	330.	U	330.	U	330.	U	330.	U	330.	U
105-67-9	2,4-Dimethylphenol	330.	U	330.	U	330.	U	330.	U	330.	U
51-28-5	2,4-Dinitrophenol	800.	U	800.	U	800.	U	800.	U	800.	U
121-14-2	2,4-Dinitrotoluene	330.	U	330.	U	330.	U	330.	U	330.	U
606-20-2	2,6-Dinitrotoluene	330.	U	330.	U	330.	U	330.	U	330.	U
91-58-7	2-Chloronaphthalene	330.	U	330.	U	330.	U	330.	U	330.	U
95-57-8	2-Chlorophenol	330.	U	330.	U	330.	U	330.	U	330.	U
91-57-6	2-Methylnaphthalene	330.	U	330.	U	330.	U	330.	U	330.	U
95-48-7	2-Methylphenol (o-Cresol)	330.	U	330.	U	330.	U	330.	U	330.	U
88-74-4	2-Nitroaniline	800.	U	800.	U	800.	U	800.	U	800.	U
88-75-5	2-Nitrophenol	330.	U	330.	U	330.	U	330.	U	330.	U
91-94-1	3,3'-Dichlorobenzidine	330.	U	330.	U	330.	U	330.	U	330.	U
99-09-2	3-Nitroaniline	800.	U	800.	U	800.	U	800.	U	800.	U
534-52-1	4,6-Dinitro-2-methylphenol	800.	U	800.	U	800.	U	800.	U	800.	U
101-55-3	4-Bromophenyl-phenylether	330.	U	330.	U	330.	U	330.	U	330.	U
59-50-7	4-Chloro-3-methylphenol	330.	U	330.	U	330.	U	330.	U	330.	U
106-47-8	4-Chloroaniline	330.	U	330.	U	330.	U	330.	U	330.	U
7005-72-3	4-Chlorophenyl-phenylether	330.	U	330.	U	330.	U	330.	U	330.	U
106-44-5	4-Methylphenol (p-Cresol)	330.	U	330.	U	330.	U	330.	U	330.	U
100-01-6	4-Nitroaniline	800.	U	800.	U	800.	U	800.	U	800.	U
100-02-7	4-Nitrophenol	800.	U	800.	U	800.	U	800.	U	800.	U
83-32-9	Acenaphthene	330.	U	330.	U	330.	U	330.	U	330.	U
208-96-8	Acenaphthylene	330.	U	330.	U	330.	U	330.	U	330.	U
120-12-7	Anthracene	330.	U	330.	U	330.	U	330.	U	330.	U
56-55-3	Benzo(a)anthracene	330.	U	330.	U	330.	U	330.	U	330.	U
50-32-8	Benzo(a)pyrene	330.	U	330.	U	330.	U	330.	U	330.	U
205-99-2	Benzo(b)fluoranthene	330.	U	330.	U	330.	U	330.	U	330.	U
191-24-2	Benzo(g,h,i)perylene	330.	U	330.	U	330.	U	330.	U	330.	U
207-08-9	Benzo(k)fluoranthene	330.	U	330.	U	330.	U	330.	U	330.	U
85-68-7	Butylbenzylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U
86-74-8	Carbazole	330.	U	330.	U	330.	U	330.	U	330.	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment

SVOA											
	SAMPLE ID ------->	SBL-T-N030-00		SBL-T-N030-01		SBL-T-N031-00		SBL-T-N031-01		SBL-T-N033-00	
	ORIGINAL ID ----->	SBLK2B		SBLK3B		SBLK1A		SBLK2G		SBLK2B	
	LAB SAMPLE ID --->	M2019		M2058		M2043		M2009		M2042	
	ID FROM REPORT -->	SBLK2B		SBLK3B		SBLK1A		SBLK2G		SBLK2B	
	SAMPLE DATE ----->										
	DATE ANALYZED --->	12/27/09		12/22/09		12/21/09		12/21/09		12/22/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN030	VAL	PN031	VAL	PN031	VAL	PN033	VAL
218-01-9	Chrysene	330.	U	330.	U	330.	U	330.	U	330.	U
84-74-2	Di-n-butylphthalate	330.	U	330.	U	54.	J	330.	U	50.	J
117-84-0	Di-n-octylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U
53-70-3	Dibenzo(a,h)anthracene	330.	U	330.	U	330.	U	330.	U	330.	U
132-64-9	Dibenzofuran	330.	U	330.	U	330.	U	330.	U	330.	U
84-66-2	Diethylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U
131-11-3	Dimethylphthalate	330.	U	330.	U	330.	U	330.	U	330.	U
206-44-0	Fluoranthene	330.	U	330.	U	330.	U	330.	U	330.	U
86-73-7	Fluorene	330.	U	330.	U	330.	U	330.	U	330.	U
118-74-1	Hexachlorobenzene	330.	U	330.	U	330.	U	330.	U	330.	U
87-68-3	Hexachlorobutadiene	330.	U	330.	U	330.	U	330.	U	330.	U
77-47-4	Hexachlorocyclopentadiene	330.	U	330.	U	330.	U	330.	U	330.	U
67-72-1	Hexachloroethane	330.	U	330.	U	330.	U	330.	U	330.	U
193-39-5	Indeno(1,2,3-cd)pyrene	330.	U	330.	U	330.	U	330.	U	330.	U
78-59-1	Isophorone	330.	U	330.	U	330.	U	330.	U	330.	U
621-64-7	N-Nitroso-di-n-propylamine	330.	U	330.	U	330.	U	330.	U	330.	U
86-30-6	N-Nitrosodiphenylamine	330.	U	330.	U	330.	U	330.	U	330.	U
91-20-3	Naphthalene	330.	U	330.	U	330.	U	330.	U	330.	U
98-95-3	Nitrobenzene	330.	U	330.	U	330.	U	330.	U	330.	U
87-86-5	Pentachlorophenol	800.	U	800.	U	800.	U	800.	U	800.	U
85-01-8	Phenanthrene	330.	U	330.	U	330.	U	330.	U	330.	U
108-95-2	Phenol	330.	U	330.	U	330.	U	330.	U	330.	U
129-00-0	Pyrene	330.	U	330.	U	330.	U	330.	U	330.	U
111-91-1	bis(2-Chloroethoxy)methane	330.	U	330.	U	330.	U	330.	U	330.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	330.	U	330.	U	330.	U	330.	U	330.	U
111-44-4	bis(2-Chloroethyl)ether	330.	U	330.	U	330.	U	330.	U	330.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330.	U	330.	U	330.	U	330.	U	330.	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment

VOA													
	SAMPLE ID ------->	VBL-T-N003-00		VBL-T-N003-01		VBL-T-N003-02		VBL-T-N026-00		VBL-T-N026-01		VBL-T-N026-02	
	ORIGINAL ID ----->	VBLK2Q		VBLK3Q		VBLK4Q		VBLK2P		VBLK2P		VBLK2W	
	LAB SAMPLE ID --->	QB0810		QB0811		QB0812		PB1208		PB1212		WB1122	
	ID FROM REPORT -->	VBLK2Q		VBLK3Q		VBLK4Q		VBLK2P		VBLK2P		VBLK2W	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	08/10/09		08/11/09		08/12/09		12/08/09		12/12/09		11/22/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN003	VAL	PN003	VAL	PN003	VAL	PN026	VAL	PN029	VAL	PN026	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	1.	J	6.	J	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	2.	J	2.	J	2.	J	6.	J	6.	J	2.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	2.	J	1.	J	1.	J	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

PENSACOLA, SITE 02
QA/QC Samples
Sediment

VOA	SAMPLE ID ------->	VBL-T-N026-03		VBL-T-N026-04		VBL-T-N029-00		VBL-T-N029-01		VBL-T-N029-02		VBL-T-N030-00	
	ORIGINAL ID ----->	VBLK2W		VBLK3P		VBLK1P		VBLK3W		VBLK4W		VBLK1Q	
	LAB SAMPLE ID --->	WB1214		PB1210		PB1211		WB1212		WB1213		QB1213	
	ID FROM REPORT -->	VBLK2W		VBLK3P		VBLK1P		VBLK3W		VBLK4W		VBLK1Q	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/14/09		12/10/09		12/11/09		12/12/09		12/13/09		12/13/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN033	VAL	PN026	VAL	PN029	VAL	PN029	VAL	PN029	VAL	PN030	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	2.	J	1.	J	10.	U	10.	U	6.	J
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	3.	J	7.	J	4.	J	3.	J	3.	J	1.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

DATALCP3
02/24/95

PENSACOLA, SITE 02
QA/QC Samples
Sediment

VOA													
	SAMPLE ID ------->	VBL-T-N030-01		VBL-T-N030-02		VBL-T-N031-00		VBL-T-N031-01		VBL-T-N031-02		VBL-T-N031-03	
	ORIGINAL ID ----->	VBLK2W		VBLK3W		VBLK1W		VBLK2W		VBLK3W		VBLK5W	
	LAB SAMPLE ID --->	WB1213		WB1214		WB1216		WB1217		WB1218		WB1215	
	ID FROM REPORT -->	VBLK2W		VBLK3W		VBLK1W		VBLK2W		VBLK3W		VBLK5W	
	SAMPLE DATE ----->												
	DATE ANALYZED --->	12/13/09		12/14/09		12/16/09		12/17/09		12/18/09		12/15/09	
	MATRIX ---------->	Soil		Soil		Soil		Soil		Soil		Soil	
	UNITS ----------->	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
CAS #	Parameter	PN030	VAL	PN030	VAL	PN031	VAL	PN031	VAL	PN031	VAL	PN031	VAL
71-55-6	1,1,1-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-64-1	Acetone	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-15-0	Carbon disulfide	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-00-3	Chloroethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
74-87-3	Chloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	3.	J	3.	J	3.	J	2.	J	2.	J	2.	J
100-42-5	Styrene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
108-88-3	Toluene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U	10.	U	10.	U	10.	U	10.	U	10.	U

Phase IIB

Sediment Chemistry Results

DATALCP3
11/19/96

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

% SOLIDS	SAMPLE ID ------->	002-M-A200-01	002-M-D200-01	002-M-D200-01 RE	002-M-D400-01	002-M-F100-01	002-M-F300-01
	ORIGINAL ID ----->	002MA20001	002MD20001	002MD20001	002MD40001	002MF10001	002MF30001
	LAB SAMPLE ID --->	960072-01	960051-02	960051-02	960051-03	960051-04	960072-02
	ID FROM REPORT -->	002MA20001	002MD20001	002MD20001	002MD40001	002MF10001	002MF30001
	SAMPLE DATE ----->	01/29/96	01/22/96	01/22/96	01/22/96	01/22/96	01/29/96
	DATE EXTRACTED -->	02/21/96	02/09/96	02/09/96	02/09/96	02/09/96	02/21/96
	DATE ANALYZED --->	02/21/96	02/14/96	02/14/96	02/14/96	02/14/96	02/21/96
	MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
	UNITS ----------->	% A	% A	% C	% A	% A	% A
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	MA2000
9999000-58-8	SOLIDS	65.5	78.6	79.5	59.2	77.6	34.

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

% SOLIDS	SAMPLE ID ------->	002-M-F300-01 RE	002-M-H100-01	002-M-H300-01	002-M-I050-01	002-M-Q200-01	002-M-U200-01
	ORIGINAL ID ----->	002MF30001	002MH10001	002MH30001	002MI05001	002MQ20001	002MU20001
	LAB SAMPLE ID --->	960072-02	960072-03	960072-04	960072-05	960072-06	960072-07
	ID FROM REPORT -->	002MF30001	002MH10001	002MH30001	002MI05001	002MQ20001	002MU20001
	SAMPLE DATE ----->	01/29/96	01/31/96	01/31/96	01/31/96	01/31/96	01/31/96
	DATE EXTRACTED -->	02/21/96	02/21/96	02/21/96	02/21/96	02/21/96	02/21/96
	DATE ANALYZED --->	02/21/96	02/21/96	02/21/96	02/21/96	02/21/96	02/21/96
	MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
	UNITS ----------->	% C	% A	% A	% A	% A	% A
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	MA2000
9999000-58-8	SOLIDS	29.	37.9	24.9	52.1	24.8	78.9

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

% SOLIDS	SAMPLE ID ------->	002-M-X100-01					
	ORIGINAL ID ----->	002MX10001					
	LAB SAMPLE ID --->	960051-06					
	ID FROM REPORT -->	002MX10001					
	SAMPLE DATE ----->	01/23/96					
	DATE EXTRACTED -->	02/09/96					
	DATE ANALYZED --->	02/14/96					
	MATRIX ---------->	Sediment					
	UNITS ----------->	% A					
CAS #	Parameter	MA2000					
9999000-58-8	SOLIDS	75.6					

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

METAL		002-M-A200-01	002-M-D200-01	002-M-D200-01 RE	002-M-D400-01	002-M-F100-01	002-M-F300-01
	ORIGINAL ID ----->	002MA20001	002MD20001	002MD20001	002MD40001	002MF10001	002MF30001
	LAB SAMPLE ID --->	960072-01	960051-02	960051-02	960051-03	960051-04	960072-02
	ID FROM REPORT -->	002MA20001	002MD20001	002MD20001	002MD40001	002MF10001	002MF30001
	SAMPLE DATE ----->	01/29/96	01/22/96	01/22/96	01/22/96	01/22/96	01/29/96
	DATE EXTRACTED -->	02/11/96	01/31/96	01/31/96	01/31/96	01/31/96	02/11/96
	DATE ANALYZED --->	02/12/96	02/01/96	02/01/96	02/01/96	02/01/96	02/12/96
	MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
	UNITS ----------->	MG/KG A	MG/KG A	MG/KG C	MG/KG A	MG/KG A	MG/KG A
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	MA2000
57-12-5	Cyanide (CN)	0.76 U	0.63 U	0.62 U	0.83 U	0.63 U	1.5 U
7429-90-5	Aluminum (Al)	1270. J	1120. J	784. J	2840. J	200. J	11800. J
7440-36-0	Antimony (Sb)	0.86 UR	0.26 UR	0.23 UR	0.2 UR	0.15 UR	0.3 UR
7440-38-2	Arsenic (As)	2.9 J	0.84 J	2.5 J	4.7 J	0.38 J	15.2 J
7440-39-3	Barium (Ba)	27.6	5.6 J	13.5	7.9 J	1.2 J	18.9 J
7440-41-7	Beryllium (Be)	0.08 U	0.15 J	0.07 U	0.25 J	0.07 U	0.71 J
7440-43-9	Cadmium (Cd)	0.53 J	0.15 J	0.13 U	0.19 J	0.15 U	0.5 J
7440-70-2	Calcium (Ca)	25500. J	7360. J	5066. J	19300. J	1980. J	31900. J
7440-47-3	Chromium (Cr)	7.7 J	7.9 J	8.8 J	12.2 J	7. J	37.5 J
7440-48-4	Cobalt (Co)	0.54 J	0.13 U	0.57 J	0.89 J	0.15 U	2.8 J
7440-50-8	Copper (Cu)	560. J	13.5 J	25.7 J	13.2 J	12.4 J	18.4 J
7439-89-6	Iron (Fe)	2930. J	1540. J	5085. J	5590. J	723. J	19400. J
7439-92-1	Lead (Pb)	467. J	31.8 J	341. J	41.5 J	5.2 J	30.9 J
7439-95-4	Magnesium (Mg)	1220.	1080.	768.	2300.	415.	6950.
7439-96-5	Manganese (Mn)	51.3	46.4	59.1	86.7	6.5	310.
7440-02-0	Nickel (Ni)	2.5 J	0.87 J	1.8 J	4.	0.71 J	9.2
7440-09-7	Potassium (K)	250. J	299. J	212. J	654.	123. J	2060.
7782-49-2	Selenium (Se)	0.31 U	0.26 U	0.26 U	0.35 U	0.29 U	0.9
7440-22-4	Silver (Ag)	0.38 UJ	0.33 UJ	0.33 UJ	0.43 UJ	0.37 UJ	0.75 UJ
7440-23-5	Sodium (Na)	2550.	2410.	2884.	6590.	1920.	17200.
7440-28-0	Thallium (Tl)	0.53 J	0.26 UJ	0.26 UJ	0.35 UJ	0.29 UJ	0.6 UJ
7440-62-2	Vanadium (V)	3.7 J	2.7 J	3.2 J	9.1	0.82 J	32.2
7440-66-6	Zinc (Zn)	113. J	18.3 J	31. J	77.6 J	7.3 J	70.1 J
7439-97-6	Mercury (Hg)	0.17	0.05 U	0.05 U	0.07 U	0.05 U	0.17 J

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

METAL							
	SAMPLE ID ------->	002-M-F300-01 RE	002-M-H100-01	002-M-H300-01	002-M-I050-01	002-M-Q200-01	002-M-U200-01
	ORIGINAL ID ----->	002MF30001	002MH10001	002MH30001	002MI05001	002MQ20001	002MU20001
	LAB SAMPLE ID --->	960072-02	960072-03	960072-04	960072-05	960072-06	960072-07
	ID FROM REPORT -->	002MF30001	002MH10001	002MH30001	002MI05001	002MQ20001	002MU20001
	SAMPLE DATE ----->	01/29/96	01/31/96	01/31/96	01/31/96	01/31/96	01/31/96
	DATE EXTRACTED -->	02/21/96	02/11/96	02/11/96	02/11/96	02/11/96	02/11/96
	DATE ANALYZED --->	02/21/96	02/12/96	02/12/96	02/12/96	02/12/96	02/12/96
	MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
	UNITS ----------->	MG/KG C	MG/KG A	MG/KG A	MG/KG A	MG/KG A	MG/KG A
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	MA2000
57-12-5	Cyanide (CN)	??????????	1.3 U	2. U	0.94 U	1.9 U	0.62 U
7429-90-5	Aluminum (Al)	10400. J	7590. J	15700. J	5170. J	16600. J	571. J
7440-36-0	Antimony (Sb)	1.5 UR	0.27 UR	0.69 UR	0.39 UR	0.41 UR	0.13 UR
7440-38-2	Arsenic (As)	16. J	8.6 J	18.9 J	7.6 J	17.2 J	1.1 J
7440-39-3	Barium (Ba)	17.7 J	14.1 J	21.1 J	16.5 J	22.5 J	1.1 J
7440-41-7	Beryllium (Be)	0.71 J	0.42 J	0.97 J	0.31 J	0.94 J	0.07 U
7440-43-9	Cadmium (Cd)	0.89 J	0.97 J	0.4 U	3.2 J	0.76 J	0.13 U
7440-70-2	Calcium (Ca)	32044. J	18800. J	30500. J	24400. J	40400. J	2020. J
7440-47-3	Chromium (Cr)	39.2 J	77.9 J	42.2 J	106. J	41.8 J	2. U
7440-48-4	Cobalt (Co)	2.7 J	1.8 J	3.8 J	1.5 J	3.5 J	0.25 J
7440-50-8	Copper (Cu)	20.7 J	27.3 J	25.8 J	33. J	21. J	1.1 J
7439-89-6	Iron (Fe)	19599. J	11600. J	25300. J	9620. J	25400. J	1060. J
7439-92-1	Lead (Pb)	37.7 J	99.6 J	30.9 J	178. J	33.9 J	2.1 J
7439-95-4	Magnesium (Mg)	6922.	3960.	9220.	3210.	9690.	537.
7439-96-5	Manganese (Mn)	308.	184.	329.	163.	421.	19.3
7440-02-0	Nickel (Ni)	9.7	6.4	13.1	5.3	11.6	1.4 J
7440-09-7	Potassium (K)	2110.	1220.	2890.	917.	3210.	176. J
7782-49-2	Selenium (Se)	0.61 J	0.79	1.2	0.4 U	1.4	0.26 U
7440-22-4	Silver (Ag)	0.75 UJ	0.67 UJ	1. UJ	0.5 UJ	1. UJ	0.33 UJ
7440-23-5	Sodium (Na)	17134.	10700.	24800.	7510.	27600.	2100.
7440-28-0	Thallium (Tl)	0.6 UJ	0.54 UJ	0.8 UJ	0.4 UJ	0.82 UJ	0.26 UJ
7440-62-2	Vanadium (V)	32.1	18.8	39.1	14.3	38.9	2.3 J
7440-66-6	Zinc (Zn)	68.4 J	93.2 J	79.5 J	148. J	73. J	4.1 J
7439-97-6	Mercury (Hg)	0.48	0.17 J	0.5	0.22	0.27 J	0.1

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

METAL

SAMPLE ID ------->	002-M-X100-01	
ORIGINAL ID ----->	002MX10001	
LAB SAMPLE ID --->	960051-06	
ID FROM REPORT -->	002MX10001	
SAMPLE DATE ----->	01/23/96	
DATE EXTRACTED -->	01/31/96	
DATE ANALYZED --->	02/01/96	
MATRIX ---------->	Sediment	
UNITS ----------->	MG/KG	A

CAS #	Parameter	MA2000	
57-12-5	Cyanide (CN)	0.62	U
7429-90-5	Aluminum (Al)	287.	J
7440-36-0	Antimony (Sb)	0.14	UR
7440-38-2	Arsenic (As)	0.29	J
7440-39-3	Barium (Ba)	0.91	J
7440-41-7	Beryllium (Be)	0.07	U
7440-43-9	Cadmium (Cd)	0.14	U
7440-70-2	Calcium (Ca)	2990.	J
7440-47-3	Chromium (Cr)	0.9	U
7440-48-4	Cobalt (Co)	0.14	U
7440-50-8	Copper (Cu)	1.1	J
7439-89-6	Iron (Fe)	511.	J
7439-92-1	Lead (Pb)	0.7	J
7439-95-4	Magnesium (Mg)	501.	
7439-96-5	Manganese (Mn)	22.7	
7440-02-0	Nickel (Ni)	0.62	U
7440-09-7	Potassium (K)	173.	J
7782-49-2	Selenium (Se)	0.27	U
7440-22-4	Silver (Ag)	0.34	UJ
7440-23-5	Sodium (Na)	3000.	
7440-28-0	Thallium (Tl)	0.27	UJ
7440-62-2	Vanadium (V)	1.4	J
7440-66-6	Zinc (Zn)	1.4	U
7439-97-6	Mercury (Hg)	0.05	U

PEST							
	SAMPLE ID ------->	002-M-A200-01	002-M-D200-01	002-M-D400-01	002-M-F100-01	002-M-F300-01	002-M-H100-01
	ORIGINAL ID ----->	002MA20001	002MD20001	002MD40001	002MF10001	002MF30001	002MH10001
	LAB SAMPLE ID --->	960072-01	960051-02	960051-03	960051-04	960072-02	960072-03
	ID FROM REPORT -->	002MA20001	002MD20001	002MD40001	002MF10001	002MF30001	002MH10001
	SAMPLE DATE ----->	01/29/96	01/22/96	01/22/96	01/22/96	01/29/96	01/31/96
	DATE EXTRACTED -->	02/07/96	01/28/96	01/28/96	01/28/96	02/07/96	02/07/96
	DATE ANALYZED --->	02/26/96	02/11/96	02/11/96	02/11/96	02/27/96	02/27/96
	MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
	UNITS ----------->	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG A
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	MA2000
12674-11-2	Aroclor-1016	2.2 U	2.1 U	2.6 U	2.1 U	5.4 U	3.2 U
11104-28-2	Aroclor-1221	4.3 U	4.3 U	5.2 U	4.3 U	11. U	6.2 U
11141-16-5	Aroclor-1232	2.2 U	2.1 U	2.6 U	2.1 U	5.4 U	3.2 U
53469-21-9	Aroclor-1242	2.2 U	2.1 U	2.6 U	2.1 U	5.4 U	3.2 U
12672-29-6	Aroclor-1248	2.2 U	2.1 U	2.6 U	2.1 U	5.4 U	3.2 U
11097-69-1	Aroclor-1254	4.8 J	0.99 J	2. J	2.1 U	5.4 J	4.3 J
11096-82-5	Aroclor-1260	2.2 U	2.1 U	2.6 U	2.1 U	5.4 U	3.2 U
72-54-8	4,4'-DDD	3.5	0.21 U	0.32 J	0.21 U	0.54 U	0.32 U
72-55-9	4,4'-DDE	0.22 U	0.21 U	0.26 U	0.21 U	0.54 U	0.32 U
50-29-3	4,4'-DDT	0.22 U	0.21 U	0.26 U	0.21 U	0.54 U	0.32 U
309-00-2	Aldrin	0.11 U	0.11 U	0.13 U	0.11 U	0.27 U	0.16 U
60-57-1	Dieldrin	0.52 J	0.21 U	0.26 U	0.21 U	0.54 U	0.32 U
959-98-8	Endosulfan I	0.11 U	0.11 U	0.13 U	0.11 U	0.27 U	0.16 U
33213-65-9	Endosulfan II	0.22 U	0.21 U	0.26 U	0.21 U	0.54 U	0.32 U
1031-07-8	Endosulfan sulfate	0.22 U	0.21 U	0.26 U	0.21 U	0.54 U	0.32 U
72-20-8	Endrin	0.52 J	0.32 J	0.42 J	0.21 U	0.54 U	0.31 J
7421-93-4	Endrin aldehyde	0.22 U	0.21 U	0.26 U	0.21 U	0.54 U	0.32 U
53494-70-5	Endrin ketone	0.22 U	0.21 U	0.26 U	0.21 U	0.54 U	0.32 U
76-44-8	Heptachlor	0.33 J	0.11 U	0.13 U	0.11 U	0.27 U	0.16 U
1024-57-3	Heptachlor epoxide	0.11 U	0.11 U	0.13 U	0.11 U	0.27 U	0.16 U
72-43-5	Methoxychlor	1.1 U	1.1 U	1.3 U	1.1 U	2.7 U	1.6 U
8001-35-2	Toxaphene	22. U	22. U	27. U	22. U	54. U	32. U
319-84-6	alpha-BHC	0.28	0.11 U	0.13 U	0.11 U	0.27 U	0.16 U
5103-71-9	alpha-Chlordane	0.11 U	0.7	1.3	0.58	0.27 U	0.16 U
319-85-7	beta-BHC	0.11 U	0.11 U	0.13 U	0.11 U	0.27 U	0.16 U
319-86-8	delta-BHC	0.11 UJ	0.11 U	0.13 U	0.11 U	0.27 UJ	0.16 UJ
58-89-9	gamma-BHC (Lindane)	0.11 U	0.11 U	0.13 U	0.11 U	0.71 J	0.22 J
5103-74-2	gamma-Chlordane	0.11 U	0.11 U	0.13 U	0.11 U	0.27 U	0.16 U

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

PEST							
	SAMPLE ID ------->	002-M-H300-01	002-M-I050-01	002-M-Q200-01	002-M-U200-01	002-M-X100-01	PBL-0-2000-01
	ORIGINAL ID ----->	002MH30001	002MI05001	002MQ20001	002MU20001	002MX10001	PBLK01
	LAB SAMPLE ID --->	960072-04	960072-05	960072-06	960072-07	960051-06	P0128-B4
	ID FROM REPORT -->	002MH30001	002MI05001	002MQ20001	002MU20001	002MX10001	PBLK01
	SAMPLE DATE ----->	01/31/96	01/31/96	01/31/96	01/31/96	01/23/96	
	DATE EXTRACTED -->	02/07/96	02/07/96	02/07/96	02/07/96	01/28/96	01/28/96
	DATE ANALYZED --->	02/26/96	02/27/96	02/26/96	02/27/96	02/11/96	02/10/96
	MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Soil
	UNITS ----------->	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG D
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	MA2000
12674-11-2	Aroclor-1016	6. UJ	2. U	2.8 U	2.8 U	2.2 U	1.7 U
11104-28-2	Aroclor-1221	12. UJ	3.8 U	5.5 U	5.5 U	4.3 U	3.3 U
11141-16-5	Aroclor-1232	6. UJ	2. U	2.8 U	2.8 U	2.2 U	1.7 U
53469-21-9	Aroclor-1242	6. UJ	2. U	2.8 U	2.8 U	2.2 U	1.7 U
12672-29-6	Aroclor-1248	6. UJ	2. U	2.8 U	2.8 U	2.2 U	1.7 U
11097-69-1	Aroclor-1254	12. J	8. J	2.8 U	2.8 U	2.2 U	1.7 U
11096-82-5	Aroclor-1260	6. UJ	2. U	2.8 U	2.8 U	2.2 U	1.7 U
72-54-8	4,4'-DDD	0.6 UJ	0.2 U	0.28 U	0.28 U	0.24 J	0.17 U
72-55-9	4,4'-DDE	0.6 UJ	0.2 U	0.28 U	0.28 U	0.22 U	0.17 U
50-29-3	4,4'-DDT	0.6 UJ	0.72 J	0.28 U	0.28 U	0.22 U	0.17 U
309-00-2	Aldrin	0.29 UJ	0.095 U	0.14 U	0.14 U	0.11 U	0.083 U
60-57-1	Dieldrin	0.6 UJ	0.2 U	0.28 U	0.28 U	0.22 U	0.17 U
959-98-8	Endosulfan I	0.29 UJ	0.095 U	0.14 U	0.14 U	0.11 U	0.083 U
33213-65-9	Endosulfan II	0.6 UJ	0.2 U	0.28 U	0.28 U	0.22 U	0.17 U
1031-07-8	Endosulfan sulfate	0.6 UJ	1.4 J	0.28 U	0.28 U	0.22 U	0.17 U
72-20-8	Endrin	0.6 UJ	0.19 J	0.28 U	0.28 U	0.22 U	0.17 U
7421-93-4	Endrin aldehyde	0.6 UJ	0.2 U	0.28 U	0.28 U	0.22 U	0.17 U
53494-70-5	Endrin ketone	0.6 UJ	0.2 U	0.28 U	0.28 U	0.22 U	0.17 U
76-44-8	Heptachlor	0.29 UJ	0.095 U	0.14 U	0.14 U	0.11 U	0.083 U
1024-57-3	Heptachlor epoxide	0.29 UJ	0.33 J	0.14 U	0.14 U	0.11 U	0.083 U
72-43-5	Methoxychlor	2.9 UJ	0.95 U	1.4 U	1.4 U	1.1 U	0.83 U
8001-35-2	Toxaphene	60. UJ	20. U	28. U	28. U	22. U	17. U
319-84-6	alpha-BHC	0.29 UJ	0.095 U	0.14 U	0.14 U	0.11 U	0.083 U
5103-71-9	alpha-Chlordane	0.29 UJ	0.095 U	0.14 U	0.14 U	0.54	0.083 U
319-85-7	beta-BHC	0.29 UJ	0.095 U	0.14 U	0.14 UJ	0.11 U	0.083 U
319-86-8	delta-BHC	0.29 UJ	0.095 UJ	0.14 UJ	0.14 U	0.11 U	0.083 U
58-89-9	gamma-BHC (Lindane)	0.29 UJ	0.3 J	0.94 J	0.14 U	0.15 J	0.083 U
5103-74-2	gamma-Chlordane	0.29 UJ	0.35 J	0.14 U	0.14 U	0.11 U	0.083 U

PEST	SAMPLE ID ------->	PBL-0-A200-01					
	ORIGINAL ID ----->	PBLK01					
	LAB SAMPLE ID --->	P0207-B4					
	ID FROM REPORT -->	PBLK01					
	SAMPLE DATE ----->						
	DATE EXTRACTED -->	02/07/96					
	DATE ANALYZED --->	02/26/96					
	MATRIX ---------->	Soil					
	UNITS ----------->	UG/KG D					
CAS #	Parameter	MA2000					
12674-11-2	Aroclor-1016	1.7 U					
11104-28-2	Aroclor-1221	3.3 U					
11141-16-5	Aroclor-1232	1.7 U					
53469-21-9	Aroclor-1242	1.7 U					
12672-29-6	Aroclor-1248	1.7 U					
11097-69-1	Aroclor-1254	1.7 U					
11096-82-5	Aroclor-1260	1.7 U					
72-54-8	4,4'-DDD	0.17 U					
72-55-9	4,4'-DDE	0.17 U					
50-29-3	4,4'-DDT	0.17 U					
309-00-2	Aldrin	0.083 U					
60-57-1	Dieldrin	0.17 U					
959-98-8	Endosulfan I	0.083 U					
33213-65-9	Endosulfan II	0.17 U					
1031-07-8	Endosulfan sulfate	0.17 U					
72-20-8	Endrin	0.17 U					
7421-93-4	Endrin aldehyde	0.17 U					
53494-70-5	Endrin ketone	0.17 U					
76-44-8	Heptachlor	0.083 U					
1024-57-3	Heptachlor epoxide	0.083 U					
72-43-5	Methoxychlor	0.83 U					
8001-35-2	Toxaphene	17. U					
319-84-6	alpha-BHC	0.083 U					
5103-71-9	alpha-Chlordane	0.083 U					
319-85-7	beta-BHC	0.083 U					
319-86-8	delta-BHC	0.083 U					
58-89-9	gamma-BHC (Lindane)	0.083 U					
5103-74-2	gamma-Chlordane	0.083 U					

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

SVOA													
	SAMPLE ID ------->	002-M-A200-01		002-M-D200-01		002-M-D400-01		002-M-F100-01		002-M-F300-01		002-M-H100-01	
	ORIGINAL ID ----->	002MA20001		002MD20001		002MD40001		002MF10001		002MF30001		002MH10001	
	LAB SAMPLE ID --->	960072-01		960051-02		960051-03		960051-04		960072-02		960072-03	
	ID FROM REPORT -->	002MA20001		002MD20001		002MD40001		002MF10001		002MF30001		002MH10001	
	SAMPLE DATE ----->	01/29/96		01/22/96		01/22/96		01/22/96		01/29/96		01/31/96	
	DATE EXTRACTED -->	02/07/96		01/28/96		01/28/96		01/28/96		02/07/96		02/07/96	
	DATE ANALYZED --->	02/14/96		02/10/96		02/09/96		02/09/96		02/14/96		02/14/96	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A
CAS #	Parameter	MA2000		MA2000		MA2000		MA2000		MA2000		MA2000	
120-82-1	1,2,4-Trichlorobenzene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
95-50-1	1,2-Dichlorobenzene	430.	U	430.	U	510.	U	420.	U	1100.	U	57.	J
541-73-1	1,3-Dichlorobenzene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
106-46-7	1,4-Dichlorobenzene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
95-95-4	2,4,5-Trichlorophenol	1000.	U	1000.	U	1200.	U	1000.	U	2600.	U	1500.	U
88-06-2	2,4,6-Trichlorophenol	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
120-83-2	2,4-Dichlorophenol	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
105-67-9	2,4-Dimethylphenol	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
51-28-5	2,4-Dinitrophenol	1000.	U	1000.	U	1200.	U	1000.	U	2600.	U	1500.	U
121-14-2	2,4-Dinitrotoluene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
606-20-2	2,6-Dinitrotoluene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
91-58-7	2-Chloronaphthalene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
95-57-8	2-Chlorophenol	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
91-57-6	2-Methylnaphthalene	32.	J	31.	J	27.	J	42.	U	110.	U	62.	U
95-48-7	2-Methylphenol (o-Cresol)	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
88-74-4	2-Nitroaniline	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
88-75-5	2-Nitrophenol	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
91-94-1	3,3'-Dichlorobenzidine	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
99-09-2	3-Nitroaniline	1000.	U	1000.	U	1200.	U	1000.	U	2600.	U	1500.	U
534-52-1	2-Methyl-4,6-Dinitrophenol	1000.	U	1000.	U	1200.	U	1000.	U	2600.	U	1500.	U
101-55-3	4-Bromophenyl-phenylether	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
59-50-7	4-Chloro-3-methylphenol	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
106-47-8	4-Chloroaniline	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
7005-72-3	4-Chlorophenylphenylether	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
106-44-5	4-Methylphenol (p-Cresol)	430.	U	430.	U	47.	J	420.	U	1100.	U	620.	U
100-01-6	4-Nitroaniline	1000.	UJ	1000.	U	1200.	U	1000.	U	2600.	UJ	1500.	UJ
100-02-7	4-Nitrophenol	1000.	U	1000.	U	1200.	U	1000.	U	2600.	U	1500.	U
83-32-9	Acenaphthene	98.		28.		25.	U	20.	U	51.	U	30.	U
208-96-8	Acenaphthylene	43.		43.	U	51.	U	42.	U	110.	U	62.	U
120-12-7	Anthracene	360.		25.	J	29.	J	42.	U	110.	U	62.	U
56-55-3	Benzo(a)anthracene	1400.		43.	U	96.		42.	U	250.		100.	
50-32-8	Benzo(a)pyrene	300.		43.	U	72.		42.	U	250.		130.	
205-99-2	Benzo(b)fluoranthene	1400.		43.	U	100.		42.	U	350.		150.	
191-24-2	Benzo(g,h,i)perylene	860.		43.	U	50.	J	42.	U	180.		85.	
207-08-9	Benzo(k)fluoranthene	270.	J	43.	U	55.		42.	U	170.	J	100.	J

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

SVOA													
	SAMPLE ID ------->	002-M-A200-01		002-M-D200-01		002-M-D400-01		002-M-F100-01		002-M-F300-01		002-M-H100-01	
	ORIGINAL ID ----->	002MA20001		002MD20001		002MD40001		002MF10001		002MF30001		002MH10001	
	LAB SAMPLE ID --->	960072-01		960051-02		960051-03		960051-04		960072-02		960072-03	
	ID FROM REPORT -->	002MA20001		002MD20001		002MD40001		002MF10001		002MF30001		002MH10001	
	SAMPLE DATE ----->	01/29/96		01/22/96		01/22/96		01/22/96		01/29/96		01/31/96	
	DATE EXTRACTED -->	02/07/96		01/28/96		01/28/96		01/28/96		02/07/96		02/07/96	
	DATE ANALYZED --->	02/14/96		02/10/96		02/09/96		02/09/96		02/14/96		02/14/96	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
	UNITS ----------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A
CAS #	Parameter	MA2000		MA2000		MA2000		MA2000		MA2000		MA2000	
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	600.		570.		94.	J	84.	J	770.	J	1100.	
85-68-7	Butylbenzylphthalate	49.	J	430.	U	30.	J	420.	U	110.	J	120.	J
86-74-8	Carbazole	150.	J	430.	U	510.	U	420.	U	54.	J	620.	U
218-01-9	Chrysene	850.	J	43.	U	86.		42.	U	220.	J	110.	J
84-74-2	Di-n-butylphthalate	430.	U	430.	U	28.	J	29.	J	95.	J	620.	U
117-84-0	Di-n-octyl phthalate	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
53-70-3	Dibenz(a,h)anthracene	43.	U	43.	U	51.	U	42.	U	110.	U	62.	U
132-64-9	Dibenzofuran	51.	J	430.	U	510.	U	420.	U	1100.	U	620.	U
84-66-2	Diethylphthalate	430.	U	430.	U	510.	U	420.	U	62.	J	620.	U
131-11-3	Dimethyl phthalate	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
206-44-0	Fluoranthene	2100.		35.	J	170.		42.	U	390.		200.	
86-73-7	Fluorene	150.		26.		25.	U	20.	U	51.	U	30.	U
118-74-1	Hexachlorobenzene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
87-68-3	Hexachlorobutadiene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
77-47-4	Hexachlorocyclopentadiene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
67-72-1	Hexachloroethane	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
193-39-5	Indeno(1,2,3-cd)pyrene	890.		43.	U	53.		42.	U	170.		81.	
78-59-1	Isophorone	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
621-64-7	N-Nitroso-di-n-propylamine	43.	U	43.	U	51.	U	42.	U	110.	U	62.	U
86-30-6	N-Nitrosodiphenylamine	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
91-20-3	Naphthalene	26.	J	62.		44.	J	26.	J	110.	U	62.	U
98-95-3	Nitrobenzene	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
87-86-5	Pentachlorophenol	1000.	U	1000.	U	1200.	U	1000.	U	2600.	U	1500.	U
85-01-8	Phenanthrene	1200.		60.		72.		42.	U	160.		68.	
108-95-2	Phenol	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
129-00-0	Pyrene	2200.		28.	J	170.		42.	U	410.		190.	
111-91-1	bis(2-Chloroethoxy)methane	430.	U	430.	U	510.	U	420.	U	1100.	U	620.	U
111-44-4	bis(2-Chloroethyl)ether	43.	U	43.	U	51.	U	42.	U	110.	U	62.	U

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

SVOA							
	SAMPLE ID ------->	002-M-H300-01	002-M-I050-01	002-M-Q200-01	002-M-U200-01	002-M-X100-01	SBL-0-2000-05
	ORIGINAL ID ----->	002MH30001	002MI05001	002MQ20001	002MU20001	002MX10001	SBLKAM
	LAB SAMPLE ID --->	960072-04	960072-05	960072-06	960072-07	960051-06	S0128-B3
	ID FROM REPORT -->	002MH30001	002MI05001	002MQ20001	002MU20001	002MX10001	SBLKAM
	SAMPLE DATE ----->	01/31/96	01/31/96	01/31/96	01/31/96	01/23/96	
	DATE EXTRACTED -->	02/07/96	02/07/96	02/07/96	02/07/96	01/28/96	01/28/96
	DATE ANALYZED --->	02/14/96	02/19/96	02/14/96	02/14/96	02/10/96	02/06/96
	MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Soil
	UNITS ----------->	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG A	UG/KG D
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	MA2000
120-82-1	1,2,4-Trichlorobenzene	1200. U	760. U	550. U	1200. U	420. U	330. U
95-50-1	1,2-Dichlorobenzene	1200. U	760. U	550. U	1200. U	420. U	330. U
541-73-1	1,3-Dichlorobenzene	1200. U	760. U	550. U	1200. U	420. U	330. U
106-46-7	1,4-Dichlorobenzene	1200. U	760. U	550. U	1200. U	420. U	330. U
108-60-1	2,2'-oxybis(1-Chloropropane)	1200. U	760. U	550. U	1200. U	420. U	330. U
95-95-4	2,4,5-Trichlorophenol	2800. U	1900. U	1300. U	2900. U	1000. U	800. U
88-06-2	2,4,6-Trichlorophenol	1200. U	760. U	550. U	1200. U	420. U	330. U
120-83-2	2,4-Dichlorophenol	1200. U	760. U	550. U	1200. U	420. U	330. U
105-67-9	2,4-Dimethylphenol	1200. U	84. J	550. U	1200. U	420. U	330. U
51-28-5	2,4-Dinitrophenol	2800. U	1900. UJ	1300. U	2900. U	1000. U	800. U
121-14-2	2,4-Dinitrotoluene	1200. U	760. U	550. U	1200. U	420. U	330. U
606-20-2	2,6-Dinitrotoluene	1200. U	760. U	550. U	1200. U	420. U	330. U
91-58-7	2-Chloronaphthalene	1200. U	760. U	550. U	1200. U	420. U	330. U
95-57-8	2-Chlorophenol	1200. U	760. U	550. U	1200. U	420. U	330. U
91-57-6	2-Methylnaphthalene	120. U	76. U	55. U	120. U	42. U	33. U
95-48-7	2-Methylphenol (o-Cresol)	1200. U	760. U	550. U	1200. U	420. U	330. U
88-74-4	2-Nitroaniline	1200. U	760. U	550. U	1200. U	420. U	330. U
88-75-5	2-Nitrophenol	1200. U	760. U	550. U	1200. U	420. U	330. U
91-94-1	3,3'-Dichlorobenzidine	1200. U	760. UJ	550. U	1200. U	420. U	330. U
99-09-2	3-Nitroaniline	2800. U	1900. U	1300. U	2900. U	1000. U	800. U
534-52-1	2-Methyl-4,6-Dinitrophenol	2800. U	1900. U	1300. U	2900. U	1000. U	800. U
101-55-3	4-Bromophenyl-phenylether	1200. U	760. U	550. U	1200. U	420. U	330. U
59-50-7	4-Chloro-3-methylphenol	1200. U	760. U	550. U	1200. U	420. U	330. U
106-47-8	4-Chloroaniline	1200. U	760. U	550. U	1200. U	420. U	330. U
7005-72-3	4-Chlorophenylphenylether	1200. U	760. U	550. U	1200. U	420. U	330. U
106-44-5	4-Methylphenol (p-Cresol)	1200. U	760. U	550. U	1200. U	420. U	330. U
100-01-6	4-Nitroaniline	2800. UJ	1900. UJ	1300. UJ	2900. UJ	1000. U	800. U
100-02-7	4-Nitrophenol	2800. U	1900. UJ	1300. U	2900. U	1000. U	800. U
83-32-9	Acenaphthene	57. U	37. U	26. U	58. U	20. U	16. U
208-96-8	Acenaphthylene	120. U	76. U	55. U	120. U	42. U	33. U
120-12-7	Anthracene	120. U	76. U	55. U	120. U	42. U	33. U
56-55-3	Benzo(a)anthracene	140.	210.	80.	120. U	42. U	33. U
50-32-8	Benzo(a)pyrene	180.	200.	88.	120. U	42. U	33. U
205-99-2	Benzo(b)fluoranthene	240.	220.	100.	120. U	42. U	33. U
191-24-2	Benzo(g,h,i)perylene	120.	100.	61.	120. U	42. U	33. U
207-08-9	Benzo(k)fluoranthene	110. J	160. J	70. J	120. U	42. U	33. U

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

SVOA													
	SAMPLE ID ------->	002-M-H300-01		002-M-1050-01		002-M-Q200-01		002-M-U200-01		002-M-X100-01		SBL-0-2000-05	
	ORIGINAL ID ----->	002MH30001		002MI05001		002MQ20001		002MU20001		002MX10001		SBLKAM	
	LAB SAMPLE ID --->	960072-04		960072-05		960072-06		960072-07		960051-06		S0128-B3	
	ID FROM REPORT -->	002MH30001		002MI05001		002MQ20001		002MU20001		002MX10001		SBLKAM	
	SAMPLE DATE ----->	01/31/96		01/31/96		01/31/96		01/31/96		01/23/96			
	DATE EXTRACTED -->	02/07/96		02/07/96		02/07/96		02/07/96		01/28/96		01/28/96	
	DATE ANALYZED --->	02/14/96		02/19/96		02/14/96		02/14/96		02/10/96		02/06/96	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Sediment		Soil	
	UNITS ----------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	D
CAS #	Parameter	MA2000		MA2000		MA2000		MA2000		MA2000		MA2000	
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	340.	J	5500.		220.	J	140.	J	97.	J	330.	U
85-68-7	Butylbenzylphthalate	84.	J	78.	J	36.	J	1200.	U	420.	U	330.	U
86-74-8	Carbazole	1200.	U	40.	J	550.	U	1200.	U	420.	U	330.	U
218-01-9	Chrysene	160.	J	180.	J	68.	J	120.	U	42.	U	33.	U
84-74-2	Di-n-butylphthalate	73.	J	760.	U	37.	J	1200.	U	21.	J	330.	U
117-84-0	Di-n-octyl phthalate	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
53-70-3	Dibenz(a,h)anthracene	120.	U	76.	U	55.	U	120.	U	42.	U	33.	U
132-64-9	Dibenzofuran	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
84-66-2	Diethylphthalate	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
131-11-3	Dimethyl phthalate	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
206-44-0	Fluoranthene	210.		370.		120.		120.	U	42.	U	33.	U
86-73-7	Fluorene	57.	U	37.	U	26.	U	58.	U	20.	U	16.	U
118-74-1	Hexachlorobenzene	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
87-68-3	Hexachlorobutadiene	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
77-47-4	Hexachlorocyclopentadiene	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
67-72-1	Hexachloroethane	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
193-39-5	Indeno(1,2,3-cd)pyrene	110.	J	110.		49.	J	120.	U	42.	U	33.	U
78-59-1	Isophorone	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
621-64-7	N-Nitroso-di-n-propylamine	120.	U	76.	U	55.	U	120.	U	42.	U	33.	U
86-30-6	N-Nitrosodiphenylamine	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
91-20-3	Naphthalene	120.	U	76.	U	55.	U	120.	U	42.	U	33.	U
98-95-3	Nitrobenzene	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
87-86-5	Pentachlorophenol	2800.	U	1900.	U	1300.	U	2900.	U	1000.	U	800.	U
85-01-8	Phenanthrene	67.	J	140.		50.	J	120.	U	42.	U	33.	U
108-95-2	Phenol	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
129-00-0	Pyrene	250.		350.		130.		120.	U	42.	U	33.	U
111-91-1	bis(2-Chloroethoxy)methane	1200.	U	760.	U	550.	U	1200.	U	420.	U	330.	U
111-44-4	bis(2-Chloroethyl)ether	120.	U	76.	U	55.	U	120.	U	42.	U	33.	U

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

SVOA											
	SAMPLE ID ------->	SBL-0-2000-06		SBL-0-A200-05							
	ORIGINAL ID ----->	SBLKJD		SBLKDO							
	LAB SAMPLE ID --->	S0128-B3B		S0207-B3							
	ID FROM REPORT -->	SBLKJD		SBLKDO							
	SAMPLE DATE ----->										
	DATE EXTRACTED -->	01/28/96		02/07/96							
	DATE ANALYZED --->	02/09/96		02/19/96							
	MATRIX ---------->	Soil		Soil							
	UNITS ----------->	UG/KG	D	UG/KG	D						
CAS #	Parameter	MA2000		MA2000							
120-82-1	1,2,4-Trichlorobenzene	330.	U	330.	U						
95-50-1	1,2-Dichlorobenzene	330.	U	330.	U						
541-73-1	1,3-Dichlorobenzene	330.	U	330.	U						
106-46-7	1,4-Dichlorobenzene	330.	U	330.	U						
108-60-1	2,2'-oxybis(1-Chloropropane)	330.	U	330.	U						
95-95-4	2,4,5-Trichlorophenol	800.	U	800.	U						
88-06-2	2,4,6-Trichlorophenol	330.	U	330.	U						
120-83-2	2,4-Dichlorophenol	330.	U	330.	U						
105-67-9	2,4-Dimethylphenol	330.	U	330.	U						
51-28-5	2,4-Dinitrophenol	800.	U	800.	U						
121-14-2	2,4-Dinitrotoluene	330.	U	330.	U						
606-20-2	2,6-Dinitrotoluene	330.	U	330.	U						
91-58-7	2-Chloronaphthalene	330.	U	330.	U						
95-57-8	2-Chlorophenol	330.	U	330.	U						
91-57-6	2-Methylnaphthalene	33.	U	33.	U						
95-48-7	2-Methylphenol (o-Cresol)	330.	U	330.	U						
88-74-4	2-Nitroaniline	330.	U	330.	U						
88-75-5	2-Nitrophenol	330.	U	330.	U						
91-94-1	3,3'-Dichlorobenzidine	330.	U	330.	U						
99-09-2	3-Nitroaniline	800.	U	800.	U						
534-52-1	2-Methyl-4,6-Dinitrophenol	800.	U	800.	U						
101-55-3	4-Bromophenyl-phenylether	330.	U	330.	U						
59-50-7	4-Chloro-3-methylphenol	330.	U	330.	U						
106-47-8	4-Chloroaniline	330.	U	330.	U						
7005-72-3	4-Chlorophenylphenylether	330.	U	330.	U						
106-44-5	4-Methylphenol (p-Cresol)	330.	U	330.	U						
100-01-6	4-Nitroaniline	800.	U	800.	U						
100-02-7	4-Nitrophenol	800.	U	800.	U						
83-32-9	Acenaphthene	16.	U	16.	U						
208-96-8	Acenaphthylene	33.	U	33.	U						
120-12-7	Anthracene	33.	U	33.	U						
56-55-3	Benzo(a)anthracene	33.	U	33.	U						
50-32-8	Benzo(a)pyrene	33.	U	33.	U						
205-99-2	Benzo(b)fluoranthene	33.	U	33.	U						
191-24-2	Benzo(g,h,i)perylene	33.	U	33.	U						
207-08-9	Benzo(k)fluoranthene	33.	U	33.	U						

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

SVOA							
	SAMPLE ID ------->	SBL-0-2000-06	SBL-0-A200-05				
	ORIGINAL ID ----->	SBLKJD	SBLKDO				
	LAB SAMPLE ID --->	S0128-B3B	S0207-B3				
	ID FROM REPORT -->	SBLKJD	SBLKDO				
	SAMPLE DATE ----->						
	DATE EXTRACTED -->	01/28/96	02/07/96				
	DATE ANALYZED --->	02/09/96	02/19/96				
	MATRIX ---------->	Soil	Soil				
	UNITS ----------->	UG/KG D	UG/KG D				
CAS #	Parameter	MA2000	MA2000				
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	330. U	330. U				
85-68-7	Butylbenzylphthalate	330. U	330. U				
86-74-8	Carbazole	330. U	330. U				
218-01-9	Chrysene	33. U	33. U				
84-74-2	Di-n-butylphthalate	330. U	330. U				
117-84-0	Di-n-octyl phthalate	330. U	330. U				
53-70-3	Dibenz(a,h)anthracene	33. U	33. U				
132-64-9	Dibenzofuran	330. U	330. U				
84-66-2	Diethylphthalate	330. U	330. U				
131-11-3	Dimethyl phthalate	330. U	330. U				
206-44-0	Fluoranthene	33. U	33. U				
86-73-7	Fluorene	16. U	16. U				
118-74-1	Hexachlorobenzene	330. U	330. U				
87-68-3	Hexachlorobutadiene	330. U	330. U				
77-47-4	Hexachlorocyclopentadiene	330. U	330. U				
67-72-1	Hexachloroethane	330. U	330. U				
193-39-5	Indeno(1,2,3-cd)pyrene	33. U	33. U				
78-59-1	Isophorone	330. U	330. U				
621-64-7	N-Nitroso-di-n-propylamine	33. U	33. U				
86-30-6	N-Nitrosodiphenylamine	330. U	330. U				
91-20-3	Naphthalene	33. U	33. U				
98-95-3	Nitrobenzene	330. U	330. U				
87-86-5	Pentachlorophenol	800. U	800. U				
85-01-8	Phenanthrene	33. U	33. U				
108-95-2	Phenol	330. U	330. U				
129-00-0	Pyrene	33. U	33. U				
111-91-1	bis(2-Chloroethoxy)methane	330. U	330. U				
111-44-4	bis(2-Chloroethyl)ether	33. U	33. U				

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

TOC							
	SAMPLE ID ------->	002-M-A200-01	002-M-D200-01	002-M-D400-01	002-M-F100-01	002-M-F300-01	002-M-H100-01
	ORIGINAL ID ----->	002MA20001	002MD20001	002MD40001	002MF10001	002MF30001	002MH10001
	LAB SAMPLE ID --->	960072-01	960051-02	960051-03	960051-04	960072-02	960072-03
	ID FROM REPORT -->	002MA20001	002MD20001	002MD40001	002MF10001	002MF30001	002MH10001
	SAMPLE DATE ----->	01/29/96	01/22/96	01/22/96	01/22/96	01/29/96	01/31/96
	DATE EXTRACTED -->	02/21/96	02/15/96	02/15/96	02/15/96	02/21/96	02/21/96
	DATE ANALYZED --->	02/21/96	02/15/96	02/15/96	02/15/96	02/21/96	02/21/96
	MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
	UNITS ----------->	MG/KG A	MG/KG A	MG/KG A	MG/KG A	MG/KG A	MG/KG A
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	MA2000
9999900-01-4	Total Organic Carbon (TOC)	3790.	4280.	6170.	5710.	23000.	11000.

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

TOC							
	SAMPLE ID ------->	002-M-H300-01	002-M-I050-01	002-M-Q200-01	002-M-U200-01	002-M-X100-01	0PB-0-2000-02
	ORIGINAL ID ----->	002MH30001	002MI05001	002MQ20001	002MU20001	002MX10001	PB_0215
	LAB SAMPLE ID --->	960072-04	960072-05	960072-06	960072-07	960051-06	PB_0215
	ID FROM REPORT -->	002MH30001	002MI05001	002MQ20001	002MU20001	002MX10001	PB_0215
	SAMPLE DATE ----->	01/31/96	01/31/96	01/31/96	01/31/96	01/23/96	
	DATE EXTRACTED -->	02/21/96	02/21/96	02/21/96	02/21/96	02/15/96	02/15/96
	DATE ANALYZED --->	02/21/96	02/21/96	02/21/96	02/21/96	02/15/96	02/15/96
	MATRIX ---------->	Sediment	Sediment	Sediment	Sediment	Sediment	Soil
	UNITS ----------->	MG/KG A	MG/KG A	MG/KG A	MG/KG A	MG/KG A	MG/KG D
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	MA2000
9999900-01-4	Total Organic Carbon (TOC)	27000.	22600.	30700.	3850.	2470.	50. U

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

TOC							
	SAMPLE ID ------->	OQC-0-2000-03	OQC-0-2000-04	BLK-0-A200-02	BLK-0-A200-03	BLK-0-A200-04	
	ORIGINAL ID ----->	QC_0215_A	QC_0215_B	PB_0221	QC_0221_A	QC_0221_B	
	LAB SAMPLE ID --->	QC_0215_A	QC_0215_B	PB_0221	QC_0221_A	QC_0221_B	
	ID FROM REPORT -->	QC_0215_A	QC_0215_B	PB_0221	QC_0221_A	QC_0221_B	
	SAMPLE DATE ----->						
	DATE EXTRACTED -->	02/15/96	02/15/96	02/21/96	02/21/96	02/21/96	
	DATE ANALYZED --->	02/15/96	02/15/96	02/21/96	02/21/96	02/21/96	
	MATRIX ---------->	Soil	Soil	Soil	Soil	Soil	
	UNITS ----------->	MG/KG D	MG/KG D	MG/KG D	MG/KG D	MG/KG D	
CAS #	Parameter	MA2000	MA2000	MA2000	MA2000	MA2000	
9999900-01-4	Total Organic Carbon (TOC)	18700.	19300.	50. U	18100.	18800.	

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

VOA													
	SAMPLE ID ------->	002-M-H100-01		002-M-H300-01		002-M-I050-01		002-M-I050-01 RE		002-T-M001-01		002-M-Q200-01	
	ORIGINAL ID ----->	002MH10001		002MH30001		002MI05001		002MI05001		002TM00101		002MQ20001	
	LAB SAMPLE ID --->	960072-03		960072-04		960072-05		960072-05		960072-08		960072-06	
	ID FROM REPORT -->	002MH10001		002MH30001		002MI05001		002MI05001		002TM00101		002MQ20001	
	SAMPLE DATE ----->	01/31/96		01/31/96		01/31/96		01/31/96		01/31/96		01/31/96	
	DATE ANALYZED --->	02/02/96		02/03/96		02/02/96		02/03/96		02/05/96		02/02/96	
	MATRIX ---------->	Sediment		Sediment		Sediment		Sediment		Water		Sediment	
	UNITS ----------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	C	UG/L	B	UG/KG	A
CAS #	Parameter	MA2000		MA2000		MA2000		MA2000		MA2000		MA2000	
74-87-3	Chloromethane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
74-83-9	Bromomethane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
75-01-4	Vinyl chloride	6.	U	11.	U	7.	U	7.	U	3.	U	9.	U
75-00-3	Chloroethane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
75-09-2	Methylene chloride	19.	U	36.	U	22.	U	6.	J	6.		29.	U
67-64-1	Acetone	47.	U	36.	U	90.	U	40.		31.		65.	U
75-15-0	Carbon disulfide	19.	U	36.	U	14.	J	22.	U	10.	U	29.	U
75-35-4	1,1-Dichloroethene	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
75-34-3	1,1-Dichloroethane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
540-59-0	1,2-Dichloroethene (total)	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
67-66-3	Chloroform	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
107-06-2	1,2-Dichloroethane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
78-93-3	2-Butanone (MEK)	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
71-55-6	1,1,1-Trichloroethane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
56-23-5	Carbon tetrachloride	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
75-27-4	Bromodichloromethane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
78-87-5	1,2-Dichloropropane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
10061-01-5	cis-1,3-Dichloropropene	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
79-01-6	Trichloroethene	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
124-48-1	Dibromochloromethane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
79-00-5	1,1,2-Trichloroethane	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
71-43-2	Benzene	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
10061-02-6	trans-1,3-Dichloropropene	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
75-25-2	Bromoform	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	19.	U	36.	U	22.	U	22.	U	10.	U	29.	U
591-78-6	2-Hexanone	19.	U	36.	U	22.	UJ	22.	U	10.	U	29.	UJ
127-18-4	Tetrachloroethene	19.	U	36.	U	22.	UJ	22.	U	10.	U	29.	UJ
79-34-5	1,1,2,2-Tetrachloroethane	0.9	J	36.	U	22.	UJ	22.	U	10.	U	29.	UJ
108-88-3	Toluene	19.	U	36.	U	22.	UJ	22.	U	10.	U	29.	UJ
108-90-7	Chlorobenzene	19.	U	36.	U	22.	UJ	22.	U	10.	U	29.	UJ
100-41-4	Ethylbenzene	19.	U	36.	U	22.	UJ	22.	U	10.	U	29.	UJ
100-42-5	Styrene	19.	U	36.	U	22.	UJ	22.	U	10.	U	29.	UJ
1330-20-7	Xylene (Total)	19.	U	36.	U	22.	UJ	22.	U	10.	U	29.	UJ

PENSACOLA, SITE 02
PENSACOLA, SITE 02 PHASE IIb

VOA											
	SAMPLE ID ------->	002-M-Q200-01 RE		002-M-U200-01		VBL-0-A200-06		VBL-0-A200-07		VBL-0-A200-08	
	ORIGINAL ID ----->	002MQ20001		002MU20001		VBLKER		VBLKGQ		VBLKGR	
	LAB SAMPLE ID --->	960072-06		960072-07		V50205-B1		V70202-B1		V70203-B1	
	ID FROM REPORT -->	002MQ20001		002MU20001		VBLKER		VBLKGQ		VBLKGR	
	SAMPLE DATE ----->	01/31/96		01/31/96							
	DATE ANALYZED --->	02/03/96		02/03/96		02/05/96		02/02/96		02/03/96	
	MATRIX ---------->	Sediment		Sediment		Water		Soil		Soil	
	UNITS ----------->	UG/KG	C	UG/KG	A	UG/L	D	UG/KG	D	UG/KG	D
CAS #	Parameter	MA2000		MA2000		MA2000		MA2000		MA2000	
74-87-3	Chloromethane	29.	U	13.	U	10.	U	10.	U	10.	U
74-83-9	Bromomethane	29.	U	13.	U	10.	U	10.	U	10.	U
75-01-4	Vinyl chloride	9.	U	4.	U	3.	U	3.	U	3.	U
75-00-3	Chloroethane	29.	U	13.	U	10.	U	10.	U	10.	U
75-09-2	Methylene chloride	8.	J	13.	U	4.	J	2.	J	10.	U
67-64-1	Acetone	130.		13.	U	4.	J	10.	U	10.	U
75-15-0	Carbon disulfide	29.	U	13.	U	10.	U	10.	U	10.	U
75-35-4	1,1-Dichloroethene	29.	U	13.	U	10.	U	10.	U	10.	U
75-34-3	1,1-Dichloroethane	29.	U	13.	U	10.	U	10.	U	10.	U
540-59-0	1,2-Dichloroethene (total)	29.	U	13.	U	10.	U	10.	U	10.	U
67-66-3	Chloroform	29.	U	13.	U	10.	U	10.	U	10.	U
107-06-2	1,2-Dichloroethane	29.	U	13.	U	10.	U	10.	U	10.	U
78-93-3	2-Butanone (MEK)	21.	J	13.	U	10.	U	10.	U	10.	U
71-55-6	1,1,1-Trichloroethane	29.	U	13.	U	10.	U	10.	U	10.	U
56-23-5	Carbon tetrachloride	29.	U	13.	U	10.	U	10.	U	10.	U
75-27-4	Bromodichloromethane	29.	U	13.	U	10.	U	10.	U	10.	U
78-87-5	1,2-Dichloropropane	29.	U	13.	U	10.	U	10.	U	10.	U
10061-01-5	cis-1,3-Dichloropropene	29.	U	13.	U	10.	U	10.	U	10.	U
79-01-6	Trichloroethene	29.	U	13.	U	10.	U	10.	U	10.	U
124-48-1	Dibromochloromethane	29.	U	13.	U	10.	U	10.	U	10.	U
79-00-5	1,1,2-Trichloroethane	29.	U	13.	U	10.	U	10.	U	10.	U
71-43-2	Benzene	29.	U	13.	U	10.	U	10.	U	10.	U
10061-02-6	trans-1,3-Dichloropropene	29.	U	13.	U	10.	U	10.	U	10.	U
75-25-2	Bromoform	29.	U	13.	U	10.	U	10.	U	10.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	29.	U	13.	U	10.	U	10.	U	10.	U
591-78-6	2-Hexanone	29.	U	13.	U	10.	U	10.	U	10.	U
127-18-4	Tetrachloroethene	29.	U	13.	U	10.	U	10.	U	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	29.	U	13.	U	1.	J	10.	U	10.	U
108-88-3	Toluene	29.	U	13.	U	10.	U	10.	U	10.	U
108-90-7	Chlorobenzene	29.	U	13.	U	10.	U	10.	U	10.	U
100-41-4	Ethylbenzene	29.	U	13.	U	10.	U	10.	U	10.	U
100-42-5	Styrene	29.	U	13.	U	10.	U	10.	U	10.	U
1330-20-7	Xylene (Total)	29.	U	13.	U	10.	U	10.	U	10.	U

Appendix B

Sediment Physicochemical Data

Surface Water

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205) 666-6633 • Fax (205) 666-6696

RECEIVED
JAN 24 1994

LOG NO: M3-15692

Received: 08 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15692-1	SW-02-M501	12-07-93	EAH015
15692-2	SW-02-M501D	12-07-93	EAH015
15692-3	SW-02-M502	12-07-93	EAH015
15692-4	SW-02-M503	12-07-93	EAH015

PARAMETER	15692-1	15692-2	15692-3	15692-4
Biochemical Oxygen Demand (SM507)				
5 Day BOD (SM 507), mg/l	1.4	1.3	1.1	<1.0
Date Analyzed	12.08.93	12.08.93	12.08.93	12.08.93
Analyst	MS	MS	MS	MS
Total Suspended Solids (EPA 160.2)				
TSS (EPA 160.2), mg/l	6.8	3.6	3.4	14
Date Analyzed	12.14.93	12.14.93	12.14.93	12.14.93
Analyst	CE	CE	CE	CE
Total Alkalinity as CaCO3 (EPA 310.1)				
Alkalinity as CaCO3, mg/l	96	95	96	100
Date Analyzed	12.08.93	12.08.93	12.08.93	12.08.93
Analyst	CG	CG	CG	CG
Nitrate as N (EPA 353.2)				
Nitrate-N, mg/l	<0.10	0.23	0.18	0.28
Sample Preparation	12.10.93	12.10.93	12.10.93	12.10.93
Date Analyzed	12.10.93	12.10.93	12.10.93	12.10.93
Analyst	BB	BB	BB	BB
Chemical Oxygen Demand (SM508)				
Chemical Oxygen Demand, mg/l	350	360	310	360
Date Analyzed	12.20.93	12.20.93	12.20.93	12.20.93
Analyst	MS	MS	MS	MS

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15692-1	SW-02-M501	12-07-93	EAH015
15692-2	SW-02-M501D	12-07-93	EAH015
15692-3	SW-02-M502	12-07-93	EAH015
15692-4	SW-02-M503	12-07-93	EAH015

PARAMETER	15692-1	15692-2	15692-3	15692-4
Total Kjeldahl Nitrogen as N (351.2)				
Kjeldahl Nitrogen-N, mg/l	<0.10	<0.10	<0.10	<0.10
Sample Preparation	01.05.94	01.05.94	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94	01.06.94	01.06.94
Analyst	BB	BB	BB	BB
Total Phosphorus (EPA 365.4)				
Phosphorus, Total, mg/l	<0.050	<0.050	<0.050	<0.050
Sample Preparation	01.05.94	01.05.94	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94	01.06.94	01.06.94
Analyst	BB	BB	BB	BB
Hardness (SM314A)				
Hardness, as CaCO3, mg/l	2300	2200	2200	2500
Sample Preparation	12.15.93	12.15.93	12.15.93	12.15.93
Date Analyzed	12.17.93	12.17.93	12.17.93	12.17.93
Analyst	PC	PC	PC	PC
Heterotrophic Plate Count (SM 907A)				
Standard Plate Count, No/ml	3	4	4	2
Date Analyzed	12.08.93	12.08.93	12.08.93	12.08.93
Analyst	CE	CE	CE	CE

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Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
15692-5	Quantitation Limit
15692-6	Accuracy (% Recovery for LCS/LCSD)
15692-7	Precision (Relative % Difference for LCS/LCSD)

PARAMETER	15692-5	15692-6	15692-7
5 Day BOD (SM 507), mg/l	1.0	87/85 %	2.3 %
TSS (EPA 160.2), mg/l	1.0	106/106 %	0 %
Alkalinity as CaCO3, mg/l	1.0	99/100 %	1.0 %
Nitrate-N, mg/l	0.10	86/86 %	1.1 %
Chemical Oxygen Demand, mg/l	20	101/98 %	3.0 %
Kjeldahl Nitrogen-N, mg/l	0.10	90/88 %	2.2 %
Phosphorus, Total, mg/l	0.050	106/106 %	0 %
Hardness, as CaCO3, mg/l	1.5	97/96 %	1.0 %
Standard Plate Count, NO/ml	1	---	---

Michele H. Lersch

Final Page Of Report

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LOG NO: M3-13835

Received: 28 AUG 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030
Sampled By: S. Parker

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
13835-16	02M2301	08-27-93	EAH007
13835-17	02M2401	08-27-93	EAH007
13835-18	02M2501	08-27-93	EAH007
13835-19	02M2601	08-27-93	EAH007
13835-20	02M2701	08-27-93	EAH007

PARAMETER	13835-16	13835-17	13835-18	13835-19	13835-20
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	180	1800	1600	380	690
Sample preparation, mg/kg dw	09.16.93	09.16.93	09.16.93	09.16.93	09.16.93
Date Analyzed	09.20.93	09.20.93	09.20.93	09.20.93	09.20.93
Analyst	SR	SR	SR	SR	SR

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
13835-21	02M2701 MS (% Recovery)
13835-22	02M2701 MSD (% Recovery)

PARAMETER	13835-21	13835-22
Organic Carbon	87 %	88 %

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Purchase Order: #E-0179/93

Project: N0058C0030
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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
13835-23	Quantitation Limit
13835-24	Accuracy (% Recovery for LCS/LCSD)
13835-25	Precision (Relative % Difference for LCS /LCSD)

PARAMETER	13835-23	13835-24	13835-25
Organic Carbon, mg/kg	50	93/96 %	3.2 %

Michele H. Lersch
Michele H. Lersch

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Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030
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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
13835-1	02M0801	08-26-93	EAH007
13835-2	02M0901	08-26-93	EAH007
13835-3	02M1001	08-26-93	EAH007
13835-4	02M1101	08-26-93	EAH007
13835-5	02M1201	08-27-93	EAH007

PARAMETER	13835-1	13835-2	13835-3	13835-4	13835-5
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	370	1300	1600	1700	1600
Sample preparation, mg/kg dw	09.16.93	09.16.93	09.16.93	09.16.93	09.16.93
Date Analyzed	09.20.93	09.20.93	09.20.93	09.20.93	09.20.93
Analyst	SR	SR	SR	SR	SR

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
13835-6	02M1301	08-27-93	EAH007
13835-7	02M1401	08-27-93	EAH007
13835-8	02M1501	08-27-93	EAH007
13835-9	02M1601	08-27-93	EAH007
13835-10	02M1701	08-27-93	EAH007

PARAMETER	13835-6	13835-7	13835-8	13835-9	13835-10
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	60	380	2100	120	1200
Sample preparation, mg/kg dw	09.16.93	09.16.93	09.16.93	09.16.93	09.16.93
Date Analyzed	09.20.93	09.20.93	09.20.93	09.20.93	09.20.93
Analyst	SR	SR	SR	SR	SR

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Purchase Order: #E-0179/93

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
13835-11	02M1801	08-27-93	EAH007
13835-12	02M1901	08-27-93	EAH007
13835-13	02M2001	08-27-93	EAH007
13835-14	02M2101	08-27-93	EAH007
13835-15	02M2201	08-27-93	EAH007

PARAMETER	13835-11	13835-12	13835-13	13835-14	13835-15
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	550	1500	1500	<50	1500
Sample preparation, mg/kg dw	09.16.93	09.16.93	09.16.93	09.16.93	09.16.93
Date Analyzed	09.20.93	09.20.93	09.20.93	09.20.93	09.20.93
Analyst	SR	SR	SR	SR	SR

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LOG NO: M3-14065

Received: 10 SEP 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030
Sampled By: S. Parker

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
14065-1	02M4501	09-08-93	EAH011
14065-2	02M4601	09-08-93	EAH011
14065-3	02M4701	09-08-93	EAH011
14065-4	02M4801	09-08-93	EAH011
14065-5	02M4901	09-08-93	EAH011

PARAMETER	14065-1	14065-2	14065-3	14065-4	14065-5
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	1400	230	620	450	1400
Sample preparation, mg/kg dw	09.30.93	09.30.93	09.30.93	09.30.93	09.30.93
Date Analyzed	10.04.93	10.04.93	10.04.93	10.04.93	10.04.93
Analyst	SR	SR	SR	SR	SR

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Project: N0058C0030
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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
14065-6	02M5001	09-08-93	EAH011
14065-7	02M5101	09-08-93	EAH011
14065-8	02M5201	09-08-93	EAH011
14065-9	02M5301	09-08-93	EAH011
14065-10	02M5401	09-08-93	EAH011

PARAMETER	14065-6	14065-7	14065-8	14065-9	14065-10
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	780	2200	880	570	2000
Sample preparation, mg/kg dw	09.30.93	09.30.93	09.30.93	09.30.93	09.30.93
Date Analyzed	10.04.93	10.04.93	10.04.93	10.04.93	10.04.93
Analyst	SR	SR	SR	SR	SR

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Purchase Order: #E-0179/93

Project: N0058C0030
Sampled By: S. Parker

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
14065-11	02M5501	09-08-93	EAH011

PARAMETER	14065-11
Total Organic Carbon (EPA 415.1)	
Organic Carbon, mg/kg dw	1500
Sample preparation, mg/kg dw	09.30.93
Date Analyzed	10.04.93
Analyst	SR

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900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205) 666-6633 • Fax (205) 666-6696

LOG NO: M3-14065

Received: 10 SEP 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030
Sampled By: S. Parker

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
14065-12	02M4902	09-08-93	EAH011
14065-13	02M5601	09-08-93	EAH011
14065-14	02M5701	09-08-93	EAH011
14065-15	02M5801	09-08-93	EAH011
14065-16	02M5901	09-08-93	EAH011

PARAMETER	14065-12	14065-13	14065-14	14065-15	14065-16
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	1200	460	370	350	1800
Sample preparation, mg/kg dw	09.30.93	09.30.93	09.30.93	09.30.93	09.30.93
Date Analyzed	10.04.93	10.04.93	10.04.93	10.04.93	10.04.93
Analyst	SR	SR	SR	SR	SR
Grain Size (ASTM D421/422/1140)					
% Passing sieve No.4	*	*	*	*	*

*See attached grain size distribution test report.

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LOG NO: M3-14065

Received: 10 SEP 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030
Sampled By: S. Parker

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
14065-17	02M6001	09-08-93	EAH011

PARAMETER	14065-17
Total Organic Carbon (EPA 415.1)	
Organic Carbon, mg/kg dw	2200
Sample preparation, mg/kg dw	09.30.93
Date Analyzed	10.04.93
Analyst	SR
Grain Size (ASTM D421/422/1140)	
% Passing sieve No.4	*

*See attached grain size distribution test report.

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LOG NO: M3-14065

Received: 10 SEP 93

Mr. Henry Biero
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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030
Sampled By: S. Parker

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
14065-18	02M4501 Matrix Spike % Recovery)
14065-19	02M4501 Matrix Spike Duplicate % Recovery

PARAMETER	14065-18	14065-19
Organic Carbon	101 %	117 %

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LOG NO: M3-14065

Received: 10 SEP 93

Mr. Henry Biero
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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030
Sampled By: S. Parker

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
14065-20	Quantitation Limit
14065-21	Accuracy (% Recovery for LCS/LCSD)
14065-22	Precision (Relative % Difference for LCS /LCSD)

PARAMETER	14065-20	14065-21	14065-22
Organic Carbon, mg/kg	50	80/78 %	2.5 %

Michele H. Lersch

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RECEIVED
DEC 27 1993

LOG NO: M3-15564

Received: 02 DEC 93

Purchase Order: #E-0179/93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Project: CTO-0058-C0030, Site 2
Sampled By: C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15564-1	SW-02-D1	12-01-93	EAH015

PARAMETER	15564-1
Biochemical Oxygen Demand (SM507)	
5 Day BOD (SM 507), mg/l	<1.0
Date Analyzed	12.03.93
Analyst	MS
Total Suspended Solids (EPA 160.2)	
TSS (EPA 160.2), mg/l	22
Date Analyzed	12.06.93
Analyst	CE
Total Alkalinity as CaCO3 (EPA 310.1)	
Alkalinity as CaCO3, mg/l	110
Date Analyzed	12.02.93
Analyst	CG
Nitrate as N (EPA 353.2)	
Nitrate-N, mg/l	0.30
Sample Preparation	12.03.93
Date Analyzed	12.03.93
Analyst	BB
Chemical Oxygen Demand (SM508)	
Chemical Oxygen Demand, mg/l	210
Date Analyzed	12.08.93
Analyst	MS
Total Kjeldahl Nitrogen as N (351.2)	
Kjeldahl Nitrogen-N, mg/l	0.20
Sample Preparation	12.07.93
Date Analyzed	12.09.93
Analyst	BB

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LOG NO: M3-15564

Received: 02 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15564-1	SW-02-D1	12-01-93	EAH015

PARAMETER	15564-1
Total Phosphorus (EPA 365.4)	
Phosphorus, Total, mg/l	0.062
Sample Preparation	12.07.93
Date Analyzed	12.09.93
Analyst	BB
Hardness (SM314A)	
Hardness, as CaCO3, mg/l	5700
Sample Preparation	12.08.93
Date Analyzed	12.13.93
Analyst	TO
Heterotrophic Plate Count (SM 907A)	
Standard Plate Count, No/ml	40
Date Analyzed	12.02.93
Analyst	CE

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LOG NO: M3-15564

Received: 02 DEC 93

Mr. Henry Biero
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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
15564-2	Quantitation Limit
15564-3	Accuracy (% Recovery for LCS/LCSD)
15564-4	Precision (Relative % Difference for LCS/LCSD)

PARAMETER	15564-2	15564-3	15564-4
Biochemical Oxygen Demand, mg/l	1.0	104/103 %	1.0 %
TSS (EPA 160.2), mg/l	1.0	105/103 %	1.9 %
Alkalinity as CaCO3, mg/l	1.0	99/99 %	0 %
Nitrate-N, mg/l	0.10	97/98 %	1.0 %
Chemical Oxygen Demand, mg/l	20	97/97 %	0 %
Kjeldahl Nitrogen-N, mg/l	0.10	91/93 %	2.2 %
Phosphorus, Total, mg/l	0.050	97/96 %	1.0 %
Hardness, as CaCO3, mg/l	1.5	101/104 %	2.9 %
Standard Plate Count, NO/ml	1	---	---

Michele H. Lersch

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LOG NO: M3-15600

Received: 03 DEC 93

Purchase Order: #E-0179/93

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Memphis, TN 38134

Project: N0058C0030-Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15600-1	SW-02-H501	12-02-93	EAH015
15600-2	SW-02-H502	12-02-93	EAH015
15600-3	SW-02-H503	12-02-93	EAH015

PARAMETER	15600-1	15600-2	15600-3
Biochemical Oxygen Demand (SM507)			
5 Day BOD (SM 507), mg/l	<1.0	<1.0	<1.0
Date Analyzed	12.03.93	12.03.93	12.03.93
Analyst	MS	MS	MS
Total Suspended Solids (EPA 160.2)			
TSS (EPA 160.2), mg/l	13	9.4	4.6
Date Analyzed	12.07.93	12.07.93	12.07.93
Analyst	CE	CE	CE
Total Alkalinity as CaCO3 (EPA 310.1)			
Alkalinity as CaCO3, mg/l	100	100	100
Date Analyzed	12.03.93	12.03.93	12.03.93
Analyst	CG	CG	CG
Nitrate as N (EPA 353.2)			
Nitrate-N, mg/l	0.51	0.32	0.35
Sample Preparation	12.10.93	12.10.93	12.10.93
Date Analyzed	12.10.93	12.10.93	12.10.93
Analyst	BB	BB	BB
Chemical Oxygen Demand (SM508)			
Chemical Oxygen Demand, mg/l	200	200	180
Date Analyzed	12.08.93	12.08.93	12.08.93
Analyst	MS	MS	MS
Total Phosphorus (EPA 365.4)			
Phosphorus, Total, mg/l	<0.050	<0.050	<0.050
Sample Preparation	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB

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LOG NO: M3-15600

Received: 03 DEC 93

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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030-Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15600-1	SW-02-H501	12-02-93	EAH015
15600-2	SW-02-H502	12-02-93	EAH015
15600-3	SW-02-H503	12-02-93	EAH015

PARAMETER	15600-1	15600-2	15600-3
Total Kjeldahl Nitrogen as N (351.2)			
Kjeldahl Nitrogen-N, mg/l	0.10	0.13	0.17
Sample Preparation	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB
Hardness (SM314A)			
Hardness, as CaCO3, mg/l	5400	5400	5400
Sample Preparation	12.10.93	12.10.93	12.10.93
Date Analyzed	12.15.93	12.15.93	12.15.93
Analyst	PC	PC	PC
Heterotrophic Plate Count (SM 907A)			
Standard Plate Count, No/ml	50	30	20
Date Analyzed	12.03.93	12.03.93	12.03.93
Analyst	CE	CE	CE

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LOG NO: M3-15600

Received: 03 DEC 93

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Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030-Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
15600-4	Quantitation Limit
15600-5	Accuracy (% Recovery for LCS/LCSD)
15600-6	Precision (Relative % Difference for LCS /LCSD)

PARAMETER	15600-4	15600-5	15600-6
5 Day BOD (SM 507), mg/l	1.0	104/103 %	1.0 %
TSS (EPA 160.2), mg/l	1.0	101/99 %	2.0 %
Alkalinity as CaCO3, mg/l	1.0	99/100 %	1.0 %
Nitrate-N, mg/l	0.10	86/86 %	0 %
Chemical Oxygen Demand, mg/l	20	97/97 %	0 %
Kjeldahl Nitrogen-N, mg/l	0.10	91/93 %	2.2 %
Phosphorus, Total, mg/l	0.050	97/96 %	1.0 %
Hardness, as CaCO3, mg/l	1.5	107/105 %	1.9 %
Standard Plate Count, NO/ml	1	---	---

Michele H. Lersch
Michele H. Lersch

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RECEIVED JAN 24 1994

LOG NO: M3-15654

Received: 07 DEC 93

Purchase Order: #E-0179/93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15654-1	SW-02-X101	12-06-93	EAH015
15654-2	SW-02-X102	12-06-93	EAH015
15654-3	SW-02-X103	12-06-93	EAH015

PARAMETER	15654-1	15654-2	15654-3
Biochemical Oxygen Demand (SM507)			
5 Day BOD (SM 507), mg/l	<1.0	<1.0	<1.0
Date Analyzed	12.07.93	12.07.93	12.07.93
Analyst	MS	MS	MS
Total Suspended Solids (EPA 160.2)			
TSS (EPA 160.2), mg/l	7.2	8.4	11
Date Analyzed	12.13.93	12.13.93	12.13.93
Analyst	SR	SR	SR
Total Alkalinity as CaCO3 (EPA 310.1)			
Alkalinity as CaCO3, mg/l	100	110	110
Date Analyzed	12.07/0955	12.07/0955	12.07/0955
Analyst	CG	CG	CG
Nitrate as N (EPA 353.2)			
Nitrate-N, mg/l	0.35	<0.10	0.20
Sample Preparation	12.10.93	12.10.93	12.10.93
Date Analyzed	12.10.93	12.10.93	12.10.93
Analyst	BB	BB	BB
Chemical Oxygen Demand (SM508)			
Chemical Oxygen Demand, mg/l	250	250	320
Date Analyzed	12.08.93	12.08.93	12.08.93
Analyst	MS	MS	MS
Total Phosphorus (EPA 365.4)			
Phosphorus, Total, mg/l	0.061	0.056	0.070
Sample Preparation	12.29.93	12.29.93	12.29.93
Date Analyzed	12.30.93	12.30.93	12.30.93
Analyst	BB	BB	BB

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LOG NO: M3-15654

Received: 07 DEC 93

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EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15654-1	SW-02-X101	12-06-93	EAH015
15654-2	SW-02-X102	12-06-93	EAH015
15654-3	SW-02-X103	12-06-93	EAH015

PARAMETER	15654-1	15654-2	15654-3
Total Kjeldahl Nitrogen as N (351.2)			
Kjeldahl Nitrogen-N, mg/l	<0.10	0.19	0.16
Sample Preparation	12.29.93	12.29.93	12.29.93
Date Analyzed	12.30.93	12.30.93	12.30.93
Analyst	BB	BB	BB
Hardness (SM314A)			
Hardness, as CaCO3, mg/l	4900	2800	2700
Sample Preparation	12.15.93	12.15.93	12.15.93
Date Analyzed	12.17.93	12.17.93	12.17.93
Analyst	PC	PC	PC
Heterotrophic Plate Count (SM 907A)			
Standard Plate Count, No/ml	10	10	50
Date Analyzed	12.06.93	12.06.93	12.06.93
Analyst	CE	CE	CE

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LOG NO: M3-15654

Received: 07 DEC 93

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Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
15654-4	Quantitation Limit
15654-5	Accuracy (% Recovery for LCS/LCSD)
15654-6	Precision (Relative % Difference for LCS/LCSD)

PARAMETER	15654-4	15654-5	15654-6
5 Day BOD (SM 507), mg/l	1.0	94/95 %	1.0 %
TSS (EPA 160.2), mg/l	1.0	112/102 %	9.3 %
Alkalinity as CaCO3, mg/l	1.0	99/99 %	0 %
Nitrate-N, mg/l	0.10	86/86 %	1.1 %
Chemical Oxygen Demand, mg/l	20	96/99 %	3.1 %
Phosphorus, Total, mg/l	0.050	105/102 %	2.9 %
Kjeldahl Nitrogen-N, mg/l	0.10	89/88 %	1.1 %
Hardness, as CaCO3, mg/l	1.5	97/96 %	1.0 %
Standard Plate Count, NO/ml	1	---	---

Michele H. Lersch

Michele H. Lersch

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Sediment

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RECEIVED

LOG NO: M3-15616

Received: 04 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: D.L. Trimm

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15616-1	SD-02-G2	12-03-93	EAH017
15616-2	SD-02-G3	12-03-93	EAH017
15616-3	SD-02-G4	12-03-93	EAH017
15616-4	SD-02-G4D	12-03-93	EAH017
15616-5	SD-02-G5	12-03-93	EAH017

PARAMETER	15616-1	15616-2	15616-3	15616-4	15616-5
Heterotrophic Plate Count (SM 907A)					
Standard Plate Count, No/g	40000	30000	90000	10000	60000
Date Analyzed	12.14.93	12.14.93	12.14.93	12.14.93	12.14.93
Analyst	CE	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)					
Phosphorus, Total, mg/kg dw	30	340	490	400	140
Sample Preparation	12.14.93	12.14.93	12.20.93	12.20.93	12.20.93
Date Analyzed	12.15.93	12.15.93	12.22.93	12.22.93	12.22.93
Analyst	BB	BB	BB	BB	BB
Nitrate as N (EPA 353.2)					
Nitrate-N, mg/kg dw	3.9	<2.0	2.4	2.1	2.4
Sample Preparation	12.16.93	12.16.93	12.16.93	12.16.93	12.16.93
Date Analyzed	12.21.93	12.21.93	12.21.93	12.21.93	12.21.93
Analyst	BB	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)					
Kjeldahl Nitrogen-N, mg/kg dw	100	1300	1700	1400	470
Sample Preparation	12.14.93	12.14.93	12.20.93	12.20.93	12.20.93
Date Analyzed	12.15.93	12.15.93	12.22.93	12.22.93	12.22.93
Analyst	BB	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	400	270	460	260	700
Sample Preparation	12.17.93	12.17.93	12.17.93	12.17.93	12.17.93
Date Analyzed	12.19.93	12.19.93	12.19.93	12.19.93	12.19.93
Analyst	SR	SR	SR	SR	SR

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LOG NO: M3-15616

Received: 04 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: D.L. Trimm

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15616-1	SD-02-G2	12-03-93	EAH017
15616-2	SD-02-G3	12-03-93	EAH017
15616-3	SD-02-G4	12-03-93	EAH017
15616-4	SD-02-G4D	12-03-93	EAH017
15616-5	SD-02-G5	12-03-93	EAH017

PARAMETER	15616-1	15616-2	15616-3	15616-4	15616-5
Cation Exchange Capacity (EPA 9081)					
Cation Exchange Capacity, mEq/100g	1.4	17	20	18	5.0
Date Extracted	12.14.93	12.14.93	12.15.93	12.15.93	12.15.93
Date Analyzed	12.15.93	12.15.93	12.17.93	12.17.93	12.17.93
Analyst	PC	PC	PC	PC	PC
Density @ 20 Degrees C, N	NA	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*	*
Specific Gravity [C0275]	*	*	*	*	*
Grain Size (ASTM D421/422/1140)					
% Passing sieve No.4	*	*	*	*	*

NA = Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET reports

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LOG NO: M3-15616

Received: 04 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: D.L. Trimm

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15616-6	SD-02-K1	12-03-93	EAH017
15616-7	SD-02-K3	12-03-93	EAH017
15616-8	SD-02-M1	12-03-93	EAH017
15616-9	SD-02-M2	12-03-93	EAH017

PARAMETER	15616-6	15616-7	15616-8	15616-9
Heterotrophic Plate Count (SM 907A)				
Standard Plate Count, No/g	50000	100000	10000	60000
Date Analyzed	12.14.93	12.14.93	12.14.93	12.14.93
Analyst	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)				
Phosphorus, Total, mg/kg dw	16	430	16	180
Sample Preparation	12.20.93	12.20.93	12.20.93	12.20.93
Date Analyzed	12.22.93	12.22.93	12.22.93	12.22.93
Analyst	BB	BB	BB	BB
Nitrate as N (EPA 353.2)				
Nitrate-N, mg/kg dw	<2.0	<2.0	<2.0	<2.0
Sample Preparation	01.10.94	01.10.94	01.10.94	01.10.94
Date Analyzed	01.11.94	01.11.94	01.11.94	01.11.94
Analyst	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)				
Kjeldahl Nitrogen-N, mg/kg dw	86	1500	89	610
Sample Preparation	12.20.93	12.20.93	12.20.93	12.20.93
Date Analyzed	12.22.93	12.22.93	12.22.93	12.22.93
Analyst	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)				
Organic Carbon, mg/kg dw	460	270	180	170
Sample Preparation	12.17.93	12.17.93	12.17.93	12.17.93
Date Analyzed	12.19.93	12.19.93	12.19.93	12.19.93
Analyst	SR	SR	SR	SR

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LOG NO: M3-15616

Received: 04 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: D.L. Trimm

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15616-6	SD-02-K1	12-03-93	EAH017
15616-7	SD-02-K3	12-03-93	EAH017
15616-8	SD-02-M1	12-03-93	EAH017
15616-9	SD-02-M2	12-03-93	EAH017

PARAMETER	15616-6	15616-7	15616-8	15616-9
Cation Exchange Capacity (EPA 9081)				
Cation Exchange Capacity, mEq/100g	0.82	19	0.84	10
Date Extracted	12.15.93	12.15.93	12.15.93	12.15.93
Date Analyzed	12.17.93	12.17.93	12.17.93	12.17.93
Analyst	PC	PC	PC	PC
Density @ 20 Degrees C	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*
Specific Gravity [C0275]	*	*	*	*
Grain Size (ASTM D421/422/1140)				
% Passing sieve No.4	*	*	*	*

NA = Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET reports

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Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: D.L. Trimm

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
15616-10	SD-02-G4MS/MSD - Matrix Spike (% Recovery)
15616-11	SD-02-G4MS/MSD - Matrix Spike Duplicate (% Recovery)

PARAMETER	15616-10	15616-11
Phosphorus, Total	79 %	92 %
Nitrate-N	95 %	95 %
Kjeldahl Nitrogen-N	122 %	111 %
Organic Carbon	90 %	74 %

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LOG NO: M3-15616

Received: 04 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: D.L. Trimm

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
15616-12	Quantitation Limit
15616-13	Accuracy (% Recovery for LCS/LCSD)
15616-14	Precision (Relative % Difference for LCS /LCSD)

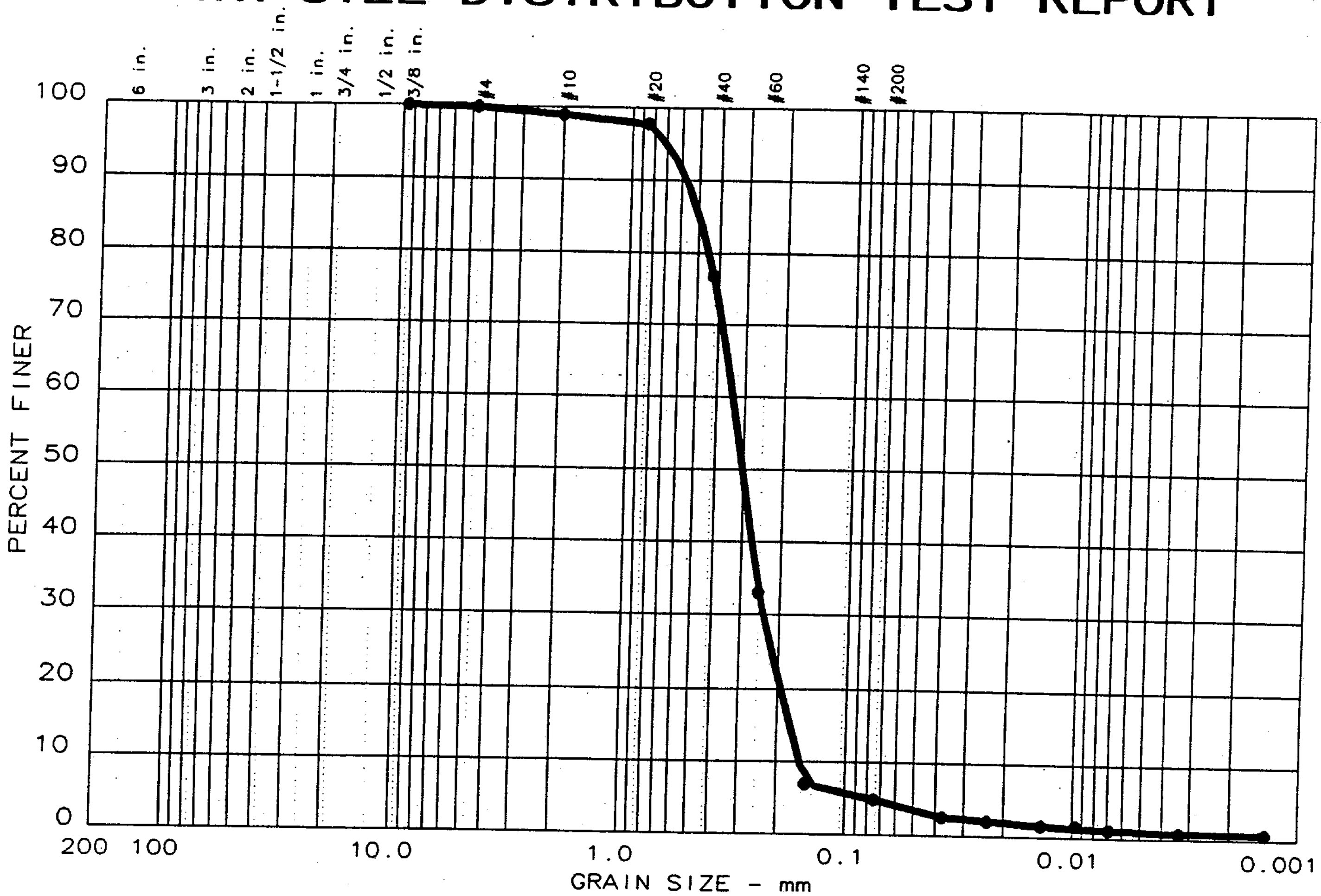
PARAMETER	15616-12	15616-13	15616-14
Standard Plate Count, NO/g	100	---	---
Phosphorus, Total, mg/kg	10	99/99 %	0 %
Nitrate-N, mg/kg	2.0	90/89 %	1.1 %
Kjeldahl Nitrogen-N, mg/kg	20	104/94 %	10 %
Organic Carbon, mg/kg	50	95/98 %	3.1 %
Cation Exchange Capacity, meq/100g	0.050	100/96 %	4.1 %

Michele H. Lersch

Michele H. Lersch

Final Page Of Report

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.1	95.1	3.9	0.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.50	0.34	0.30	0.236	0.1756	0.1592	1.03	2.1

MATERIAL DESCRIPTION	USCS	AASHTO
● MEDIUM-FINE SAND	(SP)	----

Project No.: P93142
Project: SAVANNAH #:M3-15616-/
● Location: SD-02-G2

Date: 01/07/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 1

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 2

Date: 01/07/94
Project No.: P93142
Project: SAVANNAH #:M3-15616-/

Sample Data

Location of Sample: SD-02-G2
Sample Description: MEDIUM-FINE SAND
USCS Class: (SP)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.: 20

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	95.17
Tare =	0.00	0.00
Dry sample weight =	100.00	95.17

Minus #200 from wash= 4.8 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.12	99.9
# 10	1.06	98.9
# 20	2.23	97.8
# 40	23.21	76.8
# 60	66.97	33.0
# 100	93.07	6.9
# 200	95.17	4.8

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 98.9
Weight of hydrometer sample: 100
Calculated biased weight= 101.07
Automatic temperature correction
Composite correction at 20 deg C =-7

Meniscus correction only= 0
Specific gravity of solids= 2.604
Specific gravity correction factor= 1.011

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	20.4	9.5	2.5	0.0138	9.5	14.7	0.0374	2.5
5.0	20.5	9.0	2.1	0.0138	9.0	14.8	0.0237	2.1
15.0	20.5	8.5	1.6	0.0138	8.5	14.9	0.0137	1.6
30.0	20.6	8.5	1.6	0.0137	8.5	14.9	0.0097	1.6
60.0	20.7	8.0	1.1	0.0137	8.0	15.0	0.0069	1.1
250.0	21.5	7.5	0.8	0.0136	7.5	15.1	0.0033	0.8
1440.0	21.3	7.5	0.7	0.0136	7.5	15.1	0.0014	0.7

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.1   % SAND = 95.1
% SILT = 3.9   % CLAY = 0.9

D85= 0.50 D60= 0.338 D50= 0.302
D30= 0.2355 D15= 0.17559 D10= 0.15922
Cc = 1.0304 Cu = 2.1232

Douglas E. [signature]

Thompson Engineering

JANUARY 7, 1994

REPORT #: 2
JOB #:P93142

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15616-1

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-G2 PYCNOMETER #: B1

>>>>> DATES
SAMPLED: 12/03/93
TESTED: 12/29/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):.......................	180.37
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	359.04
(C) WEIGHT OF SAMPLE (G):...........................	178.67
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	678.55
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.40
(F) DENSITY OF WATER @ T1:..........................	.997472
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	788.82
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	23.00
(I) DENSITY OF WATER @ T2:..........................	.997569

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

(R)= (D-A)/F*.998234+A..............................	678.9306
(S)= (G-B)/I*.998234+B..............................	789.1065
(GS)= C/((C+R)-S))*.998234..........................	2.603940

SPECIFIC GRAVITY:................................... 2.604

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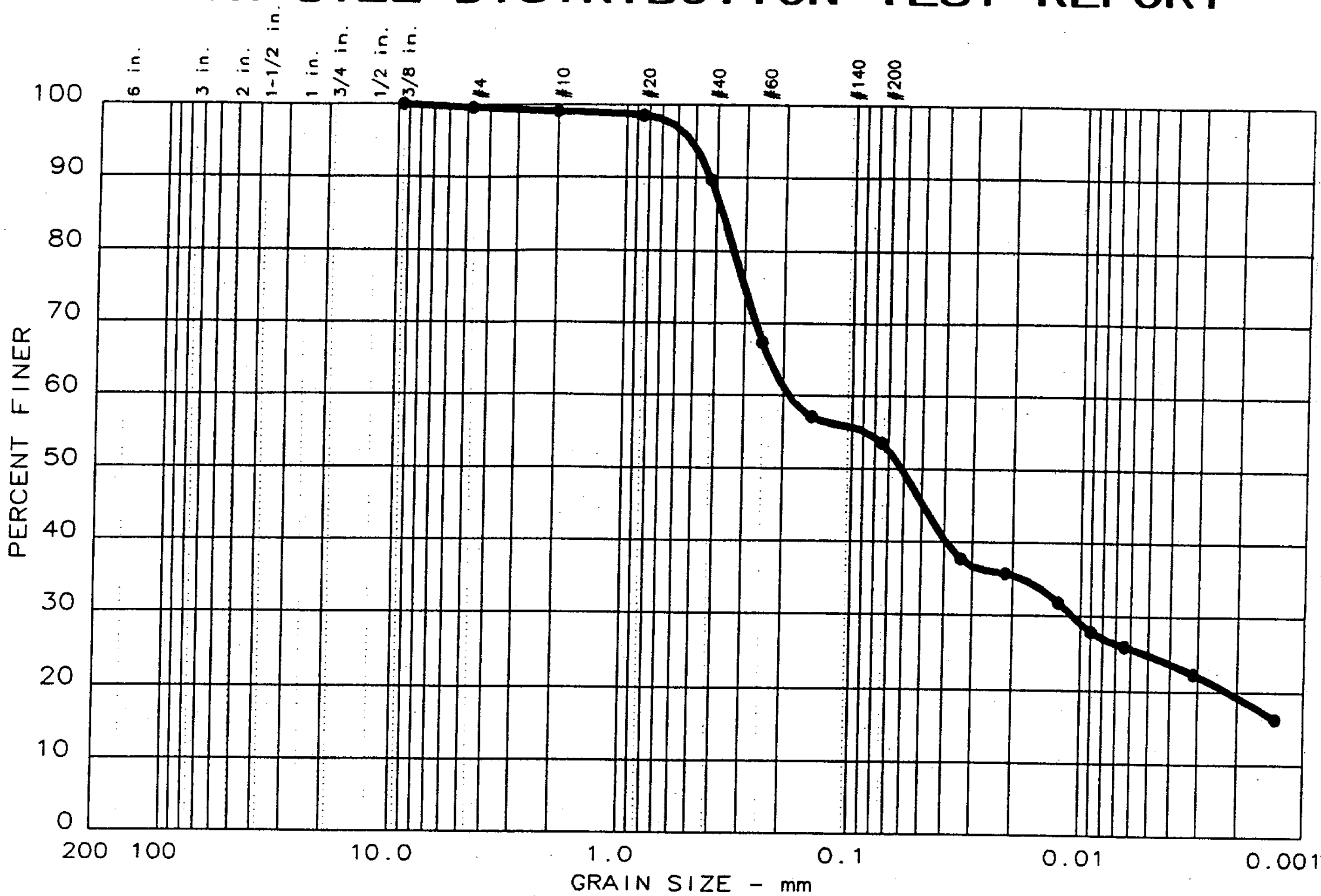
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.4	46.0	28.7	24.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.38	0.19	0.06	0.011				

MATERIAL DESCRIPTION	USCS	AASHTO
● MEDIUM-FINE SANDY CLAY	(CL)	----

Project No.: P93142
Project: SAVANNAH #:M3-15616-2
● Location: SD-02-G3

Date: 01/07/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 3

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 3

Date: 01/07/94
Project No.: P93142
Project: SAVANNAH #:M3-15616-2

Sample Data

Location of Sample: SD-02-G3
Sample Description: MEDIUM-FINE SANDY CLAY
USCS Class: (CL)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	50.64	23.50
Tare =	0.00	0.00
Dry sample weight =	50.64	23.50

Minus #200 from wash= 53.6 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.21	99.6
# 10	0.47	99.1
# 20	0.75	98.5
# 40	5.21	89.7
# 60	16.55	67.3
# 100	21.71	57.1
# 200	23.50	53.6

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.1
Weight of hydrometer sample: 50.64
Calculated biased weight= 51.11
Automatic temperature correction
Composite correction at 20 deg C =-7

Meniscus correction only= 0
Specific gravity of solids= 2.596
Specific gravity correction factor= 1.013

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	20.4	26.0	19.0	0.0138	26.0	12.0	0.0339	37.7
5.0	20.4	25.0	18.0	0.0138	25.0	12.2	0.0216	35.8
15.0	20.5	23.0	16.1	0.0138	23.0	12.5	0.0126	31.8
30.0	20.6	21.0	14.1	0.0138	21.0	12.9	0.0090	27.9
60.0	20.7	20.0	13.1	0.0138	20.0	13.0	0.0064	26.0
250.0	21.5	18.0	11.3	0.0136	18.0	13.3	0.0031	22.4
1440.0	21.3	15.0	8.2	0.0137	15.0	13.8	0.0013	16.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.4   % SAND = 46.0
% SILT = 28.7   % CLAY = 24.9

D85= 0.38 D60= 0.188 D50= 0.061
D30= 0.0108

Thompson Engineering

JANUARY 7, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15616-2

REPORT #: 4
JOB #:P93142

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-G3

PYCNOMETER #: 2

>>>>> DATES
SAMPLED: 12/03/93
TESTED: 12/29/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	174.50
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	290.91
(C) WEIGHT OF SAMPLE (G):.............................	116.41
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	672.68
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	744.63
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	20.30
(I) DENSITY OF WATER @ T2:...........................	.99817

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

(R)= (D-A)/F*.998234+A................................	673.0121
(S)= (G-B)/I*.998234+B................................	744.6591
(GS)= C/(C+R)-S))*.998234.............................	2.595992

SPECIFIC GRAVITY:... 2.596

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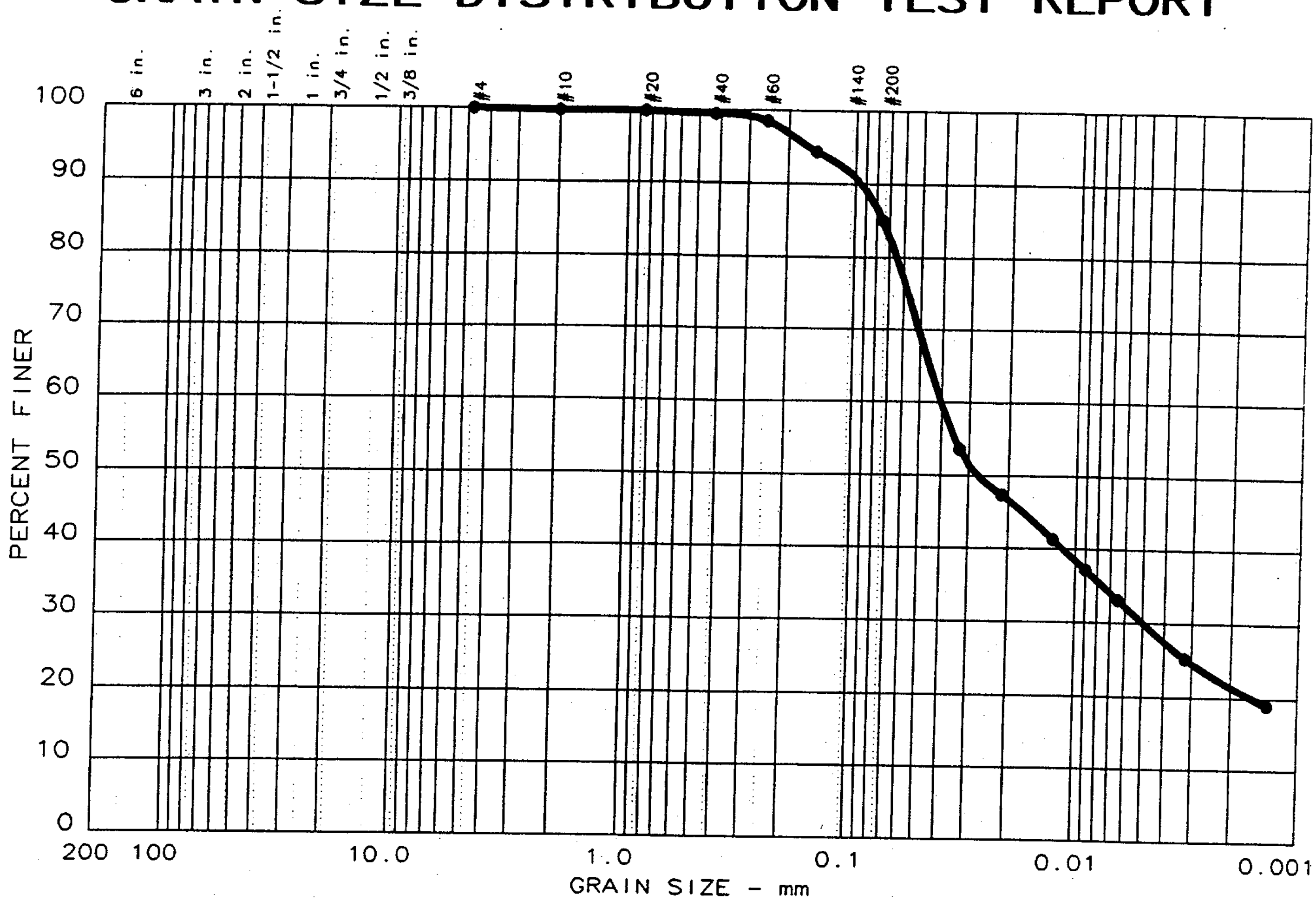
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	14.9	55.0	30.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.07		0.03	0.005				

MATERIAL DESCRIPTION	USCS	AASHTO
● CLAYEY SILT, LITTLE FINE SAND	(ML)	----

Project No.: P93142
Project: SAVANNAH #:M3-15616-3
● Location: SD-02-G4

Date: 01/07/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 5

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 4

Date: 01/07/94
oject No.: P93142
oject: SAVANNAH #:M3-15616-3

Sample Data

Location of Sample: SD-02-G4
Sample Description: CLAYEY SILT, LITTLE FINE SAND
USCS Class: (ML)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	50.24	7.51
Tare =	0.00	0.00
Dry sample weight =	50.24	7.51

Minus #200 from wash= 85.1 %
are for cumulative weight retained= 0

ieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.06	99.9
# 20	0.11	99.8
# 40	0.27	99.5
# 60	0.74	98.5
# 100	2.82	94.4
# 200	7.51	85.1

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.9
Weight of hydrometer sample: 50.24
Calculated biased weight= 50.30
Automatic temperature correction
Composite correction at 20 deg C =-7

Meniscus correction only= 0
Specific gravity of solids= 2.508
Specific gravity correction factor= 1.036
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	20.4	33.0	26.0	0.0142	33.0	10.9	0.0331	53.6
5.0	20.4	30.0	23.0	0.0142	30.0	11.4	0.0214	47.4
15.0	20.5	27.0	20.1	0.0142	27.0	11.9	0.0126	41.3
30.0	20.6	25.0	18.1	0.0142	25.0	12.2	0.0090	37.2
60.0	20.7	23.0	16.1	0.0141	23.0	12.5	0.0065	33.2
250.0	21.5	19.0	12.3	0.0140	19.0	13.2	0.0032	25.3
1440.0	21.3	16.0	9.2	0.0140	16.0	13.7	0.0014	19.0

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 14.9
% SILT = 55.0 % CLAY = 30.1

D85= 0.07 D60= 0.040 D50= 0.027
D30= 0.0049

Douglas E. [signature]

Thompson Engineering

JANUARY 7, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15616-3

REPORT #: 6
JOB #:P93142

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-G4

PYCNOMETER #: 3

>>>>> DATES
SAMPLED: 12/03/93
TESTED: 12/29/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	177.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	262.12
(C) WEIGHT OF SAMPLE (G):............................	84.89
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	675.57
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	726.71
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.90
(I) DENSITY OF WATER @ T2:...........................	.997592

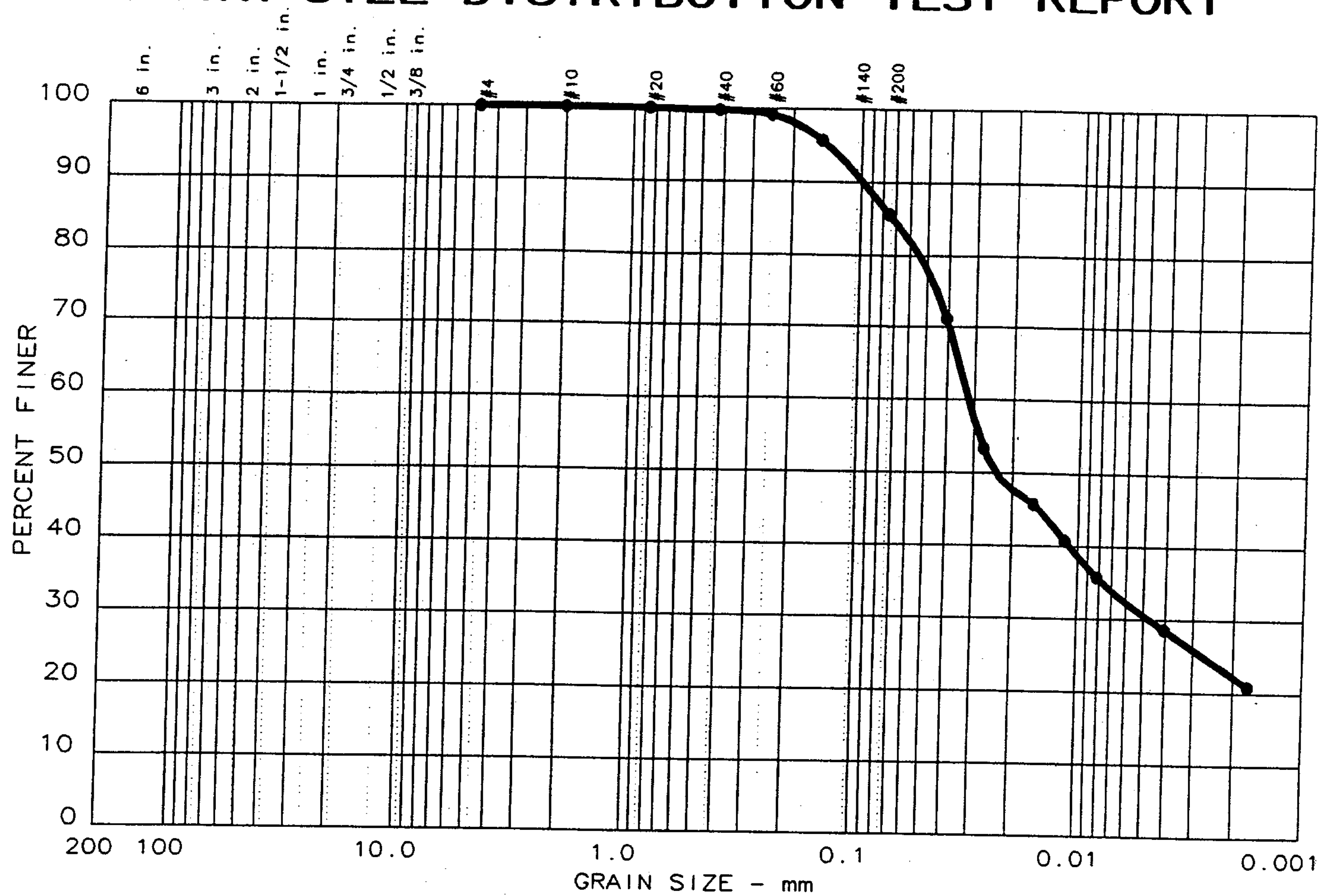
>>>>>>> COMPUTATIONS <<<<<<<<

(R)= (D-A)/F*.998234+A..............................	675.9022
(S)= (G-B)/I*.998234+B..............................	727.0090
(GS)= C/(C+R)-S))*.998234...........................	2.508349

SPECIFIC GRAVITY:.. 2.508

THOMPSON ENGINEERING TESTING, INC.
MATERIALS ENGINEERING LABORATORY

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	14.3	55.1	30.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----			0.02	0.005				

MATERIAL DESCRIPTION	USCS	AASHTO
● CLAYEY SILT, LITTLE FINE SAND & ORGANICS	(ML)	----

Project No.: P93142
Project: SAVANNAH #:M3-15616-4
● Location: SD-02-G4D

Date: 01/07/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 9

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 6

Date: 01/07/94
Project No.: P93142
Project: SAVANNAH #:M3-15616-4

Sample Data

Location of Sample: SD-02-G4D
Sample Description: CLAYEY SILT, LITTLE FINE SAND & ORGANICS
USCS Class: (ML) Liquid limit: ----
AASHTO Class: ---- Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	50.03	7.17
Tare =	0.00	0.00
Dry sample weight =	50.03	7.17

Minus #200 from wash= 85.7 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.01	100.0
# 40	0.12	99.8
# 60	0.41	99.2
# 100	2.12	95.8
# 200	7.17	85.7

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 50.03
Calculated biased weight= 50.03
Automatic temperature correction
Composite correction at 20 deg C =-7

Meniscus correction only= 0
Specific gravity of solids= 1.965
Specific gravity correction factor= 1.268
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	20.5	35.0	28.1	0.0177	35.0	10.6	0.0407	71.1
5.0	20.5	28.0	21.1	0.0177	28.0	11.7	0.0271	53.4
15.0	20.5	25.0	18.1	0.0177	25.0	12.2	0.0160	45.8
30.0	20.6	23.0	16.1	0.0177	23.0	12.5	0.0114	40.8
60.0	20.8	21.0	14.1	0.0177	21.0	12.9	0.0082	35.8
250.0	21.6	18.0	11.3	0.0175	18.0	13.3	0.0040	28.7
1440.0	21.3	15.0	8.2	0.0175	15.0	13.8	0.0017	20.9

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 14.3
% SILT = 55.1 % CLAY = 30.6

D85= 0.07 D60= 0.032 D50= 0.024
D30= 0.0047

Douglas E. [signature]

Thompson Engineering

JANUARY 7, 1994

REPORT #: 10
JOB #:P93142

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15616-4

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-G4D PYCNOMETER #: 6A

>>>>> DATES
SAMPLED: 12/03/93
TESTED: 12/29/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	169.50
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	255.68
(C) WEIGHT OF SAMPLE (G):............................	86.18
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	677.48
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	719.91
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.00
(I) DENSITY OF WATER @ T2:...........................	.997569

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

(R)= (D-A)/F*.998234+A...............................	677.8186
(S)= (G-B)/I*.998234+B...............................	720.2195
(GS)= C/(C+R)-S))*.998234............................	1.965040

SPECIFIC GRAVITY:.................................... 1.965

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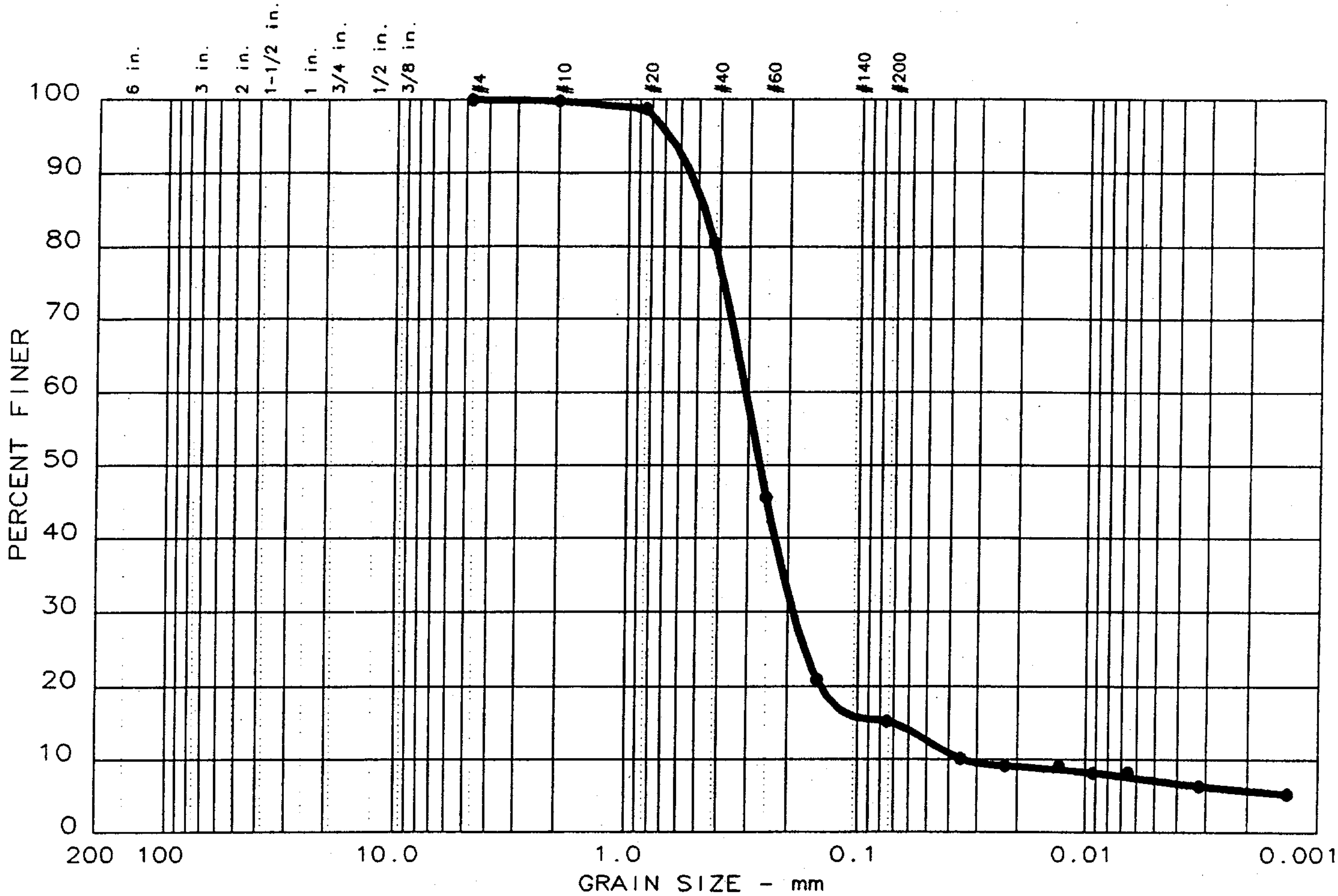
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	84.8	8.2	7.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.47	0.31	0.27	0.190	0.0699	0.0346	3.40	8.9

MATERIAL DESCRIPTION	USCS	AASHTO
● SILTY MEDIUM-FINE SAND	(SM)	----

Project No.: P93142
Project: SAVANNAH #:M3-15616-5
● Location: SD-02-G5

Date: 01/07/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 7

GRAIN SIZE DISTRIBUTION TEST DATA   Test No.: 5

Date: 01/07/94
Project No.: P93142
Project: SAVANNAH #:M3-15616-5

Sample Data

Location of Sample: SD-02-G5
Sample Description: SILTY MEDIUM-FINE SAND
USCS Class: (SM)   Liquid limit: ----
AASHTO Class: ----   Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	84.76
Tare =	0.00	0.00
Dry sample weight =	100.00	84.76

Minus #200 from wash= 15.2 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.14	99.9
# 20	1.28	98.7
# 40	19.47	80.5
# 60	54.42	45.6
# 100	79.07	20.9
# 200	84.76	15.2

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.9
Weight of hydrometer sample: 100
Calculated biased weight= 100.14
Automatic temperature correction
Composite correction at 20 deg C =-7

Meniscus correction only= 0
Specific gravity of solids= 2.624
Specific gravity correction factor= 1.006
Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	20.4	17.0	10.0	0.0137	17.0	13.5	0.0356	10.1
5.0	20.4	16.0	9.0	0.0137	16.0	13.7	0.0226	9.1
15.0	20.5	16.0	9.1	0.0137	16.0	13.7	0.0130	9.1
30.0	20.5	15.0	8.1	0.0137	15.0	13.8	0.0093	8.1
60.0	20.7	15.0	8.1	0.0136	15.0	13.8	0.0065	8.1
250.0	21.5	13.0	6.3	0.0135	13.0	14.2	0.0032	6.3
1440.0	21.2	12.0	5.2	0.0136	12.0	14.3	0.0014	5.2

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 84.8
% SILT = 8.2 % CLAY = 7.0

D85= 0.47 D60= 0.308 D50= 0.267
D30= 0.1903 D15= 0.06990 D10= 0.03463
Cc = 3.3963 Cu = 8.8920

Thompson Engineering

JANUARY 7, 1994

REPORT #: 8
JOB #:P93142

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15616-5

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-G5 PYCNOMETER #: 4

>>>>> DATES
SAMPLED: 12/03/93
TESTED: 12/29/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):......................	180.97
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	311.44
(C) WEIGHT OF SAMPLE (G):..........................	130.47
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	678.97
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	25.00
(F) DENSITY OF WATER @ T1:.........................	.997075
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	760.08
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.00
(I) DENSITY OF WATER @ T2:.........................	.997569

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

(R)= (D-A)/F*.998234+A.............................	679.5489
(S)= (G-B)/I*.998234+B.............................	760.3791
(GS)= C/(C+R)-S))*.998234..........................	2.623693

SPECIFIC GRAVITY:.................................. 2.624

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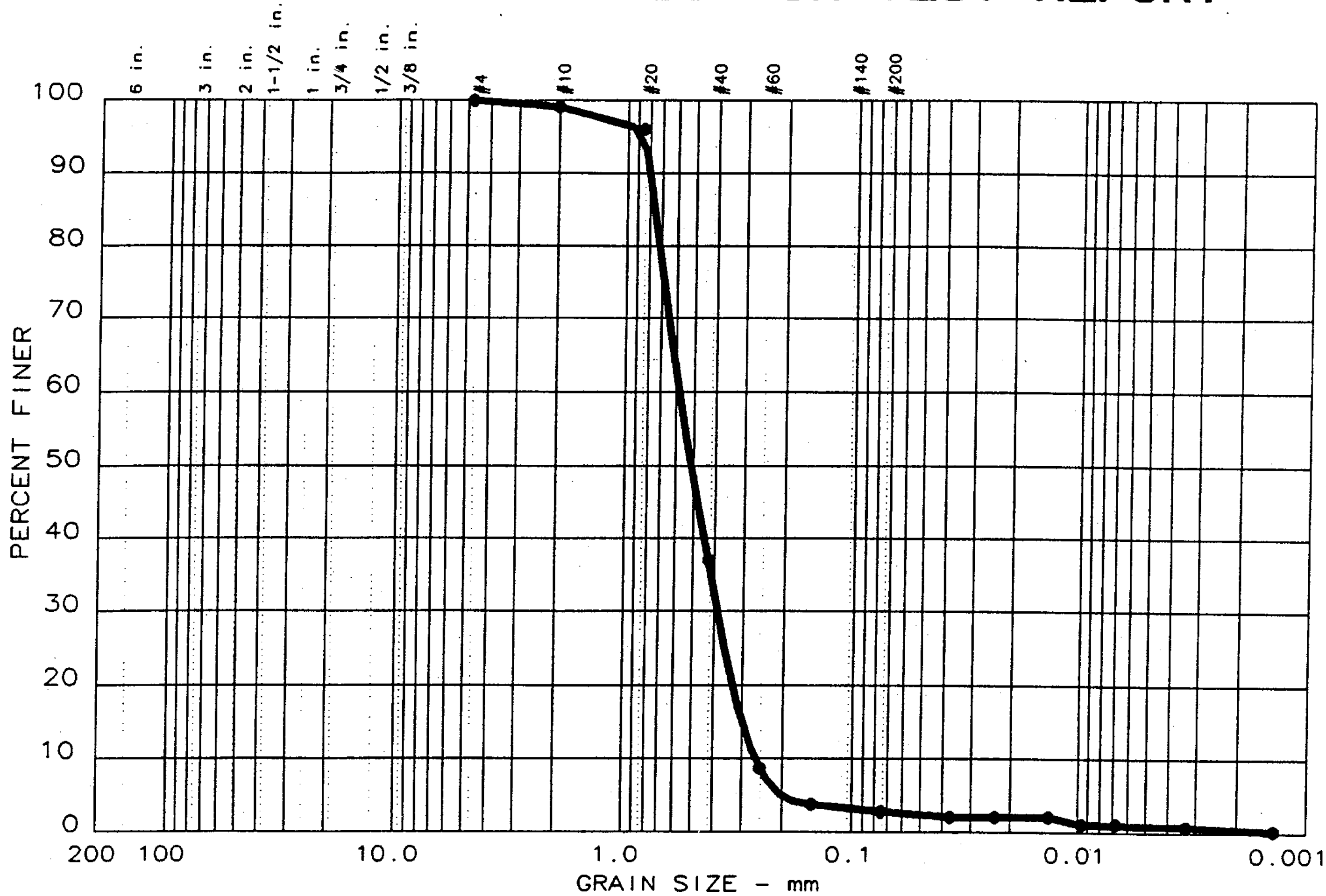
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	97.2	1.9	0.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.76	0.58	0.51	0.388	0.2992	0.2606	1.00	2.2

MATERIAL DESCRIPTION	USCS	AASHTO
● MEDIUM-FINE SAND	(SP)	----

Project No.: P93142
Project: SAVANNAH #:M3-15616-6
● Location: SD-02-K1

Date: 01/07/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH
LABORATORIES

Figure No. 13

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 8

Date: 01/07/94
Project No.: P93142
Project: SAVANNAH #:M3-15616-6

Sample Data

Location of Sample: SD-02-K1
Sample Description: MEDIUM-FINE SAND
USCS Class: (SP)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	97.24
Tare =	0.00	0.00
Dry sample weight =	100.00	97.24

Minus #200 from wash= 2.8 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.87	99.1
# 20	3.97	96.0
# 40	63.02	37.0
# 60	91.32	8.7
# 100	96.23	3.8
# 200	97.24	2.8

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.1
Weight of hydrometer sample: 100
Calculated biased weight= 100.88
Automatic temperature correction
Composite correction at 20 deg C =-7

Meniscus correction only= 0
Specific gravity of solids= 2.638
Specific gravity correction factor= 1.003
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	20.5	9.0	2.1	0.0136	9.0	14.8	0.0370	2.1
5.0	20.5	9.0	2.1	0.0136	9.0	14.8	0.0234	2.1
15.0	20.5	9.0	2.1	0.0136	9.0	14.8	0.0135	2.1
30.0	20.6	8.0	1.1	0.0136	8.0	15.0	0.0096	1.1
60.0	20.8	8.0	1.1	0.0136	8.0	15.0	0.0068	1.1
250.0	21.5	7.5	0.8	0.0134	7.5	15.1	0.0033	0.8
1440.0	21.3	7.0	0.2	0.0135	7.0	15.1	0.0014	0.2

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 97.2
% SILT = 1.9 % CLAY = 0.9

D85= 0.76 D60= 0.579 D50= 0.513
D30= 0.3877 D15= 0.29923 D10= 0.26062
Cc = 0.9954 Cu = 2.2233

Douglas E. [signature]

Thompson Engineering

JANUARY 7, 1994

REPORT #: 14
JOB #:P93142

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15616-6

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-K1 PYCNOMETER #: 21

>>>>> DATES
SAMPLED: 12/03/93
TESTED: 12/29/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.51
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	360.43
(C) WEIGHT OF SAMPLE (G):............................	179.92
(D) WEIGHT OF PYCNOMETER AND WATER (G):..............	678.83
(E) TEMP. OF PYCNOMETER AND WATER (C):...............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	790.71
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	23.00
(I) DENSITY OF WATER @ T2:...........................	.997569

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

(R)= (D-A)/F*.998234+A..............................	679.1622
(S)= (G-B)/I*.998234+B..............................	790.9968
(GS)= C/(C+R)-S))*.998234...........................	2.637899

SPECIFIC GRAVITY:.................................... 2.638

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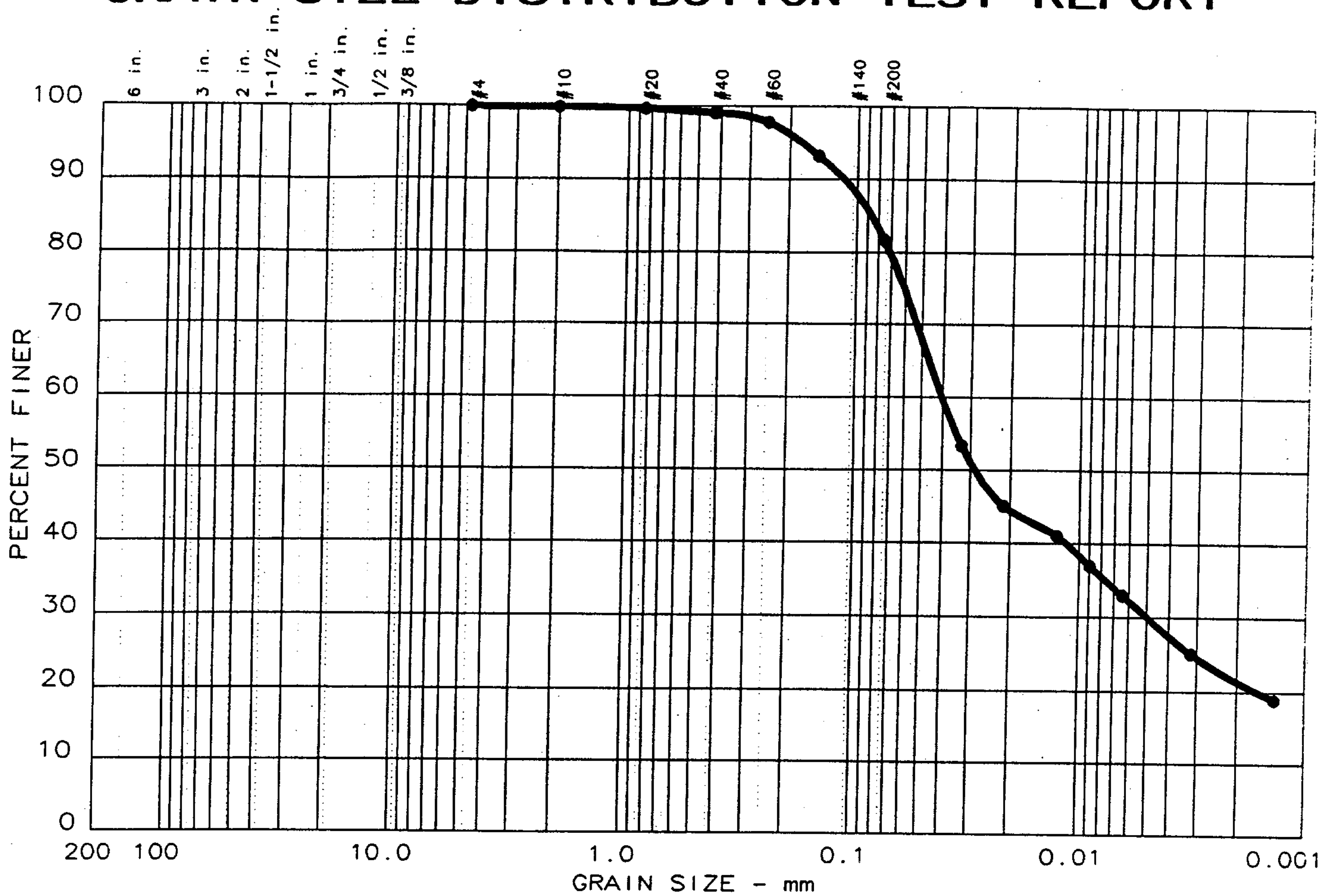
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	18.3	51.6	30.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.09		0.03	0.005				

MATERIAL DESCRIPTION	USCS	AASHTO
● CLAYEY SILT, LITTLE FINE SAND	(ML)	----

Project No.: P93142
Project: SAVANNAH #:M3-15616-7
● Location: SD-02-K3

Date: 01/07/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 15

GRAIN SIZE DISTRIBUTION TEST DATA   Test No.: 9

Date: 01/07/94
Project No.: P93142
Project: SAVANNAH #:M3-15616-7

Sample Data

Location of Sample: SD-02-K3
Sample Description: CLAYEY SILT, LITTLE FINE SAND
USCS Class: (ML)   Liquid limit: ----
AASHTO Class: ----   Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	50.30	9.23
Tare =	0.00	0.00
Dry sample weight =	50.30	9.23

Minus #200 from wash= 81.7 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.05	99.9
# 20	0.15	99.7
# 40	0.46	99.1
# 60	1.10	97.8
# 100	3.41	93.2
# 200	9.23	81.7

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.9
Weight of hydrometer sample: 50.3
Calculated biased weight= 50.35
Automatic temperature correction
Composite correction at 20 deg C =-7

Meniscus correction only= 0
Specific gravity of solids= 2.528
Specific gravity correction factor= 1.030
Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	20.5	33.0	26.1	0.0141	33.0	10.9	0.0329	53.3
5.0	20.5	29.0	22.1	0.0141	29.0	11.5	0.0214	45.1
15.0	20.5	27.0	20.1	0.0141	27.0	11.9	0.0125	41.1
30.0	20.6	25.0	18.1	0.0141	25.0	12.2	0.0090	37.0
60.0	20.8	23.0	16.1	0.0140	23.0	12.5	0.0064	33.0
250.0	21.6	19.0	12.3	0.0139	19.0	13.2	0.0032	25.2
1440.0	21.3	16.0	9.2	0.0140	16.0	13.7	0.0014	18.9

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 18.3
% SILT = 51.6 % CLAY = 30.1

D85= 0.09 D60= 0.040 D50= 0.029
D30= 0.0049

Thompson Engineering

JANUARY 7, 1994

REPORT #: 16
JOB #:P93142

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15616-7

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-K3 PYCNOMETER #: 8

>>>>> DATES
SAMPLED: 12/03/93
TESTED: 12/29/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	267.96
(C) WEIGHT OF SAMPLE (G):............................	87.73
(D) WEIGHT OF PYCNOMETER AND WATER (G):..............	678.30
(E) TEMP. OF PYCNOMETER AND WATER (C):...............	24.00
(F) DENSITY OF WATER @ T1:...........................	.997327
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.......	731.53
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):........	23.00
(I) DENSITY OF WATER @ T2:...........................	.997569

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

(R)= (D-A)/F*.998234+A................................	678.7530
(S)= (G-B)/I*.998234+B................................	731.8390
(GS)= C/((C+R)-S))*.998234............................	2.527861

SPECIFIC GRAVITY:.. 2.528

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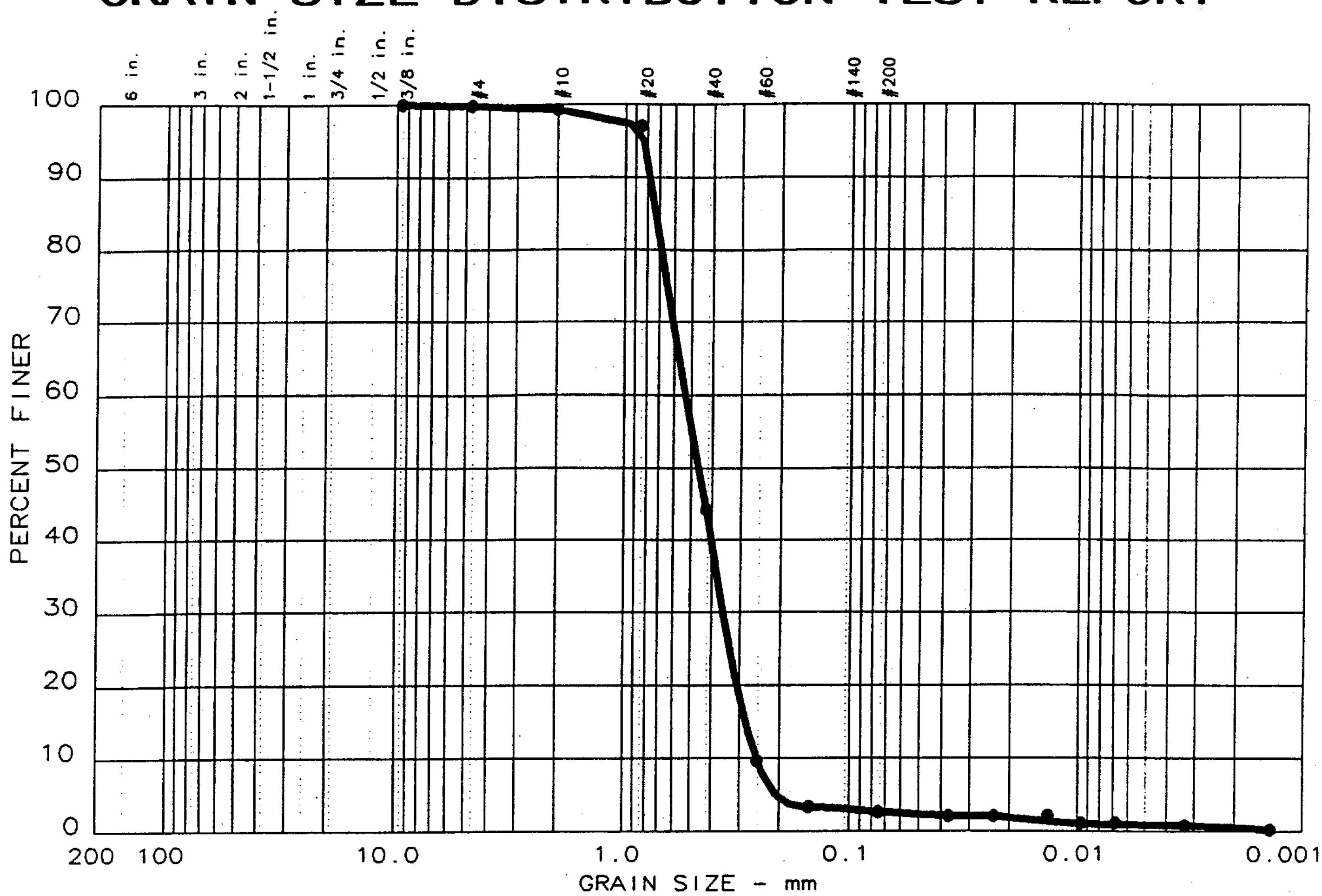

	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.2	97.3	1.7	0.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{0}	C_c	C_u
●	----	----	0.73	0.53	0.46	0.356	0.2818	0.2512	0.95	2.1

MATERIAL DESCRIPTION	USCS	AASHTO
● MEDIUM-FINE SAND	(SP)	----

Project No.: P93142
Project: SAVANNAH #:M3-15616-8
● Location: SD-02-M1

Date: 01/07/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 17

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 10

Date: 01/07/94
Project No.: P93142
Project: SAVANNAH #:M3-15616-8

Sample Data

Location of Sample: SD-02-M1
Sample Description: MEDIUM-FINE SAND
USCS Class: (SP) Liquid limit: ----
AASHTO Class: ---- Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	97.41
Tare =	0.00	0.00
Dry sample weight =	100.00	97.41

Minus #200 from wash= 2.6 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.15	99.9
# 10	0.70	99.3
# 20	2.94	97.1
# 40	55.70	44.3
# 60	90.37	9.6
# 100	96.67	3.3
# 200	97.41	2.6

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.3
Weight of hydrometer sample: 100
Calculated biased weight= 100.70
Automatic temperature correction
Composite correction at 20 deg C =-7

Meniscus correction only= 0
Specific gravity of solids= 2.638
Specific gravity correction factor= 1.003

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	20.5	9.0	2.1	0.0136	9.0	14.8	0.0370	2.1
5.0	20.5	9.0	2.1	0.0136	9.0	14.8	0.0234	2.1
15.0	20.6	9.0	2.1	0.0136	9.0	14.8	0.0135	2.1
30.0	20.6	8.0	1.1	0.0136	8.0	15.0	0.0096	1.1
60.0	20.8	8.0	1.1	0.0136	8.0	15.0	0.0068	1.1
250.0	21.6	7.5	0.8	0.0134	7.5	15.1	0.0033	0.8
1440.0	21.3	7.0	0.2	0.0135	7.0	15.1	0.0014	0.2

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.2   % SAND = 97.3
% SILT = 1.7   % CLAY = 0.8

D85= 0.73   D60= 0.530   D50= 0.462
D30= 0.3556   D15= 0.28184   D10= 0.25119
Cc = 0.9495   Cu = 2.1111

Douglas E. Lud

Thompson Engineering

JANUARY 7, 1994

REPORT #: 18
JOB #:P93142

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15616-8

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-M1 PYCNOMETER #: 940

>>>>> DATES
SAMPLED: 12/03/93
TESTED: 12/29/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	188.26
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	400.86
(C) WEIGHT OF SAMPLE (G):............................	212.60
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	686.56
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:..........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	818.77
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.00
(I) DENSITY OF WATER @ T2:..........................	.997569

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

(R)= (D-A)/F*.998234+A...............................	686.8922
(S)= (G-B)/I*.998234+B...............................	819.0486
(GS)= C/(C+R)-S))*.998234............................	2.638178

SPECIFIC GRAVITY:..................................... 2.638

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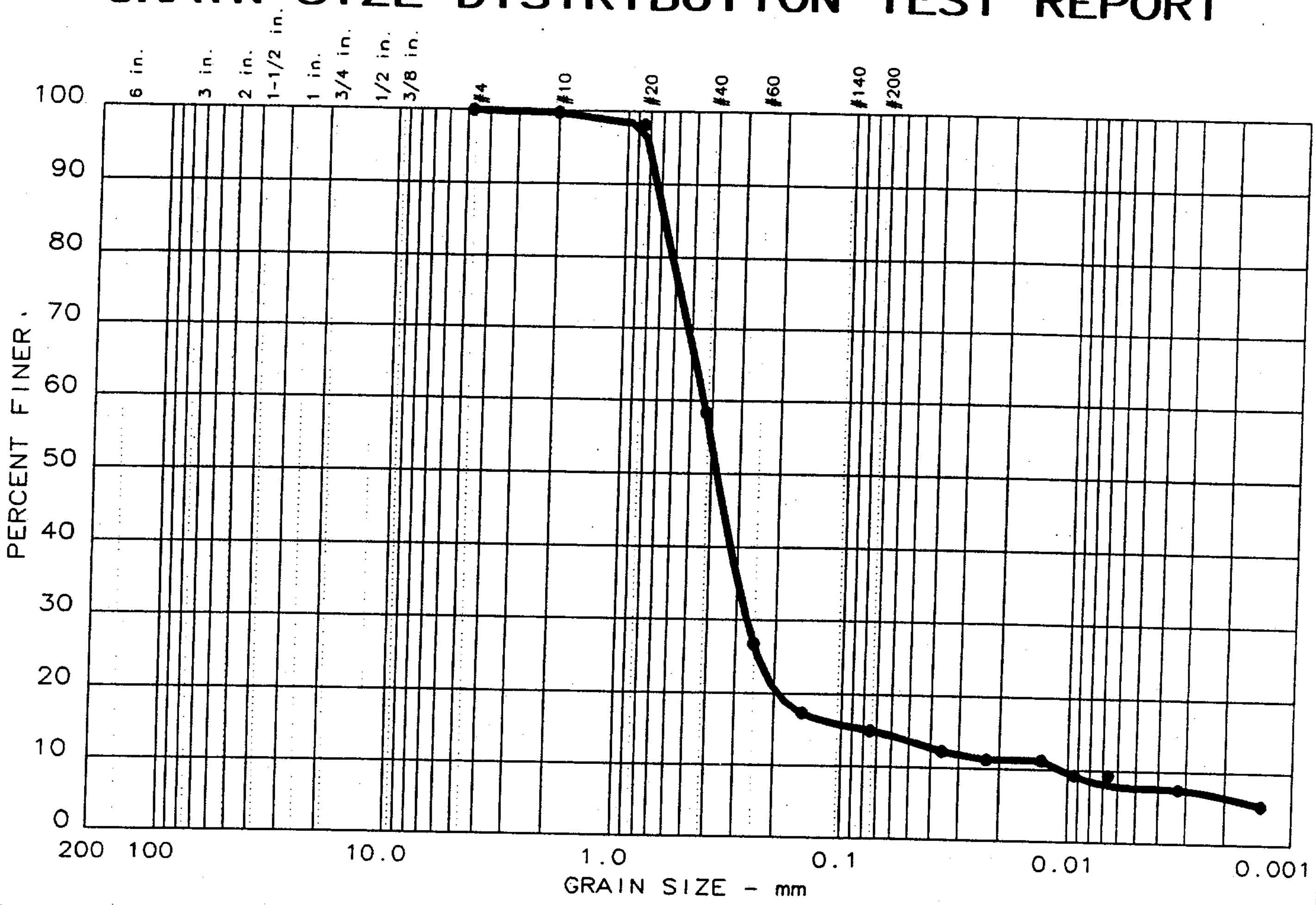
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	85.0	7.4	7.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.68	0.44	0.38	0.269	0.0750	0.0107	15.49	40.7

MATERIAL DESCRIPTION	USCS	AASHTO
● SILTY MEDIUM-FINE SAND	(SM)	----

Project No.: P93142
Project: SAVANNAH #:M3-15616-9
● Location: SD-02-M2

: 01/07/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 19

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 1

Date: 01/07/94
Project No.: P93142
Project: SAVANNAH #:M3-15616-9

Sample Data

Location of Sample: SD-02-M2
Sample Description: SILTY MEDIUM-FINE SAND
USCS Class: (SM)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	85.01
Tare =	0.00	0.00
Dry sample weight =	100.00	85.01

Minus #200 from wash= 15.0 %
re for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.26	99.7
# 20	1.85	98.2
# 40	41.66	58.3
# 60	73.19	26.8
# 100	82.65	17.4
# 200	85.01	15.0

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.7
Weight of hydrometer sample: 100
Calculated biased weight= 100.26
Automatic temperature correction
Composite correction at 20 deg C =-7

Meniscus correction only= 0
Specific gravity of solids= 2.564
Specific gravity correction factor= 1.021
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	20.5	19.0	12.1	0.0139	19.0	13.2	0.0358	12.3
5.0	20.5	18.0	11.1	0.0139	18.0	13.3	0.0228	11.3
15.0	20.5	18.0	11.1	0.0139	18.0	13.3	0.0131	11.3
30.0	20.6	16.0	9.1	0.0139	16.0	13.7	0.0094	9.3
60.0	20.8	16.0	9.1	0.0139	16.0	13.7	0.0066	9.3
250.0	21.6	14.0	7.3	0.0137	14.0	14.0	0.0033	7.4
1440.0	21.3	12.0	5.2	0.0138	12.0	14.3	0.0014	5.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 85.0
% SILT = 7.4 % CLAY = 7.6

D85= 0.68 D60= 0.437 D50= 0.376
D30= 0.2692 D15= 0.07499 D10= 0.01072
Cc = 15.4882 Cu = 40.7380

Douglas E. Ford

Thompson Engineering

JANUARY 7, 1994

REPORT #: 20
JOB #:P93142

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15616-9

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-M2 PYCNOMETER #: 940

>>>>> DATES
SAMPLED: 12/03/93
TESTED: 12/29/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	188.26
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	238.26
(C) WEIGHT OF SAMPLE (G):..........................	50.00
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	686.56
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:.........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	717.73
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	20.60
(I) DENSITY OF WATER @ T2:.........................	.99887

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

(R)= (D-A)/F*.998234+A.............................	686.8922
(S)= (G-B)/I*.998234+B.............................	717.4247
(GS)= C/((C+R)-S))*.998234.........................	2.563852

SPECIFIC GRAVITY:................................ 2.564

THOMPSON ENGINEERING TESTING, INC.
MATERIALS ENGINEERING LABORATORY

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RECEIVED
JAN 31 1994

LOG NO: M3-15757

Received: 10 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. Charles

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15757-1	SD-02-Q1	12-08-93	EAH019
15757-2	SD-02-Q2	12-08-93	EAH019
15757-3	SD-02-Q3	12-08-93	EAH019
15757-4	SD-02-Q4	12-08-93	EAH019
15757-5	SD-02-Q5	12-08-93	EAH019

PARAMETER	15757-1	15757-2	15757-3	15757-4	15757-5
Heterotrophic Plate Count (SM 907A)					
Standard Plate Count, No/g	2400000	120000	190000	140000	580000
Date Analyzed	12.23.93	12.23.93	12.23.93	12.23.93	12.23.93
Analyst	CE	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)					
Phosphorus, Total, mg/kg dw	85	850	220	69	54
Sample Preparation	01.13.94	01.13.94	01.13.94	01.13.94	01.13.94
Date Analyzed	01.14.94	01.14.94	01.14.94	01.14.94	01.14.94
Analyst	BB	BB	BB	BB	BB
Nitrate as N (EPA 353.2)					
Nitrate-N, mg/kg dw	<2.0	4.6	<2.0	<2.0	<2.0
Sample Preparation	01.13.94	01.13.94	01.13.94	01.13.94	01.13.94
Date Analyzed	01.19.94	01.19.94	01.19.94	01.19.94	01.19.94
Analyst	BB	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)					
Kjeldahl Nitrogen-N, mg/kg dw	340	3000	700	240	200
Sample Preparation	01.13.94	01.13.94	01.13.94	01.13.94	01.13.94
Date Analyzed	01.14.94	01.14.94	01.14.94	01.14.94	01.14.94
Analyst	BB	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	580	3100	940	220	400
Sample Preparation	01.03.94	01.03.94	01.03.94	01.03.94	01.03.94
Date Analyzed	01.12.94	01.12.94	01.12.94	01.12.94	01.12.94
Analyst	SR	SR	SR	SR	SR

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LOG NO: M3-15757

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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. Charles

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15757-1	SD-02-Q1	12-08-93	EAH019
15757-2	SD-02-Q2	12-08-93	EAH019
15757-3	SD-02-Q3	12-08-93	EAH019
15757-4	SD-02-Q4	12-08-93	EAH019
15757-5	SD-02-Q5	12-08-93	EAH019

PARAMETER	15757-1	15757-2	15757-3	15757-4	15757-5
Cation Exchange Capacity (EPA 9081)					
Cation Exchange Capacity, mEq/100g	2.5	37	7.2	4.3	2.9
Date Extracted	12.21.93	12.28.93	12.28.93	12.28.93	12.28.93
Date Analyzed	12.22.93	12.30.93	12.30.93	12.30.93	12.30.93
Analyst	TO	PC	PC	PC	PC
Density @ 20 Degrees C	NA	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*	*
Specific Gravity	*	*	*	*	*
Grain Size (ASTM D421/422/1140)					
% Passing sieve No.4	*	*	*	*	*

NA - Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET report

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LOG NO: M3-15757

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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. Charles

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15757-6	SD-02-X3	12-08-93	EAH019
15757-7	SD-02-P2	12-08-93	EAH019
15757-8	SD-02-P3	12-08-93	EAH019
15757-9	SD-02-P4	12-08-93	EAH019
15757-10	SD-02-P5	12-08-93	EAH019

PARAMETER	15757-6	15757-7	15757-8	15757-9	15757-10
Heterotrophic Plate Count (SM 907A)					
Standard Plate Count, No/g	170000	450000	90000	310000	180000
Date Analyzed	12.23.93	12.23.93	12.23.93	12.23.93	12.23.93
Analyst	CE	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)					
Phosphorus, Total, mg/kg dw	26	950	180	130	97
Sample Preparation	01.13.94	01.13.94	01.13.94	01.13.94	01.25.94
Date Analyzed	01.14.94	01.14.94	01.14.94	01.14.94	01.26.94
Analyst	BB	BB	BB	BB	BB
Nitrate as N (EPA 353.2)					
Nitrate-N, mg/kg dw	<2.0	<2.0	<2.0	<2.0	<2.0
Sample Preparation	01.13.94	01.13.94	01.13.94	01.13.94	01.13.94
Date Analyzed	01.19.94	01.19.94	01.19.94	01.19.94	01.19.94
Analyst	BB	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)					
Kjeldahl Nitrogen-N, mg/kg dw	100	2600	660	290	260
Sample Preparation	01.13.94	01.13.94	01.13.94	01.13.94	01.25.94
Date Analyzed	01.14.94	01.14.94	01.14.94	01.14.94	01.26.94
Analyst	BB	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	280	2800	880	150	520
Sample Preparation	01.03.94	01.03.94	01.03.94	01.03.94	01.03.94
Date Analyzed	01.12.94	01.12.94	01.12.94	01.12.94	01.12.94
Analyst	SR	SR	SR	SR	SR

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LOG NO: M3-15757

Received: 10 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. Charles

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15757-6	SD-02-X3	12-08-93	EAH019
15757-7	SD-02-P2	12-08-93	EAH019
15757-8	SD-02-P3	12-08-93	EAH019
15757-9	SD-02-P4	12-08-93	EAH019
15757-10	SD-02-P5	12-08-93	EAH019

PARAMETER	15757-6	15757-7	15757-8	15757-9	15757-10
Cation Exchange Capacity (EPA 9081)					
Cation Exchange Capacity, mEq/100g	1.2	38	8.8	4.7	5.2
Date Extracted	12.28.93	12.28.93	12.28.93	12.28.93	12.28.93
Date Analyzed	12.30.93	12.30.93	12.30.93	12.30.93	12.30.93
Analyst	PC	PC	PC	PC	PC
Density @ 20 Degrees C	NA	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*	*
Specific Gravity	*	*	*	*	*
Grain Size (ASTM D421/422/1140)					
% Passing sieve No.4	*	*	*	*	*

NA - Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET report

SL SAVANNAH LABORATORIES
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LOG NO: M3-15757

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Mr. Henry Biero
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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. Charles

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
15757-11	Matrix Spike % Recovery
15757-12	Matrix Spike Duplicate (% Recovery)

PARAMETER	15757-11	15757-12
Phosphorus, Total	111 %	113 %
Nitrate-N	95 %	94 %
Kjeldahl Nitrogen-N	101 %	87 %
Organic Carbon	72 %	66 %

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LOG NO: M3-15757

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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. Charles

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
15757-13	Quantitation Limit
15757-14	Accuracy (% Recovery for LCS/LCSD)
15757-15	Precision (Rel% Difference for LCS/LCSD)

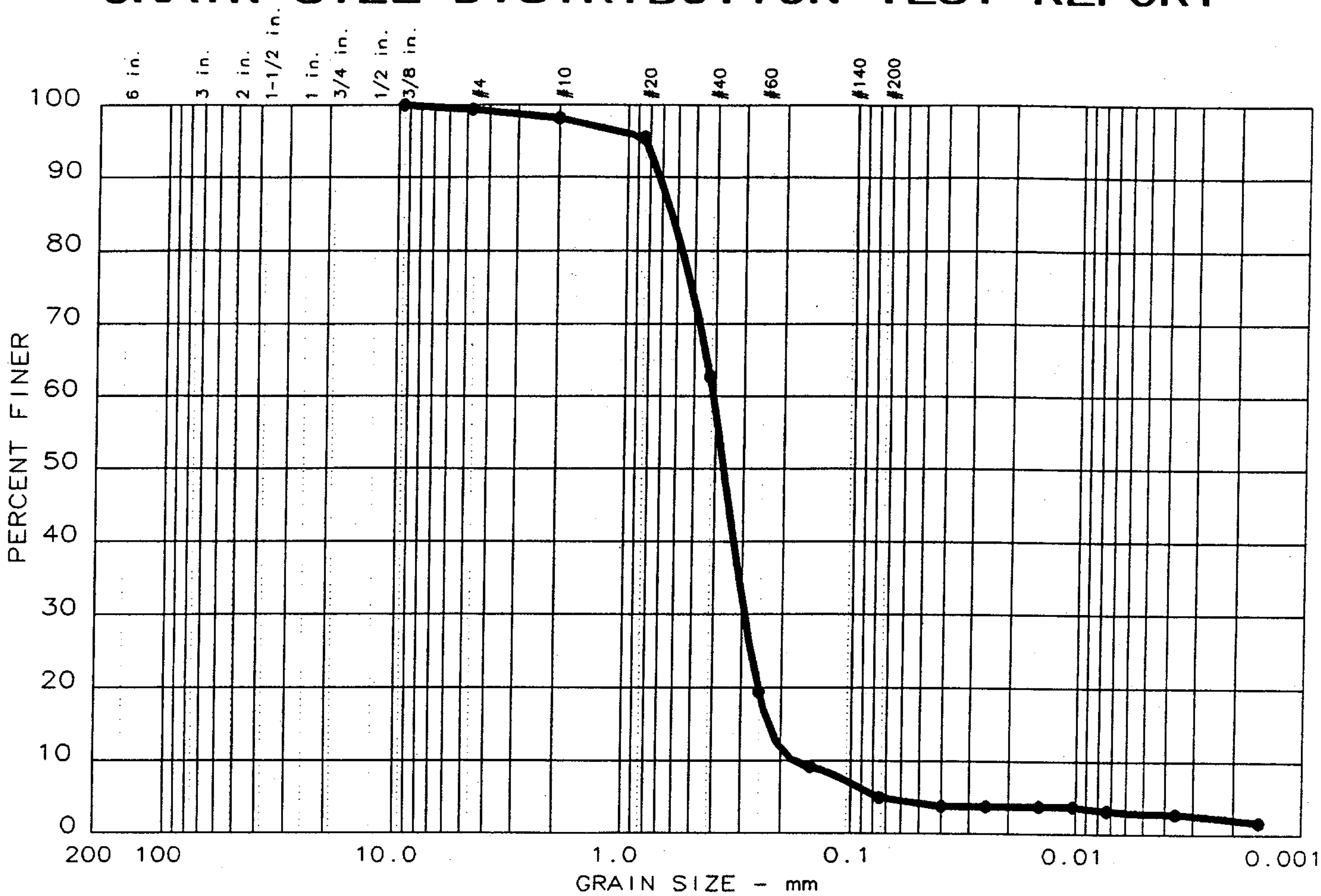
PARAMETER	15757-13	15757-14	15757-15
Standard Plate Count, NO/g	100	---	---
Phosphorus, Total, mg/kg	10	101/101 %	0 %
Nitrate-N, mg/kg	2.0	92/90 %	2.2 %
Kjeldahl Nitrogen-N, mg/kg	20	93/92 %	1.1 %
Organic Carbon, mg/kg	50	102/101 %	0.98 %
Cation Exchange Capacity, meq/100g	0.050	95/91 %	4.3 %

Michele H. Lersch

Michele H. Lersch

Final Page Of Report

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.6	94.4	2.1	2.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.64	0.41	0.37	0.292	0.2265	0.1738	1.19	2.4

MATERIAL DESCRIPTION	USCS	AASHTO
● GRAY MEDIUM-FINE SAND	(SP)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757-I
● Location: SD-02-Q1

Date: 01/14/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 25.14

Figure No. 9

GRAIN SIZE DISTRIBUTION TEST DATA — Test No.: 7

Date: 01/14/94
Project No.: P93147
Project: SAVANNAH #: M3-15757-/

Sample Data

Location of Sample: SD-O2-Q1
Sample Description: GRAY MEDIUM-FINE SAND
USCS Class: (SP) — Liquid limit: ----
AASHTO Class: ---- — Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 25.14
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	95.04
Tare =	0.00	0.00
Dry sample weight =	100.00	95.04

Minus #200 from wash= 5.0 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.62	99.4
# 10	1.82	98.2
# 20	4.41	95.6
# 40	37.27	62.7
# 60	80.58	19.4
# 100	90.87	9.2
# 200	95.04	5.0

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 98.2
Weight of hydrometer sample: 100
Calculated biased weight= 101.85
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.34
Specific gravity correction factor= 1.087

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	9.0	3.5	0.0147	9.0	14.8	0.0400	3.8
5.0	22.5	9.0	3.5	0.0147	9.0	14.8	0.0253	3.8
15.0	22.5	9.0	3.5	0.0147	9.0	14.8	0.0146	3.8
30.0	22.4	9.0	3.5	0.0147	9.0	14.8	0.0103	3.7
60.0	22.4	8.5	3.0	0.0147	8.5	14.9	0.0073	3.2
250.0	22.7	8.0	2.6	0.0146	8.0	15.0	0.0036	2.8
1440.0	20.4	7.5	1.5	0.0151	7.5	15.1	0.0015	1.6

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.6   % SAND = 94.4
% SILT = 2.1   % CLAY = 2.9

D85= 0.64   D60= 0.411   D50= 0.366
D30= 0.2917   D15= 0.22646   D10= 0.17378
Cc = 1.1926   Cu = 2.3632

Douglas E. Ford

Thompson Engineering

JANUARY 14, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-1

REPORT #: 10
JOB #:P93147

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-Q1

PYCNOMETER #: 6A

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	169.50
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	365.62
(C) WEIGHT OF SAMPLE (G):............................	196.12
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	677.48
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:.........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	789.94
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.40
(I) DENSITY OF WATER @ T2:.........................	.997472

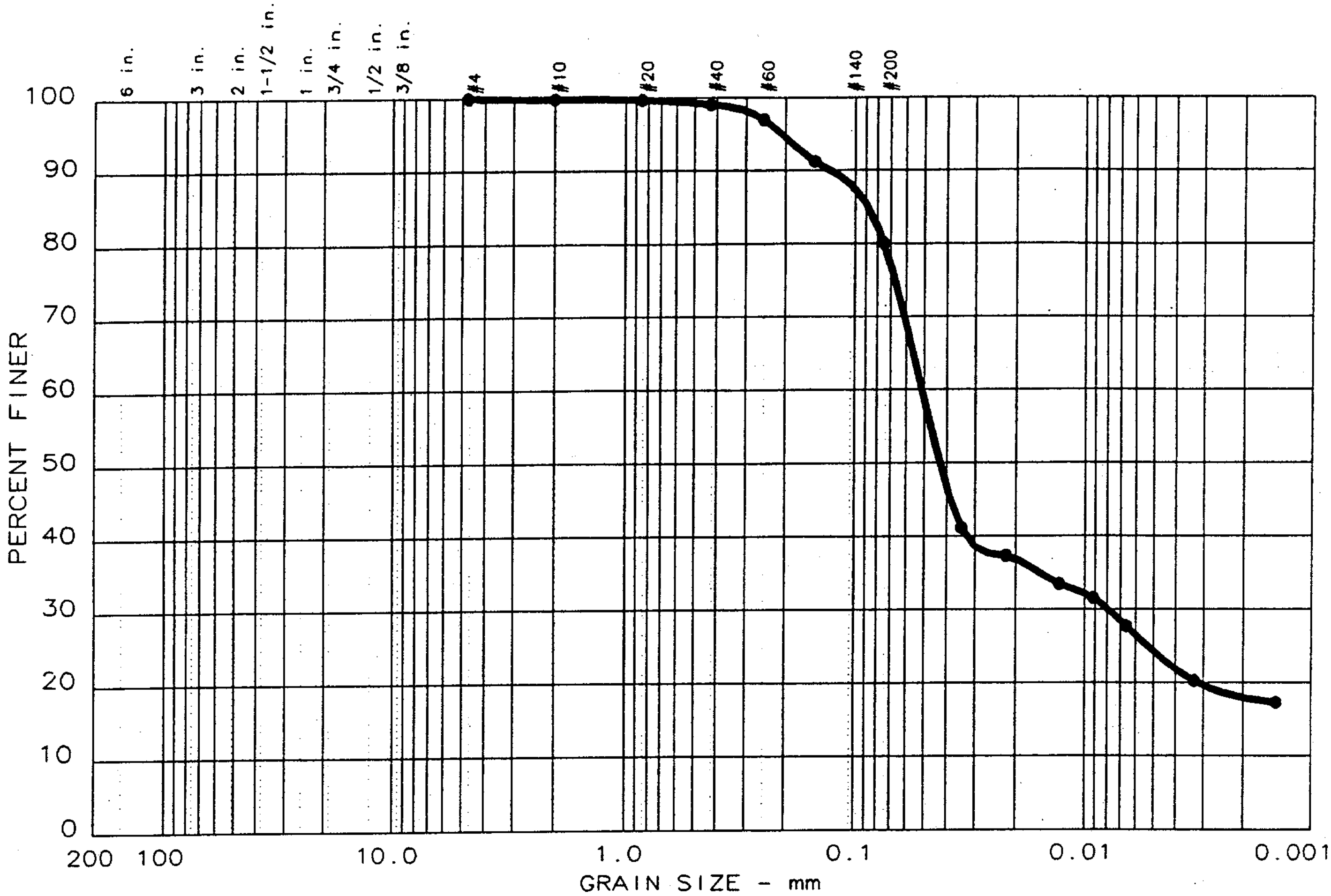
>>>>>>> COMPUTATIONS <<<<<<<<

(R)= (D-A)/F*.998234+A............................	677.8186
(S)= (G-B)/I*.998234+B............................	790.2642
(GS)= C/(C+R)-S))*.998234.........................	2.339706
SPECIFIC GRAVITY:.................................	2.340

THOMPSON ENGINEERING TESTING, INC.
MATERIALS ENGINEERING LABORATORY

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

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	20.0	55.7	24.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.09		0.04	0.008				

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN CLAYEY SILT, LITTLE FINE SAND	(ML)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757-2
● Location: SD-02-Q2

Date: 01/14/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 213.66

Figure No. 11

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 8

e: 01/14/94
ject No.: P93147
Project: SAVANNAH #: M3-15757-2

Sample Data

Location of Sample: SD-02-Q2
Sample Description: BROWN CLAYEY SILT, LITTLE FINE SAND
USCS Class: (ML)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 213.66
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	55.04	11.02
Tare =	0.00	0.00
Dry sample weight =	55.04	11.02

nus #200 from wash= 80.0 %
re for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.08	99.9
# 20	0.16	99.7
# 40	0.52	99.1
# 60	1.63	97.0
# 100	4.81	91.3
# 200	11.02	80.0

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.9
Weight of hydrometer sample: 55.04
Calculated biased weight= 55.12
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.443
Specific gravity correction factor= 1.054
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	27.0	21.5	0.0141	27.0	11.9	0.0345	41.2
5.0	22.5	25.0	19.5	0.0141	25.0	12.2	0.0221	37.4
15.0	22.5	23.0	17.5	0.0141	23.0	12.5	0.0129	33.5
30.0	22.5	22.0	16.5	0.0141	22.0	12.7	0.0092	31.6
60.0	22.4	20.0	14.5	0.0142	20.0	13.0	0.0066	27.7
250.0	22.7	16.0	10.6	0.0141	16.0	13.7	0.0033	20.2
1440.0	20.3	15.0	9.0	0.0145	15.0	13.8	0.0014	17.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 20.0
% SILT = 55.7 % CLAY = 24.3

D85= 0.09 D60= 0.051 D50= 0.043
D30= 0.0078

Douglas L. [illegible]

Thompson Engineering

JANUARY 14, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-2

REPORT #: 12
JOB #: P93147

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-Q2 PYCNOMETER #: 8

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):......................	180.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	222.19
(C) WEIGHT OF SAMPLE (G):..........................	41.96
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	678.30
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	24.00
(F) DENSITY OF WATER @ T1:.........................	.997327
(G) WEIGHT OF PYCNOMETER, SAMPLE AND WATER (G):.....	703.35
(H) TEMP. OF PYCNOMETER, SAMPLE AND WATER (C):......	22.10
(I) DENSITY OF WATER @ T2:.........................	.997778

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

(R)= (D-A)/F*.998234+A.............................	678.7530
(S)= (G-B)/I*.998234+B.............................	703.5699
(GS)= C/(C+R)-S))*.998234..........................	2.443315

SPECIFIC GRAVITY:.................................... 2.443

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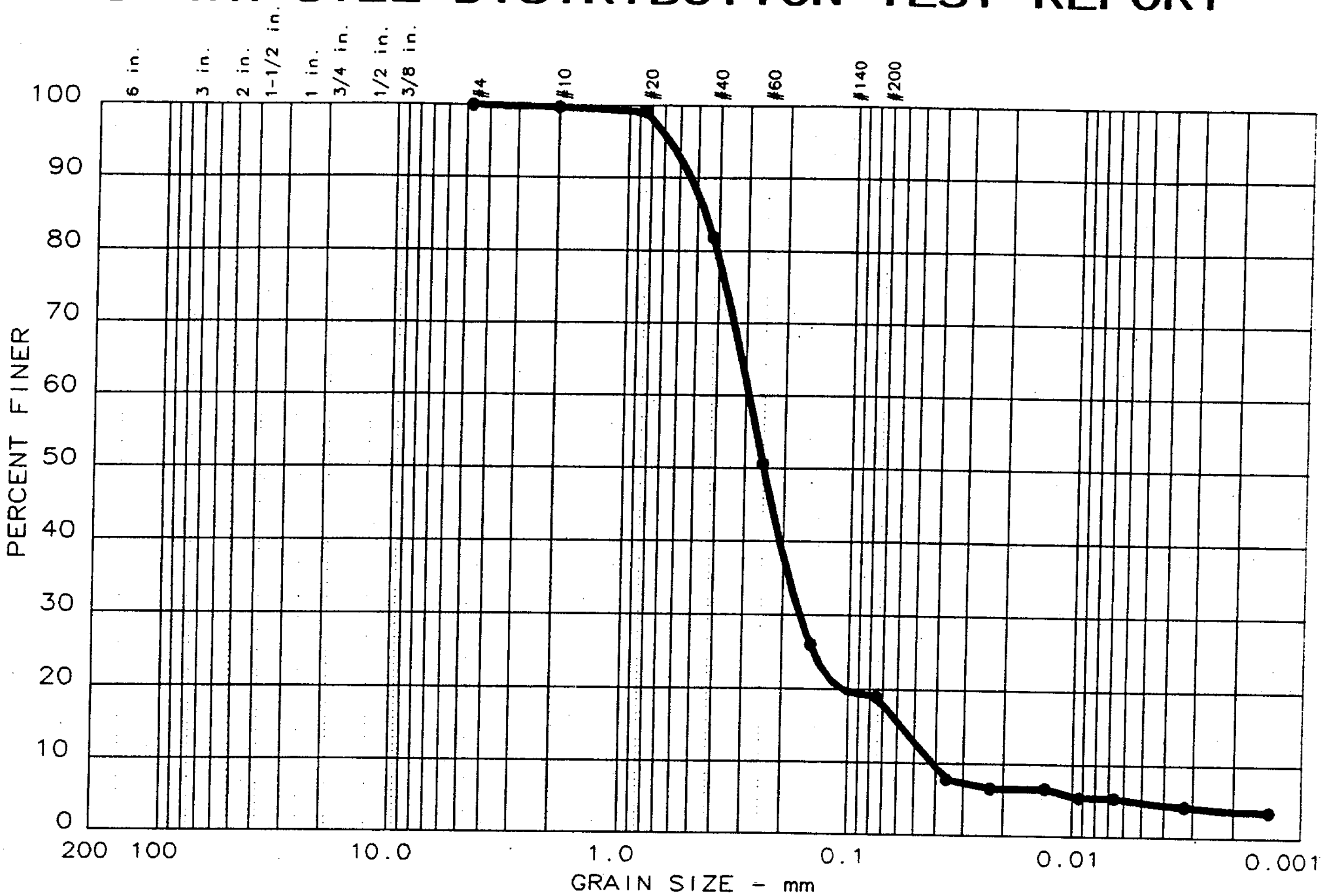
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	81.0	14.2	4.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.46	0.29	0.25	0.168	0.0571	0.0414	2.36	7.0

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN SILTY MEDIUM-FINE SAND	(SM)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757-3
● Location: SD-02-Q3

Date: 01/14/94

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 40.52

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 13

GRAIN SIZE DISTRIBUTION TEST DATA   Test No.: 9

·e: 01/14/94
·ject No.: P93147
Project: SAVANNAH #: M3-15757-3

Sample Data

Location of Sample: SD-02-Q3
Sample Description: BROWN SILTY MEDIUM-FINE SAND
USCS Class: (SM)   Liquid limit: ----
AASHTO Class: ----   Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 40.52
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	84.71	68.62
Tare =	0.00	0.00
Dry sample weight =	84.71	68.62

Minus #200 from wash= 19.0 %
·e for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.21	99.8
# 20	0.74	99.1
# 40	15.37	81.9
# 60	41.84	50.6
# 100	62.64	26.1
# 200	68.62	19.0

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.8
Weight of hydrometer sample: 84.71
Calculated biased weight= 84.92
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.606
Specific gravity correction factor= 1.010
Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	12.0	6.5	0.0134	12.0	14.3	0.0359	7.8
5.0	22.5	11.0	5.5	0.0134	11.0	14.5	0.0228	6.6
15.0	22.5	11.0	5.5	0.0134	11.0	14.5	0.0132	6.6
30.0	22.5	10.0	4.5	0.0134	10.0	14.7	0.0094	5.4
60.0	22.4	10.0	4.5	0.0134	10.0	14.7	0.0066	5.4
250.0	22.7	9.0	3.6	0.0134	9.0	14.8	0.0033	4.3
1440.0	20.3	9.0	3.0	0.0138	9.0	14.8	0.0014	3.6

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 81.0
% SILT = 14.2 % CLAY = 4.8

D85= 0.46 D60= 0.290 D50= 0.247
D30= 0.1685 D15= 0.05708 D10= 0.04135
Cc = 2.3632 Cu = 7.0226

Douglas E. Leed

Thompson Engineering

JANUARY 14, 1994

REPORT #: 14
JOB #:P93147

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-3

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-Q3 PYCNOMETER #: 21

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.46
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	346.59
(C) WEIGHT OF SAMPLE (G):............................	166.13
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	678.83
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:..........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	781.55
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	21.10
(I) DENSITY OF WATER @ T2:..........................	.997999

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

(R)= (D-A)/F*.998234+A.............................	679.1622
(S)= (G-B)/I*.998234+B.............................	781.6524
(GS)= C/(C+R)-S))*.998234..........................	2.605863

SPECIFIC GRAVITY:..................................... 2.606

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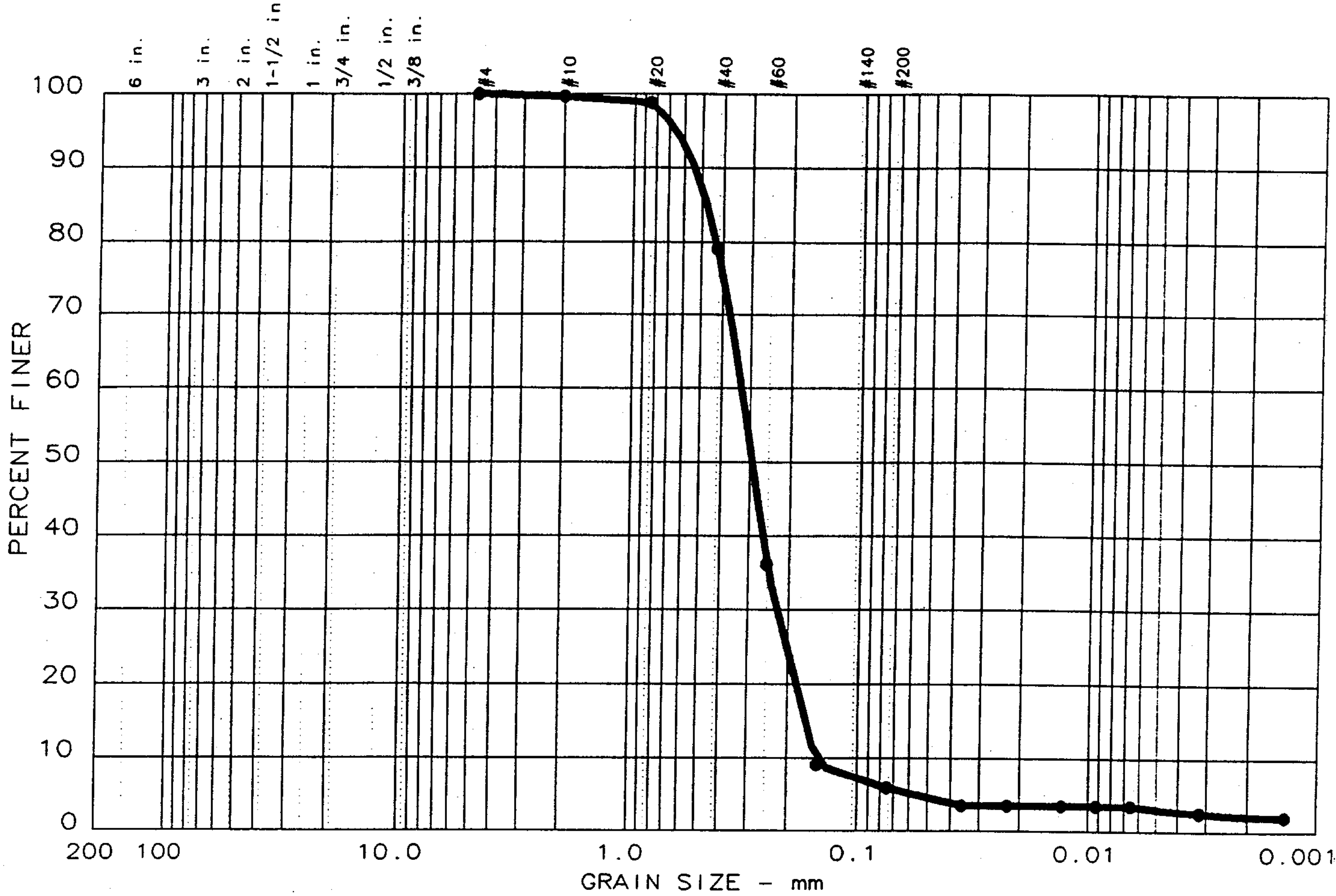
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	94.1	2.8	3.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.47	0.33	0.29	0.222	0.1675	0.1526	0.99	2.1

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP-SM)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757-4
● Location: SD-02-Q4

Date: 01/14/94

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 25.52

Figure No. 15

GRAIN SIZE DISTRIBUTION TEST DATA   Test No.: 10

Date: 01/14/94
Project No.: P93147
Project: SAVANNAH #: M3-15757-4

Sample Data

Location of Sample: SD-O2-Q4
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP-SM)   Liquid limit: ----
AASHTO Class: ----   Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 25.52
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	94.08
Tare =	0.00	0.00
Dry sample weight =	100.00	94.08

Minus #200 from wash= 5.9 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.35	99.7
# 20	1.14	98.9
# 40	20.92	79.1
# 60	63.77	36.2
# 100	90.91	9.1
# 200	94.08	5.9

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.7
Weight of hydrometer sample: 100
Calculated biased weight= 100.35
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.669
Specific gravity correction factor= 0.996
Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	9.0	3.5	0.0132	9.0	14.8	0.0358	3.5
5.0	22.5	9.0	3.5	0.0132	9.0	14.8	0.0227	3.5
15.0	22.5	9.0	3.5	0.0132	9.0	14.8	0.0131	3.5
30.0	22.4	9.0	3.5	0.0132	9.0	14.8	0.0093	3.5
60.0	22.4	9.0	3.5	0.0132	9.0	14.8	0.0065	3.5
250.0	22.7	8.0	2.6	0.0131	8.0	15.0	0.0032	2.6
1440.0	20.4	8.0	2.0	0.0135	8.0	15.0	0.0014	2.0

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 94.1
% SILT = 2.8 % CLAY = 3.1

D85= 0.47 D60= 0.327 D50= 0.292
D30= 0.2223 D15= 0.16749 D10= 0.15258
Cc = 0.9897 Cu = 2.1454

Douglas L. Ford

Thompson Engineering

JANUARY 14, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-4

REPORT #: 16
JOB #:P93147

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-Q4

PYCNOMETER #: 4

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.97
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	368.84
(C) WEIGHT OF SAMPLE (G):............................	187.87
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	678.97
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	25.00
(F) DENSITY OF WATER @ T1:...........................	.997075
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	796.85
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	23.20
(I) DENSITY OF WATER @ T2:...........................	.997521

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

(R)= (D-A)/F*.998234+A................................	679.5489
(S)= (G-B)/I*.998234+B................................	797.1559
(GS)= C/(C+R)-S))*.998234.............................	2.669091

SPECIFIC GRAVITY:.. 2.669

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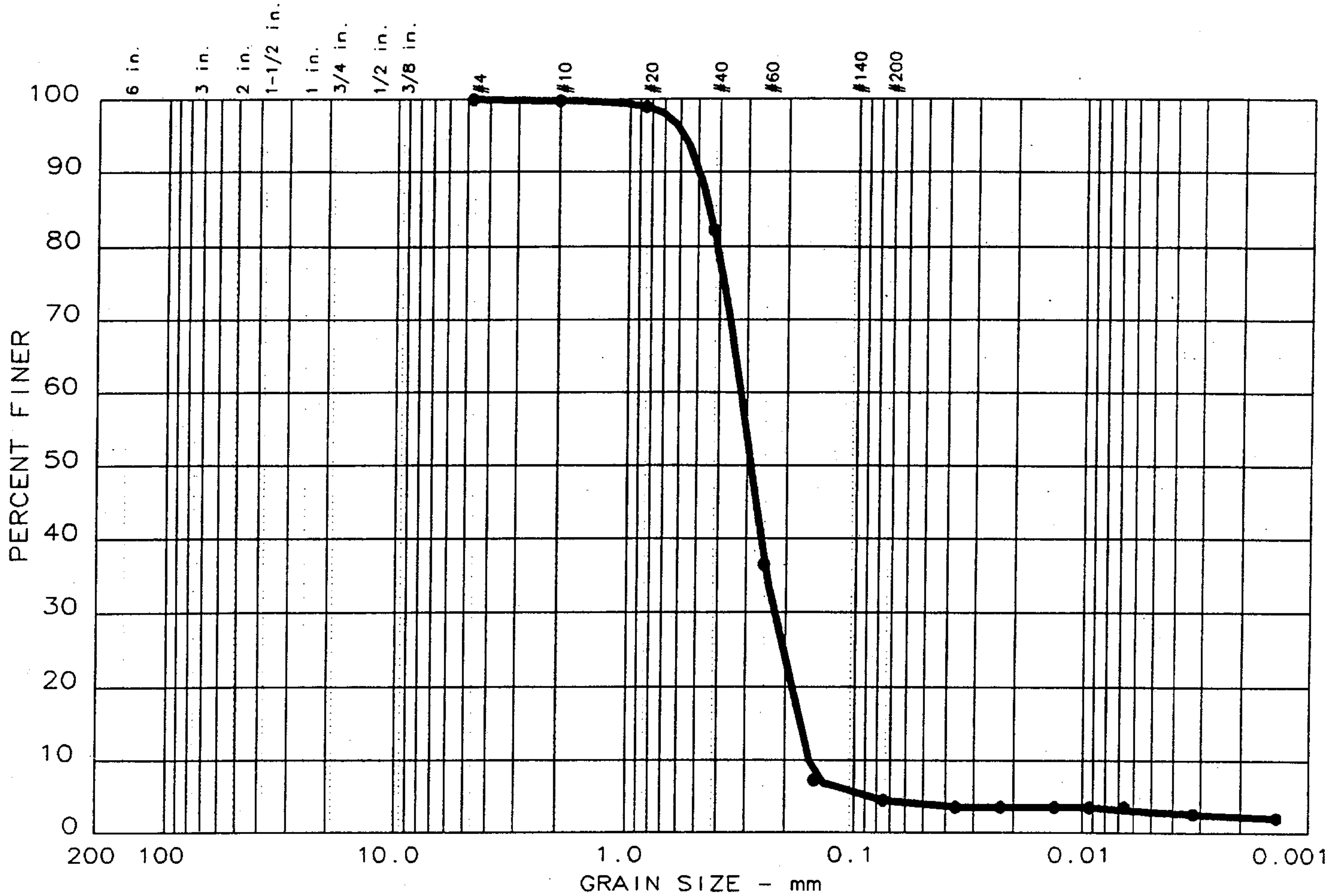
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	95.5	1.6	2.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.45	0.32	0.29	0.223	0.1716	0.1572	0.99	2.0

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757-5
● Location: SD-02-Q5

Date: 01/14/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 22.43

Figure No. 17

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 11

--te: 01/14/94
-oject No.: P93147
Project: SAVANNAH #: M3-15757-5

Sample Data

Location of Sample: SD-02-Q5
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP) Liquid limit: ----
AASHTO Class: ---- Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 22.43
Fig. No.:

Mechanical Analysis Data

		Initial	After wash
Dry sample and tare	=	100.00	95.52
Tare	=	0.00	0.00
Dry sample weight	=	100.00	95.52

Minus #200 from wash= 4.5 %
-re for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.23	99.8
# 20	1.04	99.0
# 40	17.84	82.2
# 60	63.44	36.6
# 100	92.76	7.2
# 200	95.52	4.5

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.8
Weight of hydrometer sample: 100
Calculated biased weight= 100.23
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.639
Specific gravity correction factor= 1.003
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0361	3.5
5.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0229	3.5
15.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0132	3.5
30.0	22.4	9.0	3.5	0.0133	9.0	14.8	0.0093	3.5
60.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0066	3.5
250.0	22.7	8.0	2.6	0.0132	8.0	15.0	0.0032	2.6
1440.0	20.4	8.0	2.0	0.0136	8.0	15.0	0.0014	2.0

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 95.5
% SILT = 1.6 % CLAY = 2.9

D85= 0.45 D60= 0.320 D50= 0.288
D30= 0.2228 D15= 0.17159 D10= 0.15722
Cc = 0.9886 Cu = 2.0324

Thompson Engineering

JANUARY 14, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-5

REPORT #: 18
JOB #:P93147

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-Q5

PYCNOMETER #: 3

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	177.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	377.22
(C) WEIGHT OF SAMPLE (G):............................	199.99
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	675.37
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	799.72
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.40
(I) DENSITY OF WATER @ T2:...........................	.997472

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

(R)= (D-A)/F*.998234+A............................	675.7021
(S)= (G-B)/I*.998234+B............................	800.0428
(GS)= C/(C+R)-S))*.998234.........................	2.638977

SPECIFIC GRAVITY:...................................... 2.639

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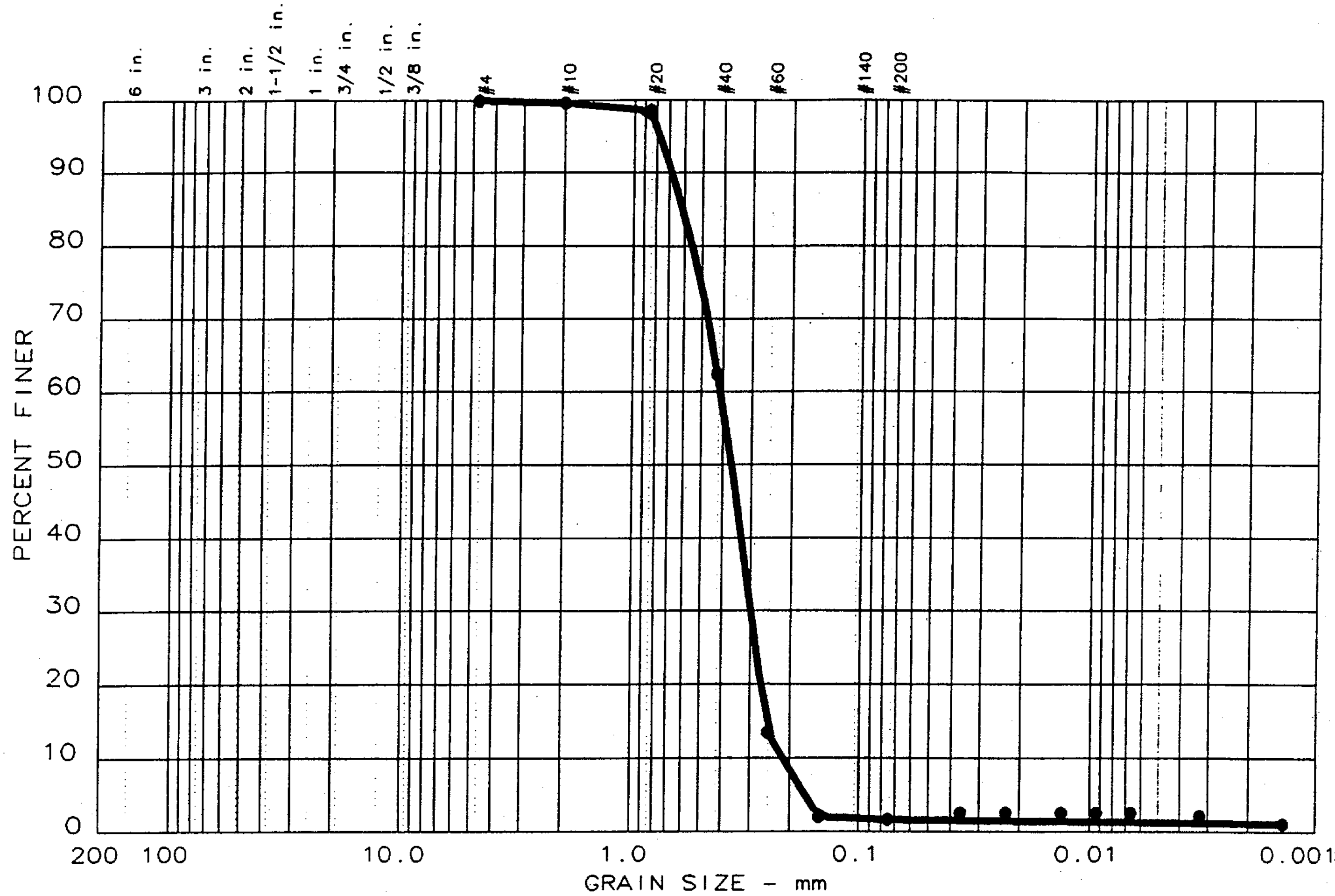
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	98.4	0.4	1.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.61	0.41	0.37	0.299	0.2547	0.2143	1.01	1.9

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757-6
● Location: SD-02-X3

Date: 01/14/94

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 22.24

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 23

GRAIN SIZE DISTRIBUTION TEST DATA — Test No.: 14

Date: 01/14/94
Project No.: P93147
Project: SAVANNAH #: M3-15757-6

Sample Data

Location of Sample: SD-O2-X3
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP) Liquid limit: ----
AASHTO Class: ---- Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 22.24
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	98.38
Tare =	0.00	0.00
Dry sample weight =	100.00	98.38

Minus #200 from wash= 1.6 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.36	99.6
# 20	1.38	98.6
# 40	37.60	62.4
# 60	86.58	13.4
# 100	98.04	2.0
# 200	98.38	1.6

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.6
Weight of hydrometer sample: 100
Calculated biased weight= 100.36
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.65
Specific gravity correction factor= 1.000
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	8.0	2.5	0.0132	8.0	15.0	0.0362	2.5
5.0	22.5	8.0	2.5	0.0132	8.0	15.0	0.0229	2.5
15.0	22.5	8.0	2.5	0.0132	8.0	15.0	0.0132	2.5
30.0	22.4	8.0	2.5	0.0132	8.0	15.0	0.0094	2.5
60.0	22.4	8.0	2.5	0.0132	8.0	15.0	0.0066	2.5
250.0	22.7	7.5	2.1	0.0132	7.5	15.1	0.0032	2.1
1440.0	20.4	7.0	1.0	0.0136	7.0	15.1	0.0014	1.0

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 98.4
% SILT = 0.4 % CLAY = 1.2

D85= 0.61 D60= 0.411 D50= 0.366
D30= 0.2985 D15= 0.25468 D10= 0.21429
Cc = 1.0116 Cu = 1.9187

Thompson Engineering

JANUARY 14, 1994

REPORT #: 24
JOB #:P93147

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-6

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-X3

PYCNOMETER #: 7

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	182.61
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	378.53
(C) WEIGHT OF SAMPLE (G):............................	195.92
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	680.63
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	802.76
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	23.30
(I) DENSITY OF WATER @ T2:...........................	.997496

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

(R)= (D-A)/F*.998234+A................................	680.9620
(S)= (G-B)/I*.998234+B................................	803.0739
(GS)= C/((C+R)-S))*.998234............................	2.649763

SPECIFIC GRAVITY:.. 2.650

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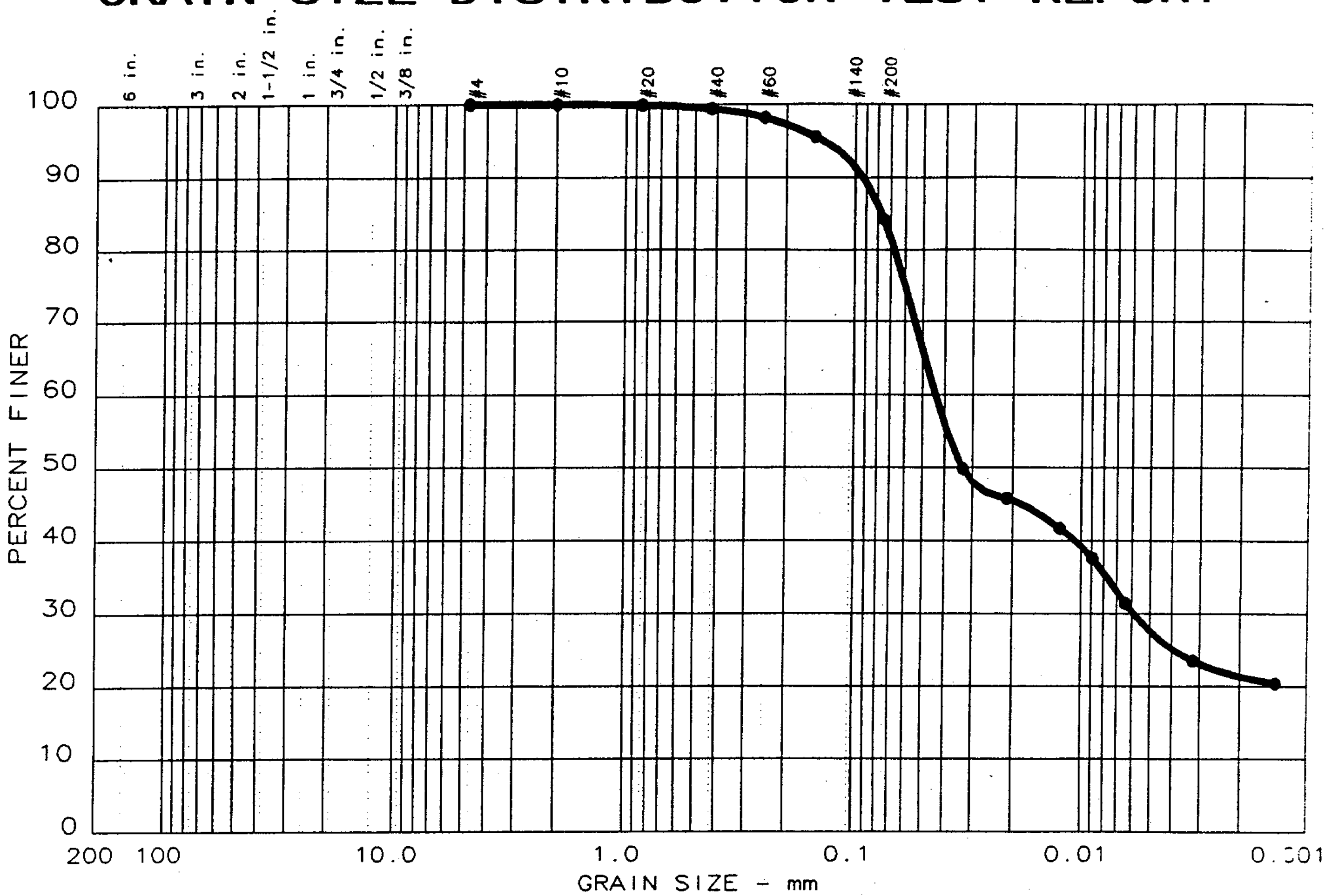
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	15.8	56.6	27.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.08		0.03	0.006				

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN CLAYEY SILT, LITTLE FINE SAND	(ML)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757-7
● Location: SD-02-P2

Date: 01/14/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 227.62

Figure No. 1

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 3

Date: 01/14/94
Project No.: P93147
Project: SAVANNAH #: M3-15757-7

Sample Data

Location of Sample: SD-02-P2
Sample Description: BROWN CLAYEY SILT, LITTLE FINE SAND
USCS Class: (ML) Liquid limit: ----
AASHTO Class: ---- Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 227.62
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	51.05	8.05
Tare =	0.00	0.00
Dry sample weight =	51.05	8.05

Minus #200 from wash= 84.2 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.05	99.9
# 40	0.31	99.4
# 60	0.91	98.2
# 100	2.27	95.6
# 200	8.05	84.2

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 51.05
Calculated biased weight= 51.05
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.501
Specific gravity correction factor= 1.037
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	30.0	24.5	0.0139	30.0	11.4	0.0331	49.9
5.0	22.5	28.0	22.5	0.0139	28.0	11.7	0.0212	45.8
15.0	22.5	26.0	20.5	0.0139	26.0	12.0	0.0124	41.7
30.0	22.4	24.0	18.5	0.0139	24.0	12.4	0.0089	37.6
60.0	22.4	21.0	15.5	0.0139	21.0	12.9	0.0064	31.5
250.0	22.7	17.0	11.6	0.0138	17.0	13.5	0.0032	23.5
1440.0	20.3	16.0	10.0	0.0143	16.0	13.7	0.0014	20.4

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 15.8
% SILT = 56.6 % CLAY = 27.6

D85= 0.08 D60= 0.044 D50= 0.033
D30= 0.0058

Thompson Engineering

JANUARY 14, 1994

REPORT #: 2
JOB #:P93147

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-7

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-P2   PYCNOMETER #: 940

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	188.21
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	299.00
(C) WEIGHT OF SAMPLE (G):............................	110.79
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	686.56
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	753.38
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	20.80
(I) DENSITY OF WATER @ T2:...........................	.998064

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

(R)= (D-A)/F*.998234+A................................	686.8922
(S)= (G-B)/I*.998234+B................................	753.4574
(GS)= C/(C+R)-S))*.998234.............................	2.500730

SPECIFIC GRAVITY:.................................. 2.501

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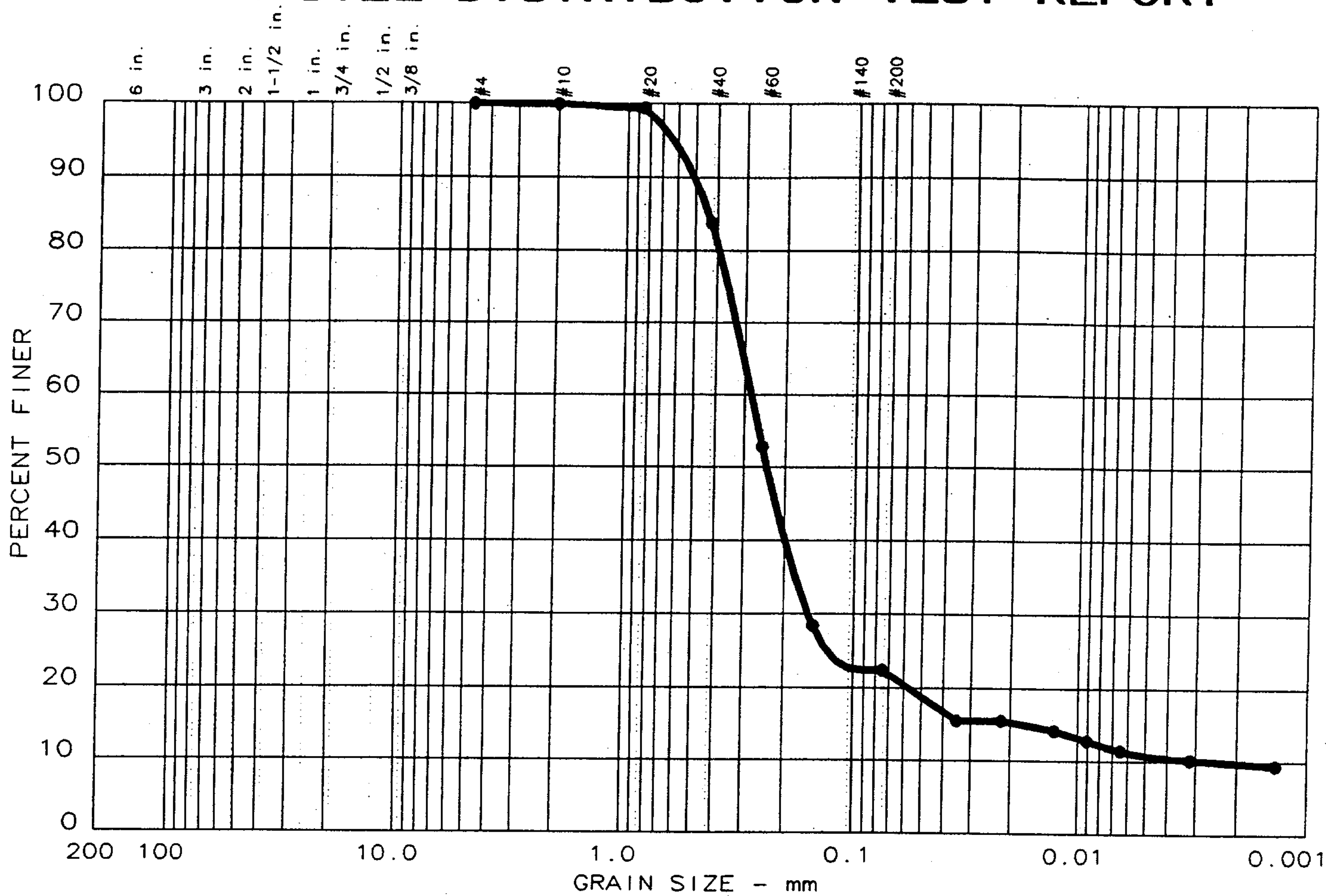
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	77.6	11.7	10.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.44	0.28	0.24	0.158	0.0173	0.0025	35.44	112.3

MATERIAL DESCRIPTION	USCS	AASHTO
● GRAY SILTY MEDIUM-FINE SAND	(SM)	----

Project No.: P93147

Project: SAVANNAH #: M3-15757-8

● Location: SD-02-P3

Date: 01/14/94

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Remarks:

CLIENT: SAVANNAH

LABORATORIES

NATURAL MOISTURE (%):

49.00

Figure No. 3

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 4

D-te: 01/14/94
ject No.: P93147
Project: SAVANNAH #: M3-15757-8

Sample Data

Location of Sample: SD-02-P3
Sample Description: GRAY SILTY MEDIUM-FINE SAND
USCS Class: (SM) Liquid limit: ----
AASHTO Class: ---- Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 49.00
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	75.05	58.23
Tare =	0.00	0.00
Dry sample weight =	75.05	58.23

Minus #200 from wash= 22.4 %
-e for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.05	99.9
# 20	0.44	99.4
# 40	12.13	83.8
# 60	35.41	52.8
# 100	53.68	28.5
# 200	58.23	22.4

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.9
Weight of hydrometer sample: 75.05
Calculated biased weight= 75.10
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.617
Specific gravity correction factor= 1.008
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	17.0	11.5	0.0134	17.0	13.5	0.0347	15.5
5.0	22.5	17.0	11.5	0.0134	17.0	13.5	0.0220	15.5
15.0	22.5	16.0	10.5	0.0134	16.0	13.7	0.0128	14.1
30.0	22.4	15.0	9.5	0.0134	15.0	13.8	0.0091	12.8
60.0	22.4	14.0	8.5	0.0134	14.0	14.0	0.0065	11.4
250.0	22.7	13.0	7.6	0.0133	13.0	14.2	0.0032	10.2
1440.0	20.3	13.0	7.0	0.0137	13.0	14.2	0.0014	9.4

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 77.6
% SILT = 11.7 % CLAY = 10.7

D85= 0.44 D60= 0.281 D50= 0.239
D30= 0.1576 D15= 0.01728 D10= 0.00250
Cc = 35.4405 Cu = 112.3311

Thompson Engineering

JANUARY 14, 1994

REPORT #: 4
JOB #:P93147

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-8

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-P3 PYCNOMETER #: 8

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	362.05
(C) WEIGHT OF SAMPLE (G):...........................	181.82
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	678.30
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	24.00
(F) DENSITY OF WATER @ T1:..........................	.997327
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	790.86
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	23.80
(I) DENSITY OF WATER @ T2:..........................	.997375

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

(R)= (D-A)/F*.998234+A................................	678.7530
(S)= (G-B)/I*.998234+B................................	791.2293
(GS)= C/(C+R)-S))*.998234.............................	2.617383

SPECIFIC GRAVITY:...................................... 2.617

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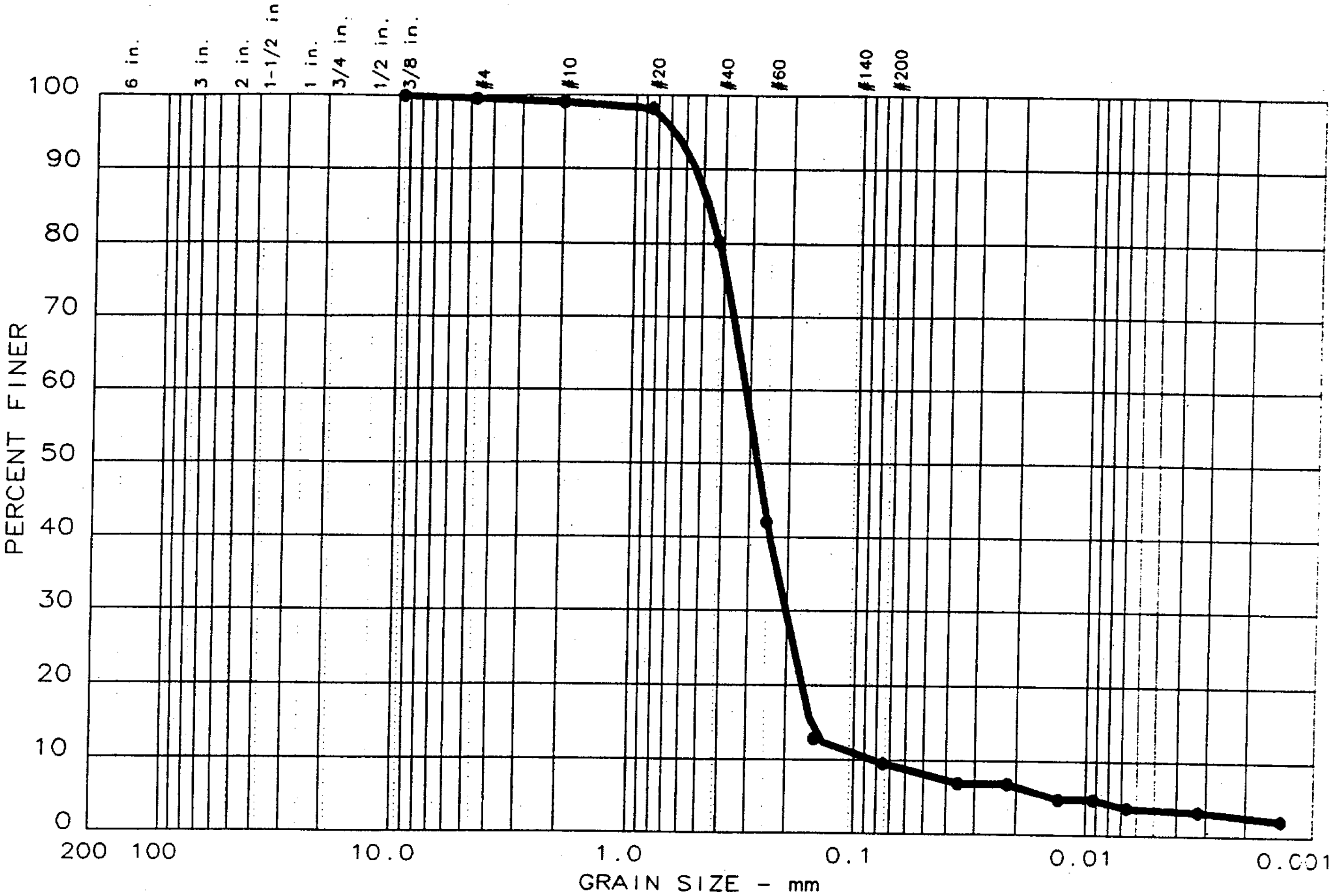
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.4	90.1	6.0	3.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.47	0.31	0.28	0.202	0.1558	0.0827	1.58	3.8

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP-SM)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757-9
● Location: SD-02-P4

Date: 01/14/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH
LABORATORIES
NATURAL MOISTURE (%):
26.75

Figure No. 5

GRAIN SIZE DISTRIBUTION TEST DATA   Test No.: 5

D-te: 01/14/94
_ject No.: P93147
Project: SAVANNAH #: M3-15757 -9

Sample Data

Location of Sample: SD-02-P4
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP-SM)   Liquid limit: ----
AASHTO Class: ----   Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 26.75
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	93.95	85.01
Tare =	0.00	0.00
Dry sample weight =	93.95	85.01

Minus #200 from wash= 9.5 %
_re for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.33	99.6
# 10	0.87	99.1
# 20	1.65	98.2
# 40	18.62	80.2
# 60	54.40	42.1
# 100	81.91	12.8
# 200	85.01	9.5

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.1
Weight of hydrometer sample: 93.95
Calculated biased weight= 94.83
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.634
Specific gravity correction factor= 1.004

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	12.0	6.5	0.0133	12.0	14.3	0.0356	6.9
5.0	25.5	11.0	6.5	0.0128	11.0	14.5	0.0218	6.8
15.0	22.5	10.0	4.5	0.0133	10.0	14.7	0.0131	4.8
30.0	22.5	10.0	4.5	0.0133	10.0	14.7	0.0093	4.8
60.0	22.4	9.0	3.5	0.0133	9.0	14.8	0.0066	3.7
250.0	22.7	8.5	3.1	0.0133	8.5	14.9	0.0032	3.3
1440.0	20.3	8.0	2.0	0.0137	8.0	15.0	0.0014	2.1

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.4   % SAND = 90.1
% SILT = 6.0   % CLAY = 3.5

D85= 0.47   D60= 0.314   D50= 0.276
D30= 0.2023   D15= 0.15578   D10= 0.08270
Cc = 1.5776   Cu = 3.7931

Thompson Engineering

JANUARY 14, 1994

REPORT #: 6
JOB #:P93147

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-9

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-P4 PYCNOMETER #: 1B

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.37
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	287.09
(C) WEIGHT OF SAMPLE (G):............................	106.72
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	678.55
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.40
(F) DENSITY OF WATER @ T1:...........................	.997472
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	744.86
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	23.30
(I) DENSITY OF WATER @ T2:...........................	.997496

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

(R)= (D-A)/F*.998234+A..............................	678.9306
(S)= (G-B)/I*.998234+B..............................	745.1987
(GS)= C/(C+R)-S))*.998234...........................	2.633536

SPECIFIC GRAVITY:.................................. 2.634

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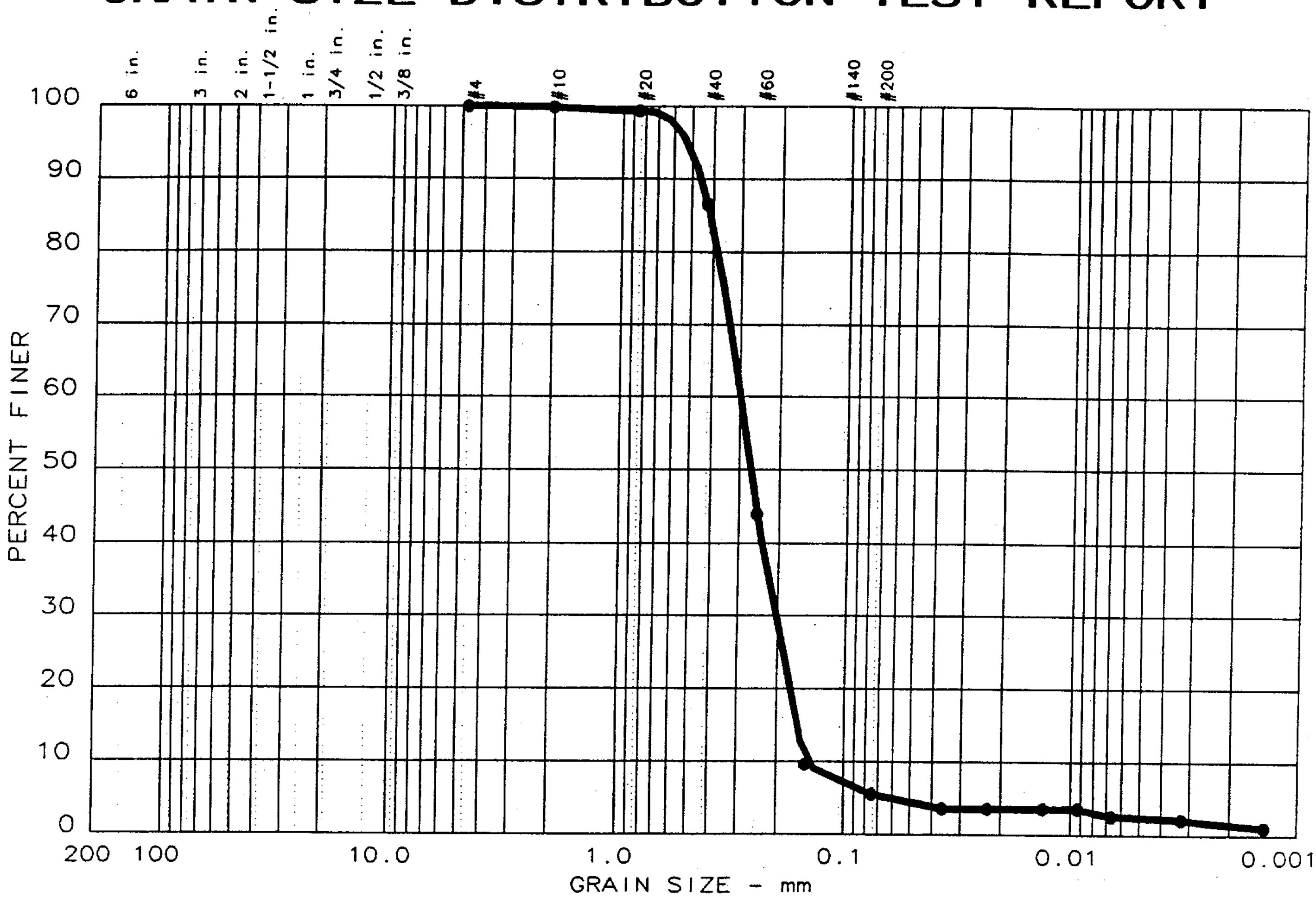
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	94.5	3.1	2.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.41	0.30	0.27	0.203	0.1626	0.1500	0.92	2.0

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN & GRAY MEDIUM-FINE SAND	(SP-SM)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757-10
● Location: SD-02-P5

Date: 01/14/94

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 25.13

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 7

GRAIN SIZE DISTRIBUTION TEST DATA   Test No.: 6

~~te: 01/14/94
~~ject No.: P93147
Project: SAVANNAH #: M3-15757-10

Sample Data

Location of Sample: SD-02-P5
Sample Description: BROWN & GRAY MEDIUM-FINE SAND
USCS Class: (SP-SM)   Liquid limit: ----
AASHTO Class: ----   Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 25.13
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	94.51
Tare =	0.00	0.00
Dry sample weight =	100.00	94.51

Minus #200 from wash= 5.5 %
~~e for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.11	99.9
# 20	0.58	99.4
# 40	13.45	86.6
# 60	55.99	44.0
# 100	90.42	9.6
# 200	94.51	5.5

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.9
Weight of hydrometer sample: 100
Calculated biased weight= 100.11
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.639
Specific gravity correction factor= 1.003
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0361	3.5
5.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0229	3.5
15.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0132	3.5
30.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0093	3.5
60.0	22.4	8.0	2.5	0.0133	8.0	15.0	0.0066	2.5
250.0	22.7	7.5	2.1	0.0132	7.5	15.1	0.0033	2.1
1440.0	20.3	7.0	1.0	0.0136	7.0	15.1	0.0014	1.0

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 94.5
% SILT = 3.1 % CLAY = 2.4

D85= 0.41 D60= 0.298 D50= 0.267
D30= 0.2030 D15= 0.16255 D10= 0.15000
Cc = 0.9224 Cu = 1.9857

Thompson Engineering

JANUARY 14, 1994

REPORT #: 8
JOB #:P93147

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757-10

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-P5 PYCNOMETER #: 2

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	174.50
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	355.68
(C) WEIGHT OF SAMPLE (G):............................	181.18
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	672.68
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	785.32
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.40
(I) DENSITY OF WATER @ T2:...........................	.997472

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

(R)= (D-A)/F*.998234+A.................................	673.0121
(S)= (G-B)/I*.998234+B.................................	785.6482
(GS)= C/(C+R)-S))*.998234.............................	2.638602

SPECIFIC GRAVITY:.................................... 2.639

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900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205) 666-6633 • Fax (205) 666-6696

LOG NO: M3-15654A

Received: 07 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

RECEIVED JAN 24 1994

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15654A-1	SD-02-D4	12-06-93	EAH017
15654A-2	SD-02-D5	12-06-93	EAH017
15654A-3	SD-02-X1	12-06-93	EAH017
15654A-4	SD-02-F4	12-06-93	EAH017
15654A-5	SD-02-F5	12-06-93	EAH017

PARAMETER	15654A-1	15654A-2	15654A-3	15654A-4	15654A-5
Heterotrophic Plate Count (SM 907A)					
Standard Plate Count, No/g	70000	500000	20000	700000	30000
Date Analyzed	12.20.93	12.20.93	12.20.93	12.20.93	12.20.93
Analyst	CE	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)					
Phosphorus, Total, mg/kg dw	250	72	15	360	98
Sample Preparation	01.05.94	01.05.94	01.05.94	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94	01.06.94	01.06.94	01.06.94
Analyst	BB	BB	BB	BB	BB
Nitrate as N (EPA 353.2)					
Nitrate-N, mg/kg dw	<2.0	2.3	<2.0	<2.0	2.2
Sample Preparation	01.10.94	01.10.94	01.10.94	01.10.94	01.10.94
Date Analyzed	01.11.94	01.11.94	01.11.94	01.11.94	01.11.94
Analyst	BB	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)					
Kjeldahl Nitrogen-N, mg/kg dw	340	200	<20	1300	200
Sample Preparation	01.05.94	01.05.94	01.05.94	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94	01.06.94	01.06.94	01.06.94
Analyst	BB	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	150	140	420	140	3200
Sample Preparation	12.21.93	12.21.93	12.21.93	12.21.93	12.21.93
Date Analyzed	12.22.93	12.22.93	12.22.93	12.22.93	12.22.93
Analyst	SR	SR	SR	SR	SR

SL SAVANNAH LABORATORIES
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900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205) 666-6633 • Fax (205) 666-6696

LOG NO: M3-15654A

Received: 07 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15654A-1	SD-02-D4	12-06-93	EAH017
15654A-2	SD-02-D5	12-06-93	EAH017
15654A-3	SD-02-X1	12-06-93	EAH017
15654A-4	SD-02-F4	12-06-93	EAH017
15654A-5	SD-02-F5	12-06-93	EAH017

PARAMETER	15654A-1	15654A-2	15654A-3	15654A-4	15654A-5
Cation Exchange Capacity (EPA 9081)					
Cation Exchange Capacity, mEq/100g	4.9	3.8	0.50	20	22
Date Extracted	12.15.93	12.15.93	12.15.93	12.15.93	12.20.93
Date Analyzed	12.17.93	12.17.93	12.17.93	12.17.93	12.21.93
Analyst	PC	PC	PC	PC	TO
Density @ 20 Degrees C, N	NA	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*	*
Specific Gravity [C0275]	*	*	*	*	*
Grain Size (ASTM D421/422/1140)					
% Passing sieve No.4	*	*	*	*	*

NA = Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET reports

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15654A-6	SD-02-N2	12-06-93	EAH017
15654A-7	SD-02-N3	12-06-93	EAH017
15654A-8	SD-02-N4	12-06-93	EAH017
15654A-9	SD-02-N5	12-06-93	EAH017

PARAMETER	15654A-6	15654A-7	15654A-8	15654A-9
Heterotrophic Plate Count (SM 907A)				
Standard Plate Count, No/g	50000	30000	20000	20000
Date Analyzed	12.20.93	12.20.93	12.20.93	12.20.93
Analyst	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)				
Phosphorus, Total, mg/kg dw	210	380	70	44
Sample Preparation	01.05.94	01.05.94	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94	01.06.94	01.06.94
Analyst	BB	BB	BB	BB
Nitrate as N (EPA 353.2)				
Nitrate-N, mg/kg dw	2.9	<2.0	<2.0	<2.0
Sample Preparation, mg/l	01.10.94	01.10.94	01.10.94	01.10.94
Date Analyzed	01.11.94	01.11.94	01.11.94	01.11.94
Analyst	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)				
Kjeldahl Nitrogen-N, mg/kg dw	570	830	180	140
Sample Preparation	01.05.94	01.05.94	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94	01.06.94	01.06.94
Analyst	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)				
Organic Carbon, mg/kg dw	<50	1600	590	470
Sample Preparation	12.21.93	12.21.93	12.21.93	12.21.93
Date Analyzed	12.22.93	12.22.93	12.22.93	12.22.93
Analyst	SR	SR	SR	SR

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Project: N0058C0030 Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15654A-6	SD-02-N2	12-06-93	EAH017
15654A-7	SD-02-N3	12-06-93	EAH017
15654A-8	SD-02-N4	12-06-93	EAH017
15654A-9	SD-02-N5	12-06-93	EAH017

PARAMETER	15654A-6	15654A-7	15654A-8	15654A-9
Cation Exchange Capacity (EPA 9081)				
Cation Exchange Capacity, mEq/100g	10	16	1.8	1.2
Date Extracted	12.20.93	12.28.93	12.20.93	12.20.93
Date Analyzed	12.21.93	12.30.93	12.21.93	12.21.93
Analyst	TO	PC	TO	TO
Density @ 20 Degrees C, N	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*
Specific Gravity [C0275]	*	*	*	*
Grain Size (ASTM D421/422/1140)				
% Passing sieve No.4	*	*	*	*

NA = Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET reports

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LOG NO: M3-15654A

Received: 07 DEC 93

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JAN 24 1994

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
15654A-10	Quantitation Limit
15654A-11	Accuracy (% Recovery for LCS/LCSD)
15654A-12	Precision (Relative % Difference for LCS/LCSD)

PARAMETER	15654A-10	15654A-11	15654A-12
Standard Plate Count, NO/g	100	---	---
Phosphorus, Total, mg/kg	10	106/106 %	0 %
Nitrate-N, mg/kg	2.0	90/89 %	1.0 %
Kjeldahl Nitrogen-N, mg/kg	20	90/88 %	2.2 %
Organic Carbon, mg/kg	50	88/87 %	1.1 %
Cation Exchange Capacity, meq/100g	0.050	100/96 %	4.1 %

Michele H. Lersch
Michele H. Lersch

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JAN 10 1994

LOG NO: M3-15536

Received: 01 DEC 93

Purchase Order: #E-0179/93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Project: CTO-0058-C0030,Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15536-1	SW-02-A101	11-30-93	EAH015
15536-2	SW-02-A102	11-30-93	EAH015

PARAMETER	15536-1	15536-2
Biochemical Oxygen Demand (SM507)		
5 Day BOD (SM 507), mg/l	<1.0	<1.0
Date Analyzed	12.01.93	12.01.93
Analyst	MS	MS
Total Suspended Solids (EPA 160.2)		
TSS (EPA 160.2), mg/l	5.0	12
Date Analyzed	12.06/1500	12.06/1500
Analyst	CE	CE
Total Alkalinity as CaCO3 (EPA 310.1)		
Alkalinity as CaCO3, mg/l	98	94
Date Analyzed	12.01.93	12.01.93
Analyst	CG	CG
Nitrate as N (EPA 353.2)		
Nitrate-N, mg/l	0.56	0.79
Sample Preparation	12.03.93	12.03.93
Date Analyzed	12.03.93	12.03.93
Analyst	BB	BB
Chemical Oxygen Demand (SM508)		
Chemical Oxygen Demand, mg/l	260	210
Date Analyzed	12.08.93	12.08.93
Analyst	MS	MS
Total Kjeldahl Nitrogen as N (351.2)		
Kjeldahl Nitrogen-N, mg/l	<0.10	<0.10
Sample Preparation	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93
Analyst	BB	BB

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LOG NO: M3-15536

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Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO-0058-C0030,Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE SAMPLED	SDG#
15536-1	SW-02-A101	11-30-93	EAH015
15536-2	SW-02-A102	11-30-93	EAH015

PARAMETER	15536-1	15536-2
Total Phosphorus (EPA 365.4)		
Phosphorus, Total, mg/l	<0.050	<0.050
Sample Preparation	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93
Analyst	BB	BB
Iardness (SM314A)		
Hardness, as CaCO3, mg/l	5100	5200
Sample Preparation	12.08.93	12.08.93
Date Analyzed	12.13.93	12.13.93
Analyst	TO	TO
Heterotrophic Plate Count (SM 907A)		
Standard Plate Count, No/ml	30	190
Date Analyzed	12.01.93	12.03.93
Analyst	CE	CE

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Purchase Order: #E-0179/93

Project: CTO-0058-C0030,Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES
15536-3	Matrix Spike % Recovery
15536-4	Matrix Spike Duplicate % Recovery

PARAMETER	15536-3	15536-4
TSS (EPA 160.2)	100 %	99 %
Alkalinity as CaCO3	105 %	105 %
Nitrate-N	104 %	101 %
Chemical Oxygen Demand	92 %	87 %
Kjeldahl Nitrogen-N	111 %	109 %
Phosphorus, Total	140 %	140 %
Hardness, as CaCO3	NR*F61	NR*F61

NR = No Recovery

*F61 = The recoveries of the matrix spikes are outside the advisory limits due to the abundance of the target analytes in the sample.

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LOG NO: M3-15536

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Purchase Order: #E-0179/93

Project: CTO-0058-C0030,Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
15536-5	Quantitation Limit
15536-6	Accuracy (% Recovery for LCS/LCSD)
15536-7	Precision (Relative % Difference for LCS /LCSD)

PARAMETER	15536-5	15536-6	15536-7
5 Day BOD (SM 507), mg/l	1.0	94/95 %	1.0 %
TSS (EPA 160.2), mg/l	1.0	105/103 %	1.9 %
Alkalinity as CaCO3, mg/l	1.0	100/100 %	0 %
Nitrate-N, mg/l	0.10	97/98 %	1.0 %
Chemical Oxygen Demand, mg/l	20	97/97 %	0 %
Kjeldahl Nitrogen-N, mg/l	0.10	91/93 %	2.2 %
Phosphorus, Total, mg/l	0.050	97/96 %	1.0 %
Hardness, as CaCO3, mg/l	1.5	101/104 %	2.9 %
Standard Plate Count, NO/ml	1	---	---

Michele H. Lersch

Michele H. Lersch

Final Page Of Report

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LOG NO: M3-15692A

Received: 08 DEC 93

Purchase Order: #E-0179/93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

RECEIVED JAN 27 1994

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15692A-1	SD-02-X2	12-07-93	EAH018
15692A-2	SD-02-M3	12-07-93	EAH018
15692A-3	SD-02-M4	12-07-93	EAH018
15692A-4	SD-02-M5	12-07-93	EAH018
15692A-5	SD-02-01	12-07-93	EAH018

PARAMETER	15692A-1	15692A-2	15692A-3	15692A-4	15692A-5
Heterotrophic Plate Count (SM 907A)					
Standard Plate Count, No/g	2400000	120000	90000	80000	580000
Date Analyzed	12.20.93	12.20.93	12.22.93	12.22.93	12.22.93
Analyst	CE	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)					
Phosphorus, Total, mg/kg dw	22	79	98	36	88
Sample Preparation	01.05.94	01.05.94	01.05.94	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94	01.06.94	01.06.94	01.06.94
Analyst	BB	BB	BB	BB	BB
Nitrate as N (EPA 353.2)					
Nitrate-N, mg/kg dw	<2.0	2.1	<2.0	<2.0	<2.0
Sample Preparation	01.10.94	01.10.94	01.10.94	01.10.94	01.10.94
Date Analyzed	01.11.94	01.11.94	01.11.94	01.11.94	01.11.94
Analyst	BB	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)					
Kjeldahl Nitrogen-N, mg/kg dw	76	240	110	69	320
Sample Preparation	01.05.94	01.05.94	01.05.94	01.05.94	01.05.94
Date Analyzed	01.06.94	01.06.94	01.06.94	01.06.94	01.06.94
Analyst	BB	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	160	270	200	160	300
Sample Preparation	12.27.93	12.27.93	12.27.93	12.27.93	12.27.93
Date Analyzed	12.27.93	12.27.93	12.27.93	12.27.93	12.27.93
Analyst	SR	SR	SR	SR	SR

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LOG NO: M3-15692A

Received: 08 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15692A-1	SD-02-X2	12-07-93	EAH018
15692A-2	SD-02-M3	12-07-93	EAH018
15692A-3	SD-02-M4	12-07-93	EAH018
15692A-4	SD-02-M5	12-07-93	EAH018
15692A-5	SD-02-01	12-07-93	EAH018

PARAMETER	15692A-1	15692A-2	15692A-3	15692A-4	15692A-5
Cation Exchange Capacity (EPA 9081)					
Cation Exchange Capacity, mEq/100g	0.61	2.5	1.1	0.69	3.2
Date Extracted	12.20.93	12.20.93	12.20.93	12.20.93	12.20.93
Date Analyzed	12.21.93	12.21.93	12.21.93	12.21.93	12.21.93
Analyst	TO	TO	TO	TO	TO
Density @ 20 Degrees C	NA	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*	*
Specific Gravity	*	*	*	*	*
Grain Size (ASTM D421/422/1140)					
% Passing sieve No.4	*	*	*	*	*

NA = Not Analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET report

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LOG NO: M3-15536A

RECEIVED JAN 10 1994

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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15536A-1	SD-02-A1	11-30-93	EAH016
15536A-2	SD-02-F1	11-30-93	EAH016
15536A-3	SD-02-D2	11-30-93	EAH016

PARAMETER	15536A-1	15536A-2	15536A-3
Heterotrophic Plate Count (SM 907A)			
Standard Plate Count, No/g	30000	20000	40000
Date Analyzed	12.03.93	12.03.93	12.03.93
Total Phosphorus (EPA 365.4)			
Phosphorus, Total, mg/kg dw	150	<10	240
Sample Preparation	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB
Nitrate as N (EPA 353.2)			
Nitrate-N, mg/kg dw	<2.0	<2.0	<2.0
Sample Preparation	12.03.93	12.16.93	12.03.93
Date Analyzed	12.03.93	12.21.93	12.03.93
Analyst	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)			
Kjeldahl Nitrogen-N, mg/kg dw	560	110	330
Sample Preparation	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB
Total Organic Carbon (EPA 415.1)			
Organic Carbon, mg/kg dw	240	390	490
Sample Preparation	12.14.93	12.14.93	12.14.93
Date Analyzed	12.15.93	12.15.93	12.15.93
Analyst	SR	SR	SR

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Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15536A-1	SD-02-A1	11-30-93	EAH016
15536A-2	SD-02-F1	11-30-93	EAH016
15536A-3	SD-02-D2	11-30-93	EAH016

PARAMETER	15536A-1	15536A-2	15536A-3
Cation Exchange Capacity (EPA 9081)			
Cation Exchange Capacity, mEq/100g	4.1	0.88	3.6
Date Extracted	12.10.93	12.10.93	12.10.93
Date Analyzed	12.13.93	12.13.93	12.13.93
Analyst	PC	PC	PC
Density @ 20 Degrees C, mg/kg	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*
Specific Gravity [C0275]	*	*	*
Grain Size (ASTM D421/422/1140)			
% Passing sieve No.4	*	*	*

REFERENCE: EPA SW-846 3rd Edition, 1986

NA - Not Analyzed; sample as submitted was inappropriate for requested analysis.

* See attached TET reports.

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Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
15536A-4	Matrix Spike % Recovery
15536A-5	Matrix Spike Duplicate % Recovery

PARAMETER	15536A-4	15536A-5
Phosphorus, Total	89 %	127 %
Nitrate-N	98 %	99 %
Kjeldahl Nitrogen-N	110 %	122 %
Organic Carbon	104 %	110 %

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Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
15536A-6	Quantitation Limit
15536A-7	Accuracy (% Recovery for LCS/LCSD)
15536A-8	Precision (Relative % Difference for LCS /LCSD)

PARAMETER	15536A-6	15536A-7	15536A-8
Standard Plate Count, NO/g	100	---	---
Phosphorus, Total, mg/kg	10	97/96 %	1.0 %
Nitrate-N, mg/kg	2.0	97/98 %	1.0 %
Kjeldahl Nitrogen-N, mg/kg	20	91/93 %	2.2 %
'rganic Carbon, mg/kg	50	95/94 %	1.1 %
Cation Exchange Capacity, meq/100g	0.050	101/97 %	4.0 %

Michele H. Lersch

Final Page Of Report

Thompson Engineering

JANUARY 3, 1994

REPORT #: 2
JOB #:P93135

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15536A-1

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-A1   PYCNOMETER #: 8

>>>>> DATES
SAMPLED: 11/30/93
TESTED: 12/14/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	318.18
(C) WEIGHT OF SAMPLE (G):............................	137.95
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	678.30
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	24.00
(F) DENSITY OF WATER @ T1:..........................	.997327
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	763.82
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.80
(I) DENSITY OF WATER @ T2:..........................	.997615

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

(R)= (D-A)/F*.998234+A................................	678.7530
(S)= (G-B)/I*.998234+B................................	764.0965
(GS)= C/(C+R)-S))*.998234.............................	2.617671

SPECIFIC GRAVITY:.................................... 2.618

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MATERIALS ENGINEERING LABORATORY

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

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 1

Date: 01/03/94
Project No.: P93135
Project: SAVANAH #: M3-15536A-1

Sample Data

Location of Sample: SD-02-A1
Sample Description: COARSE-FINE SAND, SOME SHELL & GRAVEL
USCS Class: (SP-SM)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
MOISTURE CONTENT (%): 26.49
Fig. No.: 1

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	117.36	109.21
Tare =	0.00	0.00
Dry sample weight =	117.36	109.21
Minus #200 from wash=	6.9 %	

Tare for cumulative weight retained= 0

Sieve		Cumul. Wt. retained	Percent finer
1	inches	0.00	100.0
0.75	inches	3.65	96.9
0.5	inches	15.53	86.8
0.375	inches	23.07	80.3
# 4		26.71	77.2
# 10		28.77	75.5
# 20		31.26	73.4
# 40		61.99	47.2
# 60		100.52	14.3
# 100		108.25	7.8
# 200		109.21	6.9

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 75.5
Weight of hydrometer sample: 117.36
Calculated biased weight= 155.47
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.618
Specific gravity correction factor= 1.007
Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.8	13.0	7.4	0.0135	13.0	14.2	0.0359	4.8
5.0	21.8	13.0	7.4	0.0135	13.0	14.2	0.0227	4.8
15.0	21.5	12.0	6.3	0.0135	12.0	14.3	0.0132	4.1
30.0	21.4	12.0	6.3	0.0135	12.0	14.3	0.0094	4.1
60.0	21.1	12.0	6.2	0.0136	12.0	14.3	0.0066	4.0
250.0	21.6	11.0	5.3	0.0135	11.0	14.5	0.0033	3.4
1440.0	21.4	11.0	5.3	0.0135	11.0	14.5	0.0014	3.4

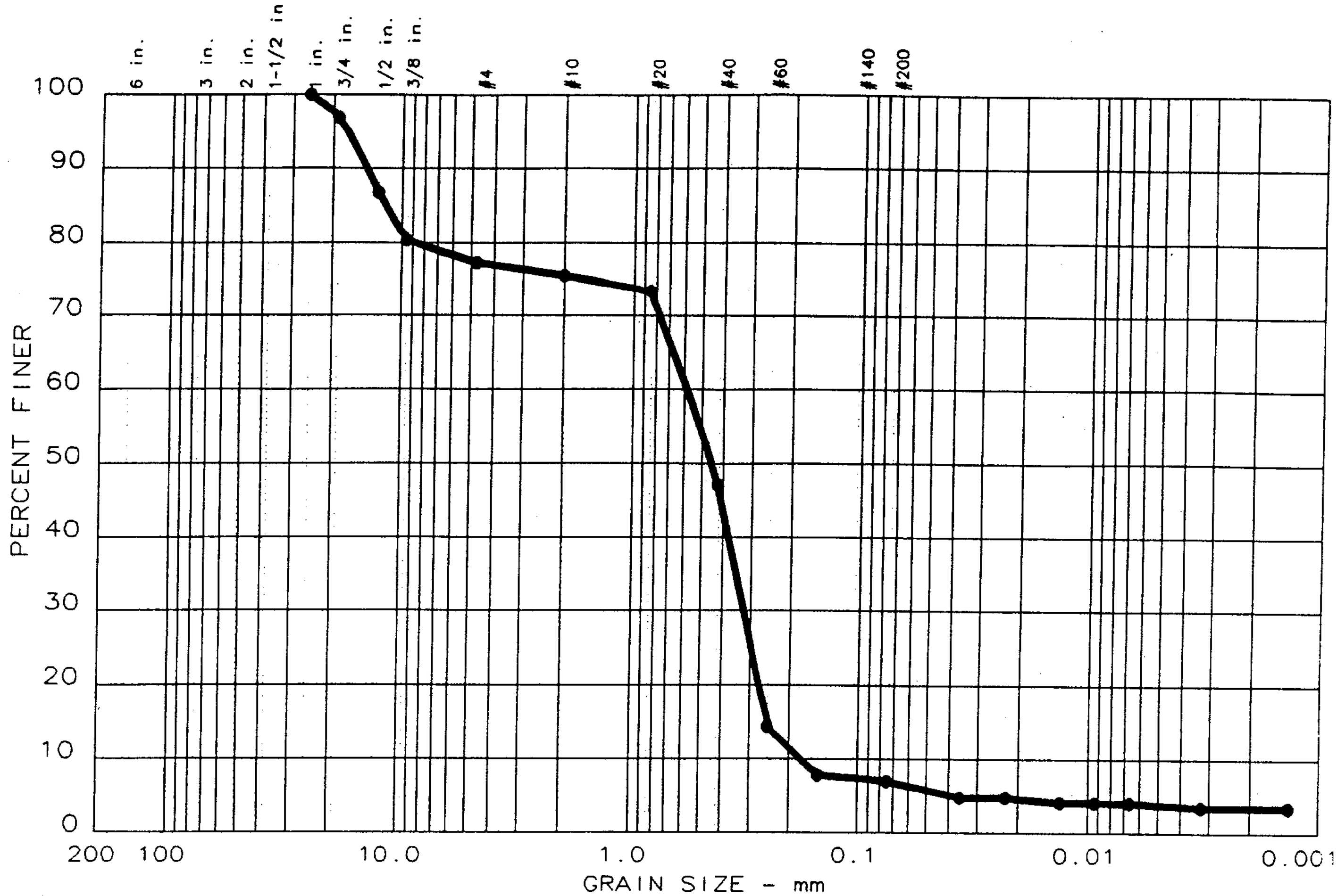
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 22.8   % SAND = 70.3
% SILT = 3.2   % CLAY = 3.7

D85= 11.75   D60= 0.582   D50= 0.452
D30= 0.3217   D15= 0.25264   D10= 0.17681
Cc = 1.0058   Cu = 3.2923

Douglas E. Fish

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	22.8	70.3	3.2	3.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	11.75	0.58	0.45	0.322	0.2526	0.1768	1.01	3.3

MATERIAL DESCRIPTION	USCS	AASHTO
● COARSE-FINE SAND, SOME SHELL & GRAVEL	(SP-SM)	----

Project No.: P93135
Project: SAVANAH #: M3-15536A-1
● Location: SD-02-A1

Date: 01/03/94

Remarks:
CLIENT: SAVANNAH LABORATORIES
MOISTURE CONTENT (%): 26.49

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 1

Thompson Engineering

JANUARY 3, 1994

REPORT #: 6
JOB #:P93135

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15536A-2

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-F1   PYCNOMETER #: 7

>>>>> DATES
SAMPLED: 11/30/93
TESTED: 12/14/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	182.61
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	407.53
(C) WEIGHT OF SAMPLE (G):...........................	224.92
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	680.63
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:..........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	821.03
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	21.80
(I) DENSITY OF WATER @ T2:..........................	.997845

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

(R)= (D-A)/F*.998234+A..............................	680.9620
(S)= (G-B)/I*.998234+B..............................	821.1912
(GS)= C/(C+R)-S))*.998234...........................	2.651089

SPECIFIC GRAVITY:...................................	2.651

THOMPSON ENGINEERING TESTING, INC.
MATERIALS ENGINEERING LABORATORY

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 3

Date: 01/03/94
Project No.: P93135
Project: SAVANAH #: M3-15536

Sample Data

Location of Sample: SD-02-F1
Sample Description: MEDIUM-FINE SAND, TRACE SHELL
USCS Class: (SP)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
MOISTURE CONTENT (%): 20.67
Fig. No.: 3

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.27	98.51
Tare =	0.00	0.00
Dry sample weight =	100.27	98.51

Minus #200 from wash= 1.8 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.5 inches	0.00	100.0
0.375 inches	1.65	98.4
# 4	2.31	97.7
# 10	2.77	97.2
# 20	4.64	95.4
# 40	44.52	55.6
# 60	81.99	18.2
# 100	97.92	2.3
# 200	98.51	1.8

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 97.2
Weight of hydrometer sample: 100.27
Calculated biased weight= 103.12
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.651

Specific gravity correction factor= 1.000
Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.8	7.5	1.9	0.0133	7.5	15.1	0.0366	1.8
5.0	21.8	7.0	1.4	0.0133	7.0	15.1	0.0232	1.3
15.0	21.8	7.0	1.4	0.0133	7.0	15.1	0.0134	1.3
30.0	21.4	7.0	1.3	0.0134	7.0	15.1	0.0095	1.2
60.0	21.1	7.0	1.2	0.0135	7.0	15.1	0.0068	1.2
250.0	21.6	6.5	0.8	0.0134	6.5	15.2	0.0033	0.8
1440.0	21.4	6.0	0.3	0.0134	6.0	15.3	0.0014	0.3

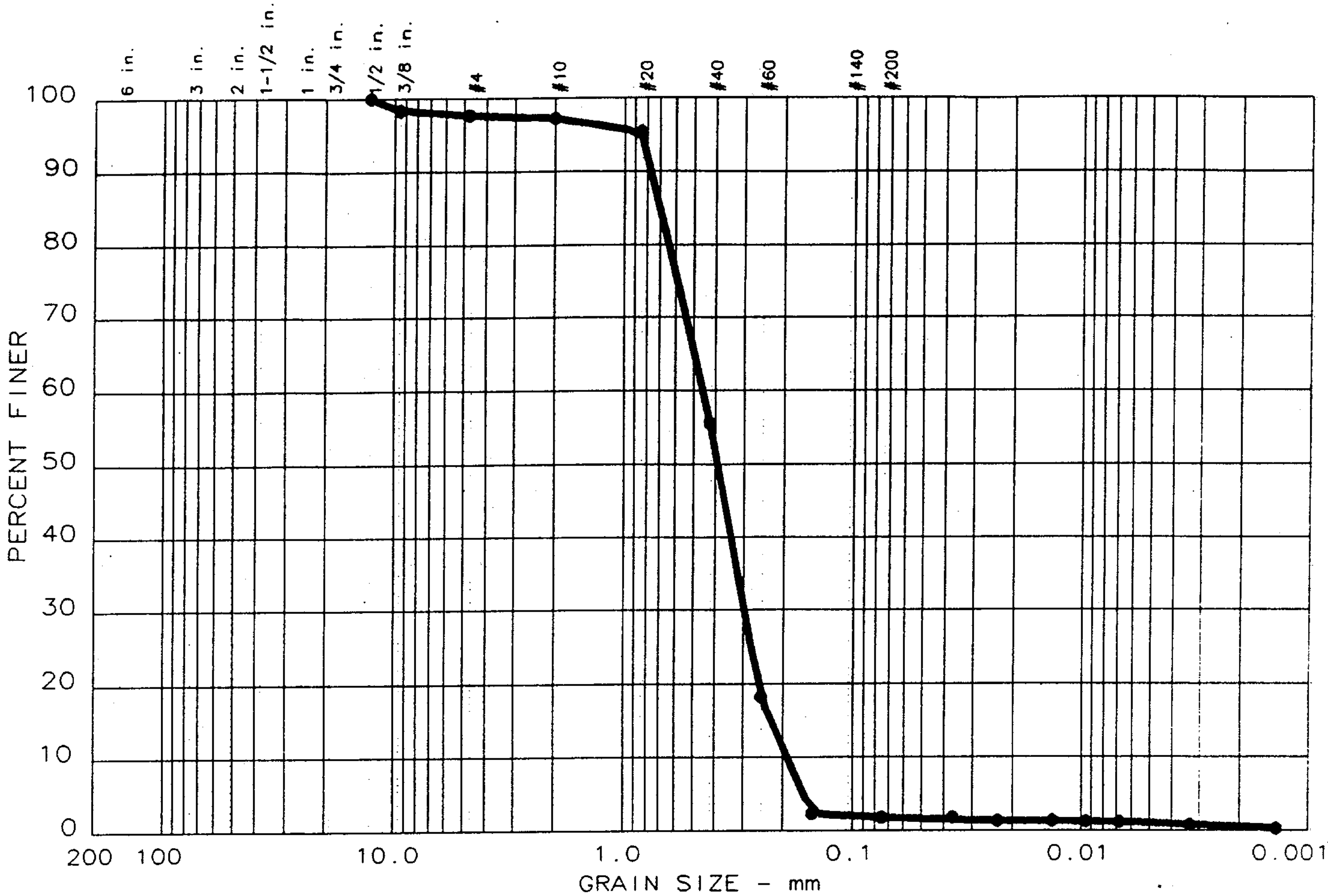
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 2.3   % SAND = 95.9
% SILT = 0.7   % CLAY = 1.1

D85= 0.70   D60= 0.456   D50= 0.391
D30= 0.2968   D15= 0.22516   D10= 0.19165
Cc = 1.0081   Cu = 2.3796

Douglas E. Ford

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	2.3	95.9	0.7	1.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.70	0.46	0.39	0.297	0.2252	0.1916	1.01	2.4

MATERIAL DESCRIPTION	USCS	AASHTO
● MEDIUM-FINE SAND, TRACE SHELL	(SP)	----

Project No.: P93135
Project: SAVANAH #: M3-15536~~A~~-2
● Location: SD-02-F1

Date: 01/03/94

Remarks:
CLIENT: SAVANNAH LABORATORIES
MOISTURE CONTENT (%): 20.67

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 3

Thompson Engineering

JANUARY 3, 1994

REPORT #: 4
JOB #:P93135

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15536A-3

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-D2 PYCNOMETER #: 21

>>>>> DATES
SAMPLED: 11/30/93
TESTED: 12/14/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.51
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	260.91
(C) WEIGHT OF SAMPLE (G):...........................	80.40
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	678.83
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:.........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	728.45
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	21.80
(I) DENSITY OF WATER @ T2:.........................	.997845

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

(R)= (D-A)/F*.998234+A.............................	679.1622
(S)= (G-B)/I*.998234+B.............................	728.6323
(GS)= C/(C+R)-S))*.998234..........................	2.594834

SPECIFIC GRAVITY:.................................... 2.595

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GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 2

Date: 01/03/94
Project No.: P93135
roject: SAVANAH #: M3-15536

Sample Data

Location of Sample: SD-02-D2
Sample Description: MEDIUM-FINE SAND, TRACE SHELL & SLAG
USCS Class: (SP-SM)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
MOISTURE CONTENT (%): 28.31
Fig. No.: 2

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	87.22	81.31
Tare =	0.00	0.00
Dry sample weight =	87.22	81.31
Minus #200 from wash=	6.8 %	

Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.86	99.0
# 10	3.61	95.9
# 20	7.64	91.2
# 40	22.87	73.8
# 60	53.23	39.0
# 100	78.13	10.4
# 200	81.31	6.8

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 95.9
Weight of hydrometer sample: 87.22
Calculated biased weight= 90.99
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.595
Specific gravity correction factor= 1.013

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

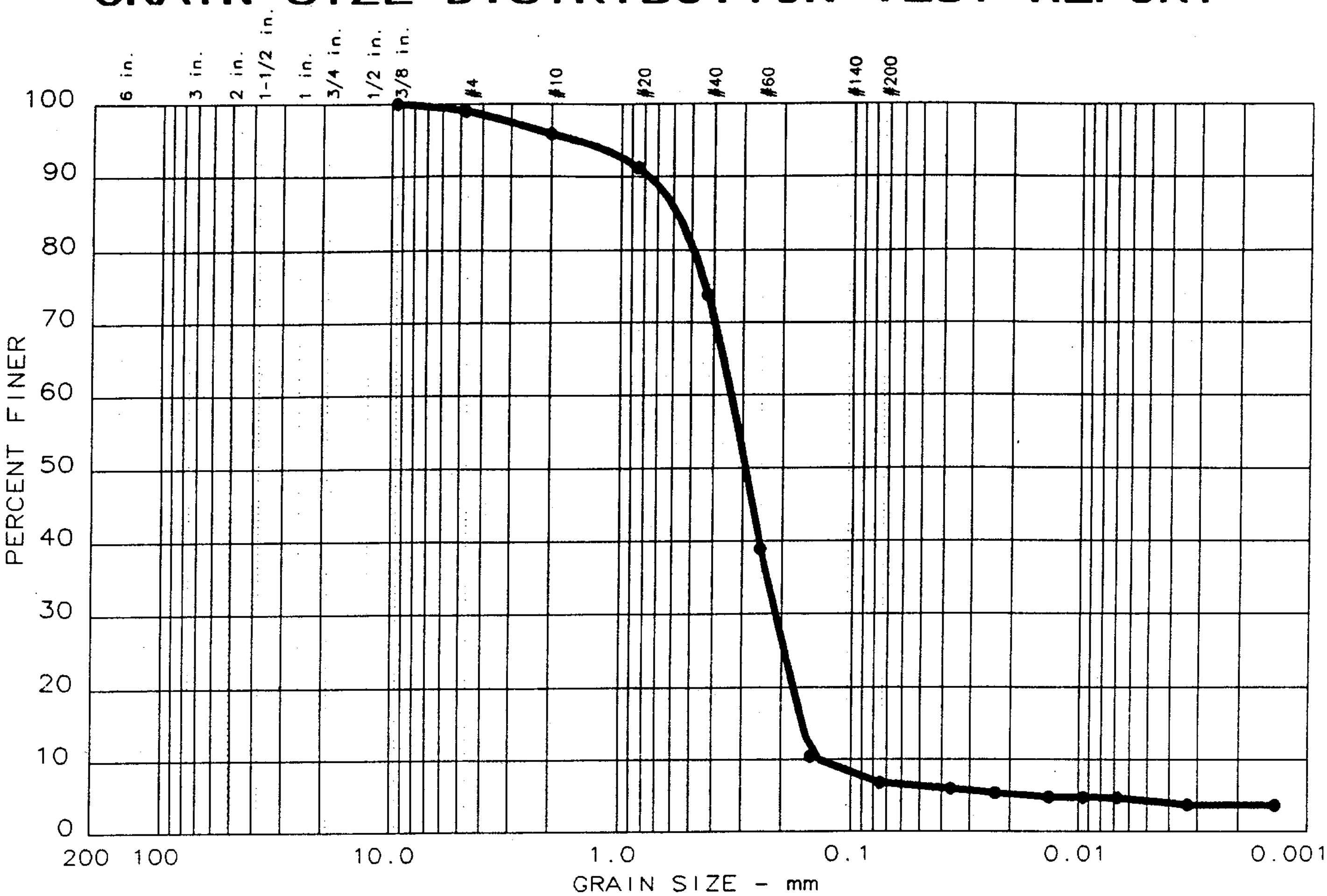
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.8	11.0	5.4	0.0136	11.0	14.5	0.0365	6.0
5.0	21.6	10.5	4.8	0.0136	10.5	14.6	0.0232	5.4
15.0	21.5	10.0	4.3	0.0136	10.0	14.7	0.0135	4.8
30.0	21.3	10.0	4.2	0.0137	10.0	14.7	0.0095	4.7
60.0	21.1	10.0	4.2	0.0137	10.0	14.7	0.0068	4.7
250.0	21.7	9.0	3.3	0.0136	9.0	14.8	0.0033	3.7
1440.0	21.4	9.0	3.3	0.0136	9.0	14.8	0.0014	3.6

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 1.0   % SAND = 92.2
% SILT = 2.5   % CLAY = 4.3

D85= 0.58   D60= 0.335   D50= 0.291
D30= 0.2128   D15= 0.16274   D10= 0.13693
Cc = 0.9874   Cu = 2.4462

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	1.0	92.2	2.5	4.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.58	0.33	0.29	0.213	0.1627	0.1369	0.99	2.4

MATERIAL DESCRIPTION	USCS	AASHTO
● MEDIUM-FINE SAND, TRACE SHELL & SLAG	(SP-SM)	----

Project No.: P93135

Project: SAVANAH #: M3-15536A-3

● Location: SD-02-D2

Date: 01/03/94

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Remarks:

CLIENT: SAVANNAH LABORATORIES

MOISTURE CONTENT (%): 28.31

Figure No. 2

SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205) 666-6633 • Fax (205) 666-6696

LOG NO: M3-15692A

Received: 08 DEC 93

Purchase Order: #E-0179/93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

RECEIVED
JAN 27 1994

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15692A-6	SD-02-02	12-07-93	EAH018
15692A-7	SD-02-03	12-07-93	EAH018
15692A-8	SD-02-04	12-07-93	EAH018
15692A-9	SD-02-05	12-07-93	EAH018

PARAMETER	15692A-6	15692A-7	15692A-8	15692A-9
Heterotrophic Plate Count (SM 907A)				
Standard Plate Count, No/g	250000	9600000	130000	110000
Date Analyzed	12.22.93	12.22.93	12.22.93	12.22.93
Analyst	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)				
Phosphorus, Total, mg/kg dw	300	360	71	210
Sample Preparation	01.13.94	01.13.94	01.13.94	01.13.94
Date Analyzed	01.14.94	01.14.94	01.14.94	01.14.94
Analyst	BB	BB	BB	BB
Nitrate as N (EPA 353.2)				
Nitrate-N, mg/kg dw	<2.0	<2.0	2.2	3.0
Sample Preparation	01.10.94	01.10.94	01.13.94	01.13.94
Date Analyzed	01.11.94	01.11.94	01.19.94	01.19.94
Analyst	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)				
Kjeldahl Nitrogen-N, mg/kg dw	1100	1200	210	140
Sample Preparation	01.13.94	01.13.94	01.13.94	01.13.94
Date Analyzed	01.14.94	01.14.94	01.14.94	01.14.94
Analyst	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)				
Organic Carbon, mg/kg dw	680	300	270	280
Sample Preparation	12.27.93	12.27.93	12.27.93	12.27.93
Date Analyzed	12.27.93	12.27.93	12.27.93	12.27.93
Analyst	SR	Sr	SR	SR

SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205) 666-6633 • Fax (205) 666-6696

LOG NO: M3-15692A

Received: 08 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15692A-6	SD-02-02	12-07-93	EAH018
15692A-7	SD-02-03	12-07-93	EAH018
15692A-8	SD-02-04	12-07-93	EAH018
15692A-9	SD-02-05	12-07-93	EAH018

PARAMETER	15692A-6	15692A-7	15692A-8	15692A-9
Cation Exchange Capacity (EPA 9081)				
Cation Exchange Capacity, mEq/100g	14	14	3.7	1.7
Date Extracted	12.20.93	12.21.93	12.21.93	12.20.93
Date Analyzed	12.21.93	12.22.93	12.22.93	12.21.93
Analyst	TO	TO	TO	TO
Density @ 20 Degrees C	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*
Specific Gravity	*	*	*	*
Grain Size (ASTM D421/422/1140)				
% Passing sieve No.4	*	*	*	*

NA = Not Analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET report

SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: M3-15692A

Received: 08 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES
15692A-10	Matrix Spike % Recovery
15692A-11	Matrix Spike Duplicate % Recovery

PARAMETER	15692A-10	15692A-11
Phosphorus, Total	105 %	106 %
Nitrate-N	107 %	105 %
Kjeldahl Nitrogen-N	100 %	80 %
Organic Carbon	27%*F73	30%*F73

*F73 = Matrix spikes were not recovered due to matrix interference present in the sample.

SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: M3-15692A

Received: 08 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P. C. Mason

REPORT OF RESULTS

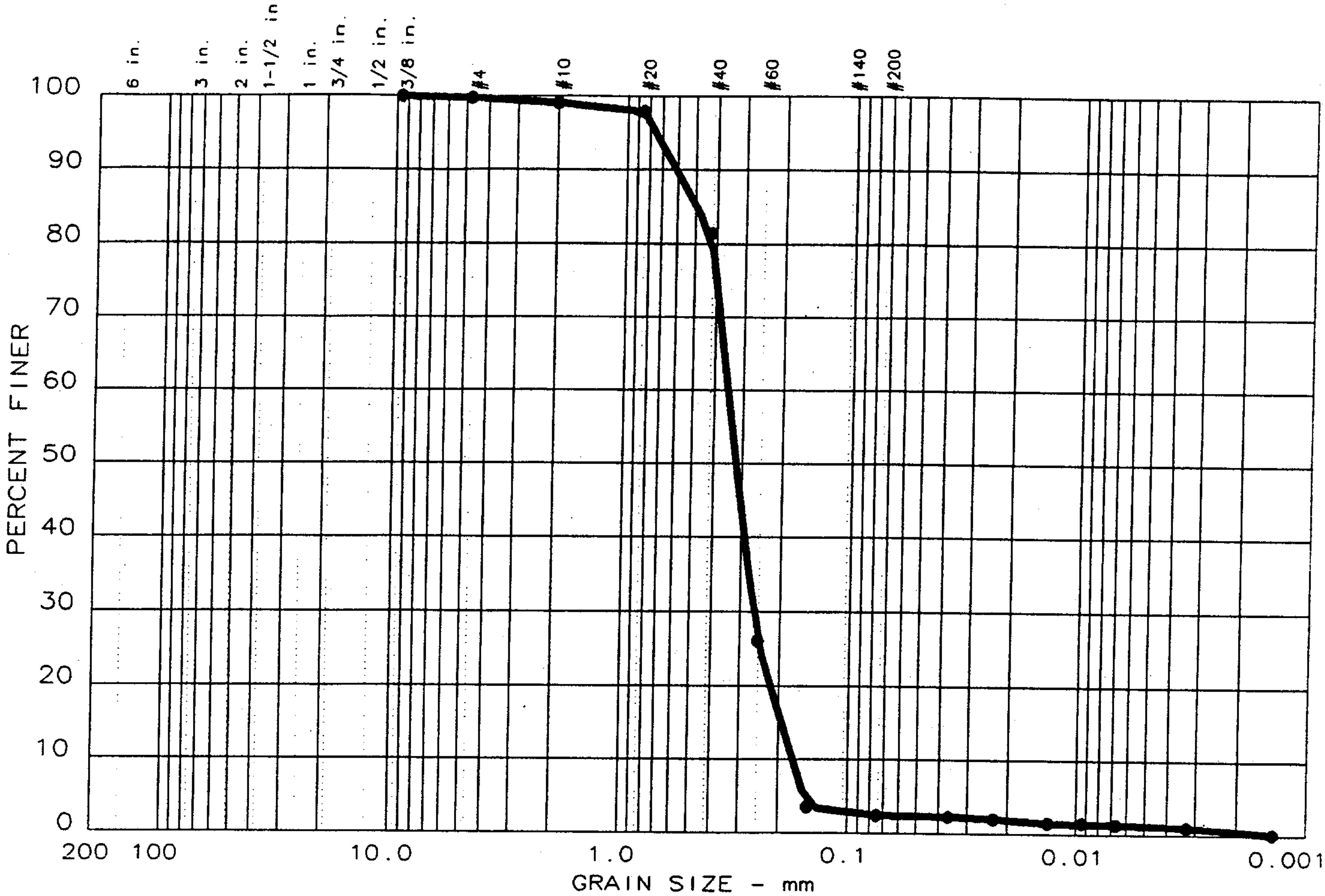
LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
15692A-12	Quantitation Limit
15692A-13	Accuracy (% Recovery for LCS/LCSD)
15692A-14	Precision (Relative % Difference for LCS/LCSD)

PARAMETER	15692A-12	15692A-13	15692A-14
Standard Plate Count, NO/g	100	---	---
Phosphorus, Total, mg/kg	10	106/106 %	0 %
Nitrate-N, mg/kg	2.0	85/89 %	4.6 %
Kjeldahl Nitrogen-N, mg/kg	20	90/88 %	2.2 %
Organic Carbon, mg/kg	50	86/84 %	2.4 %
Cation Exchange Capacity, meq/100g	0.050	100/91 %	9.4 %

Michele H. Lersch
Michele H. Lersch

Final Page Of Report

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.2	97.4	1.2	1.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.49	0.35	0.32	0.261	0.1936	0.1734	1.13	2.0

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP)	----

Project No.: P93146
Project: SAVANNAH #: M3-15692 A-1
● Location: SD-02-X2

Date: 01/19/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 17

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 7

Date: 01/19/94
Project No.: P93146
Project: SAVANNAH #: M3-15692A-1

Sample Data

Location of Sample: SD-02-X2
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.20	97.76
Tare =	0.00	0.00
Dry sample weight =	100.20	97.76

Minus #200 from wash= 2.4 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.18	99.8
# 10	0.93	99.1
# 20	2.02	98.0
# 40	18.64	81.4
# 60	74.01	26.1
# 100	96.63	3.6
# 200	97.76	2.4

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.1
Weight of hydrometer sample: 100.2
Calculated biased weight= 101.14
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.644
Specific gravity correction factor= 1.001

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	7.8	2.3	0.0133	7.8	15.0	0.0363	2.3
5.0	22.5	7.5	2.0	0.0133	7.5	15.1	0.0230	2.0
15.0	22.5	7.0	1.5	0.0133	7.0	15.1	0.0133	1.5
30.0	22.6	7.0	1.6	0.0132	7.0	15.1	0.0094	1.5
60.0	22.6	6.8	1.4	0.0132	6.8	15.2	0.0067	1.3
250.0	22.4	6.5	1.0	0.0133	6.5	15.2	0.0033	1.0
1440.0	20.9	6.0	0.2	0.0135	6.0	15.3	0.0014	0.2

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.2   % SAND = 97.4
% SILT = 1.2   % CLAY = 1.2

D85= 0.49   D60= 0.349   D50= 0.318
D30= 0.2612   D15= 0.19364   D10= 0.17338
Cc = 1.1285   Cu = 2.0114

Thompson Engineering

JANUARY 19, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15692Ø-1

REPORT #: 18
JOB #:P93146

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-X2

PYCNOMETER #: B1

>>>>> DATES
SAMPLED: 12/07/93
TESTED: 01/11/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.38
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	441.45
(C) WEIGHT OF SAMPLE (G):.............................	261.07
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	678.55
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.40
(F) DENSITY OF WATER @ T1:...........................	.997472
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	841.26
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.10
(I) DENSITY OF WATER @ T2:...........................	.997778

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

(R)= (D-A)/F*.998234+A................................	678.9306
(S)= (G-B)/I*.998234+B................................	841.4427
(GS)= C/(C+R)-S))*.998234.............................	2.644223

SPECIFIC GRAVITY:....................................... 2.644

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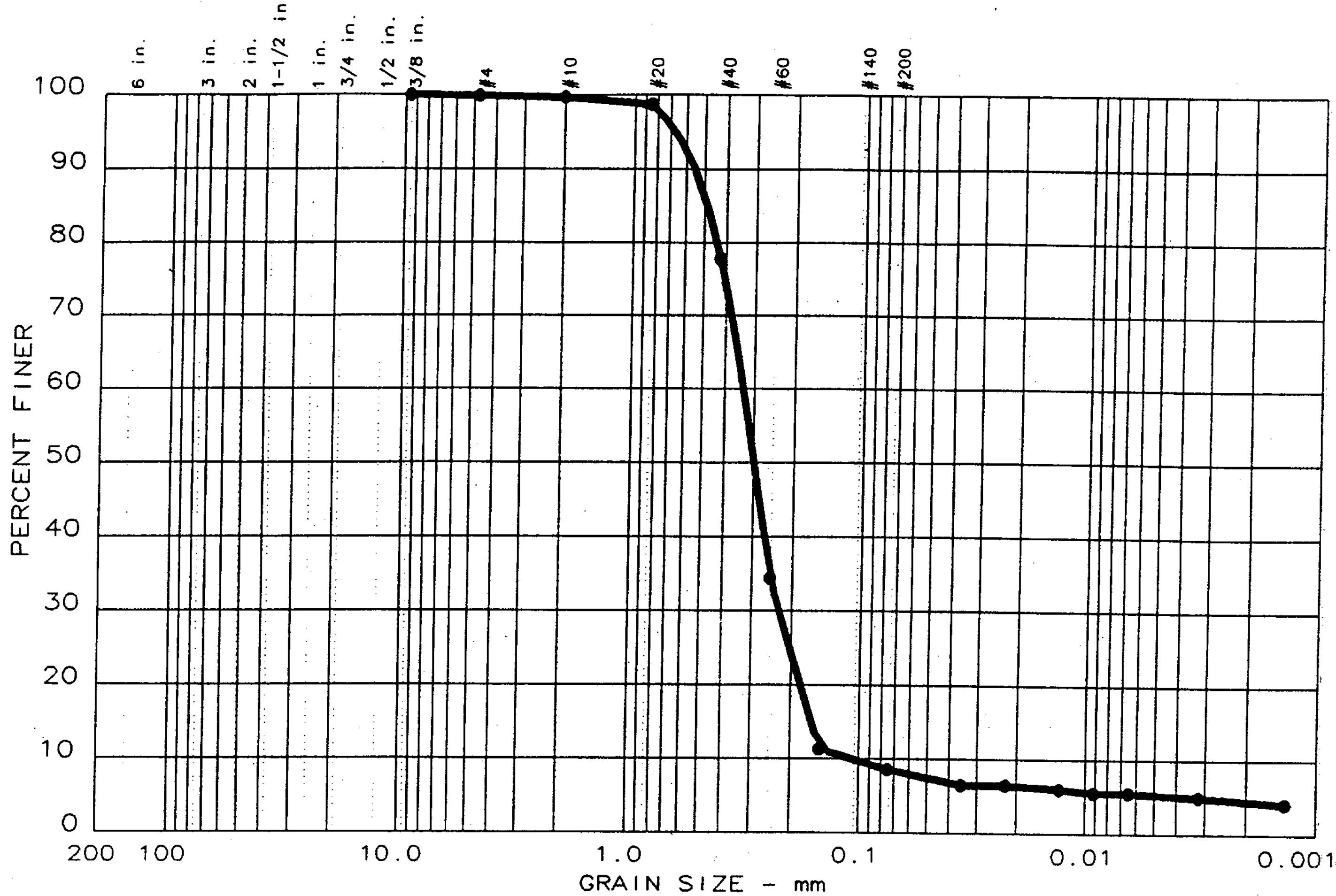
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	91.4	3.2	5.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.48	0.33	0.30	0.226	0.1627	0.1051	1.46	3.2

MATERIAL DESCRIPTION	USCS	AASHTO
● GRAY MEDIUM-FINE SAND	(SP-SM)	----

Project No.: P93146
Project: SAVANNAH #: M3-15692A-2
● Location: SD-02-M3

Date: 01/19/94

Remarks:

CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Figure No. 1

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 19

Date: 01/19/94
Project No.: P93146
Project: SAVANNAH #: M3-15692A-2

Sample Data

Location of Sample: SD-02-M3
Sample Description: GRAY MEDIUM-FINE SAND
USCS Class: (SP-SM)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.50	91.93
Tare =	0.00	0.00
Dry sample weight =	100.50	91.93

Minus #200 from wash= 8.5 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.04	100.0
# 10	0.30	99.7
# 20	1.25	98.8
# 40	22.32	77.8
# 60	65.89	34.4
# 100	89.19	11.3
# 200	91.93	8.5

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.7
Weight of hydrometer sample: 100.5
Calculated biased weight= 100.80
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.644
Specific gravity correction factor= 1.001

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	12.0	6.5	0.0133	12.0	14.3	0.0355	6.5
5.0	22.5	12.0	6.5	0.0133	12.0	14.3	0.0224	6.5
15.0	22.5	11.5	6.0	0.0133	11.5	14.4	0.0130	6.0
30.0	22.6	11.0	5.6	0.0132	11.0	14.5	0.0092	5.5
60.0	22.6	11.0	5.6	0.0132	11.0	14.5	0.0065	5.5
250.0	22.4	10.5	5.0	0.0133	10.5	14.6	0.0032	5.0
1440.0	20.9	10.0	4.2	0.0135	10.0	14.7	0.0014	4.1

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.0   % SAND = 91.4
% SILT = 3.2   % CLAY = 5.4

D85= 0.48 D60= 0.333 D50= 0.298
D30= 0.2259 D15= 0.16274 D10= 0.10508
Cc = 1.4571 Cu = 3.1732

Douglas L. [signature]

Thompson Engineering

JANUARY 19, 1994

REPORT #: 2
JOB #:P93146

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15692A-2

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-M3   PYCNOMETER #: 2

>>>>> DATES
SAMPLED: 12/07/93
TESTED: 01/11/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	174.46
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	434.63
(C) WEIGHT OF SAMPLE (G):............................	260.17
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	672.68
(E) TEMP. OF PYCNOMETER AND WATER (C):............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	834.76
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.40
(I) DENSITY OF WATER @ T2:...........................	.997708

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

(R)= (D-A)/F*.998234+A............................	673.0121
(S)= (G-B)/I*.998234+B............................	834.9710
(GS)= C/(C+R)-S))*.998234.........................	2.644409

SPECIFIC GRAVITY:................................... 2.644

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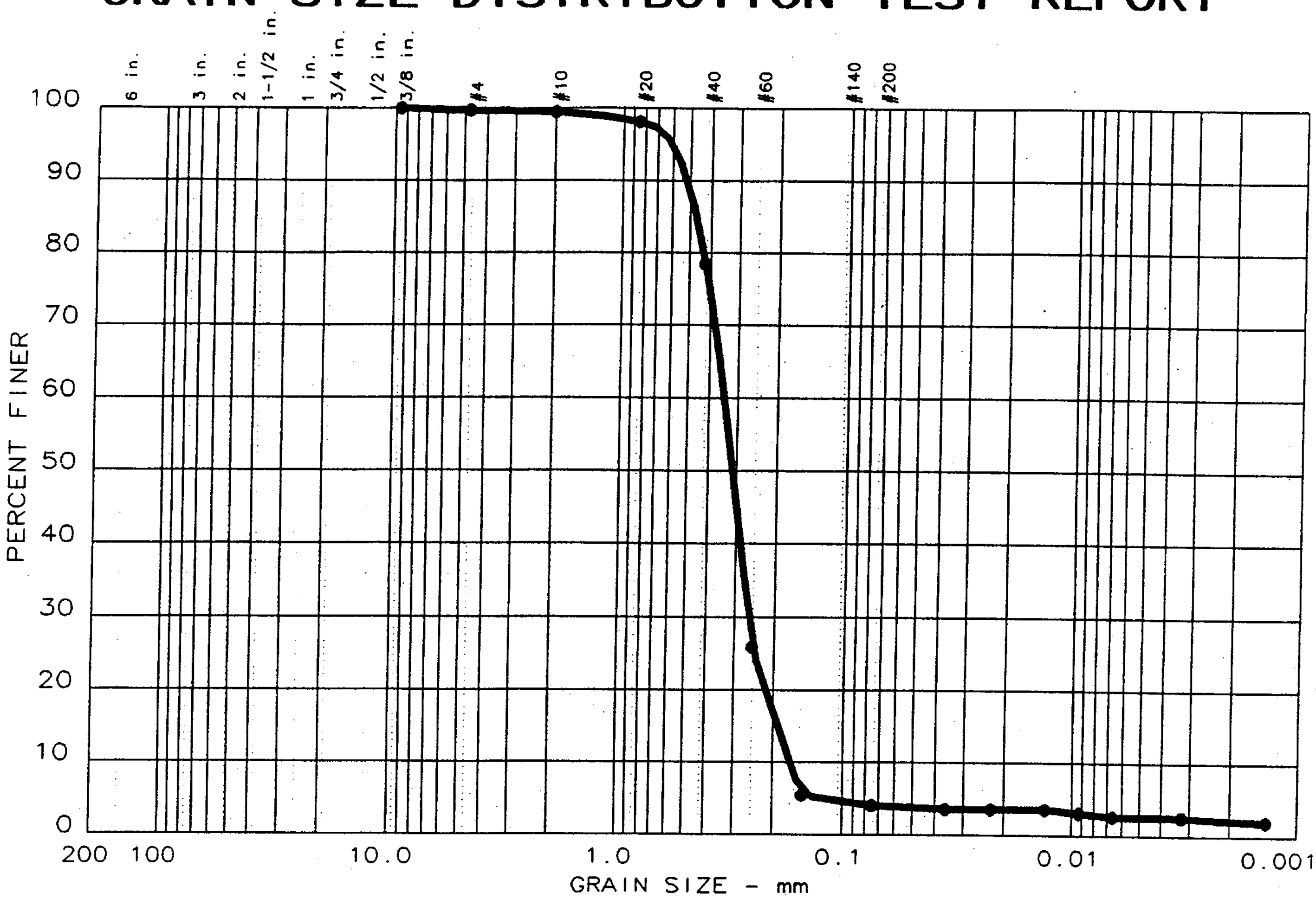

	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.3	95.8	1.5	2.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.47	0.34	0.31	0.260	0.1903	0.1677	1.18	2.0

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP)	----

Project No.: P93146
Project: SAVANNAH #: M3-15692A-3
● Location: SD-02-M4

Date: 01/19/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
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Figure No. 3

GRAIN SIZE DISTRIBUTION TEST DATA — Test No.: 20

Date: 01/19/94
roject No.: P93146
roject: SAVANNAH #: M3-15692A-3

Sample Data

Location of Sample: SD-02-M4
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	96.02
Tare =	0.00	0.00
Dry sample weight =	100.00	96.02

Minus #200 from wash= 4.0 %
are for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.27	99.7
# 10	0.54	99.5
# 20	1.87	98.1
# 40	21.54	78.5
# 60	74.06	25.9
# 100	94.59	5.4
# 200	96.02	4.0

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.5
Weight of hydrometer sample: 100
Calculated biased weight= 100.54
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.651
Specific gravity correction factor= 1.000

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	9.0	3.5	0.0132	9.0	14.8	0.0360	3.5
5.0	22.5	9.0	3.5	0.0132	9.0	14.8	0.0228	3.5
15.0	22.5	9.0	3.5	0.0132	9.0	14.8	0.0131	3.5
30.0	22.6	8.5	3.1	0.0132	8.5	14.9	0.0093	3.0
60.0	22.6	8.0	2.6	0.0132	8.0	15.0	0.0066	2.5
250.0	22.4	8.0	2.5	0.0132	8.0	15.0	0.0032	2.5
1440.0	20.9	7.8	2.0	0.0135	7.8	15.0	0.0014	1.9

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.3   % SAND = 95.8
% SILT = 1.5   % CLAY = 2.4

D85= 0.47   D60= 0.342   D50= 0.312
D30= 0.2600   D15= 0.19033   D10= 0.16769
Cc = 1.1790   Cu = 2.0394

Douglas E. Ford

Thompson Engineering

JANUARY 19, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15692A-3

REPORT #: 4
JOB #:P93146

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-M4

PYCNOMETER #: 3

>>>>> DATES
SAMPLED: 12/07/93
TESTED: 01/11/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):.......................	177.18
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	409.06
(C) WEIGHT OF SAMPLE (G):...........................	231.88
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	675.37
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:..........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	820.11
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	21.80
(I) DENSITY OF WATER @ T2:..........................	.997845

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

(R)= (D-A)/F*.998234+A..............................	675.7021
(S)= (G-B)/I*.998234+B..............................	820.2702
(GS)= C/(C+R)-S))*.998234...........................	2.651077
SPECIFIC GRAVITY:...................................	2.651

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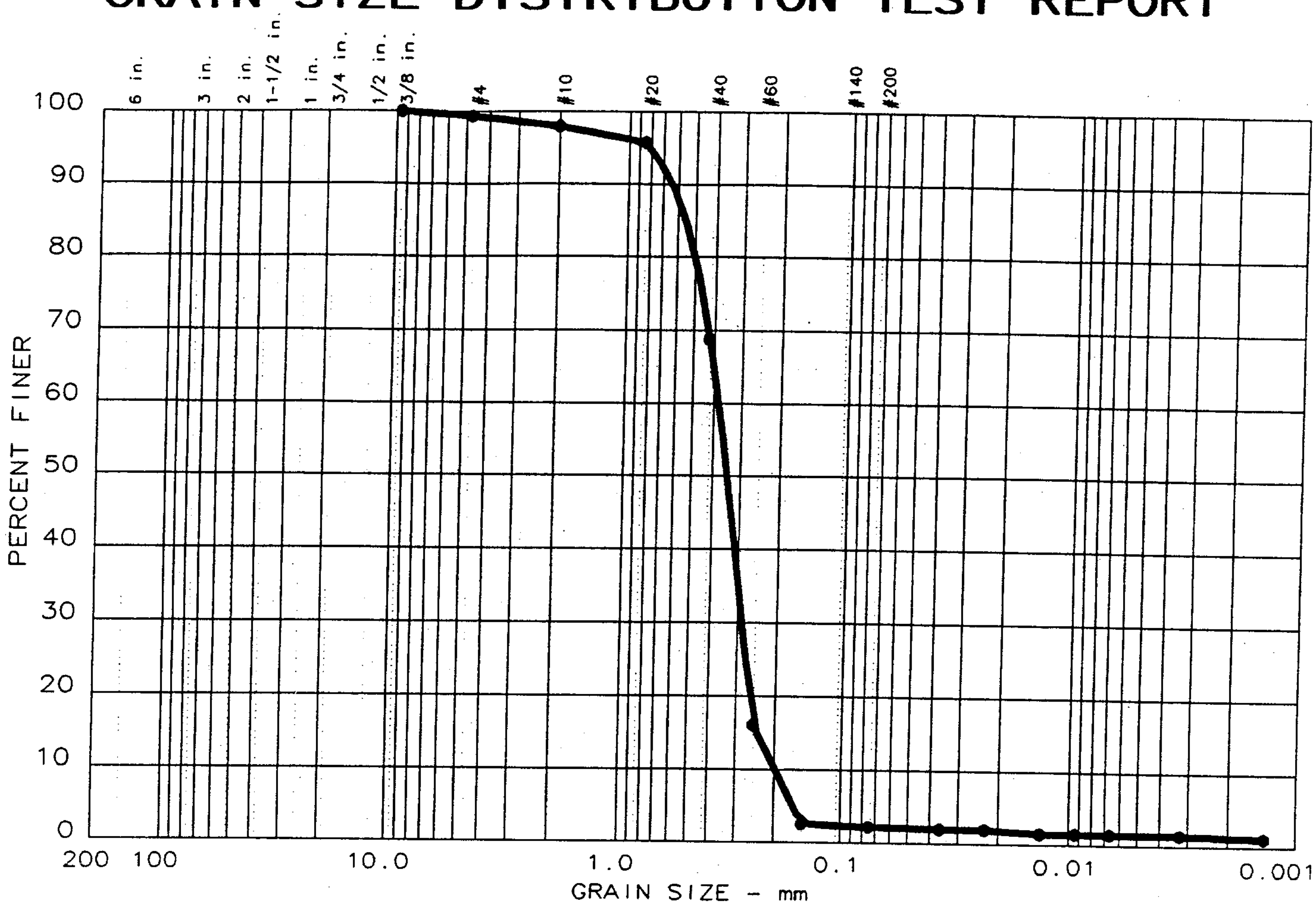

	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.6	97.2	0.7	1.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.55	0.38	0.34	0.286	0.2402	0.1975	1.09	1.9

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN & GRAY MEDIUM-FINE SAND	(SP)	----

Project No.: P93146
Project: SAVANNAH #: M3-15692A-4
● Location: SD-02-M5

Date: 01/19/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH LABORATORIES

Figure No. 5

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 1

Date: 01/19/94
Project No.: P93146
Project: SAVANNAH #: M3-15692A-4

Sample Data

Location of Sample: SD-02-M5
Sample Description: BROWN & GRAY MEDIUM-FINE SAND
USCS Class: (SP)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	97.81
Tare =	0.00	0.00
Dry sample weight =	100.00	97.81
Minus #200 from wash=	2.2 %	

Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.63	99.4
# 10	2.02	98.0
# 20	4.24	95.8
# 40	31.19	68.8
# 60	83.96	16.0
# 100	97.42	2.6
# 200	97.81	2.2

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 98.0
Weight of hydrometer sample: 100
Calculated biased weight= 102.06
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.654
Specific gravity correction factor= 0.999

Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	7.5	2.0	0.0132	7.5	15.1	0.0363	2.0
5.0	22.5	7.5	2.0	0.0132	7.5	15.1	0.0229	2.0
15.0	22.5	7.0	1.5	0.0132	7.0	15.1	0.0133	1.5
30.0	22.6	7.0	1.6	0.0132	7.0	15.1	0.0094	1.5
60.0	22.6	7.0	1.6	0.0132	7.0	15.1	0.0066	1.5
250.0	22.4	7.0	1.5	0.0132	7.0	15.1	0.0033	1.5
1440.0	20.9	7.0	1.2	0.0135	7.0	15.1	0.0014	1.1

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.6 % SAND = 97.2
% SILT = 0.7 % CLAY = 1.5

D85= 0.55 D60= 0.380 D50= 0.343
D30= 0.2861 D15= 0.24016 D10= 0.19747
Cc = 1.0914 Cu = 1.9231

Douglas E. Sader

Thompson Engineering

JANUARY 19, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15692A-4

REPORT #: 6
JOB #:P93146

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-M5

PYCNOMETER #: 8

>>>>> DATES
SAMPLED: 12/07/93
TESTED: 01/11/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):......................	180.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	431.76
(C) WEIGHT OF SAMPLE (G):..........................	251.53
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	678.30
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	24.00
(F) DENSITY OF WATER @ T1:.........................	.997327
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	835.44
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.70
(I) DENSITY OF WATER @ T2:.........................	.997639

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

(R)= (D-A)/F*.998234+A.............................	678.7530
(S)= (G-B)/I*.998234+B.............................	835.6808
(GS)= C/(C+R)-S))*.998234..........................	2.654122

SPECIFIC GRAVITY:.................................. 2.654

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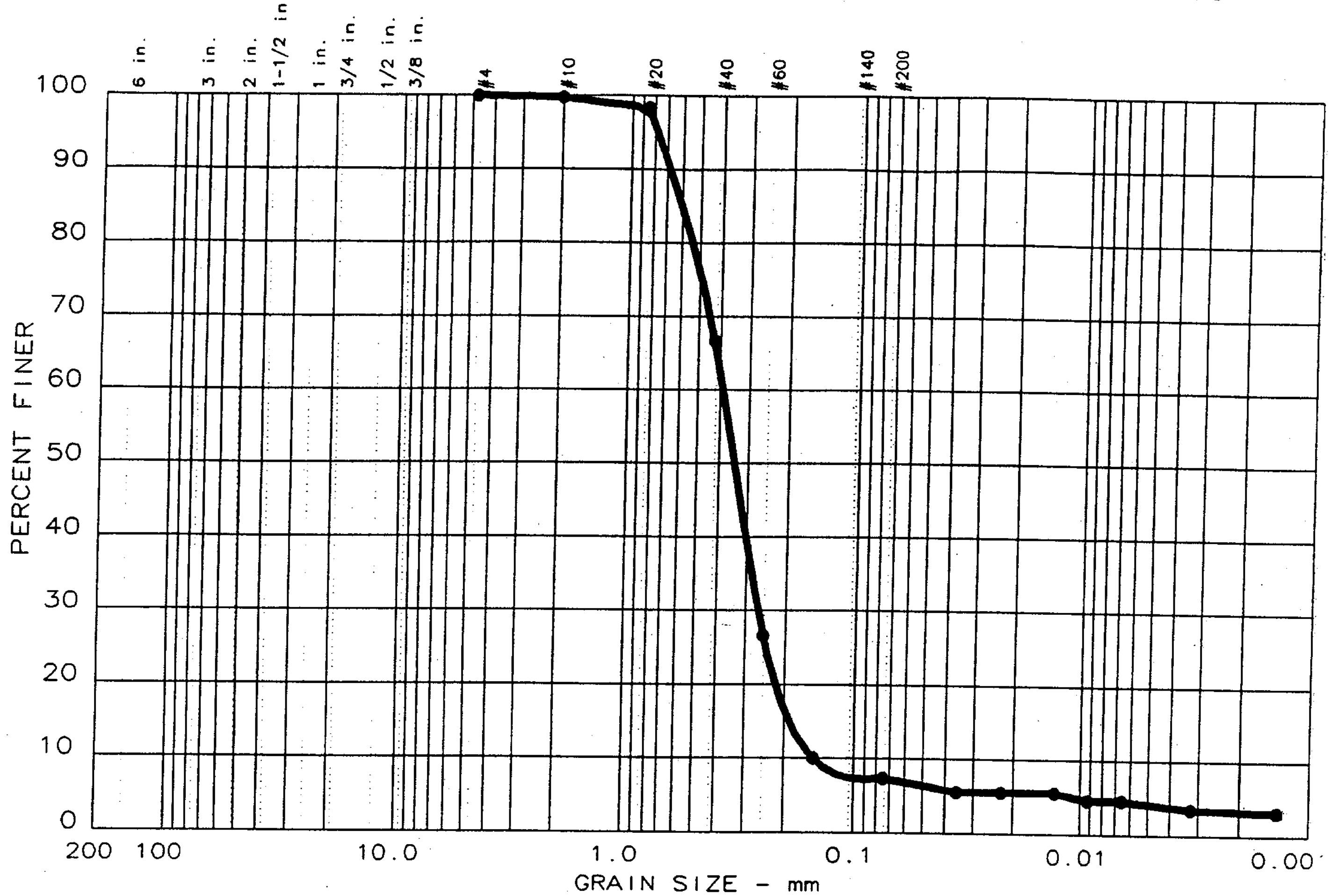

	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	92.7	3.2	4.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.60	0.39	0.34	0.264	0.1910	0.1500	1.19	2.6

MATERIAL DESCRIPTION	USCS	AASHTO
● GRAY MEDIUM-FINE SAND	(SP-SM)	----

Project No.: P93146
Project: SAVANNAH #: M3-15692A-5
● Location: SD-02-01

Date: 01/19/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Figure No. 7

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 2

Date: 01/19/94
Project No.: P93146
Project: SAVANNAH #: M3-15692A-5

Sample Data

Location of Sample: SD-02-01
Sample Description: GRAY MEDIUM-FINE SAND
USCS Class: (SP-SM)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	99.97	92.65
Tare =	0.00	0.00
Dry sample weight =	99.97	92.65

Minus #200 from wash= 7.3 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.28	99.7
# 20	1.62	98.4
# 40	33.30	66.7
# 60	73.38	26.6
# 100	89.98	10.0
# 200	92.65	7.3

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.7
Weight of hydrometer sample: 99.97
Calculated biased weight= 100.25
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.639
Specific gravity correction factor= 1.003
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	11.0	5.5	0.0133	11.0	14.5	0.0357	5.5
5.0	22.5	11.0	5.5	0.0133	11.0	14.5	0.0226	5.5
15.0	22.5	11.0	5.5	0.0133	11.0	14.5	0.0130	5.5
30.0	22.6	10.0	4.6	0.0133	10.0	14.7	0.0093	4.6
60.0	22.6	10.0	4.6	0.0133	10.0	14.7	0.0066	4.6
250.0	22.4	9.0	3.5	0.0133	9.0	14.8	0.0032	3.5
1440.0	20.9	9.0	3.2	0.0135	9.0	14.8	0.0014	3.2

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 92.7
% SILT = 3.2 % CLAY = 4.1

D85= 0.60 D60= 0.389 D50= 0.344
D30= 0.2636 D15= 0.19099 D10= 0.14997
Cc = 1.1912 Cu = 2.5942

Douglas E. Ford

Thompson Engineering

JANUARY 19, 1994

REPORT #: 8
JOB #:P93146

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15692A-5

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-01 PYCNOMETER #: 7

>>>>> DATES
SAMPLED: 12/07/93
TESTED: 01/11/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	182.56
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	387.12
(C) WEIGHT OF SAMPLE (G):............................	204.56
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	680.63
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	807.93
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.30
(I) DENSITY OF WATER @ T2:...........................	.997731

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

(R)= (D-A)/F*.998234+A................................	680.9620
(S)= (G-B)/I*.998234+B................................	808.1421
(GS)= C/(C+R)-S))*.998234.............................	2.638913

SPECIFIC GRAVITY:...................................... 2.639

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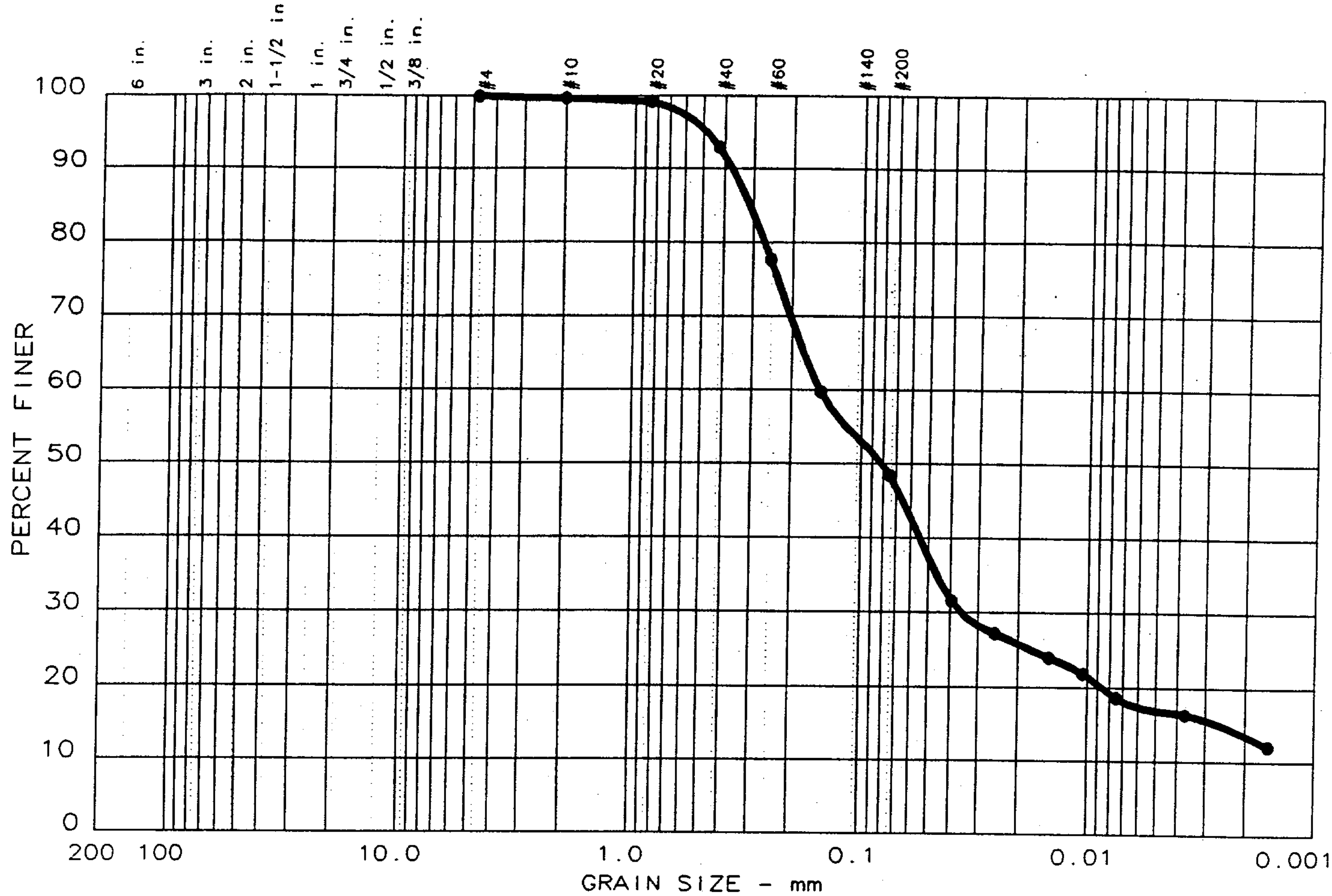
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	51.6	31.5	16.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.31	0.15	0.08	0.035	0.0026			

MATERIAL DESCRIPTION	USCS	AASHTO
● GRAY SILTY FINE SAND	(SM)	----

Project No.: P93146
Project: SAVANNAH #: M3-15692A-6
● Location: SD-02-02

Date: 01/19/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 9

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 3

Date: 01/19/94
roject No.: P93146
Project: SAVANNAH #: M3-15692A-6

Sample Data

Location of Sample: SD-02-02
Sample Description: GRAY SILTY FINE SAND
USCS Class: (SM)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	52.30	26.98
Tare =	0.00	0.00
Dry sample weight =	52.30	26.98

Minus #200 from wash= 48.4 %
are for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.17	99.7
# 20	0.39	99.3
# 40	3.66	93.0
# 60	11.70	77.6
# 100	21.05	59.8
# 200	26.98	48.4

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.7
Weight of hydrometer sample: 52.3
Calculated biased weight= 52.47
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.203
Specific gravity correction factor= 1.140
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	20.0	14.5	0.0155	20.0	13.0	0.0395	31.6
5.0	22.5	18.0	12.5	0.0155	18.0	13.3	0.0253	27.2
15.0	22.5	16.5	11.0	0.0155	16.5	13.6	0.0147	24.0
30.0	22.6	15.5	10.1	0.0155	15.5	13.8	0.0105	21.9
60.0	22.6	14.0	8.6	0.0155	14.0	14.0	0.0075	18.6
250.0	22.5	13.0	7.5	0.0155	13.0	14.2	0.0037	16.4
1440.0	20.9	11.4	5.6	0.0158	11.4	14.4	0.0016	12.1

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 51.6
% SILT = 31.5 % CLAY = 16.9

D85= 0.31 D60= 0.151 D50= 0.081
D30= 0.0355 D15= 0.00257

Douglas [illegible] Ford

Thompson Engineering

JANUARY 19, 1994

REPORT #: 10
JOB #:P93146

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15692A-6

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-02 PYCNOMETER #: 6A

>>>>> DATES
SAMPLED: 12/07/93
TESTED: 01/11/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):.......................	169.48
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	312.87
(C) WEIGHT OF SAMPLE (G):..........................	143.39
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	677.48
(E) TEMP. OF PYCNOMETER AND WATER (C):............	23.00
(F) DENSITY OF WATER @ T1:.........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	756.06
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	21.80
(I) DENSITY OF WATER @ T2:.........................	.997845

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

(R)= (D-A)/F*.998234+A............................	677.8186
(S)= (G-B)/I*.998234+B............................	756.2328
(GS)= C/(C+R)-S))*.998234.........................	2.202922

SPECIFIC GRAVITY:.................................. 2.203

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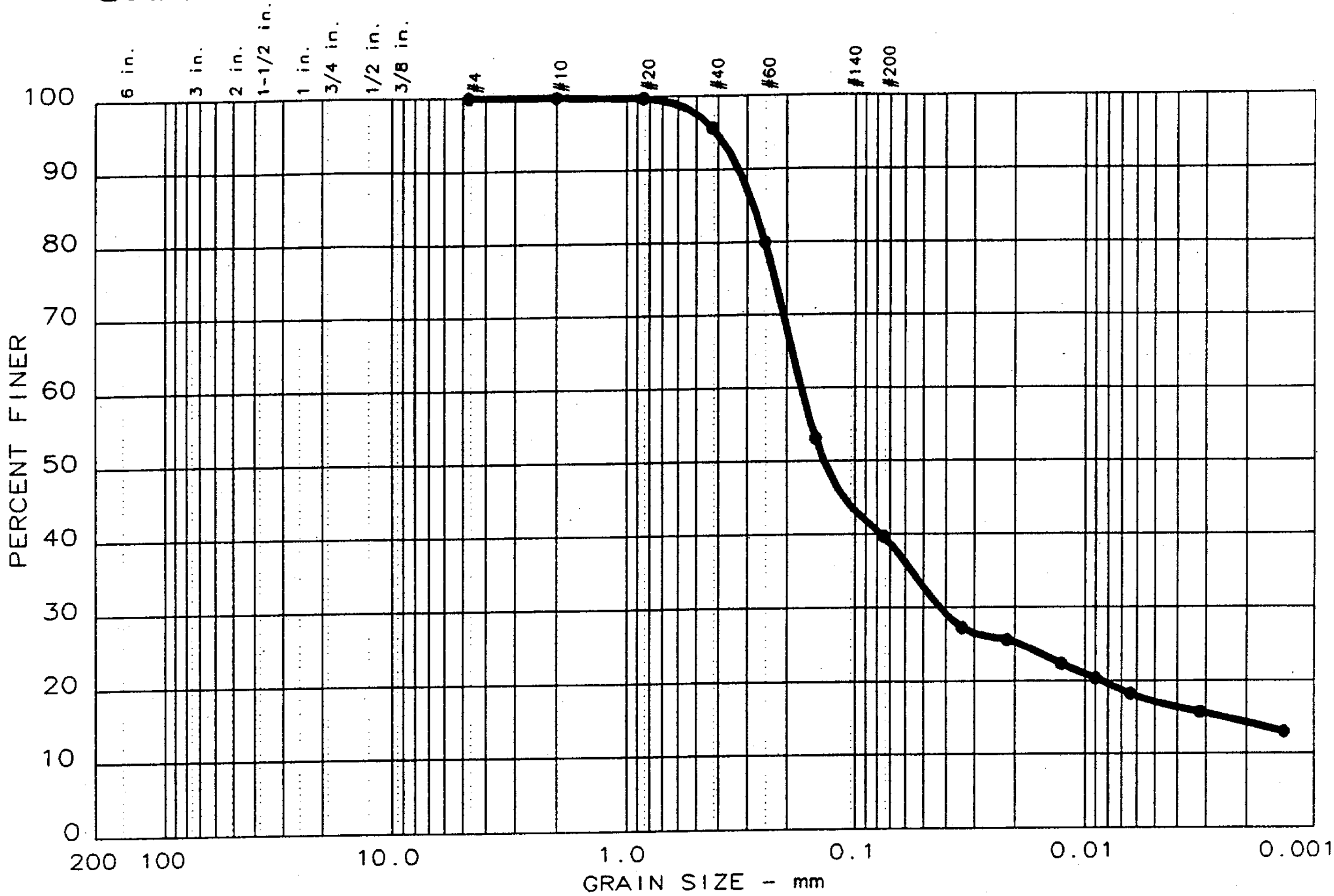

	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	60.3	22.6	17.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.28	0.17	0.14	0.042	0.0025			

MATERIAL DESCRIPTION	USCS	AASHTO
● GRAY SILTY FINE SAND	(SM)	----

Project No.: P93146
Project: SAVANNAH #: M3-15692A-7
● Location: SD-02-03

Date: 01/19/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 11

GRAIN SIZE DISTRIBUTION TEST DATA — Test No.: 4

Date: 01/19/94
Project No.: P93146
Project: SAVANNAH #: M3-15692A-7

Sample Data

Location of Sample: SD-02-03
Sample Description: GRAY SILTY FINE SAND
USCS Class: (SM) — Liquid limit: ----
AASHTO Class: ---- — Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	61.50	37.07
Tare =	0.00	0.00
Dry sample weight =	61.50	37.07

Minus #200 from wash= 39.7 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.04	99.9
# 20	0.17	99.7
# 40	2.68	95.6
# 60	12.34	79.9
# 100	28.85	53.1
# 200	37.07	39.7

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.9
Weight of hydrometer sample: 61.5
Calculated biased weight= 61.54
Automatic temperature correction
  Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.587
Specific gravity correction factor= 1.015
Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	22.0	16.5	0.0135	22.0	12.7	0.0340	27.3
5.0	22.5	21.0	15.5	0.0135	21.0	12.9	0.0216	25.6
15.0	22.5	19.0	13.5	0.0135	19.0	13.2	0.0126	22.3
30.0	22.5	17.8	12.3	0.0135	17.8	13.4	0.0090	20.3
60.0	22.6	16.5	11.1	0.0135	16.5	13.6	0.0064	18.2
250.0	22.4	15.0	9.5	0.0135	15.0	13.8	0.0032	15.7
1440.0	20.9	13.7	7.9	0.0138	13.7	14.0	0.0014	13.0

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 60.3
% SILT = 22.6 % CLAY = 17.1

D85= 0.28 D60= 0.173 D50= 0.138
D30= 0.0421 D15= 0.00251

Thompson Engineering

JANUARY 19, 1994

REPORT #: 12
JOB #:P93146

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15692A-7

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-03 PYCNOMETER #: 21

>>>>> DATES
SAMPLED: 12/07/93
TESTED: 01/11/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):......................	180.47
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	354.19
(C) WEIGHT OF SAMPLE (G):..........................	173.72
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	678.83
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:.........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	785.53
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.30
(I) DENSITY OF WATER @ T2:.........................	.997496

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

(R)= (D-A)/F*.998234+A.............................	679.1622
(S)= (G-B)/I*.998234+B.............................	785.8491
(GS)= C/(C+R)-S))*.998234..........................	2.586979

SPECIFIC GRAVITY:..................................	2.587

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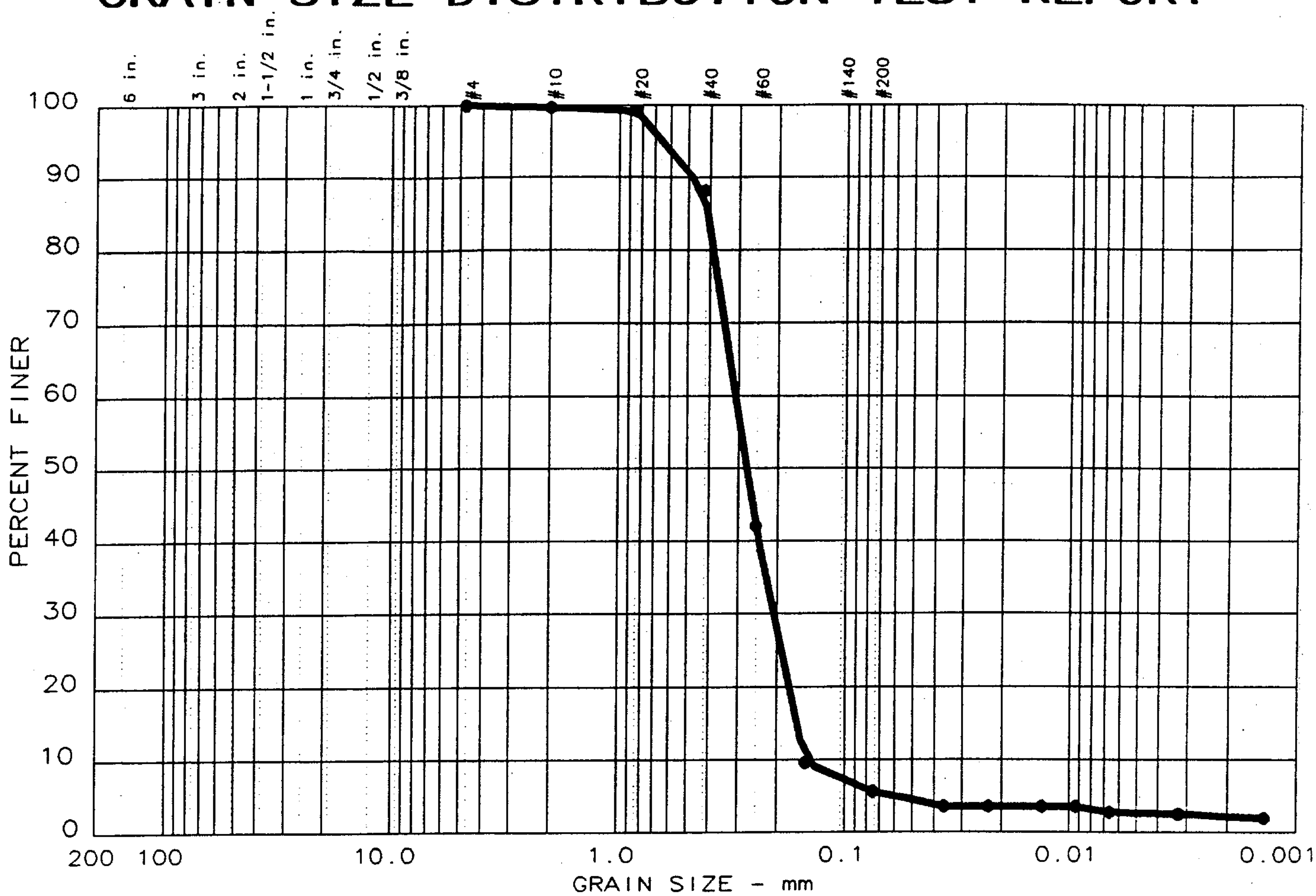
TET

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	94.4	2.9	2.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.41	0.31	0.28	0.207	0.1633	0.1507	0.92	2.1

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP-SM)	----

Project No.: P93146
Project: SAVANNAH #: M3-15692 A-8
● Location: SD-02-04

Date: 01/19/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Figure No. 13

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 5

Date: 01/19/94
Project No.: P93146
Project: SAVANNAH #: M3-15692A-8

Sample Data

Location of Sample: SD-02-04
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP-SM)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.01	94.42
Tare =	0.00	0.00
Dry sample weight =	100.01	94.42

Minus #200 from wash= 5.6 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.33	99.7
# 20	0.78	99.2
# 40	11.85	88.2
# 60	57.95	42.1
# 100	90.41	9.6
# 200	94.42	5.6

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.7
Weight of hydrometer sample: 100.01
Calculated biased weight= 100.34
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.637
Specific gravity correction factor= 1.003
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0362	3.5
5.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0229	3.5
15.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0132	3.5
30.0	22.5	9.0	3.5	0.0133	9.0	14.8	0.0093	3.5
60.0	22.6	8.2	2.8	0.0133	8.2	15.0	0.0066	2.8
250.0	22.4	8.0	2.5	0.0133	8.0	15.0	0.0033	2.5
1440.0	20.9	7.8	2.0	0.0135	7.8	15.0	0.0014	2.0

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 94.4
% SILT = 2.9 % CLAY = 2.7

D85= 0.41 D60= 0.309 D50= 0.275
D30= 0.2065 D15= 0.16331 D10= 0.15066
Cc = 0.9162 Cu = 2.0512

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JANUARY 19, 1994

REPORT #: 14
JOB #:P93146

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15692A-8

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-04 PYCNOMETER #: B1

>>>>> DATES	TECHNICIAN
SAMPLED: 12/07/93	SAMPLED: CLIENT
TESTED: 01/11/94	TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):..........................	180.36
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	404.97
(C) WEIGHT OF SAMPLE (G):.............................	224.61
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	678.55
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.40
(F) DENSITY OF WATER @ T1:..........................	.997472
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	818.21
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.20
(I) DENSITY OF WATER @ T2:..........................	.997521

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

(R)= (D-A)/F*.998234+A..............................	678.9306
(S)= (G-B)/I*.998234+B..............................	818.5054
(GS)= C/(C+R)-S))*.998234..........................	2.636712

SPECIFIC GRAVITY:.................................... 2.637

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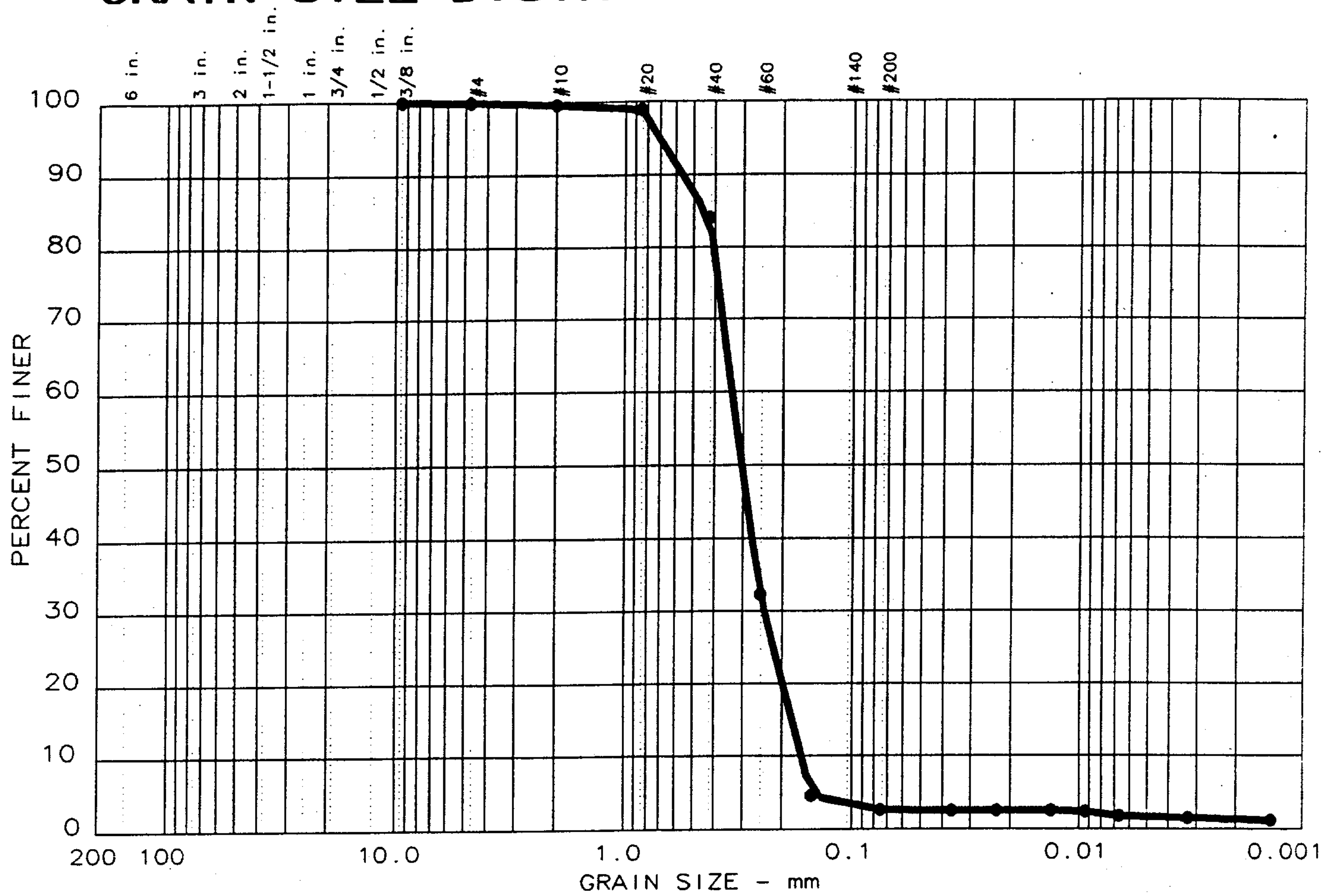
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	97.3	1.0	1.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.44	0.33	0.30	0.239	0.1816	0.1656	1.03	2.0

MATERIAL DESCRIPTION	USCS	AASHTO
● GRAY MEDIUM-FINE SAND	(SP)	----

Project No.: P93146
Project: SAVANNAH #: M3-15692A-9
● Location: SD-02-05

Date: 01/19/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 15

GRAIN SIZE DISTRIBUTION TEST DATA — Test No.: 6

Date: 01/19/94
Project No.: P93146
Project: SAVANNAH #: M3-15692A-9

Sample Data

Location of Sample: SD-02-05
Sample Description: GRAY MEDIUM-FINE SAND
USCS Class: (SP)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.02	97.40
Tare =	0.00	0.00
Dry sample weight =	100.02	97.40

Minus #200 from wash= 2.6 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.04	100.0
# 10	0.40	99.6
# 20	1.02	99.0
# 40	15.93	84.1
# 60	67.67	32.3
# 100	95.42	4.6
# 200	97.40	2.6

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.6
Weight of hydrometer sample: 100.02
Calculated biased weight= 100.42
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.638
Specific gravity correction factor= 1.003

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	8.0	2.5	0.0133	8.0	15.0	0.0364	2.5
5.0	22.5	8.0	2.5	0.0133	8.0	15.0	0.0230	2.5
15.0	22.5	8.0	2.5	0.0133	8.0	15.0	0.0133	2.5
30.0	22.6	7.8	2.4	0.0133	7.8	15.0	0.0094	2.4
60.0	22.6	7.2	1.8	0.0133	7.2	15.1	0.0067	1.8
250.0	22.4	7.0	1.5	0.0133	7.0	15.1	0.0033	1.5
1440.0	20.9	7.0	1.2	0.0135	7.0	15.1	0.0014	1.2

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.0   % SAND = 97.3
% SILT = 1.0   % CLAY = 1.7

D85= 0.44   D60= 0.335   D50= 0.303
D30= 0.2393   D15= 0.18155   D10= 0.16558
Cc = 1.0340   Cu = 2.0207

Douglas O. [signature]

Thompson Engineering

JANUARY 19, 1994

REPORT #: 16
JOB #:P93146

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15692 A-9

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-05   PYCNOMETER #: 21

>>>>> DATES
SAMPLED: 12/07/93
TESTED: 01/11/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.48
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	414.47
(C) WEIGHT OF SAMPLE (G):............................	233.99
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	678.83
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	824.41
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.20
(I) DENSITY OF WATER @ T2:...........................	.997755

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

(R)= (D-A)/F*.998234+A..............................	679.1622
(S)= (G-B)/I*.998234+B..............................	824.6068
(GS)= C/(C+R)-S))*.998234...........................	2.637932

SPECIFIC GRAVITY:.................................... 2.638

THOMPSON ENGINEERING TESTING, INC.
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JAN 24 1994

LOG NO: M3-15600A

~~Received: 03 DEC~~ 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030-Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15600A-1	SD-02-H1	12-02-93	EAH016
15600A-2	SD-02-H2	12-02-93	EAH016
15600A-3	SD-02-H3	12-02-93	EAH016
15600A-4	SD-02-H4	12-02-93	EAH016
15600A-5	SD-02-H5	12-02-93	EAH016

PARAMETER	15600A-1	15600A-2	15600A-3	15600A-4	15600A-5
Heterotrophic Plate Count (SM 907A)					
Standard Plate Count, No/g	70000	180000	90000	40000	50000
Date Analyzed	12.10.93	12.10.93	12.10.93	12.10.93	12.10.93
Analyst	CE	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)					
Phosphorus, Total, mg/kg dw	140	210	320	64	<10
Sample Preparation	12.07.93	12.07.93	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB	BB	BB
Nitrate as N (EPA 353.2)					
Nitrate-N, mg/kg dw	<2.0	3.4	3.6	2.9	2.8
Sample Preparation	12.16.93	12.16.93	12.16.93	12.16.93	12.16.93
Date Analyzed	12.21.93	12.21.93	12.21.93	12.21.93	12.21.93
Analyst	BB	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)					
Kjeldahl Nitrogen-N, mg/kg dw	1200	1400	1400	250	37
Sample Preparation	12.07.93	12.07.93	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	720	520	470	300	300
Sample Preparation	12.17.93	12.17.93	12.17.93	12.17.93	12.17.93
Date Analyzed	12.19.93	12.19.93	12.19.93	12.19.93	12.19.93
Analyst	SR	SR	SR	SR	SR

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

900 Lakeside Drive • Mobile, Alabama 36693-5118 • (205) 666-6633 • Fax (205) 666-6696

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Received: 03 DEC 93

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P.O. Box 341315
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Purchase Order: #E-0179/93

Project: N0058C0030-Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15600A-1	SD-02-H1	12-02-93	EAH016
15600A-2	SD-02-H2	12-02-93	EAH016
15600A-3	SD-02-H3	12-02-93	EAH016
15600A-4	SD-02-H4	12-02-93	EAH016
15600A-5	SD-02-H5	12-02-93	EAH016

PARAMETER	15600A-1	15600A-2	15600A-3	15600A-4	15600A-5
Cation Exchange Capacity (EPA 9081)					
Cation Exchange Capacity, mEq/100g	13	17	18	4.5	3.4
Date Extracted	12.14.93	12.14.93	12.14.93	12.14.93	12.14.93
Date Analyzed	12.15.93	12.15.93	12.15.93	12.15.93	12.15.93
Analyst	PC	PC	PC	PC	PC
Density @ 20 Degrees C	NA	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*	*
Specific Gravity [C0275]	*	*	*	*	*
Grain Size (ASTM D421/422/1140)					
% Passing sieve No.4	*	*	*	*	*

NA = Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET reports

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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LOG NO: M3-15600A
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Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030-Site 2
Sampled By: P.C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
15600A-6	Quantitation Limit
15600A-7	Accuracy (% Recovery for LCS/LCSD)
15600A-8	Precision (Relative % Difference for LCS /LCSD)

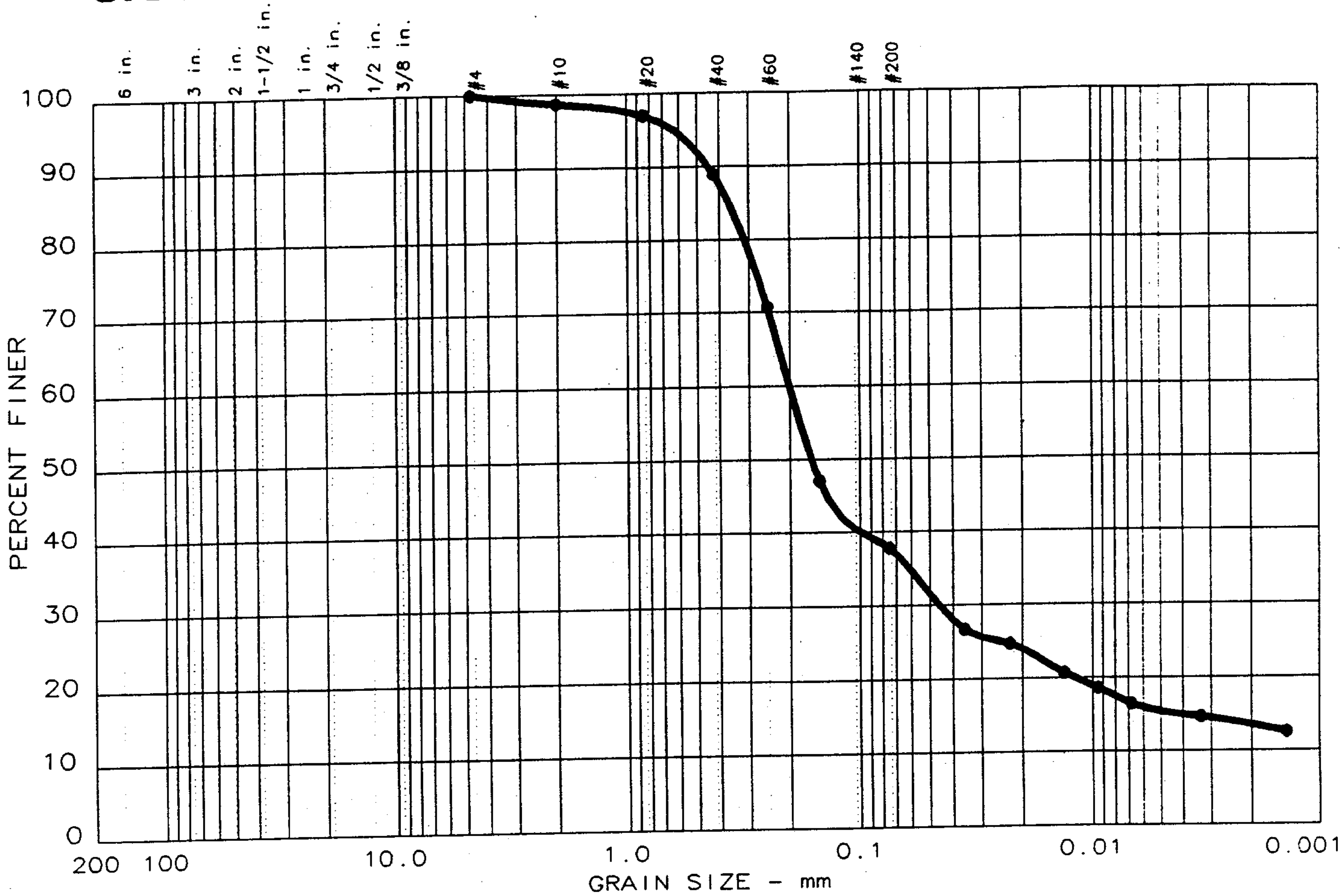
PARAMETER	15600A-6	15600A-7	15600A-8
Standard Plate Count, NO/g	100	---	---
Phosphorus, Total, mg/kg	10	97/96 %	1.0 %
Nitrate-N, mg/kg	2.0	97/98 %	1.0%
Kjeldahl Nitrogen-N, mg/kg	20	91/93 %	2.2 %
Organic Carbon, mg/kg	50	95/98 %	3.1 %
Cation Exchange Capacity, meq/100g	0.050	102/99 %	3.0 %

Michele H. Lersch

Michele H. Lersch

Final Page Of Report

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	62.2	22.5	15.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.36	0.20	0.16	0.045	0.0043			

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN SILTY MEDIUM-FINE SAND	(SM)	----

Project No.: P93140
Project: SAVANNAH #: M3-15600
● Location: SD-02-H1

Date: 01/13/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES
NATURAL MOISTURE (%):
90.11

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 1

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 17

Date: 01/13/94
roject No.: P93140
roject: SAVANNAH #: M3-15600

Sample Data

Location of Sample: SD-O2-H1
Sample Description: BROWN SILTY MEDIUM-FINE SAND
USCS Class: (SM) Liquid limit: ----
AASHTO Class: ---- Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 90.11
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	51.05	31.74
Tare =	0.00	0.00
Dry sample weight =	51.05	31.74

Minus #200 from wash= 37.8 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.67	98.7
# 20	1.52	97.0
# 40	5.63	89.0
# 60	14.99	70.6
# 100	27.01	47.1
# 200	31.74	37.8

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 98.7
Weight of hydrometer sample: 51.05
Calculated biased weight= 51.73
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.516
Specific gravity correction factor= 1.033
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.9	19.0	13.4	0.0139	19.0	13.2	0.0357	26.7
5.0	21.9	18.0	12.4	0.0139	18.0	13.3	0.0227	24.7
15.0	21.8	16.0	10.4	0.0139	16.0	13.7	0.0133	20.7
30.0	21.5	15.0	9.3	0.0140	15.0	13.8	0.0095	18.6
60.0	21.2	14.0	8.2	0.0140	14.0	14.0	0.0068	16.4
250.0	21.6	13.0	7.3	0.0140	13.0	14.2	0.0033	14.6
1440.0	21.4	12.0	6.3	0.0140	12.0	14.3	0.0014	12.5

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 62.2
% SILT = 22.5 % CLAY = 15.3

D85= 0.36 D60= 0.202 D50= 0.162
D30= 0.0451 D15= 0.00426

Douglas E. [signature]

Thompson Engineering

JANUARY 13, 1994

REPORT #: 2
JOB #:P93140

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15600

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-H1 PYCNOMETER #: B1

>>>>> DATES
SAMPLED: 12/02/93
TESTED: 12/14/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.37
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	316.28
(C) WEIGHT OF SAMPLE (G):...........................	135.91
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	678.55
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.40
(F) DENSITY OF WATER @ T1:..........................	.997472
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	760.72
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	22.20
(I) DENSITY OF WATER @ T2:..........................	.997778

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

(R)= (D-A)/F*.998234+A............................	678.9306
(S)= (G-B)/I*.998234+B............................	760.9231
(GS)= C/(C+R)-S))*.998234.........................	2.516253

SPECIFIC GRAVITY:.................................. 2.516

THOMPSON ENGINEERING TESTING, INC.
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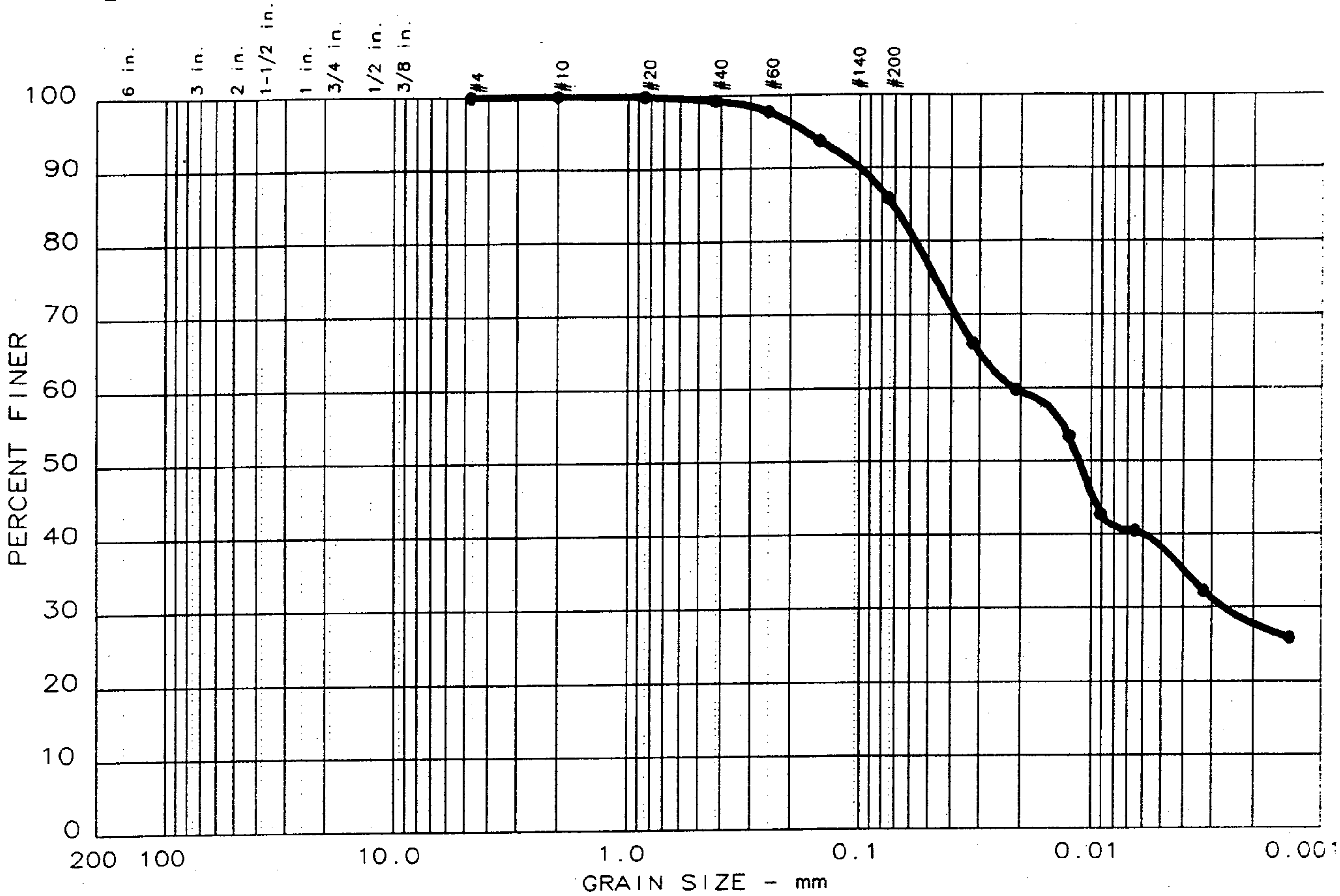
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	14.2	47.4	38.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----			0.01	0.003				

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN CLAYEY SILT, LITTLE FINE SAND	(ML)	----

Project No.: P93140
Project: SAVANNAH #: M3-15600
● Location: SD-02-H2

Date: 01/13/94

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 252.92

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 3

Thompson Engineering

JANUARY 13, 1994

REPORT #: 4
JOB #:P93140

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15600

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-H2 PYCNOMETER #: 3

>>>>> DATES
SAMPLED: 12/02/93
TESTED: 12/14/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):..........................	174.50
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	208.56
(C) WEIGHT OF SAMPLE (G):.............................	34.06
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	627.68
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:............................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	647.76
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.00
(I) DENSITY OF WATER @ T2:............................	.997569

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

(R)= (D-A)/F*.998234+A.................................	627.9821
(S)= (G-B)/I*.998234+B.................................	648.0528
(GS)= C/((C+R)-S))*.998234............................	2.430415

SPECIFIC GRAVITY:... 2.430

THOMPSON ENGINEERING TESTING, INC.
MATERIALS ENGINEERING LABORATORY

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 18

Date: 01/13/94
Project No.: P93140
Project: SAVANNAH #: M3-15600

Sample Data

Location of Sample: SD-02-H2
Sample Description: BROWN CLAYEY SILT, LITTLE FINE SAND
USCS Class: (ML)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 252.92
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	50.22	7.12
Tare =	0.00	0.00
Dry sample weight =	50.22	7.12

Minus #200 from wash= 85.8 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.05	99.9
# 40	0.34	99.3
# 60	1.11	97.8
# 100	3.12	93.8
# 200	7.12	85.8

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 50.22
Calculated biased weight= 50.22
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.43
Specific gravity correction factor= 1.058
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.9	37.0	31.4	0.0143	37.0	10.2	0.0324	66.1
5.0	21.9	34.0	28.4	0.0143	34.0	10.7	0.0210	59.8
15.0	21.8	31.0	25.4	0.0143	31.0	11.2	0.0124	53.4
30.0	21.5	26.0	20.3	0.0144	26.0	12.0	0.0091	42.7
60.0	21.2	25.0	19.2	0.0144	25.0	12.2	0.0065	40.5
250.0	21.6	21.0	15.3	0.0144	21.0	12.9	0.0033	32.3
1440.0	21.4	18.0	12.3	0.0144	18.0	13.3	0.0014	25.8

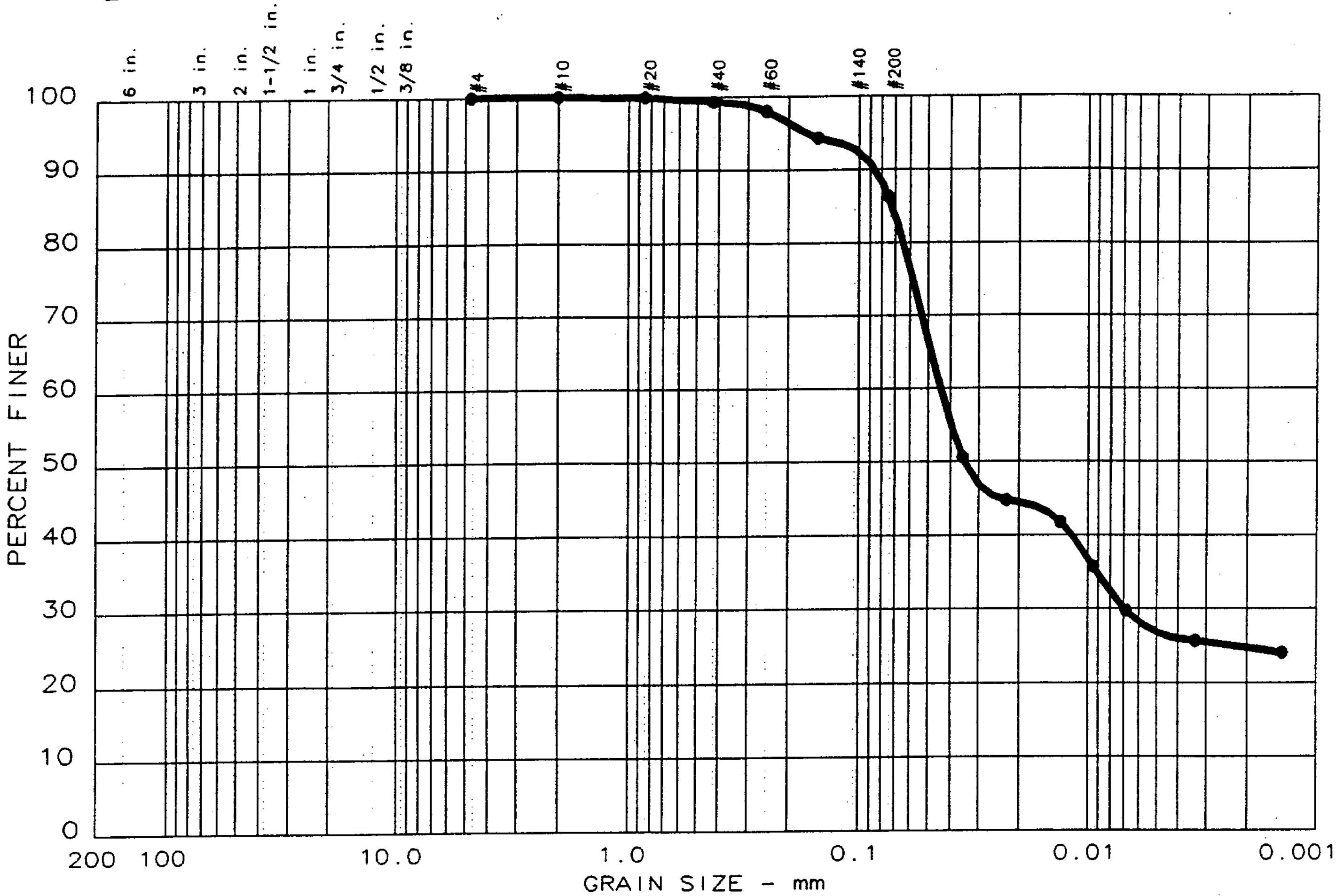
Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 14.2
% SILT = 47.4 % CLAY = 38.4

D85= 0.07 D60= 0.021 D50= 0.011
D30= 0.0027

Douglas E. Fuch

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	13.7	59.5	26.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----			0.03	0.007				

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN CLAYEY SILT, LITTLE FINE SAND	(ML)	----

Project No.: P93140
Project: SAVANNAH #: M3-15600
● Location: SD-02-H3

Date: 01/13/94

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 270.62

Figure No. 5

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 19

ate: 01/13/94
oject No.: P93140
Project: SAVANNAH #: M3-15600

Sample Data

Location of Sample: SD-02-H3
Sample Description: BROWN CLAYEY SILT, LITTLE FINE SAND
USCS Class: (ML)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 270.62
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	36.01	4.94
Tare =	0.00	0.00
Dry sample weight =	36.01	4.94

Minus #200 from wash= 86.3 %
re for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.02	99.9
# 40	0.24	99.3
# 60	0.71	98.0
# 100	2.03	94.4
# 200	4.94	86.3

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 36.01
Calculated biased weight= 36.01
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.464
Specific gravity correction factor= 1.048
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.9	23.0	17.4	0.0141	23.0	12.5	0.0354	50.6
5.0	21.9	21.0	15.4	0.0141	21.0	12.9	0.0227	44.8
15.0	21.8	20.0	14.4	0.0142	20.0	13.0	0.0132	41.8
30.0	21.5	18.0	12.3	0.0142	18.0	13.3	0.0095	35.8
60.0	21.2	16.0	10.2	0.0143	16.0	13.7	0.0068	29.7
250.0	21.6	14.5	8.8	0.0142	14.5	13.9	0.0034	25.6
1440.0	21.4	14.0	8.3	0.0142	14.0	14.0	0.0014	24.1

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 13.7
% SILT = 59.5 % CLAY = 26.8

D85= 0.07 D60= 0.044 D50= 0.035
D30= 0.0069

Douglas E. [signature]

Thompson Engineering

JANUARY 13, 1994

REPORT #: 6
JOB #:P93140

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15600

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-H3 PYCNOMETER #: 3

>>>>> DATES
SAMPLED: 12/02/93
TESTED: 12/14/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):......................	177.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	226.73
(C) WEIGHT OF SAMPLE (G):..........................	49.50
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	675.57
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:.........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	705.05
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.80
(I) DENSITY OF WATER @ T2:.........................	.997615

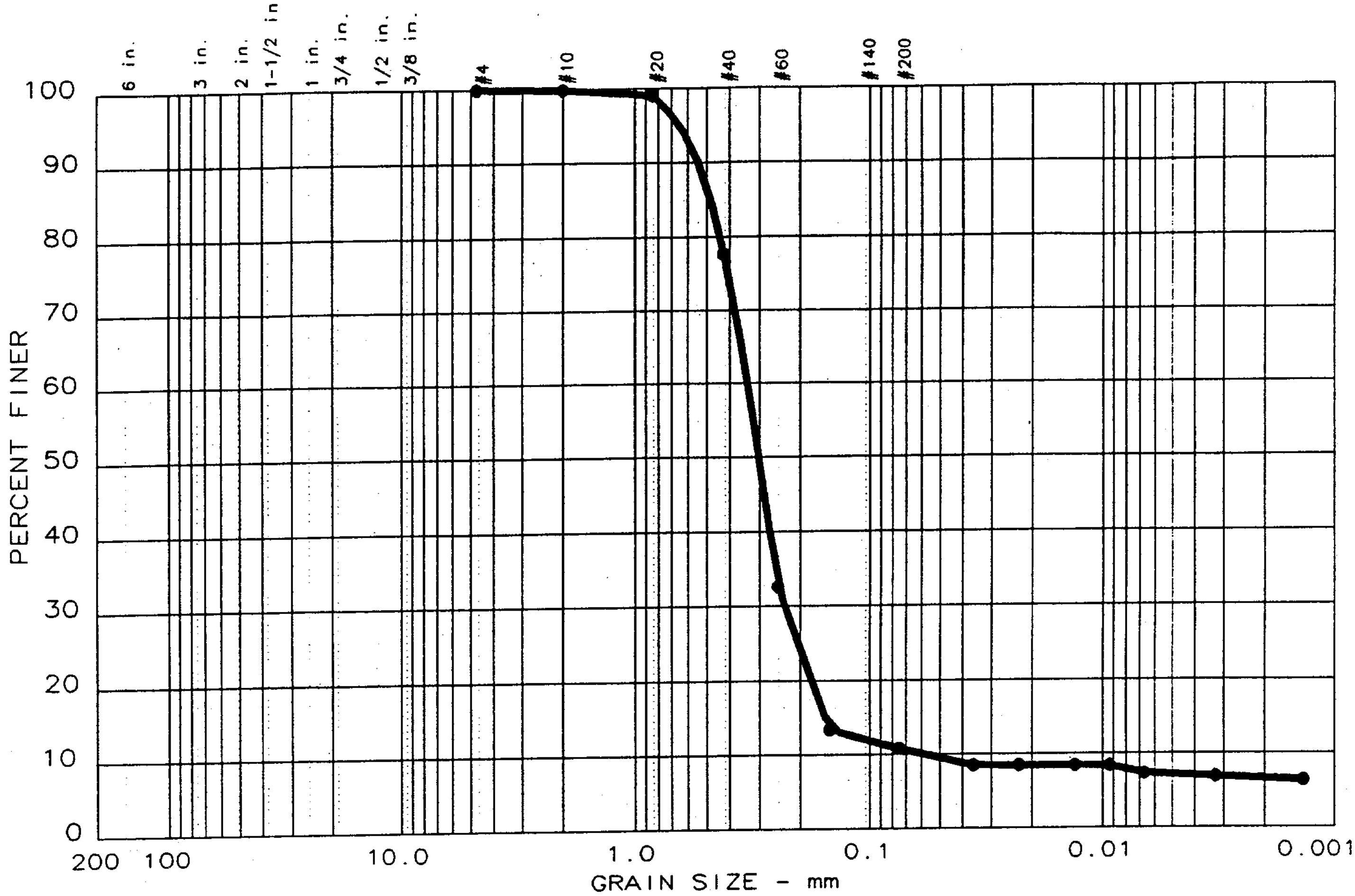
>>>>>>> COMPUTATIONS <<<<<<<

(R)= (D-A)/F*.998234+A.............................	675.9022
(S)= (G-B)/I*.998234+B.............................	705.3468
(GS)= C/(C+R)-S))*.998234..........................	2.463802

SPECIFIC GRAVITY:.................................. 2.464

THOMPSON ENGINEERING TESTING, INC.
MATERIALS ENGINEERING LABORATORY

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	89.2	3.6	7.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.48	0.34	0.30	0.232	0.1565	0.0581	2.75	5.8

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP-SM)	----

Project No.: P93140
Project: SAVANNAH #: M3-15600
● Location: SD-02-H4

Date: 01/13/94

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 28.60

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Figure No. 7

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 20

~ate: 01/13/94
oject No.: P93140
Project: SAVANNAH #: M3-15600

Sample Data

Location of Sample: SD-02-H4
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP-SM)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 28.60
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.12	89.34
Tare =	0.00	0.00
Dry sample weight =	100.12	89.34

Minus #200 from wash= 10.8 %
~re for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.16	99.8
# 20	0.85	99.2
# 40	22.42	77.6
# 60	67.44	32.6
# 100	86.71	13.4
# 200	89.34	10.8

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.8
Weight of hydrometer sample: 100.12
Calculated biased weight= 100.28
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.588
Specific gravity correction factor= 1.015
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.9	14.0	8.4	0.0136	14.0	14.0	0.0359	8.5
5.0	21.8	14.0	8.4	0.0136	14.0	14.0	0.0228	8.5
15.0	21.6	14.0	8.3	0.0136	14.0	14.0	0.0132	8.4
30.0	21.4	14.0	8.3	0.0137	14.0	14.0	0.0093	8.4
60.0	21.1	13.0	7.2	0.0137	13.0	14.2	0.0067	7.3
250.0	21.6	12.5	6.8	0.0136	12.5	14.2	0.0033	6.9
1440.0	21.4	12.0	6.3	0.0137	12.0	14.3	0.0014	6.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 89.2
% SILT = 3.6 % CLAY = 7.2

D85= 0.48 D60= 0.337 D50= 0.302
D30= 0.2320 D15= 0.15649 D10= 0.05814
Cc = 2.7479 Cu = 5.7943

Douglas Z. Ford

Thompson Engineering

JANUARY 13, 1994

REPORT #: 8
JOB #:P93140

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15600

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-H4   PYCNOMETER #: 4

>>>>> DATES
SAMPLED: 12/02/93
TESTED: 12/14/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.97
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	386.24
(C) WEIGHT OF SAMPLE (G):...........................	205.27
(D) WEIGHT OF PYCNOMETER AND WATER (G):............	679.97
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	25.00
(F) DENSITY OF WATER @ T1:..........................	.997075
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	806.36
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.90
(I) DENSITY OF WATER @ T2:..........................	.997592

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

(R)= (D-A)/F*.998234+A..............................	680.5500
(S)= (G-B)/I*.998234+B..............................	806.6304
(GS)= C/(C+R)-S))*.998234...........................	2.587553

SPECIFIC GRAVITY:.................................... 2.588

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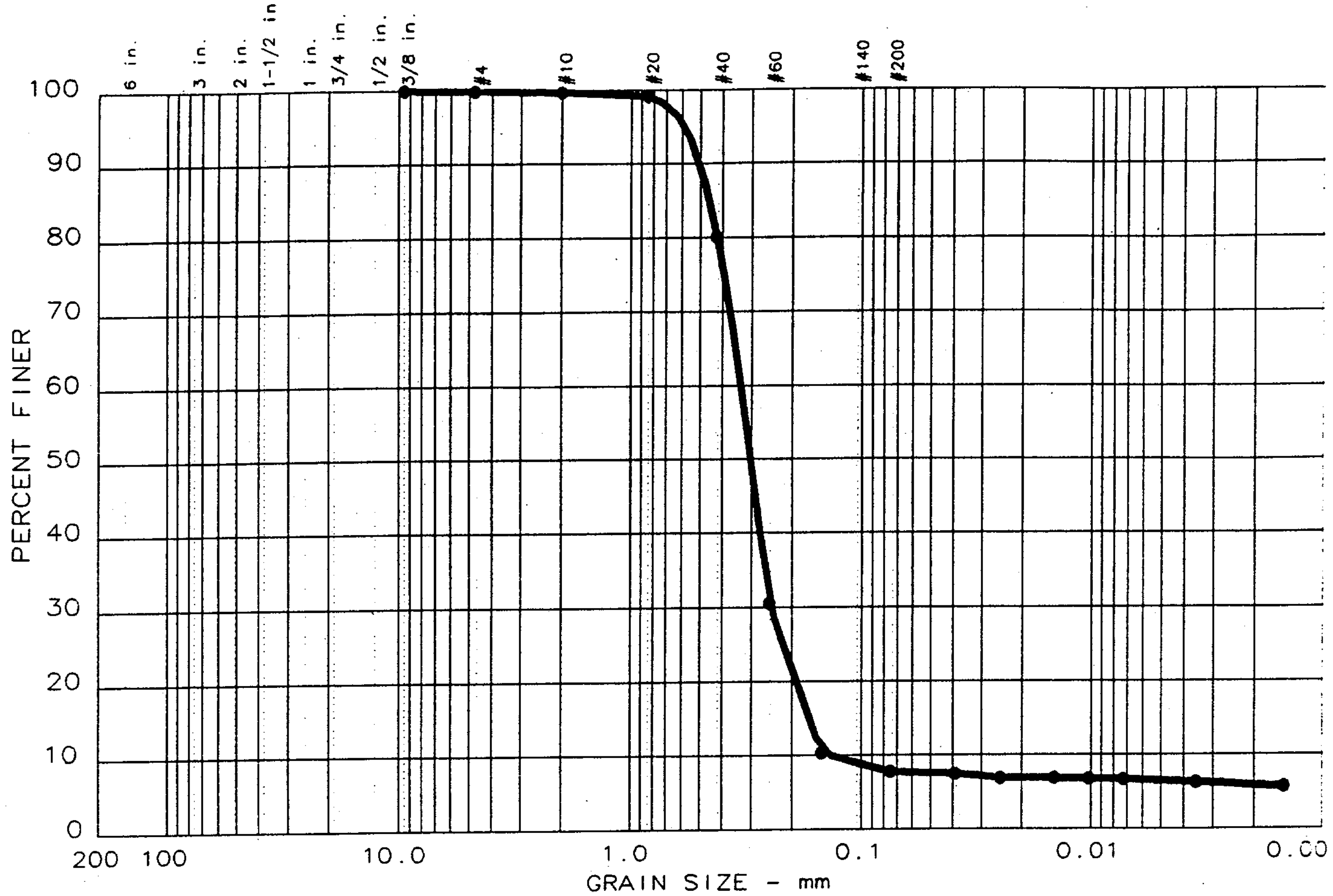
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.1	92.2	1.2	6.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.46	0.33	0.30	0.246	0.1681	0.1335	1.36	2.5

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP-SM)	----

Project No.: P93140
Project: SAVANNAH #: M3-15600
● Location: SD-02-H5

Date: 01/13/94

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 25.95

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Figure No. 9

GRAIN SIZE DISTRIBUTION TEST DATA   Test No.: 2

Date: 01/13/94
Project No.: P93140
Project: SAVANNAH #: M3-15600

Sample Data

Location of Sample: SD-02-H5
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP-SM)   Liquid limit: ----
AASHTO Class: ----   Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 25.95
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.05	92.32
Tare =	0.00	0.00
Dry sample weight =	100.05	92.32

Minus #200 from wash= 7.7 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.08	99.9
# 10	0.31	99.7
# 20	0.81	99.2
# 40	19.97	80.0
# 60	69.44	30.6
# 100	89.76	10.3
# 200	92.32	7.7

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.7
Weight of hydrometer sample: 100.05
Calculated biased weight= 100.36
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.359
Specific gravity correction factor= 1.081

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.9	12.5	6.9	0.0147	12.5	14.2	0.0392	7.4
5.0	21.8	12.0	6.4	0.0147	12.0	14.3	0.0249	6.8
15.0	21.8	12.0	6.4	0.0147	12.0	14.3	0.0144	6.8
30.0	21.4	12.0	6.3	0.0148	12.0	14.3	0.0102	6.7
60.0	21.1	12.0	6.2	0.0148	12.0	14.3	0.0072	6.7
250.0	21.6	11.5	5.8	0.0147	11.5	14.4	0.0035	6.3
1440.0	21.4	11.0	5.3	0.0148	11.0	14.5	0.0015	5.7

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.1   % SAND = 92.2
% SILT = 1.2   % CLAY = 6.5

D85= 0.46 D60= 0.333 D50= 0.302
D30= 0.2458 D15= 0.16807 D10= 0.13351
Cc = 1.3568 Cu = 2.4975

Douglas E. Sto[illegible]

Thompson Engineering

JANUARY 13, 1994

REPORT #: 10
JOB #:P93140

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15600

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-H5   PYCNOMETER #: 6A

>>>>> DATES
SAMPLED: 12/02/93
TESTED: 12/14/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):......................	169.50
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	394.11
(C) WEIGHT OF SAMPLE (G):...........................	224.61
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	677.48
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:..........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	807.18
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	22.40
(I) DENSITY OF WATER @ T2:..........................	.997708

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

(R)= (D-A)/F*.998234+A..............................	677.8186
(S)= (G-B)/I*.998234+B..............................	807.3978
(GS)= C/(C+R)-S))*.998234...........................	2.359374

SPECIFIC GRAVITY:.................................... 2.359

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RECEIVED JAN 24 1994

LOG NO: M3-15564A

Received: 03 DEC 93

Purchase Order: #E-0179/93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Project: CTO-0058-C0030, Site 2
Sampled By: C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15564A-1	SD-02-E2	12-01-93	EAH016
15564A-2	SD-02-E3	12-01-93	EAH016
15564A-3	SD-02-E4	12-01-93	EAH016
15564A-4	SD-02-E5	12-01-93	EAH016
15564A-5	SD-02-A2	12-01-93	EAH016

PARAMETER	15564A-1	15564A-2	15564A-3	15564A-4	15564A-5
Heterotrophic Plate Count (SM 907A)					
Standard Plate Count, No/g	50000	230000	30000	40000	20000
Date Analyzed	12.03.93	12.03.93	12.06.93	12.06.93	12.06.93
Analyst	CE	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)					
Phosphorus, Total, mg/kg dw	190	770	150	5.4	99
Sample Preparation	12.07.93	12.07.93	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB	BB	BB
Nitrate as N (EPA 353.2)					
Nitrate-N, mg/kg dw	<2.0	<2.0	<2.0	2.8	<2.0
Sample Preparation	12.16.93	12.16.93	12.16.93	12.16.93	12.16.93
Date Analyzed	12.21.93	12.21.93	12.21.93	12.21.93	12.21.93
Analyst	BB	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)					
Kjeldahl Nitrogen-N, mg/kg dw	340	2900	490	100	740
Sample Preparation	12.07.93	12.07.93	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)					
Organic Carbon, mg/kg dw	1400	2800	1600	500	810
Sample Preparation	12.14.93	12.14.93	12.14.93	12.14.93	12.14.93
Date Analyzed	12.15.93	12.15.93	12.15.93	12.15.93	12.15.93
Analyst	SR	SR	SR	SR	SR

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LOG NO: M3-15564A

Received: 03 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15564A-1	SD-02-E2	12-01-93	EAH016
15564A-2	SD-02-E3	12-01-93	EAH016
15564A-3	SD-02-E4	12-01-93	EAH016
15564A-4	SD-02-E5	12-01-93	EAH016
15564A-5	SD-02-A2	12-01-93	EAH016

PARAMETER	15564A-1	15564A-2	15564A-3	15564A-4	15564A-5
Cation Exchange Capacity (EPA 9081)					
Cation Exchange Capacity, mEq/100g	6.8	24	5.6	2.7	4.8
Date Extracted	12.10.93	12.10.93	12.10.93	12.10.93	12.14.93
Date Analyzed	12.13.93	12.13.93	12.13.93	12.13.93	12.15.93
Analyst	PC	PC	PC	PC	PC
Density @ 20 Degrees C	NA	NA	NA	NA	NA
Moisture (Loss on drying - 105.C)	*	*	*	*	*
Specific Gravity [C0275]	*	*	*	*	*
Grain Size (ASTM D421/422/1140)					
% Passing sieve No.4	*	*	*	*	*

NA = Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET reports

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Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15564A-6	SD-02-D1	12-01-93	EAH016
15564A-7	SD-02-D3	12-01-93	EAH016
15564A-8	SD-02-F2	12-01-93	EAH016
15564A-9	SD-02-F3	12-01-93	EAH016

PARAMETER	15564A-6	15564A-7	15564A-8	15564A-9
Heterotrophic Plate Count (SM 907A)				
Standard Plate Count, No/g	70000	60000	10000	110000
Date Analyzed	12.03.93	12.06.93	12.06.93	12.03.93
Analyst	CE	CE	CE	CE
Total Phosphorus (EPA 365.4)				
Phosphorus, Total, mg/kg dw	120	260	15	640
Sample Preparation	12.07.93	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB	BB
Nitrate as N (EPA 353.2)				
Nitrate-N, mg/kg dw	<2.0	<2.0	2.0	<2.0
Sample Preparation	12.16.93	12.16.93	12.16.93	12.16.93
Date Analyzed	12.21.93	12.21.93	12.21.93	12.21.93
Analyst	BB	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)				
Kjeldahl Nitrogen-N, mg/kg dw	170	1600	90	2600
Sample Preparation	12.07.93	12.07.93	12.07.93	12.07.93
Date Analyzed	12.09.93	12.09.93	12.09.93	12.09.93
Analyst	BB	BB	BB	BB
Total Organic Carbon (EPA 415.1)				
Organic Carbon, mg/kg dw	280	2400	560	3800
Sample Preparation	12.14.93	12.14.93	12.14.93	12.14.93
Date Analyzed	12.15.93	12.15.93	12.15.93	12.15.93
Analyst	SR	SR	SR	SR

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LOG NO: M3-15564A

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P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: C. Mason

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15564A-6	SD-02-D1	12-01-93	EAH016
15564A-7	SD-02-D3	12-01-93	EAH016
15564A-8	SD-02-F2	12-01-93	EAH016
15564A-9	SD-02-F3	12-01-93	EAH016

PARAMETER	15564A-6	15564A-7	15564A-8	15564A-9
Cation Exchange Capacity (EPA 9081)				
Cation Exchange Capacity, mEq/100g	0.79	8.9	2.4	38
Date Extracted	12.10.93	12.10.93	12.14.93	12.14.93
Date Analyzed	12.13.93	12.13.93	12.15.93	12.15.93
Analyst	PC	PC	PC	PC
Density @ 20 Degrees C, N	NA	NA	NA	NA
Moisture (Loss on drying - 105 C)	*	*	*	*
Specific Gravity [C0275]	*	*	*	*
Grain Size (ASTM D421/422/1140)				
% Passing sieve No.4	*	*	*	*

NA = Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET reports

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& ENVIRONMENTAL SERVICES, INC.

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LOG NO: M3-15564A

Received: 03 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: CTO-0058-C0030, Site 2
Sampled By: C. Mason

REPORT OF RESULTS

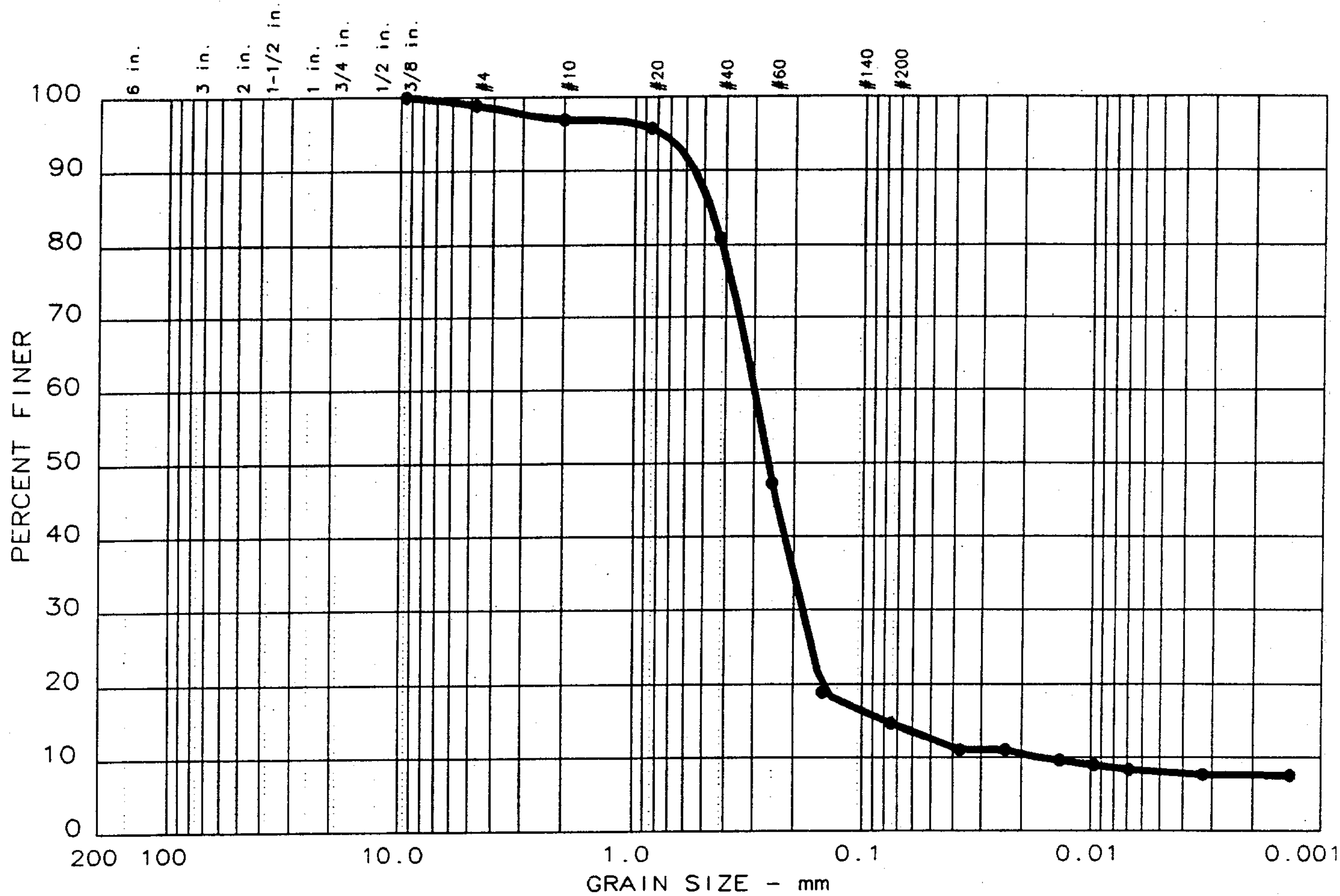
LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
15564A-10	Quantitation Limit
15564A-11	Accuracay (% Recovery for LCS/LCSD)
15564A-12	Precision (Relative % Difference for LSC/LCSD)

PARAMETER	15564A-10	15564A-11	15564A-12
Standard Plate Count, NO/g	100	---	---
Phosphorus, Total, mg/kg	10	97/96 %	1.0 %
Nitrate-N, mg/kg	2.0	98/97 %	1.0 %
Kjeldahl Nitrogen-N, mg/kg	20	91/93 %	2.2 %
Organic Carbon, mg/kg	50	95/94 %	1.1 %
Cation Exchange Capacity, meq/100g	0.050	101/97 %	4.0 %

Michele H. Lersch

Final Page Of Report

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	1.1	84.3	6.6	8.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.47	0.30	0.26	0.183	0.0790	0.0165	6.80	18.1

MATERIAL DESCRIPTION	USCS	AASHTO
● SILTY MEDIUM-FINE SAND, TRACE SHELL & SLAG	(SM)	----

Project No.: P93137
Project: SAVANNAH #: M3-15564A-1
● Location: SD-02-E2

Date: 01/11/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 7

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 4

Date: 01/11/94
'roject No.: P93137
roject: SAVANNAH #: M3-15564A-1

Sample Data

Location of Sample: SD-02-E2
Sample Description: SILTY MEDIUM-FINE SAND, TRACE SHELL & SLAG
USCS Class: (SM)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	71.46	60.98
Tare =	0.00	0.00
Dry sample weight =	71.46	60.98

Minus #200 from wash= 14.7 %
'are for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.76	98.9
# 10	2.17	97.0
# 20	3.04	95.7
# 40	13.63	80.9
# 60	37.68	47.3
# 100	57.96	18.9
# 200	60.98	14.7

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 97.0
Weight of hydrometer sample: 71.46
Calculated biased weight= 73.70
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.555
Specific gravity correction factor= 1.023

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	19.9	14.0	7.9	0.0141	14.0	14.0	0.0372	11.0
5.0	19.9	14.0	7.9	0.0141	14.0	14.0	0.0235	11.0
15.0	19.9	13.0	6.9	0.0141	13.0	14.2	0.0137	9.6
30.0	20.0	12.5	6.5	0.0141	12.5	14.2	0.0097	9.0
60.0	20.2	12.0	6.0	0.0140	12.0	14.3	0.0069	8.3
250.0	22.4	11.0	5.5	0.0136	11.0	14.5	0.0033	7.6
1440.0	22.1	11.0	5.4	0.0137	11.0	14.5	0.0014	7.5

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 1.1   % SAND = 84.3
% SILT = 6.6   % CLAY = 8.0

D85= 0.47   D60= 0.299   D50= 0.260
D30= 0.1830   D15= 0.07898   D10= 0.01650
Cc = 6.7999   Cu = 18.0926

Thompson Engineering

JANUARY 11, 1994

REPORT #: 8
JOB #:P93137

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15564A-/

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-E2 PYCNOMETER #: 3

>>>>> DATES
SAMPLED: 12/01/93
TESTED: 01/07/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	177.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	227.23
(C) WEIGHT OF SAMPLE (G):............................	50.00
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	675.37
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	706.13
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	20.10
(I) DENSITY OF WATER @ T2:...........................	.998149

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

(R)= (D-A)/F*.998234+A..............................	675.7021
(S)= (G-B)/I*.998234+B..............................	706.1708
(GS)= C/(C+R)-S))*.998234...........................	2.555474

SPECIFIC GRAVITY:.................................... 2.555

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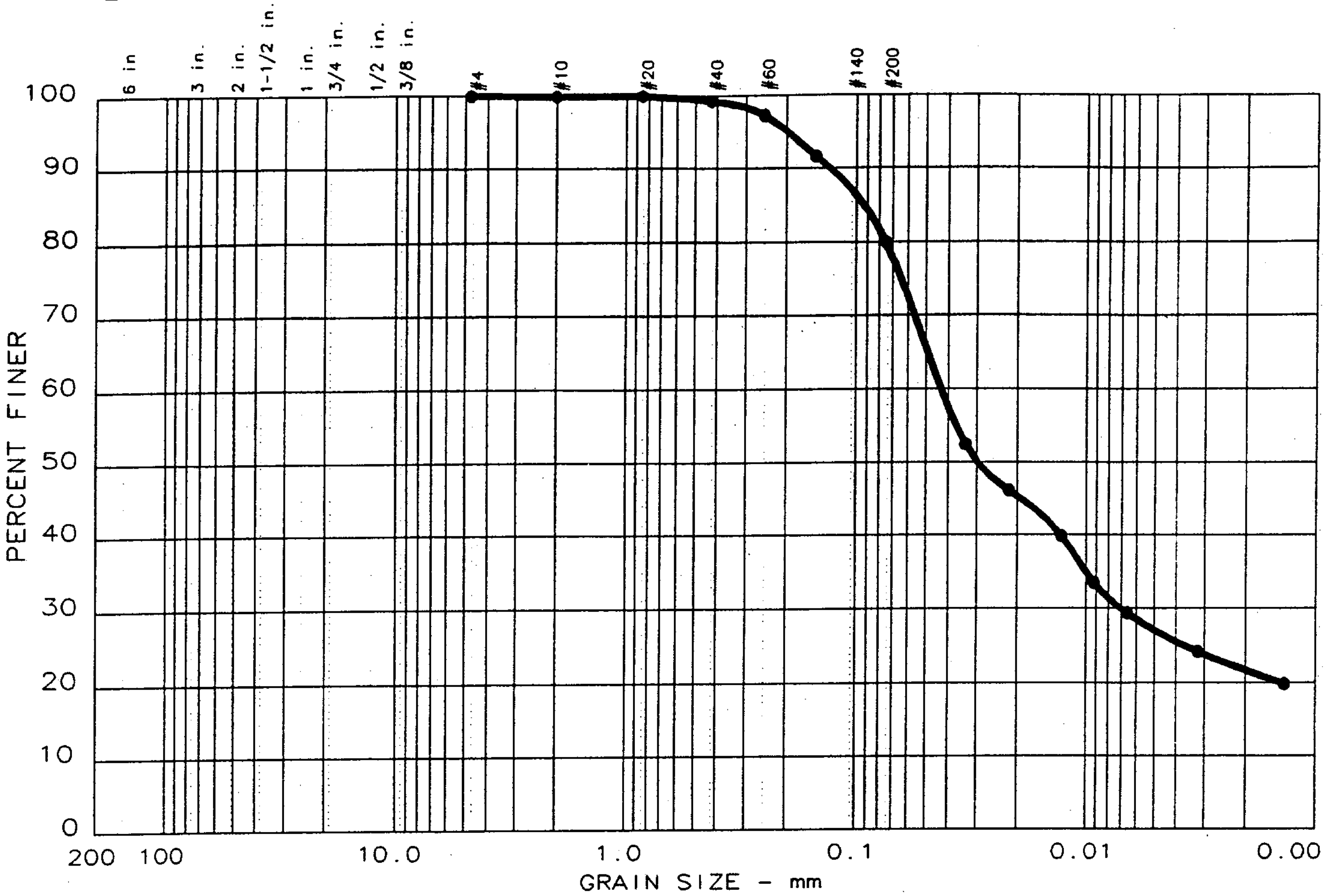
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	20.0	52.9	27.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.09		0.03	0.007				

MATERIAL DESCRIPTION	USCS	AASHTO
● CLAYEY SILT, TRACE FINE SAND	(ML)	----

Project No.: P93137
Project: SAVANNAH #: M3-15564A-2
● Location: SD-02-E3

Date: 01/11/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 9

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 5

ate: 01/11/94
r ʼct No.: P93137
r‿ct: SAVANNAH #: M3-15564 A-2

Sample Data

ocation of Sample: SD-02-E3
ample Description: CLAYEY SILT, TRACE FINE SAND
SCS Class: (ML)
ASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

emarks: CLIENT: SAVANNAH LABORATORIES

ig. No.:

Mechanical Analysis Data

	Initial	After wash
ry sample and tare=	49.06	9.83
are =	0.00	0.00
ry sample weight =	49.06	9.83

inus #200 from wash= 80.0 %
ar- for cumulative weight retained= 0

ve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.02	100.0
# 20	0.03	99.9
# 40	0.35	99.3
# 60	1.33	97.3
# 100	4.10	91.6
# 200	9.83	80.0

Hydrometer Analysis Data

eparation sieve is number 10
ercent -# 10 based on complete sample= 100.0
eight of hydrometer sample: 49.06
alculated biased weight= 49.08
utomatic temperature correction
Composite correction at 20 deg C =-6

eniscus correction only= 0
pecific gravity of solids= 2.522
pecific gravity correction factor= 1.032
ydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	19.9	31.0	24.9	0.0142	31.0	11.2	0.0337	52.4
5.0	19.9	28.0	21.9	0.0142	28.0	11.7	0.0218	46.1
15.0	19.9	25.0	18.9	0.0142	25.0	12.2	0.0128	39.8
30.0	19.9	22.0	15.9	0.0142	22.0	12.7	0.0092	33.5
60.0	20.1	20.0	14.0	0.0142	20.0	13.0	0.0066	29.4
250.0	22.4	17.0	11.5	0.0138	17.0	13.5	0.0032	24.2
1440.0	22.1	15.0	9.4	0.0138	15.0	13.8	0.0014	19.8

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 20.0
% SILT = 52.9 % CLAY = 27.1

D85= 0.09 D60= 0.043 D50= 0.030
D30= 0.0070

Douglas E. Ford

Thompson Engineering

JANUARY 11, 1994

REPORT #: 10
JOB #:P93137

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15564A-2

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-E3   PYCNOMETER #: 3

>>>>> DATES
SAMPLED: 12/01/93
TESTED: 01/07/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	177.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	211.05
(C) WEIGHT OF SAMPLE (G):............................	33.82
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	675.37
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:..........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	695.72
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.80
(I) DENSITY OF WATER @ T2:..........................	.997375

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

(R)= (D-A)/F*.998234+A..............................	675.7021
(S)= (G-B)/I*.998234+B..............................	696.1374
(GS)= C/(C+R)-S))*.998234...........................	2.522314

SPECIFIC GRAVITY:................................... 2.522

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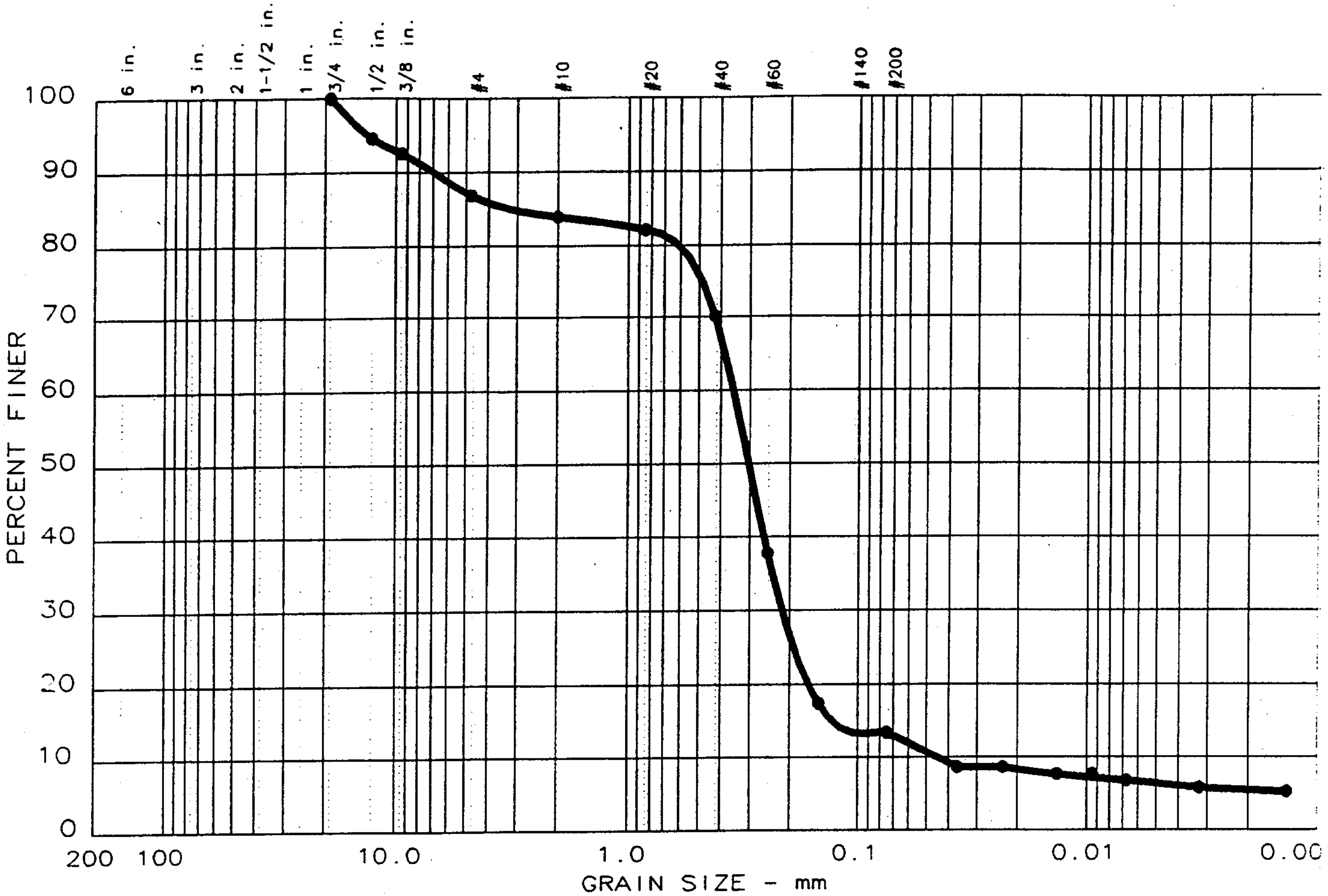
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	13.1	73.5	7.1	6.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	3.24	0.35	0.30	0.216	0.1302	0.0446	2.96	7.9

MATERIAL DESCRIPTION	USCS	AASHTO
● SILTY COARSE-FINE SAND, LITTLE SHELL	(SM)	----

Project No.: P93137
Project: SAVANNAH #: M3-15564A-3
● Location: SD-02-E4

Date: 01/11/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 11

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 6

Date: 01/11/94
oject No.: P93137
roject: SAVANNAH #: M3-15564A-3

Sample Data

Location of Sample: SD-02-E4
Sample Description: SILTY COARSE-FINE SAND, LITTLE SHELL
USCS Class: (SM)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	88.28	76.44
Tare =	0.00	0.00
Dry sample weight =	88.28	76.44

Minus #200 from wash= 13.4 %
re for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.5 inches	4.79	94.6
0.375 inches	6.52	92.6
# 4	11.57	86.9
# 10	14.21	83.9
# 20	15.81	82.1
# 40	26.42	70.1
# 60	54.91	37.8
# 100	72.90	17.4
# 200	76.44	13.4

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 83.9
Weight of hydrometer sample: 88.28
Calculated biased weight= 105.22
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0

Specific gravity of solids= 2.591
Specific gravity correction factor= 1.014
Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	19.9	15.0	8.9	0.0139	15.0	13.8	0.0366	8.6
5.0	19.9	15.0	8.9	0.0139	15.0	13.8	0.0231	8.6
15.0	19.9	14.0	7.9	0.0139	14.0	14.0	0.0134	7.7
30.0	20.0	14.0	8.0	0.0139	14.0	14.0	0.0095	7.7
60.0	20.2	13.0	7.0	0.0139	13.0	14.2	0.0067	6.7
250.0	22.4	11.5	6.0	0.0135	11.5	14.4	0.0032	5.8
1440.0	22.1	11.0	5.4	0.0135	11.0	14.5	0.0014	5.2

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 13.1   % SAND = 73.5
% SILT = 7.1   % CLAY = 6.3

D85= 3.24   D60= 0.354   D50= 0.303
D30= 0.2160   D15= 0.13017   D10= 0.04462
Cc = 2.9580   Cu = 7.9250

Douglas V. Ford

Thompson Engineering

JANUARY 11, 1994

REPORT #: 12
JOB #:P93137

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15564A-3

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-E4 PYCNOMETER #: 2

>>>>> DATES
SAMPLED: 12/01/93
TESTED: 01/07/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):......................	174.50
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	232.87
(C) WEIGHT OF SAMPLE (G):..........................	58.37
D) WEIGHT OF PYCNOMETER AND WATER (G):............	672.68
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:.........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	708.50
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	23.70
(I) DENSITY OF WATER @ T2:.........................	.9974

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

(R)= (D-A)/F*.998234+A.............................	673.0121
(S)= (G-B)/I*.998234+B.............................	708.8977
(GS)= C/(C+R)-S))*.998234..........................	2.591439
SPECIFIC GRAVITY:..................................	2.591

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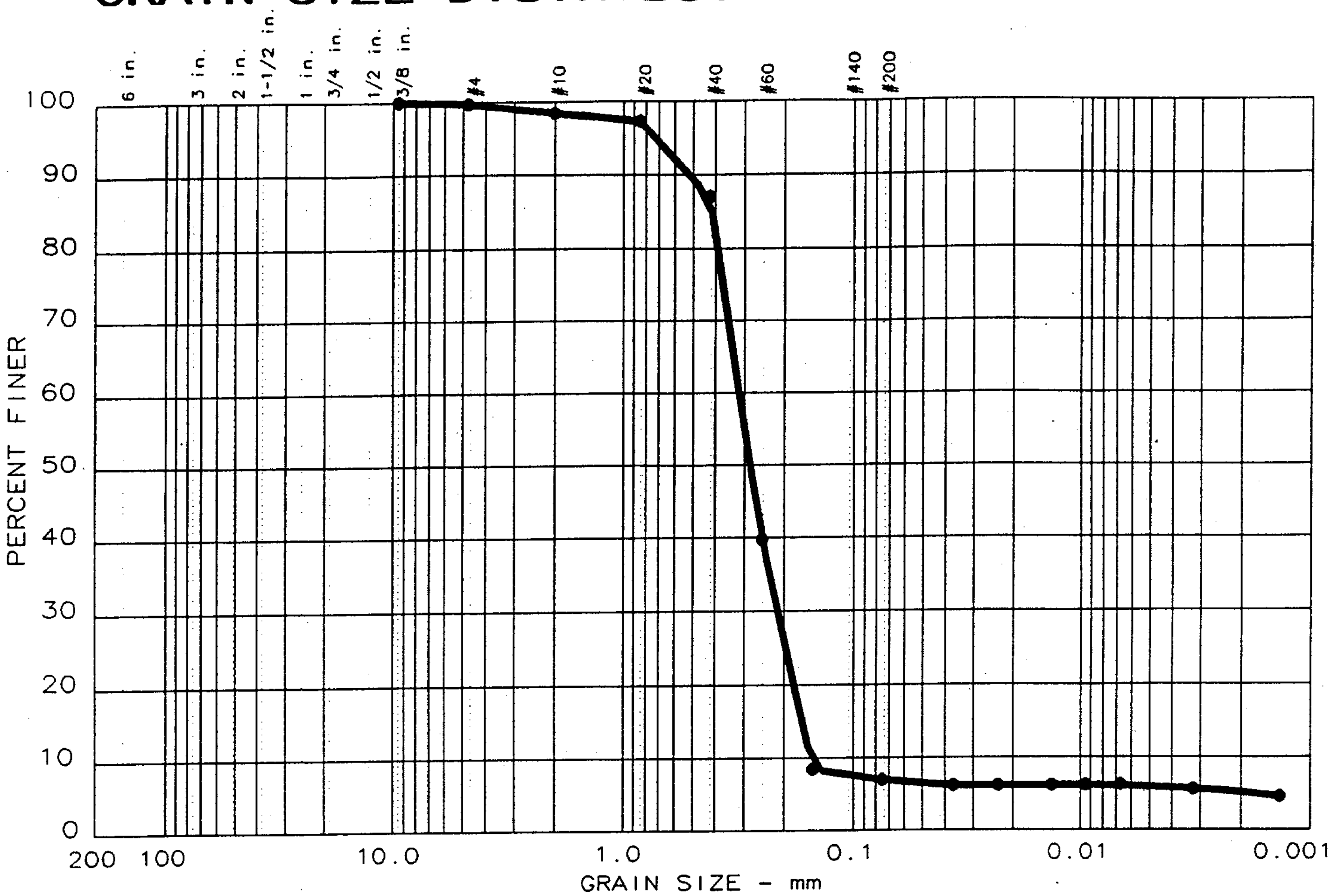
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.3	92.7	1.0	6.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.41	0.32	0.28	0.213	0.1669	0.1538	0.93	2.1

MATERIAL DESCRIPTION	USCS	AASHTO
● MEDIUM-FINE SAND	(SP-SM)	----

Project No.: P93137
Project: SAVANNAH #: M3-15564A-4
● Location: SD-02-E5

Date: 01/11/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Figure No. 13

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 7

Date: 01/11/94
Project No.: P93137
Project: SAVANNAH #: M3-15564A-4

Sample Data

Location of Sample: SD-02-E5
Sample Description: MEDIUM-FINE SAND
USCS Class: (SP-SM)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	95.29	88.65
Tare =	0.00	0.00
Dry sample weight =	95.29	88.65

Minus #200 from wash= 7.0 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.33	99.7
# 10	1.45	98.5
# 20	2.55	97.3
# 40	12.33	87.1
# 60	57.42	39.7
# 100	87.24	8.4
# 200	88.65	7.0

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 98.5
Weight of hydrometer sample: 95.29
Calculated biased weight= 96.76
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.628
Specific gravity correction factor= 1.005

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	19.9	12.0	5.9	0.0138	12.0	14.3	0.0368	6.2
5.0	19.9	12.0	5.9	0.0138	12.0	14.3	0.0233	6.2
15.0	19.9	12.0	5.9	0.0138	12.0	14.3	0.0134	6.2
30.0	20.0	12.0	6.0	0.0137	12.0	14.3	0.0095	6.2
60.0	20.2	12.0	6.0	0.0137	12.0	14.3	0.0067	6.2
250.0	22.4	10.9	5.4	0.0133	10.9	14.5	0.0032	5.6
1440.0	22.1	10.0	4.4	0.0134	10.0	14.7	0.0014	4.6

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.3   % SAND = 92.7
% SILT = 1.0   % CLAY = 6.0

D85= 0.41   D60= 0.316   D50= 0.282
D30= 0.2131   D15= 0.16692   D10= 0.15382
Cc = 0.9343   Cu = 2.0535

Thompson Engineering

JANUARY 11, 1994

REPORT #: 14
JOB #:P93137

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15564A-4

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-E5 PYCNOMETER #: B1

>>>>> DATES
SAMPLED: 12/01/93
TESTED: 01/07/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):.......................	180.37
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	256.87
(C) WEIGHT OF SAMPLE (G):...........................	76.50
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	678.55
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.40
(F) DENSITY OF WATER @ T1:..........................	.997472
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	725.92
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	24.20
(I) DENSITY OF WATER @ T2:..........................	.997277

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

(R)= (D-A)/F*.998234+A..............................	678.9306
(S)= (G-B)/I*.998234+B..............................	726.3701
(GS)= C/(C+R)-S))*.998234...........................	2.627793

SPECIFIC GRAVITY:.................................... 2.628

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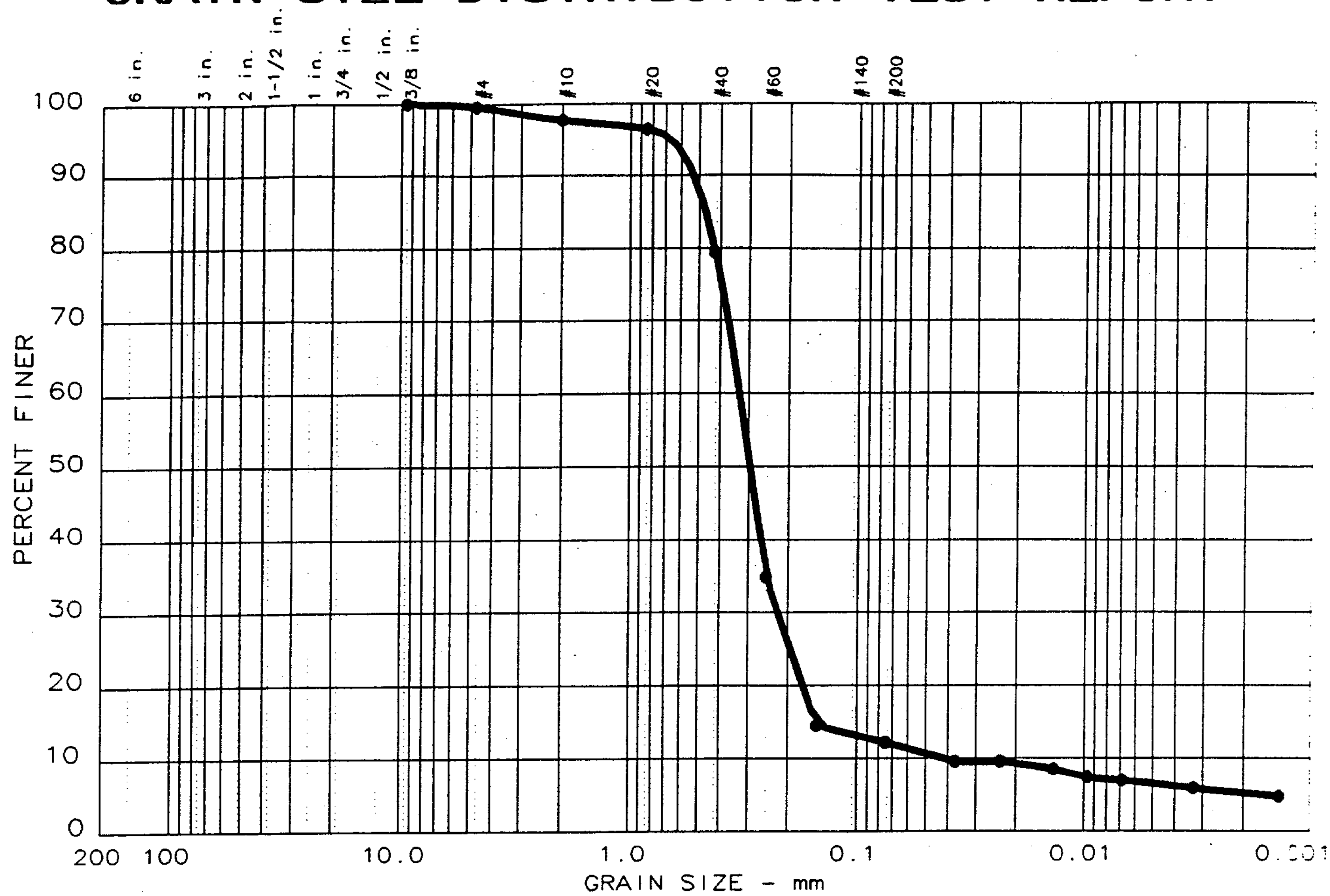

	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.4	87.4	5.6	6.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.47	0.33	0.29	0.221	0.1512	0.0416	3.58	7.9

MATERIAL DESCRIPTION	USCS	AASHTO
● SILTY MEDIUM-FINE SAND, TRACE SHELL	(SM)	----

Project No.: P93137
Project: SAVANNAH #: M3-15564A-5
● Location: SD-02-A2

Date: 01/11/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 1

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 1

Date: 01/11/94
roject No.: P93137
roject: SAVANNAH #: M3-15564A-5

Sample Data

Location of Sample: SD-02-A2
Sample Description: SILTY MEDIUM-FINE SAND, TRACE SHELL
USCS Class: (SM)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	94.01	82.57
Tare =	0.00	0.00
Dry sample weight =	94.01	82.57

Minus #200 from wash= 12.2 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.37	99.6
# 10	2.13	97.7
# 20	3.30	96.5
# 40	19.36	79.4
# 60	61.19	34.9
# 100	80.39	14.5
# 200	82.57	12.2

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 97.7
Weight of hydrometer sample: 94.01
Calculated biased weight= 96.19
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.545
Specific gravity correction factor= 1.026

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	19.9	15.0	8.9	0.0141	15.0	13.8	0.0371	9.5
5.0	19.9	15.0	8.9	0.0141	15.0	13.8	0.0235	9.5
15.0	20.0	14.0	8.0	0.0141	14.0	14.0	0.0136	8.5
30.0	20.0	13.0	7.0	0.0141	13.0	14.2	0.0097	7.4
60.0	20.3	12.5	6.5	0.0140	12.5	14.2	0.0068	7.0
250.0	22.4	11.0	5.5	0.0137	11.0	14.5	0.0033	5.9
1440.0	22.2	10.0	4.5	0.0137	10.0	14.7	0.0014	4.8

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.4   % SAND = 87.4
% SILT = 5.6   % CLAY = 6.6

D85= 0.47 D60= 0.328 D50= 0.295
D30= 0.2211 D15= 0.15118 D10= 0.04164
Cc = 3.5768 Cu = 7.8795

Thompson Engineering

JANUARY 11, 1994

REPORT #: 2
JOB #:P93137

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15564A-5

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-A2   PYCNOMETER #: 7

>>>>> DATES	TECHNICIAN
SAMPLED: 12/01/93	SAMPLED: CLIENT
TESTED: 01/07/94	TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	182.61
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	232.61
(C) WEIGHT OF SAMPLE (G):..........................	50.00
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	680.63
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:..........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	711.35
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	20.00
(I) DENSITY OF WATER @ T2:..........................	.998234

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

(R)= (D-A)/F*.998234+A................................	680.9620
(S)= (G-B)/I*.998234+B................................	711.35
(GS)= C/(C+R)-S))*.998234.............................	2.544958

SPECIFIC GRAVITY:.. 2.545

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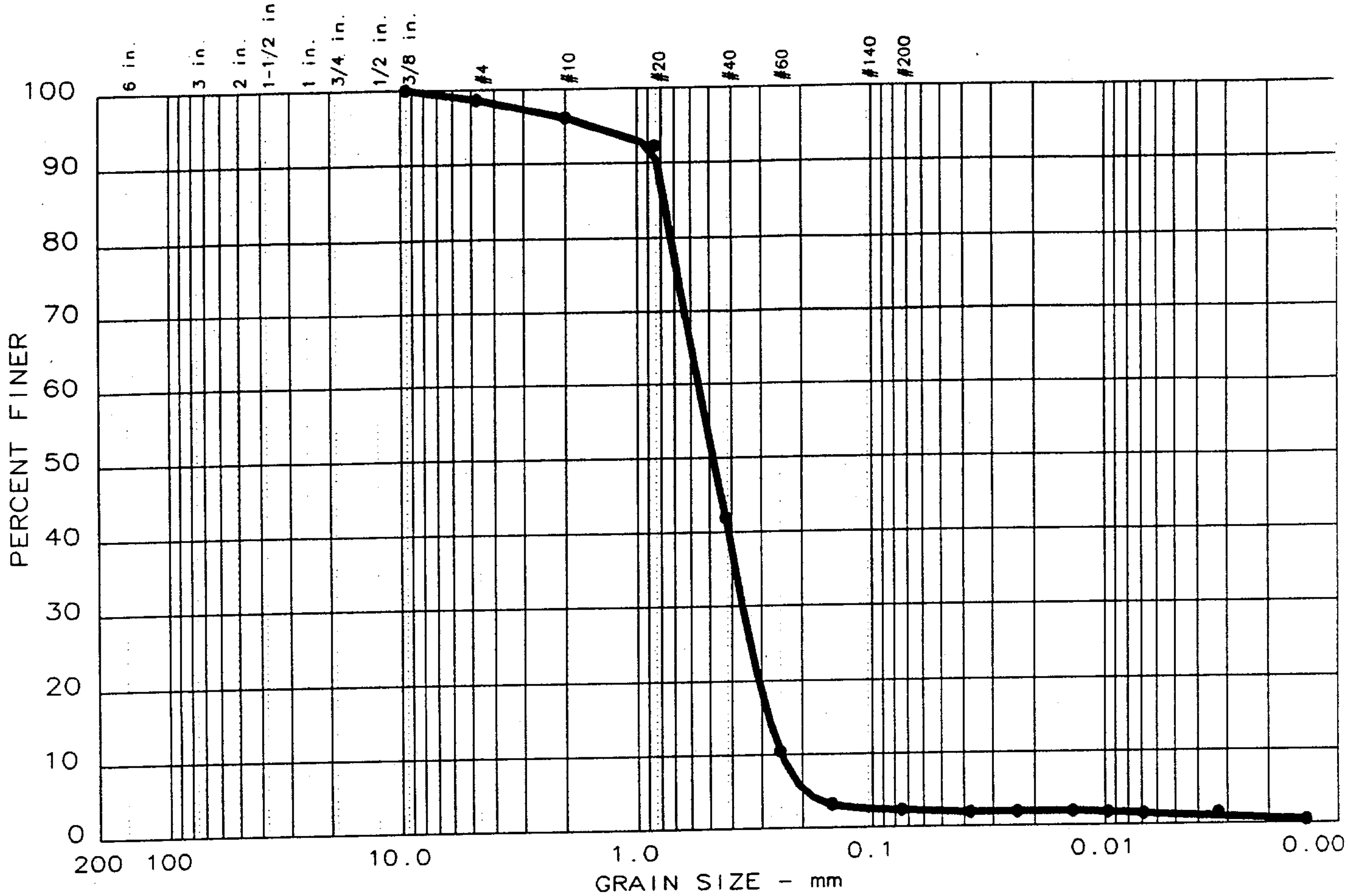
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	1.4	96.4	1.1	1.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.77	0.56	0.48	0.361	0.2789	0.2458	0.95	2.3

MATERIAL DESCRIPTION	USCS	AASHTO
● MEDIUM-FINE SAND, TRACE SHELL	(SP)	----

Project No.: P93137
Project: SAVANNAH #: M3-15564A-6
● Location: SD-02-D1

Date: 01/11/94

Remarks:
CLIENT: SAVANNAH LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Figure No. 3

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 2

Date: 01/11/94
Project No.: P93137
Project: SAVANNAH #: M3-15564A-6

Sample Data

Location of Sample: SD-02-D1
Sample Description: MEDIUM-FINE SAND, TRACE SHELL
USCS Class: (SP)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	100.00	97.72
Tare =	0.00	0.00
Dry sample weight =	100.00	97.72

Minus #200 from wash= 2.3 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	1.35	98.7
# 10	3.84	96.2
# 20	7.75	92.3
# 40	58.01	42.0
# 60	89.50	10.5
# 100	96.86	3.1
# 200	97.72	2.3

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 96.2
Weight of hydrometer sample: 100
Calculated biased weight= 103.99
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.631
Specific gravity correction factor= 1.004

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	19.9	8.0	1.9	0.0137	8.0	15.0	0.0376	1.9
5.0	19.9	8.0	1.9	0.0137	8.0	15.0	0.0238	1.9
15.0	19.9	8.0	1.9	0.0137	8.0	15.0	0.0137	1.9
30.0	20.0	7.8	1.8	0.0137	7.8	15.0	0.0097	1.7
60.0	20.2	7.5	1.5	0.0137	7.5	15.1	0.0069	1.5
250.0	22.4	7.0	1.5	0.0133	7.0	15.1	0.0033	1.5
1440.0	22.2	6.0	0.5	0.0134	6.0	15.3	0.0014	0.4

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 1.4   % SAND = 96.4
% SILT = 1.1   % CLAY = 1.1

D85= 0.77   D60= 0.557   D50= 0.481
D30= 0.3610   D15= 0.27893   D10= 0.24575
Cc = 0.9528   Cu = 2.2646

Douglas E. Ford

Thompson Engineering

JANUARY 11, 1994

REPORT #: 4
JOB #:P93137

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15564A-6

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-D1 PYCNOMETER #: 4

>>>>> DATES
SAMPLED: 12/01/93
TESTED: 01/07/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.97
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	230.97
(C) WEIGHT OF SAMPLE (G):...........................	50.00
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	687.97
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	25.00
(F) DENSITY OF WATER @ T1:..........................	.997075
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	719.55
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	20.40
(I) DENSITY OF WATER @ T2:..........................	.998149

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

(R)= (D-A)/F*.998234+A..............................	688.5593
(S)= (G-B)/I*.998234+B..............................	719.5916
(GS)= C/(C+R)-S))*.998234...........................	2.631401

SPECIFIC GRAVITY:.................................... 2.631

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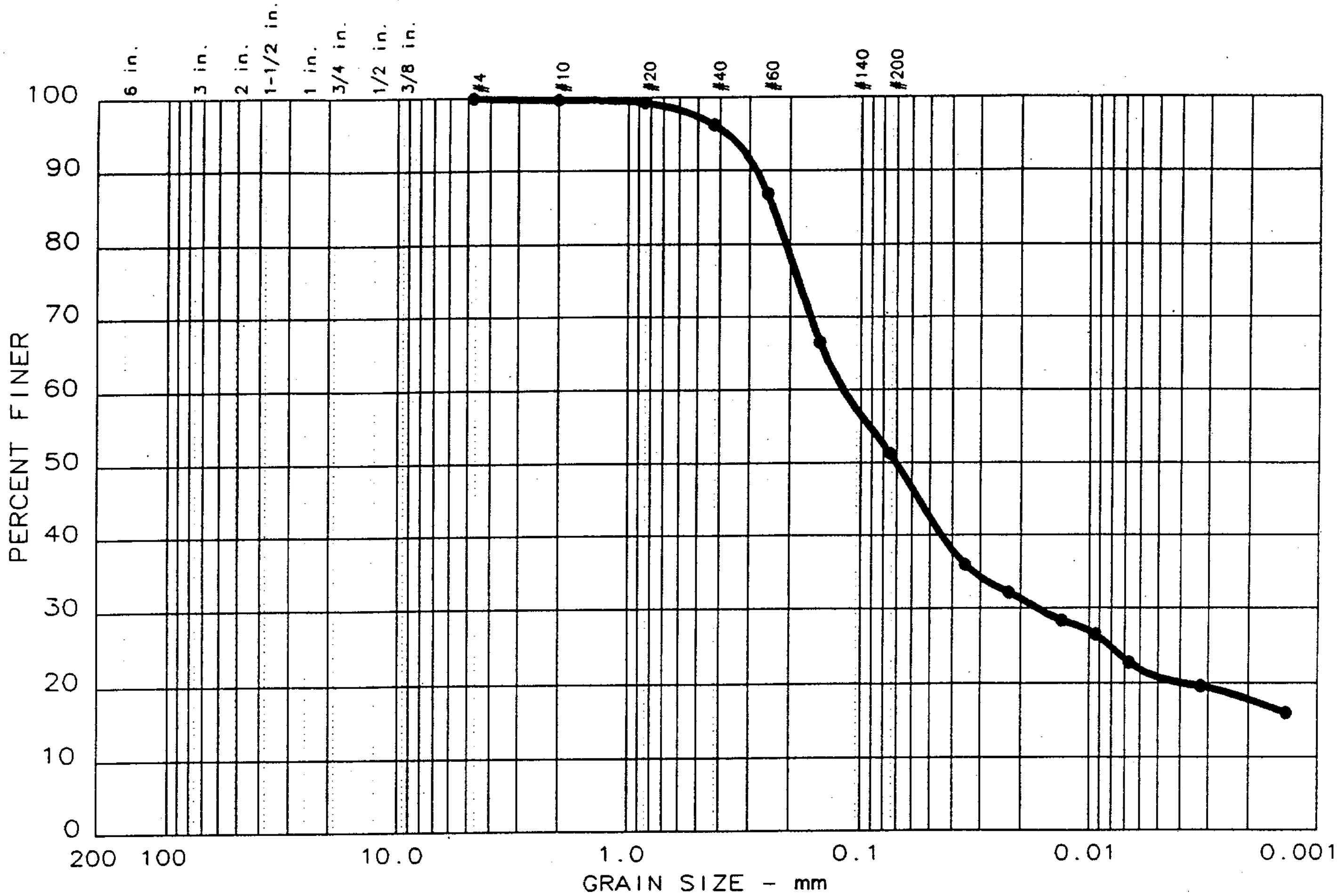
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	48.7	30.5	20.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.24	0.12	0.07	0.017				

MATERIAL DESCRIPTION	USCS	AASHTO
● FINE SANDY SILT	(ML)	----

Project No.: P93137
Project: SAVANNAH #: M3-15564A-7
● Location: SD-02-D3

Date: 01/11/94

Remarks:
CLIENT: SAVANNAH
LABORATORIES

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Figure No. 5

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 3

Date: 01/11/94
Project No.: P93137
Project: SAVANNAH #: M3-15564A-7

Sample Data

Location of Sample: SD-02-D3
Sample Description: FINE SANDY SILT
USCS Class: (ML)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	54.30	26.47
Tare =	0.00	0.00
Dry sample weight =	54.30	26.47

Minus #200 from wash= 51.3 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.16	99.7
# 20	0.40	99.3
# 40	2.07	96.2
# 60	7.12	86.9
# 100	18.18	66.5
# 200	26.47	51.3

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.7
Weight of hydrometer sample: 54.3
Calculated biased weight= 54.46
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.514
Specific gravity correction factor= 1.034
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	19.9	25.0	18.9	0.0143	25.0	12.2	0.0352	36.0
5.0	19.9	23.0	16.9	0.0143	23.0	12.5	0.0226	32.2
15.0	19.9	21.0	14.9	0.0143	21.0	12.9	0.0132	28.4
30.0	20.0	20.0	14.0	0.0142	20.0	13.0	0.0094	26.5
60.0	20.1	18.0	12.0	0.0142	18.0	13.3	0.0067	22.7
250.0	22.4	15.8	10.3	0.0138	15.8	13.7	0.0032	19.6
1440.0	22.1	14.0	8.4	0.0139	14.0	14.0	0.0014	16.0

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 48.7
% SILT = 30.5 % CLAY = 20.8

D85= 0.24 D60= 0.119 D50= 0.070
D30= 0.0169

Thompson Engineering

JANUARY 11, 1994

REPORT #: 6
JOB #:P93137

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15564A-7

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-D3 PYCNOMETER #: B1

>>>>> DATES
SAMPLED: 12/01/93
TESTED: 01/07/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.37
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):...........	230.37
(C) WEIGHT OF SAMPLE (G):...........................	50.00
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	678.55
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.40
(F) DENSITY OF WATER @ T1:..........................	.997472
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	709.03
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	20.50
(I) DENSITY OF WATER @ T2:..........................	.998128

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

(R)= (D-A)/F*.998234+A..............................	678.9306
(S)= (G-B)/I*.998234+B..............................	709.0808
(GS)= C/(C+R)-S))*.998234...........................	2.514476

SPECIFIC GRAVITY:.................................... 2.514

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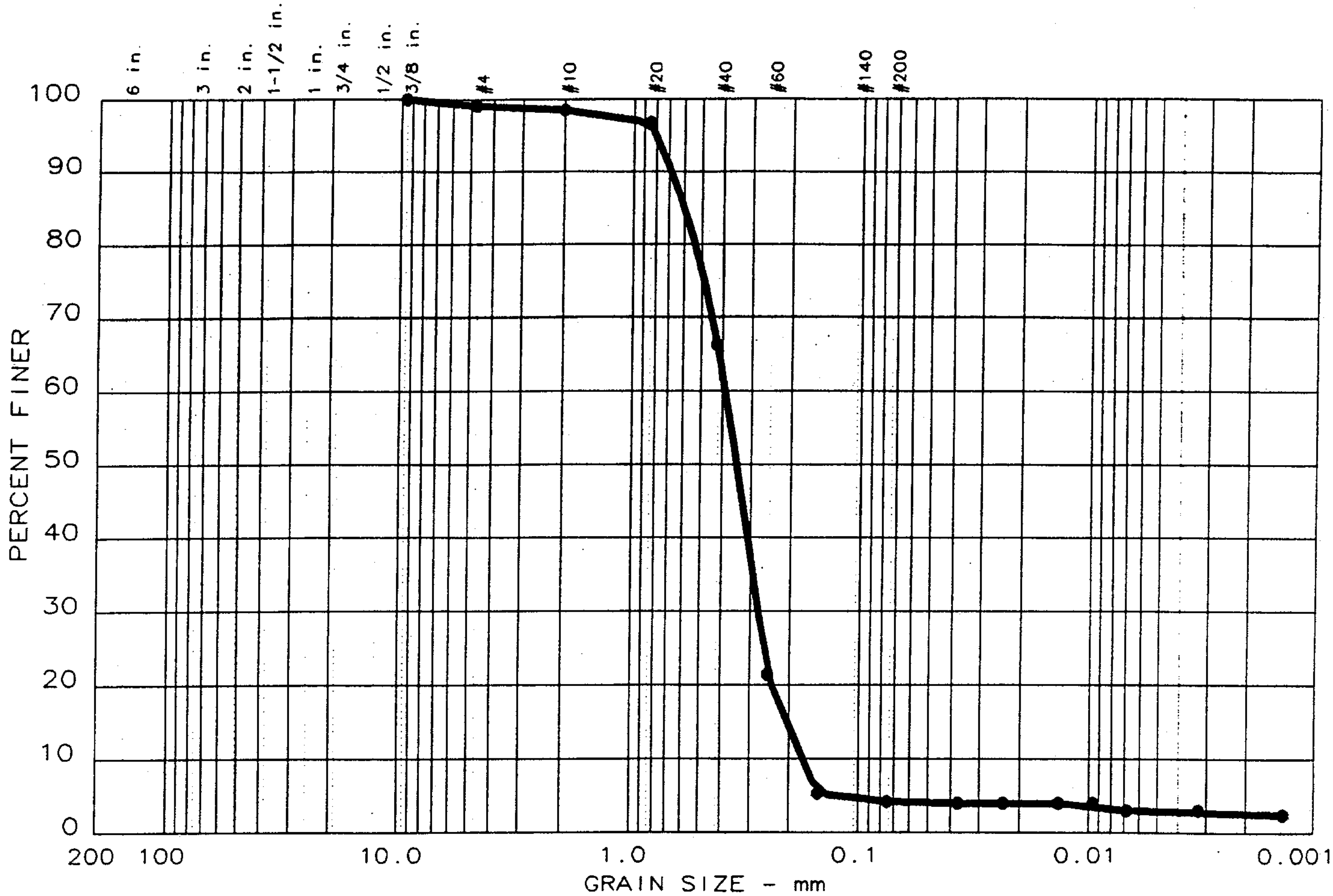
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.8	95.0	1.3	2.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.60	0.39	0.34	0.276	0.2037	0.1734	1.13	2.2

MATERIAL DESCRIPTION	USCS	AASHTO
● MEDIUM-FINE SAND	(SP)	----

Project No.: P93137
Project: SAVANNAH #: M3-15564A-8
● Location: SD-02-F2

Date: 01/11/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH
LABORATORIES

Figure No. 15

GRAIN SIZE DISTRIBUTION TEST DATA   Test No.: 8

Date: 01/11/94
roject No.: P93137
oject: SAVANNAH #: M3-15564A-8

Sample Data

Location of Sample: SD-02-F2
Sample Description: MEDIUM-FINE SAND
USCS Class: (SP)   Liquid limit: ----
AASHTO Class: ----   Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	98.46	94.35
Tare =	0.00	0.00
Dry sample weight =	98.46	94.35
Minus #200 from wash=	4.2 %	

Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.83	99.2
# 10	1.42	98.6
# 20	3.14	96.8
# 40	33.22	66.3
# 60	77.35	21.4
# 100	93.24	5.3
# 200	94.35	4.2

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 98.6
Weight of hydrometer sample: 98.46
Calculated biased weight= 99.90
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.628
Specific gravity correction factor= 1.005

Hydrometer type: 152H   Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	19.9	10.0	3.9	0.0138	10.0	14.7	0.0372	4.0
5.0	19.9	10.0	3.9	0.0138	10.0	14.7	0.0235	4.0
15.0	19.9	10.0	3.9	0.0138	10.0	14.7	0.0136	4.0
30.0	20.0	10.0	4.0	0.0137	10.0	14.7	0.0096	4.0
60.0	20.1	9.0	3.0	0.0137	9.0	14.8	0.0068	3.0
250.0	22.4	8.5	3.0	0.0133	8.5	14.9	0.0033	3.0
1440.0	22.1	8.0	2.4	0.0134	8.0	15.0	0.0014	2.4

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0   % GRAVEL = 0.8   % SAND = 95.0
% SILT = 1.3   % CLAY = 2.9

D85= 0.60   D60= 0.389   D50= 0.345
D30= 0.2764   D15= 0.20370   D10= 0.17338
Cc = 1.1337   Cu = 2.2413

Douglas L. Ford

Thompson Engineering

JANUARY 11, 1994

REPORT #: 16
JOB #:P93137

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15564A-8

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-F2 PYCNOMETER #: 8

>>>>> DATES
SAMPLED: 12/01/93
TESTED: 01/07/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	180.23
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	230.23
(C) WEIGHT OF SAMPLE (G):...........................	50.00
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	678.30
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	24.00
(F) DENSITY OF WATER @ T1:..........................	.997327
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	709.72
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	20.40
(I) DENSITY OF WATER @ T2:..........................	.998149

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

(R)= (D-A)/F*.998234+A..............................	678.7530
(S)= (G-B)/I*.998234+B..............................	709.7608
(GS)= C/(C+R)-S))*.998234...........................	2.628020
SPECIFIC GRAVITY:...................................	2.628

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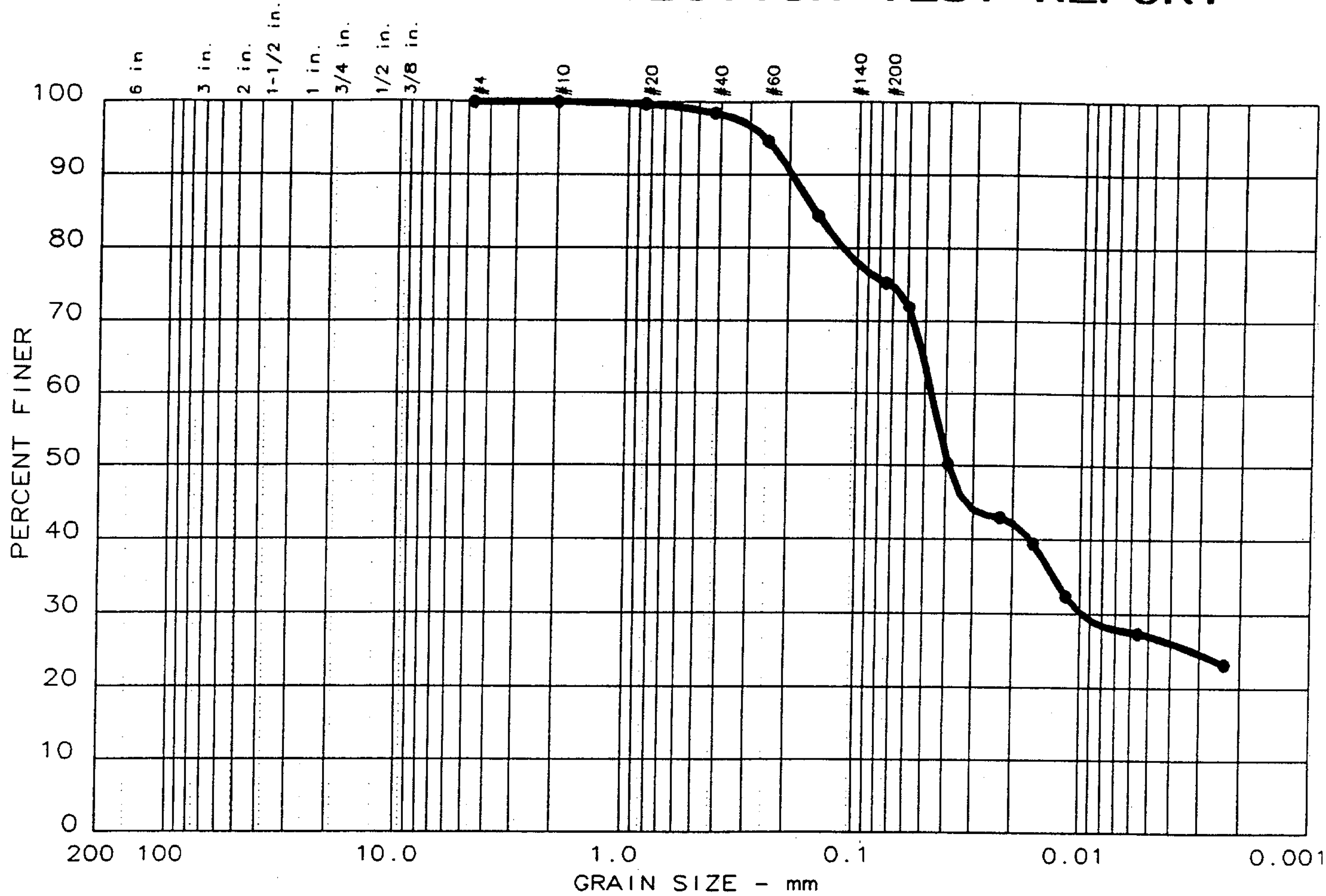
GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	24.8	48.1	27.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.15		0.04	0.010				

MATERIAL DESCRIPTION	USCS	AASHTO
● CLAYEY SILT, SOME FINE SAND	(ML)	----

Project No.: P93137
Project: SAVANNAH #: M3-15564A-9
● Location: SD-02-F3

Date: 01/11/94

GRAIN SIZE DISTRIBUTION TEST REPORT

THOMPSON ENGINEERING

Remarks:

CLIENT: SAVANNAH

LABORATORIES

Figure No. 17

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 9

Date: 01/11/94
'roject No.: P93137
oject: SAVANNAH #: M3-15564A-9

Sample Data

Location of Sample: SD-02-F3
Sample Description: CLAYEY SILT, SOME FINE SAND
USCS Class: (ML)
Liquid limit: ----
AASHTO Class: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	50.13	12.45
Tare =	0.00	0.00
Dry sample weight =	50.13	12.45

Minus #200 from wash= 75.2 %
'are for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.14	99.7
# 40	0.74	98.5
# 60	2.66	94.7
# 100	7.82	84.4
# 200	12.45	75.2

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 50.13
Calculated biased weight= 50.13
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 1.526
Specific gravity correction factor= 1.806
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	19.9	26.0	19.9	0.0242	26.0	12.0	0.0593	71.8
5.0	19.9	20.0	13.9	0.0242	20.0	13.0	0.0390	50.2
15.0	19.9	18.0	11.9	0.0242	18.0	13.3	0.0228	43.0
30.0	20.0	17.0	11.0	0.0241	17.0	13.5	0.0162	39.5
60.0	20.2	15.0	9.0	0.0241	15.0	13.8	0.0116	32.4
250.0	22.4	13.1	7.6	0.0234	13.1	14.1	0.0056	27.4
1440.0	22.2	12.0	6.5	0.0235	12.0	14.3	0.0023	23.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 24.8
% SILT = 48.1 % CLAY = 27.1

D85= 0.15 D60= 0.047 D50= 0.039
D30= 0.0097

Douglas E. Ford

Thompson Engineering

JANUARY 11, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15564A-9

REPORT #: 18
JOB #:P93137

REPORT OF: SPECIFIC GRAVITY OF SOLIDS ASTM D-854-83

SAMPLE ID: SD-02-F3

PYCNOMETER #: 6A

>>>>> DATES
SAMPLED: 12/01/93
TESTED: 01/07/94

TECHNICIAN
SAMPLED: CLIENT
TESTED: R. SMITH

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	169.50
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	208.98
(C) WEIGHT OF SAMPLE (G):............................	39.48
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	677.48
(E) TEMP. OF PYCNOMETER AND WATER (C):.............	23.00
(F) DENSITY OF WATER @ T1:...........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):.....	691.43
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):......	20.40
(I) DENSITY OF WATER @ T2:...........................	.998149

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

(R)= (D-A)/F*.998234+A............................	677.8186
(S)= (G-B)/I*.998234+B............................	691.4711
(GS)= C/((C+R)-S))*.998234.........................	1.525901
SPECIFIC GRAVITY:..................................	1.526

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RECEIVED
JAN 3 1 1994

LOG NO: M3-15757A

Received: 10 DEC 93

Purchase Order: #E-0179/93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Project: N0058C0030 Site 2
Sampled By: P.Charles

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15757A-1	SD-02-X4	12-09-93	EAH018
15757A-2	SD-02-U1	12-09-93	EAH018
15757A-3	SD-02-U2	12-09-93	EAH018

PARAMETER	15757A-1	15757A-2	15757A-3
Heterotrophic Plate Count (SM 907A)			
Standard Plate Count, No/g	190000	410000	190000
Date Analyzed	12.22.93	12.22.93	12.22.93
Analyst	CE	CE	CE
Total Phosphorus (EPA 365.4)			
Phosphorus, Total, mg/kg dw	32	640	380
Sample Preparation	01.25.94	01.25.94	01.25.94
Date Analyzed	01.26.94	01.26.94	01.26.94
Analyst	BB	BB	BB
Nitrate as N (EPA 353.2)			
Nitrate-N, mg/kg dw	7.2	3.3	<2.0
Sample Preparation	01.13.94	01.13.94	01.13.94
Date Analyzed	01.19.94	01.19.94	01.19.94
Analyst	BB	BB	BB
Total Kjeldahl Nitrogen as N (351.2)			
Kjeldahl Nitrogen-N, mg/kg dw	81	1900	640
Sample Preparation	01.25.94	01.25.94	01.25.94
Date Analyzed	01.26.94	01.26.94	01.26.94
Analyst	BB	BB	BB
Total Organic Carbon (EPA 415.1)			
Organic Carbon, mg/kg dw	280	2800	1400
Sample Preparation	01.03.94	01.03.94	01.03.94
Date Analyzed	01.12.94	01.12.94	01.12.94
Analyst	SR	SR	SR

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LOG NO: M3-15757A

Received: 10 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P.Charles

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
15757A-1	SD-02-X4	12-09-93	EAH018
15757A-2	SD-02-U1	12-09-93	EAH018
15757A-3	SD-02-U2	12-09-93	EAH018

PARAMETER	15757A-1	15757A-2	15757A-3
Cation Exchange Capacity (EPA 9081)			
Cation Exchange Capacity, mEq/100g	1.4	40	11
Date Extracted	12.28.93	12.28.93	12.28.93
Date Analyzed	12.30.93	12.30.93	12.30.93
Analyst	PC	PC	PC
Density @ 20 Degrees C	NA	NA	NA
Moisture (Loss on drying - 105 C), %	*	*	*
Specific Gravity	*	*	*
Grain Size (ASTM D421/422/1140)			
% Passing sieve No.4	*	*	*

NA - Not analyzed; sample as submitted was inappropriate for requested analysis.

*See attached TET report

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LOG NO: M3-15757A

Received: 10 DEC 93

Mr. Henry Biero
EnSafe/Allen & Hoshall
P.O. Box 341315
Memphis, TN 38134

Purchase Order: #E-0179/93

Project: N0058C0030 Site 2
Sampled By: P.Charles

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
15757A-4	Quantitation Limit
15757A-5	Accuracy (% Recovery for LCS/LCSD)
15757A-6	Precision (Relative % Difference for LCS /LCSD)

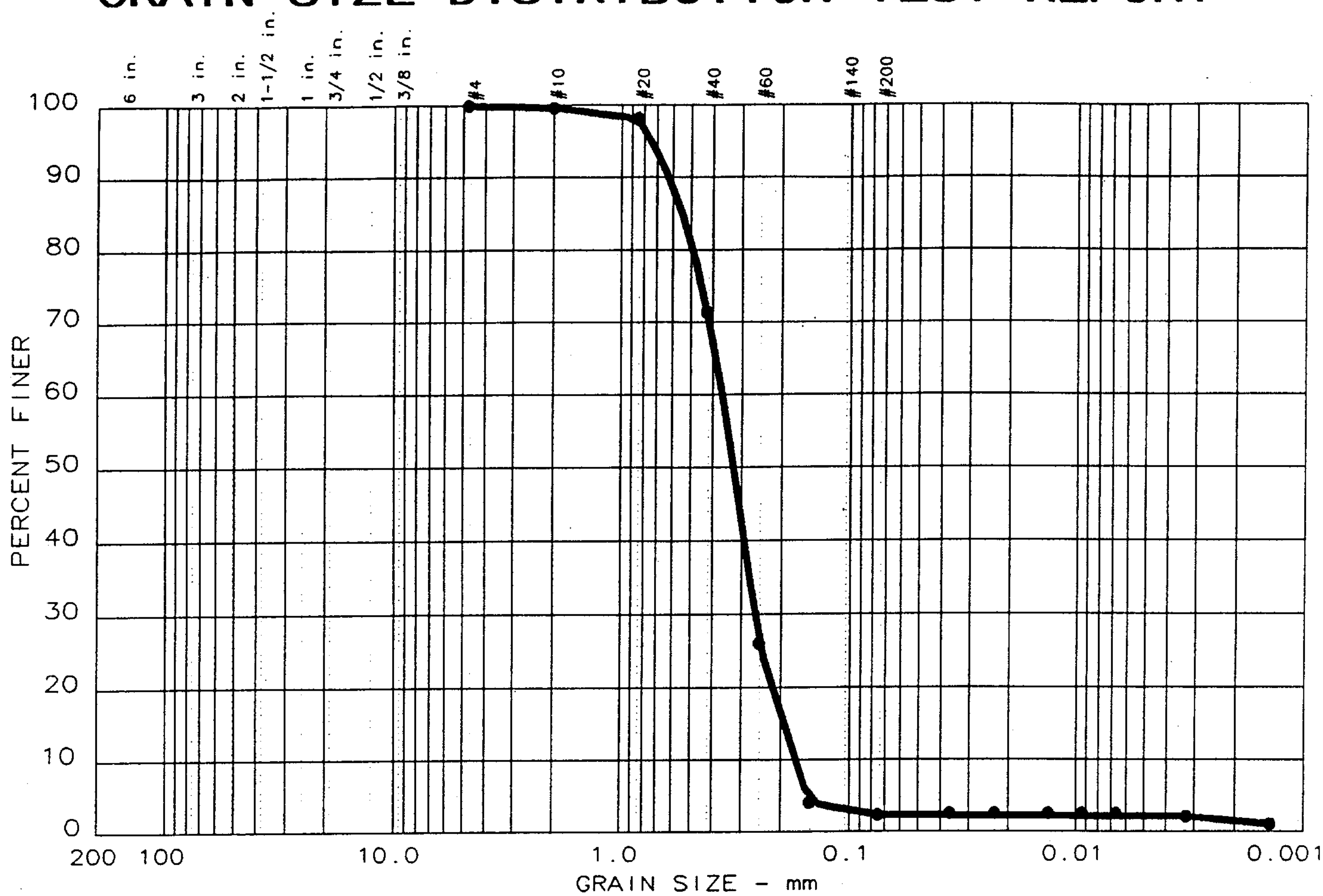
PARAMETER	15757A-4	15757A-5	15757A-6
Standard Plate Count, No/g	100	---	---
Phosphorus, Total, mg/kg	10	99/99 %	0 %
Nitrate-N, mg/kg	2.0	92/90 %	2.2 %
Kjeldahl Nitrogen-N, mg/kg	20	86/86 %	0 %
Organic Carbon, mg/kg	50	102/101 %	1.0 %
Cation Exchange Capacity, meq/100g	0.050	105/107 %	1.9 %

Michele H. Lersch

Michele H. Lersch

Final Page Of Report

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	97.7	0.2	2.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.54	0.36	0.33	0.261	0.1932	0.1722	1.09	2.1

MATERIAL DESCRIPTION	USCS	AASHTO
● BROWN MEDIUM-FINE SAND	(SP)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757A-1
● Location: SD-02-X4

Date: 01/14/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 24.24

Figure No. 25

GRAIN SIZE DISTRIBUTION TEST DATA

Test No.: 15

Date: 01/14/94
oject No.: P93147
roject: SAVANNAH #: M3-15757A-1

Sample Data

Location of Sample: SD-02-X4
Sample Description: BROWN MEDIUM-FINE SAND
USCS Class: (SP)
AASHTO Class: ----
Liquid limit: ----
Plasticity index: ----

Notes

Remarks: CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 24.24
Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	99.64	97.35
Tare =	0.00	0.00
Dry sample weight =	99.64	97.35

Minus #200 from wash= 2.3 %
re for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.42	99.6
# 20	1.83	98.2
# 40	28.54	71.4
# 60	73.65	26.1
# 100	95.61	4.0
# 200	97.35	2.3

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.6
Weight of hydrometer sample: 99.64
Calculated biased weight= 100.06
Automatic temperature correction
Composite correction at 20 deg C =-6

Meniscus correction only= 0
Specific gravity of solids= 2.639
Specific gravity correction factor= 1.003
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.5	8.0	2.5	0.0133	8.0	15.0	0.0363	2.5
5.0	22.5	8.0	2.5	0.0133	8.0	15.0	0.0230	2.5
15.0	22.5	8.0	2.5	0.0133	8.0	15.0	0.0133	2.5
30.0	22.5	8.0	2.5	0.0133	8.0	15.0	0.0094	2.5
60.0	22.4	8.0	2.5	0.0133	8.0	15.0	0.0066	2.5
250.0	22.7	7.5	2.1	0.0132	7.5	15.1	0.0033	2.1
1440.0	20.3	7.0	1.0	0.0136	7.0	15.1	0.0014	1.0

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 97.7
% SILT = 0.2 % CLAY = 2.1

D85= 0.54 D60= 0.364 D50= 0.325
D30= 0.2612 D15= 0.19320 D10= 0.17219
Cc = 1.0889 Cu = 2.1135

Thompson Engineering

JANUARY 14, 1994

CLIENT: SAVANNAH LABORATORIES
PROJECT: SAVANNAH #: M3-15757A-1

REPORT #: 26
JOB #:P93147

REPORT OF: SPECIFIC GRAVITY OF SOLIDS   ASTM D-854-83

SAMPLE ID: SD-02-X4   PYCNOMETER #: 7

>>>>> DATES
SAMPLED: 12/08/93
TESTED: 12/20/93

TECHNICIAN
SAMPLED: CLIENT
TESTED: C. GUTHRIE

****

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

(A) WEIGHT OF PYCNOMETER (G):........................	182.61
(B) WEIGHT OF PYCNOMETER AND SAMPLE (G):............	260.94
(C) WEIGHT OF SAMPLE (G):...........................	78.33
(D) WEIGHT OF PYCNOMETER AND WATER (G):.............	680.63
(E) TEMP. OF PYCNOMETER AND WATER (C):..............	23.00
(F) DENSITY OF WATER @ T1:..........................	.997569
(G) WEIGHT OF PYCNOMETER,SAMPLE AND WATER (G):......	729.45
(H) TEMP. OF PYCNOMETER,SAMPLE AND WATER (C):.......	22.10
(I) DENSITY OF WATER @ T2:..........................	.997778

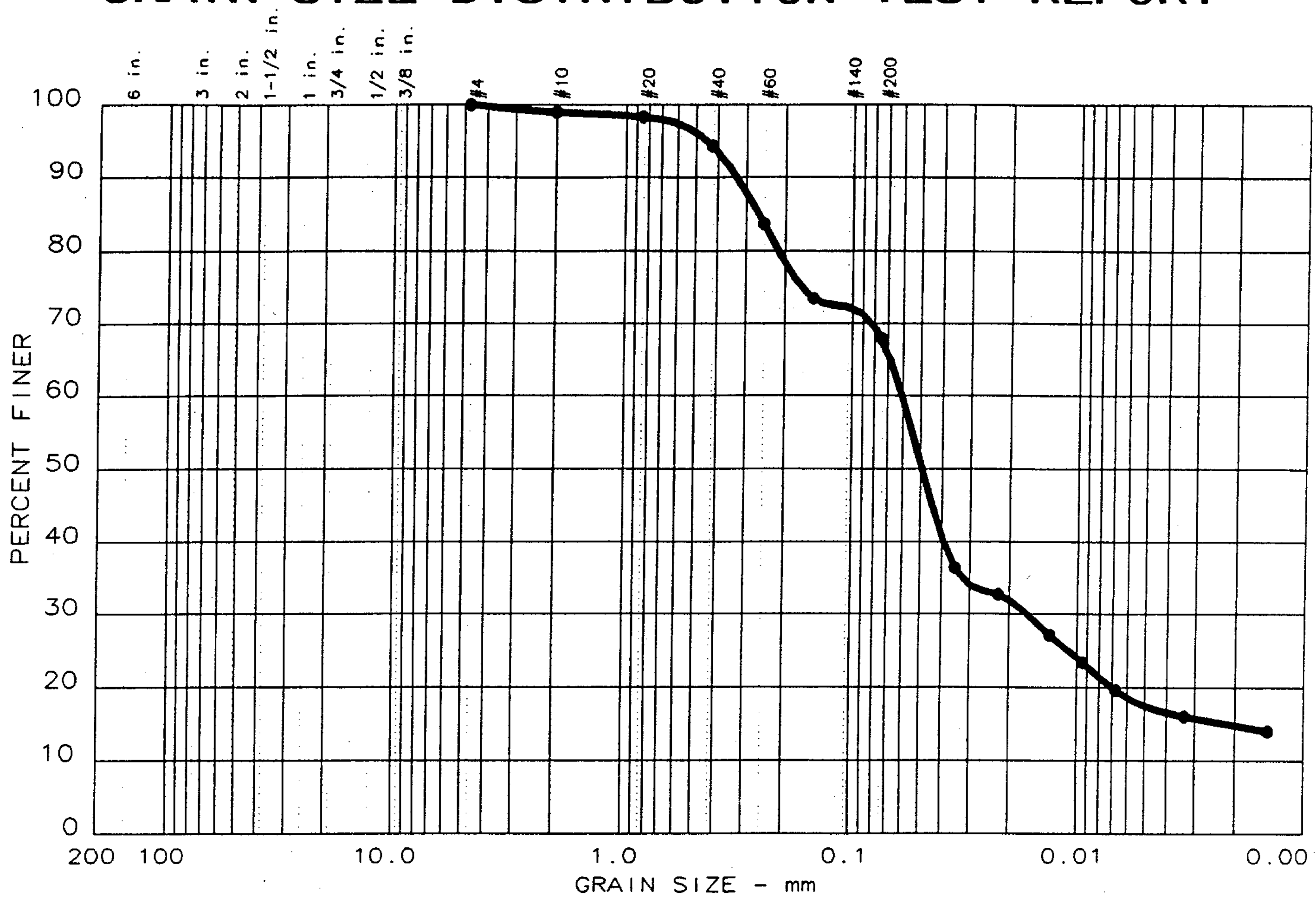
>>>>>>> COMPUTATIONS <<<<<<<<

(R)= (D-A)/F*.998234+A..............................	680.9620
(S)= (G-B)/I*.998234+B..............................	729.6641
(GS)= C/((C+R)-S))*.998234..........................	2.639125
SPECIFIC GRAVITY:...................................	2.639

THOMPSON ENGINEERING TESTING, INC.
MATERIALS ENGINEERING LABORATORY

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

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	32.1	50.5	17.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	----	----	0.26		0.05	0.017	0.0021			

MATERIAL DESCRIPTION	USCS	AASHTO
● GRAY CLAYEY SILT, SOME FINE SAND	(ML)	----

Project No.: P93147
Project: SAVANNAH #: M3-15757A-2
● Location: SD-02-U1

Date: 01/14/94

GRAIN SIZE DISTRIBUTION TEST REPORT
THOMPSON ENGINEERING

Remarks:
CLIENT: SAVANNAH LABORATORIES
NATURAL MOISTURE (%): 208.72

Figure No. 19

Appendix C

Surface Water Physicochemcal Data

Appendix C-1
Site 2
Physicochemical Parameter Results in Surface Waters

Station	Date	Time	Total Depth (m)	pH	DO (mg/l)	Cond (µmhos/cm)	Sal (ppt)	Temp (°C)	Depth (m)	Redox
A-1	11/30	1107	2.0	7.81	6.97	42639	ND	16.72	0.3	504
A-1	11/30			7.88	6.34	44420	ND	17.11	1.8	
A-2	12/1	1315	2.5	7.96	7.56	43072	28.0	17.38	0.3	417
A-2	12/1	1315		7.99	6.79	43657	28.0	17.24	1.9	412
D-1	12/1	0825	1.2	7.91	8.05	47697	31	17.70	0.6	414
D-2	11/30	1453	3.2	7.89	7.12	43903	ND	16.73	0.3	
D-2	11/30			7.92	6.50	46395	ND	17.91	3.0	356
D-3	12/1	1342	5.8	8.00	7.57	44417	28.4	17.28	0.3	411
D-3	12/1	1342		8.01	6.80	44156	28.6	17.33	2.9	411
D-3	12/1	1342		8.02	6.70	44477	28.6	17.45	5.8	411
D-4	12/6	0936	7.5	8.00	6.84	43349	28.7	16.87	0.3	421
D-4	12/6	0936		8.04	6.52	47018	31.6	18.14	3.5	
D-4	12/6	0936		8.05	5.11	42169	32.5	18.58	7.2	
D-5	12/6	0955	10.0	8.08	7.58	44640	28.8	16.83	0.3	375
D-5	12/6	0955		8.06	5.76	49279	32.2	18.55	5.0	
D-5	12/6	0955		8.07	5.80	49298	32.4	18.60	9.7	376
E2	12/1	0930	2.5							
E3	12/1	0950	3.5							
E-4	12/1	1040	9.0	7.99	6.51	46456	30.2	18.08	.3	401
E-4	12/1	1040		8.01	6.41	46973	30.9	17.98	4.5	400

Appendix C-1 Site 2 Physicochemical Parameter Results in Surface Waters										
Station	Date	Time	Total Depth (m)	pH	DO (mg/l)	Cond (μmhos/cm)	Sal (ppt)	Temp (°C)	Depth (m)	Redox
E-4	12/1	1040		7.99	5.88	47204	31.4	18.47	9.0	400
E-5	12/1	1112	8.2	7.98	6.75	44156	28.8	17.36	0.3	401
E-5	12/1	1112		8.01	6.49	46269	30.1	17.76	4.0	401
E-5	12/1	1112		8.01	6.17	47678	31.2	18.20	8.2	401
F-1	11/30	1524	1.5	7.94	7.60	44489	ND	17.40	0.7	396
F-2	12/1	1432	2.3	8.01	7.43	42900	27.1	16.85	0.3	427
F-2	12/1	1432		8.03	7.00	45131	28.7	17.49	2.3	424
F-3	12/1	1500	3.5	7.99	7.34	41806	26.5	16.63	0.3	413
F-3	12/1	1500		8.00	6.09	42830	27.6	17.00	3.4	411
F-4	12/6	1128	3.5	8.07	6.20	45347	29.1	17.19	0.3	
F-4	12/6	1128		8.08	6.64	45830	29.3	17.33	3.3	361
F-5	12/6	1144	8.1	8.06	7.32	44868	29.7	17.17	0.3	
F-5	12/6	1144		8.07	6.60	45136	29.7	17.22	4.0	
G-2	12/3	0809	2.5	7.92	6.80	46484	30.1	17.53	0.3	376
G-2	12/3	0809		7.99	6.06	50105	33.4	19.04	2.2	372
G-3	12/3	0825	3.0	8.01	7.00	46364	30.3	17.58	0.3	
G-3	12/3	0825		8.02	6.46	47240	32.5	17.95	1.5	383
G-3	12/3	0825		8.04	6.10	50750	33.3	19.04	2.8	381
G-4	12/3	0845	3.6	8.02	7.12	46349	30.4	17.61	0.3	372
G-4	12/3	0845		8.05	6.26	50912	34.0	19.04	1.7	

Appendix C-1
Site 2
Physicochemical Parameter Results in Surface Waters

Station	Date	Time	Total Depth (m)	pH	DO (mg/l)	Cond (µmhos/cm)	Sal (ppt)	Temp (°C)	Depth (m)	Redox
G-4	12/3	0845		8.05	6.00	50590	33.8	19.06	3.3	
G-5	12/3	0915	6.5	8.03	7.08	45577	28.8	17.70	0.3	380
G-5	12/3	0915		8.06	6.14	50138	32.9	18.73	3.1	380
G-5	12/3	0915		8.06	6.16	50590	33.4	19.04	6.3	
H-1	12/2	0846	2.6	7.97	6.67	46097	30.1	17.44	0.3	386
H-1	12/2	0846		7.98	6.42	47434	31.0	18.10	2.4	384
H-2	12/2	0911	3.0	7.96	7.20	45600	29.8	17.34	0.3	388
H-2	12/2	0911		7.99	6.46	46860	30.4	17.80	1.5	
H-2	12/2	0911		8.01	6.44	46730	30.2	17.83	2.9	
H-3	12/2	0931	4.0	7.95	7.10	44120	28.7	16.85	0.3	391
H-3	12/2	0931		8.00	6.53	46026	30.6	17.66	2.0	
H-3	12/2	0931		8.01	6.47	46346	30.3	17.75	3.9	386
H-4	12/2	0957	6.2	7.96	7.20	42993	27.1	16.31	0.3	382
H-4	12/2	0957		8.01	6.69	46641	30.1	17.61	3.0	382
H-4	12/2	0957		8.01	6.36	46087	30.2	17.76	6.0	
H-5	12/2	1053	6.8	8.00	7.30	43916	28.5	17.05	0.3	362
H-5	12/2	1053		8.02	6.83	45505	29.7	17.42	3.4	
H-5	12/2	1053		8.03	6.65	45310	30.2	17.50	6.6	367
K-1	12/3	0932	1.4	8.04	7.34	47305	31.3	18.09	0.7	372
K-3	12/3	0948	2.7	8.03	6.92	47050	30.6	17.92	0.3	

Appendix C-1
Site 2
Physicochemical Parameter Results in Surface Waters

Station	Date	Time	Total Depth (m)	pH	DO (mg/l)	Cond (µmhos/cm)	Sal (ppt)	Temp (°C)	Depth (m)	Redox
K-3	12/3	0948		8.04	6.29	48526	31.8	18.39	2.5	380
M-1	12/3	1023	1.9	8.04	7.52	47177	30.8	18.00	0.9	363
M-2	12/3	1044	4.0	8.00	7.70	45455	29.9	17.80	0.3	361
M-2	12/3	1044		8.02	6.64	47050	30.5	17.95	2.0	
M-2	12/3	1044		8.03	6.46	46919	31.1	18.09	3.8	362
M-3	12/7	0847	6.5	8.05	7.37	40048	25.8	15.50	0.3	
M-3	12/7	0847		8.06	6.90	40959	26.7	15.51	3.0	
M-3	12/7	0847		8.04	6.54	44555	30.1	17.75	6.3	377
M-4	12/7	0910	6.5	8.05	6.95	40571	25.7	15.08	0.3	367
M-4	12/7	0910		8.06	6.96	41532	26.6	15.77	3.0	
M-4	12/7	0910		8.04	6.10	45599	28.6	16.92	6.3	
M-5	12/7	0926	6.5	8.08	7.04	40609		15.41	0.3	
N-2	12/6	1319	4.0	8.01	7.52	45011	28.9	17.17	0.3	
N-2	12/6	1319		8.06	7.09	45329	29.1	17.31	2.0	
N-2	12/6	1319		8.07	7.00	45455	28.9	17.31	3.8	
N-3	12/6	1337	6.2	8.06	7.44	43856	28.7	17.07	0.3	
N-3	12/6	1337		8.09	7.27	44950	29.3	17.07	3.0	385
N-3	12/6	1337		8.08	6.76	44939	29.3	17.39	6.0	
N-4	12/6	1354	6.1	8.06	6.97	44187	28.9	17.07	0.3	395
N-5	12/6	1408	6.1	8.09	7.45	44368	28.5	17.15	0.3	396

Appendix C-1
Site 2
Physicochemical Parameter Results in Surface Waters

Station	Date	Time	Total Depth (m)	pH	DO (mg/l)	Cond (μmhos/cm)	Sal (ppt)	Temp (°C)	Depth (m)	Redox
O-1	12/7	1042	4.0	8.06	7.33	40996	26.3	15.49	0.3	
O-1	12/7	1042		8.07	7.06	41032	26.3	15.56	2.0	343
O-1	12/7	1042		8.07	6.82	41632	26.6	15.66	3.7	
O-2	12/7	1207	7.0	8.05	7.55	41026	25.8	15.72	0.3	345
O-2	12/7	1207		8.07	7.16	41300	26.6	15.52	3.5	344
O-2	12/7	1207		8.06	6.69	41964	27.1	16.11	6.8	
O-3	12/7	1224	6.9	8.07	7.44	41186	26.6	15.46	0.3	369
O-3	12/7	1224		8.07	7.58	40864	25.9	15.43	3.0	
O-3	12/7	1224		8.02	5.88	47305	30.7	18.14	6.1	369
O-4	12/7	1243	6.5	8.07	7.70	40223	26.1	15.41	0.3	376
O-4	12/7	1243		8.10	7.49	41106	26.3	15.65	3.2	373
O-4	12/7	1243		8.09	7.22	41982	27.2	16.00	6.3	372
O-5	12/7	1300	6.5	8.08	7.65	40153	25.9	15.45	0.3	386
O-5	12/7	1300		8.10	7.64	41941	27.1	15.60	3.0	383
O-5	12/7	1300		8.10	7.57	42123	27.4	15.85	6.3	
P-2	12/8	1243	3.5	8.15	7.79	41788	26.2	15.92	0.3	305
P-2	12/8	1243		8.11	7.62	44621	28.8	16.93	3.3	
P-3	12/8	1302	6.5	8.07	7.53	40439	26.0	15.77	0.3	357
P-3	12/8	1302		8.09	7.32	40630	26.0	15.80	3.0	
P-3	12/8	1302		8.09	6.32	49159	32.2	18.10	6.3	

Appendix C-1 Site 2 Physicochemical Parameter Results in Surface Waters										
Station	Date	Time	Total Depth (m)	pH	DO (mg/l)	Cond (µmhos/cm)	Sal (ppt)	Temp (°C)	Depth (m)	Redox
P-4	12/8	1315	6.5	8.09	7.30	40995	25.4	15.79	0.3	367
P-4	12/8	1315		8.10	7.51	42300	26.3	15.74	3.0	
P-4	12/8	1315		8.10	6.86	48000	32.6	18.13	6.3	363
P-5	12/8	1328	6.6	8.11	7.04	40901	25.9	15.80	0.3	350
P-5	12/8	1328		8.12	6.77	46722	30.5	17.46	3.1	
P-5	12/8	1328		8.11	6.87	48942	32.8	18.19	6.4	346
Q-1	12/8	0812	2.0	7.79	7.72	39989	25.6	15.22	1.0	404
Q-2	12/8	0843	4.0	8.05	6.94	40168	25.6	15.30	0.3	373
Q-2	12/8	0843		8.07	6.57	42257	27.7	15.96	3.5	
Q-3	12/8	0900	6.1	8.08	7.26	39326	26.3	15.31	0.3	
Q-3	12/8	0900		8.08	7.07	41243	26.7	15.53	3.0	
Q-3	12/8	0900		8.06	6.37	45966	30.3	17.63	6.0	
Q-4	12/8	0925	6.0	8.09	6.79	41071	25.3	15.30	0.3	347
Q-4	12/8	0925		8.09	6.73	41670	26.3	15.85	3.0	
Q-4	12/8	0925		8.09	6.30	45660	29.4	17.04	5.8	
Q-5	12/8	0943	6.0	8.09	7.50	40165	25.6	15.33	0.3	
Q-5	12/8	0943		8.09	7.70	40860	26.2	15.48	3.0	
Q-5	12/8	0943		8.09	7.00	46353	31.2	17.46	5.8	
U-1	12/9	0857	3.1	8.12	7.54	40683	26.1	15.28	0.3	346
U-1	12/9	0857		8.13	7.59	43000	27.7	16.08	3.0	340

Appendix C-1 Site 2 Physicochemical Parameter Results in Surface Waters										
Station	Date	Time	Total Depth (m)	pH	DO (mg/l)	Cond (μmhos/cm)	Sal (ppt)	Temp (°C)	Depth (m)	Redox
U-2	12/9	0918	6.4	8.09	7.22	41125	26.3	15.43	0.3	347
U-2	12/9	0918		8.11	6.56	48017	31.4	17.85	3.1	347
U-2	12/9	0918		8.12	6.08	48145	31.2	17.92	6.3	347
X-1	12/6	1026		8.04	4.94	48461	32.1	18.44	9.0	358
X-1	12/6	1026	9.5	8.06	6.12	44821	29.1	17.12	0.3	356
X-1	12/6	1026		8.07	5.60	46348	29.9	17.64	5.0	356
X-2	12/7	0815	6.5	7.99	7.48	40114	25.6	15.15	0.3	
X-2	12/7	0815					26.3	15.73	3.2	
X-3	12/8	1031	6.2	7.94	7.39	40478	25.8	15.43	0.3	382
X-3	12/8	1031		8.05	7.68	41049	26.4	15.53	3.0	
X-3	12/8	1031		8.07	6.12	48464	31.8	18.09	5.8	368
X-4	12/9	0825	6.5	8.03	7.72	40108	25.6	15.23	0.3	349
X-4	12/9	0825		8.09	7.50	41429	26.6	15.65	3.1	344
X-4	12/9	0825		8.09	6.27	47950	31.5	17.78	6.3	344

Appendix D

Benthos Taxonomic Results

BARRY A. VITTOR & ASSOCIATES, INC.

ENVIRONMENTAL RESEARCH & CONSULTING

8060 Cottage Hill Road Mobile, Alabama 36695

Phone (334) 633-6100 Fax (334) 633-6738

March 11, 1996

RECEIVED
MAR 13 1996

Mr. Henry Beiro
ENSAFE
5724 Summer Trees Drive
Memphis, TN 38134

Dear Mr. Beiro:

Please find enclosed Data summary reports, a taxonomic species list, and a community parameters table for Pensacola, FL samples collected in January 1996.

Please call if you have any questions or problems.

Sincerely,

Jean Strickland

Jean Strickland
Data Clerk

Encs.

TAXONOMIC LISTING

Taxonomic Species List 03/11/96

ENSAFE - Pensacola -- January 1996

==

ANNELIDA
- OLIGOCHAETA
  - OLIGOCHAETA (LPIL)
- POLYCHAETA
  - AMPHINOMIDAE
    - PARAMPHINOME SP.B
  - CAPITELLIDAE
    - CAPITELLA (LPIL)
    - CAPITELLA CAPITATA
    - CAPITELLA JONESI
    - CAPITELLIDAE (LPIL)
    - MEDIOMASTUS (LPIL)
    - MEDIOMASTUS AMBISETA
  - CHAETOPTERIDAE
    - SPIOCHAETOPTERUS OCULATUS
  - CIRRATULIDAE
    - CHAETOZONE SP.A
    - CIRRATULIDAE (LPIL)
    - MONTICELLINA DORSOBRANCHIALIS
  - COSSURIDAE
    - COSSURA SOYERI
  - GLYCERIDAE
    - GLYCERA (LPIL)
  - GONIADIDAE
    - GLYCINDE SOLITARIA
    - GONIADIDAE (LPIL)
  - HESIONIDAE
    - PODARKEOPSIS LEVIFUSCINA
  - LUMBRINERIDAE
    - LUMBRINERIDAE (LPIL)
    - SCOLETOMA ERNESTI
    - SCOLETOMA VERRILLI
  - MAGELONIDAE
    - MAGELONA SP.H
  - NEPHTYIDAE
    - AGLAOPHAMUS VERRILLI
    - NEPHTYS (LPIL)
  - NEREIDAE
    - NEREIDAE (LPIL)
    - NEREIS (LPIL)
    - NEREIS FALSA
    - NEREIS MICROMMA
    - NEREIS SUCCINEA
  - ONUPHIDAE
    - DIOPATRA (LPIL)
  - OPHELIIDAE
    - ARMANDIA MACULATA
  - OWENIIDAE
    - GALATHOWENIA OCULATA

LILJEBORGIIDAE
LISTRIELLA BARNARDI
OEDICEROTIDAE
MONOCULODES SP.F
PHOXOCEPHALIDAE
METHARPINIA FLORIDANA
CUMACEA
BODOTRIIDAE
CYCLASPIS VARIANS
DIASTYLIDAE
OXYUROSTYLIS (LPIL)
OXYUROSTYLIS LECROYAE
LEUCONIDAE
LEUCON (LPIL)
LEUCON AMERICANUS
DECAPODA (NATANTIA)
OGYRIDIDAE
OGYRIDES ALPHAEROSTRIS
DECAPODA (REPTANTIA)
PAGURIDAE
PAGURIDAE (LPIL)
PINNOTHERIDAE
PINNOTHERIDAE (LPIL)
PORTUNIDAE
PORTUNIDAE (LPIL)
ISOPODA
IDOTEIDAE
EDOTIA TRILOBA
OSTRACODA
CYTHERIDEIDAE
CYTHERIDEIDAE (LPIL)
HAPLOCYTHERIDEA SETIPUNCTATA
SARSIELLIDAE
EUSARSIELLA TEXANA
EUSARSIELLA ZOSTERICOLA
TANAIDACEA
KALLIAPSEUDIDAE
KALLIAPSEUDES SP.C
PARATANAIDAE
PARATANAIDAE (LPIL)
CEPHALOCHORDATA
LEPTOCARDII
BRANCHIOSTOMIDAE
BRANCHIOSTOMA (LPIL)
CNIDARIA
ACTINIARIA
ACTINIARIA (LPIL)
ECHINODERMATA
OPHIUROIDEA
OPHIUROIDEA (LPIL)

Sample Date 96/01/29   Station: 001
'e Size 0.1000 SQ. M   Sample Type: MACROFAUNA

Comments: Station 2MA2

TAXON	REPA	TOTAL	PERCENT
** MOLLUSCA			
PELECYPODA			
TELLINIDAE			
TELLINA VERSICOLOR	5	5	4.59
GASTROPODA			
COLUMBELLIDAE			
MITRELLA LUNATA	1	1	0.92
NASSARIIDAE			
NASSARIUS VIBEX	1	1	0.92
SCAPHANDRIDAE			
ACTEOCINA CANALICULATA	2	2	1.83
** ARTHROPODA (CRUSTACEA)			
CEA			
IASTYLIDAE			
OXYUROSTYLIS (LPIL)	1	1	0.92
TANAIDACEA			
PARATANAIDAE			
PARATANAIDAE (LPIL)	1	1	0.92
DECAPODA (REPTANTIA)			
PAGURIDAE			
PAGURIDAE (LPIL)	1	1	0.92

-------------Report Continued on Next Page-------------

Sample Date 96/01/29 Station: 001
S Size 0.1000 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MA2

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The Standard Deviation From the Mean= 0.0

***** FAUNAL CHARACTERISTICS *****

The Species Diversity (Shannon Wiener Index) H°E = 2.24

The Species Evenness (Pielous Evenness Index) J= .7

The Species Richness (Margalef's Index) D= 5.12

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*************** END OF REPORT ***************

PLATYHELMINTHES
- TURBELLARIA
  - TURBELLARIA (LPIL)

RHYNCHOCOELA
- RHYNCHOCOELA (LPIL)
- LINEIDAE
  - LINEIDAE (LPIL)
- TUBULANIDAE
  - TUBULANUS (LPIL)

SIPUNCULA
- SIPUNCULA (LPIL)
- ASPIDOSIPHONIDAE
  - ASPIDOSIPHON (LPIL)
- GOLFINGIIDAE
  - PHASCOLION STROMBI

S⁻ ˡe Date 96/01/22
ₑ Size 0.1500 SQ. M

Station: 002
Sample Type: MACROFAUNA

Comments: Station 2MD2

TAXON	REPA	TOTAL	PERCENT
** MOLLUSCA			
PELECYPODA			
PELECYPODA (LPIL)	3	3	2.86
ARCIDAE			
ANADARA TRANSVERSA	1	1	0.95
MYTILIDAE			
ISCHADIUM RECURVUM	2	2	1.91
LUCINIDAE			
LINGA AMIANTUS	1	1	0.95
TELLINIDAE			
TELLINA VERSICOLOR	9	9	8.57
VENERIDAE			
MERCENARIA (LPIL)	1	1	0.95
CRASSATELLIDAE			
CRASSINELLA LUNULATA	1	1	0.95
GASTROPODA			
NASSARIIDAE			
NASSARIUS VIBEX	1	1	0.95
CAECIDAE			
CAECUM PULCHELLUM	1	1	0.95
SCAPHANDRIDAE			
ACTEOCINA CANALICULATA	2	2	1.91
** ARTHROPODA (CRUSTACEA)			
AMPHIPODA			
COROPHIIDAE			
COROPHIUM SP.0	6	6	5.71
AMPELISCIDAE			
AMPELISCA CRISTATA FORMA MICRO	2	2	1.91
AORIDAE			
GRANDIDIERELLA BONNIEROIDES	3	3	2.86
AMPITHOIDAE			
AMPITHOIDAE (LPIL)	1	1	0.95
ISAEIDAE			
MICROPROTOPUS RANEYI	7	7	6.67
CUMACEA			
BODOTRIIDAE			
CYCLASPIS VARIANS	1	1	0.95

-------------Report Continued on Next Page-------------

S--le Date 96/01/22 Station: 002
.e Size 0.1500 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MD2

NOTE:
LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

REPA
Total Individuals per Replicate:
105
Total Taxa per replicate:
38

Total number of taxa for this station = 38

Total number of individuals for this station = 105

Mean Number Individuals per square meter = 700

PHYLUM	TOTAL # TAXA	% TAXA	TOTAL # INDIVIDUALS	% INDIVIDUALS
ANNELIDA	14	36.8	48	45.7
MOLLUSCA	10	26.3	22	20.9
ARTHROPODA	8	21.0	25	23.8
ECHINODERMATA	1	2.6	1	.9
MISCELLANEOUS	5	13.1	9	8.5

--------------------Report Continued on Next Page--------------------

Sample Date 96/01/22
Station: 003
S Size 0.1000 SQ. M
Sample Type: MACROFAUNA

Comments: Station 2MD4

TAXON	REPA	TOTAL	PERCENT
** PLATYHELMINTHES			
TURBELLARIA			
TURBELLARIA (LPIL)	2	2	1.12
** RHYNCHOCOELA			
RHYNCHOCOELA (LPIL)	4	4	2.23
TUBULANIDAE			
TUBULANUS (LPIL)	5	5	2.79
LINEIDAE			
LINEIDAE (LPIL)	3	3	1.68
** SIPUNCULA			
GOLFINGIIDAE			
HASCOLION STROMBI	11	11	6.14
IDOSIPHONIDAE			
ASPIDOSIPHON (LPIL)	1	1	0.56
** ANNELIDA			
POLYCHAETA			
AMPHINOMIDAE			
PARAMPHINOME SP.B	5	5	2.79
CAPITELLIDAE			
MEDIOMASTUS AMBISETA	1	1	0.56
MEDIOMASTUS (LPIL)	28	28	15.64
CHAETOPTERIDAE			
SPIOCHAETOPTERUS OCULATUS	1	1	0.56
CIRRATULIDAE			
CIRRATULIDAE (LPIL)	2	2	1.12
CHAETOZONE SP.A	1	1	0.56
GONIADIDAE			
GONIADIDAE (LPIL)	1	1	0.56
HESIONIDAE			
PODARKEOPSIS LEVIFUSCINA	2	2	1.12
LUMBRINERIDAE			
LUMBRINERIDAE (LPIL)	1	1	0.56
SCOLETOMA ERNESTI	1	1	0.56

-------------Report Continued on Next Page-------------

Sample Date 96/01/22
Size 0.1000 SQ. M

Station: 003
Sample Type: MACROFAUNA

Comments: Station 2M04

TAXON	REPA	TOTAL	PERCENT
** ARTHROPODA (CRUSTACEA)			
OSTRACODA			
CYTHERIDEIDAE			
CYTHERIDEIDAE (LPIL)	1	1	0.56
SARSIELLIDAE			
EUSARSIELLA TEXANA	2	2	1.12
** ECHINODERMATA			
OPHIUROIDEA			
OPHIUROIDEA (LPIL)	3	3	1.68

-------------Report Continued on Next Page-------------

Sample Date 96/01/22 Station: 003
e Size 0.1000 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MD4

==
The Standard Deviation From the Mean= 0.0

***** FAUNAL CHARACTERISTICS *****

The Species Diversity (Shannon Wiener Index) H°E = 2.42

The Species Evenness (Pielous Evenness Index) J= .68

The Species Richness (Margalef's Index) D= 6.75

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*************** END OF REPORT ***************

S--le Date 96/01/22 Station: 004
e Size 0.1000 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MF1

TAXON	REPA	TOTAL	PERCENT
** MOLLUSCA			
GASTROPODA			
CAECIDAE			
CAECUM PULCHELLUM	2	2	1.87
** ARTHROPODA (CRUSTACEA)			
AMPHIPODA			
AMPELISCIDAE			
AMPELISCA CRISTATA FORMA MICRO	2	2	1.87
OEDICEROTIDAE			
MONOCULODES SP.F	3	3	2.80
CUMACEA			
DIASTYLIDAE			
OXYUROSTYLIS LECROYAE	1	1	0.94
TANAIDACEA			
PARATANAIDAE			
PARATANAIDAE (LPIL)	1	1	0.94
OSTRACODA			
SARSIELLIDAE			
EUSARSIELLA TEXANA	1	1	0.94

-------------Report Continued on Next Page-------------

S--le Date 96/01/22 Station: 004
.e Size 0.1000 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MF1

==

The Standard Deviation From the Mean= 0.0

***** FAUNAL CHARACTERISTICS *****

The Species Diversity (Shannon Wiener Index) H°E = 2.06

The Species Evenness (Pielous Evenness Index) J= .68

The Species Richness (Margalef's Index) D= 4.28

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*************** END OF REPORT ***************

Sample Date 96/01/29
e Size 0.0500 SQ. M

Station: 005
Sample Type: MACROFAUNA

Comments: Station 2MF3

TAXON	REPA	TOTAL	PERCENT
** MOLLUSCA			
GASTROPODA			
NATICIDAE			
TECTONATICA PUSILLA	1	1	0.79
NASSARIIDAE			
NASSARIUS VIBEX	3	3	2.36
PYRAMIDELLIDAE			
ODOSTOMIA WEBERI	5	5	3.94
SCAPHANDRIDAE			
ACTEOCINA CANALICULATA	1	1	0.79
** ARTHROPODA (CRUSTACEA)			
ISOPODA			
IDOTEIDAE			
EDOTIA TRILOBA	1	1	0.79
CUMACEA			
BODOTRIIDAE			
CYCLASPIS VARIANS	1	1	0.79
LEUCONIDAE			
LEUCON AMERICANUS	1	1	0.79
LEUCON (LPIL)	1	1	0.79
OSTRACODA			
CYTHERIDEIDAE			
HAPLOCYTHERIDEA SETIPUNCTATA	1	1	0.79
SARSIELLIDAE			
EUSARSIELLA TEXANA	1	1	0.79
** ECHINODERMATA			
OPHIUROIDEA			
OPHIUROIDEA (LPIL)	2	2	1.57

-------------Report Continued on Next Page-------------

Sample Date 96/01/29 Station: 005
e Size 0.0500 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MF3

==
The Standard Deviation From the Mean= 0.0

***** FAUNAL CHARACTERISTICS *****

The Species Diversity (Shannon Wiener Index) H°E = 2.19

The Species Evenness (Pielous Evenness Index) J= .67

The Species Richness (Margalef's Index) D= 5.16

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*************** END OF REPORT ***************

S- 'e Date 96/01/31 Station: 006
e Size 0.1000 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MH1

TAXON	REPA	TOTAL	PERCENT
** ANNELIDA			
POLYCHAETA			
SPIONIDAE			
PRIONOSPIO (LPIL)	1	1	0.44
SPIOPHANES BOMBYX	4	4	1.75
STREBLOSPIO BENEDICTI	116	116	50.66
PECTINARIIDAE			
PECTINARIA GOULDII	1	1	0.44
OLIGOCHAETA			
OLIGOCHAETA (LPIL)	4	4	1.75
** MOLLUSCA			
YPODA			
LUCINIDAE			
LINGA AMIANTUS	3	3	1.31
TELLINIDAE			
TELLINA VERSICOLOR	35	35	15.28
NUCULANIDAE			
NUCULANA CONCENTRICA	3	3	1.31
GASTROPODA			
NATICIDAE			
TECTONATICA PUSILLA	1	1	0.44
NASSARIIDAE			
NASSARIUS VIBEX	3	3	1.31
SCAPHANDRIDAE			
ACTEOCINA CANALICULATA	4	4	1.75
** ARTHROPODA (CRUSTACEA)			
AMPHIPODA			
AMPELISCIDAE			
AMPELISCA (LPIL)	1	1	0.44
LILJEBORGIIDAE			
LISTRIELLA BARNARDI	1	1	0.44
TANAIDACEA			
.LIAPSEUDIDAE			
.ALLIAPSEUDES SP.C	1	1	0.44

-------------Report Continued on Next Page-------------

Sample Date 96/01/31
e Size 0.1000 SQ. M

Station: 006
Sample Type: MACROFAUNA

Comments: Station 2MH1

TAXON	REPA	TOTAL	PERCENT
** ARTHROPODA (CRUSTACEA)			
OSTRACODA			
CYTHERIDEIDAE			
HAPLOCYTHERIDEA SETIPUNCTATA	6	6	2.62
** ECHINODERMATA			
OPHIUROIDEA			
OPHIUROIDEA (LPIL)	1	1	0.44
** CEPHALOCHORDATA			
LEPTOCARDII			
BRANCHIOSTOMIDAE			
?RANCHIOSTOMA (LPIL)	1	1	0.44

-------------Report Continued on Next Page-------------

Sample Date 96/01/31
'e Size 0.1000 SQ. M

Station: 006
Sample Type: MACROFAUNA

Comments: Station 2MH1

==
The Standard Deviation From the Mean= 0.0

***** FAUNAL CHARACTERISTICS *****

The Species Diversity (Shannon Wiener Index) H°E = 2.03

The Species Evenness (Pielous Evenness Index) J= .59

The Species Richness (Margalef's Index) D= 5.52

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*************** END OF REPORT ***************

S· ·le Date 96/01/31
.e Size 0.0500 SQ. M

Station: 007
Sample Type: MACROFAUNA

Comments: Station 2MH3

TAXON	REPA	TOTAL	PERCENT
** MOLLUSCA			
PELECYPODA			
NUCULANIDAE			
NUCULANA CONCENTRICA	3	3	1.51
GASTROPODA			
NATICIDAE			
NEVERITA DUPLICATA	1	1	0.50
COLUMBELLIDAE			
ANACHIS OBESA	1	1	0.50
PYRAMIDELLIDAE			
ODOSTOMIA WEBERI	5	5	2.51
SCAPHANDRIDAE			
ACTEOCINA CANALICULATA	7	7	3.52
ꞅTHROPODA (CRUSTACEA)			
CUMACEA			
LEUCONIDAE			
LEUCON AMERICANUS	2	2	1.00
DECAPODA (NATANTIA)			
OGYRIDIDAE			
OGYRIDES ALPHAEROSTRIS	1	1	0.50
OSTRACODA			
CYTHERIDEIDAE			
HAPLOCYTHERIDEA SETIPUNCTATA	6	6	3.02
** ECHINODERMATA			
OPHIUROIDEA			
OPHIUROIDEA (LPIL)	4	4	2.01

-------------Report Continued on Next Page-------------

S 'e Date 96/01/31 Station: 007
e Size 0.0500 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MH3

==
The Standard Deviation From the Mean= 0.0

***** FAUNAL CHARACTERISTICS *****

The Species Diversity (Shannon Wiener Index) H°E = 2.23

The Species Evenness (Pielous Evenness Index) J= .68

The Species Richness (Margalef's Index) D= 4.91

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*************** END OF REPORT ***************

Sample Date 96/01/31 Station: 008
e Size 0.0500 SQ. M Sample Type: MACROFAUNA

Comments: Station 2M10

TAXON	REPA	TOTAL	PERCENT
** ANNELIDA			
OLIGOCHAETA			
OLIGOCHAETA (LPIL)	17	17	5.23
** MOLLUSCA			
PELECYPODA			
PELECYPODA (LPIL)	2	2	0.61
LUCINIDAE			
PARVILUCINA MULTILINEATA	2	2	0.61
TELLINIDAE			
TELLINA VERSICOLOR	2	2	0.61
LYONSIIDAE			
LYONSIA FLORIDANA	1	1	0.31
OPODA			
TICIDAE			
TECTONATICA PUSILLA	1	1	0.31
COLUMBELLIDAE			
ANACHIS OBESA	1	1	0.31
NASSARIIDAE			
NASSARIUS VIBEX	2	2	0.61
SCAPHANDRIDAE			
ACTEOCINA CANALICULATA	7	7	2.15
** ARTHROPODA (CRUSTACEA)			
ISOPODA			
IDOTEIDAE			
EDOTIA TRILOBA	1	1	0.31
AMPHIPODA			
AORIDAE			
GRANDIDIERELLA BONNIEROIDES	1	1	0.31
CUMACEA			
BODOTRIIDAE			
CYCLASPIS VARIANS	1	1	0.31
DIASTYLIDAE			
OXYUROSTYLIS (LPIL)	1	1	0.31

-------------Report Continued on Next Page-------------

Sample Date 96/01/31 Station: 008
le Size 0.0500 SQ. M Sample Type: MACROFAUNA

Comments: Station 2M10

NOTE:
LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

REPA
Total Individuals per Replicate:
325
Total Taxa per replicate:
31

Total number of taxa for this station = 31

Total number of individuals for this station = 325

Mean Number Individuals per square meter = 6500

PHYLUM	TOTAL # TAXA	% TAXA	TOTAL # INDIVIDUALS	% INDIVIDUALS
ANNELIDA	14	45.1	276	84.9
MOLLUSCA	8	25.8	18	5.5
ARTHROPODA	5	16.1	6	1.8
ECHINODERMATA	0	.0	0	.0
MISCELLANEOUS	4	12.9	25	7.6

--------------------Report Continued on Next Page--------------------

Samole Date 96/01/31 Station: 009
e Size 0.0500 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MQ2

TAXON	REPA	TOTAL	PERCENT
** RHYNCHOCOELA			
RHYNCHOCOELA (LPIL)	4	4	2.17
LINEIDAE			
LINEIDAE (LPIL)	20	20	10.87
** PHORONIDA			
PHORONIS (LPIL)	1	1	0.54
** SIPUNCULA			
GOLFINGIIDAE			
PHASCOLION STROMBI	1	1	0.54
** ANNELIDA			
POLYCHAETA			
CAPITELLIDAE			
CAPITELLA CAPITATA	1	1	0.54
CAPITELLA JONESI	2	2	1.09
MEDIOMASTUS (LPIL)	10	10	5.43
COSSURIDAE			
COSSURA SOYERI	15	15	8.15
GONIADIDAE			
GLYCINDE SOLITARIA	5	5	2.72
LUMBRINERIDAE			
LUMBRINERIDAE (LPIL)	2	2	1.09
MAGELONIDAE			
MAGELONA SP.H	1	1	0.54
OPHELIIDAE			
ARMANDIA MACULATA	5	5	2.72
OWENIIDAE			
GALATHOWENIA OCULATA	1	1	0.54
POLYNOIDAE			
MALMGRENIELLA (LPIL)	1	1	0.54
SIGALIONIDAE			
STHENELAIS SP.A	2	2	1.09
SPIONIDAE			
PARAPRIONOSPIO PINNATA	2	2	1.09
PRIONOSPIO (LPIL)	33	33	17.93
STREBLOSPIO BENEDICTI	10	10	5.43

-------------Report Continued on Next Page------------

e Date 96/01/31
le Size 0.0500 SQ. M

Station: 009
Sample Type: MACROFAUNA

Comments: Station 2MQ2

TAXON	REPA	TOTAL	PERCENT
** ECHINODERMATA			
OPHIUROIDEA			
AMPHIURIDAE			
AMPHIURIDAE (LPIL)	15	15	8.15
AMPHIOPLUS SEPULTUS	10	10	5.43

-------------Report Continued on Next Page-------------

Date 96/01/31 Station: 009
Sample Size 0.0500 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MQ2

==
The Standard Deviation From the Mean= 0.0

***** FAUNAL CHARACTERISTICS *****

The Species Diversity (Shannon Wiener Index) H°E = 2.9

The Species Evenness (Pielous Evenness Index) J= .84

The Species Richness (Margalef's Index) D= 5.94

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*************** END OF REPORT ***************

S[illegible] Date 96/01/31
S[illegible] Size 0.1000 SQ. M

Station: 010
Sample Type: MACROFAUNA

Comments: Station 2MU2

NOTE:
LPIL designates the LOWEST PRACTICAL IDENTIFICATION LEVEL

REPA
Total Individuals per Replicate:
8
Total Taxa per replicate:
7

T[illegible] number of taxa for this station = 7

Total number of individuals for this station = 8

Mean Number Individuals per square meter = 80

PHYLUM	TOTAL # TAXA	% TAXA	TOTAL # INDIVIDUALS	% INDIVIDUALS
ANNELIDA	1	14.2	1	12.5
MOLLUSCA	2	28.5	2	25.0
ARTHROPODA	1	14.2	1	12.5
ECHINODERMATA	0	.0	0	.0
MISCELLANEOUS	3	42.8	4	50.0

--------------------Report Continued on Next Page--------------------

S Date 96/01/23 Station: 011
S[illegible] Size 0.1000 SQ. M Sample Type: MACROFAUNA

Comments: Station 2MX1

TAXON	REPA	TOTAL	PERCENT
** CNIDARIA			
ACTINIARIA			
ACTINIARIA (LPIL)	1	1	0.52
** RHYNCHOCOELA			
RHYNCHOCOELA (LPIL)	1	1	0.52
TUBULANIDAE			
TUBULANUS (LPIL)	2	2	1.04
** SIPUNCULA			
SIPUNCULA (LPIL)	1	1	0.52
*[illegible]NELIDA			
POLYCHAETA			
CAPITELLIDAE			
MEDIOMASTUS (LPIL)	14	14	7.29
CHAETOPTERIDAE			
SPIOCHAETOPTERUS OCULATUS	2	2	1.04
NEPHTYIDAE			
NEPHTYS (LPIL)	1	1	0.52
OPHELIIDAE			
ARMANDIA MACULATA	45	45	23.44
OWENIIDAE			
GALATHOWENIA OCULATA	1	1	0.52
PILARGIDAE			
SIGAMBRA TENTACULATA	1	1	0.52
PHYLLODOCIDAE			
PHYLLODOCE ARENAE	1	1	0.52
SPIONIDAE			
APOPRIONOSPIO PYGMAEA	1	1	0.52
PRIONOSPIO (LPIL)	3	3	1.56
SPIOPHANES BOMBYX	1	1	0.52
STREBLOSPIO BENEDICTI	6	6	3.13
SYLLIDAE			
STREPTOSYLLIS PETTIBONEAE	1	1	0.52

------------Report Continued on Next Page-----------

Date 96/01/23
Sample Size 0.1000 SQ. M

Station: 011
Sample Type: MACROFAUNA

Comments: Station 2MX1

TAXON	REPA	TOTAL	PERCENT
** ARTHROPODA (CRUSTACEA)			
TANAIDACEA			
PARATANAIDAE			
PARATANAIDAE (LPIL)	1	1	0.52
DECAPODA (REPTANTIA)			
PINNOTHERIDAE			
PINNOTHERIDAE (LPIL)	1	1	0.52
** CEPHALOCHORDATA			
LEPTOCARDII			
BRANCHIOSTOMIDAE			
BRANCHIOSTOMA (LPIL)	28	28	14.58

-------------Report Continued on Next Page-------------

: Date 96/01/23
Sample Size 0.1000 SQ. M

Station: 011
Sample Type: MACROFAUNA

Comments: Station 2MX1

==
The Standard Deviation From the Mean= 0.0

***** FAUNAL CHARACTERISTICS *****

The Species Diversity (Shannon Wiener Index) H°E = 2.38

The Species Evenness (Pielous Evenness Index) J= .69

The Species Richness (Margalef's Index) D= 5.71

Report Prepared By: Barry A. Vittor & Associates, Inc.
8060 Cottage Hill Road
Mobile, AL 36695
(205)633-6100

*************** END OF REPORT ***************

Appendix E

Site 2 and Site 38 Analytical Data

PENSACOLA, SITE 38
PENSACOLA, SITE 38, 1994

	SAMPLE ID ------->	038-G-GS02-00					
	ORIGINAL ID ----->	38GS02					
	LAB SAMPLE ID --->	42-98955S					
	ID FROM REPORT -->	38GS02					
	SAMPLE DATE ----->	01/06/94					
	DATE EXTRACTED -->						
	DATE ANALYZED --->						
	MATRIX ---------->	Water					
	UNITS ----------->	UG/L					
Method	Parameter	FD1085 NV					
METAL	Aluminum	1330.					
METAL	Antimony	35. U					
METAL	Arsenic	10.8					
METAL	Barium	21.6					
METAL	Beryllium	1. U					
METAL	Cadmium	3. U					
METAL	Calcium	29600.					
METAL	Chromium	11.1					
METAL	Cobalt	5.1					
METAL	Copper	311.					
METAL	Cyanide	10. U					
METAL	Iron	7470.					
METAL	Lead	362. J					
METAL	Magnesium	4990.					
METAL	Manganese	26.5					
METAL	Mercury	0.58 UJ					
METAL	Nickel	15. U					
METAL	Potassium	2990.					
METAL	Selenium	2. U					
METAL	Silver	4. U					
METAL	Sodium	11100.					
METAL	Thallium	2. U					
METAL	Vanadium	9.8					
METAL	Zinc	133.					

DATALCP3
02/22/95

PENSACOLA, SITE 38
PENSACOLA, SITE 38, 1994

	SAMPLE ID ------->	038-G-GS02-00						
	ORIGINAL ID ----->	38GS02						
	LAB SAMPLE ID --->	98955						
	ID FROM REPORT -->	38GS02						
	SAMPLE DATE ----->	01/06/94						
	DATE EXTRACTED -->							
	DATE ANALYZED --->	01/24/94						
	MATRIX ---------->	Water						
	UNITS ----------->	UG/L						
Method	Parameter	FD1085	NV					
PEST	4,4'-DDD	0.1	U					
PEST	4,4'-DDE	0.1	U					
PEST	4,4'-DDT	0.1	U					
PEST	Aldrin	0.05	U					
PEST	Aroclor-1016	1.	U					
PEST	Aroclor-1221	2.	U					
PEST	Aroclor-1232	1.	U					
PEST	Aroclor-1242	1.	U					
PEST	Aroclor-1248	1.	U					
PEST	Aroclor-1254	1.	U					
PEST	Aroclor-1260	1.	U					
PEST	Dieldrin	0.1	U					
PEST	Endosulfan I	0.05	U					
PEST	Endosulfan II	0.1	U					
PEST	Endosulfan sulfate	0.1	U					
PEST	Endrin	0.1	U					
PEST	Endrin aldehyde	0.1	U					
PEST	Endrin ketone	0.1	U					
PEST	Heptachlor	0.05	U					
PEST	Heptachlor epoxide	0.05	U					
PEST	Methoxychlor	0.5	U					
PEST	Toxaphene	5.	U					
PEST	alpha-BHC	0.05	U					
PEST	alpha-Chlordane	0.05	U					
PEST	beta-BHC	0.05	U					
PEST	delta-BHC	0.05	U					
PEST	gamma-BHC (Lindane)	0.05	U					
PEST	gamma-Chlordane	0.05	U					

PENSACOLA, SITE 38
PENSACOLA, SITE 38, 1994

	SAMPLE ID ------->	038-G-GS02-00	
	ORIGINAL ID ----->	38GS02	
	LAB SAMPLE ID --->	98955	
	ID FROM REPORT -->	38GS02	
	SAMPLE DATE ----->	01/06/94	
	DATE EXTRACTED -->		
	DATE ANALYZED --->	01/21/94	
	MATRIX ---------->	Water	
	UNITS ----------->	UG/L	
Method	Parameter	FD1085	NV
SVOA	1,2,4-Trichlorobenzene	10.	U
SVOA	1,2-Dichlorobenzene	5.	J
SVOA	1,3-Dichlorobenzene	10.	U
SVOA	1,4-Dichlorobenzene	10.	U
SVOA	2,4,5-Trichlorophenol	26.	U
SVOA	2,4,6-Trichlorophenol	10.	U
SVOA	2,4-Dichlorophenol	10.	U
SVOA	2,4-Dimethylphenol	10.	U
SVOA	2,4-Dinitrophenol	26.	U
SVOA	2,4-Dinitrotoluene	10.	U
SVOA	2,6-Dinitrotoluene	10.	U
SVOA	2-Chloronaphthalene	10.	U
SVOA	2-Chlorophenol	10.	U
SVOA	2-Methylnaphthalene	14.	
SVOA	2-Methylphenol (o-Cresol)	10.	U
SVOA	2-Nitroaniline	26.	U
SVOA	2-Nitrophenol	10.	U
SVOA	3,3'-Dichlorobenzidine	10.	U
SVOA	3-Nitroaniline	26.	U
SVOA	4,6-Dinitro-2-methylphenol	26.	U
SVOA	4-Bromophenyl-phenylether	10.	U
SVOA	4-Chloro-3-methylphenol	10.	U
SVOA	4-Chloroaniline	10.	U
SVOA	4-Chlorophenyl-phenylether	10.	U
SVOA	4-Methylphenol (p-Cresol)	10.	U
SVOA	4-Nitroaniline	26.	U
SVOA	4-Nitrophenol	26.	U
SVOA	Acenaphthene	1.	J
SVOA	Acenaphthylene	10.	U
SVOA	Anthracene	10.	U
SVOA	Benzo(a)anthracene	10.	U
SVOA	Benzo(a)pyrene	10.	U
SVOA	Benzo(b)fluoranthene	10.	U
SVOA	Benzo(g,h,i)perylene	10.	U
SVOA	Benzo(k)fluoranthene	10.	U
SVOA	Butylbenzylphthalate	10.	U

DATALCP3
02/22/95

PENSACOLA, SITE 38
PENSACOLA, SITE 38, 1994

	SAMPLE ID ------->	038-G-GS02-00						
	ORIGINAL ID ----->	38GS02						
	LAB SAMPLE ID --->	98955						
	ID FROM REPORT -->	38GS02						
	SAMPLE DATE ----->	01/06/94						
	DATE EXTRACTED -->							
	DATE ANALYZED --->	01/21/94						
	MATRIX ---------->	Water						
	UNITS ----------->	UG/L						
Method	Parameter	FD1085	NV					
SVOA	Carbazole	10.	U					
SVOA	Chrysene	10.	U					
SVOA	Di-n-butylphthalate	10.	U					
SVOA	Di-n-octylphthalate	10.	U					
SVOA	Dibenzo(a,h)anthracene	10.	U					
SVOA	Dibenzofuran	10.	U					
SVOA	Diethylphthalate	10.	U					
SVOA	Dimethylphthalate	10.	U					
SVOA	Fluoranthene	10.	U					
SVOA	Fluorene	10.	U					
SVOA	Hexachlorobenzene	10.	U					
SVOA	Hexachlorobutadiene	10.	U					
SVOA	Hexachlorocyclopentadiene	10.	U					
SVOA	Hexachloroethane	10.	U					
SVOA	Indeno(1,2,3-cd)pyrene	10.	U					
SVOA	Isophorone	10.	U					
SVOA	N-Nitroso-di-n-propylamine	10.	U					
SVOA	N-Nitrosodiphenylamine	10.	U					
SVOA	Naphthalene	44.						
SVOA	Nitrobenzene	10.	U					
SVOA	Pentachlorophenol	26.	U					
SVOA	Phenanthrene	10.	U					
SVOA	Phenol	10.	U					
SVOA	Pyrene	10.	U					
SVOA	bis(2-Chloroethoxy)methane	10.	U					
SVOA	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U					
SVOA	bis(2-Chloroethyl)ether	10.	U					
SVOA	2,2'-oxybis(1-Chloropropane)	10.	U					

PENSACOLA, SITE 38
PENSACOLA, SITE 38, 1994

	SAMPLE ID ------->	038-G-GS02-00	
	ORIGINAL ID ----->	38GS02	
	LAB SAMPLE ID --->	98955	
	ID FROM REPORT -->	38GS02	
	SAMPLE DATE ----->	01/06/94	
	DATE EXTRACTED -->		
	DATE ANALYZED --->	01/13/94	
	MATRIX ---------->	Water	
	UNITS ----------->	UG/L	
Method	Parameter	FD1085	NV
VOA	1,1,1-Trichloroethane	20.	U
VOA	1,1,2,2-Tetrachloroethane	20.	U
VOA	1,1,2-Trichloroethane	20.	U
VOA	1,1-Dichloroethane	44.	
VOA	1,1-Dichloroethene	20.	U
VOA	1,2-Dichloroethane	20.	U
VOA	1,2-Dichloroethene (total)	2.	J
VOA	1,2-Dichloropropane	20.	U
VOA	2-Butanone (MEK)	20.	U
VOA	2-Hexanone	20.	U
VOA	4-Methyl-2-Pentanone (MIBK)	20.	U
VOA	Acetone	64.	U
VOA	Benzene	20.	U
VOA	Bromodichloromethane	20.	U
VOA	Bromoform	20.	U
VOA	Bromomethane	20.	U
VOA	Carbon disulfide	20.	U
VOA	Carbon tetrachloride	20.	U
VOA	Chlorobenzene	4.	J
VOA	Chloroethane	8.	J
VOA	Chloroform	20.	U
VOA	Chloromethane	20.	U
VOA	Dibromochloromethane	20.	U
VOA	Ethylbenzene	22.	
VOA	Methylene chloride	20.	U
VOA	Styrene	20.	U
VOA	Tetrachloroethene	20.	U
VOA	Toluene	3.	J
VOA	Trichloroethene	20.	U
VOA	Vinyl chloride	12.	J
VOA	Xylene (Total)	3.	J
VOA	cis-1,3-Dichloropropene	20.	U
VOA	trans-1,3-Dichloropropene	20.	U

DATALCP2
02/22/95

PENSACOLA, SITE 02
PENSACOLA, SITE 02
Samples

FD108

	SAMPLE ID ------->	002-G-GS01-00					
	ORIGINAL ID ----->	02GS01					
	LAB SAMPLE ID --->	98959S					
	SAMPLE DATE ----->	01/06/94					
	DATE ANALYZED --->	01/22/94					
	UNITS ----------->	UG/L					
Method	Parameter						
METAL	Aluminum	361.					
METAL	Antimony	35. U					
METAL	Arsenic	9.2					
METAL	Barium	41.5					
METAL	Beryllium	1. U					
METAL	Cadmium	5.9					
METAL	Calcium	22800.					
METAL	Chromium	11.2					
METAL	Cobalt	3. U					
METAL	Copper	25.6					
METAL	Cyanide	10. U					
METAL	Iron	3160.					
METAL	Lead	42.8					
METAL	Magnesium	1880.					
METAL	Manganese	19.9					
METAL	Mercury	0.2 U					
METAL	Nickel	15. U					
METAL	Potassium	1040.					
METAL	Selenium	2. U					
METAL	Silver	4. U					
METAL	Sodium	3390.					
METAL	Thallium	2. U					
METAL	Vanadium	3.8					
METAL	Zinc	217.					

*** Validation Complete ***

DATALCP2
02/22/95

PENSACOLA, SITE 02
PENSACOLA, SITE 02
Samples

FD108

	SAMPLE ID ------->	002-G-GS01-00					
	ORIGINAL ID ----->	02GS01					
	LAB SAMPLE ID --->	98959					
	SAMPLE DATE ----->	01/06/94					
	DATE ANALYZED --->	01/22/94					
	UNITS ----------->	UG/L					
Method	Parameter						
PEST	4,4'-DDD	0.1 U					
PEST	4,4'-DDE	0.1 U					
PEST	4,4'-DDT	0.1 U					
PEST	Aldrin	0.05 U					
PEST	Aroclor-1016	1. U					
PEST	Aroclor-1221	2. U					
PEST	Aroclor-1232	1. U					
PEST	Aroclor-1242	1. U					
PEST	Aroclor-1248	1. U					
PEST	Aroclor-1254	1. U					
PEST	Aroclor-1260	1. U					
PEST	Dieldrin	0.1 U					
PEST	Endosulfan I	0.05 U					
PEST	Endosulfan II	0.1 U					
PEST	Endosulfan sulfate	0.1 U					
PEST	Endrin	0.1 U					
PEST	Endrin aldehyde	0.1 U					
PEST	Endrin ketone	0.1 U					
PEST	Heptachlor	0.05 U					
PEST	Heptachlor epoxide	0.05 U					
PEST	Methoxychlor	0.5 U					
PEST	Toxaphene	5. U					
PEST	alpha-BHC	0.05 U					
PEST	alpha-Chlordane	0.05 U					
PEST	beta-BHC	0.05 U					
PEST	delta-BHC	0.05 U					
PEST	gamma-BHC (Lindane)	0.05 U					
PEST	gamma-Chlordane	0.05 U					

*** Validation Complete ***

PENSACOLA, SITE 02

PENSACOLA, SITE 02

Samples

FD108

SAMPLE ID ------->	002-G-GS01-00					
ORIGINAL ID ----->	02GS01					
LAB SAMPLE ID --->	98959					
SAMPLE DATE ----->	01/06/94					
DATE ANALYZED --->	01/23/94					
UNITS ----------->	UG/L					

Method	Parameter						
SVOA	1,2,4-Trichlorobenzene	11. U					
SVOA	1,2-Dichlorobenzene	11. U					
SVOA	1,3-Dichlorobenzene	11. U					
SVOA	1,4-Dichlorobenzene	11. U					
SVOA	2,4,5-Trichlorophenol	28. U					
SVOA	2,4,6-Trichlorophenol	11. U					
SVOA	2,4-Dichlorophenol	11. U					
SVOA	2,4-Dimethylphenol	11. U					
SVOA	2,4-Dinitrophenol	28. U					
SVOA	2,4-Dinitrotoluene	11. U					
SVOA	2,6-Dinitrotoluene	11. U					
SVOA	2-Chloronaphthalene	11. U					
SVOA	2-Chlorophenol	11. U					
SVOA	2-Methylnaphthalene	11. U					
SVOA	2-Methylphenol (o-Cresol)	11. U					
SVOA	2-Nitroaniline	28. U					
SVOA	2-Nitrophenol	11. U					
SVOA	3,3'-Dichlorobenzidine	11. U					
SVOA	3-Nitroaniline	28. U					
SVOA	4,6-Dinitro-2-methylphenol	28. U					
SVOA	4-Bromophenyl-phenylether	11. U					
SVOA	4-Chloro-3-methylphenol	11. U					
SVOA	4-Chloroaniline	11. U					
SVOA	4-Chlorophenyl-phenylether	11. U					
SVOA	4-Methylphenol (p-Cresol)	11. U					
SVOA	4-Nitroaniline	28. U					
SVOA	4-Nitrophenol	28. U					
SVOA	Acenaphthene	11. U					
SVOA	Acenaphthylene	11. U					
SVOA	Anthracene	11. U					
SVOA	Benzo(a)anthracene	11. U					
SVOA	Benzo(a)pyrene	11. U					
SVOA	Benzo(b)fluoranthene	11. U					
SVOA	Benzo(g,h,i)perylene	11. U					
SVOA	Benzo(k)fluoranthene	11. U					
SVOA	Butylbenzylphthalate	11. U					
SVOA	Carbazole	11. U					
SVOA	Chrysene	11. U					
SVOA	Di-n-butylphthalate	11. U					

*** Validation Complete ***

PENSACOLA, SITE 02

PENSACOLA, SITE 02

Samples

FD108

Method	Parameter						
	SAMPLE ID ------->	002-G-GS01-00					
	ORIGINAL ID ----->	02GS01					
	LAB SAMPLE ID --->	98959					
	SAMPLE DATE ----->	01/06/94					
	DATE ANALYZED --->	01/23/94					
	UNITS ----------->	UG/L					
SVOA	Di-n-octylphthalate	11. U					
SVOA	Dibenzo(a,h)anthracene	11. U					
SVOA	Dibenzofuran	11. U					
SVOA	Diethylphthalate	11. U					
SVOA	Dimethylphthalate	11. U					
SVOA	Fluoranthene	11. U					
SVOA	Fluorene	11. U					
SVOA	Hexachlorobenzene	11. U					
SVOA	Hexachlorobutadiene	11. U					
SVOA	Hexachlorocyclopentadiene	11. U					
SVOA	Hexachloroethane	11. U					
SVOA	Indeno(1,2,3-cd)pyrene	11. U					
SVOA	Isophorone	11. U					
SVOA	N-Nitroso-di-n-propylamine	11. U					
SVOA	N-Nitrosodiphenylamine	11. U					
SVOA	Naphthalene	11. U					
SVOA	Nitrobenzene	11. U					
SVOA	Pentachlorophenol	28. U					
SVOA	Phenanthrene	11. U					
SVOA	Phenol	11. U					
SVOA	Pyrene	11. U					
SVOA	bis(2-Chloroethoxy)methane	11. U					
SVOA	bis(2-Ethylhexyl)phthalate (BEHP)	11. U					
SVOA	bis(2-Chloroethyl)ether	11. U					
SVOA	2,2'-oxybis(1-Chloropropane)	11. U					

*** Validation Complete ***

DATALCP2
02/22/95

PENSACOLA, SITE 02
PENSACOLA, SITE 02
Samples

FD108

	SAMPLE ID ------->	002-G-GS01-00					
	ORIGINAL ID ----->	02GS01					
	LAB SAMPLE ID --->	98959					
	SAMPLE DATE ----->	01/06/94					
	DATE ANALYZED --->	01/22/94					
	UNITS ----------->	UG/L					
Method	Parameter						
VOA	1,1,1-Trichloroethane	10. U					
VOA	1,1,2,2-Tetrachloroethane	10. U					
VOA	1,1,2-Trichloroethane	10. U					
VOA	1,1-Dichloroethane	10. U					
VOA	1,1-Dichloroethene	10. U					
VOA	1,2-Dichloroethane	10. U					
VOA	1,2-Dichloropropane	10. U					
VOA	2-Butanone (MEK)	40. U					
VOA	2-Hexanone	40. U					
VOA	4-Methyl-2-Pentanone (MIBK)	40. U					
VOA	Acetone	19. U					
VOA	Benzene	10. U					
VOA	Bromodichloromethane	10. U					
VOA	Bromoform	10. U					
VOA	Bromomethane	10. U					
VOA	Carbon disulfide	10. U					
VOA	Carbon tetrachloride	10. U					
VOA	Chlorobenzene	10. U					
VOA	Chloroethane	10. U					
VOA	Chloroform	10. U					
VOA	Chloromethane	10. U					
VOA	Dibromochloromethane	10. U					
VOA	Ethylbenzene	10. U					
VOA	Methylene chloride	10. U					
VOA	Styrene	10. U					
VOA	Tetrachloroethene	10. U					
VOA	Toluene	10. U					
VOA	Trichloroethene	10. U					
VOA	Vinyl chloride	10. U					
VOA	Xylene (Total)	10. U					
VOA	cis-1,3-Dichloropropene	10. U					
VOA	trans-1,3-Dichloropropene	10. U					
VOA	1,2-Dichloroethene (total)	10. U					

*** Validation Complete ***

Appendix F
Comparison of Sediment Digestion Techniques for Metals

A Comparison of Digestion Techniques in Analyses for Total Metals in Marine Sediments

by David L. Trimm, Henry H. Beiro, and Steven J. Parker

Introduction

Prior studies have assessed laboratory variability for determination of total metal concentrations using hydrofluoric acid (HF) and aqua regia (nitric acid; NA) dissolution and extraction procedures (Loring and Rantala, 1988). It is generally recognized that a HF dissolution in combination with one or more acids is required to release the total metal concentrations of marine sediments. Studies on trace metal concentrations in estuarine and coastal marine sediments from the southeast US, and Florida in particular, recognized the need for HF (total digestion) methods (Windom, et al., 1989). Schropp et al. (1990) used total digestion methods to determine "natural" aluminum to metal ratios for Florida sediments.

Based on Shropp et al.'s (1988) work, the Florida Department of Environmental Regulation (FDER, now FDEP) used total digestion methods to establish regional natural metal-to aluminum ratios. To summarize FDER's approach, regional natural metal-to-aluminum ratios exist, anthropogenic input to areas can be assessed by comparing metal concentrations to these "natural" ratios. FDER produced aluminum:metal regression lines determined from "clean" sites in Florida, along with 95 % prediction limits. The extent of the metal concentrations above the prediction limit were indicative of the likelihood of metal enrichment. Florida established this method as a way to improve the use of environmental data in regulatory and resource management decisions (FDER, 1988).

Present Superfund Contract Laboratory Procedures (CLP) employ standard aqua regia digestion methods for estuarine and marine sediment. Under the CLP program, an investigation of contamination in sediments associated with Naval Air Station Pensacola (NASP) resulted in metal concentrations which could not reliably be compared to "natural" regression lines provided in the

FDER (1988) report. To determine the variation between metal concentrations detected using CLP methods (aqua regia) and those proposed by FDER (HF), Navy conducted a comparative investigation using both digestion procedures for sediment samples collected near NASP. The overall objective was to determine if metal data produced by CLP methods were comparable to FDER's regression lines.

Methods

Twenty-nine locations within Pensacola Bay and Bayou Grande (Figure 1) were randomly selected for sediment digestion comparison techniques during an intensive sampling program (320+ locations) associated with a remedial investigation study at NASP. From December 1995 to February 1996, sediment samples were collected using a 529 cm^2 stainless steel Ekman grab. Sediment was placed in stainless steel mixing bowls and the top 5-6 cm was collected for analysis. The surface layer of two grab samples at each location were composited. From this composite sample precleaned containers were filled for shipment to the laboratory. Samples were stored on ice and shipped within 24 hours.

Sediment metal concentrations were determined for aluminum, arsenic, cadmium, chromium, copper, lead, nickel and zinc (Table 1). Metals analysis methods were identical with the exception of the digestion method. A portion of each sample was digested using SW-846 methods for total metals and another was digested using a modification to this technique, replacing hydrochloric acid with hydrofluoric acid.

Both digestions methods use 1.00 g (wet weight ± 0.50 g) of sediment weighed out into an acid washed Teflon beaker. Normally, the sample is initially digested at 95° C with 10 ml nitric acid and hydrogen peroxide. Since these samples were to be analyzed by ICP, the final digestion employs adding hydrochloric acid to the acid-peroxide digestate. Insoluble materials are then filtered via a Whatman #42 filter or gravity settled overnight and brought to 100 ml volume by adding ASTM type II water.

The method was modified for "total digestion" by using 5 mL of hydrofluoric acid and 5 ml of nitric acid (1:1) allowing the mixture to sit at room temperature for 8-12 hours. Next gentle heat (~ 70° C) was applied and the samples were allowed to reflux for 8-12 hours. At the end of this period another 5 ml of each acid was added to the samples. The samples were again refluxed for 8-12 hours at ~ 70° C. The digestates were then allowed to cool and 30% hydrogen peroxide added in 1 mL aliquots until no further vigorous effervesce was noted. No more than 10 mL of hydrogen peroxide was added at any time. The samples were then filtered and brought to 100 mL volume by adding ASTM type II water.

Both types of digestates were analyzed for total metals in accordance with the inorganic statement of work ILM03.0. This method uses inductively coupled plasma (ICP) emission spectroscopy. To meet the requirements of this study, trace ICP mass spectroscopy was used to provide low level analysis. Since arsenic, lead, selenium, and thallium are traditionally determined by graphite furnace atomic absorption (GFAA), Ceimic Corporation modified the interference check sample to include 100 μg/L of these elements.

Statistical Analysis

Individual metal data generated for each digestion method were first tested for normality using a Ryan-Joiner Test (Shapiro-Wilk). The test statistic produced is interpreted in the opposite manner from other tests, but the p-value is interpreted the same way as for most normality tests. The null hypothesis of a normal distribution was rejected at the α significance level (0.05) if the calculated W statistic was less than W_{α}.

In addition, to illustrate the relationship between the paired data produced for each metal using the two digestion methods, scatter plots were produced. Each (x,y) pair is plotted as a point; the similarity between the groups of data is illustrated by the closeness of the data to the x = y line. If x is generally greater than y, most of the data will fall below the line. When y exceeds x, the data will lie largely above the x = y line.

To test whether concentrations determined by HF digestion tended to produce overall larger values than those produced by NA, the Mann-Whitney rank sum test was employed. This nonparametric procedure can determine whether two independent groups differ. The nonparametric approach was used rather than a parametric t-test based on the results of normality tests. Although some distributions approached normality, the justification for use of a nonparametric test rather than a parametric one was based on discussions in Blair and Higgins (1980), where they found that small deviations from a normal distribution were not always detectable in normality tests on small data sets, and that use of nonparametric methods, such as the Mann-Whitney rank-sum test, exhibited large advantages in power over the t-test.

Finally, non-transformed data produced by both digestion methods were plotted on FDER (1988) regression lines (log-log paper). The purpose was to determine where the distribution of data produced by each digestion method occurred relative to the regression line produced by the state for "clean" sediments. It was hoped that inherent differences in the distributions produced by the two methods might be visually apparent.

Results/Discussion

Non-transformed data for all metals did not meet the criteria for normal distributions (Figures 1-17). Non-parametric analyses were selected for testing treatment groups.

Aluminum

The mean concentration for aluminum was higher when HF digestion was used than it was for the NA digestion, although median values were similar (Table 2). A result similar to the means comparison was found when paired data were plotted against each other (Figure 18). It appears that when aluminum was present at higher concentrations in sediment (ie., high % aluminosilicates), the HF method released more of the element from the matrix than did the NA method.

Comparison of the two data sets indicated that, for overall values, there was no significant difference (95%) (Table 3).

Arsenic

HF and NA mean and median values for arsenic were similar as were the standard errors produced (Table 2). The scatter plot for HF and NA concentrations revealed that, generally, concentrations produced using the standard CLP methods were slightly higher that those produced by hydrofluoric digestion (Figure 19). As with aluminum, no significant difference (95%) was found between the data sets produced (Table 3).

Plotting the HF and NA (Figures 20 and 21, respectively) values on the FDER regression line for arsenic, showed very little difference between the data sets. Both resulted in distributions that fell within FDER's 95% prediction limits, indicating that the concentrations were not anthropogenic in nature.

Cadmium

Mean and median cadmium values were comparable for digestions methods used (Table 2). No inference could be made as to which method produced higher values (Figure 22) and, no statistically significant difference was found between the two data sets (Table 3).

Concentration distributions for both methods, plotted on FDER regressions, were similar and indicate that cadmium in sediments near NASP are above natural Florida levels (Figures 23 and 24).

Chromium

Mean and median values produced by the HF methods were slightly above those produced by NA methods (Table 2) and plotting the data showed a similar result (Figure 25). But again, like the previous metals, statistical analysis showed no significant difference between data sets produced by the two digestion methods (Table 3).

Distributions produced were similar for both methods (Figures 26 and 27) and only chromium:aluminum ratios at high aluminum concentrations appeared to be above natural levels.

Copper

Copper means and medians (Table 2) were similar and the scatter-plot (Figure 28) indicated that HF values were only slightly higher than NA values. No significant difference (95%) was found between the two data sets (Table 3).

Copper:aluminum ratios produced by the two methods were similar and appear to be within the natural range for Florida sediments (Figures 29 and 30).

Lead

Mean lead values were similar but the HF median was somewhat higher than the NA median (Table 2). This suggests that the HF distribution was right-skewed compared to the NA distribution but, the paired plot (Figure 31) did not detect this trend. Again, no significant difference was found between the two data sets (Table 3).

An initial look at the two data sets plotted on FDER regressions suggests that HF values are higher that NA values (Figures 32 and 33). This is most likely due to the higher aluminum values produced by the more rigorous HF method and thus the lead:aluminum ratios are higher on the log scale and fall closer to the regression line and prediction limits. These findings indicate that although ratios produced by the two methods may differ, those produced by NA methods may result in a more conservative assessment of metal contamination.

Nickel

Median nickel values were similar for the two methods but the HF mean was considerably higher that the NA mean (Table 2). The paired scatterplot (Figure 34) shows that overall, HF values were higher than NA values, thus the higher mean. No significant difference was found between the data sets (Table 3).

Nickel:aluminum ratios (Figures 35 and 36) showed higher nickel values for the HF method than for the NA method. Generally, the distributions produced by the two methods were similar and both fell within the prediction limits indicating natural concentration in Florida.

Zinc

Means were similar for the two methods (Table 1) but the NA median value was slightly higher that the HF median. The scatter-plot of the concentrations indicates HF values were somewhat higher than those produce by NA (Figure 37). Like the other metals, no significant difference was found between the data sets (Table 3).

Again, distributions were similar when plotted on FDER regressions (Figures 38 and 39) but higher aluminum values determined by HF caused ratios to fall closer to the regression line and appear more "natural". Both distributions were near to or exceeded the 95% prediction limit and thus zinc may be anthropogenic in nature in these sediments.

Conclusion

Metals data produced by the CLP digestion method may be comparable to that produced using more rigorous digestion techniques. It appears that the HF digestion does release more aluminum from fine-grained sediments but it does not appear that the method released significantly more of the other metals in question. Use of metal:aluminum ratios produced by NA methods should provide conservative estimates of metal enrichment when compared to natural ratios provided by FDER (1988). Finally, we conclude that CLP data are useful and relative for screening metals data within Florida sediments.

References

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Table 1

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
	zone	station	HF-Al	HF-As	HF-Cd	HF-Cr	HF-Cu	HF-Fe	HF-Pb	HF-Ni	HF-Zn
1	1	36	45200.0	19.30	2.60	192.00	41.90	40800.0	107.00	20.5	180.00
2	2	15	26300.0	13.40	2.80	101.00	32.70	29100.0	70.40	16.0	124.00
3	2	18	9060.0	3.90	1.10	28.60	12.00	8130.0	25.60	3.7	50.70
4	2	20	1320.0	0.33	0.51	3.20	2.70	949.0	3.70	1.5	9.90
5	2	22	2560.0	0.55	0.46	7.20	6.60	2360.0	25.20	1.5	20.60
6	2	25	4200.0	2.20	1.60	26.20	10.20	6710.0	25.80	2.7	43.90
7	2	26	36600.0	14.70	2.60	168.00	38.70	35900.0	103.00	22.9	161.00
8	2	28	48000.0	15.40	2.30	157.00	33.80	32500.0	94.80	14.0	141.00
9	2	31	25100.0	11.80	2.10	110.00	26.50	25500.0	63.10	13.9	100.00
10	2	36	2670.0	0.82	0.37	5.80	2.30	2290.0	5.10	1.6	7.80
11	2	44	48100.0	21.60	3.90	239.00	48.00	45000.0	138.00	27.5	201.00
12	2	47	31900.0	14.20	3.80	192.00	37.50	34400.0	114.00	86.9	157.00
13	3	1	492.0	0.97	0.31	33.40	1.10	621.0	22.60	6.5	4.20
14	3	2	18500.0	10.10	0.78	111.00	27.20	18400.0	89.90	8.6	158.00
15	4	5	12200.0	3.60	2.70	84.80	16.00	11400.0	45.20	8.5	73.10
16	4	8	4100.0	5.70	0.67	40.00	9.30	6120.0	25.30	3.3	50.80
17	4	24	186.0	0.31	0.31	0.84	0.62	204.0	0.77	1.4	0.88
18	5	13	250.0	0.32	0.38	0.79	0.63	148.0	0.32	1.4	1.70
19	5	37	234.0	0.58	0.33	0.82	0.76	257.0	0.33	1.5	0.65
20	5	41	384.0	0.29	0.29	0.82	0.64	285.0	0.79	1.3	1.80
21	6	13	9150.0	3.20	0.39	13.30	3.50	5870.0	5.90	3.7	15.60
22	6	18	3230.0	3.90	0.38	10.30	3.40	4490.0	6.60	2.0	18.90
23	6	20	1340.0	1.10	0.32	2.20	0.85	1100.0	0.32	2.2	2.20
24	7	14	197.0	0.40	0.29	0.73	0.59	133.0	0.29	1.3	1.90
25	7	35	66.6	0.31	0.31	0.77	0.62	52.9	0.31	1.4	0.62
26	8	7	5080.0	9.70	0.60	28.80	11.00	14200.0	20.80	7.2	32.70
27	8	12	1880.0	1.80	0.35	3.50	1.50	1100.0	0.58	1.6	3.40
28	8	21	2250.0	0.94	0.35	3.60	2.00	1390.0	1.80	1.6	4.40
29	9	6	3640.0	1.90	0.46	11.10	7.50	3420.0	9.80	2.6	18.60

	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C23
	NA-Al	NA-As	NA-Cd	NA-Cr	NA-Cu	NA-Fe	NA-Pb	NA-Ni	NA-Zn	TOC	logHF-al
1	32300.0	18.40	2.90	164.00	33.60	33800.0	97.70	16.90	163.00		10.7189
2	21000.0	15.60	3.60	99.00	27.50	29900.0	83.30	9.70	129.00		10.1773
3	6360.0	5.20	1.10	30.70	10.30	8970.0	34.70	3.40	51.00		9.1116
4	500.0	0.15	0.23	1.80	0.68	475.0	3.30	0.92	4.50		7.1854
5	2830.0	1.70	0.56	9.10	6.80	3190.0	40.10	1.90	28.60		7.8478
6	4710.0	2.80	0.72	22.60	8.90	6160.0	26.90	2.60	39.80		8.3428
7	28900.0	15.60	2.50	145.00	31.40	32200.0	94.20	12.50	137.00		10.5078
8	23600.0	13.70	2.10	131.00	25.10	27200.0	82.90	10.40	112.00		10.7790
9	15300.0	15.90	1.90	116.00	27.50	27400.0	81.50	8.50	109.00		10.1306
10	1310.0	1.10	0.26	5.00	2.30	1800.0	6.30	1.00	6.40		7.8898
11	25900.0	21.80	1.90	174.00	37.40	34400.0	125.00	15.40	146.00		10.7810
12	26200.0	19.90	2.20	169.00	37.00	33100.0	129.00	12.50	147.00		10.3704
13	248.0	0.26	0.20	1.20	1.10	266.0	25.20	0.82	2.10		6.1985
14	17600.0	10.50	2.50	137.00	27.50	22000.0	113.00	7.10	105.00		9.8255
15	5360.0	3.40	2.00	72.80	10.50	7880.0	34.70	2.80	50.50		9.4092
16	3860.0	7.10	1.80	43.60	11.90	7620.0	37.30	3.30	77.40		8.3187
17	91.2	0.13	0.20	0.62	0.27	130.0	1.10	0.80	1.30		5.2257
18	68.7	0.15	0.23	0.60	0.30	45.9	0.29	0.91	0.57		5.5215
19	60.8	0.13	0.19	0.79	0.45	119.0	0.45	0.77	0.54		5.4553
20	150.0	0.26	0.19	0.52	0.74	226.0	0.69	0.78	1.20		5.9506
21	4500.0	3.90	0.32	11.70	4.50	7030.0	7.90	1.80	16.80		9.1215
22	3250.0	4.50	0.32	10.10	4.40	5870.0	6.60	3.10	18.40		8.0802
23	691.0	1.00	0.22	1.70	0.71	1140.0	1.70	0.88	3.50		7.2004
24	58.4	0.24	0.17	0.45	0.22	98.6	0.75	0.67	0.57		5.2832
25	19.6	0.14	0.21	0.56	0.47	25.5	0.12	0.83	0.25		4.1987
26	6010.0	10.80	0.45	23.60	10.60	11200.0	11.00	4.20	29.30		8.5331
27	480.0	0.63	0.22	1.20	0.99	657.0	1.20	0.90	2.20		7.5390
28	1030.0	1.10	0.25	2.70	1.70	1420.0	1.90	0.98	5.00		7.7187
29	3490.0	3.20	0.47	10.40	11.20	4430.0	16.30	3.00	29.40		8.1997

Table 2

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Worksheet size: 100000 cells

MTB > Retrieve  'P:\DAVID\NASP\METHODS.MTW'.
Retrieving worksheet from file: P:\DAVID\NASP\METHODS.MTW
Worksheet was saved on 12/ 3/1996
MTB > Describe 'HF-Al' 'NA-Al'.
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Descriptive Statistics

Variable	N	Mean	Median	TrMean	StDev	SEMean
HF-Al	29	11869	3640	10964	15836	2941
NA-Al	29	8134	3490	7539	10448	1940

Variable	Min	Max	Q1	Q3
HF-Al	67	48100	906	21800
NA-Al	20	32300	364	16450

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MTB > Describe  'HF-As' 'NA-As'.
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Descriptive Statistics

Variable	N	Mean	Median	TrMean	StDev	SEMean
HF-As	29	5.63	2.20	5.24	6.52	1.21
NA-As	29	6.18	3.20	5.83	7.08	1.32

Variable	Min	Max	Q1	Q3
HF-As	0.29	21.60	0.56	10.95
NA-As	0.13	21.80	0.26	12.25

```
MTB > Describe  'HF-Cd' 'NA-Cd'.
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Descriptive Statistics

Variable	N	Mean	Median	TrMean	StDev	SEMean
HF-Cd	29	1.150	0.460	1.080	1.149	0.213
NA-Cd	29	1.031	0.450	0.968	1.034	0.192

Variable	Min	Max	Q1	Q3
HF-Cd	0.290	3.900	0.340	2.200
NA-Cd	0.170	3.600	0.220	1.950

```
MTB > Describe  'HF-Cr' 'NA-Cr'.
```

Descriptive Statistics

Variable	N	Mean	Median	TrMean	StDev	SEMean
HF-Cr	29	54.4	13.3	49.5	72.1	13.4
NA-Cr	29	47.8	10.4	44.9	62.5	11.6

Variable	Min	Max	Q1	Q3
HF-Cr	0.7	239.0	2.7	105.5
NA-Cr	0.4	174.0	1.2	107.5

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MTB > Describe  'HF-Cu' 'NA-Cu'.
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Descriptive Statistics

Variable	N	Mean	Median	TrMean	StDev	SEMean
HF-Cu	29	13.11	6.60	12.28	15.23	2.83
NA-Cu	29	11.59	6.80	11.05	12.90	2.40

Variable	Min	Max	Q1	Q3
HF-Cu	0.59	48.00	0.98	26.85
NA-Cu	0.22	37.40	0.73	26.30

MTB > Describe 'HF-Pb' 'NA-Pb'.

Descriptive Statistics

Variable	N	Mean	Median	TrMean	StDev	SEMean
HF-Pb	29	34.73	20.80	32.19	42.64	7.92
NA-Pb	29	36.73	16.30	34.67	43.14	8.01

Variable	Min	Max	Q1	Q3
HF-Pb	0.29	138.00	0.78	66.75
NA-Pb	0.12	129.00	1.45	82.20

MTB > Describe 'HF-Ni' 'NA-Ni'.

Descriptive Statistics

Variable	N	Mean	Median	TrMean	StDev	SEMean
HF-Ni	29	9.27	2.70	6.69	16.62	3.09
NA-Ni	29	4.461	2.600	4.140	4.900	0.910

Variable	Min	Max	Q1	Q3
HF-Ni	1.30	86.90	1.50	11.25
NA-Ni	0.670	16.900	0.890	7.800

MTB > Describe 'HF-Zn' 'NA-Zn'.

Descriptive Statistics

Variable	N	Mean	Median	TrMean	StDev	SEMean
HF-Zn	29	54.7	18.9	51.3	66.0	12.3
NA-Zn	29	48.9	28.6	46.4	55.8	10.4

Variable	Min	Max	Q1	Q3
HF-Zn	0.6	201.0	2.8	112.0
NA-Zn	0.3	163.0	2.2	107.0

MTB >

Table 3

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Worksheet size: 100000 cells


MTB > Retrieve  'P:\DAVID\NASP\METHODS.MTW'.
Retrieving worksheet from file: P:\DAVID\NASP\METHODS.MTW
Worksheet was saved on 12/ 3/1996
MTB > Mann-Whitney 95.0 'HF-Al' 'NA-Al';
SUBC>   Alternative 0.
```

Mann-Whitney Confidence Interval and Test

```
HF-Al       N =  29     Median =       3640.0
NA-Al       N =  29     Median =       3490.0
Point estimate for ETA1-ETA2 is         472.4
95.2 Percent C.I. for ETA1-ETA2 is (-1369.9,3852.1)
W = 910.0
Test of ETA1 = ETA2  vs.  ETA1 ~= ETA2 is significant at 0.4010

Cannot reject at alpha = 0.05

MTB > Mann-Whitney 95.0 'HF-As' 'NA-As';
SUBC>   Alternative 0.
```

Mann-Whitney Confidence Interval and Test

```
HF-As       N =  29     Median =        2.200
NA-As       N =  29     Median =        3.200
Point estimate for ETA1-ETA2 is         0.060
95.2 Percent C.I. for ETA1-ETA2 is (-2.491,1.561)
W = 866.5
Test of ETA1 = ETA2  vs.  ETA1 ~= ETA2 is significant at 0.8703
The test is significant at 0.8703 (adjusted for ties)

Cannot reject at alpha = 0.05

MTB > Mann-Whitney 95.0 'HF-Cd' 'NA-Cd';
SUBC>   Alternative 0.
```

Mann-Whitney Confidence Interval and Test

```
HF-Cd       N =  29     Median =        0.460
NA-Cd       N =  29     Median =        0.450
Point estimate for ETA1-ETA2 is         0.120
95.2 Percent C.I. for ETA1-ETA2 is (-0.100,0.280)
W = 956.0
Test of ETA1 = ETA2  vs.  ETA1 ~= ETA2 is significant at 0.1199
The test is significant at 0.1198 (adjusted for ties)

Cannot reject at alpha = 0.05

MTB > Mann-Whitney 95.0 'HF-Cr' 'NA-Cr';
SUBC>   Alternative 0.
```

Mann-Whitney Confidence Interval and Test

```
HF-Cr       N =  29     Median =        13.30
NA-Cr       N =  29     Median =        10.40
Point estimate for ETA1-ETA2 is          1.00
95.2 Percent C.I. for ETA1-ETA2 is (-8.39,18.01)
W = 899.5
Test of ETA1 = ETA2  vs.  ETA1 ~= ETA2 is significant at 0.4987
The test is significant at 0.4987 (adjusted for ties)

Cannot reject at alpha = 0.05

MTB > Mann-Whitney 95.0 'HF-Cu' 'NA-Cu';
SUBC>   Alternative 0.
```

Mann-Whitney Confidence Interval and Test

```
HF-Cu       N =  29     Median =        6.60
NA-Cu       N =  29     Median =        6.80
Point estimate for ETA1-ETA2 is         0.36
95.2 Percent C.I. for ETA1-ETA2 is (-3.64,5.20)
W = 889.0
Test of ETA1 = ETA2  vs.  ETA1 ~= ETA2 is significant at 0.6078
The test is significant at 0.6078 (adjusted for ties)

Cannot reject at alpha = 0.05

MTB > Mann-Whitney 95.0 'HF-Pb' 'NA-Pb';
SUBC>   Alternative 0.
```

Mann-Whitney Confidence Interval and Test

```
HF-Pb       N =  29     Median =        20.80
NA-Pb       N =  29     Median =        16.30
Point estimate for ETA1-ETA2 is         -0.43
95.2 Percent C.I. for ETA1-ETA2 is (-13.90,9.69)
W = 833.5
Test of ETA1 = ETA2  vs.  ETA1 ~= ETA2 is significant at 0.7381
The test is significant at 0.7381 (adjusted for ties)

Cannot reject at alpha = 0.05

MTB > Mann-Whitney 95.0 'HF-Ni' 'NA-Ni';
SUBC>   Alternative 0.
```

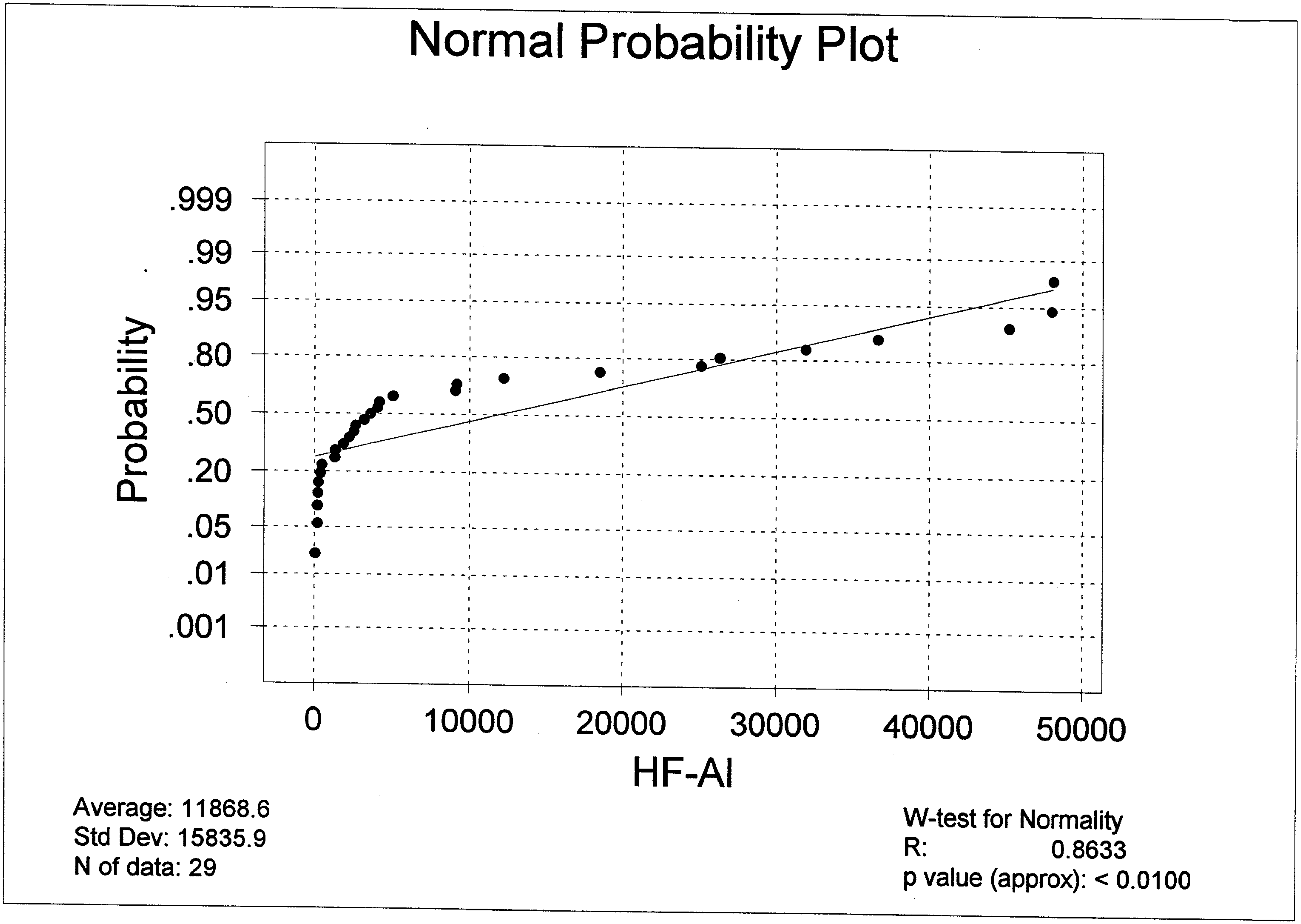
Mann-Whitney Confidence Interval and Test

```
HF-Ni       N =  29     Median =        2.700
NA-Ni       N =  29     Median =        2.600
Point estimate for ETA1-ETA2 is         0.700
95.2 Percent C.I. for ETA1-ETA2 is (-0.301,2.788)
W = 969.5
Test of ETA1 = ETA2  vs.  ETA1 ~= ETA2 is significant at 0.0776
The test is significant at 0.0775 (adjusted for ties)

Cannot reject at alpha = 0.05

MTB > Mann-Whitney 95.0 'HF-Zn' 'NA-Zn';
SUBC>   Alternative 0.
```

Mann-Whitney Confidence Interval and Test

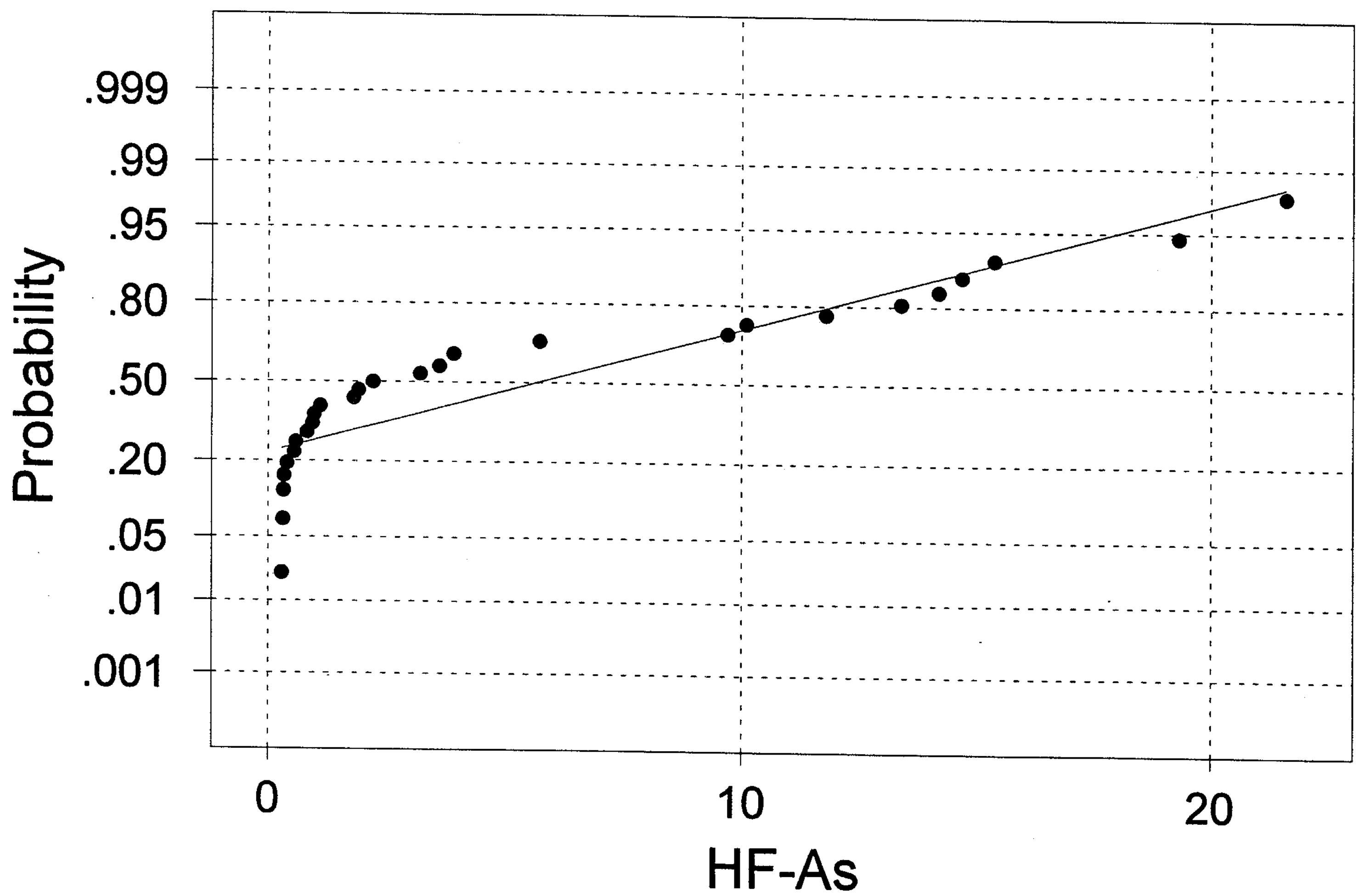
```
HF-Zn       N =  29     Median =        18.90
NA-Zn       N =  29     Median =        28.60
Point estimate for ETA1-ETA2 is          1.00
95.2 Percent C.I. for ETA1-ETA2 is (-15.11,18.31)
W = 882.5
Test of ETA1 = ETA2  vs.  ETA1 ~= ETA2 is significant at 0.6803
The test is significant at 0.6802 (adjusted for ties)

Cannot reject at alpha = 0.05

MTB >
```

Figures 1-17 Normal Probability Plots



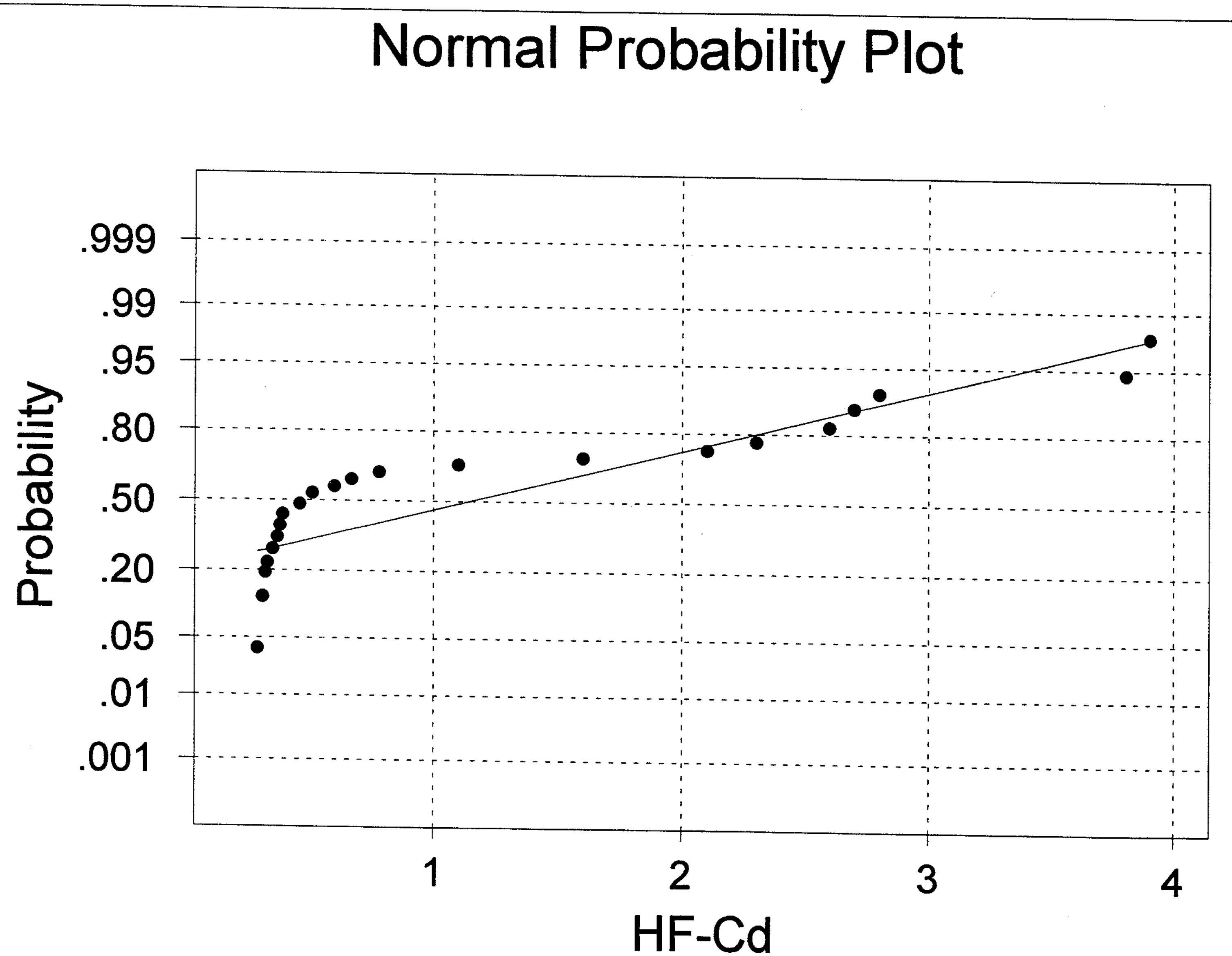
Normal Probability Plot
Probability
.999
.99
.95
.80
.50
.20
.05
.01
.001
0
10000
20000
30000
40000
50000
HF-Al
Average: 11868.6
Std Dev: 15835.9
N of data: 29
W-test for Normality
R: 0.8633
p value (approx): < 0.0100

Normal Probability Plot



Average: 5.63172
Std Dev: 6.5243
N of data: 29

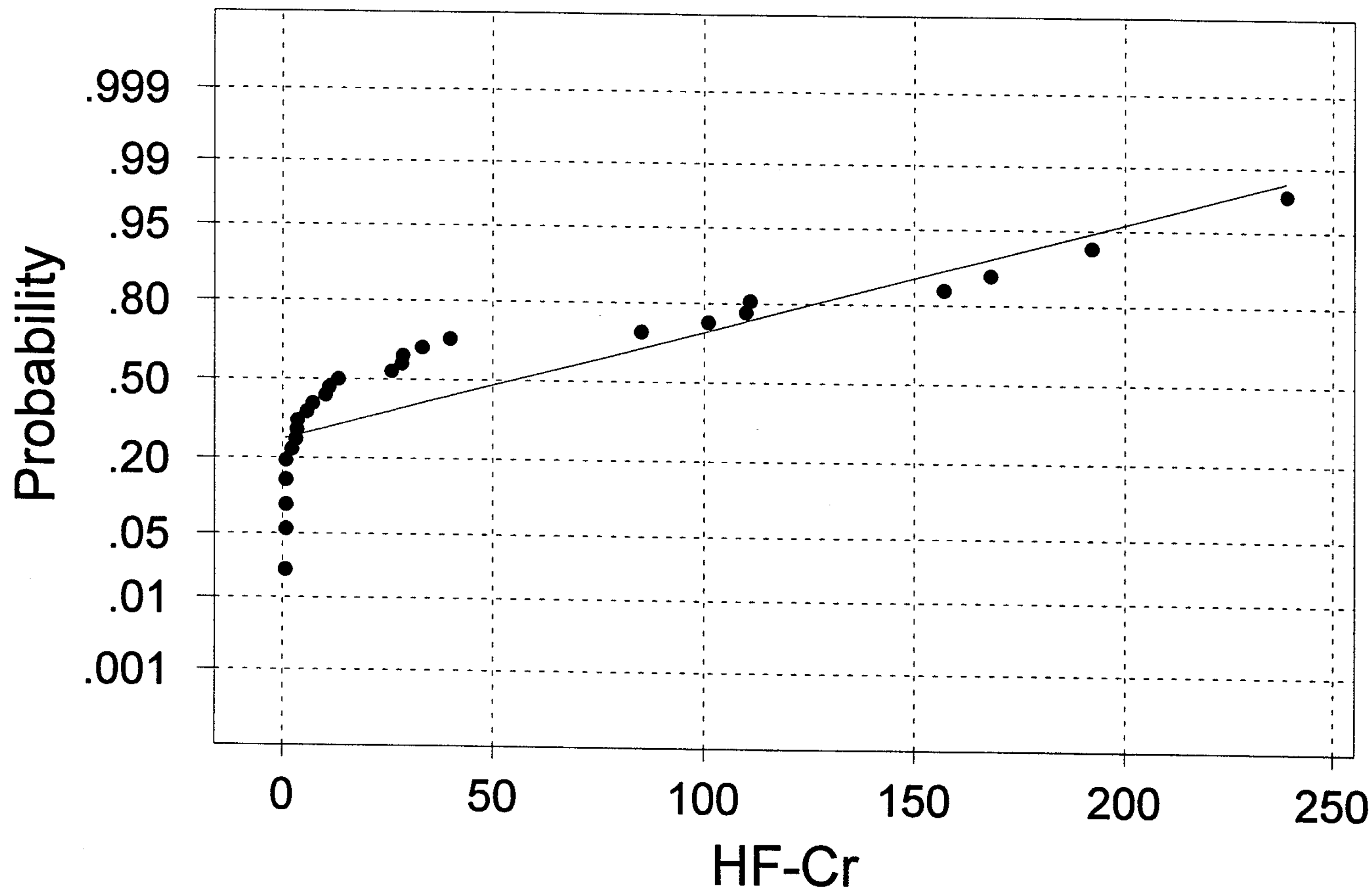
W-test for Normality
R: 0.8970
p value (approx): < 0.0100



Average: 1.15034
Std Dev: 1.14931
N of data: 29

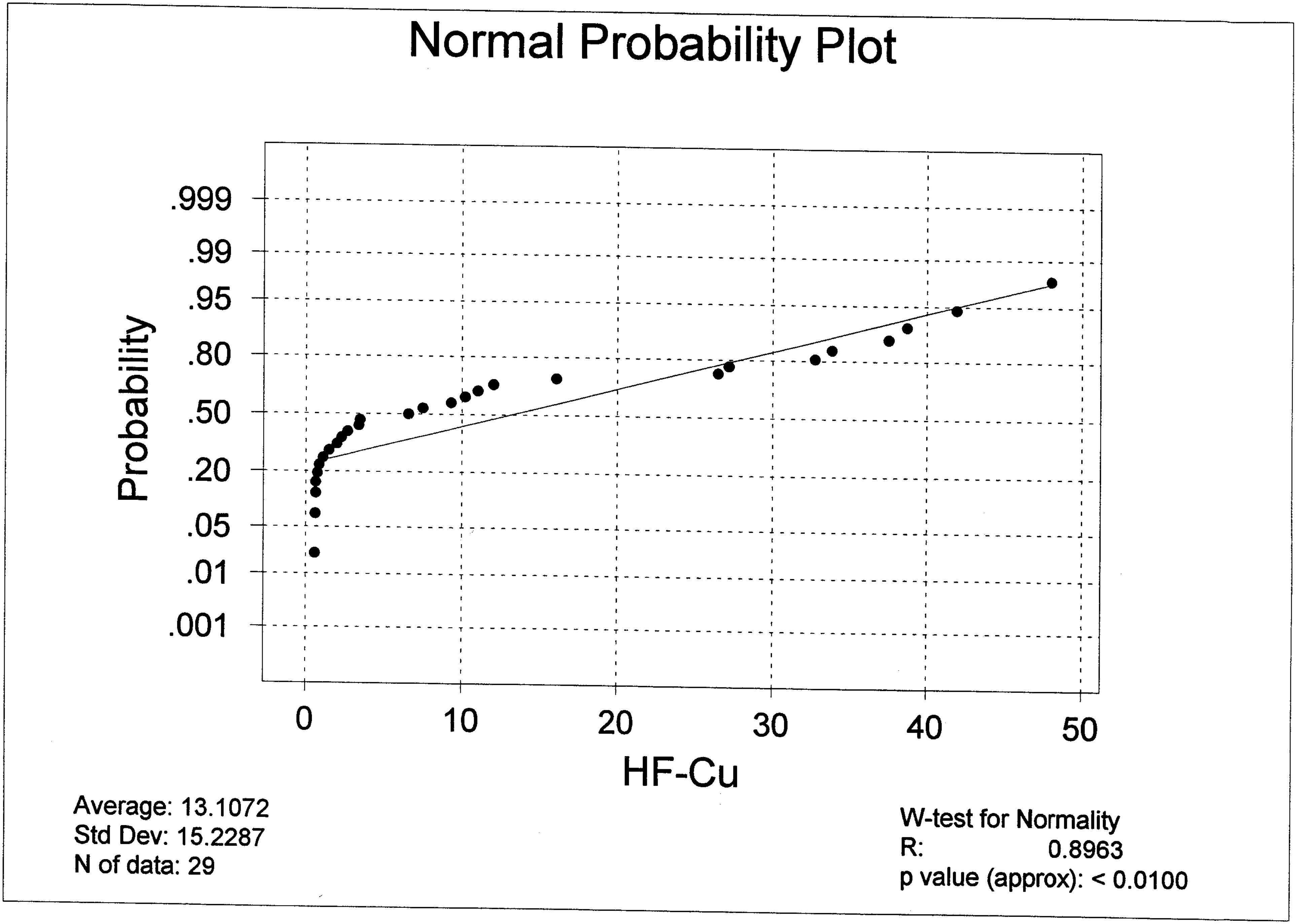
W-test for Normality
R: 0.8733
p value (approx): < 0.0100

Normal Probability Plot



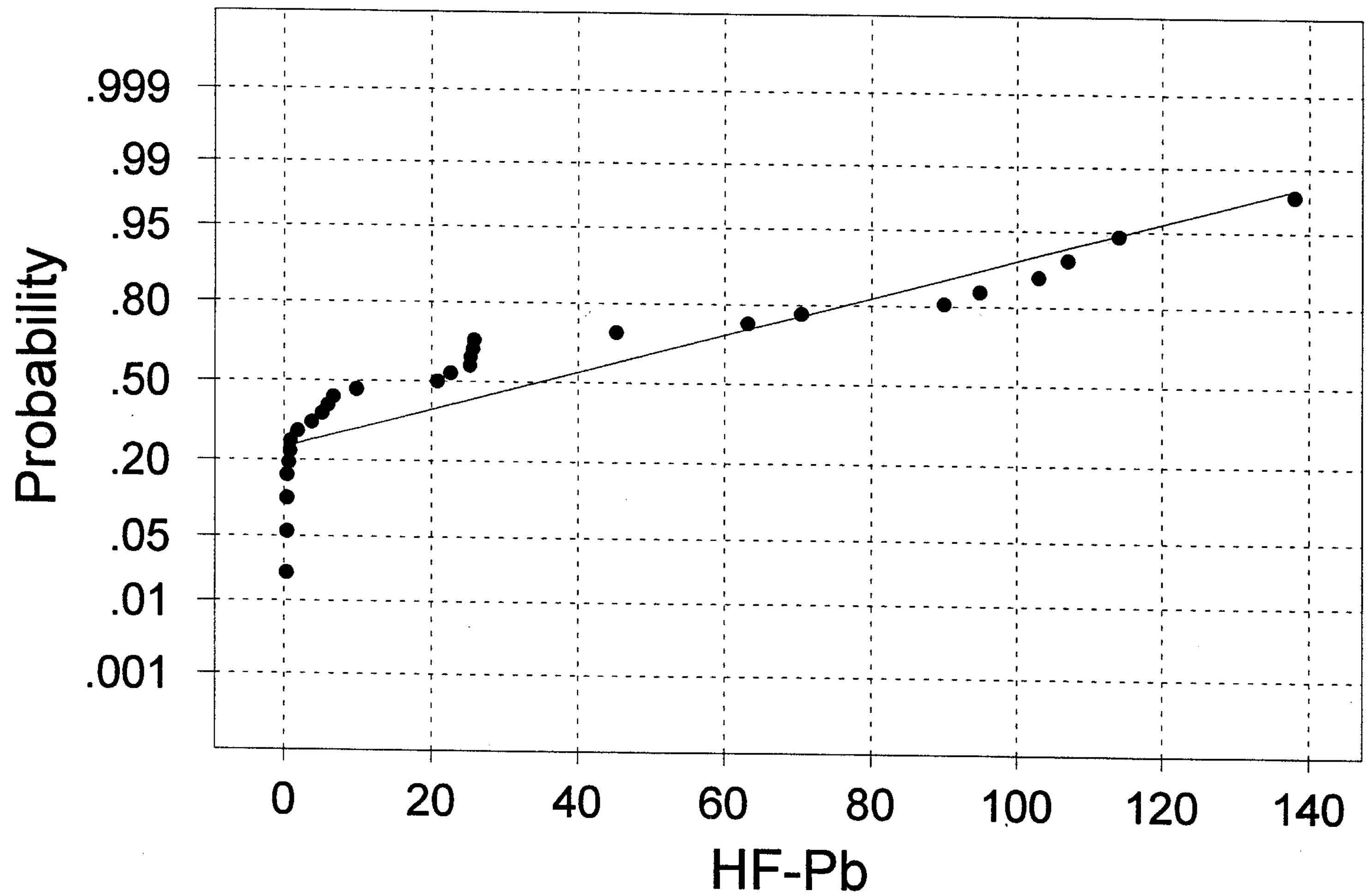
Average: 54.3714
Std Dev: 72.0588
N of data: 29

W-test for Normality
R: 0.8735
p value (approx): < 0.0100



Normal Probability Plot
Probability
.999
.99
.95
.80
.50
.20
.05
.01
.001
0
10
20
30
40
50
HF-Cu
Average: 13.1072
Std Dev: 15.2287
N of data: 29
W-test for Normality
R: 0.8963
p value (approx): < 0.0100

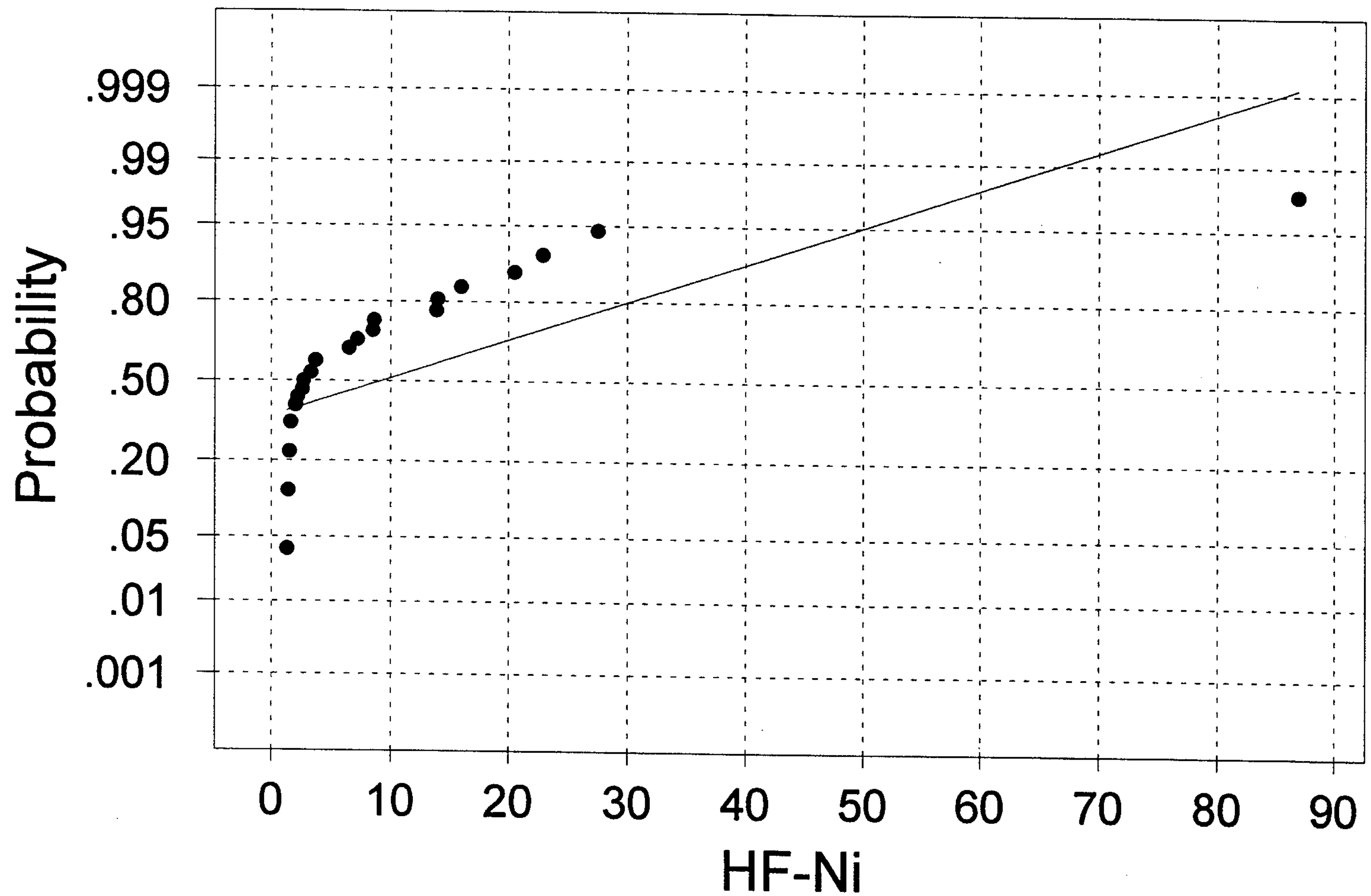
Normal Probability Plot



Average: 34.7348
Std Dev: 42.6439
N of data: 29

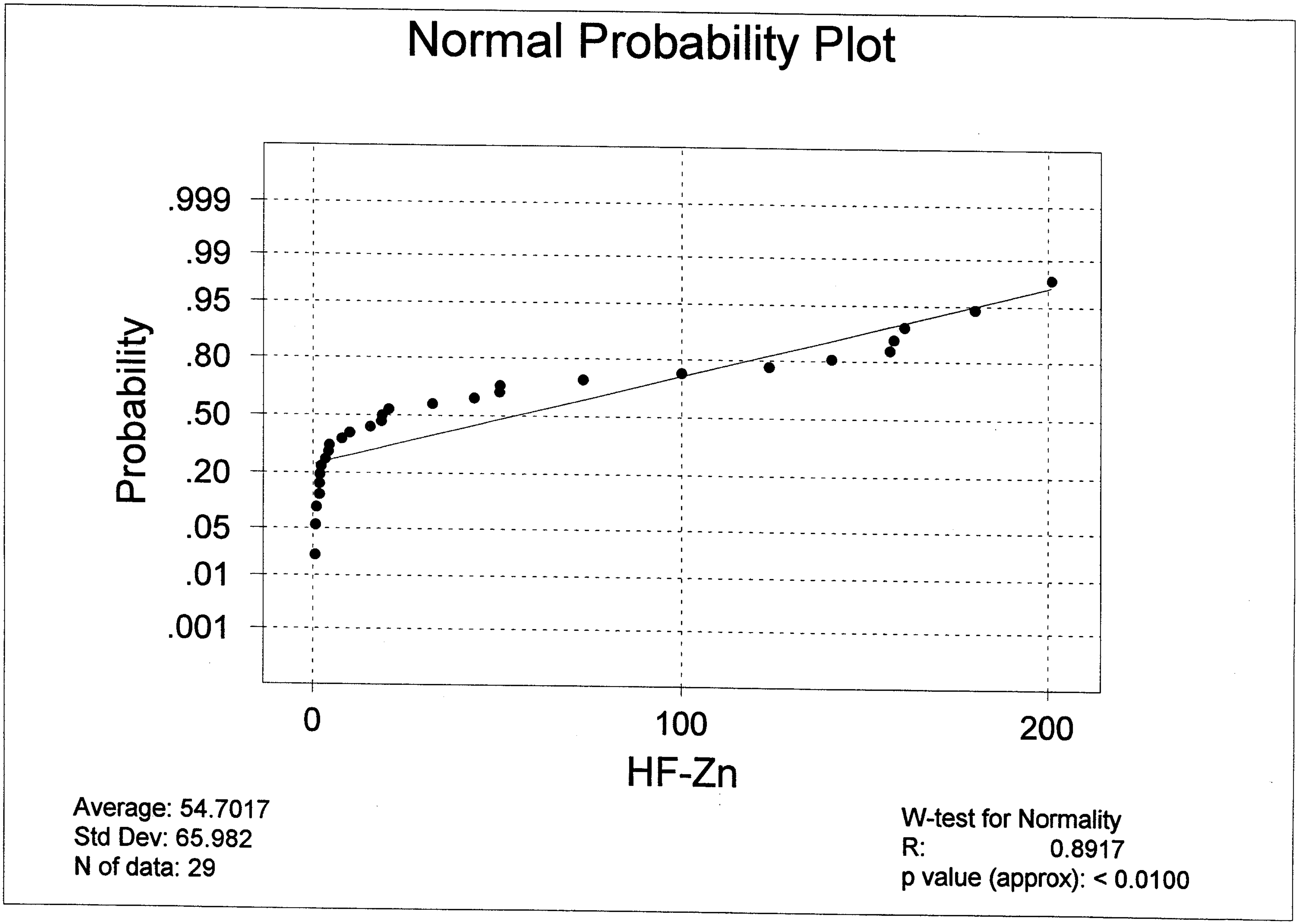
W-test for Normality
R: 0.8931
p value (approx): < 0.0100

Normal Probability Plot



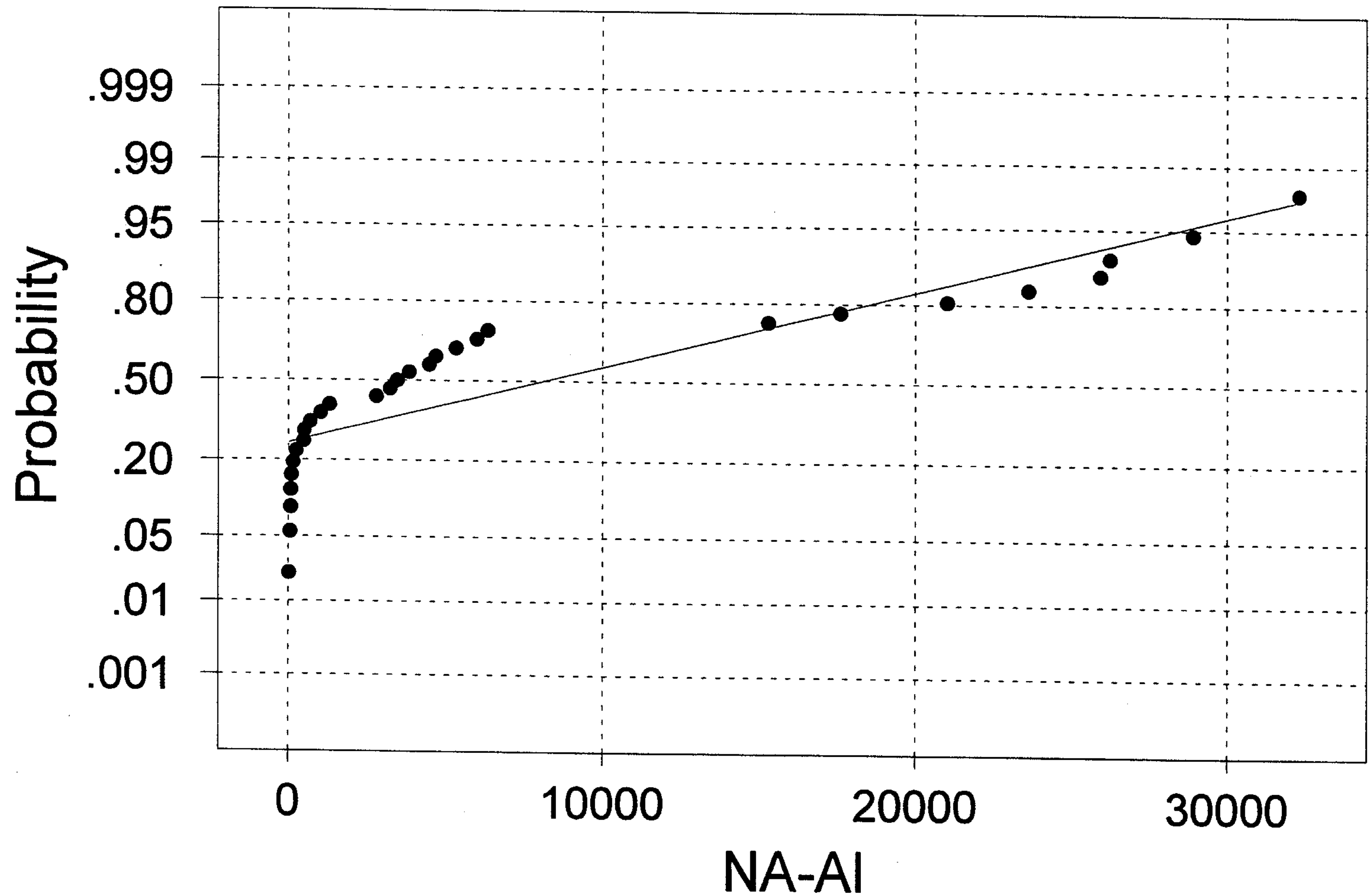
Average: 9.26897
Std Dev: 16.6169
N of data: 29

W-test for Normality
R: 0.7006
p value (approx): < 0.0100



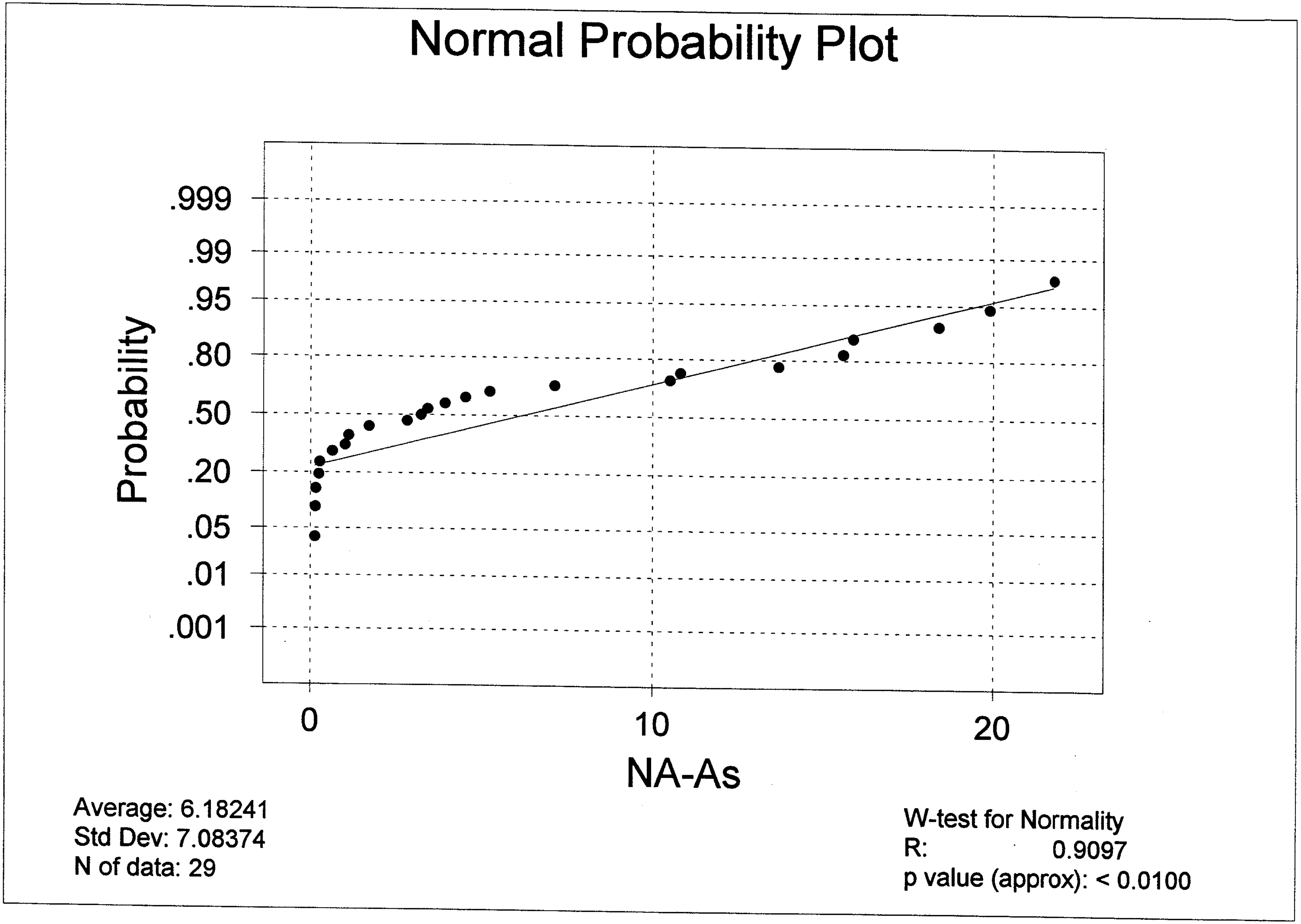
Normal Probability Plot
Probability
.999
.99
.95
.80
.50
.20
.05
.01
.001
0
100
200
HF-Zn
Average: 54.7017
Std Dev: 65.982
N of data: 29
W-test for Normality
R: 0.8917
p value (approx): < 0.0100

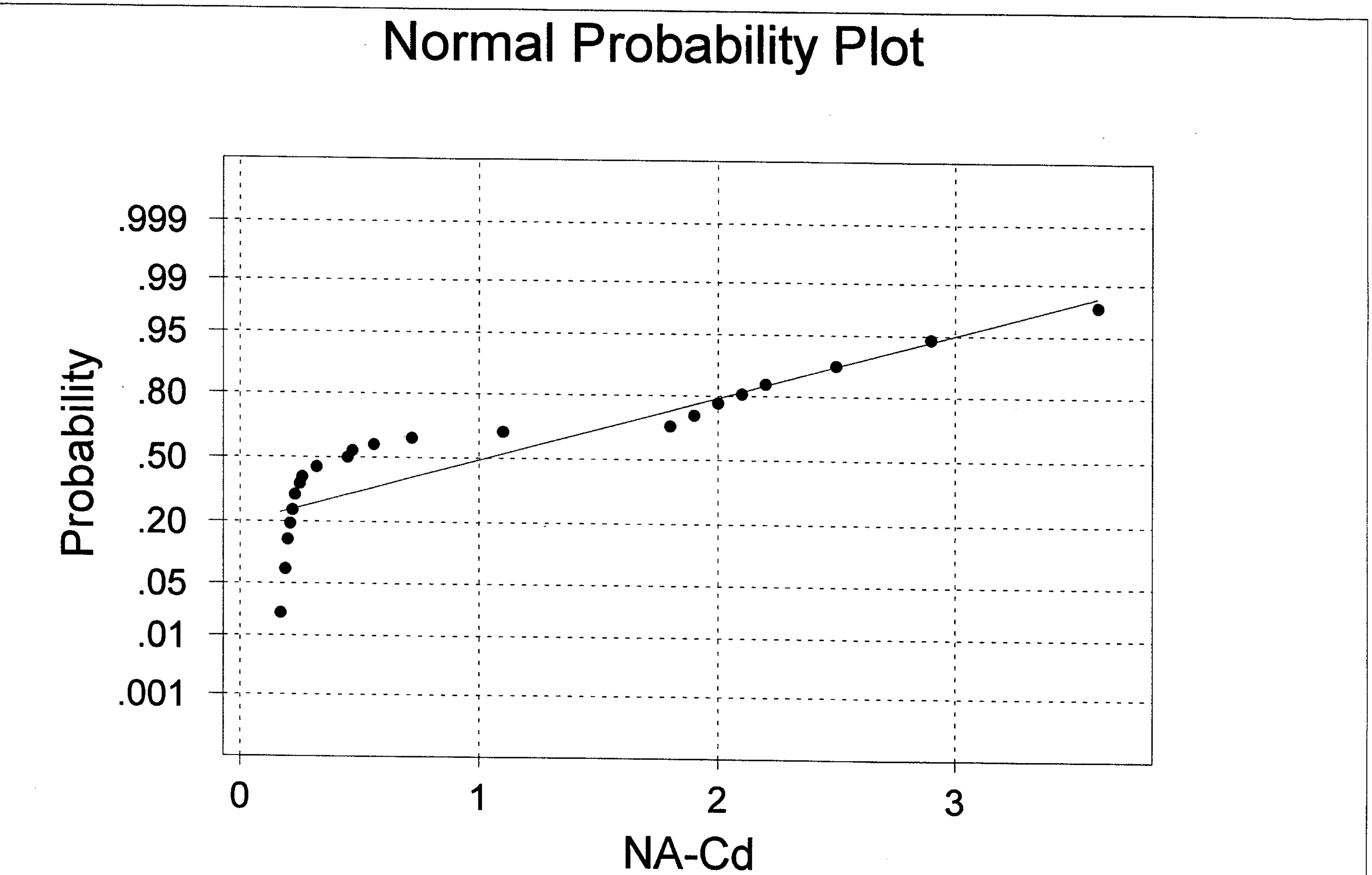
Normal Probability Plot



Average: 8133.71
Std Dev: 10447.5
N of data: 29

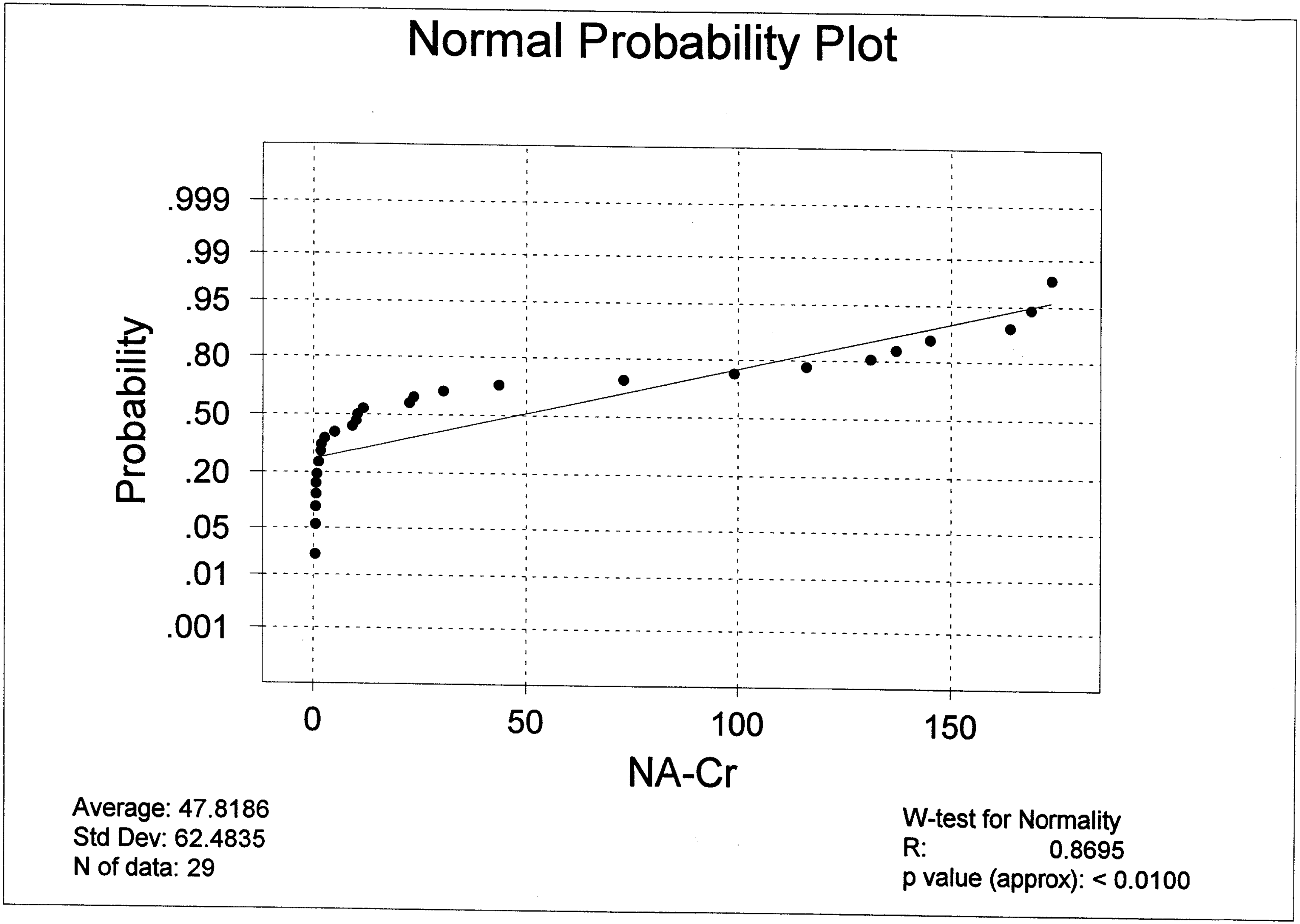
W-test for Normality
R: 0.8747
p value (approx): < 0.0100

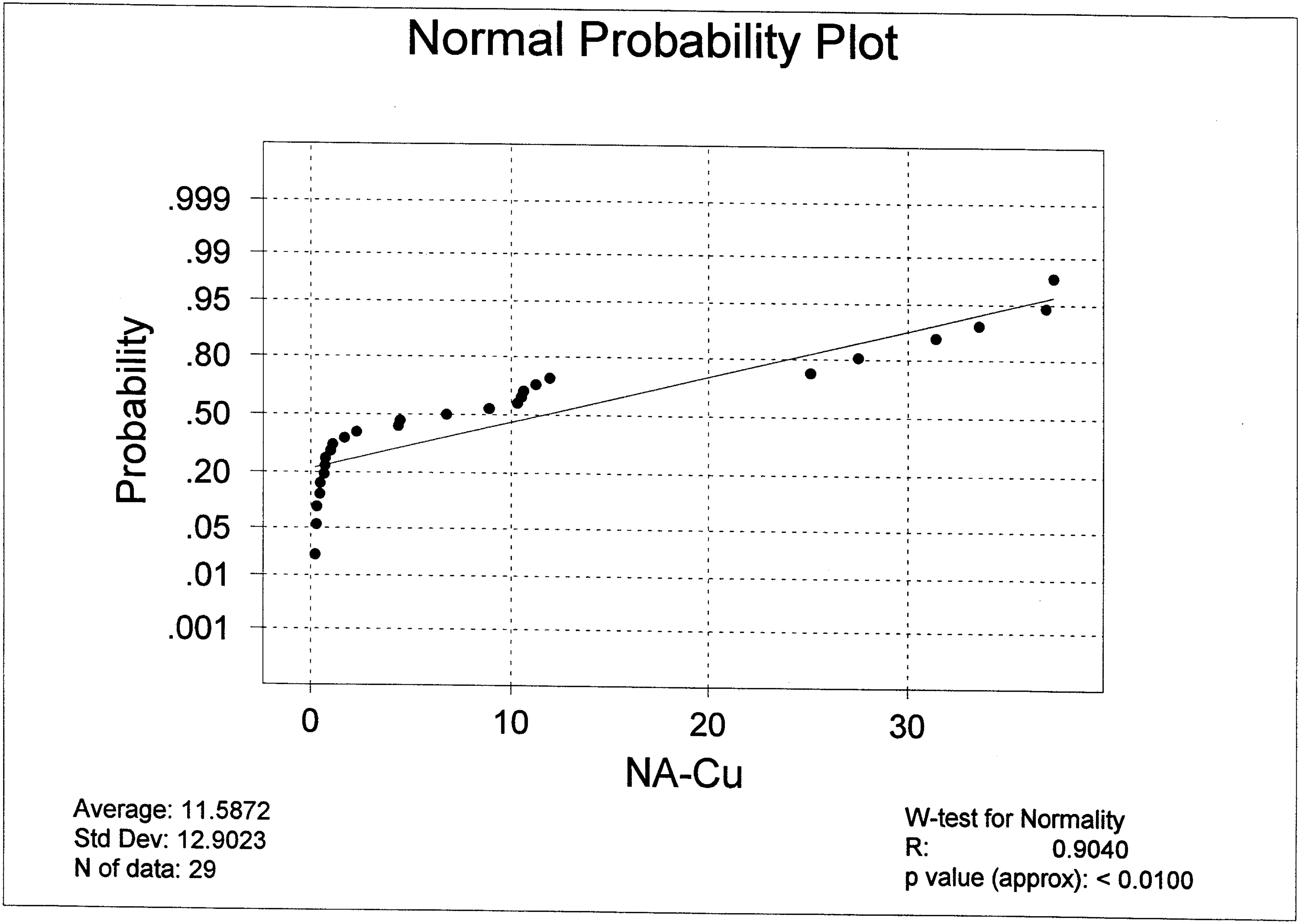

Normal Probability Plot
Probability
.999
.99
.95
.80
.50
.20
.05
.01
.001
0
10
20
NA-As
Average: 6.18241
Std Dev: 7.08374
N of data: 29
W-test for Normality
R: 0.9097
p value (approx): < 0.0100

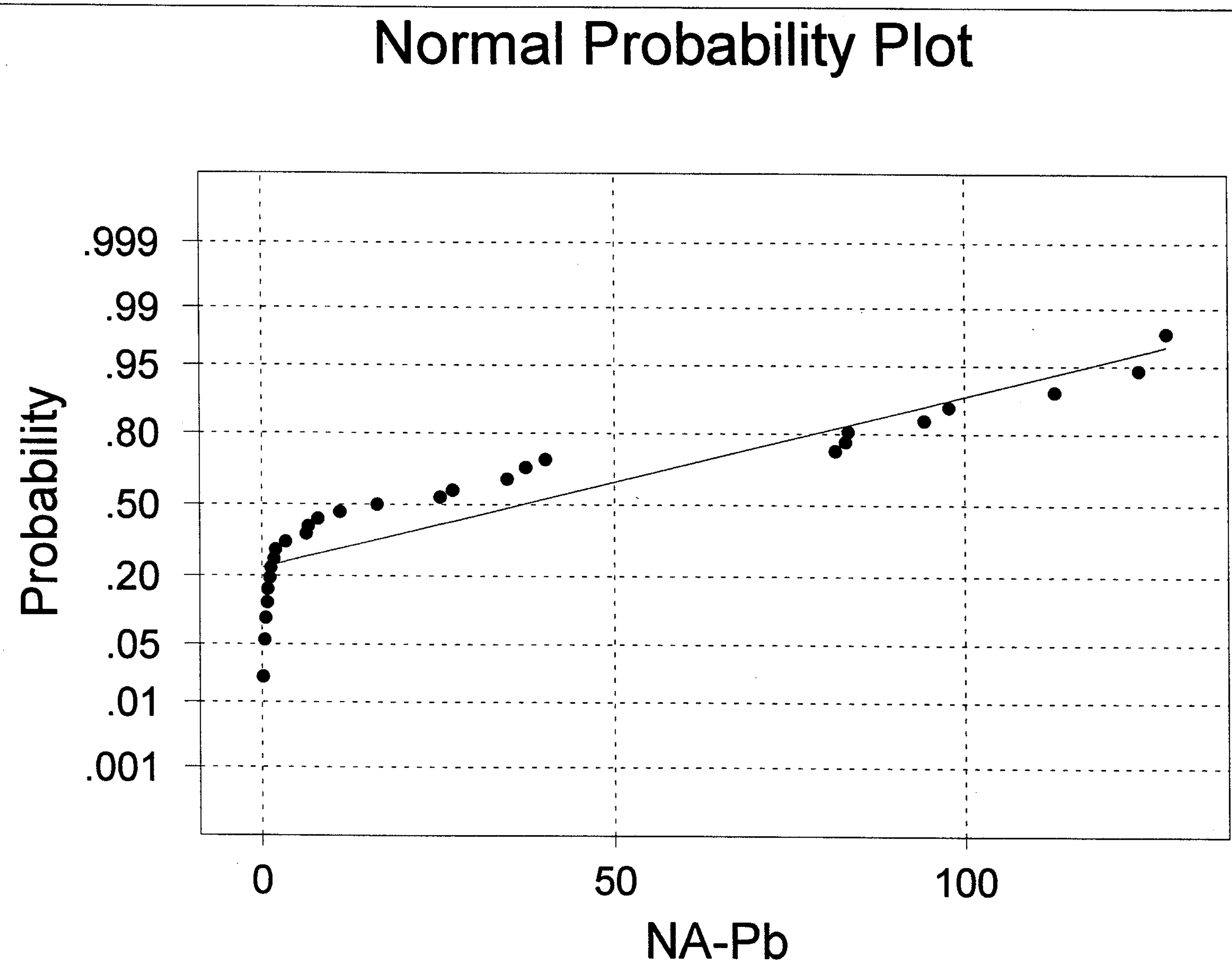


Average: 1.03138
Std Dev: 1.0344
N of data: 29

W-test for Normality
R: 0.8949
p value (approx): < 0.0100

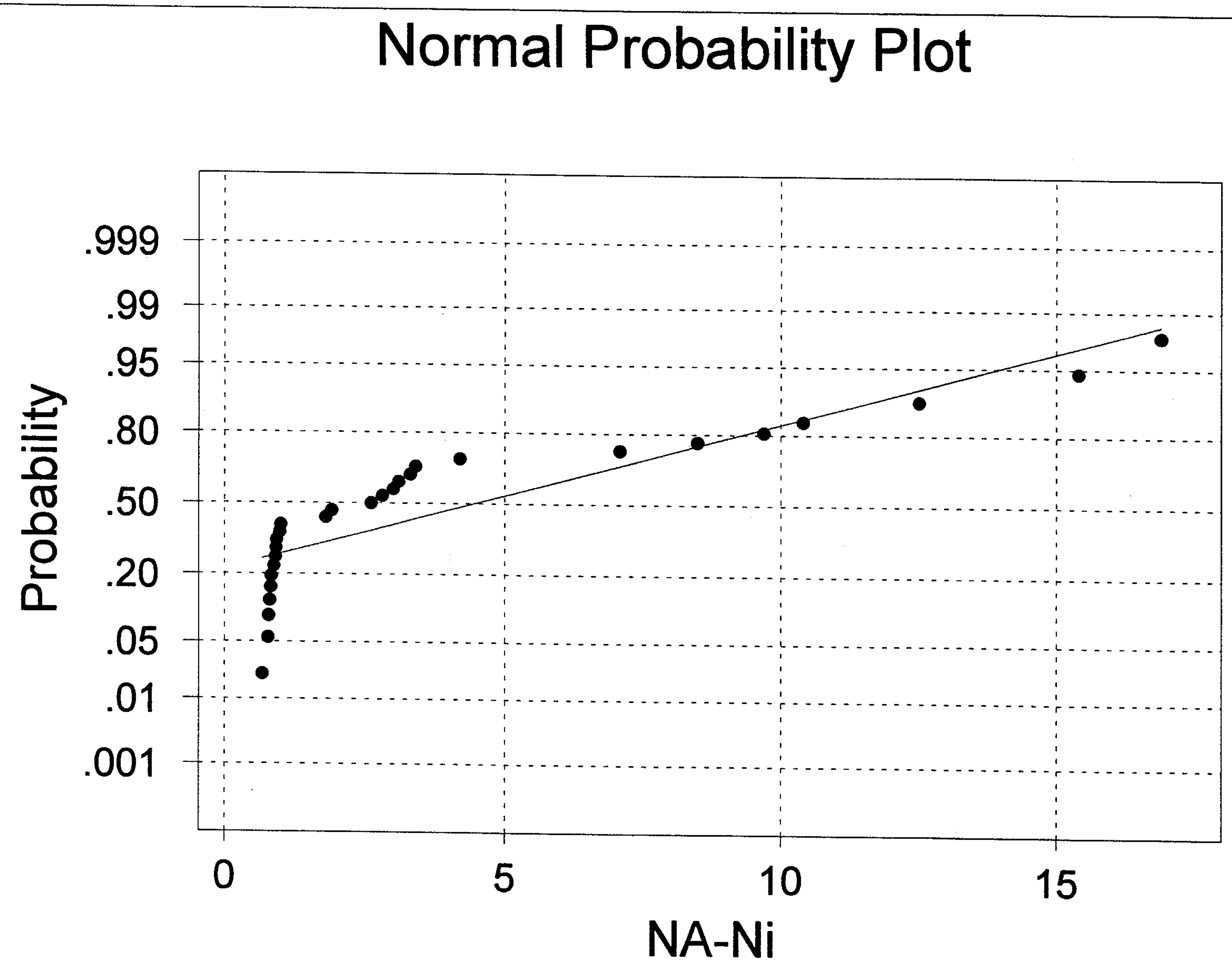

Normal Probability Plot
.999
.99
.95
.80
.50
.20
.05
.01
.001
Probability
0
50
100
150
NA-Cr
Average: 47.8186
Std Dev: 62.4835
N of data: 29
W-test for Normality
R: 0.8695
p value (approx): < 0.0100


Normal Probability Plot
Probability
.999
.99
.95
.80
.50
.20
.05
.01
.001
0
10
20
30
NA-Cu
Average: 11.5872
Std Dev: 12.9023
N of data: 29
W-test for Normality
R: 0.9040
p value (approx): < 0.0100



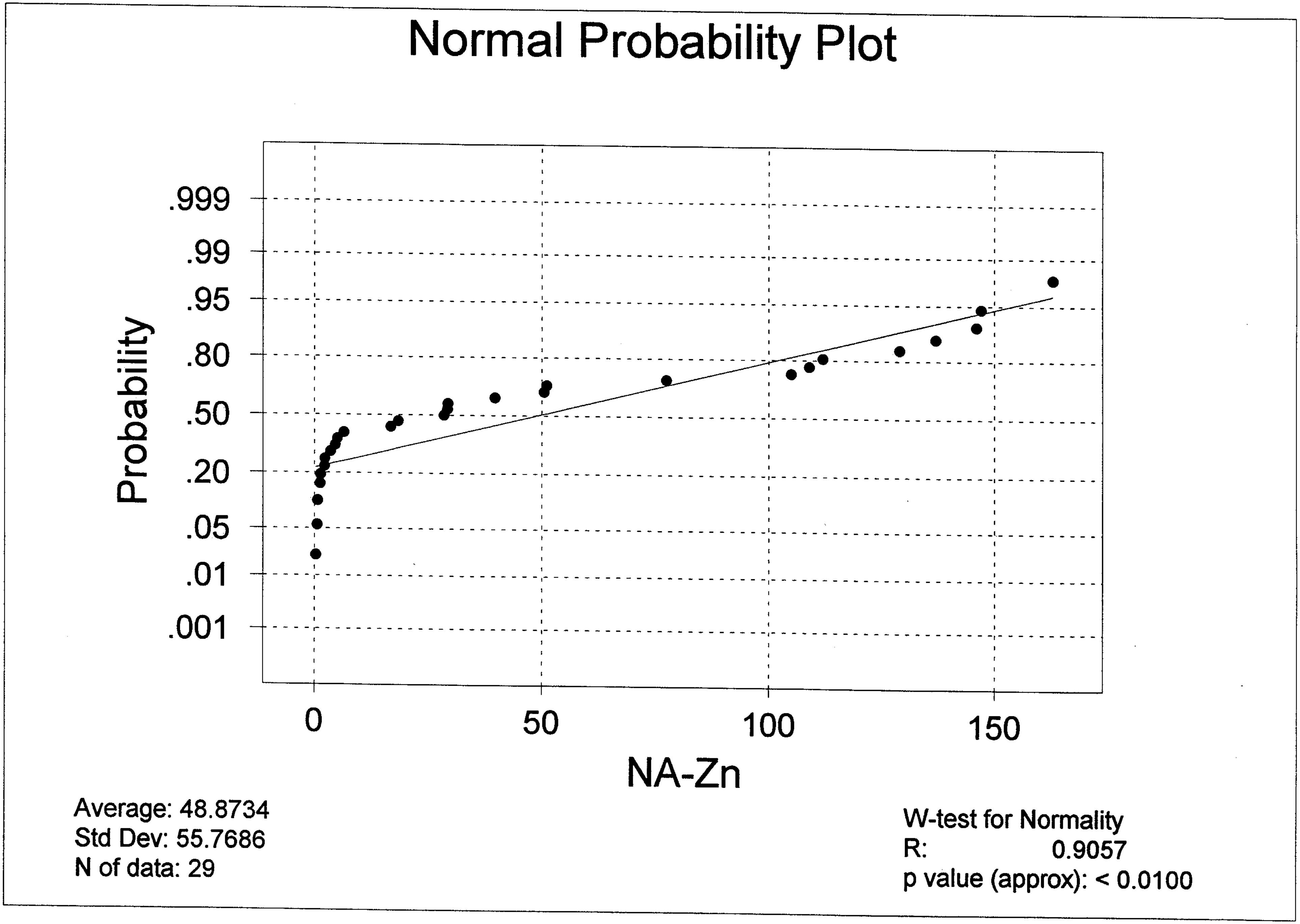
Average: 36.7276
Std Dev: 43.1396
N of data: 29

W-test for Normality
R: 0.9009
p value (approx): < 0.0100



Average: 4.46069
Std Dev: 4.89958
N of data: 29

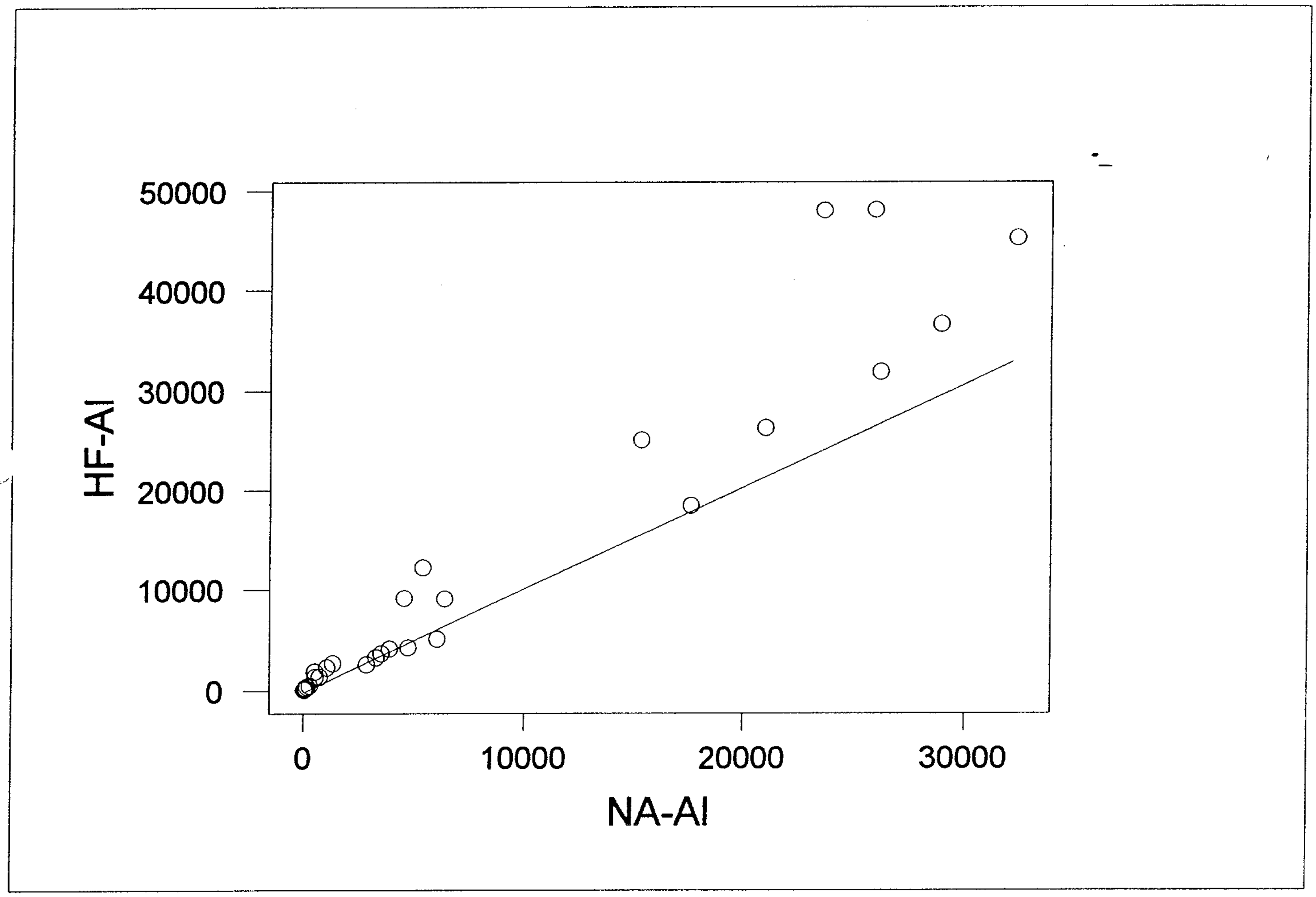
W-test for Normality
R: 0.8771
p value (approx): < 0.0100


Normal Probability Plot
Probability
.999
.99
.95
.80
.50
.20
.05
.01
.001
0
50
100
150
NA-Zn
Average: 48.8734
Std Dev: 55.7686
N of data: 29
W-test for Normality
R: 0.9057
p value (approx): < 0.0100

Quantiles of the Shapiro-Wilk W Test for Normality (Values of W Such That $100p\%$ of the Distribution of W Is Less Than W_p)

n	$W_{0.01}$	$W_{0.02}$	$W_{0.05}$	$W_{0.10}$	$W_{0.50}$
3	0.753	0.756	0.767	0.789	0.959
4	0.687	0.707	0.748	0.792	0.935
5	0.686	0.715	0.762	0.806	0.927
6	0.713	0.743	0.788	0.826	0.927
7	0.730	0.760	0.803	0.838	0.928
8	0.749	0.778	0.818	0.851	0.932
9	0.764	0.791	0.829	0.859	0.935
10	0.781	0.806	0.842	0.869	0.938
11	0.792	0.817	0.850	0.876	0.940
12	0.805	0.828	0.859	0.883	0.943
13	0.814	0.837	0.866	0.889	0.945
14	0.825	0.846	0.874	0.895	0.947
15	0.835	0.855	0.881	0.901	0.950
16	0.844	0.863	0.887	0.906	0.952
17	0.851	0.869	0.892	0.910	0.954
18	0.858	0.874	0.897	0.914	0.956
19	0.863	0.879	0.901	0.917	0.957
20	0.868	0.884	0.905	0.920	0.959
21	0.873	0.888	0.908	0.923	0.960
22	0.878	0.892	0.911	0.926	0.961
23	0.881	0.895	0.914	0.928	0.962
24	0.884	0.898	0.916	0.930	0.963
25	0.888	0.901	0.918	0.931	0.964
26	0.891	0.904	0.920	0.933	0.965
27	0.894	0.906	0.923	0.935	0.965
28	0.896	0.908	0.924	0.936	0.966
29	0.898	0.910	0.926	0.937	0.966
30	0.900	0.912	0.927	0.939	0.967
31	0.902	0.914	0.929	0.940	0.967
32	0.904	0.915	0.930	0.941	0.968
33	0.906	0.917	0.931	0.942	0.968
34	0.908	0.919	0.933	0.943	0.969
35	0.910	0.920	0.934	0.944	0.969
36	0.912	0.922	0.935	0.945	0.970
37	0.914	0.924	0.936	0.946	0.970
38	0.916	0.925	0.938	0.947	0.971
39	0.917	0.927	0.939	0.948	0.971
40	0.919	0.928	0.940	0.949	0.972
41	0.920	0.929	0.941	0.950	0.972
42	0.922	0.930	0.942	0.951	0.972
43	0.923	0.932	0.943	0.951	0.973
44	0.924	0.933	0.944	0.952	0.973
45	0.926	0.934	0.945	0.953	0.973
46	0.927	0.935	0.945	0.953	0.974
47	0.928	0.936	0.946	0.954	0.974
48	0.929	0.937	0.947	0.954	0.974
49	0.929	0.937	0.947	0.955	0.974
50	0.930	0.938	0.947	0.955	0.974

Source: After Shapiro and Wilk, 1965.
The null hypothesis of a normal distribution is rejected at the α significance level if the calculated W is less than W_α.
This table is used in Section 12.3.1.



50000
40000
30000
20000
10000
0
HF-Al
0
10000
20000
30000
NA-Al

FIGURE 18

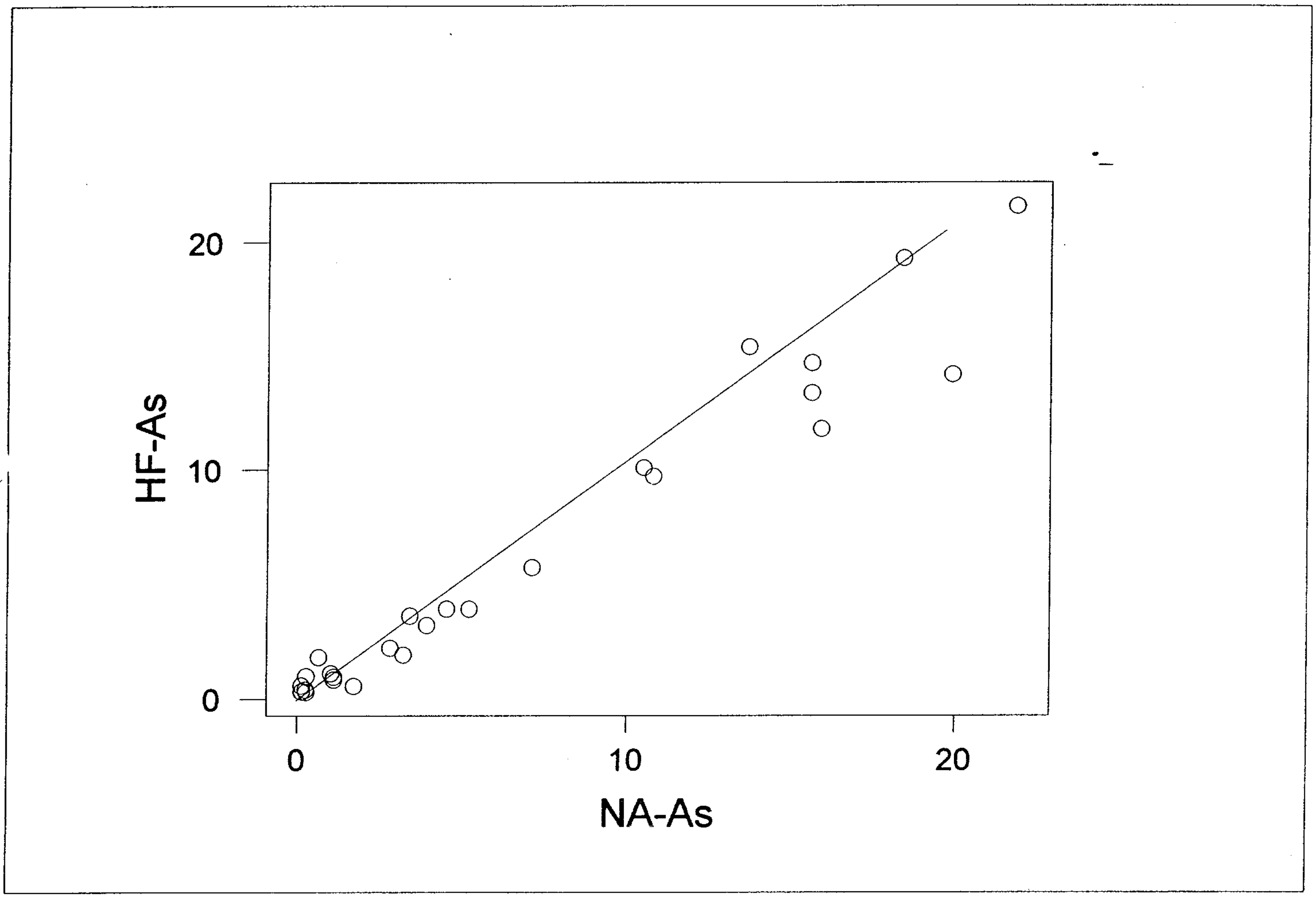
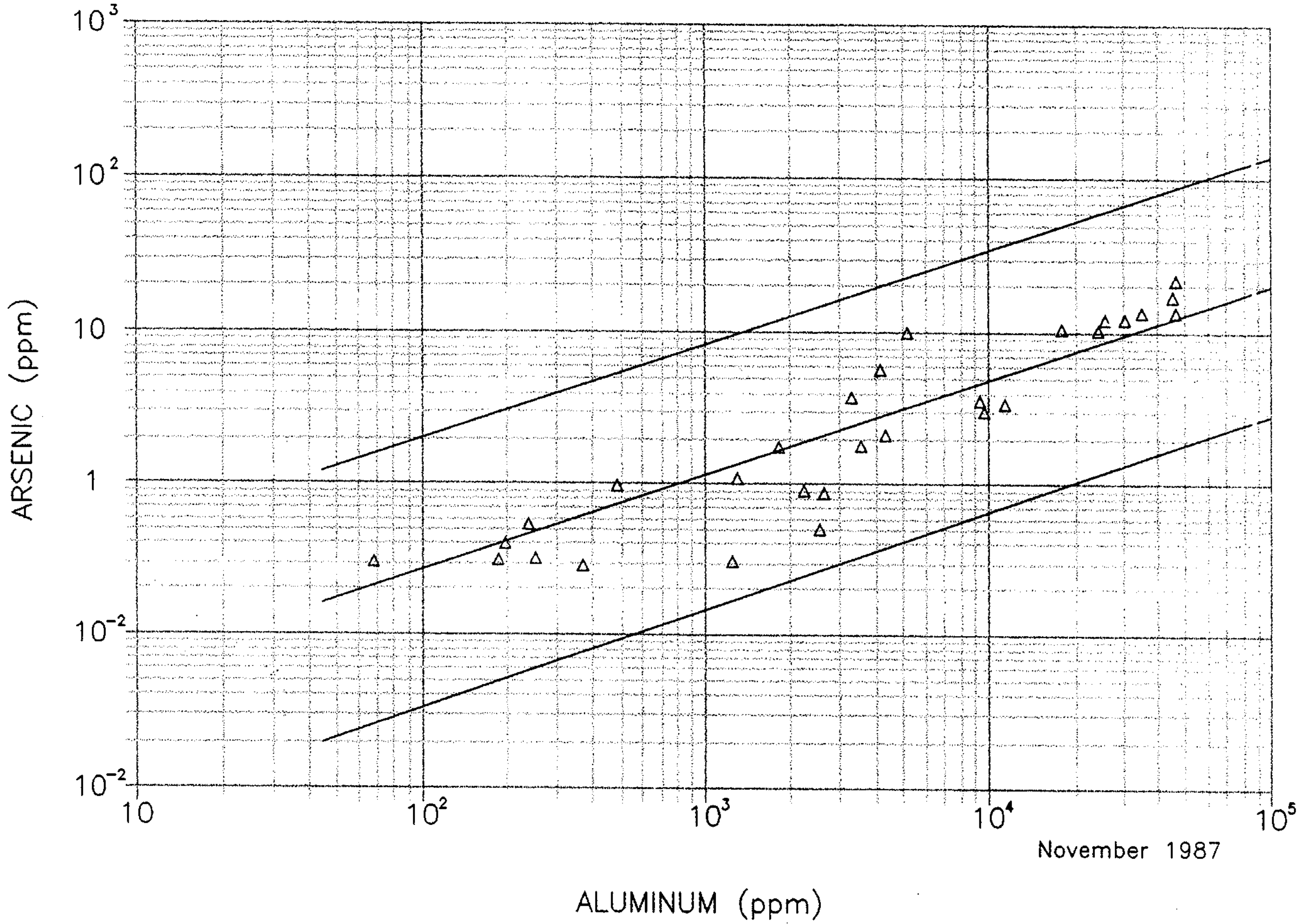


FIGURE 19

ARSENIC/ALUMINUM



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

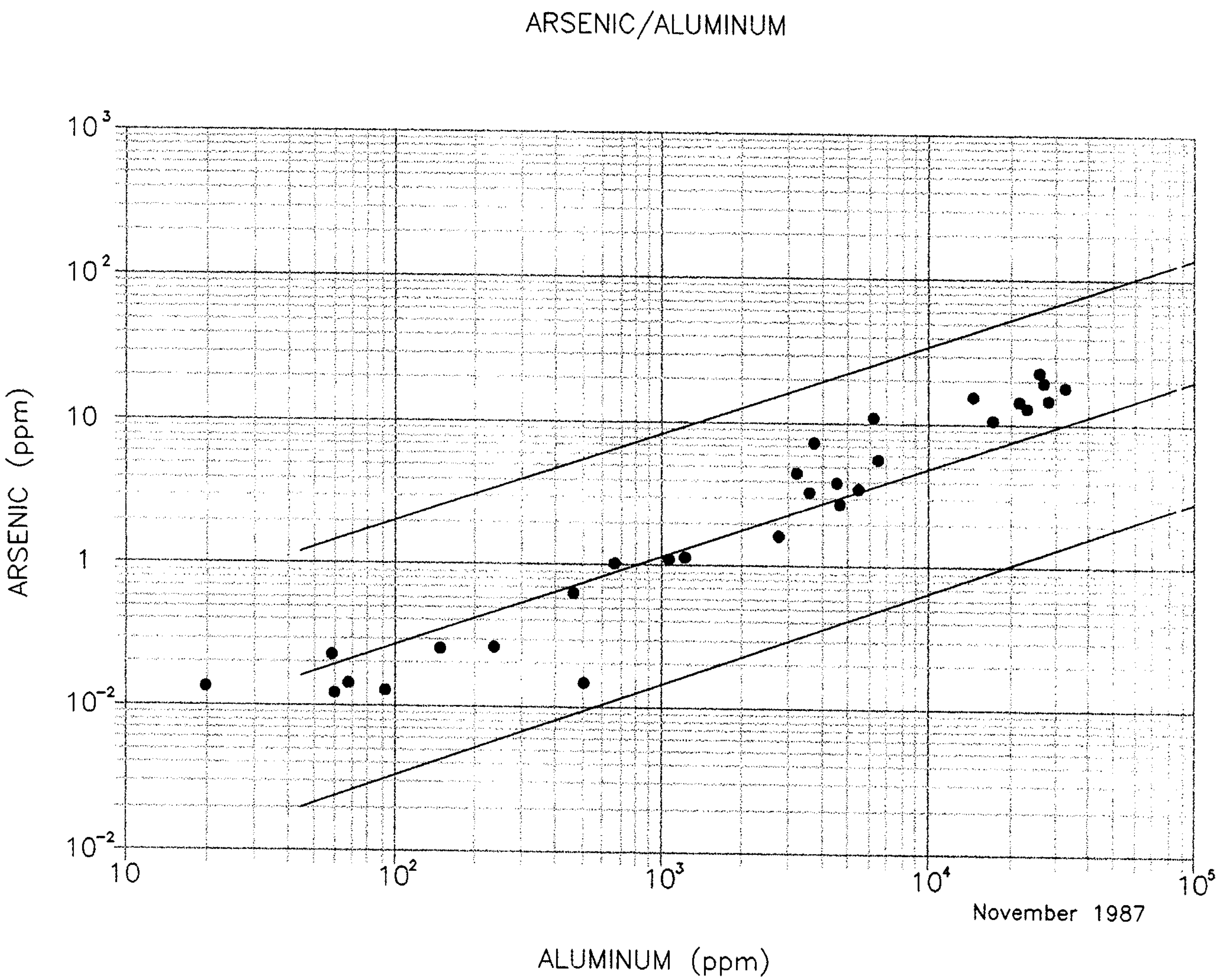
△ HF

SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND

FIGURE 20

ARSENIC/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/07/96	DWG NAME: 36AA2



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

● NA

FIGURE 21

ARSENIC/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/07/96	DWG NAME: 36AA1

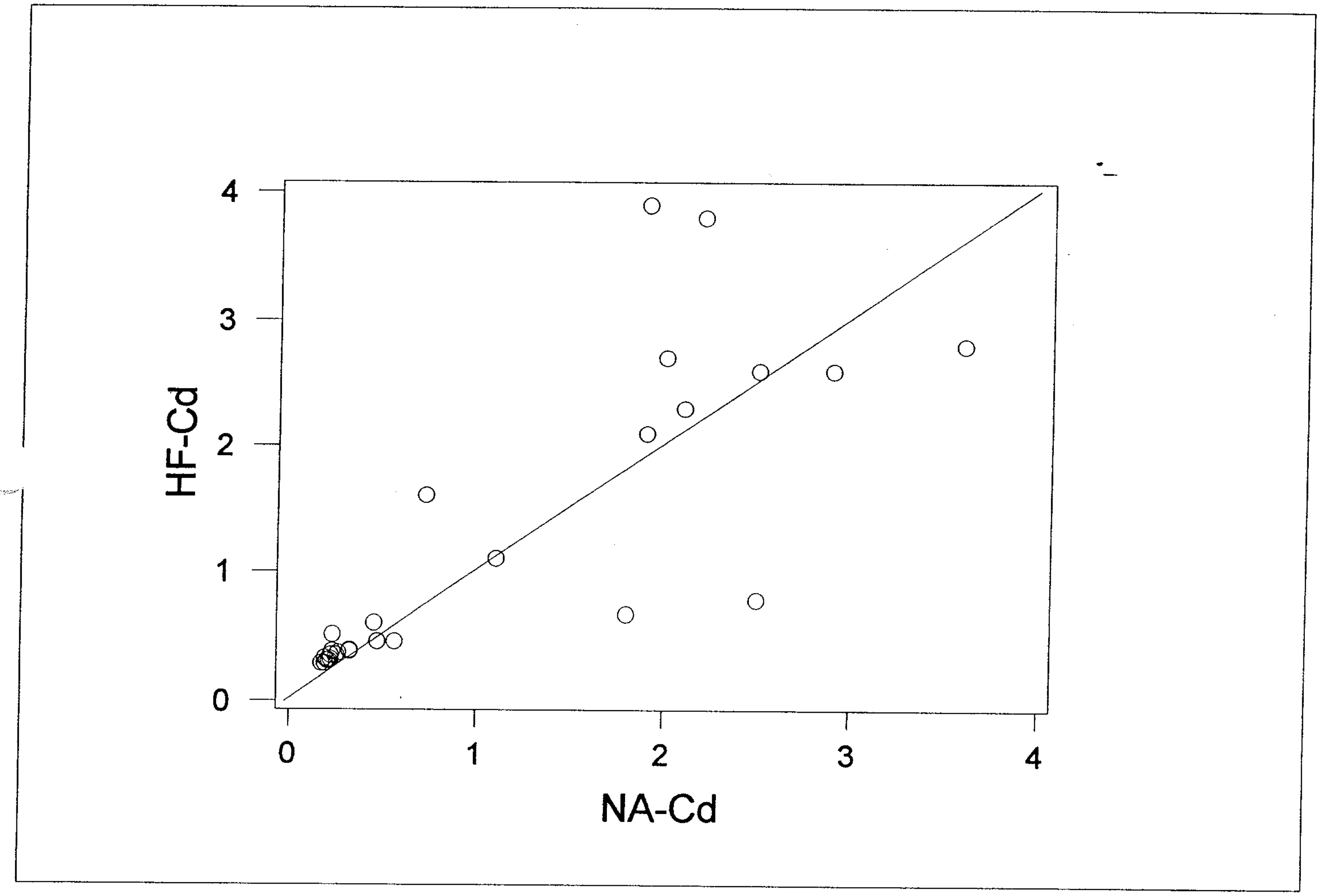
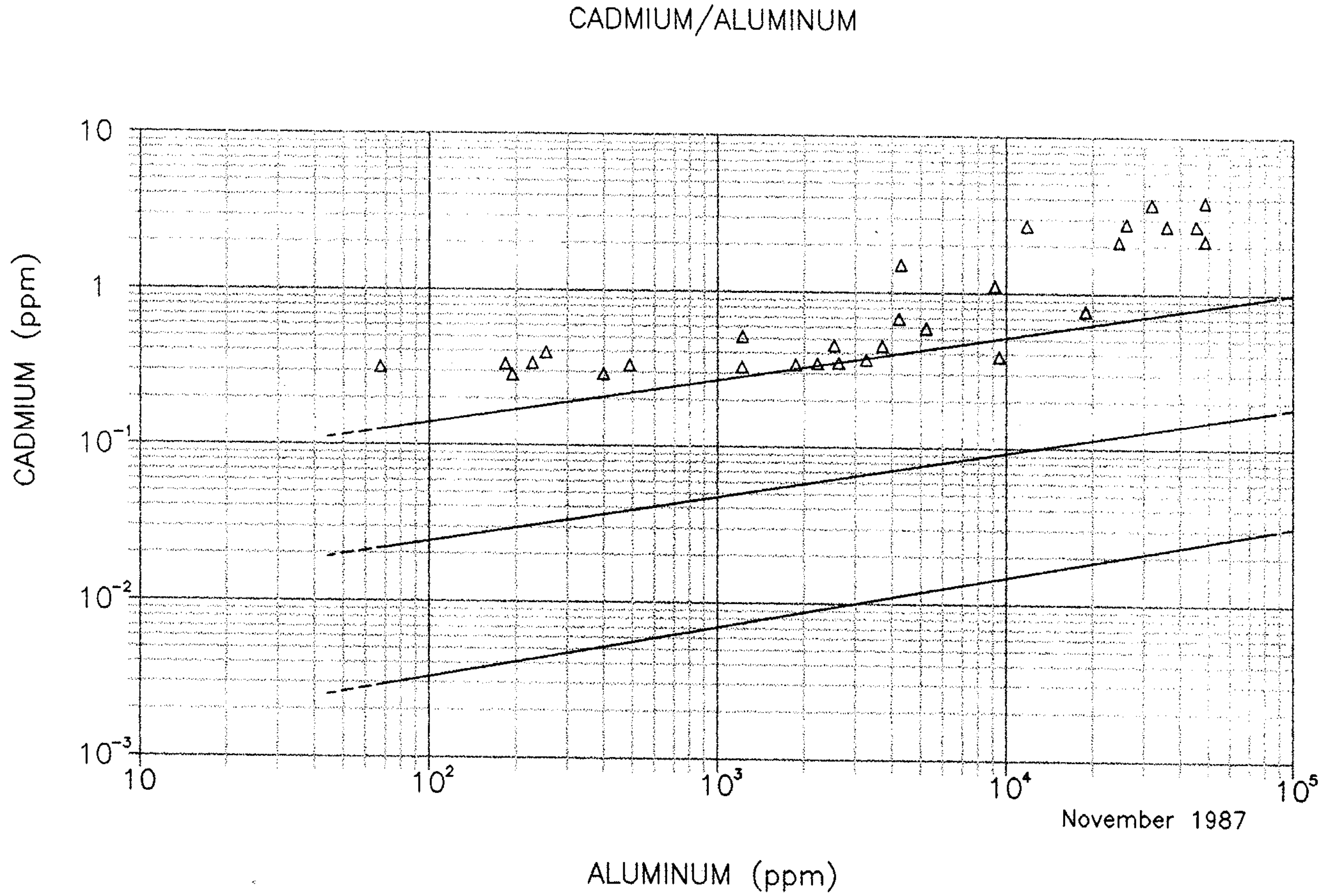


FIGURE 22



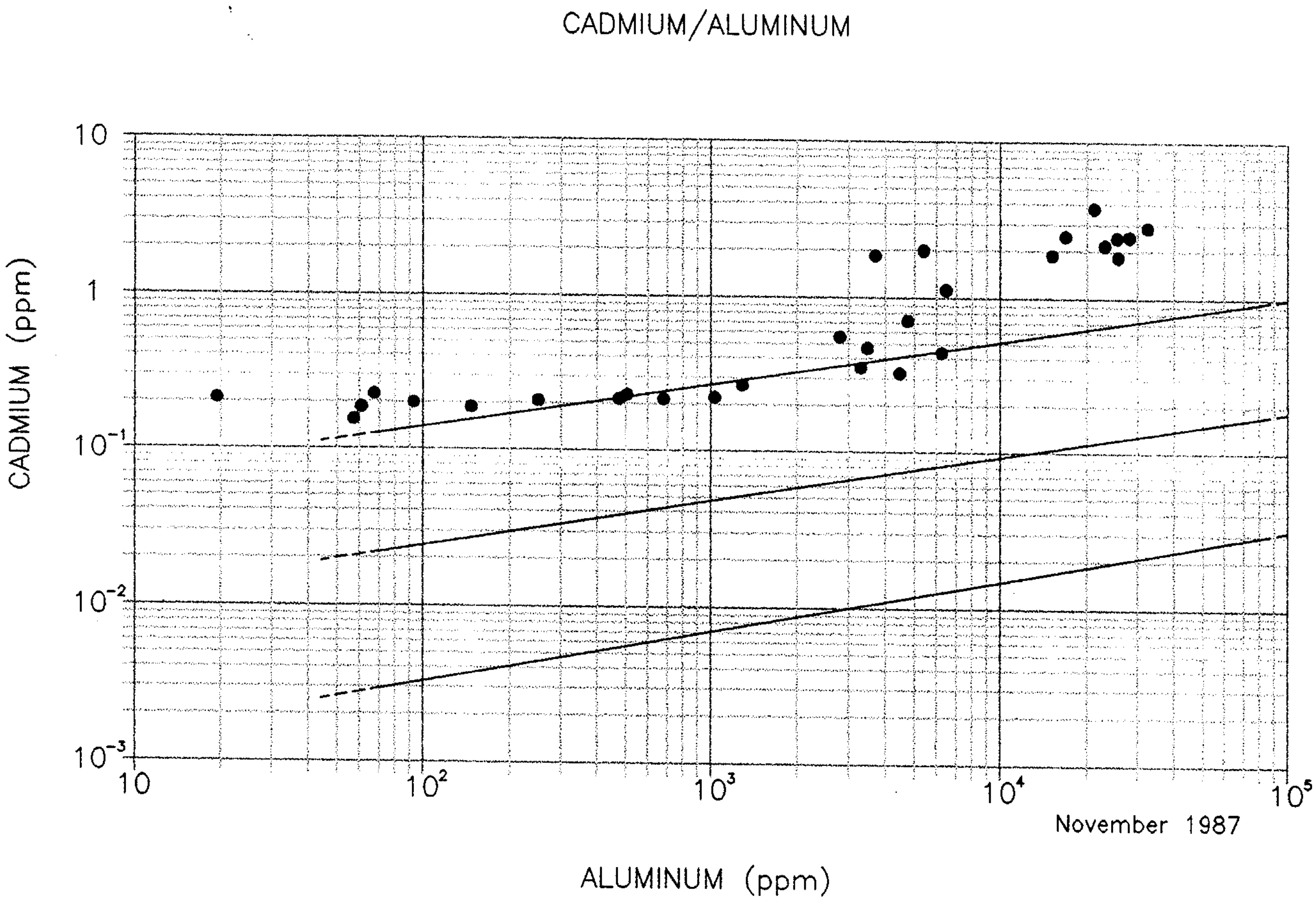
NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

Δ HF

FIGURE 23

CADMIUM/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/07/96	DWG NAME: 36CA2



NOTE: DASHED LINE INDICATES EXTRAPOLATION (SEE TEXT FOR EXPLANATION)

● NA

FIGURE 24

CADMIUM/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/07/96 | DWG NAME: 36CA1

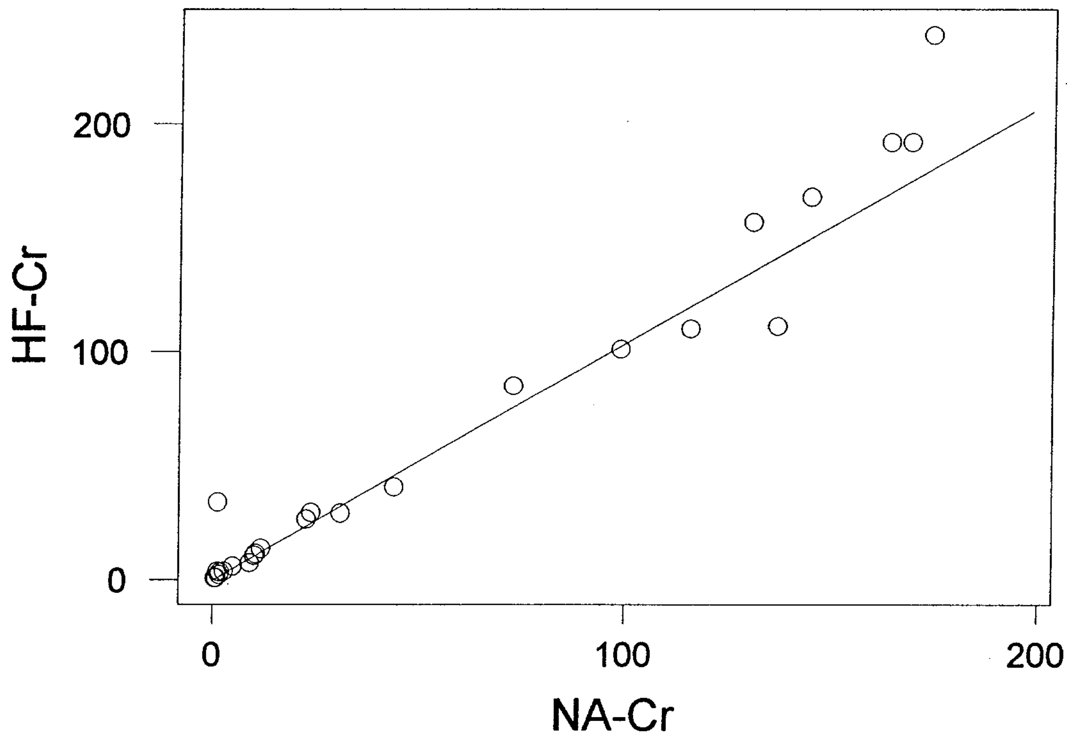
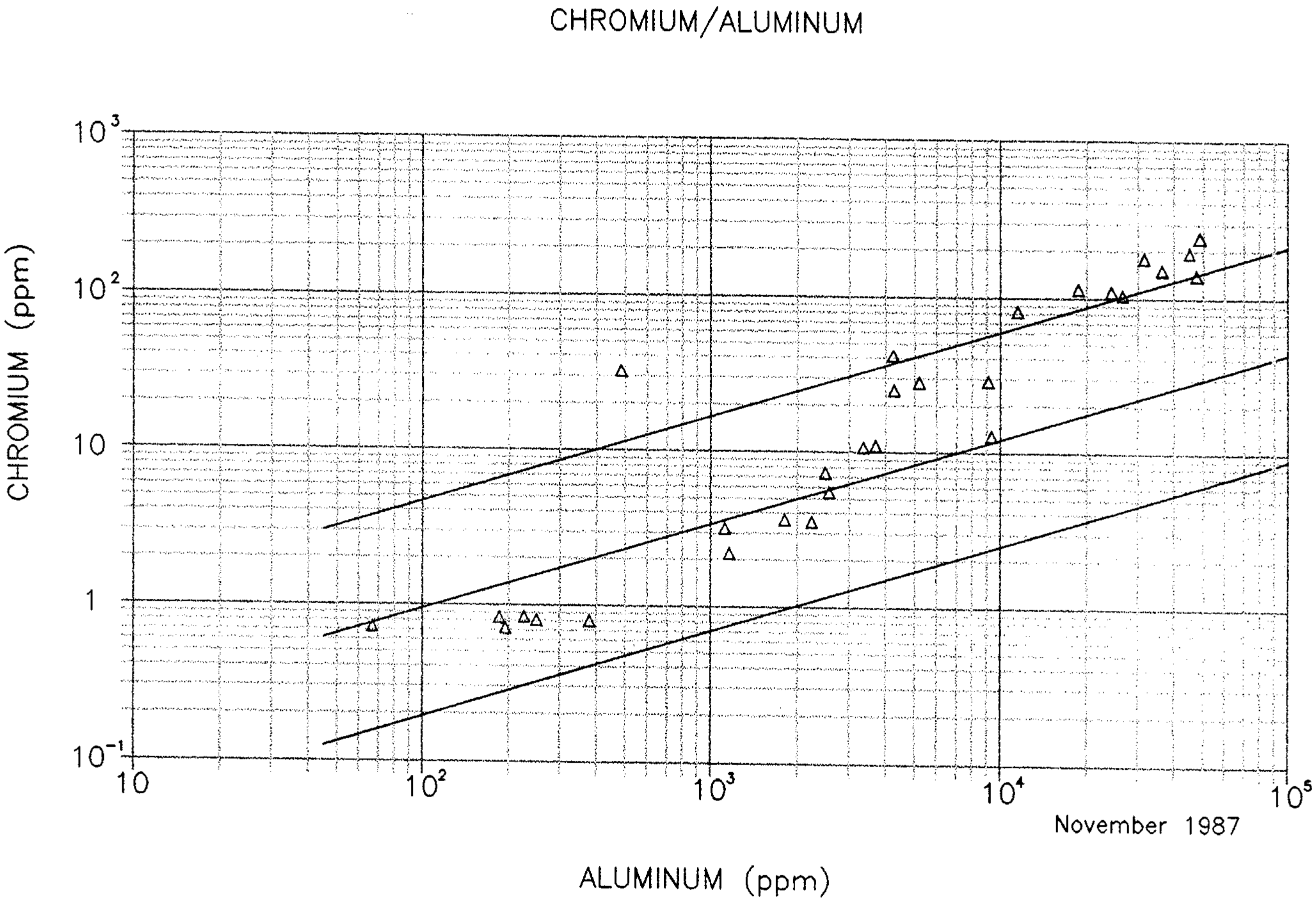


FIGURE 25



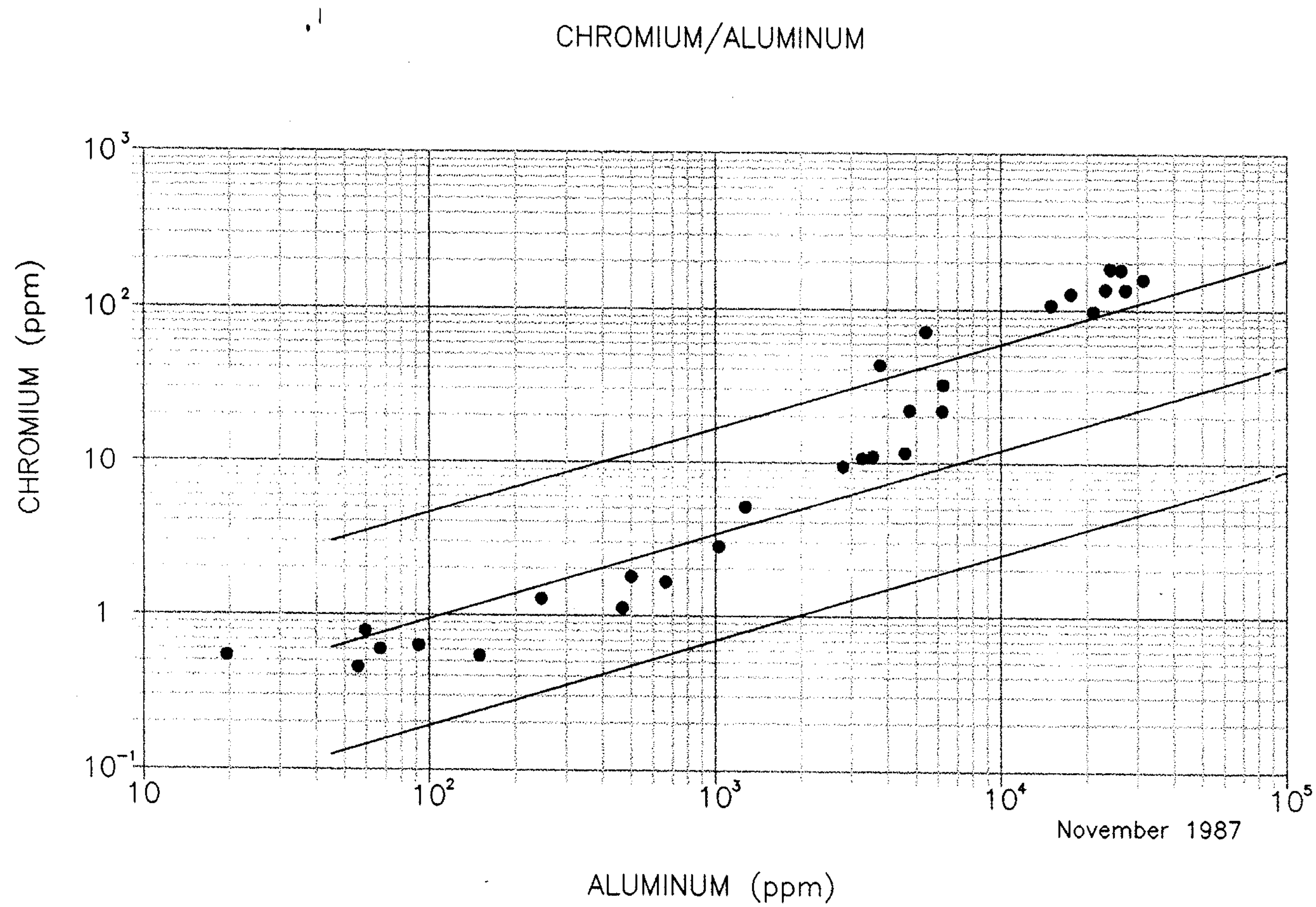
NOTE: DASHED LINE INDICATES EXTRAPOLATION (SEE TEXT FOR EXPLANATION)

Δ HF

FIGURE 26

CHROMIUM/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/08/96 | DWG NAME: 36CHA2



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

● NA

FIGURE 27

CHROMIUM/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/07/96 | DWG NAME: 36CHA1

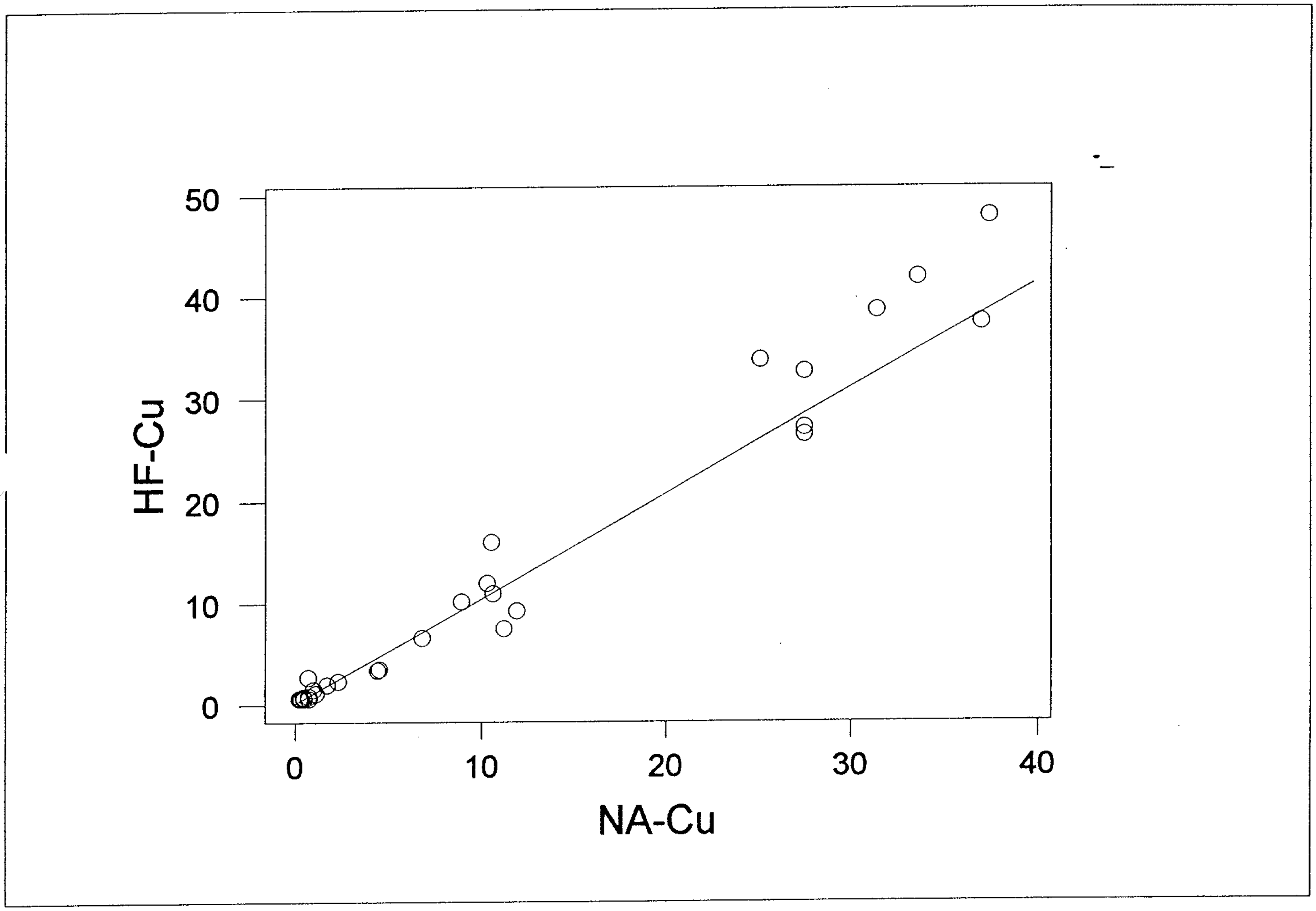
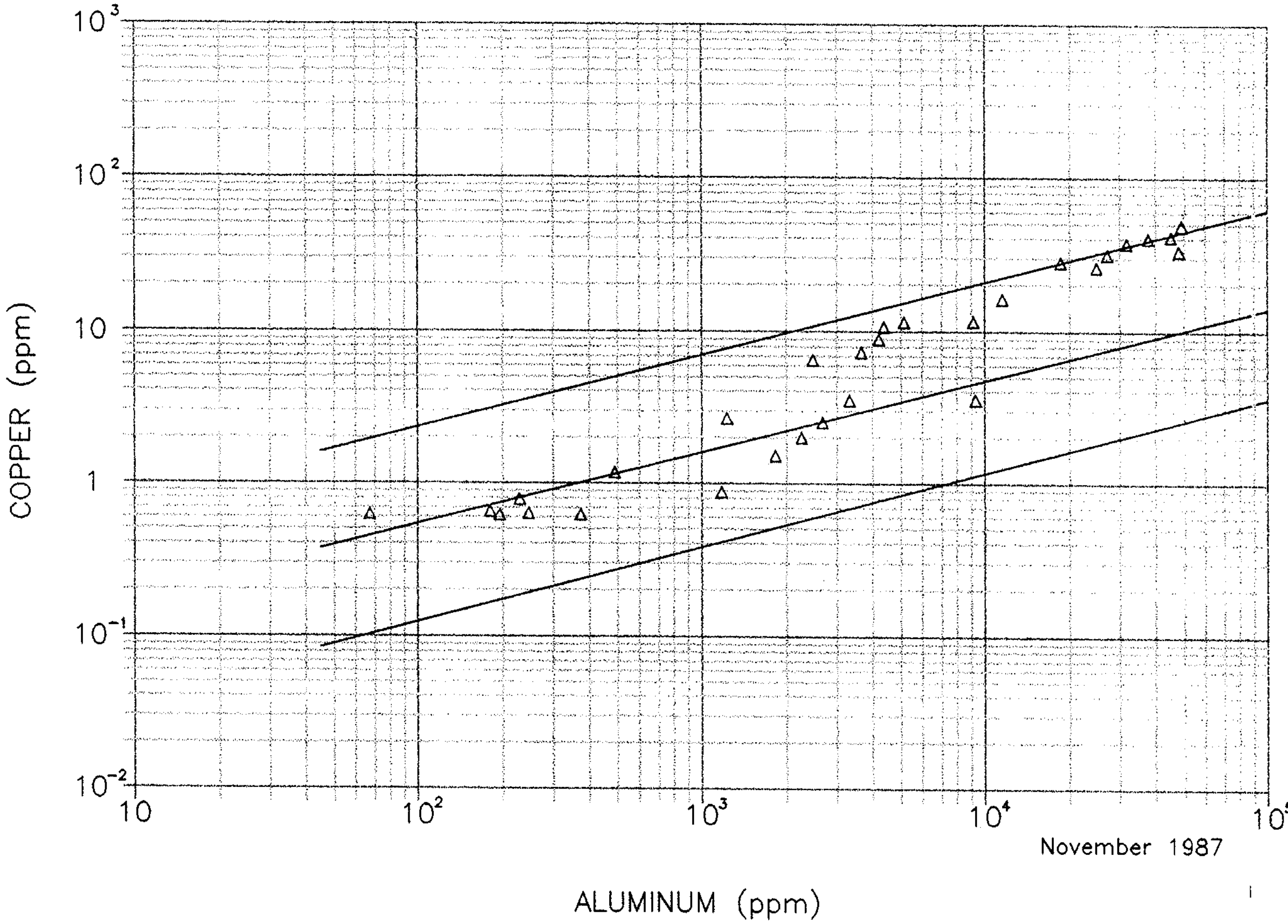


FIGURE 28

COPPER/ALUMINUM



NOTE: DASHED LINE INDICATES EXTRAPOLATION (SEE TEXT FOR EXPLANATION)

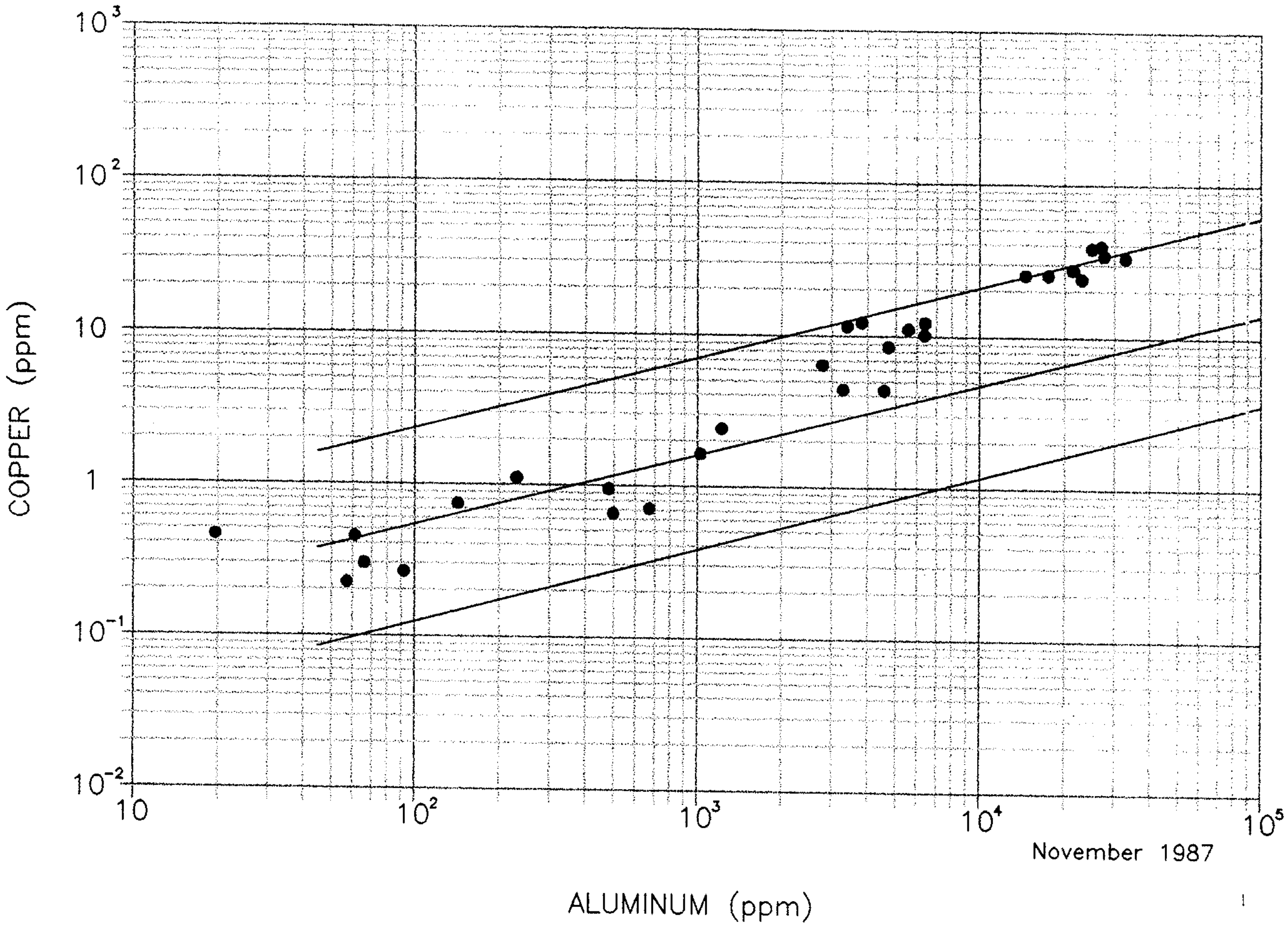
△ HF

FIGURE 29

COPPER/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/08/96 | DWG NAME: 36COA2

COPPER/ALUMINUM



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

● NA

FIGURE 30

COPPER/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/08/96 | DWG NAME: 36COA1

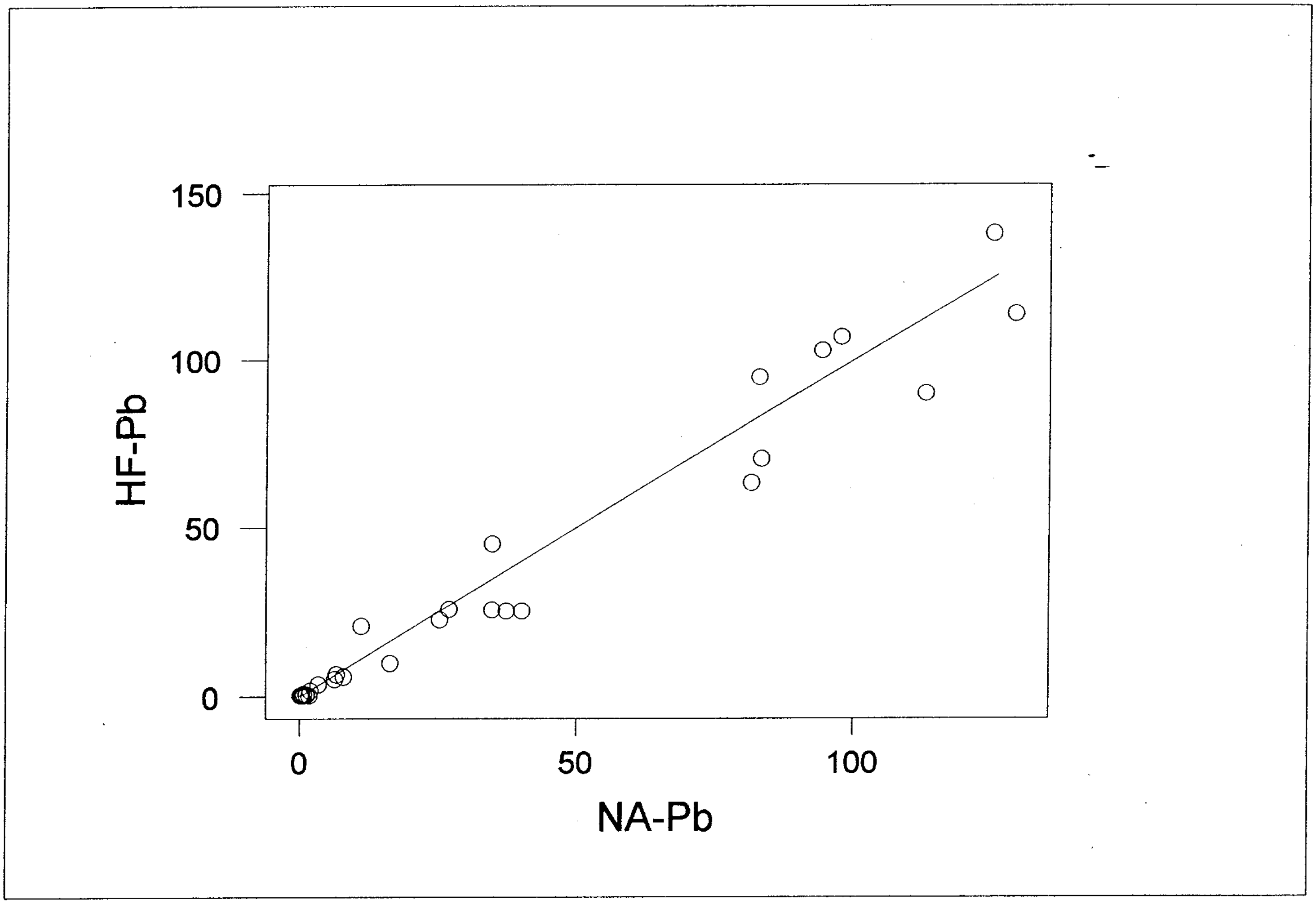
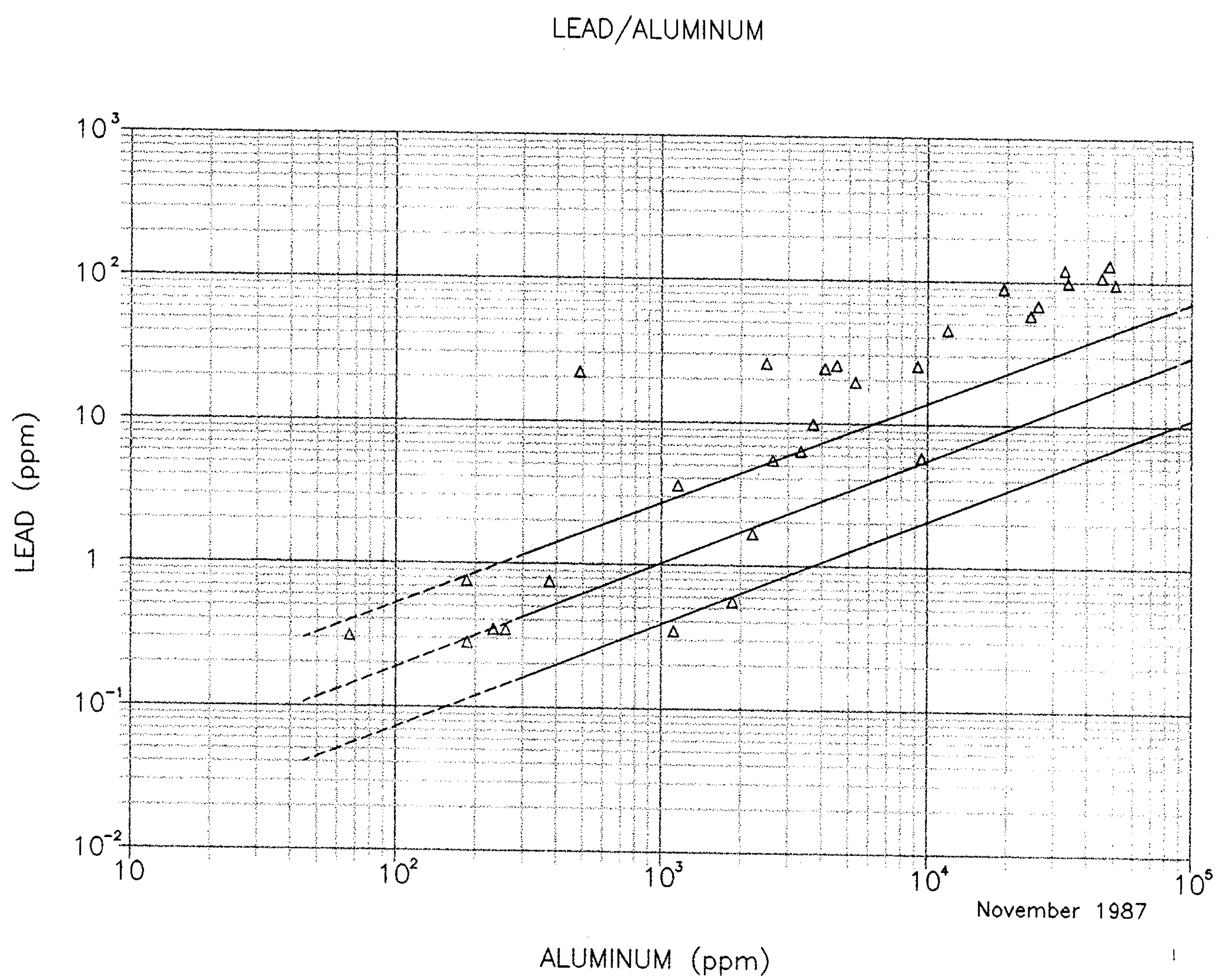


FIGURE 31



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

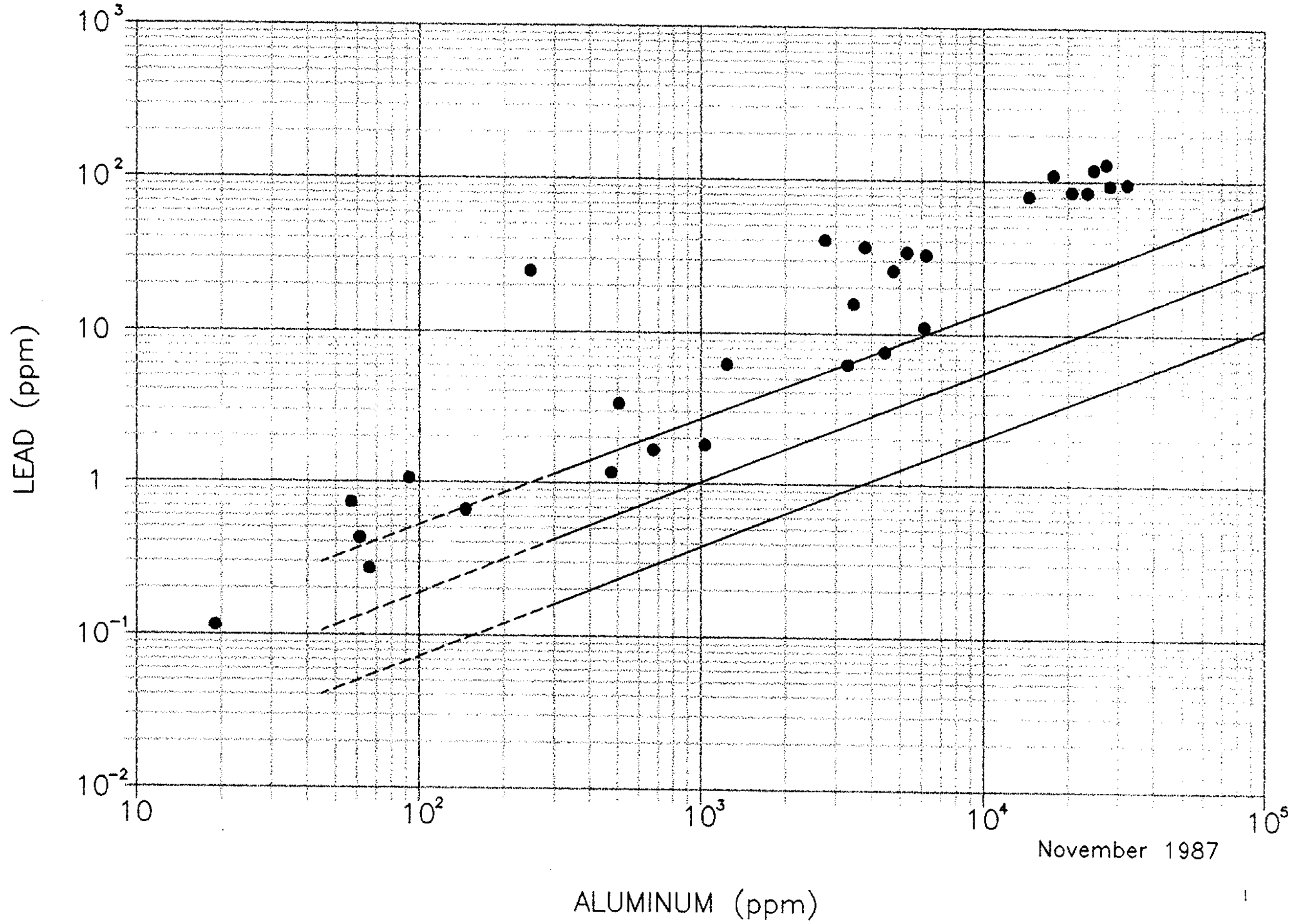
Δ HF

FIGURE 32

LEAD/ALUMINUM REGRESSION LINE
WITH 95% PREDICTION LIMITS

DWG DATE: 08/08/96 | DWG NAME: 36LA2

LEAD/ALUMINUM



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

● NA

FIGURE 33

LEAD/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/08/96	DWG NAME: 36LA1

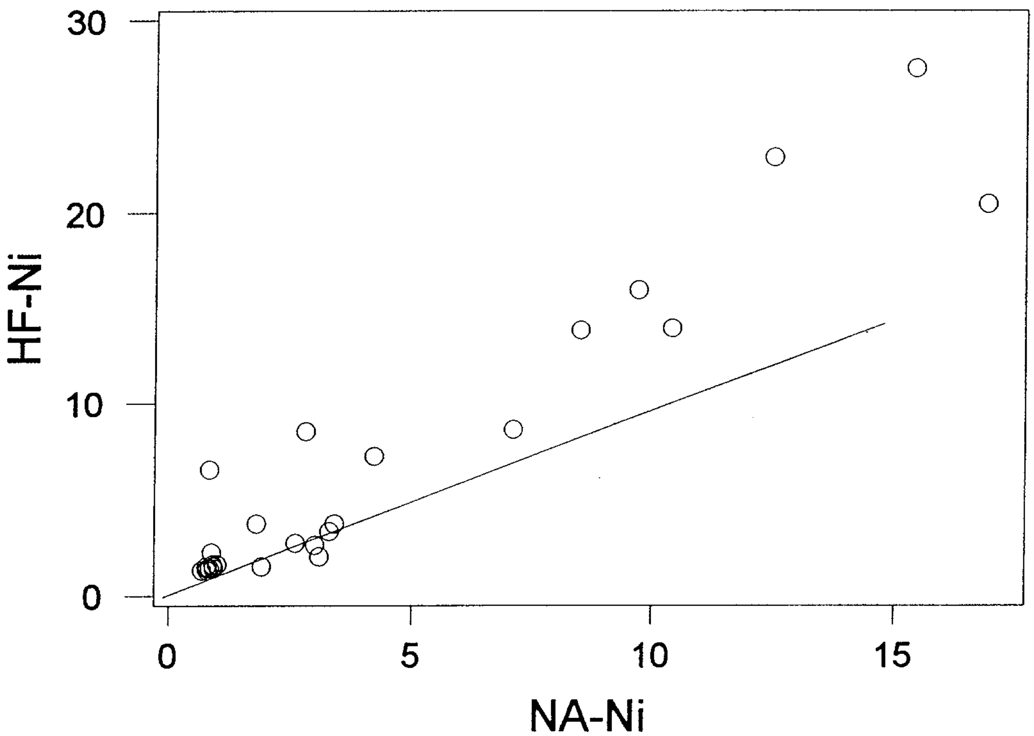
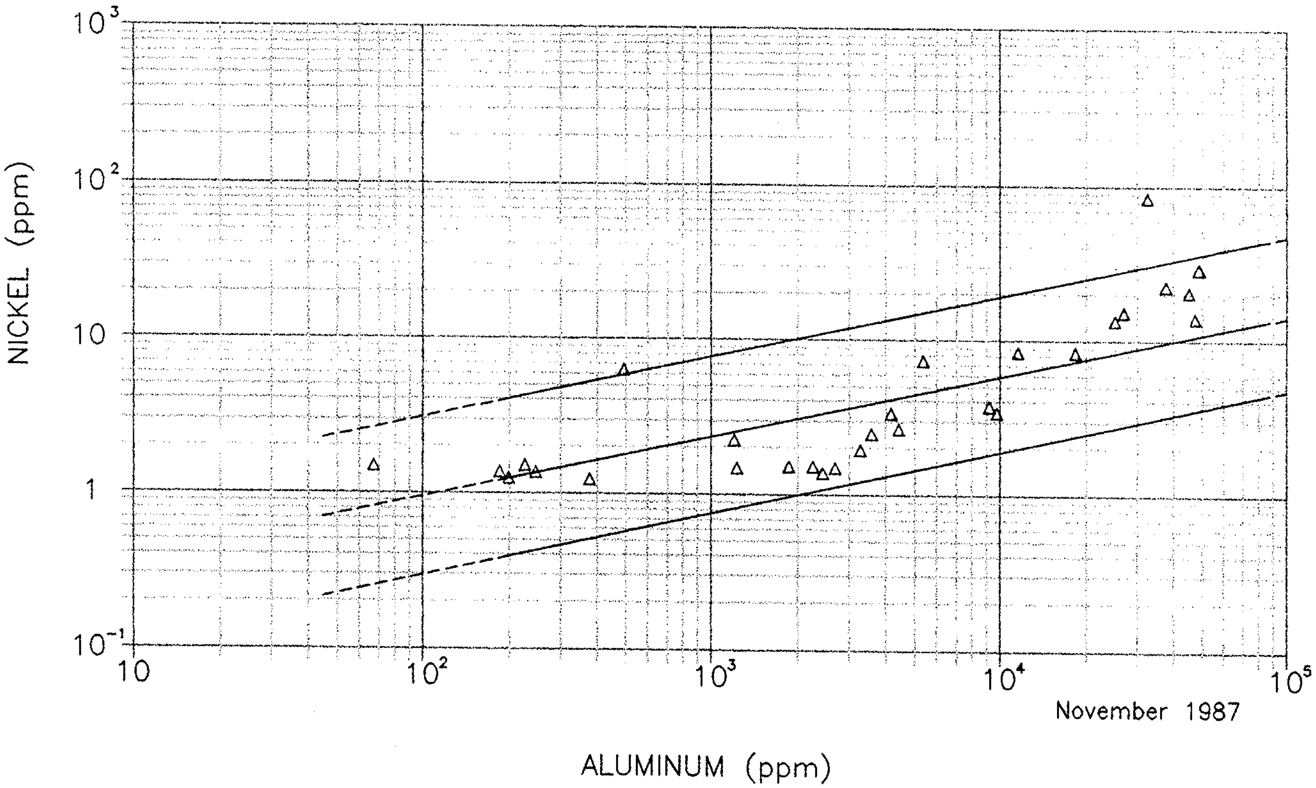


FIGURE 34

NICKEL/ALUMINUM



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

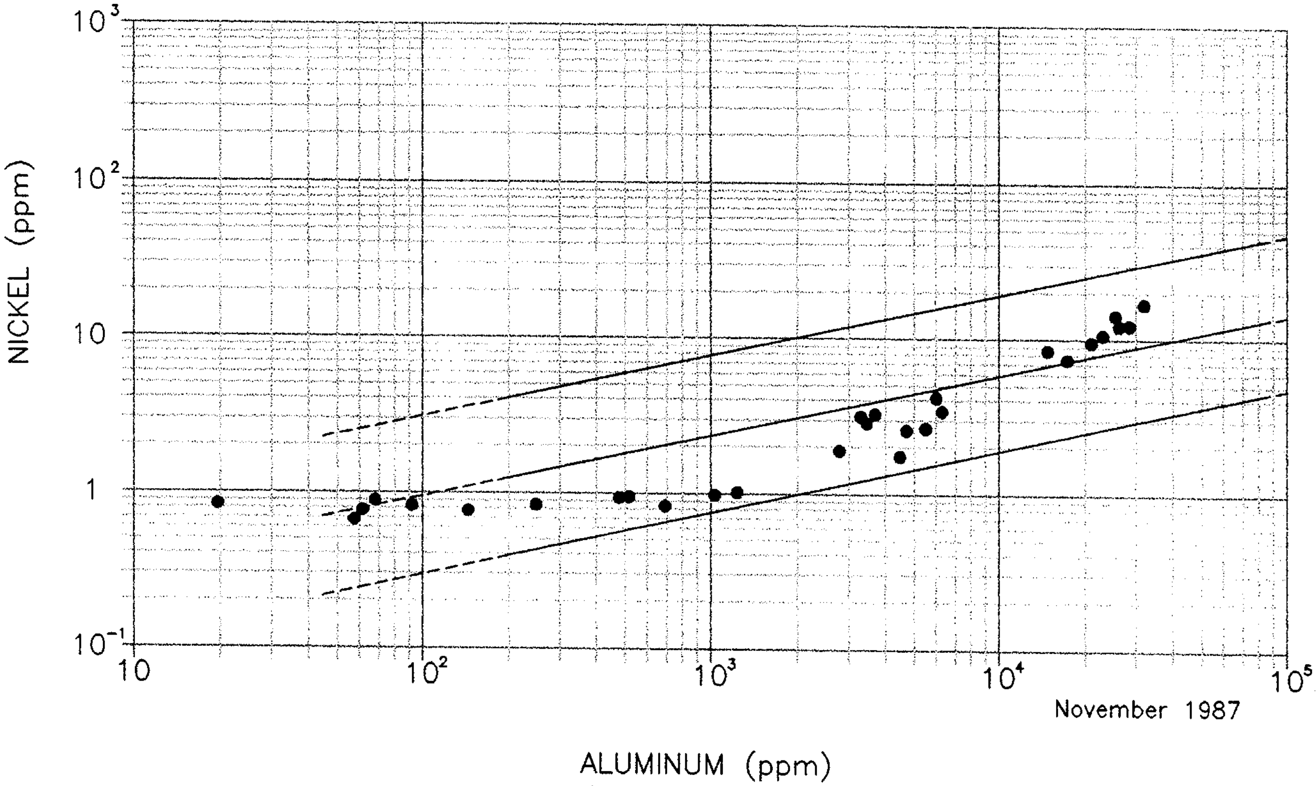
Δ HF

FIGURE 35

NICKEL/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/08/96 | DWG NAME: 36NA2

NICKEL/ALUMINUM



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

● NA

FIGURE 36

NICKEL/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/08/96 | DWG NAME: 36NA1

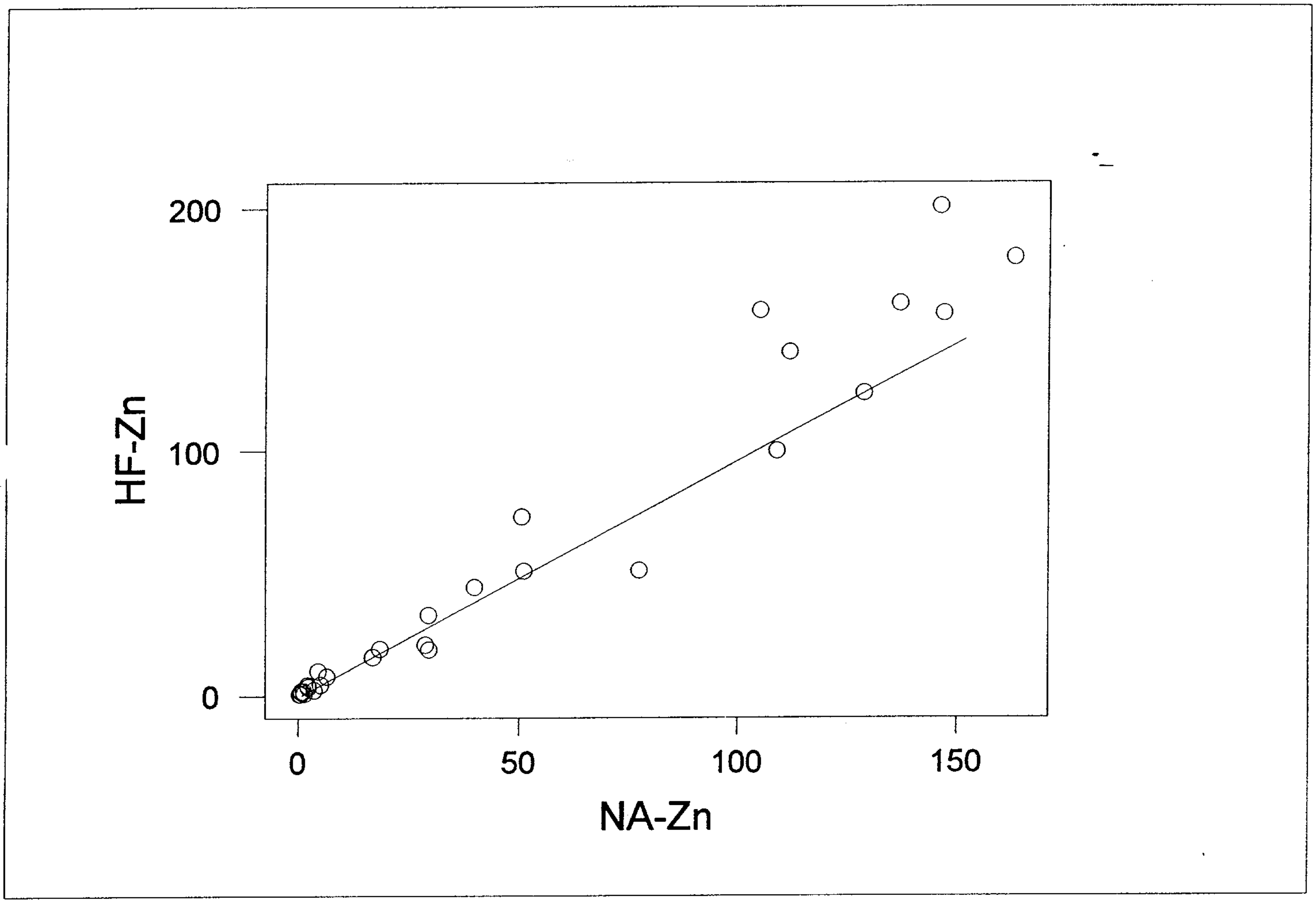
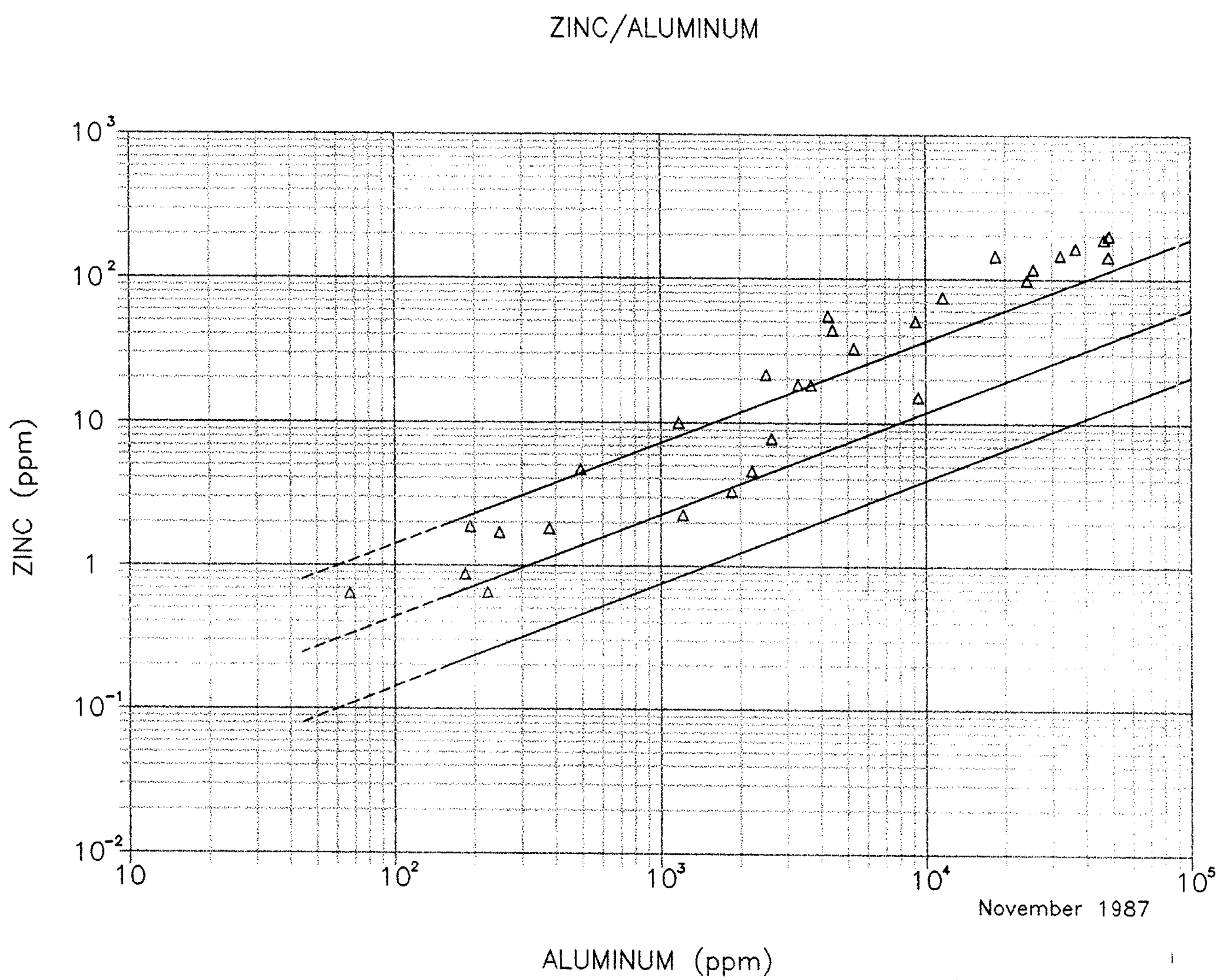


FIGURE 37



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

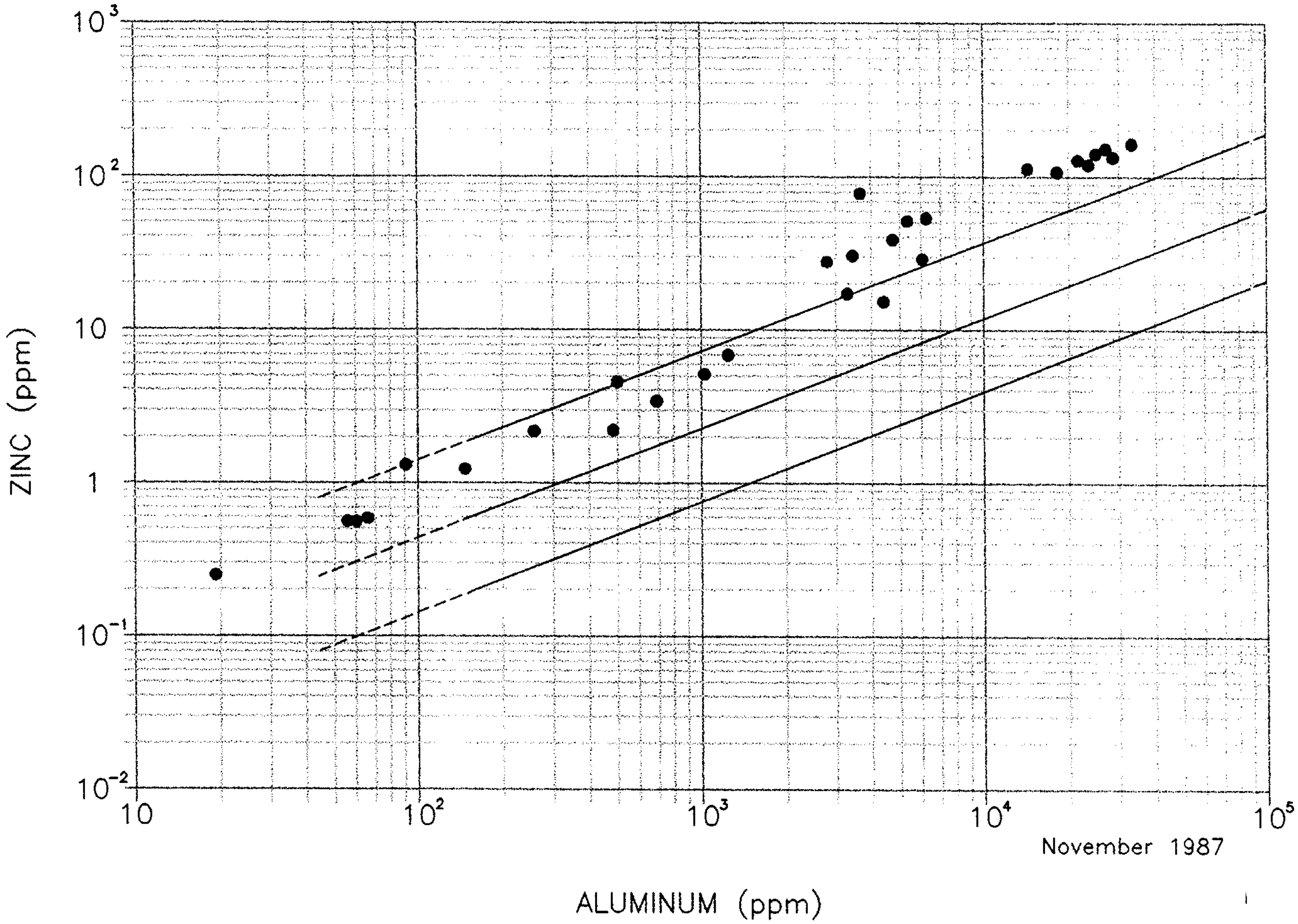
△ HF

FIGURE 38

ZINC/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/08/96 | DWG NAME: 36ZA2

ZINC/ALUMINUM



NOTE: DASHED LINE INDICATES EXTRAPOLATION
(SEE TEXT FOR EXPLANATION)

● NA

FIGURE 39

ZINC/ALUMINUM REGRESSION LINE WITH 95% PREDICTION LIMITS

DWG DATE: 08/08/96 | DWG NAME: 36ZA1

Appendix G
Toxicity Tests Results

TOXIKON
ENVIRONMENTAL SCIENCES

April 1, 1996

David Trim
Ensafe/Allen & Hoshall
2114 Airport Boulevard, Suite 1150
Pensacola, Florida 32504

RE: NAS Pensacola, FL CT00059-08490 (Toxikon Study #J9511001)

Dear David:

Enclosed please find the report of the sediment toxicity tests conducted during January and February for the above referenced project, including copies of the raw data, chain-of-custody documents, statistics, and reference toxicant tests. Please call if you have any questions or comments.

Sincerely,

G. Scott Ward

G. Scott Ward
Director

pc: File

Environmental Fate and Ecotoxicology
106 Coastal Way, Jupiter, FL 33477, TEL (407) 575-2477 FAX (407) 575-2497

STUDY TITLE

Toxicity of Sediment Samples
from Pensacola Bay, Florida

AUTHOR

Michael B. Malone

STUDY TEST DATES

January 24 - February 21, 1996

PERFORMING LABORATORY

Toxikon Environmental Sciences
106 Coastal Way
Jupiter, Florida 33477

SPONSOR

EnSafe/Allen & Hoshall
5724 Summer Trees Drive
Memphis, Tennessee 38134

LABORATORY PROJECT ID

J9511001

TABLE OF CONTENTS

1.0 INTRODUCTION

Toxicity tests were conducted at Toxikon Environmental Sciences (TES), Jupiter, Florida, with two saltwater test species to determine the toxicity of sediments collected from Pensacola Bay, Florida. Tests were conducted to determine the effects on the survival and growth of the sheepshead minnow (*Cyprinodon variegatus*) and on survival, growth, and fecundity of the mysid shrimp (*Mysidopsis bahia*). Sediment and dilution water sampling was arranged by Ensafe, Memphis, Tennessee. All toxicity tests were based on "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" EPA 600-4-91-003 July 1994.

All data related to this study will be maintained at Toxikon Environmental Sciences, Jupiter, Florida.

2.0 MATERIALS AND METHODS

2.1 Test Sediments

A total of eleven sediment samples were collected by John Hagan, Jimmy Pace, and Michael Mitchell. The test sediments were received at TES the day following sampling. All sediment samples were stored at approximately 4°C until use. Due to the number of sediments to be tested two test series were run, the first with four of the eleven sediments and the second with the remaining seven. The sediments possessed the following characteristics upon receipt:

Sample 002MD40001

Collection Time & Date:1-22-96 / 10:00 AM
Arrival Date: 1-23-96
Color: Brown
Associated Water pH: 8.1
Temperature of the sample upon receipt: 2.4°C

Sample 002MD20001

Collection Time & Date:1-22-96 / 10:25 AM
Arrival Date: 1-23-96
Color: Brown
Associated Water pH: 7.7
Temperature of the sample upon receipt: 4.0°C

Sample 002MF10001

Collection Time & Date:1-22-96 / 10:50 AM
Arrival Date: 1-23-96
Color: Brown
Associated Water pH: 7.7
Temperature of the sample upon receipt: 3.5°C

Sample 002MX10001

Collection Time & Date:1-23-96 / 9:25 AM

Arrival Date: 1-24-96

Color: Brown

Associated Water pH: 7.8

Temperature of the sample upon receipt: 0.9°C

Sample 002MF30001

Collection Time & Date:1-29-96 / 11:45 AM

Arrival Date: 1-30-96

Color: Brown

Associated Water pH: 7.8

Temperature of the sample upon receipt: 5.4-6.4°C

Sample 002MA20001

Collection Time & Date:1-29-96 / 10:40 AM

Arrival Date: 1-30-96

Color: Brown

Associated Water pH: 8.1

Temperature of the sample upon receipt: 6.8-8.8°C

Sample 002MI05001

Collection Time & Date:1-31-96 / 10:15 AM

Arrival Date: 2-1-96

Color: Brown

Associated Water pH: 7.6

Temperature of the sample upon receipt: 2.4°C

Sample 002MQ20001

Collection Time & Date:1-31-96 / 10:35 AM
Arrival Date: 2-1-96
Color: Brown
Associated Water pH: 7.8
Temperature of the sample upon receipt: 2.6°C

Sample 002MH30001

Collection Time & Date:1-31-96 / 9:55 AM
Arrival Date: 2-1-96
Color: Brown
Associated Water pH: 8.0
Temperature of the sample upon receipt: 3.4°C

Sample 002MH10001

Collection Time & Date:1-31-96 / 9:35 AM
Arrival Date: 2-1-96
Color: Brown
Associated Water pH: 7.6
Temperature of the sample upon receipt: 5.9°C

Sample 002MU20001

Collection Time & Date:1-31-96 / 11:05 AM
Arrival Date: 2-1-96
Color: Brown
Associated Water pH: 7.9
Temperature of the sample upon receipt: 6.5°C

The pH was measured with a Fisher Scientific Accumet® 1002 pH meter. The temperature was measured with an NBS traceable thermometer scaled to 0.1 °C. Light readings for all tests were measured using a LI-COR, Inc. Model LI-189 light meter equipped with a 2π quantum sensor. Appendix A contains all relevant raw data concerning the sediment samples.

2.2 Test Organisms

Sheepshead Minnow (*Cyprinodon variegatus*)

Larval sheepshead minnow (*Cyprinodon variegatus*) utilized in the tests were less than 24 hours old at test initiation and were obtained from a commercial supplier (Aquatic Bio-Systems, Inc., Ft. Collins, Colorado). Sheepshead minnow were maintained in filtered saltwater (approximately 20 ‰) on a diet of live brine shrimp (*Artemia salina*) nauplii (hatched from cysts obtained from Aquarium Products, Glen Burnie, MD). Sheepshead Minnow appeared to be in good health at test initiation and there were no diseases observed during the holding period.

For both test series, sheepshead minnow ranged from 8 to 10 millimeters (mm) standard length (mean and standard deviation = 9.1 ± 0.55 mm and 9.6 ± 0.69 mm, respectively) and from 0.0102 to 0.0241 grams (g) wet weight (mean and standard deviation = 0.0162 ± 0.0027 g and 0.0181 ± 0.0032 g, respectively) as measured from two control replicates at test termination. Loading was calculated to be 0.54 and 0.60 grams of fish tissue per liter of dilution water, respectively.

Mysids (*Mysidopsis bahia*)

Mysids (*Mysidopsis bahia*) tested were post-larva obtained from TES cultures and were 7 days old at test initiation. Mysid cultures were maintained in filtered saltwater (approximately 20 ‰) on a diet of live brine shrimp (*Artemia salina*) nauplii (hatched from cysts obtained from Aquarium Products, Glen Burnie, MD). Upon collection from the culture system, post-larval mysids were fed live brine shrimp nauplii and kept in flow-through cups until the organisms were 7 days old. Mysids appeared to be in good health at test initiation and there were no diseases observed during the holding period.

2.3 Dilution Waters

The dilution water for the TES control was natural saltwater pumped from a saltwater well. The saltwater was vigorously aerated and then filtered, carbon treated, and adjusted to a salinity of approximately 20 ‰. The dilution water for all other treatments was supplied by Ensafe. Upon receipt the dilution water was pooled and stored at approximately 4 °C. Prior to use the dilution waters were re-aerated and allowed to warm to test temperature.

Chemical characterization of a recent representative batch of TES filtered saltwater and all of the initial water quality data from the dilution water collected from Pensacola Bay by Ensafe are presented in Appendix B.

2.4 Test Methods

<u>Sheepshead Minnow (*Cyprinodon variegatus*)</u>

Methods for the 7-day static renewal toxicity test were based on method 1004 entitled: "Sheepshead Minnow (*Cyprinodon variegatus*) Larval Survival and Growth" in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" (EPA/600/4-91/003 - U.S. EPA, 1994).

Testing consisted of exposure of sheepshead minnow (*Cyprinodon variegatus*) to 100 g of control sediment consisting of "aged" washed coarse sand or test sediment and 300 mL of the appropriate dilution water. In the first test the laboratory saltwater possessed the following initial water quality ranges: salinity of

21 to 23 ‰ and a pH of 8.0 to 8.4. The Pensacola Bay saltwater possessed the following initial water quality ranges: salinity of 20 to 22 ‰ and a pH of 8.0. In the second test the laboratory saltwater possessed the following initial water quality ranges: salinity of 21 ‰ and a pH of 8.1 to 8.3. The Ensafe saltwater possessed the following initial water quality ranges: salinity of 20 to 22‰ and a pH of 7.9 to 8.0.

Larval sheepshead minnow were tested in 450-mL glass crystallizing dishes containing 300 mL of control water or test solution providing a water depth of approximately 4.5 cm. The first test series was initiated on January 25, 1996 and the second test series on February 6, 1996 by impartially distributing fish to the test chambers by ones or twos. Ten sheepshead minnow were tested per replicate and all treatments were replicated seven times, resulting in 70 fish per treatment. At least 80 percent of the test solution volume was replaced daily with the appropriate dilution water. All solution replacements were conducted with samples which had been stored at approximately 4 °C until use. Test solutions were aerated during the test due to dissolved oxygen concentrations falling below 4.0 mg/L. Fish were fed approximately 0.10 g (total wet weight) of concentrated live brine shrimp (*Artemia*) nauplii daily from day 0 to day 2, and were fed approximately 0.15 g (total) from day 3 to day 6.

The test was conducted in a temperature-controlled waterbath in order to maintain a test temperature of 25 ± 1°C under fluorescent lighting on a photoperiod of 16 hours light and 8 hours dark. The light intensity ranged between 10.8 and 14.5 microEinsteins per square meter per second ($\mu E/m^2/s$) over the test chambers.

Survival of sheepshead minnow was monitored daily and any dead fish observed were removed. Any abnormalities in the behavior or physical appearance of the sheepshead minnow were also noted. At test termination, the surviving larvae in each test chamber were counted and prepared as a replicate for dry weight determination. Immediately prior to the dry weight analysis, each group of larvae was rinsed with deionized water to remove food particles, transferred to a tared weighing boat, and dried at 60 °C for a minimum of 24 hours. Upon removal from the drying oven, the weighing boats were placed in a desiccator to cool. Dry weights were measured to 0.01 mg.

Temperature, salinity, dissolved oxygen concentrations and pH were measured at the beginning and end of each 24-hour renewal period in composites of both controls (i.e., both old and new dilution waters). Dissolved oxygen concentrations and pH were measured at the end of each 24-hour renewal period in composite test solutions of the treatments. The diurnal temperature range of the waterbath was monitored and recorded daily by a minimum/maximum thermometer.

<u>Mysids (*Mysidopsis bahia*)</u>

Methods for the 7-day static renewal test was based on method 1007 "Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test" in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" (EPA/600/4-91/003 - U.S. EPA, 1994).

Testing consisted of exposure of mysid shrimp (*Mysidopsis bahia*) to 100 g of control sediment consisting of "aged" washed coarse sand or test sediment and 150 mL of the appropriate dilution water. In the first test series, the laboratory saltwater possessed the following initial water quality ranges: salinity of 21 to 23 ‰ and a pH of 8.0 to 8.4. The Pensacola Bay saltwater possessed the following initial water quality ranges: salinity of 20 to 22 ‰ and a pH of 8.0. In the second test series, the laboratory saltwater possessed the following initial water quality ranges: salinity of 21 ‰ and a pH of 8.2 to 8.4. The Pensacola Bay saltwater possessed the following initial water quality ranges: salinity of 20 to 22 ‰ and a pH of 7.9 to 8.0.

Mysids were tested in 300-mL glass crystallizing dishes containing 100 g of control sediment or test sediment and 150 mL of the appropriate dilution water providing a water depth of approximately 2.4 cm. The tests were initiated by impartially distributing mysids to the test chambers by ones and twos until 5 mysids per replicate was obtained. Each treatment was replicated seven times, resulting in a total of 35 organisms per treatment. Approximately 80 percent or more of the test solution volume was replaced daily with the appropriate dilution water. All solution replacements were conducted with samples which had been stored at approximately 4 °C until use. Test solutions were aerated during the test due to dissolved oxygen concentrations below 4.0 mg/L. Mysids (*Mysidopsis bahia*) tested were post-larva obtained from TES cultures and were 7 days old at test initiation on January 24, 1996 for the first test and February 8, 1996 for the second test. Mysid shrimp were fed approximately 150 live brine shrimp (*Artemia*) nauplii per mysid.

The test was conducted in a temperature-controlled waterbath in order to maintain a test temperature of 26 $\pm$ 1°C under fluorescent lighting on a photoperiod of 16 hours light and 8 hours darkness. The light intensity ranged between 10.3 and 18.2 $\mu E/m^2/s$ over the test chambers.

Survival of mysids was monitored daily and any dead shrimp observed were removed. Any abnormalities in the behavior or physical appearance of the mysids were also noted. At test termination, the surviving larvae in each test chamber were counted and prepared as a replicate for sexing and dry weight determination. Immediately prior to the dry weight analysis, each group of larvae was sexed using a dissecting scope, rinsed with deionized water to remove food particles, transferred to a tared weighing boat, and dried at 60 °C for a minimum of 24 hours. Upon removal from the drying oven, the weighing boats were placed in a desiccator to cool. Dry weights were measured to 0.01 mg.

Temperature, salinity, dissolved oxygen concentrations and pH were measured at the beginning and end of each 24-hour renewal period in composites of both controls (i.e., both old and new dilution waters). Dissolved oxygen concentrations and pH were measured at the end of each 24-hour renewal period in composite test solutions of the treatments. The diurnal temperature range of the waterbath was monitored and recorded daily by a minimum/maximum thermometer.

2.5 Reference Toxicant Tests

Acute and chronic reference toxicant tests using sodium dodecyl sulfate (SDS) were conducted within 30 days of the toxicity tests on the sediments.

2.6 Statistical Analyses

Based on results of the tests, the appropriate NOEC, LOEC, LC_{50} and EC_{50} values and their 95 percent confidence limits were calculated whenever possible. Statistical analysis was completed by a computer program (ToxCalc 5.0) using the preferred EPA statistical analysis as outlined in "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" (EPA/600/4-91/003 - U.S. EPA, 1994). The method selected for reporting the test results was determined by the characteristics of the data, i.e., the presence or absence of 0-percent and 100-percent mortality and the number of concentrations in which mortalities between 0 and 100 percent occurred (Stephan, 1977). Statistical comparisons were run between the TES control and the Pensacola Bay control; then between the Pensacola Bay control and the test sediment.

3.0 RESULTS AND DISCUSSION

3.1 Sheepshead Minnow (*Cyprinodon variegatus*)

The criteria for effect in the larval fish test were survival and growth. After 7 days of exposure in test series one, sheepshead minnow mortality ranged from 1 to 6 percent in the test sediments (Table 1). Control mortality was zero percent in both the TES and Pensacola Bay controls (Table 1). The mean dry weight of the surviving larvae was 2.629 mg in the TES control, 2.551 mg in the Pensacola Bay control, and ranged from 2.551 to 2.888 mg among the test sediments (Table 1). No statistical differences in mortality or dry weight of surviving fish were detected during this chronic test. After 7 days of exposure in test series two, sheepshead minnow mortality ranged from 0 to 19 percent in the test sediments (Table 1). Control mortality was one percent in both the TES and Pensacola Bay controls (Table 1). A statistical difference in mortality was present in sediment 002MH30001. The mean dry weight of the surviving larvae was 3.141 mg in the TES control, 2.956 mg in the Pensacola Bay control, and ranged from 2.171 to 2.694 mg among the test sediments (Table 1). All treatments were statistically different in dry weight of surviving fish compared to the Pensacola Bay control in the second chronic test series.

The water quality parameters remained within acceptable limits throughout the exposure period for the test. The test temperature during the 7-day exposure ranged from 24.4 to 26.5°C in test series one and from 24.9 to 26.2°C in test series two. The temperature was slightly out of range (maximum of 0.5°C) on day 4 of the first test series and days 2 and 3 of the second test series. This deviation was minor and did not affect the results of the test. The salinity remained relatively stable and ranged from 20 to 23 ‰ in new test solutions and from 23 to

25 ‰ in old test solutions during both test series. The dissolved oxygen concentrations in the controls and test solutions at the beginning of each 24-hr renewal periods ranged from 6.8 to 7.4 mg/L in test series one and from 6.7 to 7.3 mg/L in test series two. The dissolved oxygen concentrations were monitored on day zero to be less than 4.0 mg/L in both test series and aeration was initiated. The dissolved oxygen concentrations of all control and test solutions at the end of 24-hr renewal periods remained $\geq$3.7 mg/L in the first test series and $\geq$4.0 mg/L in the second test series. The pH value of all test solutions ranged from 7.4 to 8.0 in the first test series and from 7.7 to 8.4 in the second test series. The pH of the TES control and Pensacola Bay control old solutions ranged from 7.9 to 8.3 and from 7.4 to 7.9, respectively, for the first test series and from 8.0 to 8.2 and from 7.4 to 7.8, respectively, for the second test series.

The 48-hr LC_{50} value for *Cyprinodon variegatus* exposed to the sodium dodecyl sulfate (SDS), within 30 days of the effluent test was 7.1 mg/L for both lots CV96-1-25 and CV96-2-6. These SDS LC_{50} values are within the range established for this species at Toxikon Environmental Sciences. The chronic SDS reference toxicant for *C. variegatus* resulted in a NOEC of 7.5 mg/L and a LOEC of 15 mg/L based on survival of fish larvae and a NOEC of 1.875 mg/L and a LOEC of 3.75 mg/L based on growth.

Appendix C contains all relevant raw data for the sheepshead minnow tests of the Pensacola Bay sediments and for the reference toxicant.

3.2 Mysid (*Mysidopsis bahia*)

The definition of the response criterion for this test was survival, growth, and fecundity. After 7 days of exposure in test series one, mysid mortality ranged from 23 to 49 percent in the test sediments (Table 2). Control mortality was 11 percent in both the TES and Pensacola Bay controls (Table 2). The mean dry weight of the surviving mysids was 0.436 mg in the TES control, 0.431 mg in the Pensacola Bay control, and ranged from 0.459 to 0.510 mg among the test sediments (Table 1). Sediment 002MD20001 was the only sediment not statistically different in mortality. No statistical differences in dry weight or fecundity of surviving mysids were detected during this chronic test. After 7 days of exposure in test series two, mysid mortality ranged from 20 to 49 percent in the test sediments (Table 2). Control mortality was 6 percent in the TES control and 17 percent in the Pensacola Bay control (Table 2). A statistical difference in mortality was detected for sediments 002MH10001, 002MH30001, 002MI05001, and 002MF30001. The mean dry weight of the surviving mysids was 0.443 mg in the TES control, 0.432 mg in the Pensacola Bay control, and ranged from 0.472 to 0.662 mg among the test sediments (Table 2). No statistical differences in dry weight or fecundity of surviving mysids were detected during this chronic test. In both tests, a few mysids were found dead on the side of the test chamber. As mysids mature they are more likely to "jump" and become stuck on the sides of the test chamber. They die from dessication and not from sediment or sample toxicity. Statistical analysis adjusting for this mortality is summarized in Table 3. The lack of effects in growth and fecundity, as well as a comparison with the sheepshead minnow test results corroborate that the mortality was not likely to have been caused by sample toxicity.

The water quality parameters remained within acceptable limits throughout the exposure period for the test. The test temperature during the 7-day exposure ranged from 24.6 to 26.9°C in test series one and from 24.6 to 26.9°C in test series two. The temperature was slightly out of range (maximum of 0.4°C) a few occasions in both test series. This deviation was minor and did not affect the results of the tests. The salinity remained relatively stable and ranged from 20 to 23 ‰ in new test solutions and from 25 to 26 ‰ in old test solutions during both test series. The dissolved oxygen concentrations in the controls and test solutions at the beginning of each 24-hr renewal periods ranged from 6.9 to 7.4 mg/L in test series one and from 6.8 to 7.6 mg/L in test series two. The dissolved oxygen concentrations were monitored on day zero to be less than 4.0 mg/L in both test series and aeration was initiated. The dissolved oxygen concentrations of all control and test solutions at the end of 24-hr renewal periods remained ≥4.0 mg/L in both test series. The pH value of all test solutions ranged from 7.8 to 8.2 in the first test series and from 7.8 to 8.4 in the second test series. The pH of the TES control and Pensacola Bay control old solutions ranged from 7.9 to 8.1 and from 7.4 to 7.9, respectively, for the first test series and from 8.0 to 8.1 and from 7.5 to 7.9, respectively, for the second test series.

The 48-hr LC_{50} value for *Mysidopsis bahia* exposed to the reference toxicant sodium dodecyl sulfate (SDS), within 30 days of the effluent test was 20.0 mg/L for January and 14.1 mg/L for February. These SDS LC_{50} values are within the range established for this species at Toxikon Environmental Sciences. The chronic SDS reference toxicant for *M. bahia* resulted in a NOEC of 7.5 mg/L and a LOEC of 15 mg/L based on survival of mysids. No statistical differences were observed in growth or fecundity.

Appendix D contains all relevant raw data for the mysid tests of the Pensacola Bay sediments and for the reference toxicant.

4.0 CONCLUSIONS

The following Pensacola Bay sediments were clean, causing no adverse effects to either of the species tested: 002MD40001, 002MX10001, 002MD20001.

The following Pensacola Bay sediments showed toxicity for the sheepshead minnow, *Cyprinodon variegatus*, only: 002MU20001, 002MQ20001, 002MA20001.

The following Pensacola Bay sediments showed toxicity for the mysid, *Mysidopsis bahia*, only: 002MF10001.

The following Pensacola Bay sediments showed toxicity for both species tested: 002MH10001, 002MH30001, 002MI05001, 002MF30001.

5.0 REFERENCES

American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF). 1992. Standard Methods for the Examination of Water and Wastewater, 18th Edition.

Dunnett, C.W. 1955. Multiple Comparison Procedure for Comparing Several Treatments with a Control. J. Amer. Assoc. 50:1096-1121.

Steel, R.G. 1959. A Multiple Comparison Rank Sum Test: Treatments Versus Control. Biometrics 15:560-572.

Stephan, C.E. 1977. Methods for Calculating an LC50. In: American Society for Testing Materials (ASTM) Aquatic Toxicology and Hazard Evaluation, pp. 65 - 84, F.L. Mayer and J.L. Hamelink, Editors. ASTM STP 534, Philadelphia, Pennsylvania.

U.S. Environmental Protection Agency, 1988. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028, 416 pp.

U.S. Environmental Protection Agency, 1991. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (Fourth Edition). EPA/600/4-90/027, 293 pp.

U.S. Environmental Protection Agency (USEPA). 1994. EPA Probit Analysis Program Used For Calculating EC Values, Version 1.5.

Table 1. Summary of Mortality and Dry Weight Data for Sheepshead Minnow, *Cyprinodon variegatus*, Following a 7-Day Static Renewal Exposure to sediment

Treatment	Mortality (%)	Dry Weight (mg/fish)
Test 1 (1/25/96-2/1/96)		
Control	0	2.629
Pensacola Bay Control	0	2.551
002MF10001	6	2.799
002MD40001	3	2.888
002MX10001	4	2.598
002MD20001	1	2.531
Test 2 (2/6/96-2/13/96)		
Control	1	3.141
Pensacola Bay Control	1	2.956
002MU20001	4	2.246*
002MH10001	0	2.646*
002MH30001	11*	2.171*
002MQ20001	0	2.413*
002MI05001	19	2.313*
002MA20001	0	2.694*
002MF30001	3	2.294*

* Statistically different from Pensacola Bay control at 95% confidence limits ($\alpha = 0.05$)

Table 2. Summary of Mortality and Dry Weight Data for Mysids, *Mysidopsis bahia*, Following a 7-Day Static Renewal Exposure to sediment

Treatment	Mortality (%)	Dry Weight (mg/shrimp)
Test 1 (1/24/96-1/31/96)		
Control	11	0.436
Pensacola Bay Control	11	0.431
002MF10001	49*	0.510
002MD40001	37*	0.459
002MX10001	37*	0.497
002MD20001	23	0.505
Test 2 (2/8/96-2/15/96)		
Control	6	0.443
Pensacola Bay Control	17	0.432
002MU20001	34	0.506
002MH10001	40*	0.493
002MH30001	49*	0.549
002MQ20001	34	0.472
002MI05001	49*	0.662
002MA20001	20	0.479
002MF30001	49*	0.581

* Statistically different from Pensacola Bay control at 95% confidence limits ($\alpha = 0.05$)

Table 3. Summary of Adjusted Mortality[2] and Fecundity Data for Mysids, *Mysidopsis bahia*, Following a 7-Day Static Renewal Exposure to sediment

Treatment	Mortality (%)	Fecundity [1]
Test 1 (1/24/96-1/31/96)		
Control	NA	N
Pensacola Bay Control	NA	N
002MF10001	41*	N
002MD40001	15	N
002MX10001	22	N
002MD20001	NA	N
Test 2 (2/8/96-2/15/96)		
Control	NA	N
Pensacola Bay Control	3	N
002MU20001	NA	N
002MH10001	21*	N
002MH30001	42*	N
002MQ20001	NA	N
002MI05001	14*	N
002MA20001	NA	N
002MF30001	40*	N

* Statistically different from Pensacola Bay control at 95% confidence limits ($\alpha = 0.05$)

1 N indicates no statistical difference in fecundity

2 Analysis excluding impinged mysids; NA indicates additional analysis excluding impinged mysids was not performed (either no impinged mysids, or insignificant mortality from Table 2)

APPENDIX A

SEDIMENT RAW DATA

EN SAFE 1915

CHAIN OF CUSTODY RECORD
PENSACOLA, SITE 02

CTO-Task: 0059-08490
CoC: 96015-JWH

Address: 5724 Summer Trees Drive
Memphis, TN 38134

Database Number 0058-02002

Project Manager: Henry Beiro
Telephone No.: (901) 372-7962
Fax No.: (901) 372-2454

Samplers: (Signature) John Hagan

Field Sample Number	Date	Time	Sample Type	Type/Size Of Container	Preservation TEMP.	Preservation Chemical	No. of Containers	ANALYSIS REQUIRED: TOXICITY										Remarks
002MA20001	01/15/96	10:45	Sedmt	32 OZ GLASS	4ø C	NONE	1	X										
002MD40001	01/15/96	12:45	Sedmt	32 OZ GLASS	4ø C	NONE	1	X										
002MF30001	01/15/96	13:40	Sedmt	32 OZ GLASS	4ø C	NONE	1	X										

RELINQUISHED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
Signature: John Hagan	DATE 01/15/96	Signature: Michael Malone	DATE 1-17-96	Signature:	DATE	Signature:	DATE
Printed: John Hagan		Printed: Michael Malone		Printed:		Printed:	
Company: E/A&H	TIME 17:34	Company: Toxikon	TIME 1100	Company:	TIME	Company:	TIME
Reason: Ship to Lab		Reason: —		Reason:		Reason:	

Method of Shipment: Fed Ex
Shipment No.: 8686135964
Special Instruction:

Comments: Included in this shipment is 35 gal of seawater at 19-20,000 ppt.

After Analysis, Samples are to be:
___ Disposed of
___ Stored (90 days Max)
___ Stored Over 90 Days (Additional Fee)
___ Returned to Customer

Lab Copy

EnSafe 1915

CHAIN OF CUSTODY RECORD
PENSACOLA, SITE 02

CTO-Task: 0059-08490
CoC: 96031-HHB

Page: 1 of 1

Address: 5724 Summer Trees Drive
Memphis, TN 38134

Project Manager: Henry Beiro
Telephone No.: (901) 372-7962
Fax No.: (901) 372-2454

Database Number 0058-02002

Samplers: (Signature): Michael D. Mitchell

Field Sample Number	Date	Time	Sample Type	Type/Size Of Container	Preservation TEMP.	Preservation Chemical	No. of Containers	ANALYSIS REQUIRED: TOXICITY										Remarks
002MH10001	01/31/96	09:35	Sedmt	32 OZ GLASS	4ø C	NONE	2	X										
002MH30001	01/31/96	09:55	Sedmt	32 OZ GLASS	4ø C	NONE	2	X										
002MI05001	01/31/96	10:15	Sedmt	32 OZ GLASS	4ø C	NONE	2	X										
002MQ20001	01/31/96	10:35	Sedmt	16&32 OZ GLASS	4ø C	NONE	3	X										
002MU20001	01/31/96	11:05	Sedmt	16 OZ GLASS	4ø C	NONE	2	X										

RELINQUISHED BY:	DATE	RECEIVED BY:	DATE	RELINQUISHED BY:	DATE	RECEIVED BY:	DATE
Signature: John Hagan	01/31/96	Signature: Michael Malone	2-1-96	Signature:		Signature:	
Printed: John Hagan	TIME	Printed: Michael Malone	TIME	Printed:	TIME	Printed:	TIME
Company: E/A&H	15:38	Company: Toxikon	1030	Company:		Company:	
Reason: Ship to Lab		Reason: —		Reason:		Reason:	

Method of Shipment: Fed Ex
Shipment No.: 9221953344
Special Instruction:

Comments:

After Analysis, Samples are to be:
- ___ Disposed of
- ___ Stored (90 days Max)
- ___ Stored Over 90 Days (Additional Fee)
- ___ Returned to Customer

Lab Copy