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**REMEDATION WORK PLAN, QUALITY CONTROL  
PLAN ADDENDUM, AND ADDENDUM TO THE  
SITE SAFETY AND HEALTH PLAN  
VARIOUS SITES  
NAS Pensacola, FL**

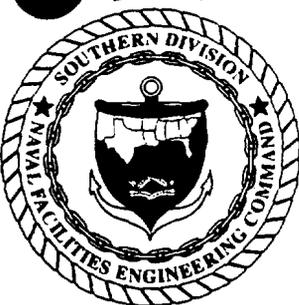
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NAS PENSACOLA  
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Prepared for

**DEPARTMENT OF THE NAVY  
SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND**

**Under Contract No. N62467-93-D-0936  
Delivery Order #0071**



Prepared by



**BECHTEL ENVIRONMENTAL, INC.  
OAK RIDGE, TENNESSEE**

**BECHTEL JOB NO. 22567**

## ACTION MEMORANDUM

**DATE:** January 1998

**SUBJECT:** Time-Critical Removal Action for Various Sites at NAS Pensacola

**PREPARED BY:** Bechtel Environmental, Inc. (BEI)  
for the  
Department of the Navy, Southern Division

**TO:** Administrative Record File

### I. PURPOSE

The purpose of this Action Memo is to document the proposed time-critical removal action described below for Various Sites at NAS Pensacola, Florida. This removal action will be performed as a time-critical removal action pursuant to the National Contingency Plan (NCP) (see 40 CFR 300.415). This Action Memorandum was prepared in accordance with requirements described in the *Superfund Removal Procedures Action Memorandum Guidance* (EPA 1990). The Navy is conducting this removal in accordance with Section 104 of CERCLA and the NCP provisions, and within the framework of the Federal Facilities Agreement (FFA) for NAS Pensacola. The Southern Division Remedial Project Manager or designee will serve as the on-scene coordinator for this action.

40 CFR 300.415 of the NCP states that a removal action may be implemented at a site where a potential threat to human health or the environment has been identified. Where appropriate, removal actions are undertaken to abate, minimize, stabilize, mitigate, or eliminate the contaminant release at a site. This removal action is being executed at the Pensacola Various Sites in response to an endangerment to public health or welfare of the environment caused by actual release of hazardous substances, pollutants, and/or contaminants.

This Action Memorandum is required to be added to the CERCLA administrative record file for NAS Pensacola within **60** days after field mobilization to the site.

### 11. SITE CONDITIONS AND BACKGROUND

#### A. Site Description

The following sites are to be excavated because analytical samples indicate contamination exceeding preliminary remediation goals (PRGs). Preliminary remediation goals established for this removal action are based on the guidance from the January 19, 1996 FDEP Memorandum titled "Applicability of Soils Cleanup Goals for Florida" This guidance is an update of the *Selected Soil Cleanup Goals* published on September 27, 1995. The residential cleanup values have been selected as PRGs for this action. With the exception of sites 1 and 25, it is anticipated that these sites may be designated for No Further Action (NFA) under CERCLA if these PRGs are achieved.

For each of the sites below, the maximum concentration of the contaminant of concern is listed, as well as the PRG established for the site.

Site 1: Removal of a tar pit which is considered a physical hazard. There is no PRG established for this site. The goal will be to remove the physical hazard in the field; no target compound or contaminant of concern has been identified.

Site 7: Removal of surface soil which has an exceedence of arsenic. Detected maximum concentration of arsenic was 4.2 mg/kg.

The PRG for arsenic is 1.56 mg/kg (background).

Site 9A, New Yard Disposal Area: Removal of surface soil which exceeds PRGs for lead. Detected maximum lead concentration was 2,700 mg/kg. Other chemicals of concern may be present.

The PRG for lead is 500 mg/kg. A TCLP test was run because of the high concentration of lead at Site 9A. At least one sample exceeded the TCLP regulatory threshold for hazardous waste of 5.0 mg/L. Therefore, the volume of soil which exhibits the toxicity characteristic for lead is classified as hazardous waste and must be managed, treated, and disposed at a RCRA subtitle C facility.

Site 10, Commodore's Pond: Removal of surface soil which exceeds PRGs established for Dieldrin. Maximum detected concentration was 0.710 mg/kg.

The PRG for Dieldrin is 0.07 mg/kg (70.0 ppb)

Site 17, Transformer Storage Yard: Transformer storage yard—an asphalt-paved yard that held 200-300 transformers, some of which were known to contain PCBs. No known leaks, but areas of stained asphalt identified. Action is to remove surface soil which exceeds PRGs for Aroclor 1260 (PCB). Maximum detected concentration of Aroclor 1260 was 4.2 mg/kg. PCBs at 4.2 ppm are not classified as either a TSCA waste or RCRA hazardous waste in the State of Florida unless the PCBs came to be present as the result of a spill of PCB materials after May 1987 or from a documented source of PCBs at concentrations greater than 50 mg/kg. Other chemicals of concern may be present.

The PRG for PCBs is 0.9 mg/kg.

Site 18, PCB Spill at Substation A: Substation A is an elevated concrete electrical transformer base bordering the site. Removal of surface soil which exceeds PRGs established for Aroclor 1260 (PCB). Maximum detected concentration was 4.1 mg/kg. PCBs at 4.1 ppm are not classified as either a TSCA waste or RCRA hazardous waste in the State of Florida unless the PCBs came to be present as the result of a spill of PCB materials after May 1987 or from a documented source of PCBs at concentrations greater than 50 mg/kg. Other chemicals of concern may be present.

The PRG for PCBs is 0.9 mg/kg.

Site 25, PCB Contamination at Building 780 Spill Area: Removal of surface soil which exceeds PRGs established for Aroclor 1260 (PCB). Maximum detected concentration was 3.1 mg/kg. PCBs at 3.1 ppm are not classified as either a TSCA waste or RCRA hazardous waste in the State of Florida unless the PCBs came to be present as the result of a spill of PCB materials after May 1987 or from a documented source of PCBs at concentrations greater than 50 mg/kg. Other chemicals of concern may be present.

The **PRG** for PCBs is 0.9mg/kg.

#### **B. Other Actions to Date**

The Remedial Investigation (RI) phase of the CERCLA process has been completed for most of the sites to be addressed in this removal action. A brief history of the sites and the regulatory background **is** discussed below.

##### Site 1. Sanitary Landfill

TCLP samples were taken on the tar substance in 1993 and analytical results indicate that no hazardous waste is present. Therefore, the material may be excavated to remove the physical hazard and shipped to a Subtitle D landfill for disposal.

##### Site 7. Arsenic-Contaminated Soil

A final preliminary site characterization report was published for Site 7 in December 1997. Current plans are to remove this limited area of contamination and proceed to No Further Action.

##### Site 9A. New Yard Disposal Area

The RI was published for Site 9 on March 29, 1996. Based on historical knowledge, the site **was** used for the disposal of trash and refuse. Part of Site 9 was excavated in the late 1960s, during trenching for a sewer line, and scrap metal and debris were unearthed.

##### Site 10. Commodore's Pond

A Final Preliminary Site Characterization Report was published for Site 10, Commodore's Pond, in November 17, 1995. The investigation identified metals, TRPH, PAHs, and phenols in soil samples.

##### Site 17. Transformer Storage Yard

The RI was published for the Site 17 Transformer Storage Yard on July 31, 1996. The RI provides the basis for a Feasibility Study (FS) and ultimately a Record of Decision (ROD). Current plans are to remove this limited area of contamination and proceed to a No Further Action ROD.

##### Site 18. PCB Spill at Substation A

A Preliminary Site Characterization Report was published for Site 18 on December 18, 1996. Substation A is an elevated concrete electrical transformer base bordering the site. **An** investigation was conducted to assess the presence of PCB contaminants resulting from the late 1960s spill of approximately 50 gallons of PCB-laden transformer fluid at the site.

##### Site 25. PCB Contamination at Building 780 Spill Area

A draft Remedial Investigation for Operable Unit 2 (OU2) which includes Site 25, Radium Spill **Area**, published July 26, 1996. Site 25 is a concrete paved area 50 ft by 50 ft adjacent to the radium

decontamination building (Building 780); however, no radium has been found in this area. Limited metals and volatiles were detected in soil and groundwater, and a feasibility study has been recommended. This action is to remove a PCB source. This site will undergo a subsequent FS and ultimately have a ROD.

### **C. State and Local Authorities Role**

The site is on the CERCLA National Priorities List. The Navy is the lead agency for CERCLA cleanups. EPA Region IV is the primary oversight agency, and the State of Florida reviews actions in an advisory capacity. EPA Region IV has concurred in the time-critical removal determination, and the State of Florida has reviewed the scope of the proposed action.

Although CERCLA sets forth the legal responsibilities of each of these agencies, a Partnering approach to decision-making at these sites has been implemented. The Navy (Southern Division and Base Environmental staff), EPA, FDEP, the CLEAN contractor, and the Response Action Contractor (RAC) contractor are members of the "Partnering" team. The Partnering team charter is to foster cooperation aimed at "better, cheaper, faster" cleanup of military installations. By allowing these teams to operate in an empowered manner, many planning, analysis, and decision-making processes have been streamlined, while some have been eliminated altogether.

## **111. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT**

There is potential for contaminant migration to uncontaminated areas should these sites remain unabated. Future land uses for some sites may include residential use. The base is being remediated to protect human health and the environment.

The substances of concern are lead, Dieldrin, and PCBs that exceed promulgated state and federal action levels and residential cleanup goals for the State of Florida.

## **IV. ENDANGERMENT DETERMINATION**

Actual releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

## **V. PROPOSED ACTIONS AND ESTIMATED COSTS**

### **A. Proposed Actions**

The Time-Critical Removal Action objective for Various Sites is contaminant source removal to prevent further migration of waste into other media. To accomplish this objective, the scope of work will consist of the following elements:

- excavation of contaminated soils;
- transportation of waste to RCRA Subtitle C and Subtitle D landfills, as required;

- backfill with clean fill; and
- stabilize with topsoil **and sod**, where appropriate.

The Interim Remediation Goals will be to remove lead, Dieldrin, and PCBs. Horizontal limits of excavation will be determined in the field. Vertical excavation (2 ft. maximum) will be to contaminant concentrations established based on Florida Residential Soil Cleanup Goals as referenced above.

The proposed action will contribute to the efficient performance of long-term remedial actions with respect to the release. Future plans for these sites include completing the CERCLA cleanup process with the issuance of a No Further Action ROD, with the exception of sites 1 and 25.

Alternative technologies have been considered. Thermal treatment of the wastes could be performed, but would be ineffective on the metals contamination and may be legally prohibited for PCBs. In addition, the thermal treatment unit would be difficult to operate and not cost effective given the need to mobilize to very small sites. Biotreatment of pesticide wastes is an emerging technology option; however, it is not an appropriate technology for treating metals. For the extremely small quantities of waste expected to be generated, and given the very low concentrations of contaminants detected to date, no other cost-effective technology is available.

**ARARs.** Applicable or relevant and appropriate requirements (ARARs) must be met in removal actions to the extent practicable. Hazardous waste has been identified at one of these sites (TCLP exceedance for Lead). Soil exhibiting the toxicity characteristic will be containerized, managed as hazardous, and shipped to a RCRA Subtitle C landfill for treatment and disposal. PCBs are present at several of the sites; however, they predated the TSCA Spill Cleanup Policy (May 4, 1987) and are not subject to TSCA jurisdiction. In addition to RCRA, all major federal and state environmental laws have been reviewed and ARARs incorporated into the work plan, which will be approved by FDEP and EPA Region IV.

#### **B. Estimated Costs**

The cost of the removal action is estimated to be \$423,000. Approximately 200 tons of soil will be excavated and transported for solid waste disposal at a RCRA Subtitle C & D facilities. Both non-hazardous wastes and limited quantities of hazardous waste are expected to be generated.

#### **C. Schedule**

It is estimated the removal action will take 7 weeks to complete this activity in the field.

### **VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

Contamination has the potential to spread, on the surface and in groundwater, especially in a severe weather event such as a hurricane. Although the sites are fenced, and within the boundaries of NAS Pensacola, the sites are not secure from intrusion.

## VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues at this site. Complete funding for this removal is approved and provided by Southern Division Naval Command.

## VIII. RECOMMENDATION

**This** decision document represents the selected removal action for the site, at **NAS Pensacola, Florida**, developed in accordance with CERCLA **as** amended, and not inconsistent with the NCP. This decision is **based** on the administrative record **for** the site.

Conditions at the site meet the NCP Section 300.415(b)(2) criteria **for** a removal action.

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REMOVAL ACTION WORK PLAN  
FOR VARIOUS SITES  
NAVAL AIR STATION PENSACOLA, FLORIDA  
DELIVERY ORDER NO. 0071

Prepared for  
DEPARTMENT OF THE NAVY  
SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND

Under Contract No. N62467-93-D-0936

Prepared by  
BECHTEL ENVIRONMENTAL, INC.  
OAK RIDGE, TENNESSEE

January 1998

Revision 0

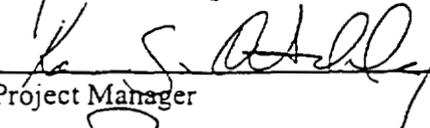
Bechtel Job No. 22567

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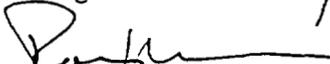
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Date

Encl (1)

## FOREWORD

This Removal Action Work Plan (RAWP) has been prepared to document the plans prepared for the U.S. Navy for remedial actions at various sites (Sites 1, 7, 9A, **10**, 17, 18, and **25**) at the Naval Air Station (NAS) Pensacola, Florida.

Historical practices and operations associated with these sites have left behind residual contaminants in the surface soils. At Site 1, the contaminants are in the form of a tar pit and the hazard has been defined as a physical hazard, rather than a chemical hazard. At the remaining sites, there are levels of chemical contaminants which exceed the established preliminary remediation goals for these locations. It has been determined that removal of surface soils which contain either tar deposits (Site 1) or elevated levels of the residual contaminants, will mitigate potential adverse effects on human health. The objective of the removal actions described in this **RAWP** is to remove soil at the specified locations and within the boundaries set forth in the Data Collection Summaries for Various Sites, dated 16 March 1997. The excavations will be filled with clean soil, and the sites restored to conform to previous general conditions. Contaminated soil will be disposed offsite at appropriate landfill or treatment facilities.

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**APPENDIXES-**

(To be provided upon request)

- A** Technical Specification for Surveying Services
- B** Technical Specification for Contaminated Earthwork and Miscellaneous Demolition
- C** Standard Specification for Uncontaminated Earthwork
- D** Technical Specification for Turf Establishment
- E** Technical Specification for Monitoring Well Installation and Abandonment

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## ACRONYMS AND ABBREVIATIONS

BEI	Bechtel Environmental, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability <b>Act</b>
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-Term Environmental Action Navy
COC	contaminant of concern
DOT	Department of Transportation
EPA	<b>U.S.</b> Environmental Protection Agency
FDEP	Florida Department of Environmental Protection
PRGs	preliminary remediation goals
QA	quality assurance
QC	<b>quality</b> control
RCRA	Resources Conservation and Recovery Act
ROICC	Resident Officer in Charge of Construction
RAWP	removal action work plan
SOP	standard operating procedure
SOUTHDIV	Naval Facilities Engineering Command, Southern Division
TCLP	Toxicity Characteristic Leaching Procedure

## UNITS OF MEASURE

bls	below land surface
ft	foot
gal	gallon
kg	kilogram
mg	milligram
mg/L	milligrams per liter
ppb	parts per billion
ppm	parts per million

## 1.0 INTRODUCTION

This Removal Action Work Plan (RAWP) documents the scope and the procedures to be used in the remediation of specific locations at various sites (sites 1, 7, 9A, 10, 17, 18, and 25) at Naval Air Station (NAS) Pensacola, Florida. Remediation **will** involve removal **of** contaminated soil and disposal of contaminated material, followed by site restoration.

The **U.S.** Navy, through the Southern Division, Naval Facilities Engineering Command (SOUTHDIV), has contracted Bechtel Environmental, Inc. (BEI) as the Remedial Action Contractor for the NAS Pensacola sites under Prime Contract No. N62467-93-D-0936.

The activities described in this Plan are based on the following reference:

Statement of Work # 0073, Delivery Order # 0071, Amendments # 0001 and # 0004; 16 March 1997; *Data Collection Summaries for Various Sites*; Naval Facilities Engineering Command, Southern Division; Site Characterization Report for Site 7, 17 January 1997.

BEI will supply qualified personnel and equipment to the project; coordinate, manage, and supervise construction activities onsite; perform sampling and analysis; and provide documentation to the Navy that will include a summary of services provided and a project completion report for the work performed. Sample collection and analyses described in this plan will be performed in accordance with BEI's approved Comprehensive Quality Assurance Plan (CompQAP) as required by the FDEP.

BEI's approach to complete this task is presented in the following sections of this RAWP.

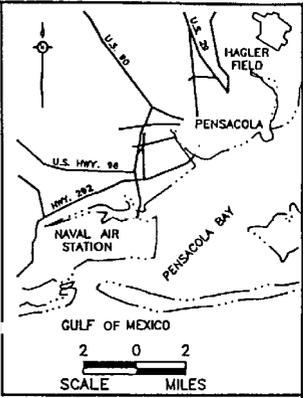
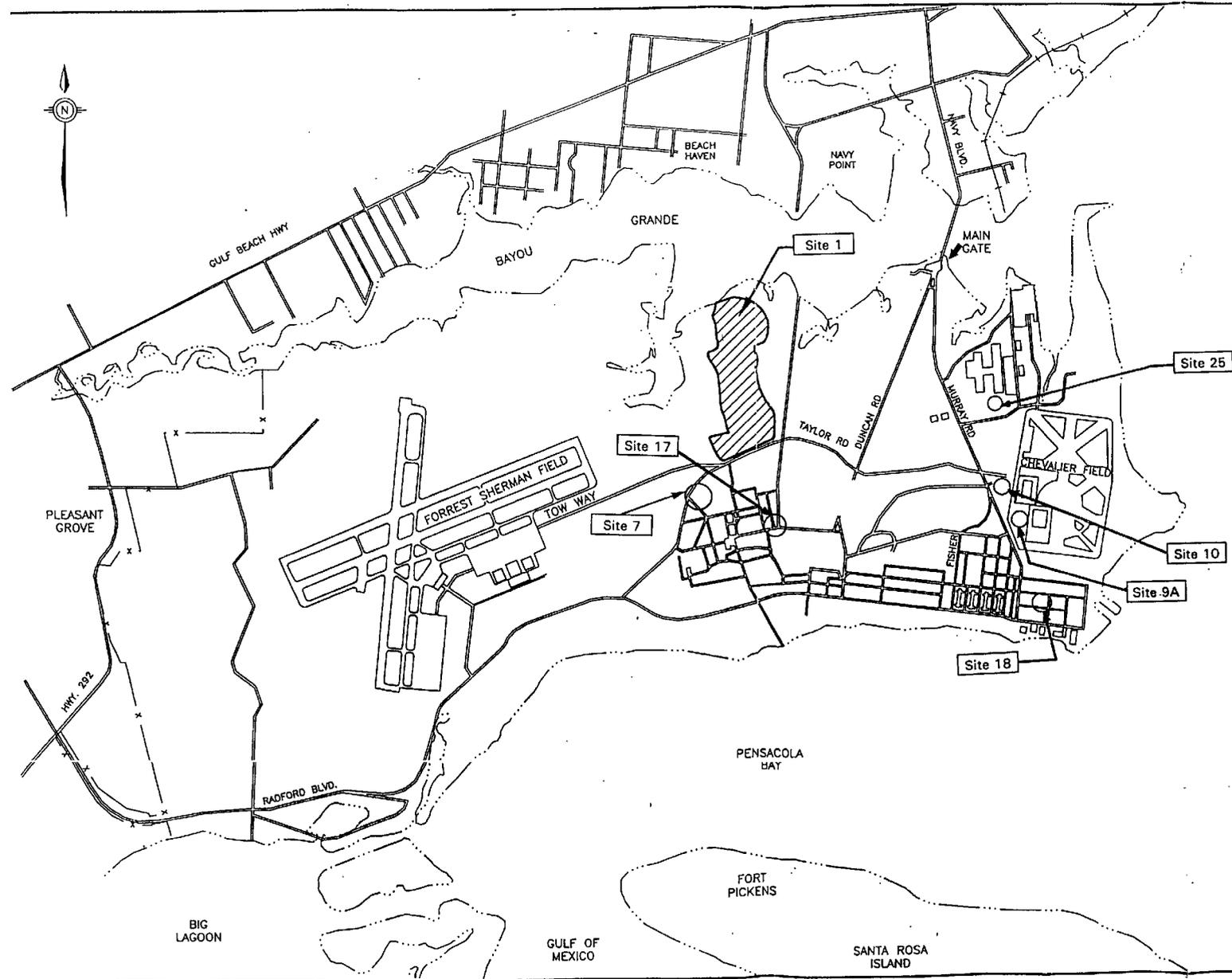
## 2.0 SITE BACKGROUND AND SETTING

A remedial investigation conducted between December 1992 and October 1995 has identified several isolated areas with levels of chemical contamination that exceed the Florida Soil Cleanup Goals for residential use, which have been established as the preliminary remediation goals (PRGs) for these sites. These sites are at various locations throughout the base, as shown on Figure 1. Chemical contaminants have been identified in the surface soil at Sites 7, 9A, 10, 17, 18, and **25**. The contaminated soil **will** be removed from these sites for offsite disposal and replaced with clean back fill material. Site 1 is the location of a closed landfill, which lies within a fenced and restricted use area at NAS Pensacola. This site contains a tar pit, which has been identified as a physical hazard that must be remediated to preclude injury to a possible trespasser within this restricted area.

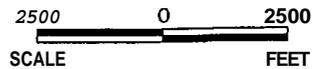
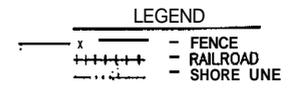
## 2.1 REGULATORY SETTING

NAS Pensacola was placed on the EPA National Priorities List (NPL) in December 1989. CERCLA and its implementing regulations found in **40** CFR 300 (the National Contingency Plan) govern cleanup at these sites.

During Remedial Investigation (RI) efforts on base, several areas were identified which were found to contain contaminants at levels above Florida residential cleanup goals. Lead was found in surface soils at the location of a historical municipal landfill, Site 9A, at levels up to 2,700 **mg/kg**. Dieldrin and



PENSACOLA BAY




**REMEDIAL INVESTIGATION REPORT**  
**SITE 1**  
**NAS PENSACOLA**

**FIGURE 1**  
**SITE LOCATION MAP**

RWP-DO. 0071-11/97

arsenic have been detected at Site 10 and Site 7 at levels of 7.10 and 4.2 mg/kg, respectively. These are residential areas not known to have had previous industrial activity. Isolated small occurrences of PCBs have been detected at sites 17, 18, and 25, at levels as high as 4.2 mg/kg.

The seven sites described herein have been designated for a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Time-Critical Removal Action. The purpose of the planned time-critical removal action is to abate the potential threat to human health and the environment caused by the presence of these hazardous substances and the potential for them to migrate. This removal action will be performed in accordance with the National Contingency Plan (NCP) (see 40 CFR 300.415). An Action Memorandum is being prepared in accordance with requirements described in the "Superfund Removal Procedures Action Memorandum Guidance" (EPA 1990) to document the removal approach.

## **2.2 JUSTIFICATION AND OBJECTIVES FOR THE REMOVAL ACTIONS**

Upon completion of these removal actions, no further action will be required at Sites 7, 9A, 10, 17, and 18. The removal of contaminated soil at Site 25 will help reduce hazard quotients associated with OU 2. The removal of the contaminated soil at Site 1 will eliminate the physical hazard related to the tar pit that may exist for potential trespassers into this restricted area.

## **3.0 SUMMARY OF PROPOSED REMOVAL ACTIONS**

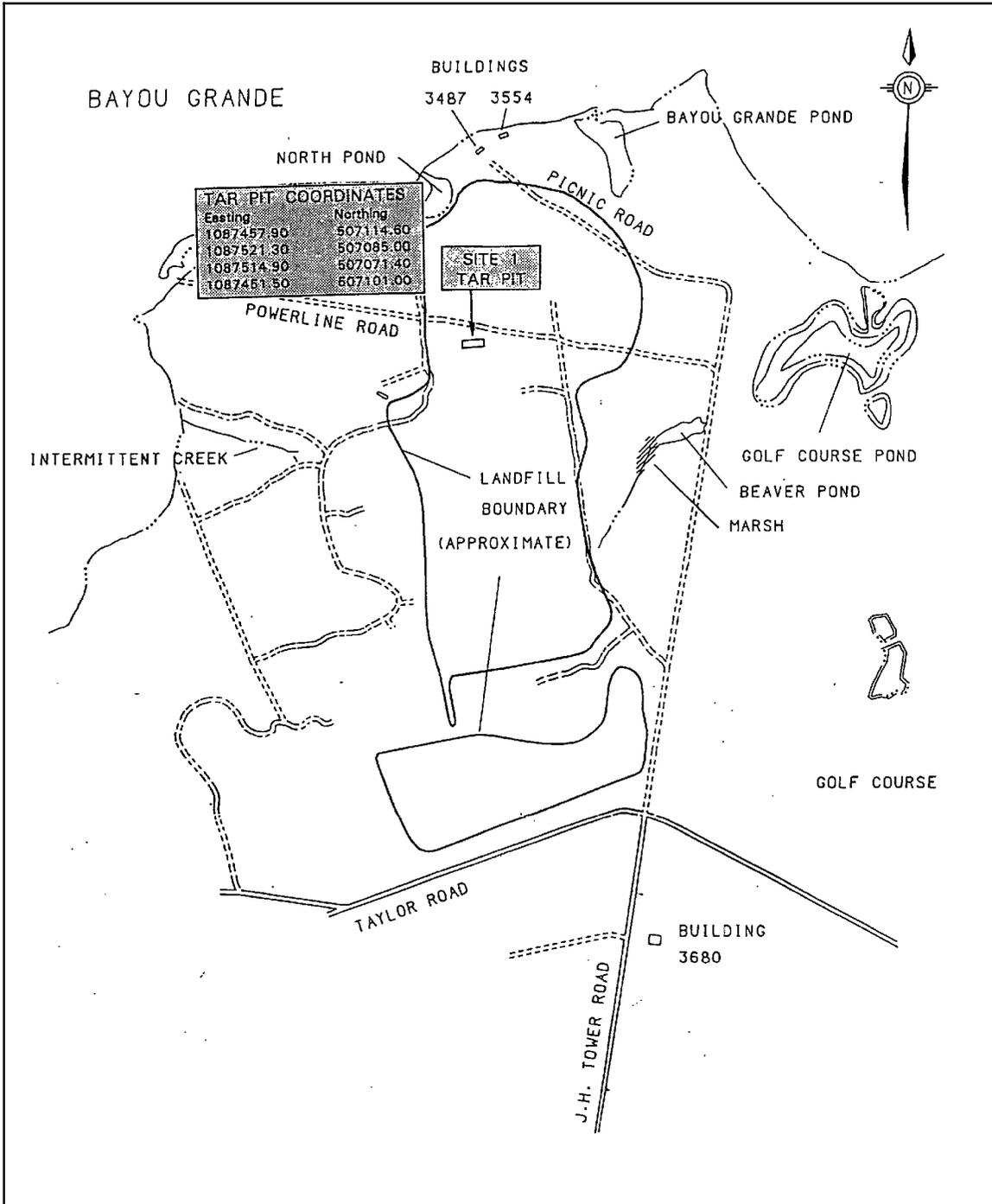
The removal actions that are included in the scope of work for this RAWP are shown in Table 1-1 and the details of the scope are presented in the following sections.

### **3.1 PROPOSED REMOVAL AND VERIFICATION SAMPLING STRATEGY—SITE 1 TAR PIT**

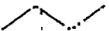
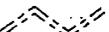
No delineation samples will be collected from this site. The northing and easting coordinates provided in the Data Collection Summaries (as shown on Figure 2) shall be used to lay out the boundaries of the proposed excavation area. The actual limits of the excavation will be determined visually in the field, based on the presence or absence of the tar substance in the surface soil. It is not anticipated that the area to be excavated will exceed approximately 10 ft x 70 ft; the excavation will be limited to a depth of 2 ft. The cleanup objective is to not leave any tar in the field that might constitute a physical hazard; if it becomes apparent during excavation that more than 110 percent of the proposed volume of soil will be removed, SouthDiv shall be contacted for guidance and approval to proceed further. The excavated area will be backfilled with clean soil, compacted, and reseeded or mulched to match the surrounding area.

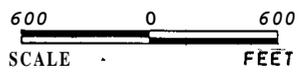
### **3.2 PROPOSED REMOVAL AND VERIFICATION SAMPLING STRATEGY—SITE 9A**

The area identified for remediation is shown on Figure 3. Several soil samples from within this area contained lead up to 2,700 mg/kg, and one confirmation sample failed the TCLP. This area was defined by the presence of visual staining and debris and is relatively large (approximately 100 ft x 150 ft). Because the lead content in some parts of this area is high enough to require disposal as a hazardous waste, it is most cost effective to perform field screening of the soil in an effort to reduce the waste volume, rather than to arbitrarily excavate to the limits of the identified area.



**LEGEND**

-  COASTLINE / SURFACE WATER FEATURE
-  UNPAVED ROAD



REMEDIAL INVESTIGATION  
REPORT.  
**SITE 1**  
NAS PENSACOLA

**FIGURE 2**  
SITE 1 TAR PIT REMOVAL AREA

NOTE: SOIL BORING 09S30 WAS USED AS THE CONTROL POINT FOR LOCATING THE REFERENCE POINT COORDINATES.

SITE 9A - COORDINATES		
Point	Easting	Northing
(1)	1094170.6880	502716.5918
(2)	1094181.8643	502714.8865
(3)	1094184.8894	502741.1512
(4)	1094190.6038	502787.4701
(5)	1094199.0203	502736.5283
(6)	1094275.0119	502717.5618
(7)	1094288.8048	502703.6249
(8)	1094294.4438	502685.6646
(9)	1094286.8338	502640.7360
(10)	1094261.8295	502647.2574
(11)	1094237.2875	502656.2010
(12)	1094197.2197	502661.6081
(13)	1094240.7274	502662.3509
09S28	1094290.7416	502673.3057

LEGEND

REFERENCE POINT PROVIDED IN DATA COLLECTION SUMMARIES

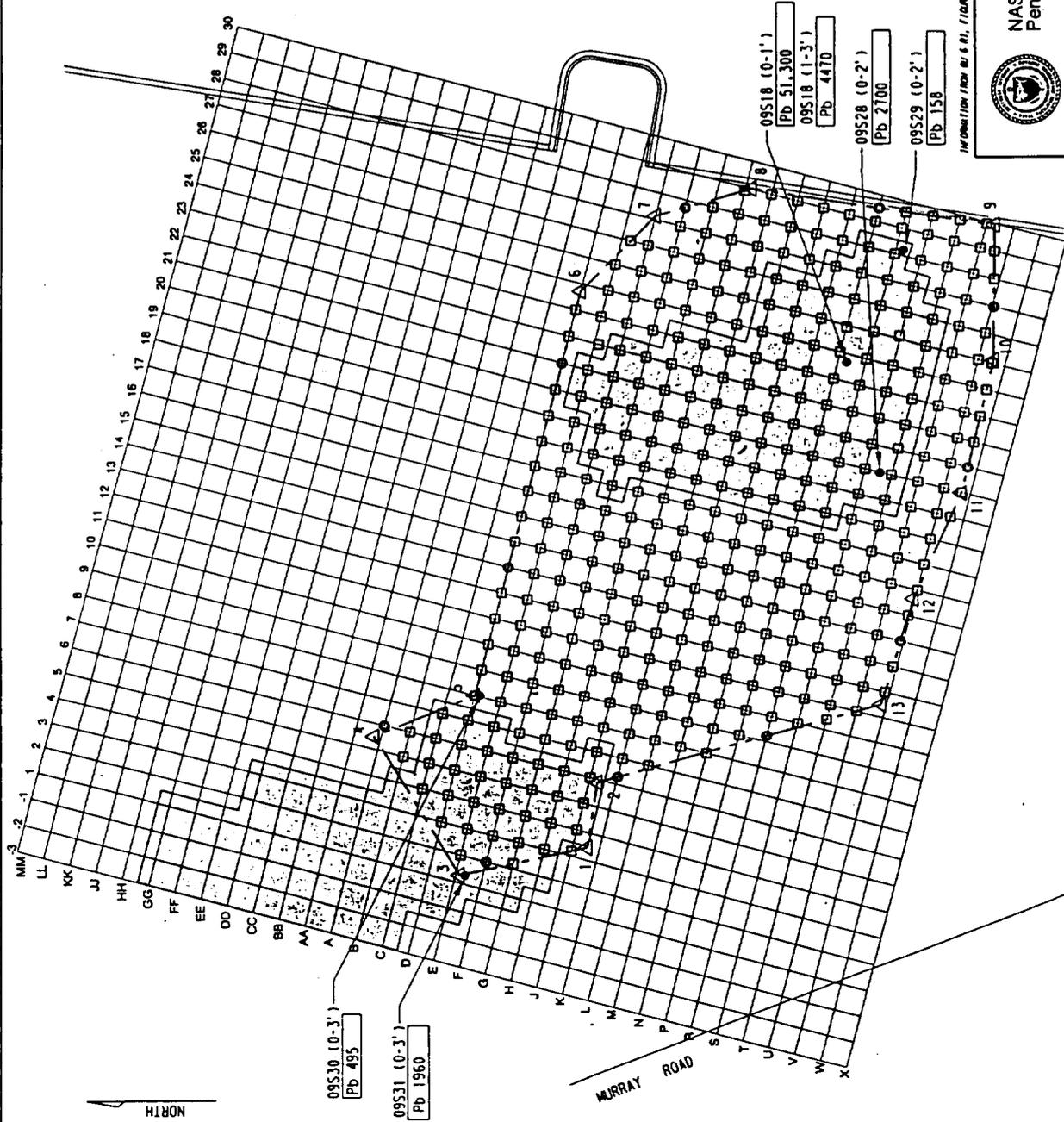
TCLP SAMPLE LOCATION (SPLIT XRF & TOTAL Pb)

SCREENING XRF SAMPLE LOCATION

SPLIT SAMPLE LOCATION (PERIMETER)

AREA OF REMOVAL

- △
- 
- 
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INFORMATION FROM BU 8.01, FIGURE 7-1



NAS Pensacola  
Pensacola, Florida

Figure 3  
Site 9A Removal Area

**Table 1-1  
Remediation Work Plan Removal Actions**

<b>Name of Site</b>	<b>Excavation Area (specified)</b>	<b>Waste Volume (estimated)</b>	<b>Contaminant of Concern</b>	<b>Disposal (assumed)*</b>	<b>Preliminary Remediation Goals</b>	<b>Monitoring Well Removals</b>
Site 1 Tar Pit, OU 1	10 ft x 70 ft x 2 ft deep	72.6 tons	Tar-like residue in old landfill pit	Subtitle D landfill	NA	No'
Site 7	2 ft x 20 ft x 2 ft deep	4.1 tons	Arsenic 4.2 mg/kg	Subtitle D landfill	1.56 mg/kg (background)	07GS04
Site 9A, OU 6	Multiple areas; Approximately 4850 ft <sup>2</sup> x 2 ft deep	503 tons	Lead in excess of 500 mg/kg	Hazardous Waste Facility	500 mg/kg	No
Site 10	6 ft x 6 ft x 2 ft deep	3.8 tons	Dieldrin (710 mg/kg)	Subtitle D landfill	0.070 mg/kg	10G301
Site 17, OU 14	5 ft x 6 ft x 2 ft deep	3.1 tons	PCB Arochlor 1260 (4.2 mg/kg) Benzo(a)pyrene (0.097 mg/kg)	Subtitle D landfill	0.900 mg/kg	No
Site 18	6 ft x 6 ft x 2 ft deep	3.8 tons	PCB Arochlor 1260 (4.1 mg/kg)	Subtitle D landfill	0.900 mg/kg	18GS01
Site 25, OU 2	6 ft x 6 ft x 2 ft deep	3.8 tons	PCB Arochlor 1260 (3.1 mg/kg)	Subtitle D landfill	0.900 mg/kg	25GS08

\*Other chemicals of concern may be found at each site, in addition to those identified herein. Waste profile samples will be analyzed for each site, and the resulting data may require that a lesser or more expensive disposal alternative be selected than that which was assumed based on data provided in the Data Collection Summaries.

A portable x-ray fluorescence laboratory was used to guide the delineation at Site 9A. A delineation grid of 5 ft x 5 ft was used to define the areas to be excavated.

After excavation, verification samples will be collected at intervals no greater than 50 ft around the perimeter of the excavation and sent to an offsite laboratory for Level D confirmatory results. The sidewalls of the excavated area will be lined with plastic. The excavation will then be backfilled with clean soil, compacted, reseeded, and mulched with straw.

### **3.3 PROPOSED REMOVAL AND VERIFICATION SAMPLING STRATEGY—SITES 7, 10, 17, 18, AND 25**

No delineation samples will be collected from these sites. The northing and easting coordinates provided in the Data Collection Summaries (as shown on Figures 4, 5, 6, 7, and 8) shall be used as the center of the excavation; each excavation shall be 6 ft x 6 ft x 2 ft deep with the exception of Site 17 which is 5 ft x 6 ft x 2 ft deep. After the excavation is completed, verification samples will be collected from the four sidewalls and the bottom center of the excavation. The sidewalls of the excavated area will be lined with plastic. The excavation will then be backfilled with clean soil, compacted, and reseeded or otherwise restored to match the surrounding area (gravel, shells, etc.).

## **4.0 DETAILED DESCRIPTION OF WORK**

The logistics of the removal action are explained in the following sections.

### **4.1 LOCATION OF UNDERGROUND UTILITIES AND DIGGING PERMIT**

BEI will obtain digging permits before beginning excavation and submit a written notice to Resident Officer in Charge of Construction (ROICC) requesting base personnel to locate underground utilities in the vicinity of each area prior to excavation. As-built drawings for existing underground utilities near the areas to be excavated will be obtained from the ROICC. Elevations of existing piping, utilities, and any other type of underground obstruction not indicated on the drawings in locations where excavation is to occur will be verified using a pipe and cable locator before beginning excavation.

### **4.2 NOTIFICATION PRIOR TO EXCAVATION**

The ROICC will be notified at least 48 hours before the beginning of excavation work.

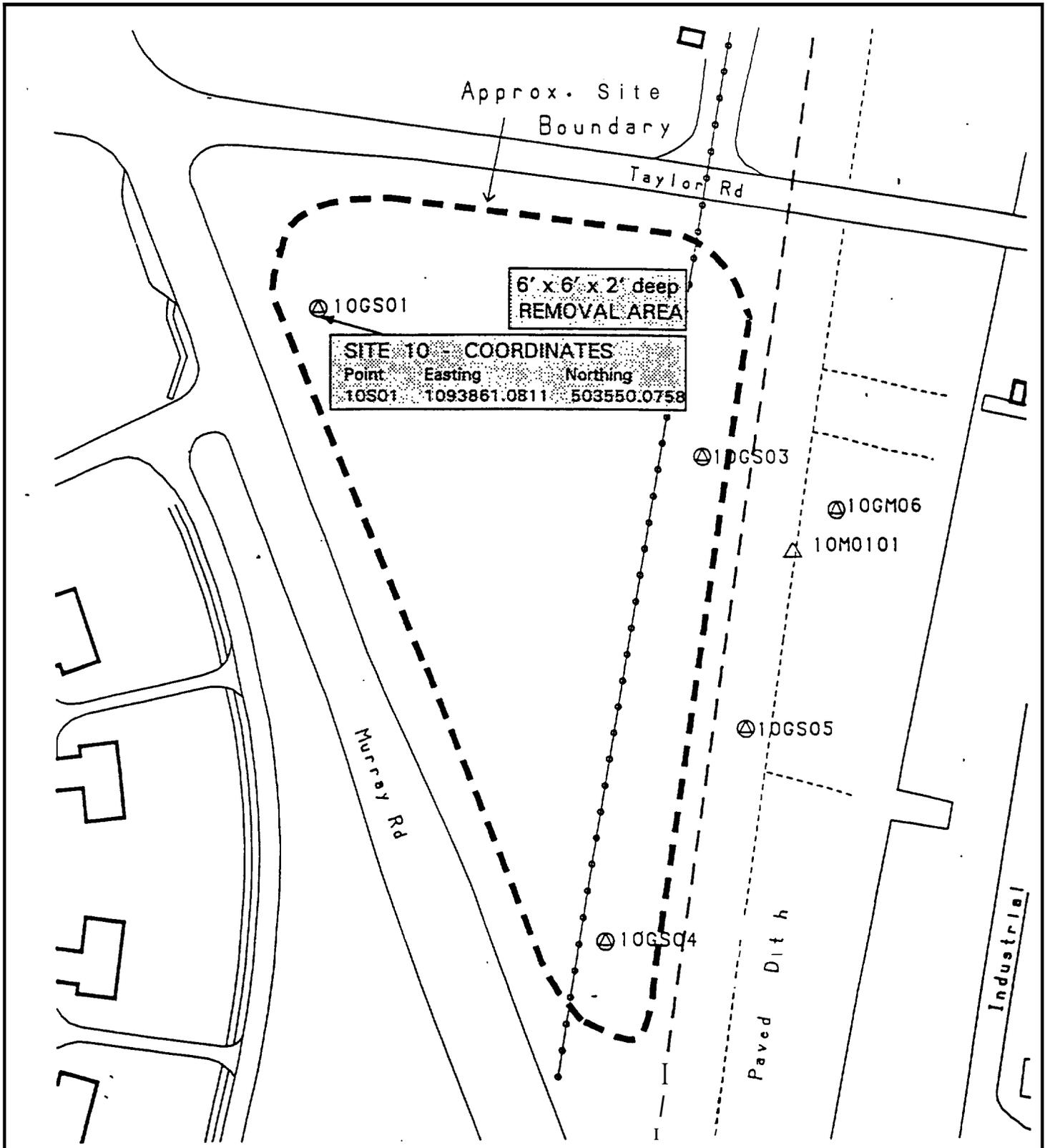
### **4.3 FIELD SURVEY**

Before beginning field excavation, the prescribed boundaries of the areas to be remediated will be marked by civil survey, based on the coordinates of the reference locations provided by Ensafe (Figs. 2 through 8).

### **4.4 EXCAVATION OF CONTAMINATED MATERIAL AND REMOVAL OF MONITORING WELL**

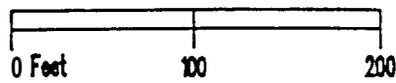
Soil will be excavated and monitoring wells removed from each area shown in Table 1-1; field work will be performed in accordance with the following documents:

- Data Collection Summaries for Various Sites; Southern Division



Legend

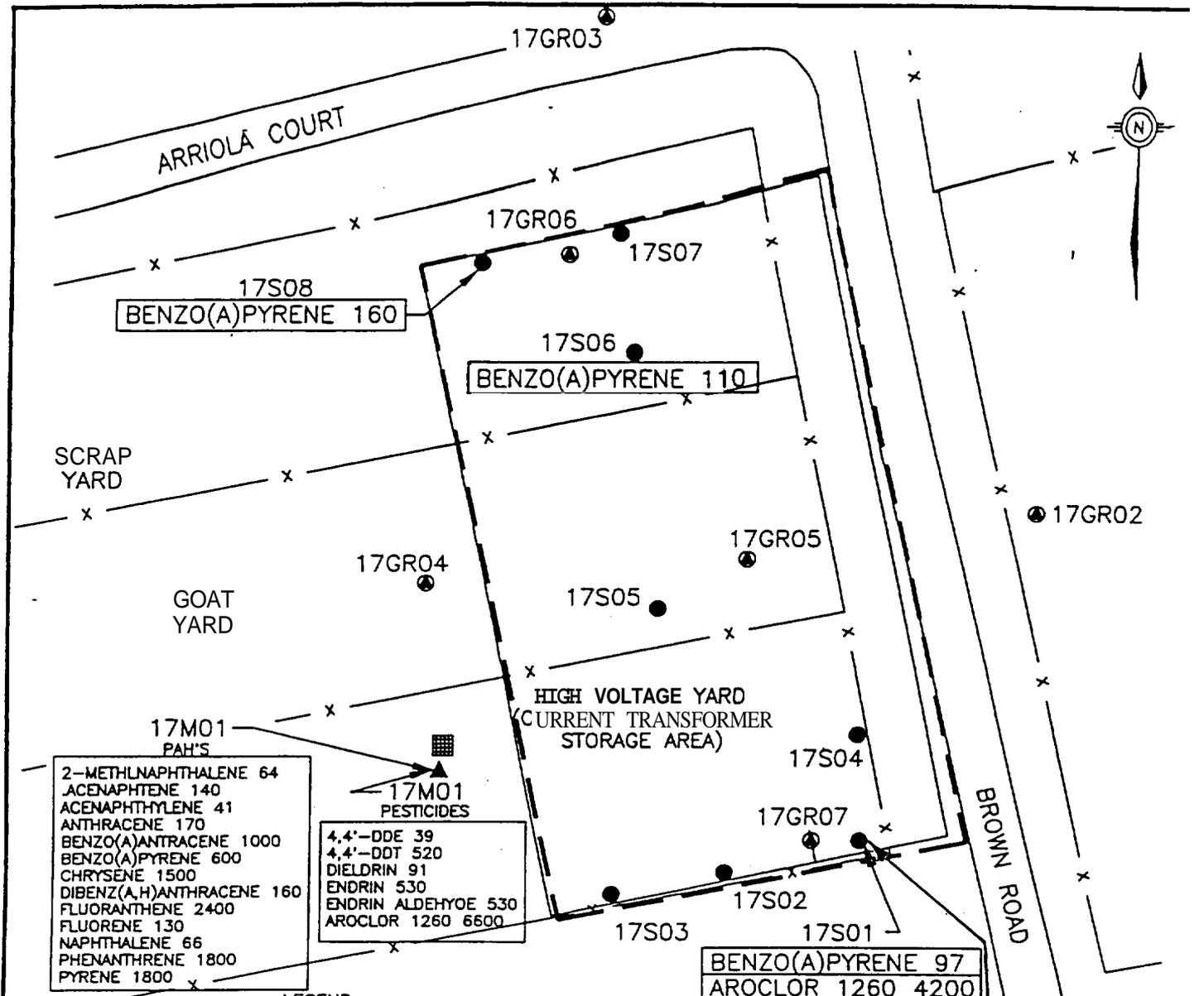
- (Shallow) Sediment Sample
- Industrial Waste Sewer Line
- Fuel Oil Line



Technical Memorandum  
NAS Pensacola  
Pensacola, Florida



FIGURE 4  
SITE 10 REMOVAL AREA



17M01 PAH'S

2-METHYLNAPHTHALENE	64
ACENAPHTENE	140
ACENAPHTHYLENE	41
ANTHRACENE	170
BENZO(A)ANTHRACENE	1000
BENZO(A)PYRENE	600
CHRYSENE	1500
DIBENZ(A,H)ANTHRACENE	160
FLUORANTHENE	2400
FLUORENE	130
NAPHTHALENE	66
PHENANTHRENE	1800
PYRENE	1800

17M01 PESTICIDES

4,4'-DDE	39
4,4'-DDT	520
DIELDRIN	91
ENDRIN	530
ENDRIN ALDEHYOE	530
AROCLOR	1260 6600

BENZO(A)PYRENE 97  
AROCLOR 1260 4200

LEGEND

- - SOIL BORING
- ▲ - SEDIMENT SAMPLE
- ⊙ - TEMPORARY SHALLOW WELL
- — — - APPROXIMATE SITE BOUNDARY
- x-x- - FENCE
- - STORM DRAIN

SITE 17 - COORDINATES

Point	Easting	Northing
17GR07	1088255.514	502701.666

5' x 6' x 2' deep  
REMOVAL AREA

ALL SOIL PARAMETERS FROM SURFACE SOIL (0-1') INTERVAL; CONCENTRATIONS IN UG/KG

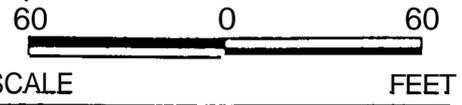
LOWEST SOIL PRG  
BENZO(A)PYRENE 88 UG/KG (USEPA RBC)  
AROCLOR 1260 83 UG/KG (USEPA RBC)

LOWEST SEDIMENT PRG

2-METHYLNAPHTHALENE 20.2 UG/KG (FDEP TEL)  
ANCENAPHTENE 6.71 UG/KG (FDEP TEL)  
ACENAPHTHYLENE 5.87 UG/KG (FDEP TEL)  
ANTHRACENE 46.9 UG/KG (FDEP TEL)  
RACENE 74.8 UG/KG (FDEP TEL)  
88.8 UG/KG (FDEP TEL)  
CHRYSENE 108 UG/KG (FDEP TEL)  
DEBENZ(A,H)ANTHRACENE 6.22 UG/KG (FDEP TEL)

LOWEST SEDIMENT PRG

FLUORANTHENE 113 UG/KG (FDEP TEL)  
FLUORENE 21.2 UG/KG (FDEP TEL)  
NAPHTHALENE 34.6 UG/KG (FDEP TEL)  
PHENANTHRENE 86.7 UG/KG (FDEP TEL)  
PYRENE 153 UG/KG (FDEP TEL)  
4,4'-DDE 2.07 UG/KG (FDEP TEL)  
4,4'-DDT 1.19 UG/KG (FDEP TEL)  
DIELDRIN 0.715 UG/KG (FDEP TEL)  
ENDRIN 3.3 UG/KG (USEPA SSV)  
ENDRIN ALOCHYDE 3.3 UG/KG (USEPA SSV)  
AROCLOR 1260 21.6 UG/KG (USEPA SSV)



REMEDIAL INVESTIGATION  
REPORT  
SITE 17  
NAS PENSACOLA

FIGURE 5  
SITE 17 REMOVAL AREA

**SITE 18 - COORDINATES**  
 Point Easting Northing  
 18GS01 1095168.122 500485.311



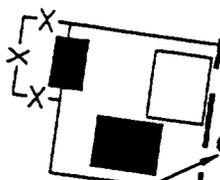
6' x 6' x 2' deep  
**REMOVAL AREA**

18S04  
 110 (0-1')

18S01  
 4100 (0-1')

18S03  
 300 (0-1')

18S02  
 150 (0-1')  
 380 (0-1')



ASPHALT  
 PARKING LOT

**SITE 18**

MUSTIN STREET

738

107

CENTER AVENUE

47

603

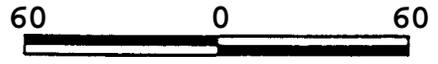
**LEGEND**

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

- (0-1') SAMPLE INTERVAL
- 18S01 AROCLOR 1260 (UG/KG)
  - 18S02 BENZO(A)PYRENE (UG/KG);  
 AROCLOR 12060 (UG/KG)
  - 18S03 AROCLOR 1260 (UG/KG)
  - 18S04 BENZO(A)PYRENE (UG/KG)

**LOWEST PRG (UG/KG)**

BENZO(A)PYRENE 88 (USEPA RBC)  
 AROCLOR 1260 83 (USEPA RBC)



SCALE FEET



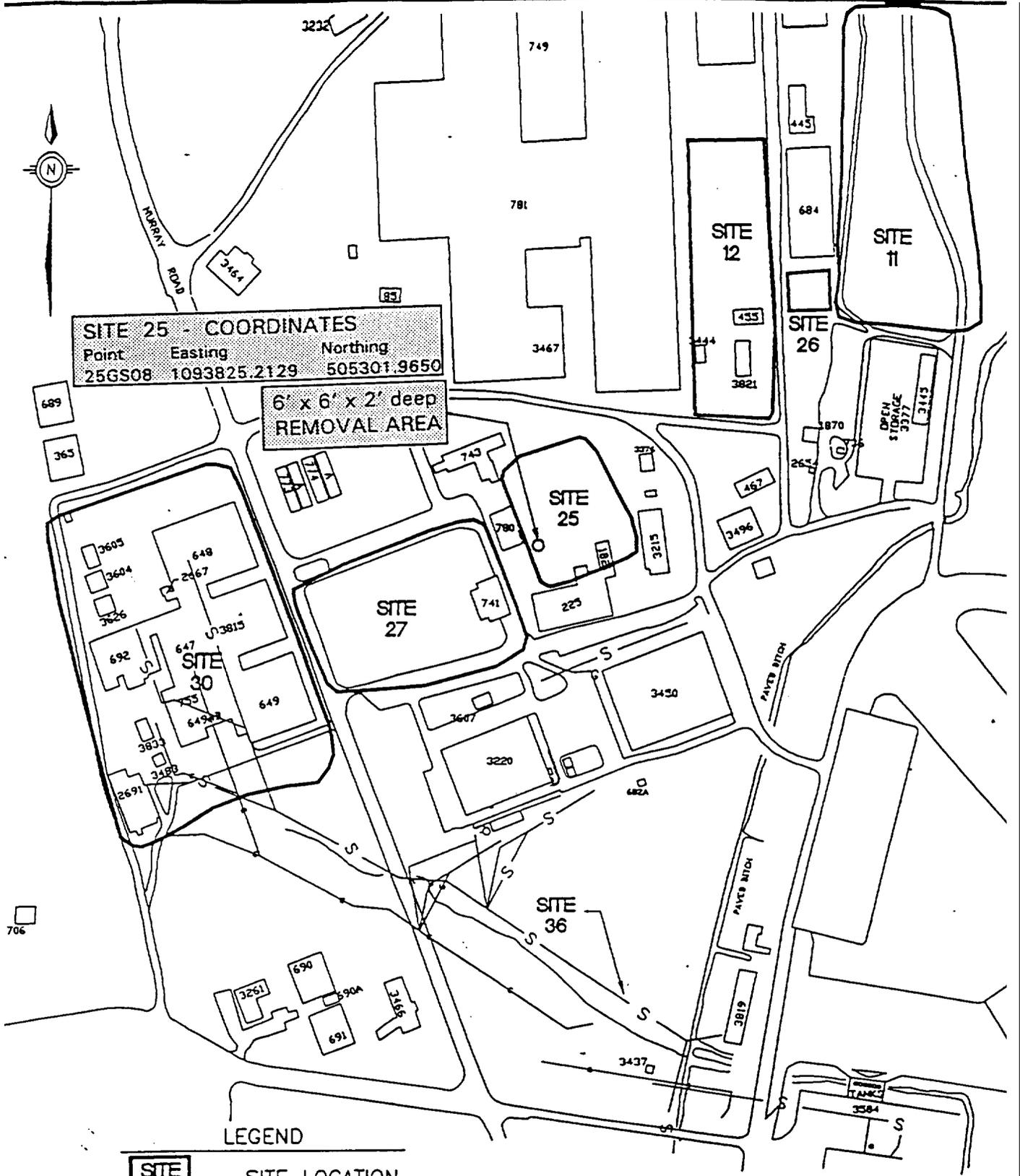
PRELIMINARY SITE  
 CHARACTERIZATION REPORT  
 NAS PENSACOLA  
 SITE 18

**FIGURE 6**  
**SITE 18 REMOVAL AREA**



**SITE 25 - COORDINATES**  
 Point Easting Northing  
 25GS08 1093825.2129 505301.9650

**6' x 6' x 2' deep  
 REMOVAL AREA**



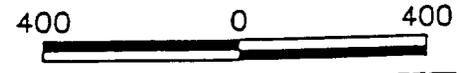
**LEGEND**



- SITE LOCATION



- SITE 36

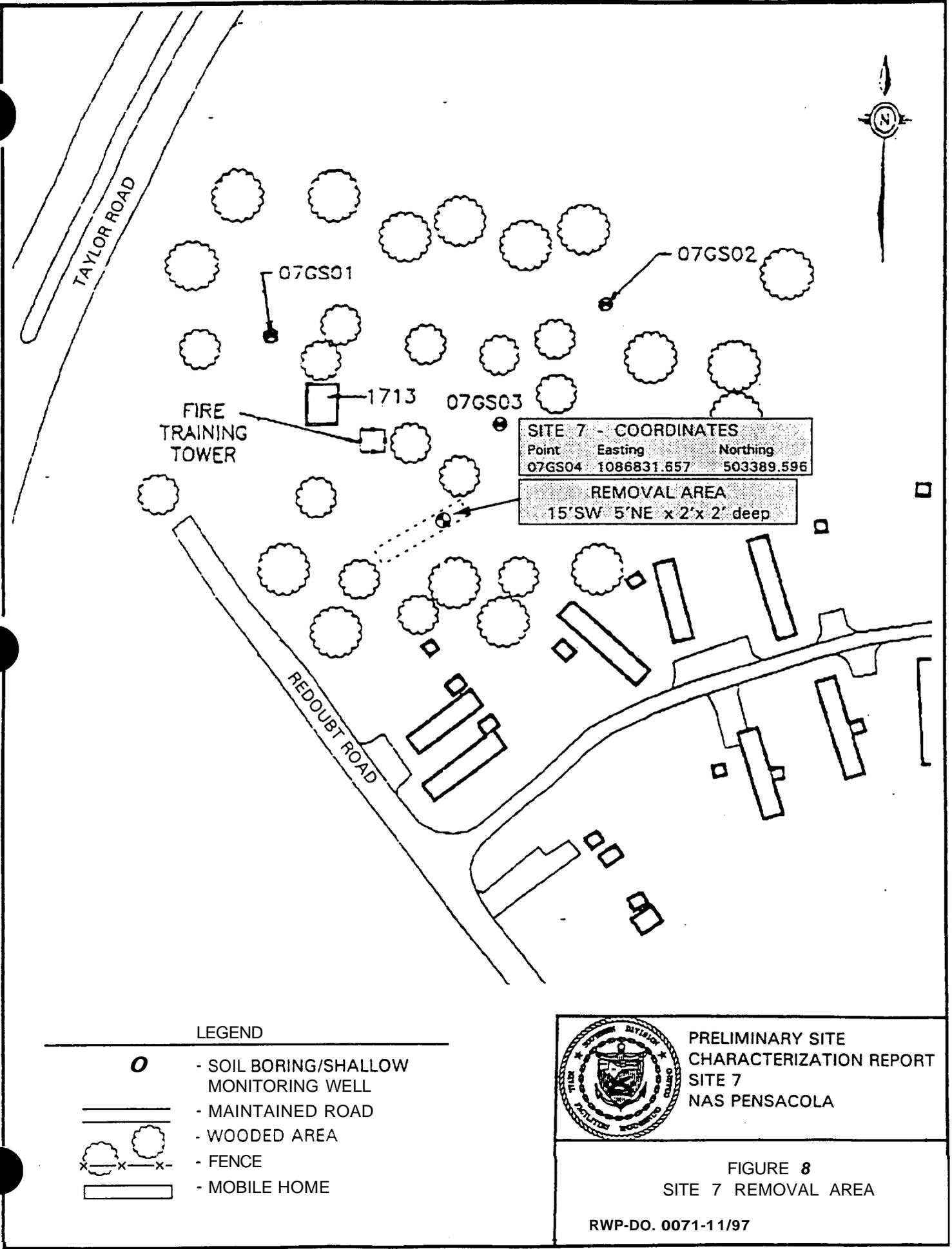


SCALE FEET



REMEDIAL INVESTIGATION  
 REPORT  
 NAS PENSACOLA OU-2

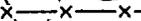
**FIGURE 7  
 SITE 25 REMOVAL AREA**



SITE 7 - COORDINATES		
Point	Easting	Northing
07GS04	1086831.657	503389.596

REMOVAL AREA  
15'SW 5'NE x 2'x 2' deep

LEGEND

-  - SOIL BORING/SHALLOW MONITORING WELL
-  - MAINTAINED ROAD
-  - WOODED AREA
-  - FENCE
-  - MOBILE HOME



PRELIMINARY SITE CHARACTERIZATION REPORT  
SITE 7  
NAS PENSACOLA

FIGURE 8  
SITE 7 REMOVAL AREA

- Technical Specifications for Surveying **Services** - Appendix A
- Technical Specifications for Contaminated Materials and Miscellaneous Demolition - **Appendix B**
- Technical Specifications for Uncontaminated Earthwork - Appendix C
- Technical Specifications for Turf Establishment - Appendix D
- Technical Specifications for Monitoring Well Installation and Abandonment - Appendix E
- Soil Cleanup Goals for Florida; Florida Department of Environmental Protection, September 29, 1995

## 5.0 SAMPLING AND ANALYSIS

To ensure that the contaminated soil has been completely removed from each excavation (excepting the tar pit in Site 1), one confirmation sample shall be collected from each of the four sides of the excavation and one sample from the bottom center of the excavation. Level D protocols will be used for sample collection and analysis. Table 5-1 lists sample locations, types, quantities, and analytical requirements.

If the analytical results exceed the PRG concentrations, a plan of action will be developed and submitted to SOUTHDIY for approval before any additional material is excavated. The analytical results and comparison to PRGs will be submitted to the Contracting Officer as a part of the completion report after the removal action is completed.

### 5.1 QUALITY CONTROL REQUIREMENTS

Sampling procedures shall adhere to methods outlined in the EPA Region IV Environmental Services Division (ESD) *Standard Operating Procedures and Quality Assurance Manual* (May 1996), FDEP *Standard Operating Procedures for Laboratory Operations and Sample Collection Activities* (DERQA-001/92), and Bechtel Navy RAC project procedures. Duplicates shall be collected at a frequency of 10 percent (1 duplicate in this case) and matrix spike/matrix spike duplicates shall be collected at frequency of 5 percent (1 MS/MSD sample in this case). Quantities of samples described do not include other Quality Assurance/Quality Control (QA/QC) samples.

### 5.2 DECONTAMINATION

Sampling equipment will be decontaminated before the collection of each sample to minimize cross-contamination. Decontamination will be completed in accordance with Section 4.1, of "Decontamination," of *Standard Operating Procedures for Laboratory Operations and Sample Collection Activities* (DERQA-001/92).

### 5.3 SAMPLE IDENTIFICATION

Sample identification will be in accordance with NAVRAC Project Procedure 6003, "Sample Identification and Data Encoding."

### 5.4 LOGBOOKS

Field logbooks will be used for recording all field activities. Entries will include sufficient details to reconstruct all significant activities. Logbook entries will be completed in accordance with the minimum requirements for record keeping included in Section 5.0, "Sample Custody and Documentation," of the FDEP *Standard Operating Procedures for Laboratory Operations and Sample Collection Activities* (DERQA-001/92).

**Table 5-1  
Sampling and Analysis Requirements**

<b>Area</b>	<b>Sample Location</b>	<b>Sampling Event</b>	<b>Sample Depth</b>	<b>Analytical Method</b>	<b>Number of Samples</b>	<b>Sample Type</b>	<b>Analytes</b>
Site 7	Four sidewalls and bottom center	Confirmatory Sampling	0-2 ft	SW 846 8080	4 (one from each sidewall) plus 1 from the center bottom of the excavation	Grab	Arsenic Lead
Site 9A	Four sidewalls	Confirmatory Sampling	0-2 ft	SW 846 6010	Samples collected at intervals no greater than 50 ft around the perimeter of the excavation(s).	Grab	Dieldrin
Site 10	Four sidewalls and bottom center	Confirmatory Sampling	0-2 ft	SW 846 8080	4 (one from each sidewall) plus 1 from the center bottom of the excavation	Grab	Dieldrin
Site 17	Four sidewalls and bottom center	Confirmatory Sampling	0-2 ft	SW 846 8080	4 (one from each sidewall) plus 1 from the center bottom of the excavation	Grab	Arochlor
Site 18	Four sidewalls and bottom center ,	Confirmatory Sampling	0-2 ft	SW 846 8080	4 (one from each sidewall) plus 1 from the center bottom of the excavation	Grab	Arochlor
Site 25	Four sidewalls and bottom center	Confirmatory Sampling	0-2 ft	SW 846 8080	4 (one from each sidewall) plus 1 from the center bottom of the excavation	Grab	Arochlor

## 5.5 CHAIN-OF-CUSTODY RECORDS

To maintain sample treatability, each sample for offsite analysis will be properly documented on a chain-of-custody record. Chain-of-custody documentation will be completed in accordance with Section 5.3, "Custody Documentation Requirements for Field Operations," of the FDEP *Standard Operating Procedures for Laboratory Operations and Sample Collection Activities* (DERQA-00 1/92).

Quality control measures for analysis shall meet the criteria required by SW846-Method 8270. Analytical data generated shall meet EPA Data Quality Objective (DQO) Level IV criteria.

## 5.6 CHAIN OF CUSTODY

The preparation of the sampling containers and general container types, preservatives, and holding times are specified in the FDEP *Standard Operating Procedures for Laboratory Operations and Sample Collection Activities* (DERQA-00 1/92). Sample containers will meet all specifications in the above-mentioned procedures. The Bechtel Field Engineer or the designated person is responsible for ensuring that sufficient volume of each sample is collected and placed in the appropriate container with proper preservation.

## 5.7 DATA VERIFICATION

All soil sample data will be subject to a 100 percent verification. This includes data generated by field activities or as a result of laboratory analyses. The verification process will begin with manual entry or electronic loading of the data. Printouts of this information from the project database will be compared with the original hard copy of the data and resolved.

Documentation of all verification activities will be performed by the individual performing the verification. This documentation will consist of a signature of the person who performed the verification in the hard copy printouts ~~from~~ the project database. These signed verification printouts will be forwarded to the database manager or designee.

## 6.0 WASTE MANAGEMENT

Remediation waste generated during the Time-Critical Removal Action will be managed in accordance with the Environmental Response Action Contract Waste Management Plan (BEI 1995). The excavated waste materials will be shipped to an approved offsite hazardous waste disposal facility or Subtitle D Landfill as appropriate to the category of waste generated. All waste will be handled and disposed of in accordance with state and federal regulations.

### 6.1 WASTE MINIMIZATION

Waste minimization practices will be implemented during operations to minimize the amounts of materials that must eventually be eliminated. These practices will include but not be limited to:

- No extraneous materials taken into contamination control areas
- Decontamination and free release of equipment used to support onsite activities, to the extent practicable

- Use of consumables that can be compacted **or** otherwise volume-reduced, to the extent practicable

Personal protective equipment that is not visibly soiled will be disposed of as conventional waste. Contaminated portions of personal protective equipment will be managed as hazardous waste.

## 6.2 WASTE HANDLING, TRANSPORTATION, AND DISPOSAL

**All** nonhazardous solid waste that is generated as a result **of** mobilization and clearing activities will be properly disposed onsite or offsite as directed by the Navy.

Sample data from Sites 17, 18, and **25** indicates concentrations of PCBs (Arochlor 1260) at ~~3.1~~<sup>31</sup> to **4.2 ppm**. Available information indicates that PCB contamination is historic, and originated at these sites before 1987. Therefore, the TSCA PCB spill cleanup policy is not applicable, and soils with these concentrations of PCBs may be disposed in an approved RCRA Subtitle D landfill.

A surface soil sample collected from Site 9A was analyzed for TCLP metals and failed for lead content. Soil which contains 500 mg/kg or greater levels of lead will be excavated for offsite disposal.

Sample data from Site 10 indicates concentrations of Dieldrin up to 710 mg/kg. Site 10 is in a wooded, undeveloped area, and no process knowledge exists to support a hazardous waste listing for this constituent. Therefore, this material will be managed as non-hazardous waste and excavated and disposed at a RCRA Subtitle D landfill.

## 7.0 SAFETY AND HEALTH

A Program Safety and Health Plan defines policies for **work** on the Navy RAC Project. A Site Safety and Health Plan has been prepared for the Navy RAC Bases. Addendum No. **45** to the Site Safety and Health Plan defines task specific requirements for remediation at Pensacola.

## 8.0 QUALITY CONTROL

The Quality Control Plan and the Quality Control Plan Addendums have been prepared and describe the QC activities that will be implemented for work associated with Delivery Order (DO) No. 0071. The Quality Control Plan provides a detailed description of the QC requirements for Navy RAC program. The Quality Control Plan Addendum provides additional site-specific requirements. Both documents will be used to ensure that the QC requirements of the BEI and Navy RAC Program associated with this **RAW** are met.

## 9.0 APPLICABLE NAVY RAC PROJECT PROCEDURES

The procedures listed below are the key procedures which the field team must **know** to properly execute this task. However, this is not the complete list of all project procedures which may be applicable to support functions such as procurement, safety and health, project controls, or administrative services.

<u>Procedure Number</u>	<u>Procedure Name</u>
Navy RAC PP1005	Project Completion Reports
Navy RAC PP1007	Employment Conditions
Navy RAC PP3406	Subcontract Administration
Navy RAC PP5003	Trend Program
Navy RAC PP6003	Sample Identification and Data Encoding
Navy RAC PP6004	Field Logbooks
Navy RAC PP6005	Chain-of-Custody Record Procedure
Navy RAC PP6006	Sample Tracking
Navy RAC PP6010	Sample Container, Preservation, and Aliquot Requirements
Navy RAC PP6011	Sample Preservation, Packaging, and Shipment Offsite
Navy RAC PP6024	Decontamination of Field Sampling Equipment
Navy RAC PP6025	Soil Sampling
Navy RAC PP7001	Daily QC Reports
Corporate QA PP1.6	Audits
Corporate QA PP1.7	Surveillance
Corporate QA PP1.8	Corrective Action
Corporate QA PP1.9	Stop Work
Corporate QA PP2.2	Auditor/Lead Auditor Qualification and Certification
S&H SOP 2.1.10-A	Site Worker Orientation
S&H SOP 2.1.15	Hazardous Communications Program
S&H SOP 2.1.15-B	Lead Protection Requirements
S&H SOP 2.1.16	Job Hazard Analysis
S&H SOP 2.1.17	Hazardous Work Permit
S&H SOP 2.1.17-A	Utility Clearance
S&H SOP 2.1.17-C	Excavations and Trenches
S&H SOP 2.1.17-D	Confined Space Entry
S&H SOP 2.1.20-B	Project Exposure Limits
S&H SOP 2.1.24-A	Fire Protection and Prevention
S&H SOP 2.1.40	Site Control
S&H SOP 2.1.40-A	Vehicle and Heavy Equipment Safety
S&H SOP 2.1.60-A	Personal Protective Equipment
Corporate Mgmt Control 4.10	Quantity Tracking
Corporate Mgmt Control 5.10	Subcontract Schedules
Corporate Administrative 1.4	Document Control

## 10.0 ORGANIZATION AND RESPONSIBILITIES

### 10.1 PROJECT ORGANIZATION

**As** the Environmental Response Action Contractor for Navy installations at Pensacola, Florida, BEI is responsible for developing and implementing remedial actions at assigned sites. BEI's responsibilities include collection and review of data; sampling and analysis; development **of RAWPs** and related documents; procurement of subcontracts, labor, materials, and equipment; management and execution of field work; preparation of reports; compliance with environmental regulations; control of quality, cost, schedule; and safety and health. The Bechtel Site Superintendent will be the point of contact for all field activities relating to this **work**. The Bechtel Project Manager will be the point of contact **for** all other issues related to this work.

**APPENDIX A**  
**TECHNICAL SPECIFICATION**  
**FOR**  
**SURVEYING SERVICES**

**APPENDIX B**  
**TECHNICAL SPECIFICATION**  
**FOR**  
**CONTAMINATED EARTHWORK AND MISCELLANEOUS DEMOLITION**

**APPENDIX C**  
**STANDARD SPECIFICATION**  
**FOR**  
**UNCONTAMINATED EARTHWORK**

**APPENDIX D**  
**TECHNICAL SPECIFICATION**  
**FOR**  
**TURF ESTABLISHMENT**

**APPENDIX E**  
**TECHNICAL SPECIFICATION**  
**FOR**  
**MONITORING WELL INSTALLATION AND ABANDONMENT**

ADDENDUM NO. 45

TO THE  
SITE SAFETY AND HEALTH PLAN

FOR

VARIOUS SITES  
(SITES 1, 7, 9A, 10, 17, 18, AND 25)

AT

NAS PENSACOLA, FLORIDA

Prepared for

DEPARTMENT OF THE NAVY  
SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND

Under Contract No. N62467-93-D-0936

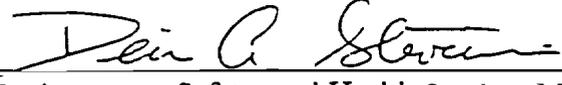
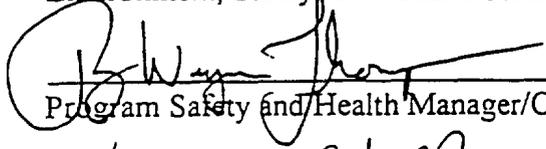
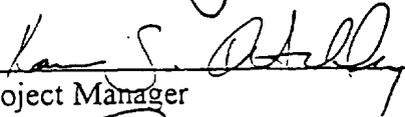
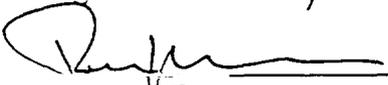
Prepared by

BECHTEL ENVIRONMENTAL, INC.  
OAK RIDGE, TENNESSEE

NOVEMBER 1997

Revision 0

Bechtel Job No. 22567

Approved:	 _____ Environment, Safety, and Health Services Manager	1/6/98 _____ Date
Approved:	 _____ Program Safety and Health Manager/CIH	10/30/97 _____ Date
Approved:	 _____ Project Manager	1/8/98 _____ Date
Approved:	 _____ Navy Contracting Officer	1/26/98 _____ Date

ENCL (2)

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## ACRONYMS AND INITIALISMS

<b>AIHA</b>	American Industrial Hygiene Association
<b>ANSI</b>	American National Standards Institute
<b>BEI</b>	Bechtel Environmental, Inc.
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>CFR</b>	Code of Federal Regulations
<b>CO</b>	Contracting Officer
<b>CTPV</b>	coal tar pitch volatile
<b>EPA</b>	<b>U.S.</b> Environmental Protection Agency
<b>HAZWOPER</b>	Hazardous Waste Operation and Emergency Response
<b>HEPA</b>	high-efficiency particulate air
<b>HWP</b>	hazardous work permit
<b>IRA</b>	interim remedial action
<b>LEL</b>	lower explosive limit
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NAS</b>	Naval Air Station
<b>OEW</b>	ordnance and explosive waste
<b>OU</b>	Operable Unit
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PAHs</b>	Polynuclear Aromatic Hydrocarbons
<b>PCBs</b>	Polychlorinated biphenyls
<b>PEL</b>	permissible exposure limit
<b>PPE</b>	personal protection equipment
<b>PRGs</b>	Preliminary Remediation Goals
<b>PSHP</b>	program safety and health plan
<b>PVC</b>	polyvinylchloride
<b>RAC</b>	Response Action Contract
<b>RI/FS</b>	remedial investigation/feasibility study
<b>ROICC</b>	Resident Officer in Charge of Construction
<b>S&amp;H</b>	safety and health
<b>SCBA</b>	self-contained breathing apparatus
<b>SHM</b>	safety and health manager
<b>SOP</b>	standard operating procedure
<b>SOUTHDIV</b>	Department of the Navy Southern Division-Naval Facilities Engineering Command
<b>SSHPP</b>	site safety and health plan
<b>SSHR</b>	site safety and health representative
<b>TCLP</b>	toxic characteristic leaching procedure
<b>TSSHP</b>	task-specific safety and health plan

UNITS OF MEASUREMENT

bls	below land surface
ft	foot/feet
gal	gallon
mg/m <sup>3</sup>	milligrams per cubic meter
ppm	parts per million

## 1.0 GENERAL INFORMATION

This Task-Specific Safety and Health Plan (TSSHP) addresses safety and health issues related to the remedial actions at various sites (sites 1, 7, 9A, 10, 17, 18, and 25) at Naval Air Station (NAS) Pensacola, Florida. In addition to these task-specific requirements, general requirements are given in the Navy Environmental Response Action Contract (Navy RAC) Program Safety and Health Policy (PSHP), the Site Safety and Health Plan (SSHP) for Navy RAC bases, the safety and health **standard** operating procedures (Navy RAC SOPs) for the Navy RAC program, and other work controlling documents such as hazardous work permits (HWPs).

The TSSHP has been developed in compliance with requirements of **29 CFR 19.10.120 (b)** and **29 CFR 1926.65(b)** for a Site Safety and Health Plan.

The TSSHP is issued under controlled distribution. A **TSSHP** may be revised during the annual review process or at any time it is apparent that there has been a change in site conditions or scope of work. In addition, the Bechtel Environmental, Inc. (BEI) Safety and Health Manager (SHM) and/or the Navy Contracting Officer (CO) reserves the right to require changes to the TSSHP and operations **as** necessary to ensure the safety and health of persons on or near the site. BEI will revise the TSSHP if it does not protect site workers, the general public, or the environment. Any revision to an approved TSSHP shall require the written concurrence of the CO and the SHM. Changes are typically done **through** Field Change Notices/Requests found in the SSHP.

All site personnel shall be familiar with the information and requirements contained in the TSSHP. Levels of protection may be up- or downgraded **by** the Site Safety and Health Representative (SSHR) based on site conditions and air sampling results.

### 1.1 IDENTIFICATION

Site Name: Naval Air Station (NAS)  
Site Location: Pensacola, Florida  
Client: Department of the Navy Southern Division Naval Facilities Engineering Command (SOUTHDIVNAVFACENGCOM)

### 1.2 DESCRIPTION OF ACTIVITIES

The remedial actions proposed **for** various sites (sites 1, 7, **9A, 10**, 17, 18, and 25) involve contaminant source removal, contaminant boundary delineation sampling, and post-removal confirmation sampling. Table 1-1 delineates the various individual tasks which will be completed to accomplish the scope of work.

### 1.3 SITE HISTORY

General information concerning the site history of NAS Pensacola is included in Attachment D of the Navy RAC Site Safety and Health Plan (SSHP). NAS Pensacola was placed on the EPA National Priorities List in December 1989. The Comprehensive Environmental Response, Compensation, and Liability Act (**CERCLA**) and its implementing regulations governs the cleanups at these **sites**. A remedial investigation conducted between December 1992 and October 1995 has identified several isolated areas with levels of

**Table 1-1**  
**Description of Activities**

Activity	Description
1	Mobilize to the site
2	Identification of utilities and excavation interferences
3	Delineation soil sampling
4	Contaminated soil removal
5	Well closure
6	Collection of verification samples
7	Decontamination
8	Backfill and site restoration
9	Demobilization from the site

The following text provides a brief description of the activities enumerated in Table 1-1.

1. Mobilizing the site: After Bechtel has received notice to proceed from the Navy, construction equipment, tools, and materials will be delivered to the jobsite. Nonmanual supervision and a labor force sufficient to commence and sustain remediation activities will be mobilized. Before beginning remedial activities, permits will be in place, a preconstruction meeting will be held, and emergency contacts verified in addition to giving worker site-specific orientations.
2. Identifying utilities and excavation interferences: State and Navy requirements will be followed for notification of utility companies prior to any construction or excavation activity and for location of **known** utility pipes and cables. The Bechtel Site Superintendent will perform a walkdown of the site to identify any potential construction interferences. Bechtel will perform a separate site-specific survey for underground interferences, using a pipe and cable locator, in those areas where digging will be performed. Known and suspected underground structures will be marked with survey flags or paint before any intrusive work is initiated.
3. Delineation sampling: Prior to excavation activities at site **9A**, soil samples will be collected to define the **limits** of contamination to reduce the volume of soil to be removed and disposal costs. All sampling will be performed in accordance with applicable project procedures, as well as state and U.S. Environmental Protection Agency (EPA) procedures.
4. Contaminated soil removal: The removal of contaminated soils will be completed at each site before moving to the next site. In addition, stormwater management controls to prevent run-on and run-off will be implemented.
5. Well closure: Wells will be abandoned at sites 7, 10, **18**, and 25. All work will be performed in accordance with applicable procedures and technical specifications (e.g., SPOOO-022).
6. Decontamination: All equipment and tools shall be free of contamination before they enter the site and shall be decontaminated before leaving the exclusion zones and before demobilization. A decontamination area will be established and maintained at each site. Decontamination materials and

wastes shall be properly contained and disposed of by Bechtel. Documentation will be maintained by Bechtel that decontamination **was** completed.

7. Verification sampling: Verification samples will be collected from the sidewalls (**4** samples) and the bottom (1 sample) of the excavations and submitted to a laboratory for analysis.
8. Backfill and site restoration: All excavations will be backfilled and the area restored to its original status, to the extent practicable, before demobilization.
9. Demobilizing the site: After final inspection with the Resident Officer in Charge of Construction (ROICC), equipment will be removed from the site. Surplus material will be turned over to the Navy or reutilized on another SOUTHDIV remediation site. Personnel will return to their point of origin.

chemical contamination that exceed the Florida Soil Cleanup Goals for residential use, which have been established as the preliminary remediation goals (PRGs) for these sites. These sites are at various locations throughout the base. Chemical contaminants have been identified in the surface soil at sites 7, 9A, 10, 17, 18, and 25. The contaminated soil will be removed from these sites for offsite disposal and replaced with clean back fill material. Site 1 is the location of a closed landfill, which lies within a fenced and restricted use area at NAS Pensacola. This site contains a tar pit, which has been identified as a physical hazard that must be remediated to preclude injury to a possible trespasser within this restricted area.

### 1.3.1 Site Type and Regulatory Status

- Active
- Federal Government:
  - a. CERCLA U.S Environmental Protection Agency (EPA) and state
  - b. OSHA: 29 CFR 1910 and 1926, state, and OSHA-specific chemical hazard substance standards (29 CFR 1910.1028 Benzene)

### 1.3.2 Site Owner

United States Navy

## 2.0 HAZARD ANALYSIS

### 2.1 TYPES OF HAZARDS

- Toxic organic and inorganic chemicals
- Ingestion exposure
- Neurotoxin
- Carcinogen
- Skin absorption
- Inhalation exposure

#### 2.1.1 Radiation Hazard Listing

- Ultraviolet (UV) Sunlight

#### 2.1.2 Physical Hazards and General Safety Hazard Listing

- Heavy equipment use
- Heavy lifting
- Pinchpoints
- Intense sunlight
- Heat
- Excavations
- Underground utilities
- Slips, trips, falls
- Traffic
- High-pressure water
- Noise
- Hand tools (power tools)
- Overhead utilities

### 2.2 KNOWN AND/OR SUSPECTED CHEMICAL HAZARD MATERIALS ONSITE

#### 2.2.1 Chemical Hazards

Known or suspected hazardous chemicals identified at the site are polynuclear aromatic hydrocarbons (PAHs) including benzo(a)pyrene; pesticides (dieldrin); polychlorinated biphenyls (PCBs; Aroclor 1260); metals (lead and arsenic).

## 2.2.2 Chemical Hazard Assessment

The chemical hazard for the work is **low** to moderate. Table 2-1 shows the exposure limits, symptoms of exposure, harmful effects of exposure, and methods for detection for the contaminants of concern that might reasonably be expected to be encountered in accomplishing the work.

The Site Safety and Health Representative (SSHR) will implement an air monitoring program to confirm on a daily basis that chemical hazards are not present. **If** monitoring results indicate airborne chemical concentrations which exceed the action levels established in Table 6-1, or if new information indicates soil, or water contamination is significant, this TSSHP will be revised to address the hazards.

## 3.0 MEDICAL SURVEILLANCE

Medical surveillance requirements are found in Section 6.0 of the SSHP. No special testing is required for this activity. Workers outside regulated areas with no potential **for** exposure may be exempted from the medical surveillance program. Exemption is determined on a case-by-case basis by the **SHM**.

## 4.0 TRAINING

Project training requirements are contained in Sections 9 and 11 of the PSHP. General training requirements are specified in Section 10 of the Navy **RAC SSHP**.

Before starting work, each worker assigned to perform tasks under this TSSHP will receive an initial safety and health orientation training from the SSHR or designee. Workers outside regulated areas with no potential for exposure may be exempt **from** the Hazardous Waste Operation and Emergency Response (HAZWOPER) training program. This exemption is determined on a case-by-case basis by the **SHM**.

## 5.0 SITE CONTROLS

Program requirements for site controls are specified in Section 4.0 of the PSHP and Navy RAC SOP 2.1.40, "Site Control." General site control requirements for NAS Pensacola are specified in Section 4 of the **SSHP**. At a minimum, HWP's will be initiated for activities requiring Level C or greater protection (see Section 7.0).

## 6.0 SAFETY AND HEALTH SURVEYS AND MONITORING

### 6.1 AIR MONITORING EQUIPMENT

The air monitoring devices **used** will be a Miniram (real-time aerosol monitor).

### 6.2 REAL TIME AIR MONITORING REQUIREMENTS AND ACTION LEVELS

Table 6-1 provides occupational monitoring action levels and appropriate responses to **known** and suspected site hazards. The table also provides the required instrumentation and frequency of monitoring. The upgrading/downgrading of personal protective equipment (PPE) and implementation of engineering controls will be based on the results of data generated by the indicated real time instrumentation. **If** work

**Table 2-1  
 Chemical Hazard Information**

<b>Chemical</b>	<b>Exposure Limits</b>	<b>ng/m<sup>3</sup></b>	<b>Harmful effects</b>	<b>Symptoms</b>	<b>Method of Analysis</b>	<b>Routes of Exposure</b>
Lead	PEL STEL TLV IDLH	0.050  0.05 100	Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue	Weakness, lassitude, insomnia, facial pallor, weight loss, constipation, gingival lead line	Filter/acid/AA	Inhalation, ingestion, contact
Dieldrin	PEL STEL TLV IDLH	0.25  0.25 50	Central nervous system, liver, kidneys, skin (in animals: lung liver, thyroid and adrenal gland tumors)	Headache, dizziness, nausea, vomiting, malaise, sweating, myoclonic limb jerks, coma, carcinogen	Filter/GC	Inhalation, ingestion, skin absorption, contact
Polychlorinated-biphenyls (PCBs)	PEL STEL TLV IDLH	1.0  1.0 5.0	Skin, eyes, liver, reproductive system (in animals: tumors of the pituitary gland and liver, leukemia)	Imitation to eyes; chloracne; liver damage; reproductive effects; carcinogen	Filter/GC	Inhalation, ingestion, skin absorption, contact
Coal Tar Pitch Volatiles (PAHs)	PEL STEL TLV IDLH	0.2 N/A 0.2 80	Respiratory system, skin, bladder, kidneys (lung, kidney, and skin cancer)	Dermatitis, bronchitis, carcinogen	Particulate filter; benzene; gravimetric	Inhalation; skin and/or eye contact
Arsenic	PEL STEL TLV IDLH	0.010 N/A 0.010 5.00	Eyes, respiratory system [in animals: skin tumors]	Imitation eyes, respiratory system; carcinogen		Inhalation; Skin absorption; Skin and/or eye contact

Source: National institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards, U.S. Dept. of Health and Human Services, June 1994.

PEL - Permissible Exposure Limit, OSHA  
 TLV - Threshold Limit Values, ACGIH

STEL - Short Term Exposure Limit, OSHA  
 IDLH - Immediately dangerous to life and health

area real-time monitoring indicates a significant airborne level (above the action levels established in Table 6-1) of contaminants during any site activity, project boundary/perimeter monitoring **will** be initiated by the SSHR. The goal of **this** monitoring will be to determine if any airborne contaminants are dispersing offsite and to obtain data which would identify the need for corrective action in the work area. The significant contaminants of concern include **PAHs**, metals and fugitive dust. If work area monitoring shows a continuous sustained concentration of particulates (dusts) which exceed the action level (not an individual peak), monitoring will be initiated at the site boundary downwind from the work activity. If the action level is exceeded at the downwind perimeter point, the level upwind of the work area will be measured immediately.

Table 6-1  
**Work Station Air Monitoring Requirements And Action Levels**

Activity	Instrument or Contaminant	Frequency of Monitoring	Action Levels	Response
4	Miniram	Initial and periodic	< 5 mg/m <sup>3</sup>	Level D, engineering controls.
			≥ 15 mg/m <sup>3</sup>	Level C, engineering controls.
			> 15 mg/m <sup>3</sup>	Level B, engineering controls, perimeter monitoring.

If the potential for airborne dust generation exists, the downwind perimeter of the site will be observed. If visible dust is seen migrating offsite, dust suppression methods will be initiated.

### 6.3 EMPLOYEE EXPOSURE ASSESSMENTS - PERSONAL SAMPLING

The primary purpose of personal sampling is to assess the potential exposure to individual employees and to ensure that the proper level of PPE has been selected for the task to which an employee is assigned. **As** each new task is identified in the exclusion zone, personal samples will be collected on a minimum of 25 percent or two employees, whichever is greater, to document exposure and evaluate the effectiveness of the **PPE** which has been selected. Samples will be collected in the employees breathing zone using personal sampling pumps and the appropriate collection media. After a baseline is established for each major **task** with exposure potential, monitoring to confirm conditions **will** be done periodically.

If direct reading instruments indicate levels of dusts exceed the action level for over 15 minutes in the work area, personal sampling will be initiated immediately. Sampling will be conducted on the worker with the highest expected exposure. Monitoring will continue until levels recorded by direct reading instruments return below the action level. Once initiated, sampling **will** always continue **for** a period long enough to collect a sufficient volume of air to allow the laboratory to achieve an analytical detection limit no greater than one half the PEL. The samples will be collected in accordance with the approved NIOSH or OSHA methodology and analyzed for the appropriate contaminant(s) of concern.

### 7.0 PERSONAL PROTECTIVE EQUIPMENT

Program requirements for components of Level **A**, **B**, **C** and **D** levels of protection are specified in Sections 8.0 and 10.0 of the **PSHP** and Sections **8.0** and **9.0** of the **SSHP**.

**Table 7-1**  
**Levels of Personal Protective Equipment, Hazards, and References**

		B	C	D	E	F	G	H	I	J	K	L	Level	Up/Down grade
1	X	X								X	X		C.A.	N/A
2	X	X											C.A.	N/A
3	X	X								X			C.A.	D
4	X	X	X	X	X	X	X	X	X	X		X	D	C/C.A.
5	X	X		X	X	X	X	X	X	X			D	C/C.A.
6	X				X	X				X			C.A.	N/A
7	X									X			C.A.	N/A
8	X									X			C.A.	N/A

Key	Hazard	S&H Document/SOP References
A	Physical Injury Hazard	S&H, SOP 2.1.17A, 2.1.40A; TSSHP 2.5.1
B	Overhead/Underground Utility Hazard	S&H, SOP 2.1.40B, 2.1.40C
C	Fire/Explosion Hazard	S&H, SOP 2.1.24A
D	Noise Hazard	S&H, SOP 2.1.21
E	Contact with Contaminated Soil Hazard	S&H, SOP 2.1.60A, 2.1.60B, 2.1.70
F	Contact with Contaminated Water Hazard	S&H, SOP 2.1.60A, 2.1.60B, 2.1.70
G	Inhalation Hazard	S&H, SOP 2.1.15B, 2.1.30H, 2.1.65D, 2.1.80
H	Ingestion Hazard	S&H, SOP 2.1.15B, 2.1.110
I	Skin Contact Hazard	S&H, SOP 2.1.70A
J	Heat/Cold Stress Hazard	S&H, SOP 2.1.60C
K	Vandalism Hazard	S&H, SOP 2.1.40, 2.1.15A
L	Ordnance and Explosive Waste	Bechtel PP 8001

**Note:** Chemical contamination is listed in Table 2-1.  
N/A = Non applicable

The SSHR will specify **PPE** requirements in HWP's. Due to the contamination, it is anticipated that most **work** will be in construction attire and/or Level D. Table 7-1 shows the activity, expected **hazards**, level of protection, and possible upgrade in the level of protection. Respirator cartridges will be specified by the *SSHR*. Table 7-1 also lists S&H and SOP references for specific hazards.

Equipment for Levels **B**, **C**, and **D**, and Construction Attire (C.A.) personal protection is **as** follows:

- Level B Protection
  - Positive-pressure, pressuredemand self-contained breathing apparatus (SCBA)
  - Disposable protective clothing (Tyvek™ or polycoated TyveWSaranex, if splash **hazard** is present)
  - Inner PVC, nitrile or vinyl gloves
  - Neoprene or rubber overboots
  - Hard hat
  - Outer Neoprene or nitrile gloves
  - Sturdy leather work boots
  - Hearing protection (**as** required)
- Level C Protection
  - Full face air purifying respirator
  - Sturdy leather work boots
  - Inner PVC, nitrile or vinyl gloves
  - Hard Hat
  - Disposable protective clothing (Tyvek™ or polycoated TyveWSaranex, if splash hazard is present)
  - Organic vapor cartridges with HEPA filter
  - Neoprene or rubber overboots
  - Outer Neoprene or nitrile gloves
  - Hearing protection, as required
- Level D Protection
  - Hard hat
  - Sturdy leather work boots
  - Neoprene or rubber overboots
  - Neoprene or nitrile outer gloves with PVC, nitrile or vinyl inner gloves (if there is a potential for dermal exposure - otherwise leather gloves may be used)
  - Chemical safety goggles or faceshield (must be worn for groundwater sampling, pressure washing/ decontamination of equipment, and well pumping if splash hazard is present)
  - Disposable protective clothing (Tyvek™ or polycoated TyveWSaranex, if splash hazard is present)
  - Hearing Protection (**as** required)
  - Safety Glasses
- Construction Attire (C.A.)
  - Hard hat
  - Sleevedshirt
  - Safety glasses
  - Longpants
  - Sturdy leather work boots
  - Hearing protection, **as** required

All personal protective equipment **used** during the course of these field activities must meet the following and **any** other applicable **OSHA** standards:

<u>Type of Protection</u>	<u>Regulation</u>	<u>Source</u>
Eye and face	29 CFR 1910.133	*ANSI 287.1-Latest Edition
Respiratory	29 CFR 1910.134	ANSI 288.1-Latest Edition
Head	29 CFR 1910.135	ANSI Z89.1-Latest Edition
Foot	29 CFR 1910.136	ANSI Z4 1.1-Latest Edition

\*ANSI = American National Standards Institute

The above designated levels of protection will be upgraded or downgraded by the SSHR based on site conditions and air monitoring results.

## 8.0 EMERGENCY RESPONSE

Emergency response and notification procedures are specified in Attachment A of the SSHP. From the site, call 911 for police, rescue, fire department or ambulance. All telephone numbers have been verified and the site contamination and copies of the TSSHP have been provided and explained to the respondents

## 9.0 HURRICANE AND DESTRUCTIVE WEATHER RESPONSE

Hurricane and destructive weather procedures are specified in Attachment B for the Navy RAC Bases SSHP.

## 10.0 SPILL PREVENTION AND CONTROL

Spill control procedures are specified in Attachment C of the Navy RAC Bases SSHP.

## 11.0 ORDNANCE AND EXPLOSIVE WASTE

Based on previous activities and the information provided by the Navy, it is not anticipated that Ordnance and Explosive Waste (OEW) will be encountered during the activities planned for these locations.

In the unlikely event that OEW is encountered during site activity in these areas, the protocol established in Bechtel's SOP for Ordnance and Explosive Waste (PP 8001) will be implemented. Immediate actions will include:

- All work activities will immediately stop upon discovery of any type of ordnance or suspected ordnance. Heavy equipment will be left and will not be driven out of the work area. Employees will vacate the area and move a minimum of 200 yards away from the ordnance.
- The individual(s) observing the unexploded ordnance (UXO) or OEW will contact their supervisor and the SSHR. Bechtel and subcontractors will not handle any ordnance item; only trained explosive ordnance disposal personnel will handle UXO/OEW. The SSHR will contact the project safety and health manager immediately.
- The use of all equipment that may generate electromagnetic waves must be terminated (i.e., cellular phones, radios, lasers, generators, and alternators). These devices should not be used within 200 yards of the suspected UXO/OEW.
- The object suspected of being UXO/OEW will not be touched, moved, or disturbed in any manner.

Work will not be resumed until the area has been cleared by qualified UXO Personnel

**Table 8-1**  
**EMERGENCY TELEPHONE NUMBERS FOR NAS PENSACOLA**

**EMERGENCY SERVICES**

POLICE DEPARTMENT.....	.911
RESCUE SERVICE .....	911
FIRE DEPARTMENT.....	.911
HOSPITAL (Naval Hospital Emergency Ambulance Service).....	(850) 452-6600
BASE MAINTENANCE EMERGENCY .....	(850) 452-2322

**EMERGENCY CONTACTS**

BEI PROJECT S&H MANAGER (Roger Thompson).....	(423) 220-2172
BEI PROJECT MANAGER (Karen Atchley) .....	(423) 220-2167
BEI PROJECT SUPERINTENDENT (Ken Thompson) .....	Site
BEI PROJECT SITE SAFETY AND HEALTH REPRESENTATIVE (Nicke Ring) .....	Site
NAS SECURITY.....	(850) 452-2653
NAS ROICC ( Bill Cooper ) .....	(850) 452-4616
NAS SAFETY OFFICER .....	(850) 452-2125
EOD - (Robert Sirney, C.D. Swilley - NAS Weapons).....	(850) 452-4731/2795

**OTHER CONTACTS**

PALMETTO POISON CONTROL CENTER .....	(800) 922-1117
NATIONAL RESPONSE CENTER .....	(800) 424-8802
REGIONAL USEPA EMERGENCY RESPONSE .....	(800) 414-8802
CHEMICAL REFERRAL CENTER .....	(800) 262-8200

**HOSPITAL ROUTES**

A description of routes to the hospitals listed above will be provided and posted on site by the SSHR during site mobilization. The SSHR will also confirm and post local emergency contact telephone numbers.

**NOTE: All emergency telephone numbers must be confirmed and recorded above once the team is mobilized to the site and prior to any work activity.**

1 1 1

**ADDENDUM  
TO THE  
QUALITY CONTROL PROGRAM PLAN  
FOR  
VARIOUS SITES  
AT  
NAVAL AIR STATION PENSACOLA, FLORIDA**

**DELIVERY ORDER 0071**

**Prepared for  
DEPARTMENT OF THE NAVY  
SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND**

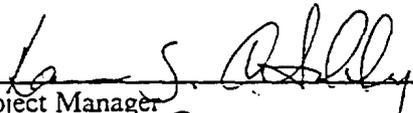
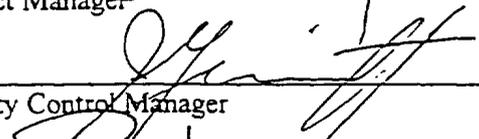
**Under Contract No. N62467-93-D-0936**

**Prepared by  
BECHTEL ENVIRONMENTAL, INC.  
OAK FUDGE, TENNESSEE**

**January 1998**

**Revision 0**

**BECHTEL JOB NO. 22567**

Approved:	 Project Manager	<u>1/8/98</u> Date
Approved:	 Quality Control Manager	<u>1-8-98</u> Date
Approved:	 Navy Contracting Officer	<u>1/26/98</u> Date

*ENCL (3)*

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## ATTACHMENTS

Number	Title
1	Inspection Schedule <b>Log</b>
2	Field Inspection Report Form
3	Testing Plan and Log

## INTRODUCTION

The purpose of this Quality Control Plan Addendum (QCPA) is to define those activities necessary to provide adequate confidence that the remedial actions associated with various sites (sites 1, 7, 9A, 10, 17, 18, and 25) at the Naval Air Station (NAS) Pensacola, Florida, have been satisfied under Delivery Order (DO) 0071.

## SCOPE OF WORK

The QCPA addresses site-specific QC requirements for **this task** and is used to provide additional information to the program requirements presented in the Quality Control Plan (QCP). Both the QCP and the QCPA will be used to direct QC activities for **this task**. Bechtel will fulfill its responsibility for QC by conducting inspections of direct-hire employees and subcontractors at various points during remedial activities, as required, and reserves the right to accept or reject items and installations in accordance **with** the method specified in Section LX of this document. It is the responsibility of subcontractors to meet the technical and quality requirements of the plans, specifications, and drawings applicable to their scope of work. It is also the responsibility of each subcontractor to comply with the requirements of this QCPA and support quality verifications (inspections, surveillances, etc.) performed by the QC manager or designee.

Site-specific inspection activities will be conducted for the definable features of work listed below. A listing of these inspections is presented in the Inspection Schedule Log (Attachment 1). For any optional work that may be required, inspections or tests will be developed on an "as needed" basis.

### Definable Features of Work

- Excavation and backfill
- Waste management
- Sampling

# Bechtel

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## SECTION 1 - APPOINTMENT LETTER

November 25, 1997

Mr. Jerry A. Grissett  
Bechtel Environmental, Inc.  
151 Lafayette Drive, P.O. Box 350  
Oak Ridge, TN 37831-0350

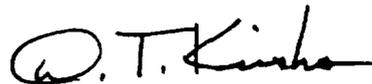
Dear Mr. Grissett:

Pursuant to Section 6.7.1(b) of the Quality Control Requirements contained within the Naval Facilities Engineering Command, Southern Division, Contract **No. N62467-93-D-0936**, please be advised that you have been appointed as Quality Control Manager for the environmental remediation action project for Delivery Order **No. 0071** for various sites at the Naval Air Station Pensacola, Florida. You have full responsibility and authority for implementation of the quality control program, including stop **work** authority in accordance with the Quality Control Program Plan.

Since the Quality Assurance Department maintains a reporting relationship independent of that for project personnel, you will report directly to me and coordinate project activities with the Project Manager.

Should you have any questions, please feel free to contact me.

Sincerely,



Donald T. Krishna

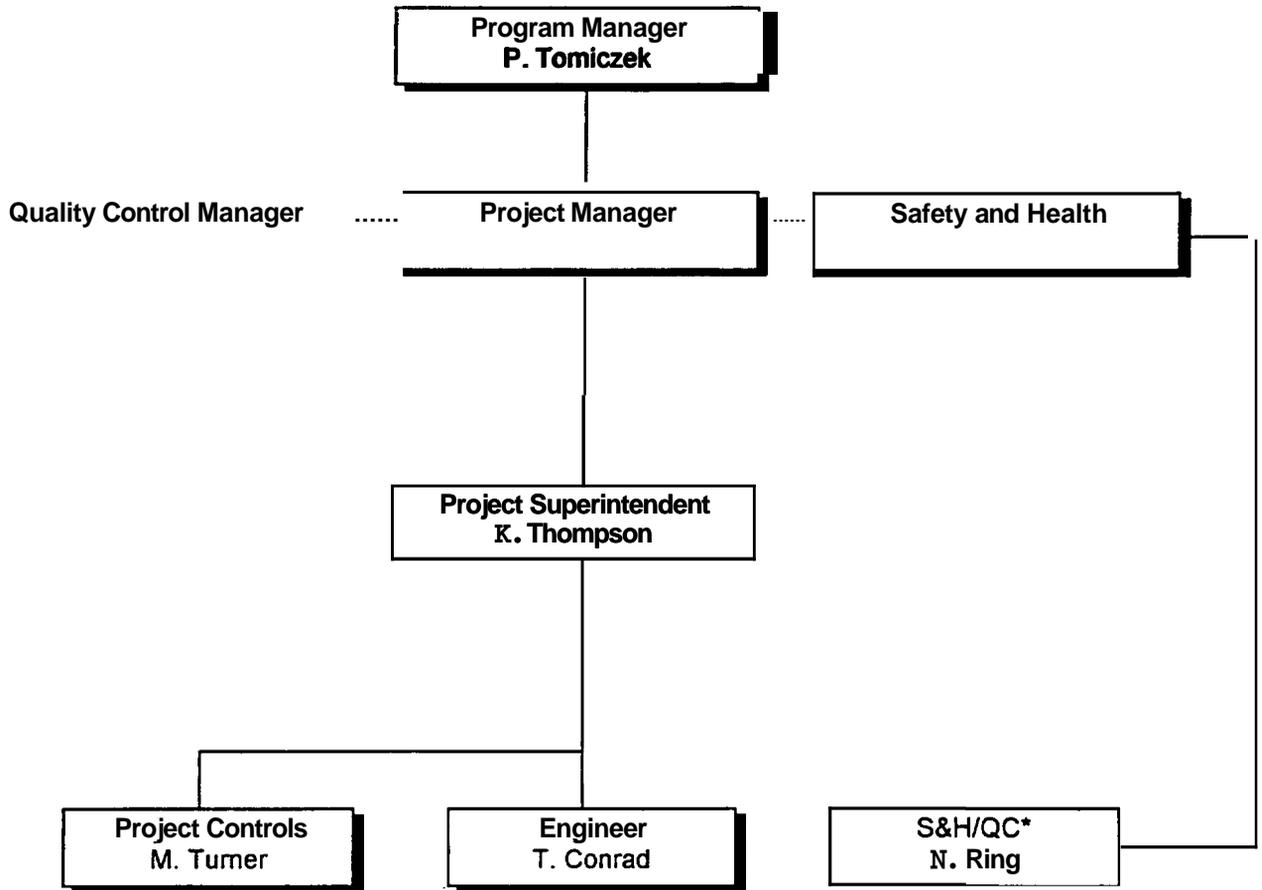
BEI Manager of Quality Control

DK:pw:pa0046



**SECTION II - ORGANIZATIONAL CHART**

**Figure 2-1  
Project Organization**



**Legend**

 Onsite

 Oak Ridge Office

\* QC function only. Report to Quality Control Manager.

## SECTION III - NAMES AND QUALIFICATIONS

### Professional Profile

Name: Jerry Grissett

Job Title: QA Supervisor

Proposed Project Title: Field QC Manager

Years' Experience with Firm: 15

Years' Experience with Other Firms: 8

Education (Degrees, year, specialization): **BA, 1976, Political Science**

Active Registration:  
(Year First Registered and Discipline)

1992, Lead Auditor, ASME NQA-1

1982, Auditor, ANSI N45.2.23

Health and Safety Training:  
(Course(s) and Date(s))

Safety Supervisory Training, 1990

CPR First-Aid Training, 1991

#### Experience and Qualifications:

Jerry Grissett has more than 19 years' experience on engineering, construction, and environmental remediation projects including 15 years in QNQC. He currently directs the QA/QC programs of environmental restoration and remedial action projects that include tasks involved in the proposed projects.

In his position as QA Supervisor in Bechtel's Oak Ridge office, Mr. Grissett develops and implements QA programs for several environmental restoration projects simultaneously. His responsibilities include conducting/directing field surveillances/inspections of Bechtel and subcontractor activities for waste packaging, decommissioning, sampling, analysis, and other remedial actions. Mr. Grissett also conducts home-office and jobsite audits, approves laboratory QA/QC plans, and leads laboratory audits to ensure their satisfactory compliance with approved plans/procedures.

He has written numerous quality plans on remedial action and remedial investigation. Most recently, Mr. Grissett received DOE

approval of a QA plan he developed for compliance with ASME NQA-1, DOE 5700.6C, and EPA QAMS 005/80. This plan directs the investigation and remediation of a former Manhattan Project research laboratory site that contains a buried uranium reactor bioshield, gasoline storage/dispensing tanks, septic drain systems, and waste from support facilities such as a lead foundry, dormitories/cafeteria, and a metallurgical lab.

In the last few years, Mr. Grissett has performed QA/QC surveillances/audits for FUSRAP and the ORNL RI/FS project, which involves nearly all aspects of contamination control, remedial investigation, and remedial action, including groundwater monitoring, excavation of contaminated sediments and soils, and transport of wastes. He has performed audits on the USACE projects, which have involved neutralization, chemical stabilization, trans-portion and disposal of contaminated materials, groundwater monitoring, pumping and treating contaminated groundwater, and chemical decomposition and solidification.

Previously, Mr. Grissett developed and enforced the ASME NQA-1 quality program for the decontamination and decommissioning of a nuclear fuels production facility in California. He ~~was~~ responsible for assuring that project plans, technical documents, procedures, and jobsite activities provided for compliance with federal and state regulations. Before coming to Bechtel in 1982, Mr. Grissett worked two years for Public Service of ~~Indiana~~ as an Electrical QA Engineer. From 1972 to 1980, Mr. Grissett held positions in construction, engineering, and QC with Brown and Root Construction on its Brunswick and South Texas projects.

- Maintaining internal and external communications: Mr. Grissett conducts monthly QA management review meetings for his environmental projects, which involve project management and staff, to communicate on QA actions and trends. In addition, he summarizes QA activities for monthly project reports; which are in turn summarized in the monthly office report submitted by the Oak Ridge office QA Manager to Bechtel's corporate QA Department.
- Applying quality assurance to individual tasks: Mr. Grissett's job duties consist of supervising project QA implementation. He regularly reports trends in QA, tracks corrective action, performs QA audits, and develops project QA programs and procedures. In addition, Mr. Grissett has received training in continuous improvement principles from the QA department's TQM coach and applies these principles to his daily tasks.
- Resolving problems: Some corrective actions are taken during the audit process; those that cannot be resolved immediately are tracked through a corrective action/nonconformance report. Mr. Grissett or his representative(s) approve resolutions and verify that corrective actions have been made.
- Planning and scheduling: Each monthly report contains an audit and surveillance schedule developed by Mr. Grissett or his representative(s). This schedule reflects

project QA activities from 3 months to 1 year in advance.

- **Cost estimating and cost control:** Mr. Grissett is responsible for monitoring budget and job hours for project QA activities.
- Budgeting and accounting: Mr. Grissett is also responsible for developing and forecasting costs and job hours for project QA activities.
- Coordinating technical reports and submittals: Mr. Grissett has written numerous QA project procedures and plans, as well as supervising his staff in developing project deliverables relating to QA. He also reviews and approves procedures and plans for other project departments (Engineering, H&S, Procurement, etc.).
- Managing multiple projects concurrently: Mr. Grissett serves as QA Supervisor for several projects simultaneously.
- Working with consultants and subcontractors: As project QA supervisor, Mr. Grissett audits the work of consultants and subcontractors to ensure that they adhere to project requirements.

List of Technical Documents:

- Quality Assurance Program Plan for the Palos Park Site
- Quality Assurance Plan for the UC-Davis LEHR Site
- Quality Assurance Program Plan for the Sorrento Valley Associates Site
- QA/QC Procedures (over 100)
- Has reviewed/approved more than 50 engineering design specifications
- Reviews/approves project procedures for all disciplines as well as all project planning documents

## **SECTION IV - DUTIES, RESPONSIBILITIES, AND AUTHORITIES OF QC PERSONNEL**

The duties, responsibilities, and authorities of the assigned QC personnel for **tasks** associated with DO 0071 are described in detail in Section IV of the QCP.

## **SECTION V - OUTSIDE ORGANIZATIONS**

Outside organizations may be employed by Bechtel, **as** required by the scope of work, to provide specific services. These outside organizations for **this** DO may include but are not limited to:

- Surveying
- Analytical services
- Transportation and disposal of contaminated soil and construction debris
- Well abandonment

## **SECTION VI - SUBMITTALS**

Submittals and reporting requirements for **this** DO's **tasks** are specified in Exhibit F of relative subcontracts and Section VI of the QCP. The QC manager is responsible for the completion and submission of all required QC submittals as specified in the QCP.

## **SECTION VII - INSPECTION SYSTEM**

Inspections will be conducted according to Section VII of the QCP. Inspections to be conducted for tasks associated with **this** DO are listed in the Inspection Schedule Log (Attachment 1) and the Field Inspection Report (Attachment 2). Dates for QC inspections will be provided at the jobsite during preconstruction and construction meetings.

## **SECTION VIII - TESTING**

Construction testing expected for this scope of work is listed in Attachment 3, Testing Plan and Log. Additional requirements associated with testing, such **as** calibration, audits, subcontractor submittals, and data review, are addressed in the QCP.

## **SECTION IX - REWORK PROCEDURES**

Rework procedures and associated requirements are addressed in Section IX of the QCP.

## **SECTION X - DOCUMENTATION**

Refer to Section X of the QCP for QC documentation requirements for **tasks** associated with **this** DO

## **SECTION XI - CERTIFICATIONS**

Certification requirements are addressed in Section XI of the QCP.



**SECTION XII - PROGRESS SCHEDULE**

**Scheduling will be performed by BEI.**

ATTACHMENT 1  
 Inspection Schedule Log

Inspection Phase and Schedule												
RWP Reference	Ckist No.	Definable Feature of Work/ Required Inspections	Preparatory			Initial			Follow-up			Remarks
			Schedule	Actual	By	Schedule	Actual	By	Schedule	Actual	By	
	05	Preparatory Phase Completion										
4.0		<b>Excavation and Backfill</b>										
	64	Contaminated earthwork and miscellaneous demolition										
	65	Uncontaminated Earthwork										
	88	Well Abandonment										
6.0		<b>Waste Management</b>										
	45	Waste Management										
	46	Waste Disposal										
5.0		<b>Sampling</b>										
	15	Soil Sampling										
	25	Chain of Custody										
	40	Sample Identification and Data Encoding										
	50	Decontamination of Field Sampling Equipment										
	60	Sample Tracking										
	70	Sample Packaging and Shipment										
	100	Sample Containers, Preservation, and Aliquot Requirements										
	150	Lonbook Protocols										

**ATTACHMENT 2**  
**Field Inspection Report**

Location/Description: Various Sites, NAS Pensacola, FL, DO 0071 Date: \_\_\_\_\_  
 Contract No.: N62467-93-D-0936 QC Rep. \_\_\_\_\_

<b>Definable Feature of Work/Required Inspections</b>	<b>Accept</b>	<b>Reject</b>	<b>Date</b>	<b>Remarks</b>
<b>Preparatory</b>				
Preparatory Phase Completion				
<b>Excavation and Backfill</b>				
Contaminated earthwork and miscellaneous demolition				
Uncontaminated earthwork				
Well abandonment				
<b>Waste Management</b>				
Waste Management				
Waste Disposal				
<b>Sampling</b>				
Soil Sampling				
Chain of Custody				
Sample Identification and Data Encoding				
Decontamination of Field Sampling Equipment				
Sample Tracking				
Sample Packaging and Shipment				
Sample Containers, Preservation, and Aliquot Requirements				
Logbook Protocols				

Various Sites  
 Naval Air Station Pensacola, Florida  
 Delivery Order No. 0071  
 Contract No. N62467-93-D-0936

**ATTACHMENT 3**  
**Testing Plan and Log**

Contract Number N62467-93-D-0936	Project Title and Location: Various Sites, Naval Air Station Pensacola, Florida							Contractor Bechtel Environmental, Inc.				
Specification Section and Paragraph Number	Item of Work	Test Required	Accredited/Approved Lab		Sampled By	Tested By	Location of Test		Frequency	Date Complete	Date Frwd to Cntr. Off.	Remarks
			Yes	No			Onsite	Offsite				
		"None scheduled"										