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NAS WHITING FIELD
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RESTORATION ADVISORY BOARD AGENDA, SLIDES, AND ATTACHMENT 13 NOVEMBER 1997 NAS WHITING FIELD FL
11/13/1997
RESTORATION ADVISORY BOARD

Agenda

NAS Whiting Field Restoration Advisory Board Meeting
Santa Rosa County Chamber of Commerce Conference Room
5247 Stewart Street SW, Milton
November 13, 1997, 5:30 P.M.

• ***Welcome***	Logan Fink Community RAB Co-Chair
• ***Remedial Investigation Update***	Terry Hansen ABB Environmental Services
• ***Clear Creek Sampling Results***	Gerry Walker ABB Environmental Services
• ***Break***	
• ***Building 2894 Cleanup Status***	Terry Hansen ABB Environmental Services
• ***General Discussion***	RAB Members

- upcoming agenda topics/speakers
- location/schedule for next meeting
- impacts of the 24 October earthquake
- other topics

NAS Whiting Field RAB Meeting
November 13, 1997

Naval Air Station (NAS) Whiting Field

Restoration Advisory Board (RAB) Meeting

November 13, 1997

NAS Whiting Field

Tonight's Agenda

- **Welcome**
  - Logan Fink
- **Membership Report**
  - Pat Durbin
- **Site 1 Remedial Investigation (RI) Report**
  - Terry Hansen
- **Clear Creek sampling results**
  - Gerry Walker
- **Building 2894 cleanup status**
  - Terry Hansen
- **RAB administration and general discussion**
  - RAB

NAS Whiting Field

Membership Report

- Recruitment efforts have been successful and the new members are
  - Karin Garvin
  - Nellie Parker
  - Larry Sever

AS Whiting Field

Site 1 Remedial Investigation Report

- First in a series of site-specific reports
- Supplemented by the General Information Report (GIR)
  - references GIR instead of repeating same information
- Includes site-specific human health and ecological risk assessment

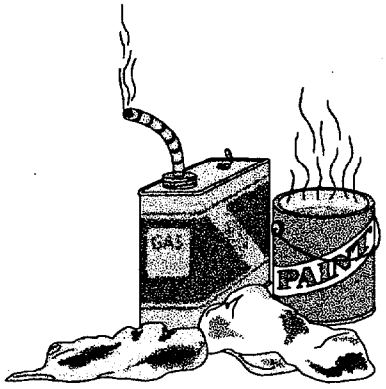
AS Whiting Field

Site 1 History

- Known as Northwest Disposal Area
- Approximately 5 acres
- Northwest of North Field
- Used for refuse disposal from 1943 to 1965
- Currently a pine tree forest

What Was Disposed Of?

- Household trash
- Waste paints
- Solvents
- Waste oil
- Hydraulic fluid



Completed Fieldwork

- Soil gas survey
- Geophysical survey
- Test pit investigations
- Soil sampling
- Well installation and groundwater sampling
- Hydrogeologic studies

Survey and Sampling Locations

- **Soil gas survey points**
- Surface soil sampling locations
- Subsurface soil sampling and test pit locations
- Groundwater sampling locations

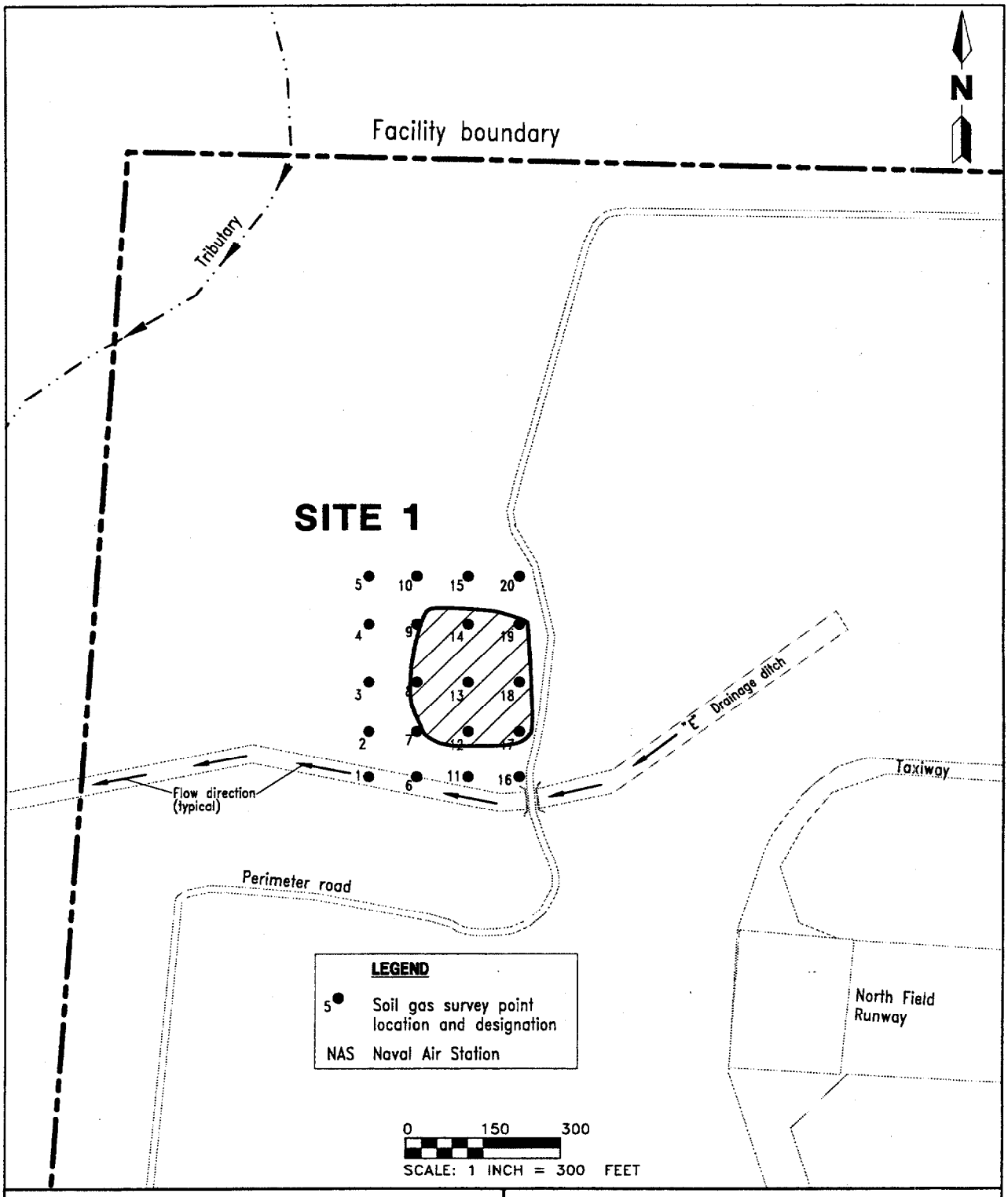


FIGURE 3-1
LOCATION OF ACTIVE SOIL GAS SURVEY POINTS

REMEDIAL INVESTIGATION REPORT
SITE 1, NORTHWEST DISPOSAL AREA

NAS WHITING FIELD
MILTON, FLORIDA

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Survey and Sampling Locations (cont.)

- Soil gas survey points
- **Surface soil sampling locations**
- Subsurface soil sampling and test pit locations
- Groundwater sampling locations

Survey and Sampling Locations (cont.)

- Soil gas survey points
- Surface soil sampling locations
- **Subsurface soil sampling and test pit locations**
- Groundwater sampling locations

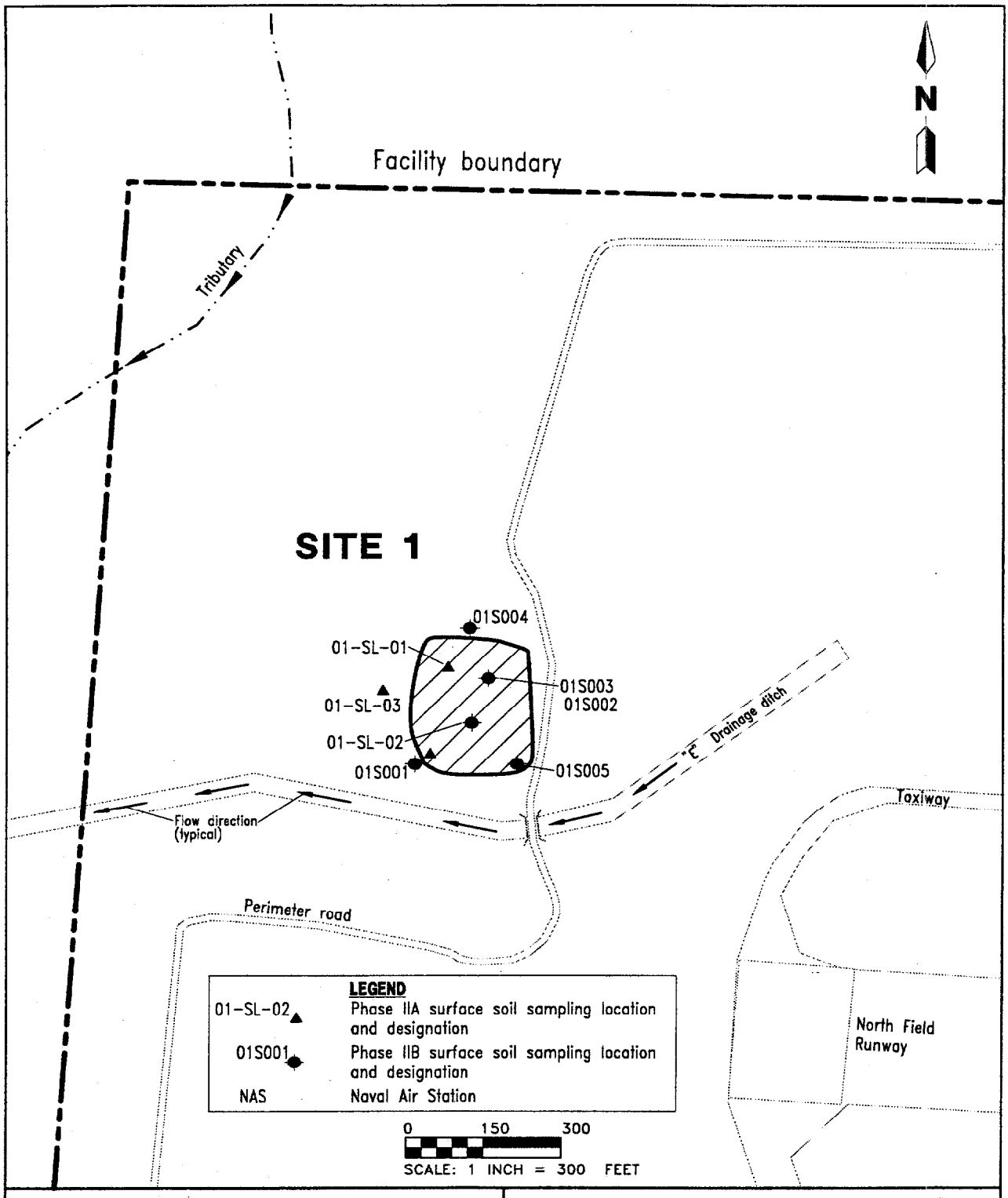

FIGURE 3-2
SURFACE SOIL SAMPLING LOCATIONS

REMEDIAL INVESTIGATION REPORT
SITE 1, NORTHWEST DISPOSAL AREA

NAS WHITING FIELD
MILTON, FLORIDA

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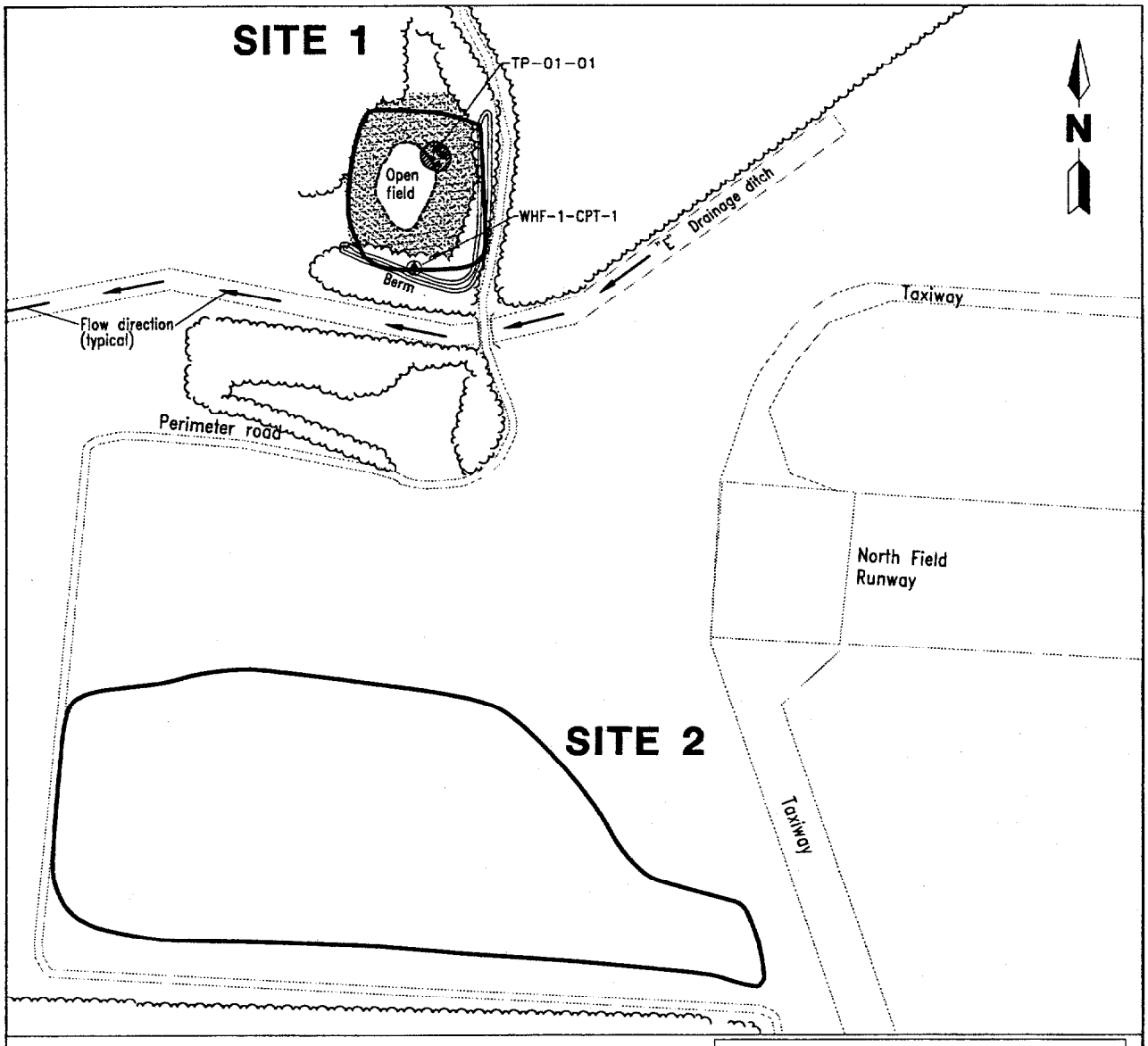

LEGEND

WHF-1-CPT-1	Approximate RI Phase I PCPT location and designation
TP-01-01	RI Phase IIA test pit location and designation
	Geophysical anomaly
	Area of planted pine trees
	Older tree line
	Approximate site boundary
PCPT	Piezo cone penetrometer
RI	Remedial Investigation
NAS	Naval Air Station

0 150 300

SCALE: 1 INCH = 300 FEET

FIGURE 3-3
SITE 1, LOCATION OF TEST PIT, PCPT EXPLORATION AND GEOPHYSICAL ANAMOLY

REMEDIAL INVESTIGATION REPORT
SITE 1, NORTHWEST DISPOSAL AREA

NAS WHITING FIELD
MILTON, FLORIDA

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Survey and Sampling Locations (cont.)

- Soil gas survey points
- Surface soil sampling locations
- Subsurface soil sampling and test pit locations
- **Groundwater sampling locations**

Conclusions from Field Studies

- General
  - no evidence of landfilling
  - no potentially harmful soil gases detected
  - groundwater flows south/southwest
- Soil
  - some inorganic chemicals were slightly above typical levels in area
  - arsenic in two surface soil samples was above levels acceptable for industrial sites

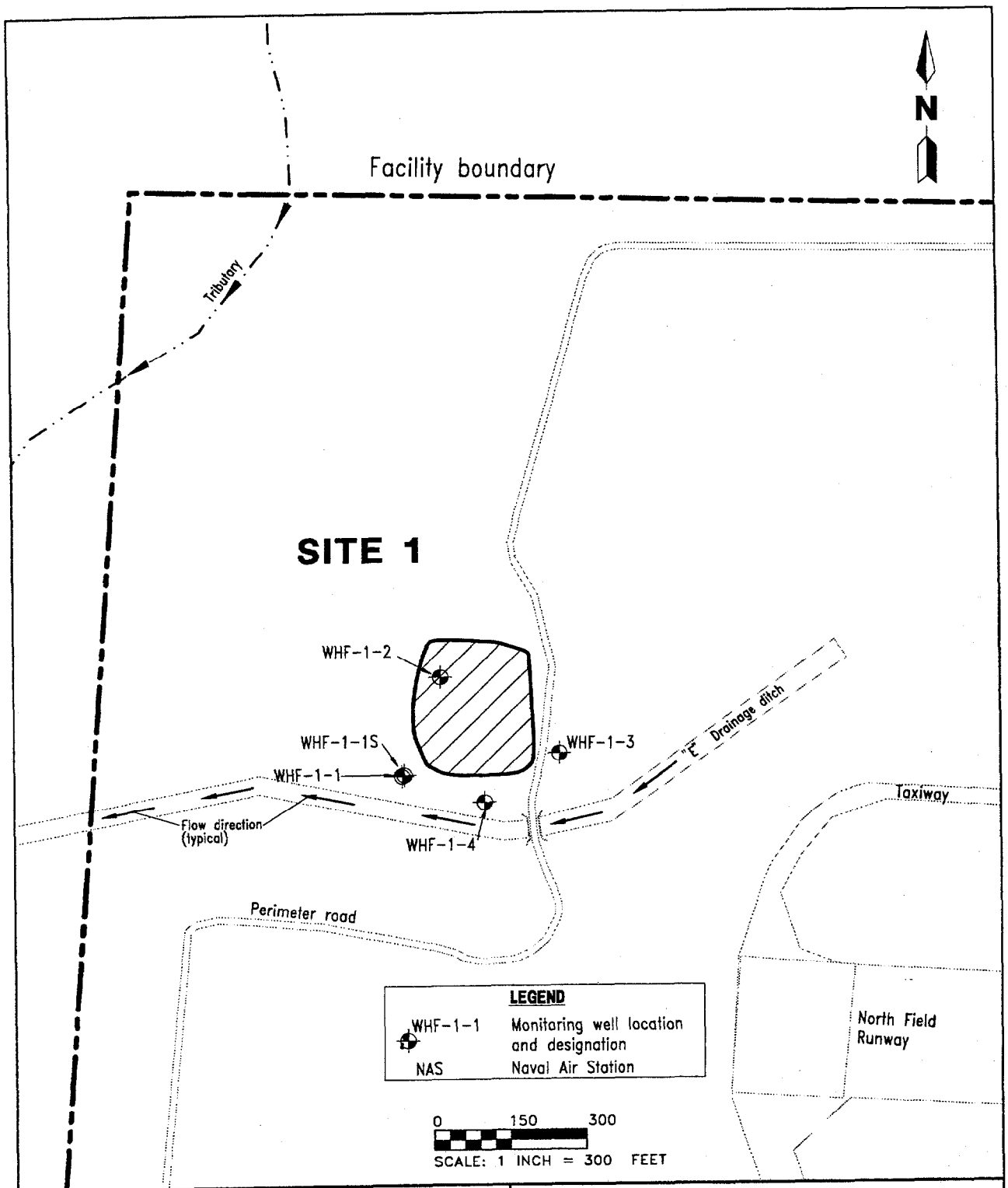

FIGURE 3-4
MONITORING WELL LOCATION MAP

REMEDIAL INVESTIGATION REPORT
SITE 1, NORTHWEST DISPOSAL AREA

NAS WHITING FIELD
MILTON, FLORIDA

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Conclusions from Field Studies (cont'd)

- Groundwater
  - one pesticide chemical was found in two samples
  - aluminum and iron in shallow samples were above Federal and State limits
  - no intermediate depth samples were above these limits
  - pH was consistent with typical levels in area

Risk Assessment Conclusions

- Human Health
  - health risks unlikely for current or potential future site residents (a residential scenario is a conservative approach for estimating risks)
  - risk estimates for arsenic were slightly above State goals
    - estimates based on soil ingestion by future site residents or workers
    - arsenic was in pesticides commonly used in cotton and pecan agriculture

Risk Assessment Conclusions (cont'd)

- Ecological
  - potential effects on plants from two metals found in soil
    - levels found were lower than typical for the area
  - serious effects unlikely for wildlife exposure to soil or food items
  - potential (sublethal) effect on cotton mouse

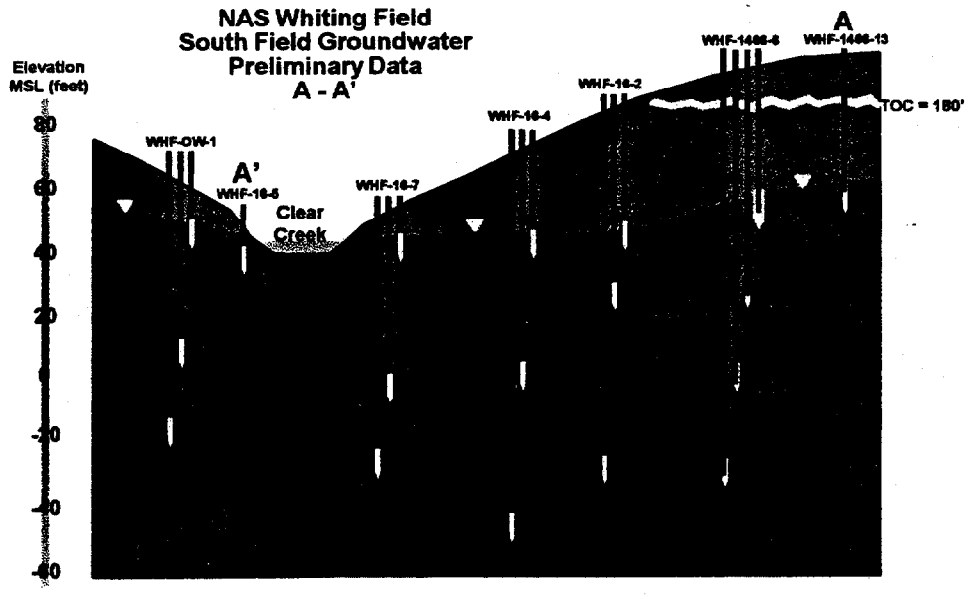
Remedial Investigation Recommendations

- No further action proposed
  - based on RI findings and risk estimates
- Groundwater at Site 1 will be addressed in a basewide groundwater investigation report

Questions and Comments

AS Whiting Field

Clear Creek Sampling Results



Site 2894 Cleanup Status

- First year results

RAB Administration and General Discussion

- Location and schedule for next meeting
- Agenda topics and speakers
- Impacts of earthquake
- Other topics

Remedial Investigation Report, Site 1, Northeast Disposal Area
Document Review Comment Sheet
Restoration Advisory Board (RAB)
Naval Air Station (NAS) Whiting Field, Milton, Florida

If you have comments or questions on the attached information, please provide them in the space below and on the other side, if needed. Include your name and your address or telephone number so we can contact you if necessary. Your input is an important part of ensuring public involvement in the NAS Whiting Field environmental program.

Name: _____

Address: _____

City: _____ State: _____

Zip: _____ Phone: ( ) _____

Comments:

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Please return by mail using the preprinted address on the reverse side. Be sure to put a stamp in the space indicated. Comments can also be brought to the next RAB meeting or made by telephone to:

Pat Durbin, NAS Whiting Field Public Works Department
904-623-7181, ext. 48 or 904-623-7515 (fax)
or by email to: nday1@navtap.navy.mil

Place
Stamp
Here

Pat Durbin
Public Works Department
NAS Whiting Field
7151 USS Wasp Street
Milton, FL 32570-6159

Please fold in half, tape closed, apply stamp, and return

REMEDIAL INVESTIGATION REPORT

SITE 1, NORTHWEST DISPOSAL AREA

NAVAL AIR STATION WHITING FIELD
MILTON, FLORIDA

UNIT IDENTIFICATION CODE: N60508
CONTRACT NO.: N62467-89-D-0317/116

OCTOBER 1997

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA
29419-9010

EXECUTIVE SUMMARY

A remedial investigation and feasibility study (RI/FS) is being conducted at Naval Air Station (NAS) Whiting Field in Milton, Florida, by Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) as part of the Department of Defense Installation Restoration (IR) program. The IR program was designed to identify and abate or control contaminant migration resulting from past operations at naval installations.

A phased approach was implemented to conduct the RI. Phase I was completed in May 1992. The subsequent phases of the RI were designated as Phase IIA and Phase IIB. Fieldwork for Phase IIA was completed in March 1994. RI Phase IIB was completed in November 1996.

This RI report contains the results of assessment activities used to characterize site-specific chemicals detected in environmental media (soil gas, soil, and groundwater) at Site 1, Northwest Disposal Area at NAS Whiting Field. Data obtained from these activities were used to evaluate the nature and extent of contamination at the site and support feasibility studies (if required) and baseline risk assessments. Human health and ecological baseline risk assessments are included with the RI report.

The fieldwork conducted during the RI included the following tasks:

- soil gas survey,
- geophysical survey,
- test pit investigations,
- subsurface soil sampling,
- surface soil sampling,
- monitoring well installation,
- groundwater sampling, and
- hydrogeologic investigations.

Soil gas samples were analyzed for methane and other volatile organic compounds (VOCs). Soil and groundwater samples were analyzed for target compound list organic analytes, and target analyte list inorganic analytes.

The following conclusions are based on results of the RI investigation activities at Site 1, Northwest Disposal Area, NAS Whiting Field.

- Geophysical survey results do not conclusively support any evidence of landfilling.

- The test pit sampling results do not conclusively support any evidence of landfilling.

- Neither methane nor VOCs were detected during the soil gas survey.

- Neither semivolatile organic compounds (SVOCs) nor polychlorinated biphenyls (PCBs) were detected in surface soil samples at concentrations exceeding their respective detection limits. One VOC (xylenes) was detected at a concentration below the Florida Department of Environmental Protection (FDEP) residential soil

cleanup goal in two surface soil samples. One pesticide compound (dieldrin) was detected at a concentration below the FDEP residential soil cleanup goal in one surface soil sample. Twenty inorganic analytes were detected in the surface soil samples. Eleven inorganic analytes slightly exceeded the background screening values (ABB Environmental Services, Inc. [ABB-ES], 1997). Arsenic slightly exceeded the FDEP industrial cleanup goal for soil in two surface soil samples.

- Neither SVOCs, pesticides, nor PCBs were detected at concentrations exceeding detection limits in the subsurface soil sample collected at Site 1. One VOC (acetone) was detected in the sample; however, acetone is a common field or laboratory derived contaminant. Sixteen inorganic analytes were detected in the subsurface soil sample. Only mercury slightly exceeded the background screening value. No inorganic analytes detected in the subsurface soil sample exceeded the FDEP industrial cleanup goal for soil.

- VOCs, SVOCs, or PCBs were not detected in groundwater samples at concentrations exceeding Federal or State maximum contaminant levels (MCLs). One pesticide compound (beta-benzene hexachloride [BHC]) was detected in two groundwater samples collected in 1993; however, no applicable standard currently exists.

- Two inorganic analytes, aluminum and iron, were detected in the shallow monitoring well groundwater samples, collected by low-flow methods, at concentrations exceeding Federal and State MCLs. None of the inorganic analytes detected in the groundwater samples collected using low-flow methods from the intermediate monitoring well exceeded Federal or State MCLs.

- The pH values of groundwater samples collected from monitoring wells were below the lower range for Federal and State Secondary MCLs; however, these values were within the range observed in background groundwater samples collected at NAS Whiting Field (ABB-ES, 1997).

- The groundwater flow direction is to the south-southwest and discharges at Clear Creek, which is located approximately 5,000 feet southwest of the site.

- The Human Health Risk Assessment determined that soil and groundwater at Site 1 are not likely to pose an unacceptable carcinogenic or noncancer hazard to a current or hypothetical future resident at the site.

- The total excess lifetime cancer risk associated with ingestion of soil by a hypothetical future resident (1×10^{-5}) and occupational worker (1×10^{-6}) did exceed FDEP's target level of concern (1×10^{-6}) due to arsenic.

- The noncancer hazards associated with ingestion and direct contact of soil by a hypothetical future child resident slightly exceeded U.S. Environmental Protection Agency target hazard index (HI) of 1; however, no individual analyte exceeded 1.

- Noncancer risk in surface soil is primarily from iron. Iron was detected in surface soil samples at concentrations that are an order of magnitude less than acceptable essential nutrient levels.

- The Ecological Risk Assessment suggests that concentrations of chromium and vanadium detected in the surface soil samples could potentially affect plants; however, both chromium and vanadium were below their respective regional background averages for surface soil.

- Soil and food items containing chemicals from Site 1 are unlikely to have lethal effects to wildlife receptors.

- Sublethal exposures are unlikely to result in adverse effects to reproduction and survival except for the herbivore mammal. The cotton mouse had a calculated HI of 2, which suggests a potential for adverse effects to reproduction and survival. The primary contributor of sublethal risk to wildlife is arsenic (hazard quotient = 1.4).

Based on the interpretation of findings from the remedial investigation activities, no further action (NFA) is proposed for Site 1, Northwest Disposal Area. Based on the recommendation for NFA, an FS does not need to be conducted for this site.

TABLE OF CONTENTS

Remedial Investigation Report
Site 1, Northwest Disposal Area
Naval Air Station Whiting Field
Milton, Florida

1.0 INTRODUCTION

ABB Environmental Services, Inc. (ABB-ES), under contract to the Department of Navy, Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) is submitting the Remedial Investigation (RI) Report for Site 1, Northwest Disposal Area, at Naval Air Station (NAS) Whiting Field located in Milton, Florida. The RI Report for Site 1 is one in a series of site-specific reports being completed in conjunction with the NAS Whiting Field General Information Report (GIR) (ABB-ES, 1997) to summarize the previous investigations and to present the results of the RI.

The Remedial Investigation and Feasibility Study (RI/FS) is being conducted on behalf of the Navy at NAS Whiting Field under contract No. N62467-89-D-0317. The RI was conducted in three phases. The Phase I RI field program was completed in May 1992. The Phase IIA RI field program was conducted between May 1992 and March 1994. The Phase IIB RI field program was completed in November 1996.

Installation Location and Description. NAS Whiting Field is located in Santa Rosa County, in Florida's northwest coastal area, approximately 7 miles north of Milton and 20 miles northeast of Pensacola (Figure 1-1). NAS Whiting Field presently consists of two air fields separated by an industrial area. The installation is approximately 2,560 acres. Figure 1-2 presents the installation layout and locations of RI/FS sites at NAS Whiting Field. A complete description of historic operations at the facility is presented in Section 1.3 and Appendix A of the NAS Whiting Field GIR (ABB-ES, 1997).

1.1 PURPOSE OF THE RI/FS. The purpose of the NAS Whiting Field RI is to identify and characterize the nature and extent of chemicals in environmental media and potential risks to human and ecological receptors that might be posed by toxic or hazardous chemicals present onsite. The chemicals were potentially released to the environment during past waste disposal practices or spills. The data collected during the RI field program will also be used in an FS (if necessary) to screen, evaluate, and select remedial alternatives to provide permanent, feasible solutions to environmental impacts that may be a result of past waste disposal practices or spills.

1.2 SITE DESCRIPTION. Site 1 is a 5-acre parcel located along the northwestern facility boundary near the North Air Field (Figure 1-2). The site is a surface depression that gently slopes toward a drainage outlet located along the southwestern site boundary.

The site is currently forested with pine trees that are approximately 20 feet in height. Large concrete pipes and culverts and some concrete rubble are present on the ground surface of the site. Buried wastes are not exposed at the land surface in erosional areas, nor are there indications (e.g., stained soil or stressed vegetation) of other past waste disposal practices.

According to the U.S. Department of Agriculture (USDA) (1980), the soil at Site 1 is classified as Troup Loamy Sand. There is no evidence of a clay soil cap over the site area. Because the soil at the site is predominantly silty sand, much of the onsite rainfall infiltrates directly into the soil. Surface water

runoff flows along the southwestern site boundary and is intercepted by concrete drainage ditch "E." This ditch is present near the southern boundary of the site and conveys surface water from the North Air Field to Clear Creek.

1.3 REGULATORY SETTING. The Navy Installation Restoration (IR) program was designed to identify and abate or control contaminant migration resulting from past operations at naval installations. The IR program is the Navy response authority under Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 and Executive Order 12580. CERCLA requires that Federal facilities comply with the act, both procedurally and substantively. SOUTHNAVFACENGCOM is the agency responsible for the Navy IR program in the southeastern United States. Therefore, SOUTHNAVFACENGCOM has the responsibility to process NAS Whiting Field through preliminary assessment (PA), site inspection, RI/FS, and remedial response selection in compliance with the guidelines of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations [CFR] 300).

Section 105(a)(8)(A) of SARA requires the U.S. Environmental Protection Agency (USEPA) to develop criteria to set priorities for remedial action for chemicals detected in environmental media based on relative risk to human health and the environment. To meet this requirement, USEPA has established the Hazard Ranking System (HRS) as Appendix A to the NCP. First promulgated in 1982, the HRS was amended in December 1990, effective March 14, 1991 (55 Federal Register No. 241:51532-51667), to comply with requirements of Section 105(c)(1) of SARA to increase the accuracy of the assessment of relative risk. The HRS (March 1991) has been substantially revised and is designed to prioritize sites after the SI phase of the CERCLA process.

The HRS score for NAS Whiting Field was generated in 1993. The score was sufficient to place NAS Whiting Field on the National Priority List (NPL).

In January 1994, the USEPA placed NAS Whiting Field on a proposed list of sites to be included on the NPL (40 CFR 300, Federal Register, 18 January 1994), and on May 31, 1994, NAS Whiting Field was placed on the NPL effective June 30, 1994 (40 CFR 300, Federal Register, May 31, 1994). As a result, the RI/FS for NAS Whiting Field must follow the requirements of the NCP, as amended by SARA, and regulatory guidance for conducting RI/FS programs under CERCLA.

1.4 REPORT ORGANIZATION. The RI Report is organized into nine chapters (Chapters 1.0 to 9.0). Chapter 1.0 presents the purpose, site description, and regulatory setting for the RI at NAS Whiting Field. Chapter 2.0 summarizes previous investigations. Chapter 3.0 presents the investigative methodology for conducting the assessment. Chapter 4.0 presents the site-specific data quality assessment. Chapter 5.0 discusses the investigative results of the assessment. Chapter 6.0 presents the Human Health Risk Assessment (HHRA), and Chapter 7.0 presents the Ecological Risk Assessment (ERA). Chapter 8.0 discusses the fate and transport of chemicals determined to be human and/or ecological chemicals of potential concern. Chapter 9.0 provides a summary of the conclusions and recommendations. Chapter 10.0 presents professional review certification.

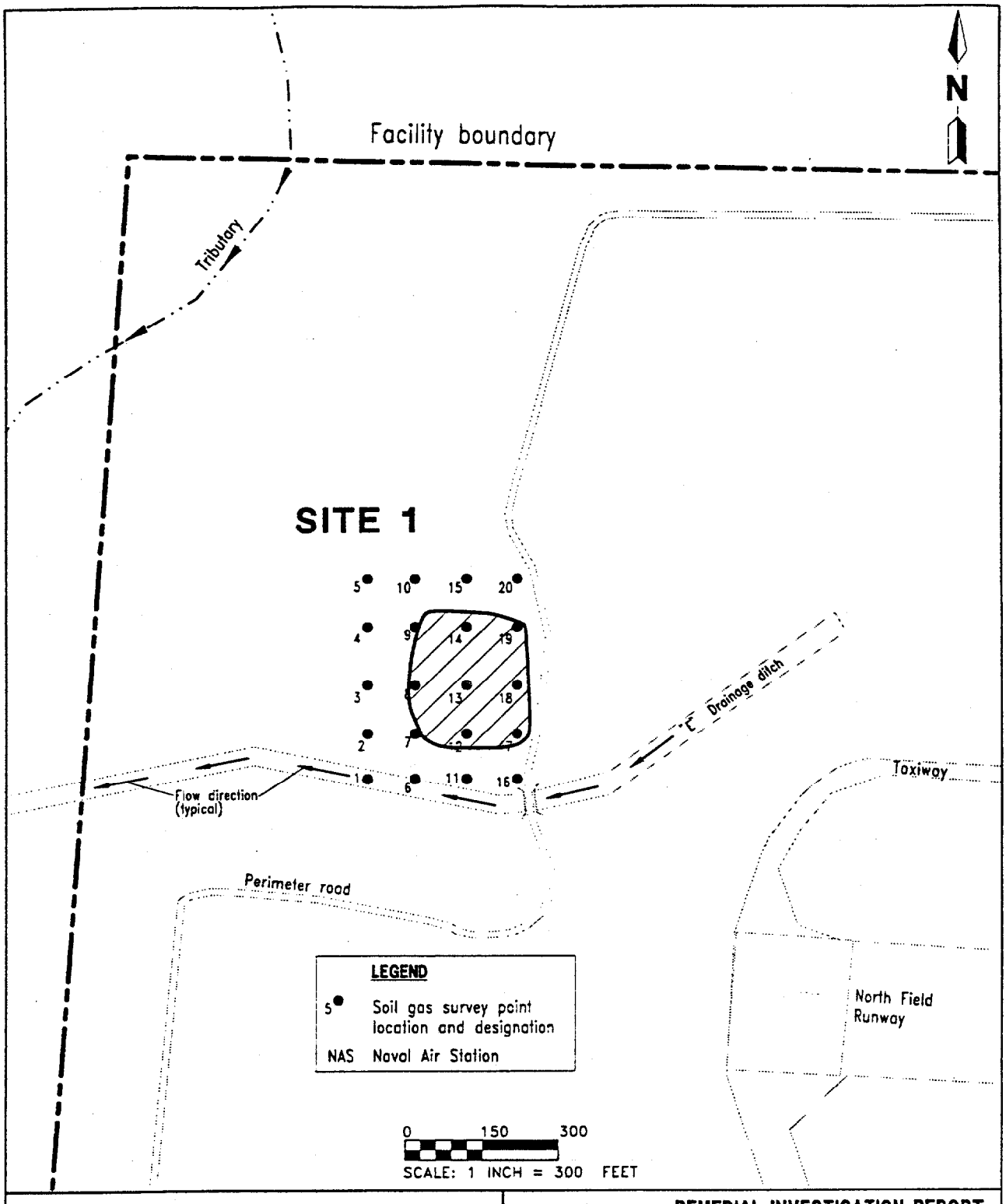

FIGURE 3-1
LOCATION OF ACTIVE SOIL GAS SURVEY POINTS

REMEDIAL INVESTIGATION REPORT
SITE 1, NORTHWEST DISPOSAL AREA

NAS WHITING FIELD
MILTON, FLORIDA

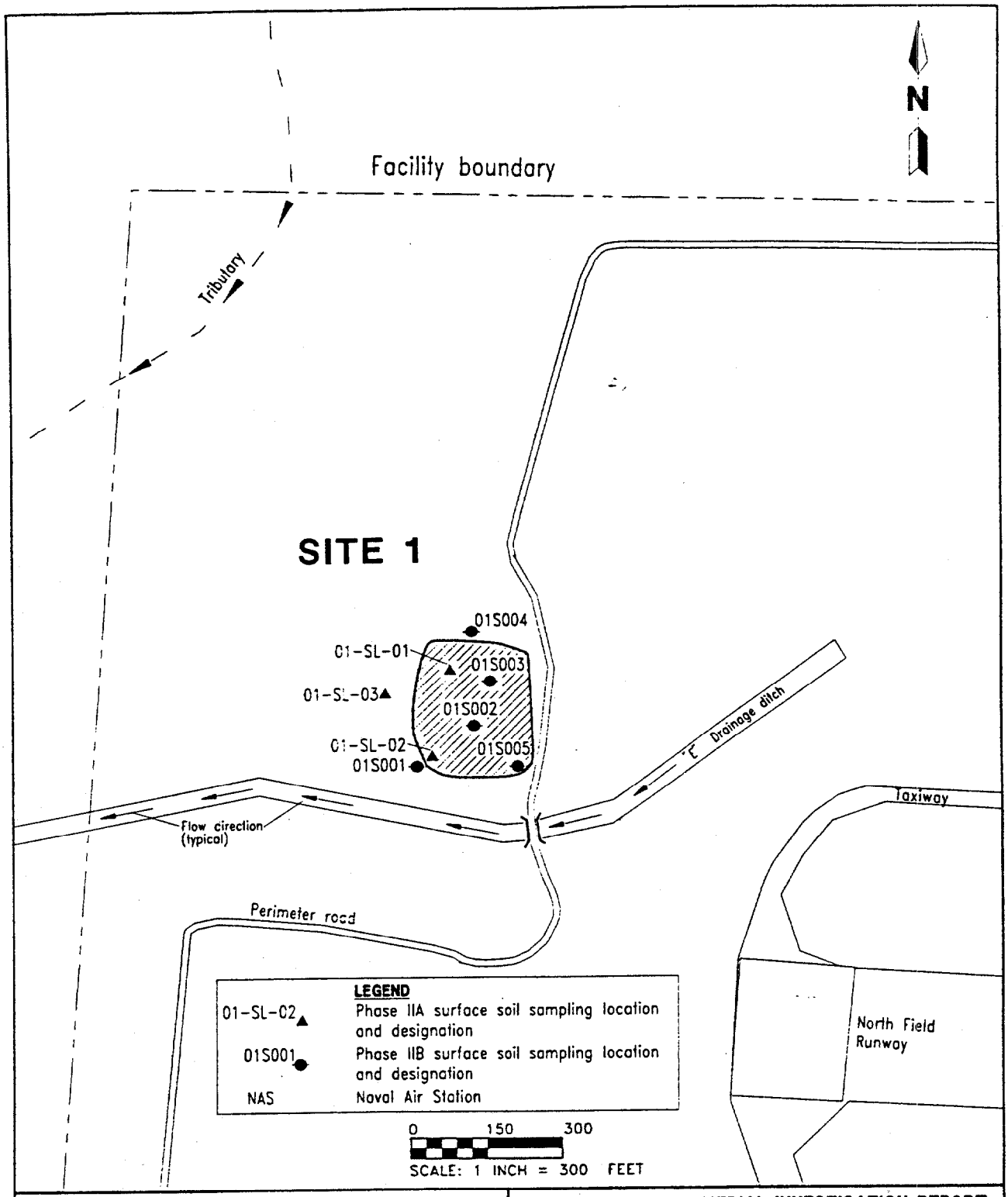

FIGURE 3-2
SURFACE SOIL SAMPLING LOCATIONS

REMEDIAL INVESTIGATION REPORT
SITE 1, NORTHWEST DISPOSAL AREA

NAS WHITING FIELD
MILTON, FLORIDA

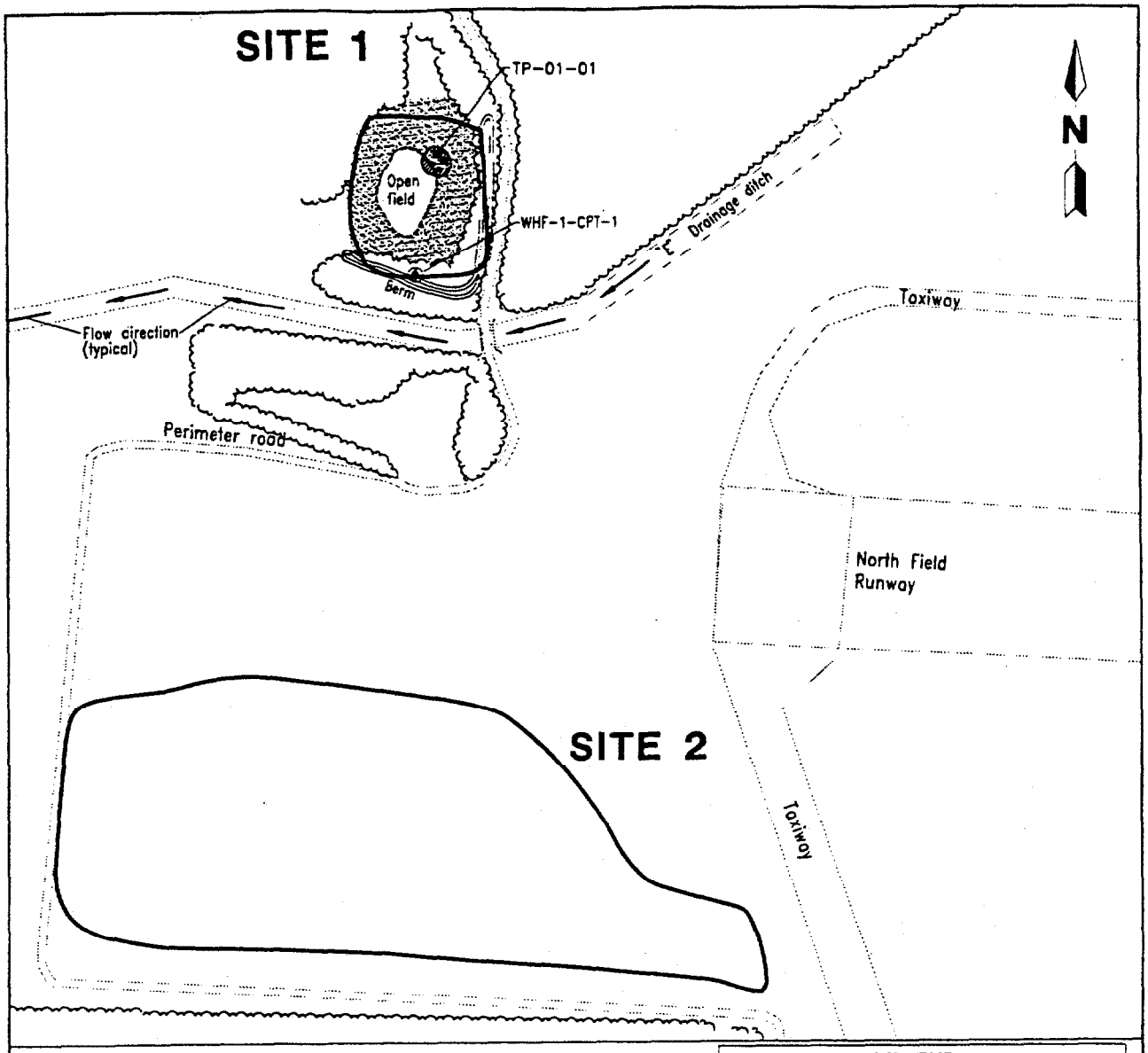

FIGURE 3-3
SITE 1, LOCATION OF TEST PIT, PCPT EXPLORATION AND GEOPHYSICAL ANAMOLY

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REMEDIAL INVESTIGATION REPORT
SITE 1, NORTHWEST DISPOSAL AREA

NAS WHITING FIELD
MILTON, FLORIDA

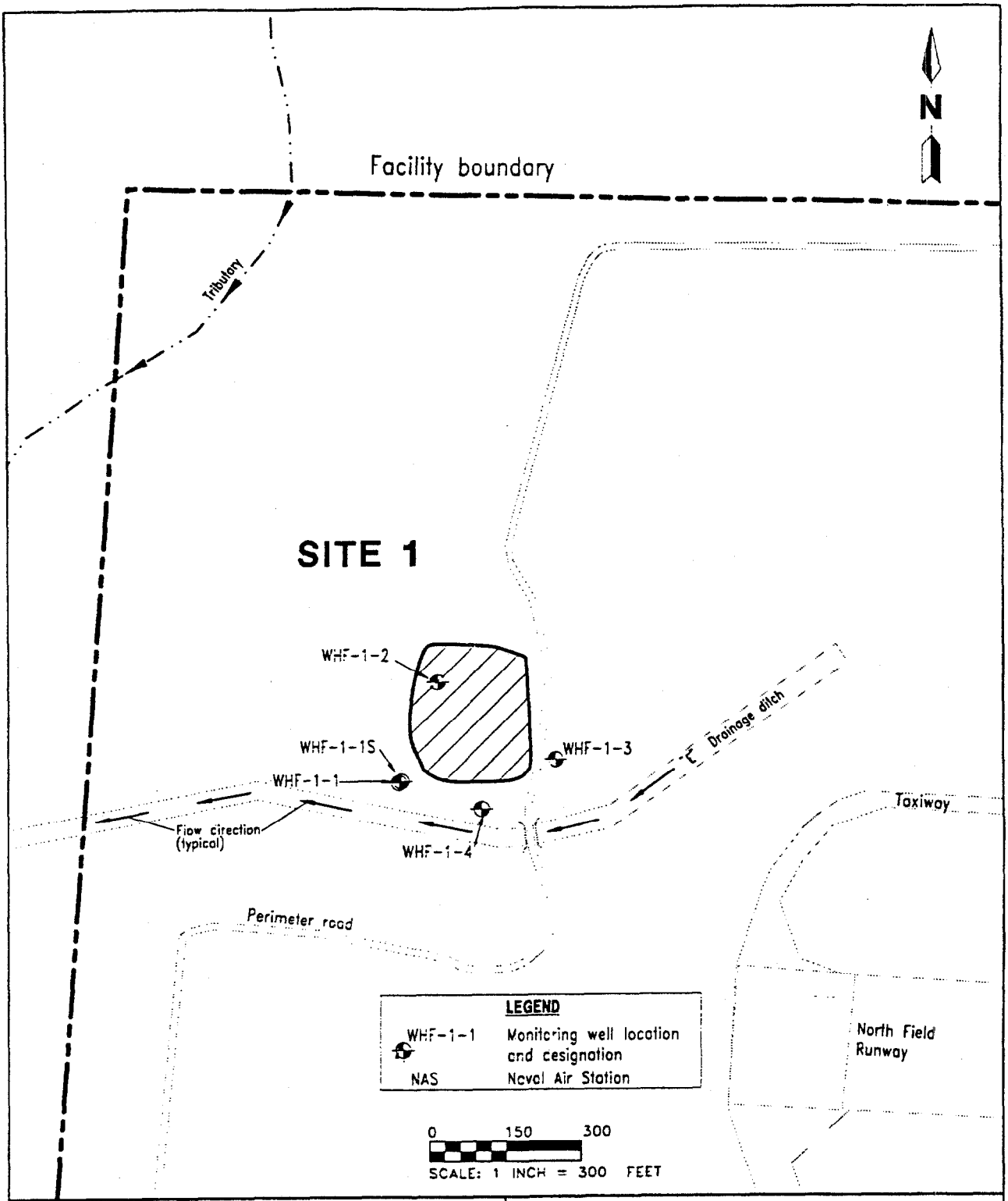

FIGURE 3-4
MONITORING WELL LOCATION MAP

REMEDIAL INVESTIGATION REPORT
SITE 1, NORTHWEST DISPOSAL AREA

NAS WHITING FIELD
MILTON, FLORIDA

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Naval Air Station Whiting Field
Restoration Advisory Board Meeting, November 13, 1997
MEETING SUMMARY

RAB members attending:

Craig Benedikt
Garnett Breeding
Jim Cason
Pat Durbin, Navy Co-Chair
Robert Fowlkes
Archie Hovanesian, Jr.
Linda Martin
Larry Sever
Sam Vickers

NAS Whiting Field representatives:

Commander Guy Miller, Executive Officer
LCDR VandeVoorde, Public Works Officer
Ensign Dureppel, Public Affairs Office
Jim Holland, Public Works Department

Contractor support personnel:

Terry Hansen, ABB Environmental Services (ABB-ES)
Bill Kollar, ABB-ES
Gerry Walker, ABB-ES
Phil Ottinger, Brown & Root Environmental

Pat Durbin opened the meeting at 5:38 p.m. and welcomed the RAB and others in attendance. She introduced Larry Sever, the newest member of the RAB. Ms. Durbin also noted that two more new members, Karin Garvin and Nellie Parker, will be joining the RAB at the next meeting (**postscript:** another new member, Jimmie Jarrat, was added to the RAB shortly after the meeting). The October RAB meeting summary was then approved without comment.

The Site 1 Remedial Investigation (RI) Report

Terry Hansen (ABB-ES project manager at NAS Whiting Field) reported on the recently-completed RI at Site 1, the Northwest Disposal Area. Mr. Hansen noted that the Site 1 RI report is the first in a series of site-specific reports summarizing detailed environmental investigations at several locations at NAS Whiting Field. The RI reports will include human health and ecological risk assessments for each site. He added that the complete reports will be available for public review at the NAS Whiting Field Information Repository, West Florida Regional Library, 805 Alabama Street, Milton as they are completed. The key points of Mr. Hansen's report included:

- site and waste disposal history
- survey and sampling locations
- risk assessment findings
- completed field work
- conclusions from field studies
- RI recommendations

RAB Questions on the Site 1 RI Report

What is the potential source(s) of aluminum and metals (primarily iron) found in the groundwater samples? Aluminum and metals are commonly found in the regional aquifer. Consequently, groundwater sampling was conducted during dry (or low flow) conditions to minimize the influence of the aquifer on the groundwater being tested.

Is the groundwater at Site 1 safe to drink? All data collected to date indicate no potential human health risks from the groundwater at the site. However, groundwater is not a drinking water source in the Site 1 area.

What is the potential source(s) of arsenic found in the groundwater samples? Arsenic was commonly used as a pesticide and herbicide in area agriculture, particularly on cotton and pecan crops. Therefore, arsenic concentrations in soil and groundwater tend to be higher in the Gulf Coast region than elsewhere. Arsenic may have also been used by the Navy as a pesticide at NAS Whiting Field. The Florida Department of Environmental Protection (FDEP) and the U.S. Environmental Protection Agency have formed a task force to study the historic use of arsenic-based pesticides in Gulf Coast area agriculture. It should be noted that risk estimates conducted for Site 1 found no risks to human health.

Would additional investigations be needed at Site 1 if NAS Whiting Field was closing? Yes. However, the risk assessment conducted for Site 1 considered future residential use at the site, a conservative approach to human health risk assessment. Based on risk assessment findings, there are no future land use restrictions required at the site.

Clear Creek Field Work Update

Gerry Walker (ABB-ES technical lead at NAS Whiting Field) updated the RAB on field investigations in Clear Creek and vicinity. Mr. Walker discussed the recent sampling program, which included groundwater, surface water, and sediment sampling. He noted the sampling locations, and the chemicals that samples were analyzed for. Major findings of the sampling event included:

- xylene detected in the westernmost groundwater monitoring well; well was resampled and results available in two months (**postscript:** resampling results detected no xylene).
- no benzene found in offbase wells; this supports assumption that contaminants are not moving under Clear Creek.
- benzene and chlorinated solvents were found further south in Clear Creek than expected; surface water benzene concentrations are above allowable limits for combined water and fish consumption; however, concentrations did not exceed allowable limits for fish consumption only and there are no known drinking water intakes on Clear Creek; surface water contaminants will dilute before reaching Blackwater River.
- acetone detected in some surface water samples; potentially a lab artifact (acetone is commonly used to clean lab equipment) but may have been used as a solvent at the base; the acetone data are preliminary.
- latest data indicate no offsite health risks, but any offsite contamination is a concern.

Mr. Walker concluded by mentioning the basewide groundwater contamination model currently under development. This computer model will help forecast long-term contaminant movement.

RAB Questions on the Clear Creek Field Work Update

How many surface water samples were taken at each Clear Creek sampling point? In most cases, one sample was taken at each point. However, duplicate samples are taken at some locations to compare results and establish confidence in the analytical data.

Site 2894 Update

Terry Hansen presented the first year results on the bioventing and barometric pumping systems in operation at Site 2894. Mr. Hansen said the data, collected over four quarters, show that the systems are successfully treating petroleum contaminants at the site. One indication is decreasing oxygen levels measured in the bioventing system. Oxygen is a nutrient for microorganisms that are breaking down hydrocarbons in the soil. Decreased oxygen levels suggest that the microorganisms are increasing in number, and therefore consuming more contaminants. This can be confirmed by soil sampling and analysis.

Mr. Hansen concluded by stating that the treatment systems are a valuable pilot study with potential application at other sites. They have been successful to date and are relatively inexpensive to install and maintain.

RAB Questions on the Site 2894 Update

How big is Site 2894? The site is approximately 1-acre.

Are bacteria introduced into the treatment systems to address the contamination? No. The microorganisms exist naturally at the site.

Is phytoremediation (introducing plants that absorb contamination) a potential cleanup method at the site? No. FDEP policy discourages introduction of non-native plant species that might overrun native plants.

RAB Administration

The next RAB meeting was scheduled for Tuesday, January 27, 1997 at 5:30 p.m. In an effort to increase the RAB's visibility and accessibility in the community, the board agreed to hold the meeting at the Santa Rosa County School Board Complex at 603 Canal Street, Milton. The meeting was adjourned at approximately 7:20 p.m.