

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV, ATHENS, GEORGIA

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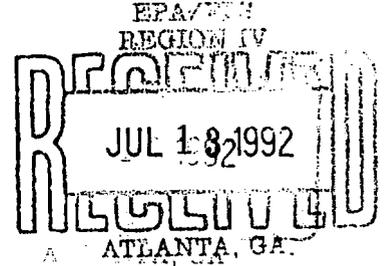
NAS PENSACOLA

5090.3a

MEMORANDUM

JUL 08 1992

SUBJECT: Study Plan, Field Investigation (FI), Naval Air Station
Pensacola (NASP), Pensacola, Florida.
ESD Project No. 92-0666
EPA ID. FL 9170024567



FROM: Fred Sloan *F. Sloan*
Hazardous Waste Section
Environmental Compliance Branch
Environmental Services Division

TO: Allison Drew, RPM
DoD Section
Federal Facilities Branch
Waste Management Division

THRU: William R. Bokey, Chief
Hazardous Waste Section
Environmental Compliance Branch
Environmental Services Division

William R. Bokey

The subject draft study plan is attached. The figures enclosed show the sampling areas but lack detail because of technical difficulties in converting the Navy supplied drawings to our CAD system and severe time constraints. The figures will be corrected for the final report.

If you have any questions, please call me at (706) 546-3317.

Attachment

cc: Bokey/Cosgrove
Auwarter/Scheidt
Koenig

**FIELD INVESTIGATION
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA**

INTRODUCTION

A field investigation with sampling is planned for the week of July 13, 1992, at the subject site at the request of Allison Drew, Federal Facilities Branch, Waste Management Division. Twenty-three sediment, twenty-four surface water, four groundwater and two potable well samples will be collected. The NASP is located in Pensacola, Florida, as shown in **Figure 1**. The various areas to be sampled are shown in **Figure 2**.

The project leader for the study is Fred Sloan, USEPA ESD Region IV. The Facilities Management Department (FMD) of NASP plans to have a representative present during sampling. This study will be used to provide preliminary information to guide the upcoming Remedial Investigation (RI).

OBJECTIVES

The objectives of the study are to provide high quality preliminary information on the marsh sediments and surface water at sites 1, 11, and 30. Four groundwater monitoring wells will be sampled to provide information on groundwater contaminants at Site 1. In addition, two standby potable wells will be sampled to provide information on the lower aquifer and for reasons of public health.

METHODOLOGY

Several wetland areas of interest have been identified by the Navy and USEPA for sampling during the subject investigation. The wetlands classification, boundaries and numbering system are that developed by the Ecological Support Branch of ESD for the Navy. Some of the areas have been given local names on the Navy's base map and these are also used. Wetlands that are tidally influenced will be inspected and sampled at ebb tide.

Table 2 presents the tide predictions for the week of July 13. It is anticipated that field work in tidally influenced areas will begin 3-4 hours following high tide each afternoon. This will allow samplers the best opportunity to locate leachate seeps and provide worst case samples of the surface waters in the marshes and the discharges to Bayou Grande. In addition, team leaders will have the discretion to collect additional samples if warranted by site conditions, specifically if leachate or other waste material is located. It is anticipated that sediment samples will be collected using hand augers, but petite ponar dredges and shelby

tubes will also be available. Surface water samples will be collected by dipping the containers. Vertical profiling of the water column will not be necessary due to shallow conditions and mixing from tidal effects.

Site 1

Site 1 is a large inactive landfill in the north-central portion of the base, with several tidal marshes on its border (see **Figure 3**). The following areas of interest have been identified and will be sampled during the subject field investigation.

Wetland #1 (un-named)

A forested wetland on the southwestern edge of Site 1. A sample station is to be located east of the unpaved road crossing the western tip of the wetland, prior to the culvert. This road is not located on the Navy's base map. Sample stations will also be located at each of the two outlets located on the Navy's base map. These outlets merge north of the wetland into a ditch that receives an NPDES permitted discharge prior to entering Bayou Grande.

Wetland #18 (un-named)

Tidal marsh located west of Site 1. A sample station will be located at the mouth of the wetland and another inland at either the center of the open water, or at a locatable leachate seep.

Wetland #17 (un-named)

This tidal marsh is not marked on the Navy's base **map**. It is located west of the northern tip of Site 1. A sampling station will be located along the western edge if leachate can be detected, otherwise it will be located in the center of the open water. A second station will be located in Bayou Grande at the discharge point.

Wetland #16 (North Marsh)

This tidal marsh is bordered by Site 1 on the east and west. Earlier reconnaissance of this wetland while the tide was ebbing revealed a slight oil sheen discharging into Bayou Grande. Three sampling stations will be located along the edge of wetland at locatable leachate seeps (if any), or located in the center of the open water. A fourth station will be located in Bayou Grande at discharge point of the wetland.

Wetland #15 (Bayou Grande Marsh)

This wetland is located at the northwestern tip of Site 1. One sampling station will be located at a locatable leachate seep (if any) or in the center of the open water. A second station will be located in Bayou Grande at the-discharge point.

Wetland #3 (Beaver Marsh)

This wetland is located on the eastern side of Site 1, and is visibly contaminated with leachate. A sampling station will be located west of the culvert crossing John H. Tower Rd., and another at the first occurrence of water upgradient of this station.

Wetland #4 (Golf Course Marsh)

Prior to the construction of the A.C. Read Golf Course, this wetland was part of wetland #3. They are still hydraulically connected by a storm drain crossing the golf course. One sampling station will be located at the culvert draining into this wetland, and another in Bayou Grande at the discharge point.

Site 11

Site 11 is a smaller inactive landfill on the western edge of a large un-named inlet of Bayou Grande. Because of concerns with contaminated groundwater discharging along the eastern edge of the inlet from the Industrial Wastewater Treatment Plant (IWTP), both sides of the inlet will be sampled. The inlet also receives drainage from the industrialized area of the base. Approximate locations of sampling stations are given in **Figure 4**.

Wetlands #7, #8, and #64 (un-named)

A sampling station will be located in the center of the ditch discharging to the inlet. Four other sampling stations will be located along the east and west shorelines of the inlet, with a final station located at the center of the oil boom.

Site 30

Industrial area that formerly discharged untreated wastes (such as plating wastes) to wetland #5 and its drainage ditch. Approximate sampling station locations are given in **Figure 5**.

Wetland #5 (un-named)

A soil/sediment only sampling station will be located south of the fence at an apparent stormwater discharge area. A second station will be located at the end of pipes found during the reconnaissance. According to base personnel, these may have carried wastewater to the wetland, although this is not certain. If the ends of the pipes cannot be found using metal detectors, a sampling station will be located in the center of the wetland. A third sampling station will be located west of the culvert crossing Murray Rd. in a small ponded area.

Control Wetland

Wetland #39 (un-named)

Control stations will be located in Bayou Grande at the discharge point and in the center of the open water. If wetland 39 is unsuitable for some reason, wetland 65 will be substituted, Approximate sampling station locations are given in **Figure 6**,

Monitoring Wells

Four monitoring wells will be sampled, two from Site 1, and two from Site 11. The wells will be purged using a low flow pump. Sampling will be done with a peristaltic pump. Monitoring well designations and locations are given in Figures 7 and 8. Site 1 wells to be sampled are GM-5, and GM-4, with GM-40, GM-3, and GM-41 as alternates in order of decreasing desirability. Site 11 wells to be sampled are GM-47 and GM-46, with GM-50 and GM-28 as alternates in order of decreasing desirability.

Potable Wells

The two standby potable wells will be sampled. They are located in buildings 696 and 706. The buildings are shown in **Figures 8** and **9**, respectively. The building 696 well will be sampled by holding the containers in the pump discharge. The building 706 well must be sampled using Teflon[®] tubing placed in the pump discharge. The wells will be pumped for at least two hours before discharge.

Table 1 provides a text summary of all samples to be collected and their stations. The surface water and sediment samples to be collected will be biased to provide worst case information on the various marshes. All samples will be collected in accordance with the Environmental Compliance Branch Standard Operating Procedures and Quality Assurance Manual, February 1, 1991 (ECBSOPQAM). All samples will be positively located (horizontal control) using the Global Positioning System (GPS), with coordinates transferred to figures in the final report.

All samples will be analyzed in accordance with the Analytical Support Branch Laboratory Operations **and** Quality Control Manual, September, 1990. All samples will be analyzed for the TCL/TAL.

Sample designations are as follows:

MT-XXX-YYY

where MT is the two letter MaTriX code for Surface Water, SeDiment, Groundwater, or Potable Water, XXX is the numeric designation for the sample, and YYY is the location code. Location codes for wetlands were assigned by ESD in a wetlands inventory performed earlier at the facility, well codes are as given by facility documents, and potable wells are designated by their building numbers.

Investigation derived wastes will be handled as follows: decontamination water (if any) and all purge water from monitoring wells will be containerized and taken to the industrial wastewater treatment plant. Purge water from the standby potable wells will be discharged to storm drains located adjacent to the wells. Spent solvent (if any) will be collected and transported back to ESD for proper disposal. All trash will be placed in a dumpster on the naval facility.

PERSONNEL

Project Leader	- Fred Sloan
Safety Officer/Team Leader	- Laura McGrath
Team Leader	- Sharon Matthews
Team Leader	- Milton Henderson
GPS/Sample processing/Sampler	- Brian Striggow (ManTech)
Sampler	- Bill Cosgrove
Sampler	- Jason Darby

Team assignments are as follows:

Team #1 - Laura McGrath/Brian Striggow will sample marshes Nos. 1, 17, 18, 64, and 70.

Team #2 - Milton Henderson/Bill Cosgrove will sample marshes Nos. 3, 4, 15, and 16.

Team #3 - Sharon Matthews/Jason Darby will sample the potable wells, the monitoring wells, and marsh No. 5.

ITINERARY

This itinerary is tentative and subject to change as field conditions warrant. A short reconnaissance is planned Tuesday morning to acquaint the team leaders with the marsh areas, and orient them to the areas to be sampled.

Monday: Travel.

Tuesday: Morning - Perform reconnaissance of tidal marshes with team leaders 1 and 2. Team 3 begins sampling. GPS coordinator sets up base station and calibrates air instruments.
Afternoon - Teams 1 and 2 begin sampling.

Wednesday: Teams 1 and 2, sampling all day. Team 3 finished by early afternoon, rotates into other teams and/or process samples as needed.

Thursday: Finish sampling.

Friday: Return to Athens, GA.

TABLE 1
SUMMARY OF SAMPLES AND LOCATIONS
AND RATIONALE

Station No.	Location	Rationale
SW-001-1	Upper end of wetland #1	Determine if contaminants are leaching from Site 1 to this wetland.
SW-002/3-1	Drainage outlets of wetland #1	Determine if contaminants are leaving this wetland and potentially reaching Bayou Grande.
SD-001-1	Upper end of wetland #1	Determine if contaminants are leaching from Site 1 to this wetland.
SD-002/3-1	Drainage outlets of wetland #1	Determine if contaminants are migrating from this wetland to Bayou Grande.
SW-001-18	Upper end of wetland #18	Determine if contaminants are leaching from Site 1 to this wetland.
SW-002-18	Discharge of wetland #18 to Bayou Grande	Determine if contaminants are migrating from this wetland to Bayou Grande.
SD-001-18	Upper end of wetland #18	Determine if contaminants are leaching from Site 1 to this wetland.
SD-002-18	Discharge of wetland #18 to Bayou Grande	Determine if contaminants are migrating from this wetland to Bayou Grande.
SW-001-17	Upper end of wetland #17	Determine if contaminants are leaching from Site 1 to this wetland.
SW-002-17	Discharge of wetland #17 to Bayou Grande	Determine if contaminants are migrating from this wetland to Bayou Grande.
SD-001-17	Upper end of wetland #17	Determine if contaminants are leaching from Site 1 to this wetland.
SD-002-17	Discharge of wetland #17 to Bayou Grande	Determine if contaminants are migrating from this wetland to Bayou Grande.

Station No.		
SW-001/3-16		
SW-004-16		
SD-001/3-16		
SD-004-16		
SW-001-15		
SW-002-15	Discharge of wet-land #15 to Bayou Grande	Determine if contaminants are migrating from this wetland to Bayou Grande.
SD-001-15	Upper end of wet-land #15.	Determine if contaminants are leaching from Site 1 to this wetland.
SD-002-15	Discharge of wet-land #15 to Bayou Grande	Determine if contaminants are migrating from this wetland to Bayou Grande.
SW-001-3	Lower end of wet-land #3.	Determine nature of contaminants leaching from Site 1 to this wetland.
SW-002-3	Upper end of wet-land #3.	Determine nature of contaminants leaching from Site 1 to this wetland.
SD-001-3	Lower end of wet-land #3.	Determine nature of contaminants leaching from Site 1 to this wetland.
SD-002-3	Upper end of wet-land #3.	Determine nature of contaminants leaching from Site 1 to this wetland.

TABLE 1 (CONTINUED)
SUMMARY OF SAMPLES AND LOCATIONS
AND RATIONALE

Station No.	Location	Rationale
SW-001-4	Upper end of wetland #4.	Determine nature of contaminants leaching from Site 1 to this wetland.
SW-002-4	Discharge of wetland #4 to Bayou Grande.	Determine if contaminants are migrating from this wetland to Bayou Grande.
SD-001-4	Upper end of wetland #4.	Determine nature of contaminants leaching from Site 1 to this wetland.
SD-002-4	Discharge of wetland #4 to Bayou Grande.	Determine if contaminants are migrating from this wetland to Bayou Grande.
SW-001-64	Upper end of wetlands Nos. 7, 8, and 64.	Determine nature of contaminants in ditch draining N.A.S. to these wetlands.
SW-002/5-64	Wetlands Nos. 7, 8, and 64.	Determine if contaminants from N.A.S. and Site 11 are impacting wetlands.
SW-006-64	Discharge of Wetlands Nos. 7, 8, and 64 to Bayou Grande.	Determine if contaminants from N.A.S. and Site 11 are impacting Bayou Grande.
SD-001-64	Upper end of wetlands Nos. 7, 8, and 64.	Determine nature of contaminants in ditch draining N.A.S. to these wetlands.
SD-002/5-64	Wetlands Nos. 7, 8, and 64.	Determine if contaminants from N.A.S. and Site 11 are impacting wetlands.
SD-006-64	Discharge of Wetlands Nos. 7, 8, and 64 to Bayou Grande.	Determine if contaminants from N.A.S. and Site 11 are impacting Bayou Grande.

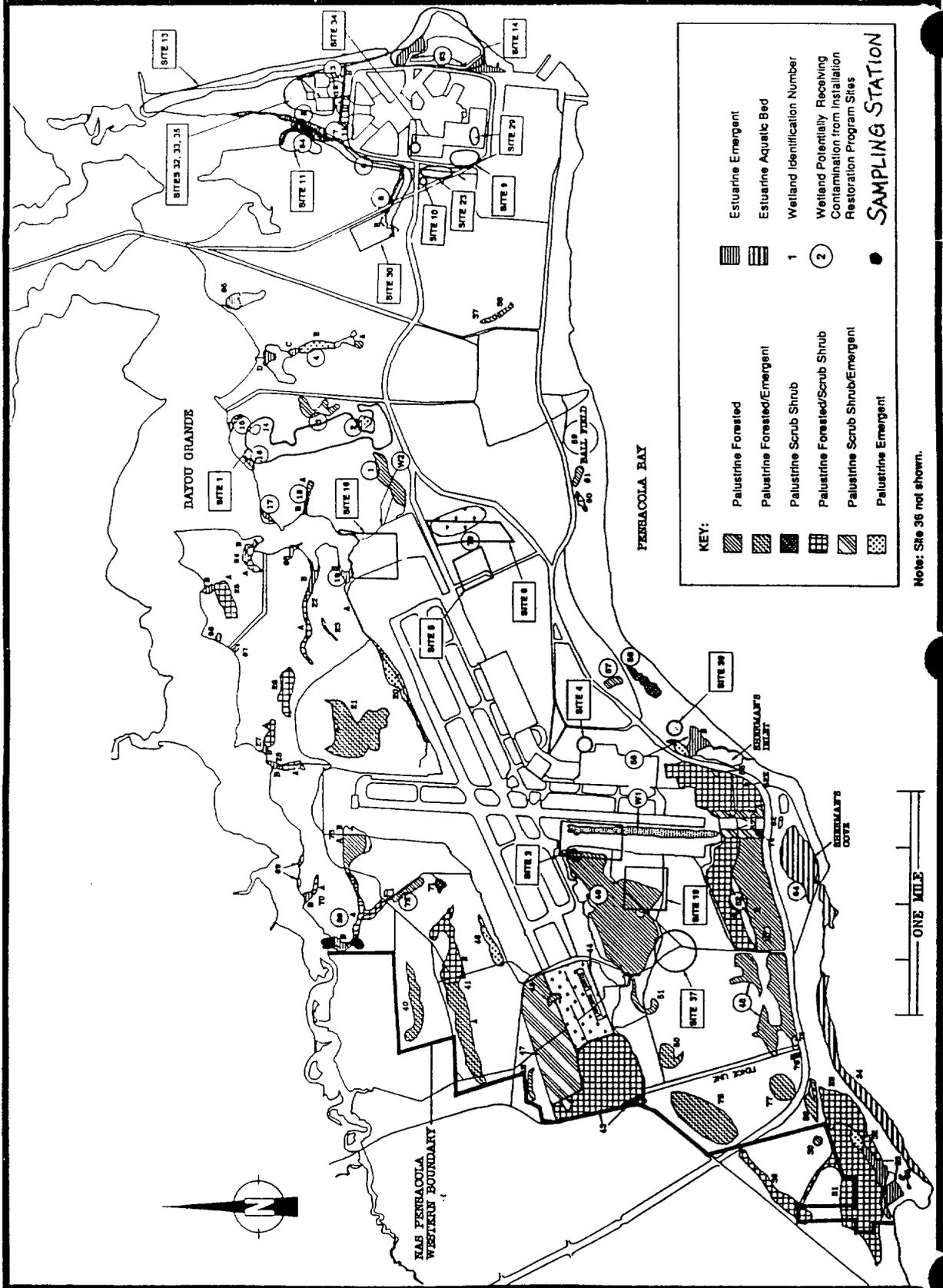
TABLE 1 (CONTINUED)

AND RATIONALE

Station No.	Location	Rationale
SD-001-5	Drainage swale to wetland #5.	Determine if contaminants are migrating from Site 30 to wetland.
SW-002-5	Drainage pipes in wetland #5.	Determine if pipes are a source area for the wetland.
SW-003-5	Discharge to culvert under Murray Rd.	Determine if contaminants are migrating from wetland.
SD-002-5	Drainage pipes in wetland #5.	Determine if pipes are a source area for the wetland.
SD-003-5	Discharge to culvert under Murray Rd.	Determine if contaminants are migrating from wetland.
SW-001-39	Upper end of control wetland.	Determine control conditions for the study.
SW-002-39	Discharge of control wetland to Bayou Grande.	Determine control conditions for the study.
SD-001-39	Upper end of control wetland.	Determine control conditions for the study.
SD-002-39	Discharge of control wetland to Bayou Grande.	Determine control conditions for the study.
GW-001-5	Northwest corner of Site 1.	Determine groundwater conditions.
GW-001-4	North central edge of Site 1.	Determine groundwater conditions.
GW-001-47	Northeast area of Site 11.	Determine groundwater conditions.
GW-001-46	North central edge of Site 11.	Determine groundwater conditions.
PW-001-696	Building 696 potable well.	Test lower aquifer and for public health.
PW-001-706	Building 706 potable well.	Test lower aquifer and for public health.

TABLE 2
TIDE CHART FOR PENSACOLA PASS

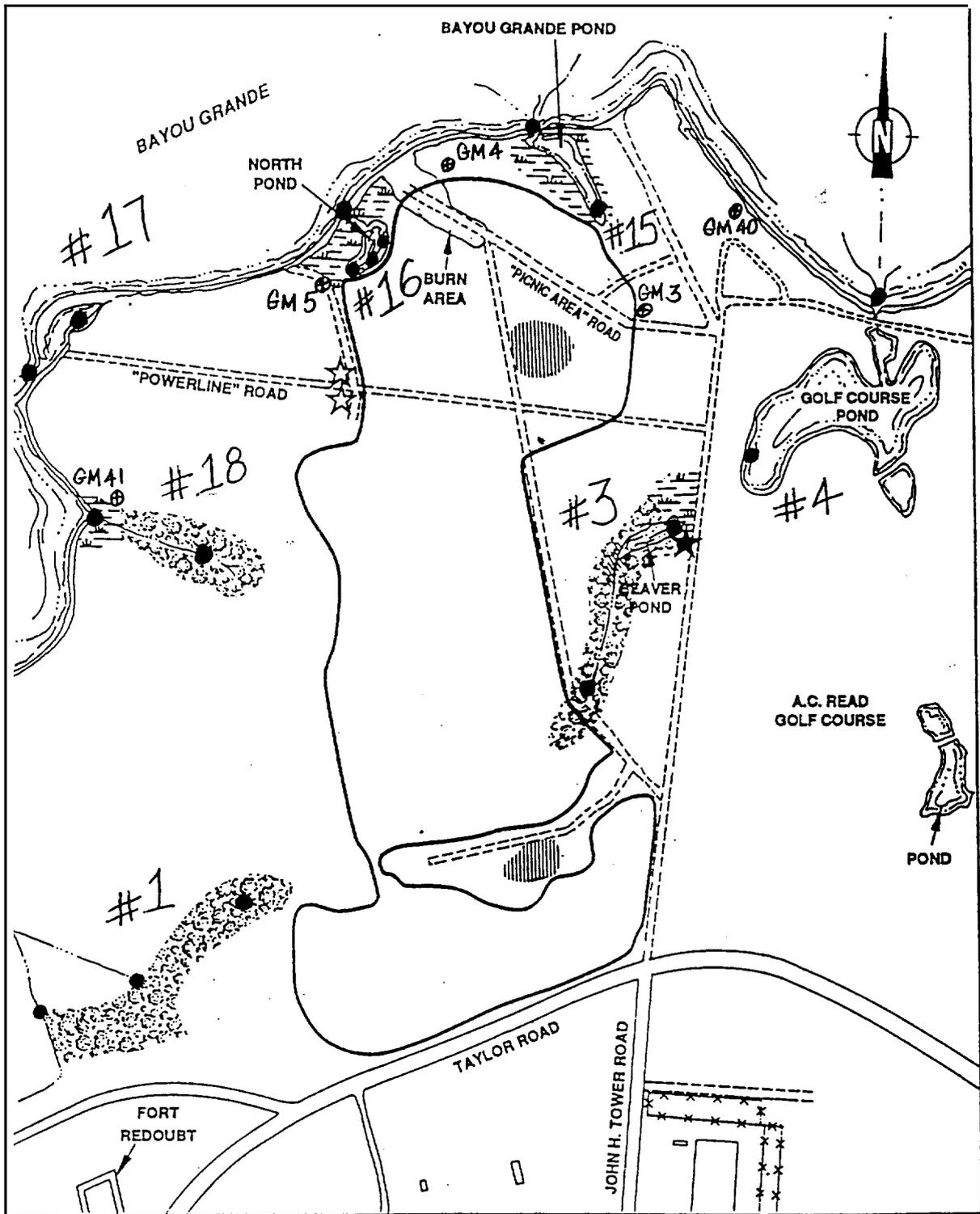
DATE	LOW TIDE	HIGH TIDE	TIDE CHANGE FLOW
JULY 13	2124	0920	VERY STRONG
JULY 14	2204	1002	MODERATE
JULY 15	2233	1037	MODERATE
JULY 16	2253	1116	VERY WEAK
JULY 17	2306	1141	WEAK



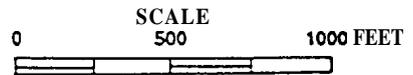
KEY:

	Palustrine Forested		Estuarine Emergent
	Palustrine Forested/Emergent		Estuarine Aquatic Bed
	Palustrine Scrub Shrub	1	Welland Identification Number
	Palustrine Forested/Scrub Shrub	2	Welland Potentially Receiving Contamination from Installation Restoration Program Sites
	Palustrine Scrub Shrub/Emergent	●	SAMPLING STATION
	Palustrine Emergent		

Note: Site 36 not shown.



SOURCE: Ecology and Environment, Inc., 1991



KEY:

Landfill Boundary

Unpaved Road

Fence



Location *Lilaeopsis carolinensis*



Location *Polygonella macrophylla*



Emergent Marsh



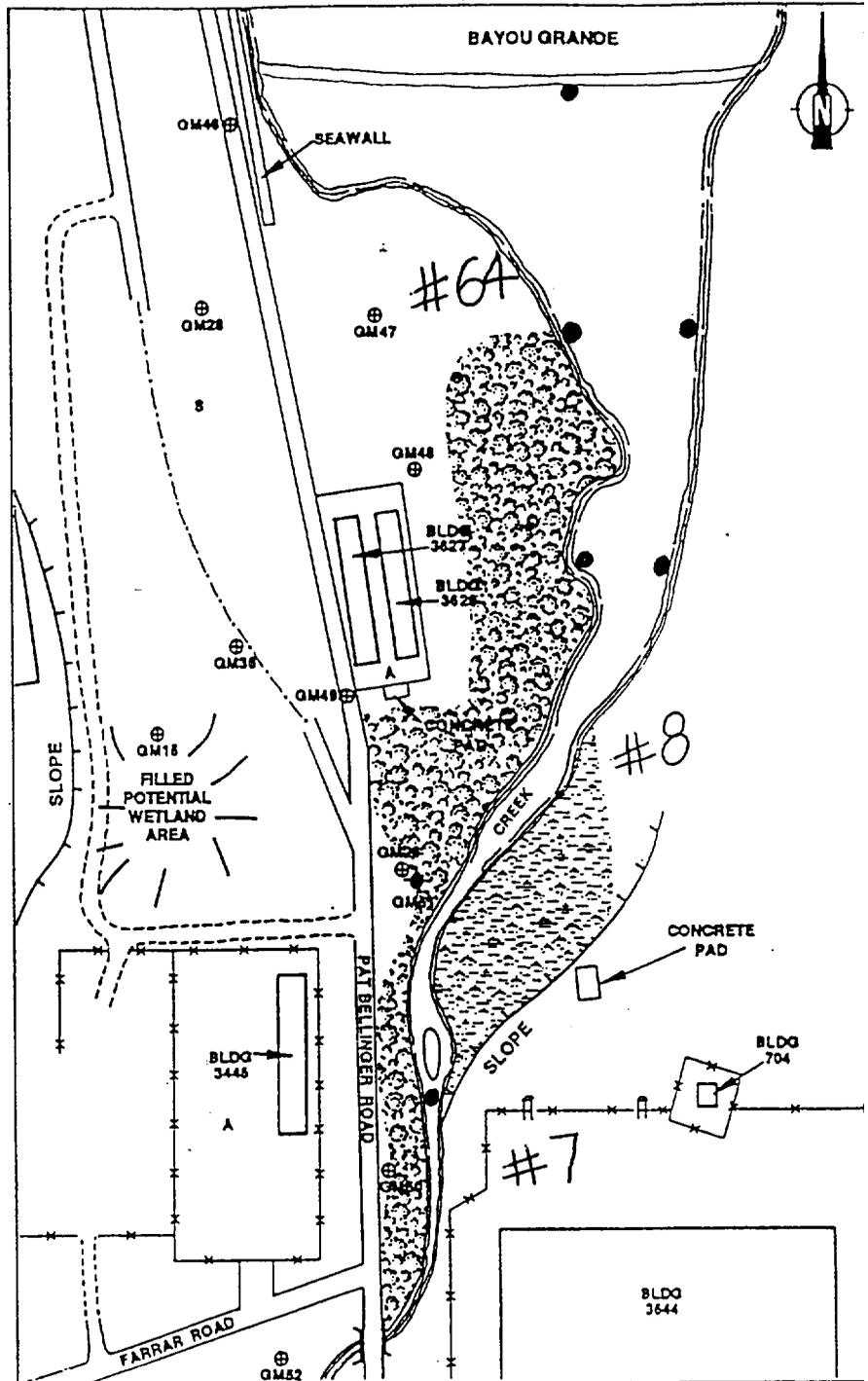
Forested Wetland



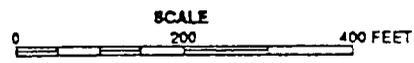
Scrub Shrub, Emergent Wetland

SAMPLING STATION
 MONITORING WELL

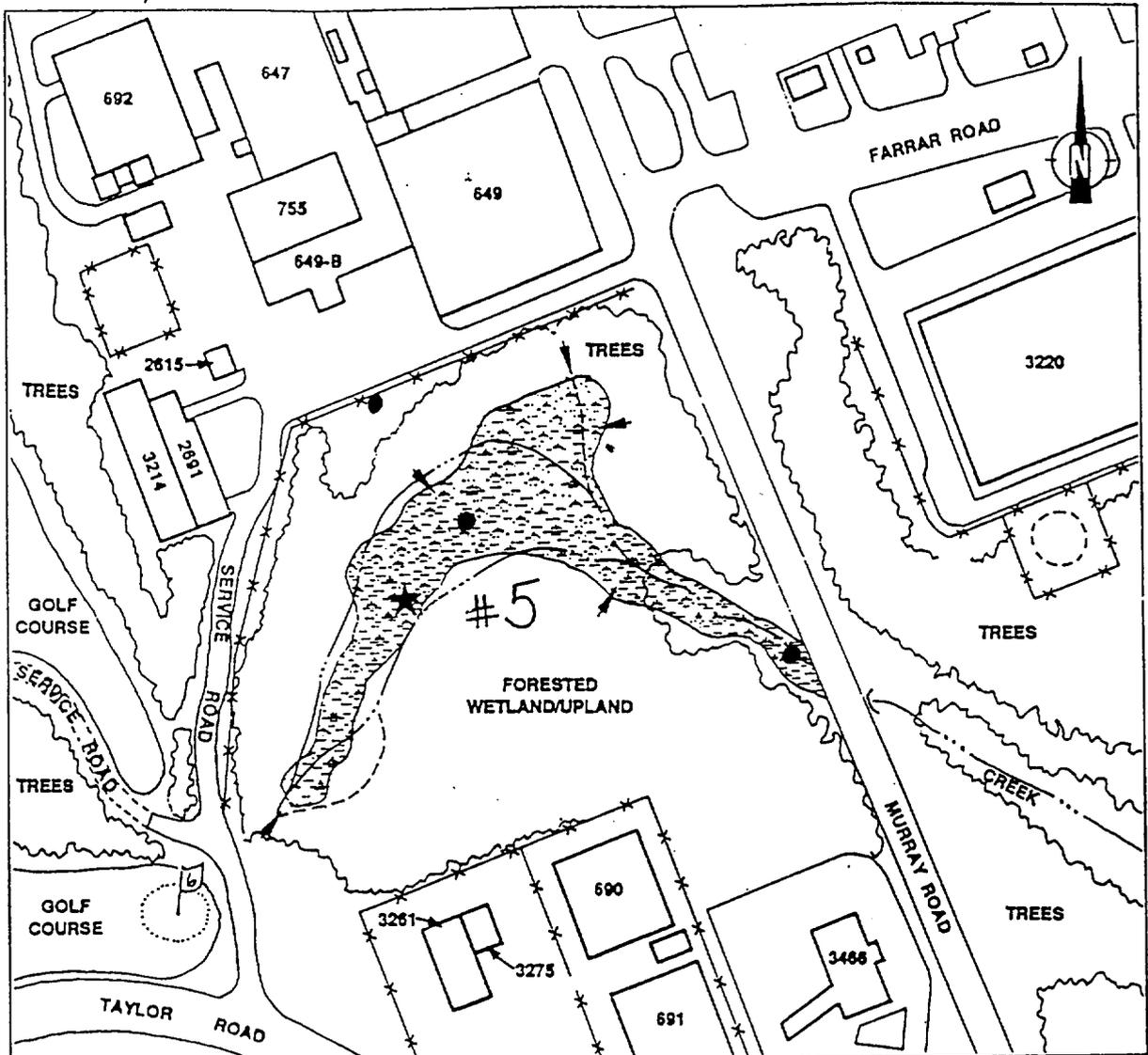
— NAS PENSACOLA SITE I



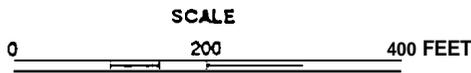
SOURCE: U.S. Naval Air Station, Pensacola, Florida 1990; and E & E 1991



KEY:			
	Unmaintained Road		Existing Permanent Deep Monitoring Well
	Abandoned Road		Emergent Marsh
	Building		Forested Wetland
	Fence		SAMPLING STATION
		Outfall Pipe	
		Asphalt Paved Area	
		Sand	
		Existing Permanent Shallow Monitoring Well	



SOURCE: U.S. Naval Air Station Pensacola, Florida 1986, 1991; Ecology and Environment, Inc., 1991



KEY:

-  Emergent Marsh
-  Location of Carolina Lilaeopsis (*Lilaeopsis carolinensis*)
-  Outfall
-  Creek
-  Intermittent Creek
-  SAMPLING STATION

SAFETY PLAN

Site Name: N.A.S. Pensacola Contact: Ron Jovner
 Address: N.A.S. Pensacola
 Phone Number: (904) 452-4515

Purpose of Site Visit: Field Investigation
 Proposed Date(s) of Work: June 14-16, 1992
 Directions to Site: West from Pensacola on S.R. 292. South on Main Gate Rd.

Site Investigation Team:

Personnel*	Safety Category	Responsibilities**
<u>Fred Sloan</u>	<u>I</u>	<u>Project Leader</u>
<u>Laura McGrath**</u>	<u>I</u>	<u>Safety Off./Team Leader</u>
<u>Milton Henderson</u>	<u>I</u>	<u>Team Leader</u>
<u>Sharon Matthews</u>	<u>I</u>	<u>Team Leader</u>
<u>Terry Thomas</u>	<u>I</u>	<u>Sampler</u>
<u>Jason Darby</u>	<u>II</u>	<u>Sampler</u>
<u>Brian Striggow</u>	<u>I</u>	<u>Air Mon./GPS/Sampler</u>

* All employees have been trained/medically monitored in accordance with OSHA 29 CFR 1910.12 requirements and US-EPA Region IV Field Health and Safety Manual, 1990 edition.

** Note: Site Safety Officer Designee.

Plan Preparation

Prepared by: <u>Laura McGrath</u>	Date: <u>7/8/92</u>
Reviewed/Approved by: <u>[Signature]</u>	<u>7/8/92</u>
OHSD-Athens: <u>[Signature]</u>	<u>7/9/92</u>

Site Status: XXX Active, _____ Inactive, _____ Unknown

EMERGENCY INFORMATION:

Local Resources:

Ambulance (Name): On-Base Call Phone 2-3333
 Hospital (Name): _____ Phone 2-3333
 Police (Local or State): _____ Phone 2-3333
 Fire Department: _____ Phone 2-3333

SAFETY PLAN

AUGERING AND DRILLING OPERATIONS:

Underground Utilities:

All underground utilities must be located prior to commencement of drilling operations involving the drill rig and power augers. Complete the underground utilities checklist below and prepare a site map showing the locations of all underground utilities identified.

<u>UTILITY</u>	<u>LOCATOR/CONTACT PERSON</u>	<u>PHONE NUMBER</u>	<u>DATE OF LOCATION</u>
POWER	NA		
TELEPHONE *	NA		
GAS	NA		
WATER	NA		
SEWER	NA		
OTHER			

* Include non-AT&T lines such as Sprint, MCI, etc.

IMPORTANT: Check all proposed drilling locations with a pipe-seeker. As a minimum, the first four feet of a power bored hole will be dug using a **post** hole digger/hand auger. Personnel involved in the drilling **will** wear eye protection in addition to normal safety gear appropriate for the required level of protection. The site safety officer will insure that all personnel remove watches, rings and other jewelry, as well as securing loose fitting or dangling articles of clothing while in the vicinity of the drilling operations. Additionally, the safety officer will insure that a 90 degree clear zone is maintained for a radius of at least **25** feet behind the drill rig.

Above Ground Utilities:

All above ground utilities must be located prior to commencing drilling/augering activities. A map will be prepared showing the locations of all power lines, telephone lines, video cables, guy wires, and other **objects** which could **pose** a hazard to personnel operating the drill rig, power auger, or hand auger with multiple extensions. The site safety officer will insure that all operations are kept well clear of such hazards.