

N60200.AR.003401
NAS CECIL FIELD, FL
5090.3a

RECORD OF DECISION FOR OPERABLE UNIT 12 (OU 12) SITE 44 DITCH FROM DEFENSE
REUTILIZATION AND MARKETING OFFICE TO WASTEWATER TREATMENT PLANT NAS
CECIL FIELD FL
7/24/2002
TETRA TECH NUS INC

**Record Of Decision
Operable Unit 12, Site 44
Ditch From DRMO To Wastewater
Treatment Plant**

Naval Air Station Cecil Field
Jacksonville, Florida



**Southern Division
Naval Facilities Engineering Command
Contract Number N62467-94-D-0888
Contract Task Order 0226**

July 2002

**RECORD OF DECISION
OPERABLE UNIT 12, SITE 44
DITCH FROM DRMO TO WASTEWATER TREATMENT PLANT**

**NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29406**

**Submitted by:
Tetra Tech NUS, Inc.
661 Andersen Drive
Foster Plaza 7
Pittsburgh, Pennsylvania 15220**

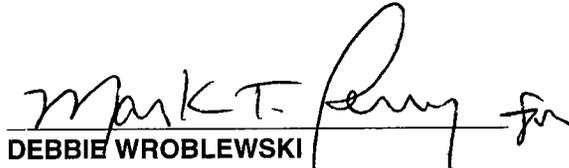
**CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0226**

JULY 2002

PREPARED UNDER THE SUPERVISION OF:

APPROVED FOR SUBMITTAL BY:


MARK SPERANZA, P.E.
TASK ORDER MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA


DEBBIE WROBLEWSKI
PROGRAM MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA



CERTIFICATION OF TECHNICAL
DATA CONFORMITY

The Contractor, Tetra Tech NUS, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-94-D-0888 are complete and accurate and comply with all requirements of this contract.

DATE: July 24, 2002

COMPANY CERTIFICATION AUTHORIZATION NUMBER: 7988
Tetra Tech NUS, Inc.
661 Andersen Drive
Pittsburgh, PA 15220

NAME AND TITLE OF CERTIFYING OFFICIAL: Mark Speranza, P.E.
Task Order Manager

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE No.</u>
CERTIFICATION	ii
LIST OF ACRONYMS AND ABBREVIATIONS	vii
1.0 DECLARATION OF THE RECORD OF DECISION	1-1
1.1 SITE NAME AND LOCATION	1-1
1.2 STATEMENT OF BASIS AND PURPOSE	1-1
1.3 DESCRIPTION OF THE SELECTED REMEDY	1-1
1.4 STATUTORY DETERMINATIONS	1-2
1.5 SIGNATURE AND SUPPORT AGENCY ACCEPTANCE OF REMEDY	1-2
2.0 DECISION SUMMARY	2-1
2.1 SITE NAME, LOCATION, AND DESCRIPTION	2-1
2.2 SITE HISTORY AND ENFORCEMENT ACTIVITIES	2-2
2.2.1 Site 44 History	2-2
2.2.2 Site Investigations	2-3
2.3 HIGHLIGHTS OF COMMUNITY PARTICIPATION	2-4
2.4 SCOPE AND ROLE OF OPERABLE UNIT	2-4
2.5 SUMMARY OF SITE CHARACTERISTICS	2-4
2.5.1 Geology and Hydrogeology	2-5
2.5.2 Nature and Extent of Contamination	2-5
2.6 CURRENT AND POTENTIAL FUTURE SITE USES	2-6
2.7 SUMMARY OF SITE RISKS	2-6
2.7.1 Human Health Risk Assessment	2-6
2.7.2 Ecological Risk Assessment	2-7
2.8 DOCUMENTATION OF SIGNIFICANT CHANGES	2-8
REFERENCES.....	R-1

TABLES

<u>NUMBER</u>		<u>PAGE No.</u>
2-1	Phase I Soil Analytical Data	2-9
2-2	Phase I Sediment Analytical Data.....	2-11
2-3	Phases II to VII Soil Analytical Data.....	2-13
2-4	Post-IRA Soil Analytical Data.....	2-17
2-5	Phase I Surface Water Analytical Data.....	2-18

FIGURES

<u>NUMBER</u>		<u>PAGE No.</u>
2-1	General Location Map.....	2-19
2-2	Site Layout Map	2-20
2-3	Soil Sample Locations	2-21
2-4	Surface Water/Sediment Sample Locations.....	2-23
2-5	Interim Removal Action	2-25

LIST OF ACRONYMS AND ABBREVIATIONS

ABB-ES	ABB Environmental Services, Inc.
AOI	Area of Interest
ARAR	Applicable or relevant and appropriate requirement
BCT	BRAC Cleanup Team
bgs	Below ground surface
BRA	Baseline Risk Assessment
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
COC	Chemical of concern
COPC	Chemical of potential concern
DRMO	Defense Reutilization and Marketing Office
EBS	Environmental Baseline Survey
EE	Envirodyne Engineers
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FFA	Federal Facility Agreement
FS	Feasibility Study
ft ²	Square feet
G&M	Geraghty and Miller, Inc.
HLA	Harding Lawson Associates
HSWA	Hazardous and Solid Waste Amendments
IAS	Initial Assessment Study
IBDS	Inorganic Background Data Set
IR	Installation Restoration
IRA	Interim Removal Action
µg/L	Microgram(s) per liter
µg/kg	Microgram(s) per kilogram
mg/kg	Milligram(s) per kilogram
NAS	Naval Air Station
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No further action
NPL	National Priorities List

NFF	North Fuel Farm
OGC	Old Golf Course
OSWER	Office of Solid Waste and Emergency Response
OU	Operable Unit
PCB	Polychlorinated biphenyl
PAH	Polynuclear aromatic hydrocarbon
PRE	Preliminary Risk Evaluation
PRG	Preliminary Remedial Goal
PSC	Potential Source of Contamination
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RI	Remedial Investigation
ROD	Record of Decision
SAR	Sampling and Analysis Report
SARA	Superfund Amendments and Reauthorization Act
SCTL	Soil Cleanup Target Level (FDEP's)
SOUTHNAVFACENGCOM	Southern Division Naval Facilities Engineering Command
SVOC	Semivolatile organic compound
SWCTL	Surface Water Cleanup Target Level (FDEP's)
TRPH	Total recoverable petroleum hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
UCL	Upper confidence level
UNF	Unnumbered Facility
U.S. EPA	United States Environmental Protection Agency
UST	Underground storage tank
VOC	Volatile organic compound
WWTP	Wastewater treatment plant

1.0 DECLARATION OF THE RECORD OF DECISION

1.1 SITE NAME AND LOCATION

Operable Unit (OU) 12, Site 44 consists of the contaminated soil and sediment identified in the Ditch from the Defense Reutilization and Marketing Office (DRMO) to the Wastewater Treatment Plant (WWTP) at Naval Air Station (NAS) Cecil Field, Jacksonville, Florida (U.S. EPA ID FL5 170 022 474). Site 44 is located in the north-western portion of the Main Base.

1.2 STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) presents the selected remedial action for OU 12, Site 44 at NAS Cecil Field. The remedial action was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and the Community Environmental Response Facilitation Act (CERFA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) [40 Code of Federal Regulations (CFR) 300]. This decision document was prepared in accordance with Section 8.0 of the United States Environmental Protection Agency (U.S. EPA) final guidance for the preparation of decision documents (U.S. EPA, 1999a).

The U.S. EPA and the Florida Department of Environmental Protection (FDEP) concur with the selected remedy.

1.3 DESCRIPTION OF THE SELECTED REMEDY

This ROD is the final action for OU 12, Site 44. Final RODs have been approved for OU 1 through OU 4; OU 5, Site 14; OU 6 through OU 8; and OU 9, Sites 36 and 37. A Remedial Investigation (RI), Baseline Risk Assessment (BRA), and Feasibility Study (FS) have also been prepared for OU 5, Site 15 but the FS is currently being re-evaluated. RI and FS reports have been completed for OU 11, Site 45, and decision documents are being prepared for that site. An Action Memorandum is being prepared for OU 5, Site 49. RI and FS reports are in progress for OU 9, Sites 57 and 58; OU 10, Site 21; and OU 10, Site 25. Interim Removal Actions (IRAs) have been completed for OU 12, Sites 32, 42, 44, and Old Golf Course (OGC), and decisions documents are being prepared for these sites.

The NAS Cecil Field Base Realignment and Closure (BRAC) Cleanup Team (BCT) agreed that no further action (NFA) is required to protect human health and the environment at OU 12, Site 44. Consequently, no active remediation or long-term monitoring will be conducted at OU 12, Site 44.

1.4 STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, is cost effective, and complies with Federal and State applicable or relevant and appropriate requirements (ARARs). The previous IRA at OU 12, Site 44 has eliminated the need for further action at that site. Because no contaminant remains onsite, five-year reviews of the site are not required.

1.5 SIGNATURE AND SUPPORT AGENCY ACCEPTANCE OF REMEDY



Scott A. Glass, P.E.
Base Realignment and Closure
Environmental Coordinator

7/26/02
Date



Richard D. Green
Director, Waste Management Division
U.S. EPA Region IV

9/26/02
Date

2.0 DECISION SUMMARY

2.1 SITE NAME, LOCATION, AND DESCRIPTION

NAS Cecil Field (U.S. EPA ID No. FL5 170 022 474) is located 14 miles southwest of Jacksonville, Florida, as shown on Figure 2-1. The majority of NAS Cecil Field is located within Duval County and the southernmost part of the facility is located in Clay County. NAS Cecil Field was established in 1941 and provided facilities, services, and material support for the operation and maintenance of naval weapons, aircraft, and other units of the operation forces as designated by the Chief of Naval Operations. Since the closure of NAS Cecil Field in September 1999, most of the facility has been transferred to the Jacksonville Port Authority and the City of Jacksonville. According to the reuse plan, the facility will have multiple uses but will be used primarily for aviation-related activities.

OU 12, Site 44 consists of the contaminated soil and sediment identified in the Ditch from the DRMO to the WWTP. As shown on Figure 2-2, Site 44 is located in the north-western portion of the Main Base and consists of three areas previously investigated separately as Area of Interest (AOI) 33 (former DRMO Office Area), Unnumbered Facility (UNF) 6 (Aircraft Wash Rack), and Facility 15 (Base WWTP). The Site 44 ditch is parallel to the western side of the AOI 33 fenced area, turns west along the northern side of a parking lot, and then extends through for approximately 1,100 feet where it enters an inlet to Lake Fretwell located west of Facility 15. The Site 44 ditch receives stormwater runoff from the western end of the flightline, the AOI 33 DRMO storage area and nearby areas, and the UNF 6 wash rack. The area around AOI 33 and Potential Source of Contamination (PSC) 32, the DRMO Storage Yard, is an industrial setting, and the remaining area through which the ditch extends is generally undeveloped.

Soil and sediment contaminated with polychlorinated biphenyls (PCBs) was delineated [Tetra Tech NUS, Inc. (TtNUS), 2000b] and excavated to residential levels and disposed off-site as part of an IRA (CH2M Hill, 2001).

The name of the site has been changed over the course of its investigation. In 1996, following the Environmental Baseline Survey (EBS) [ABB Environmental Services, Inc. (ABB-ES), 1994] and Sampling and Analysis Report (SAR) (ABB-ES, 1996), the site was designated as PSC 44. In May 2001, following additional investigations and the IRA, the BCT re-designated the area as Installation Restoration (IR) Site 44 within OU 12.

2.2 SITE HISTORY AND ENFORCEMENT ACTIVITIES

The first environmental studies for the investigation of waste handling and/or disposal sites at NAS Cecil Field were conducted between 1983 [Geraghty and Miller, Inc. (G&M), 1983] and 1985 (G&M, 1985). These studies were followed in 1985 by an Initial Assessment Study (IAS) [Envirodyne Engineers (EE), 1985]. A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was completed in 1988 [Harding Lawson Associates (HLA), 1988].

NAS Cecil Field was placed on the National Priorities List (NPL) by the U.S. EPA and the Office of Management and Budget in December 1989. A Federal Facility Agreement (FFA) for NAS Cecil Field was signed by the FDEP, U.S. EPA, and the Navy in 1990. Following the listing of NAS Cecil Field on the NPL and the signing of the FFA, remedial response activities at the facility have been completed under CERCLA authority. OU 12 is one of twelve OUs that have been identified. A Hazardous and Solid Waste Amendments (HSWA) permit was issued on October 13, 1996. The HSWA permit was renewed on August 25, 2000 and is still in effect. Since the State of Florida has now final authorization to administer the RCRA program, the Navy is currently in the process of applying for a new permit with FDEP.

2.2.1 Site 44 History

From 1961 to 1988, AOI 33 was used to store equipment, hazardous and nonhazardous materials, and other miscellaneous items such as furniture, office equipment, clothing, and aircraft parts.

UNF 6, the Aircraft Wash Rack, a concrete area approximately 150 feet square, was built in 1976 as an extension of the flightline apron. Aircraft were washed at this facility using water and various solvents, and wash water was collected by two catch basins on the apron that discharged through an oil-water separator to the sanitary sewage system. A gate valve in the wash rack piping was used to divert storm water underground to the Site 44 ditch to the northwest.

Facility 15, the control building for the WWTP, was constructed in 1942. The treatment plant handled all of the sanitary wastewater needs for the Base. Treated wastewater was discharged to the Site 44 ditch. Two underground storage tanks (USTs) for diesel fuel were located at Facility 15.

Following the SAR investigations for AOI 33, UNF 6, and Facility 15 (ABB-ES, 1996), it was decided that the entire length of the drainage ditch, from just west of the paved DRMO Office Area (PSC 33) to the inlet to Lake Fretwell, would be designated as PSC 44. In May 2001, PSC 44 was designated as OU 12, Site 44.

2.2.2 Site Investigations

The following investigations and studies have been conducted in and around Site 44:

- 1994 – During the BRAC EBS (ABB-ES, 1994), the Site 44 ditch was investigated as part of AOI 33 (upstream portion), UNF 6 (midstream portion), and Facility 15 (downstream portion). The EBS report indicated that hazardous materials were reportedly handled at AOI 33, that on at least one occasion the gate valve connecting UNF 6 to the Site 44 ditch was accidentally opened and washwater discharged to the ditch, and that sewage spills had occurred and USTs were present at Facility 15. The EBS report concluded that further investigations were required.
- 1996 – SAR investigations were conducted at AOI 33, UNF 6, and Facility 15 (ABB-ES, 1996). Results of the SAR investigations indicated PCB contamination in soil and sediment at the west end of AOI 33, polynuclear aromatic hydrocarbon (PAH) contamination of the ditch north of UNF 6, and PCB and PAH contamination in the ditch south of Facility 15 that was likely to have originated upstream. The SAR concluded that the entire length of the drainage ditch from the DRMO to Lake Fretwell should be investigated separately and designated as PSC 44.
- 1999 - 2000 – Additional investigations were conducted at PSC 44 to delineate the extent of soil, sediment, and surface water contamination (TtNUS, 1999 and 2000a). A total of 59 soil, 7 sediment, and 2 surface water samples were collected and analyzed in 7 phases between June 1999 and April 2000. As a result of these investigations, PCBs were identified as the only soil chemicals of concern (COCs), with concentrations exceeding the residential FDEP Soil Cleanup Target Levels (SCTLs) (FDEP, 1999). No sediment or surface water COCs were identified.
- 2000 – An Action Memorandum for PSC 44 was prepared in June 2000 to identify the need for an IRA and to describe and estimate the costs of the proposed IRA (TtNUS, 2000b). The proposed IRA included the excavation and disposal of PCB-contaminated soils off site in a time-critical manner. The IRA would comply with residential land use standards.
- 2000 – IRA. During September 2000, 292 tons (approximately 173 cubic yards) of soil were excavated from three areas of contamination (CH2M Hill, 2001). The depth of the excavation ranged from 1 to 3 feet below ground surface (bgs). Prior to excavation, the soil was characterized for disposal. Following excavation, the soil was transported and disposed off site on the same day that the removal occurred. The excavation was then backfilled with certified clean fill prior to being graded and seeded.

- 2002 – A Technical Memorandum for No Further Action was prepared in January 2002. This document summarized the results of previous investigations, discussed the additional investigations, and described the nature and extent of contamination (TtNUS, 2002a). This document also presented human health and ecological Preliminary Risk Evaluations (PREs), summarized the IRA, and recommended that Site 44 be designated as an NFA site.

2.3 HIGHLIGHTS OF COMMUNITY PARTICIPATION

Public notice of the availability of the Proposed Plan (TtNUS, 2002b) was placed in the Metro section of the *Florida Times-Union* on June 7, 2002. A 30-day comment period was held from June 7, 2002 through July 7, 2002. The results of the Technical Memorandum for No Further Action (TtNUS, 2002a) and PRE were also presented and discussed at a Restoration Advisory Board (RAB) meeting held in July 2002, during which comments were solicited from the community. No public comments have been received.

Documents pertaining to OU 12, Site 44 are available to the public at the Information Repository located at Building 907, 13357 Lake Newman Street, Cecil Commerce Center, Jacksonville, Florida 32252 [Telephone (904) 573-0336]. This ROD will become part of the Administrative Record File [NCP §300.825(a)(2)].

2.4 SCOPE AND ROLE OF OPERABLE UNIT

The environmental concerns at NAS Cecil Field are complex. As a result, work at the 24 sites in the IR Program has been organized into twelve OUs. More than 200 other areas are undergoing evaluation in the BRAC and petroleum programs.

This ROD is the final action for OU 12, Site 44. Final RODs have been approved for OU1 through OU 4; OU 5, Site 14; OU 6 through OU 8; and OU 9, Sites 36 and 37. An RI, BRA, and FS have also been prepared for OU 5, Site 15 but the FS is currently being re-evaluated. RI and FS reports have been completed for OU 11, Site 45, and decision documents are being prepared for that site. An Action Memorandum is being prepared for OU 5, Site 49. RI and FS reports are currently in progress for OU 9, Sites 57 and 58, and OU 10, Sites 21 and 25. IRAs have been completed for OU 12, Sites 32, 42, 44, and OGC and decision documents are being prepared for these sites.

2.5 SUMMARY OF SITE CHARACTERISTICS

Contaminant sources, detected concentrations, fate and transport, contaminated media, and geologic and hydrogeologic conditions of OU 12, Site 44 are discussed in Sections 2.0, 5.0, and 6.0 of the OU 12,

Site 44 Technical Memorandum for No Further Action (TtNUS, 2002a). These site characteristics are summarized in the following paragraphs.

2.5.1 Geology and Hydrogeology

Site 44 is located in the vicinity of Site 7, the Former Fire Fighting Training Area. Although no site-specific subsurface investigation was performed at Site 44, AOI 33, the Aircraft Wash Rack, or the Base WWTP, the geological and hydrogeological characteristics of the site are similar to those described in the RI Report for OU 3, Sites 7 and 8 (ABB-ES, 1997).

2.5.2 Nature and Extent of Contamination

2.5.2.1 Soil and Sediment

Table 2-1 presents a summary of the Phase I soil analytical data and Figure 2-3 shows sampling locations. As shown on Table 2-1, a PCB, Aroclor-1260, was detected in three of eleven samples at concentrations greater than the FDEP SCTL for residential exposure of 500 micrograms per kilogram ($\mu\text{g}/\text{kg}$). Accordingly, Aroclor-1260 was identified as a soil COC.

Table 2-2 presents a summary of the Phase I sediment analytical data and Figure 2-4 shows sampling locations. As shown on Table 2-2, no chemicals were detected in the Phase I sediment at concentration greater than the FDEP SCTLs for residential exposure or leachability to groundwater. Accordingly no sediment COCs were identified for Site 44.

Table 2-3 summarizes the analytical data of the Phases II to VII soil investigations that were performed to further delineate the extent of PCB contamination. As shown on this table, Aroclor-1260 was detected in 21 of 47 samples at concentrations greater than the FDEP residential SCTL.

A statistical evaluation was conducted to determine the areas of soil requiring removal so that the site-wide 95-percent upper confidence level (UCL) of the remaining concentrations of Aroclor-1260 is equal to or below 500 $\mu\text{g}/\text{kg}$. The results of this statistical evaluation are presented in the Action Memorandum for PSC 44 (TtNUS, 2000b). Three separate areas, totaling 2,811 square feet (ft^2) were identified as requiring removal to a depth 1 to 3 feet bgs.

An IRA was conducted in September 2000 (CH2M Hill, 2001). During this removal action approximately 292 tons of soil were excavated and disposed off-site so that the 95-percent UCL of the residual concentrations of Aroclor-1260 in soil were equal to or less than 500 $\mu\text{g}/\text{kg}$. In addition, the areas of soil with concentrations of Aroclor-1260 greater than three times the residential SCTL, or 1,500 $\mu\text{g}/\text{kg}$, were

also excavated and disposed off-site. Areas of excavation are illustrated on Figure 2-5. Excavated areas were backfilled with certified clean fill material brought in from the NAS Cecil Field North Fuel Farm (NFF).

As part of the Technical Memorandum for No Further Action (TtNUS, 2002a), a statistical analysis was performed to predict post-IRA soil analytical data, including minimum and maximum detected concentrations, and 95-percent UCL of detected concentration of Aroclor-1260. To predict soil concentrations in the excavated and backfilled areas, analytical data from the clean fill material was used. If no fill analytical data was available for a particular chemical, it was assumed that the concentration of that chemical was equal to one half the detection limit. As summarized on Table 2-4, the results of this statistical analysis showed that the 95-percent UCL of remaining concentrations of Aroclor-1260 has been reduced below the FDEP SCTL for residential exposure.

2.5.2.2 Surface Water

Table 2-5 presents a summary of the Phase I surface water analytical data and sampling locations are shown on Figure 2-4. As can be seen from this table, detected concentrations did not exceed the FDEP Surface Water Cleanup Target Levels (SWCTLs). Therefore, no surface water COCs were identified for Site 44.

2.6 CURRENT AND POTENTIAL FUTURE SITE USES

According to the reuse plan, the area of Site 44 will continue to be used for aviation-related or other industrial purposes.

2.7 SUMMARY OF SITE RISKS

2.7.1 Human Health Risk Assessment

The results of pre-IRA soil investigations at Site 44 identified Aroclor-1260 as a human health COC. However, as summarized on Table 2-4, a statistical analysis of post-IRA soil analytical data showed that the 95-percent UCL of remaining concentrations of this COC is lower than the FDEP SCTL for residential exposure. In addition, sediment and surface water investigations have not identified any human health COCs and areas of soil with Aroclor-1260 concentrations greater than the FDEP SCTL for leachability to groundwater have been removed and disposed off-site, thus eliminating potential sources of future groundwater contamination. Therefore, there is no longer any unacceptable human health risk associated with Site 44.

2.7.2 Ecological Risk Assessment

A screening-level ecological risk assessment was conducted as part of the Technical Memorandum for No Further Action to evaluate the potential risks to ecological receptors at Site 44 (TtNUS, 2002a).

Four semivolatile organic compounds (SVOCs) [2-methynaphthalene, bis(2-ethylhexyl)phthalate, fluoranthene, and pyrene], two pesticides (dieldrin and endrin aldehyde), PCBs (Aroclor-1254, Aroclor-1260, and total PCBs), and seven inorganic compounds (aluminum, cadmium, chromium, iron, lead, mercury, and zinc) were retained as ecological chemicals of potential concern (COPCs) in surface soil because maximum detected concentrations of these chemicals exceeded the U.S. Region IV ecological screening levels (U.S. EPA, 1999 and 2001). An additional four pesticides (alpha-chlordane, endosulfane sulfate, gamma-chlordane, and heptachlor epoxide) were also retained as ecological COPCs in surface soil because U.S. EPA Region IV screening levels were not available for these compounds.

Nineteen SVOCs [2-methynaphthalene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, butylbenzyl phthalate, chrysene, di-n-butyl phthalate, di-n-octyl phthalate, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene], ten pesticides (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, alpha-chlordane, dieldrin, endrin, endrin aldehyde, endrin ketone, gamma-BHC, gamma-chlordane, total DDTs, total chlordane, and total endrins), PCBs (Aroclor-1254, Aroclor-1260, and total PCBs), and seven inorganic compounds (cadmium, copper, lead, mercury, nickel, silver, and zinc) were retained as ecological COPCs in sediment because maximum detected concentrations of these chemicals exceeded the U.S. Region IV ecological screening levels (U.S. EPA, 1999 and 2001). One VOC (2-butanone), two additional SVOCs (carbazole and dibenzofuran), five additional pesticides (aldrin, endosulfan I, heptachlor, heptachlor epoxide, and methoxychlor), and ten additional inorganic compounds (aluminum, barium, beryllium, cobalt, cyanide, iron, manganese, selenium, thallium, and vanadium) were also retained as ecological COPCs in sediment because U.S. EPA Region IV screening levels were not available for these compounds.

Four inorganic compounds (aluminum, iron, lead, and thallium) were retained as ecological COPCs in surface water because the maximum detected concentrations of these chemicals exceeded the U.S. Region IV ecological screening values (U.S. EPA, 1999 and 2001). One volatile organic compound (acetone) and three additional inorganic compounds (barium, manganese, and vanadium) were also retained as ecological COPCs in surface water because U.S. EPA Region IV screening levels were not available for these compounds.

These COPCs were assessed in a less conservative Step 3A evaluation conducted in accordance with the following documents: U.S. EPA Ecological Risk Assessment Guidance for Superfund (U.S. EPA,

1997), U.S. EPA Region IV Ecological Risk Assessment Bulletins – Supplement to RAGs (U.S. EPA, 1999b), U.S. EPA Amended Guidance on Ecological Risk Assessment at Military Bases (U.S. EPA, 2000a), and the Navy Policy for Conducting Ecological Risk Assessments (Department of the Navy, 1999).

The results of the Step 3A analysis indicate that most of the chemicals detected in the surface soil, sediment, and surface water at Site 44 present negligible risks to ecological receptors. However, PCBs and PAHs in the soil and sediment and a few inorganic compounds in the sediment may pose low risks to ecological receptors. These risks are expected to be relatively small in spatial area.

A risk management decision for NFA was made by the BCT concerning sediment contaminated with PCBs and PAHs (BCT, 2001). This decision was based on the fact that contamination remaining after excavation poses minimal ecological risk and does not warrant further remediation. This decision also took into account that the drainage ditch along Site 44 provides only limited habitat for piscivorous receptors because of its small size and lack of a large fish population. Terrestrial receptors at the site consist of species acclimated to urban and industrial conditions.

2.8 DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for OU 12, Site 44 (TtNUS, 2002b) was released for public comment on June 7, 2002. The Proposed Plan identified NFA as the preferred remedy. The public was invited to comment during a 30-day period extending from June 7, 2002 to July 7, 2002. No changes to the proposed remedy, as originally identified in the Proposed Plan, have been made as a result of public comments.

TABLE 2-1

PHASE I SOIL ANALYTICAL DATA
OU 12, SITE 44 RECORD OF DECISION
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
PAGE 1 OF 2

Chemical	FDEP SCTL ⁽¹⁾		Region IX Residential Soil PRG ⁽²⁾	CEF-P44-					
	Residential Direct Exposure	Leachability to Groundwater		SS-008	SS-009	SS-010	SS-011	SS-012	SS-013
Polynuclear Aromatic Hydrocarbons (PAHs) (µg/kg)									
2-Methylnaphthalene	80,000	6,100	NC	38 U	36 U	42 U	36 U	NA	NA
Acenaphthene	1,900,000	2,100	3,700,000	38 U	36 U	300	36 U	NA	NA
Benzo(a)anthracene	1,400	3,200	620	5.7 U	43	70	5.5 U	NA	NA
Benzo(a)pyrene	100	8,000	62	5.7 U	48	91	5.5 U	NA	NA
Benzo(b)fluoranthene	1,400	10,000	620	5.7 U	59	120	5.5 U	NA	NA
Benzo(g,h,i)perylene	2,300,000	32,000,000	NC	7.7 U	32	90	7.3 U	NA	NA
Benzo(k)fluoranthene	15,000	25,000	6,200	5.7 U	5.5 U	69	5.5 U	NA	NA
Chrysene	140,000	77,000	62,000	5.7 U	35	94	5.5 U	NA	NA
Fluoranthene	2,900,000	1,200,000	2,300,000	7.7 U	300	1,300	7.3 U	NA	NA
Indeno(1,2,3-cd)pyrene	1,500	28,000	620	5.7 U	34	68	5.5 U	NA	NA
Pyrene	2,200,000	880,000	2,300,000	7.7 U	92	250	7.3 U	NA	NA
Polychlorinated Biphenyls (PCBs) (µg/kg)									
Aroclor-1254	500 ⁽²⁾	17,000 ⁽²⁾	2,200	36 U	35 U	200 U	34 U	39 U	920 U
Aroclor-1260	500 ⁽²⁾	17,000 ⁽²⁾	2,200	36 U	274	1,290	34 U	39 U	5,020

TABLE 2-1

PHASE I SOIL ANALYTICAL DATA
OU 12, SITE 44 RECORD OF DECISION
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
PAGE 2 OF 2

Chemical	FDEP SCTL ⁽¹⁾		Region IX Residential Soil PRG ⁽²⁾	CEF-P44-				
	Residential Direct Exposure	Leachability to Groundwater		SS-014	SS-015	SS-016	SS-017	
							Sample	Duplicate
PAHs (µg/kg)								
2-Methylnaphthalene	80,000	6,100	NC	NA	NA	35 U	1200	44 U
Acenaphthene	1,900,000	2,100	3,700,000	NA	NA	35 U	39 U	44 U
Benzo(a)anthracene	1,400	3,200	620	NA	NA	5.3 U	41	6.7 U
Benzo(a)pyrene	100	8,000	62	NA	NA	5.3 U	85	6.7 U
Benzo(b)fluoranthene	1,400	10,000	620	NA	NA	5.3 U	130	6.7 U
Benzo(g,h,i)perylene	2,300,000	32,000,000	NC	NA	NA	7.1 U	110	9.0 U
Benzo(k)fluoranthene	15,000	25,000	6,200	NA	NA	5.3 U	73	6.7 U
Chrysene	140,000	77,000	62,000	NA	NA	5.3 U	42	6.7 U
Fluoranthene	2,900,000	1,200,000	2,300,000	NA	NA	7.1 U	140	91
Indeno(1,2,3-cd)pyrene	1,500	28,000	620	NA	NA	5.3 U	76	6.7 U
Pyrene	2,200,000	880,000	2,300,000	NA	NA	7.1 U	120	49
PCBs (µg/kg)								
Aroclor-1254	500 ⁽³⁾	17,000 ⁽³⁾	2,200	60 U	290 U	NA	37 U	42 U
Aroclor-1260	500 ⁽³⁾	17,000 ⁽³⁾	2,200	60 U	1,070	NA	37 U	136

NOTES:

Shaded values indicate excess of FDEP criteria.

µg/kg = Micrograms per kilogram

NA = Not analyzed.

NC = No criterion.

U = Not detected at the indicated analytical detection limit.

1 SCTLs = Florida Department of Environmental protection (FDEP) Soil Cleanup Target Levels (FDEP, 1999).

2 U.S. EPA Region IX Preliminary Remediation Goals (PRGs) (U.S. EPA, 2000b).

2 Criterion for total PCBs.

TABLE 2-2

PHASE I SEDIMENT ANALYTICAL DATA
 OU 12, SITE 44 RECORD OF DECISION
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA
 PAGE 1 OF 2

Chemical	CEF-P44-				IBDS Value ⁽¹⁾	FDEP SCTL ⁽²⁾	
	SD-001	SD-002	SD-003			Residential Direct Exposure	Leachability to Groundwater
			Sample	Duplicate			
Semivolatile Organic Compounds (SVOCs) (µg/kg)							
bis(2-ethylhexyl) phthalate	170 U	200 U	210 U	200 U	NC	76,000	3,600,000
Butylbenzyl phthalate	170 U	200 U	210 U	200 U	NC	15,000,000	310,000
Carbazole	170 U	200 U	210 U	200 U	NC	53,000	600
di-n-Butyl phthalate	170 U	200 U	210 U	200 U	NC	7,300,000	47,000
Polynuclear Aromatic Hydrocarbons (PAHs) (µg/kg)							
2-Methylnaphthalene	36 U	42 U	44 U	300	NC	80,000	6,100
Acenaphthene	36 U	42 U	44 U	41 U	NC	1,900,000	2,100
Benzo(a)anthracene	43	6.4 U	55	67	NC	1,400	3,200
Benzo(a)pyrene	47	6.4 U	67	160	NC	100	8,000
Benzo(b)fluoranthene	51	6.4 U	87	200	NC	1,400	10,000
Benzo(g,h,i)perylene	53	8.6 U	41	160	NC	2,300,000	32,000,000
Benzo(k)fluoranthene	5.4 U	6.4 U	140	99	NC	15,000	25,000
Chrysene	52	6.4 U	54	77	NC	140,000	77,000
Dibenzo(a,h)anthracene	8.9 U	10 U	11 U	10 U	NC	100	30,000
Fluoranthene	120	8.6 U	200	63	NC	2,900,000	1,200,000
Indeno(1,2,3-cd)pyrene	31	6.4 U	57	130	NC	1,500	28,000
Phenanthrene	5.4 U	6.4 U	6.7 U	6.3 U	NC	2,000,000	250,000
Pyrene	120	8.9 U	130	72	NC	2,200,000	880,000
Total Recoverable Petroleum Hydrocarbons (TRPH) (mg/kg)							
TRPH	NA	NA	100 U	NA	NC	340	340
Pesticides (µg/kg)							
4,4'-DDD	3.4 U	11 J	17 U	4.0 U	NC	4,600	4,000
4,4'-DDE	3.4 U	16	17 U	2.8 U	NC	3,300	18,000
Polychlorinated Biphenyls (PCBs) (µg/kg)							
Aroclor-1254	34 U	225	42 U	40 U	NC	500 ⁽³⁾	17000 ⁽³⁾
Aroclor-1260	35	99	412	40 J	NC	500 ⁽³⁾	17000 ⁽³⁾
Inorganic Compounds (mg/kg)							
Aluminum	2,220	936	7,060	1970	10,200	72000	*
Barium	3.2	4.3	6.9	10.9	36.1	110	1600
Cadmium	0.18 U	0.12 U	0.41 U	0.19 U	2.05	75	8
Chromium	3.0	2.0	6.1	3.4	16.0	210 ⁽⁴⁾	38 ⁽⁴⁾
Cobalt	0.11	0.19	0.56	0.19	3.0	4700	*
Copper	1.3	18.5	3.0	16.3	12.5	110	*
Iron	421	261	938	474	3,330	23,000	*
Lead	7.5	23.4	13.1	10.1	44.6	400	*
Manganese	2.9	2.5	3.2	5.6	17.0	1,600	*
Nickel	0.87	0.84	2.6	1.1	7.0	110	130
Silver	0.10 U	0.18U	0.12 U	0.11 U	1.87	390	17
Vanadium	1.9	5.0	4.8	2.6	15.0	15	980
Zinc	8.7	14.5	30.8	10.8	92.1	23,000	6,000

TABLE 2-2

PHASE I SEDIMENT ANALYTICAL DATA
OU 12, SITE 44 RECORD OF DECISION
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
PAGE 2 OF 2

Chemical	CEF-P44-				IBDS Value ⁽¹⁾	FDEP SCTL ⁽²⁾	
	SD-004	SD-005	SD-006	SD-007		Residential Direct Exposure	Leachability to Groundwater
SVOCs (µg/kg)							
bis(2-ethylhexyl) phthalate	220 U	NA	842	320	NC	76,000	3,600,000
Butylbenzyl phthalate	220 U	NA	207	260 U	NC	15,000,000	310,000
Carbazole	220 U	NA	214	260 U	NC	53,000	600
di-n-Butyl phthalate	220 U	NA	241	260 U	NC	7,300,000	47,000
PAHs (µg/kg)							
2-Methylnaphthalene	45 U	NA	1200	54 U	NC	80,000	6,100
Acenaphthene	45 U	NA	1700	54 U	NC	1,900,000	2,100
Benzo(a)anthracene	6.8 U	NA	470	8.2 U	NC	1,400	3,200
Benzo(a)pyrene	6.8 U	NA	600	8.2 U	NC	100	8,000
Benzo(b)fluoranthene	6.8 U	NA	780	8.2 U	NC	1,400	10,000
Benzo(g,h,i)perylene	9.2 U	NA	620	11 U	NC	2,300,000	32,000,000
Benzo(k)fluoranthene	6.8 U	NA	400	8.2 U	NC	15,000	25,000
Chrysene	6.8 U	NA	650	58	NC	140,000	77,000
Dibenzo(a,h)anthracene	11 U	NA	67	14 U	NC	100	30,000
Fluoranthene	9.2 U	NA	1400	590	NC	2,900,000	1,200,000
Indeno(1,2,3-cd)pyrene	6.8 U	NA	560	8.2 U	NC	1,500	28,000
Phenanthrene	6.8 U	NA	400	8.2 U	NC	2,000,000	250,000
Pyrene	9.2 U	NA	1200	110	NC	2,200,000	880,000
TRPH, mg/kg							
TRPH	110 U	802	237	126	NC	340	340
Pesticides (µg/kg)							
4,4'-DDD	4.3 U	NA	89 U	52 U	NC	4,600	4,000
4,4'-DDE	4.3 U	NA	89 U	52 U	NC	3,300	18,000
PCBs (µg/kg)							
Aroclor-1254	43 U	NA	450 U	260 U	NC	500 ⁽³⁾	17,000 ⁽³⁾
Aroclor-1260	43 U	NA	2,910	1,100	NC	500 ⁽³⁾	17,000 ⁽³⁾
Inorganic Compounds (mg/kg)							
Aluminum	8,250	NA	1,340	1,920	10,200	72,000	*
Barium	6.4	NA	2.7	12.0	36.1	110	1,600
Cadmium	0.06 U	NA	0.37 U	1.2	2.05	75	8
Chromium	7.2	NA	18.0	6.0	16.0	210 ⁽⁴⁾	38 ⁽⁴⁾
Cobalt	0.45	NA	0.35	0.27	3.0	4,700	*
Copper	3.3	NA	4.3	13.5	12.5	110	*
Iron	535	NA	235	477	3330	23,000	*
Lead	9.7	NA	9.7	18.2	44.6	400	*
Manganese	2.5	NA	3.3	3.4	17.0	1,600	*
Nickel	1.5	NA	10.3	1.8	7.0	110	130
Silver	0.12 U	NA	0.13 U	1.7	1.87	390	17
Vanadium	3.7	NA	2.1	2.7	15.0	15	980
Zinc	5.0	NA	10.5	44.3	92.1	23,000	6,000

NOTES:

Shaded values indicate concentrations in excess of FDEP criteria.

µg/kg = Micrograms per kilogram

mg/kg = Milligrams per kilograms

NA = Not analyzed.

NC = No criterion.

U = Not detected at the indicated analytical detection limit.

1 IBDS - NAS Cecil Field site-specific Inorganic Background Data Set (HLA, 1998).

2 SCTLs = Florida Department of Environmental Protection (FDEP) Soil Cleanup Target Levels (FDEP, 1999).

3 Criterion is for total PCBs.

4 Criterion is for hexavalent chromium.

* Leachability values may be derived using SPLP test to calculate site-specific SCTLs.

TABLE 2-3

PHASES II TO VII SOIL ANALYTICAL DATA
 OU 12, SITE 44 RECORD OF DECISION
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA
 PAGE 1 OF 4

Chemical	FDEP SCTL ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-					
	Residential Direct Exposure	Leachability to Groundwater		SS-101-01	SS-102-01	SS-103-01	SS-104-01	SS-105-01	
								Sample	Duplicate
Polychlorinated Biphenyls (PCBs) (µg/kg)									
Aroclor-1254	500	17,000	2,200	16.2 J	118 J	120 U	990 U	200 U	400 U
Aroclor-1260	500	17,000	2,200	80.8 J	365 J	347	3,290	690	1,740

Chemical	FDEP SCTLs ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-					
	Residential Direct Exposure	Leachability to Groundwater		SS-106-01	SS-107-02	SS-108-01		SS-109-01	SU-110-04
						Sample	Duplicate		
PCBs (µg/kg)									
Aroclor-1254	500	17,000	2,200	910 U	36 U	3,900 U	3,700 U	1,900 U	43 U
Aroclor-1260	500	17,000	2,200	2,830	36 U	21,000	23,800	9,440	43 U

Chemical	FDEP SCTLs ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-					
	Residential Direct Exposure	Leachability to Groundwater		SU-111-03	SS-112-01	SS-113-01	SS-114-01	SS-115-02	SU-201-03
PCBs (µg/kg)									
Aroclor-1254	500	17,000	2,200	41 U	370 U	37 U	119	2,200 U	38 U
Aroclor-1260	500	17,000	2,200	41 U	1,470	59.1	95 U	1,540	38 U

TABLE 2-3

PHASES II TO VII SOIL ANALYTICAL DATA
 OU 12, SITE 44 RECORD OF DECISION
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA
 PAGE 2 OF 4

Chemical	FDEP SCTLs ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-					
	Residential Direct Exposure	Leachability to Groundwater		SS-202-01	SS-203-01	SS-204-01	SS-205-01	SS-206-01	SS-207-01
PCBs (µg/kg)									
Aroclor-1254	500	17,000	2,200	119 J	36 U	8,800 U	114 J	430 U	4,600 U
Aroclor-1260	500	17,000	2,200	156 J	43.5	35,000	179 J	2,270	9,190

Chemical	FDEP SCTLs ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-				
	Residential Direct Exposure	Leachability to Groundwater		SS-208-01	SS-209-01	SS-210-01	SS-211-01	SU-212-03
PCBs (µg/kg)								
Aroclor-1254	500	17,000	2,200	49 U	190 U	137 J	380 U	2,100 U
Aroclor-1260	500	17,000	2,200	347	890	314 J	380 U	4,500

Chemical	FDEP SCTLs ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-					
	Residential Direct Exposure	Leachability to Groundwater		SU-212-03		SS-301-01	SS-302-01	SS-303-01	
				Sample	Duplicate			Sample	Duplicate
PCBs (µg/kg)									
Aroclor-1254	500	17,000	2,200	460 U	39 U	76 U	42 U	46 U	43 U
Aroclor-1260	500	17,000	2,200	1,720	39 U	329	98	164	147

TABLE 2-3

PHASES II TO VII SOIL ANALYTICAL DATA
 OU 12, SITE 44 RECORD OF DECISION
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA
 PAGE 3 OF 4

Chemical	FDEP SCTLs ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-					
	Residential Direct Exposure	Leachability to Groundwater		SS-304-01	SS-305-01	SS-306-01	SS-307-02	SU-308-04	
								Sample	Duplicate
PCBs (µg/kg)									
Aroclor-1254	500	17,000	2,200	400 U	210 U	43 U	41 U	160 U	40 U
Aroclor-1260	500	17,000	2,200	1,530	704	72.9	41 U	472 J	40 UJ

Chemical	FDEP SCTLs ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-					
	Residential Direct Exposure	Leachability to Groundwater		SU-309 (3-4)	SU-310 (1-2)	SU-311 (2-3)	SU-312 (2-3)	SU-313 (2-3)	SS-401 (0-1)
PCBs (µg/kg)									
Aroclor-1254	500	17,000	2,200	40 U	170 U	210 U	44 U	44 U	70 J
Aroclor-1260	500	17,000	2,200	50.6	503	1,140	44 U	58.7	53.2 J

TABLE 2-3

PHASES II TO VII SOIL ANALYTICAL DATA
 OU 12, SITE 44 RECORD OF DECISION
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA
 PAGE 4 OF 4

Chemical	FDEP SCTLs ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-				
	Residential Direct Exposure	Leachability to Groundwater		SS-402-01	SU-403-03	SU-404-04	SU-405-04	
							Sample	Duplicate
PCBs (µg/kg)								
Aroclor-1254	500	17,000	2,200	150 U	45 U	40 U	90 U	45 U
Aroclor-1260	500	17,000	2,200	953	45 U	40 U	413 J	98.6 J

Chemical	FDEP SCTLs ⁽¹⁾⁽²⁾		Region IX Residential Soil PRGs ⁽³⁾	CEF-P44-				
	Residential Direct Exposure	Leachability to Groundwater		SS-501-01		SS-502-01	SS-601-01	
				Sample	Duplicate		Sample	Duplicate
PCBs (µg/kg)								
Aroclor-1254	500	17,000	2,200	68.2 J	80.5 J	67.9 J	NA	NA
Aroclor-1260	500	17,000	2,200	82.1 J	89.2 J	92.5 J	NA	NA

NOTES:

Shaded values indicate concentrations in excess of criteria.

µg/kg = Micrograms per kilogram

J = Estimated value.

NA = Not analyzed.

NC = No criterion.

U = Not detected at the indicated analytical detection limit.

1 SCTLs = Florida Department of Environmental Protection (FDEP) Soil Cleanup Target Levels (FDEP, 1999).

2 Criteria is for total PCBs.

3 U.S. EPA Region IX Preliminary Remediation Goals (PRGs) (U.S. EPA, 2000).

TABLE 2-4

**SUMMARY OF POST-IRA SOIL ANALYTICAL DATA
OU 12, SITE 44 RECORD OF DECISION
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Chemical	Minimum Detected Concentration	Maximum Detected Concentration	95-Percent UCL¹ Concentration	FDEP Residential SCTL²	FDEP Leachability SCTL²
Polychlorinated Biphenyls (PCBs) (µg/kg)					
Aroclor-1260	17	1,470	235.27	500	17,000

NOTES:

µg/kg Micrograms per kilogram

1 95-percent upper confidence level of detected concentrations

2 Florida Department of Environmental Protection (FDEP) Soil Cleanup Target Levels (SCTLs) (FDEP, 1999)

TABLE 2-5

PHASE I SURFACE WATER ANALYTICAL DATA
 OU 12, SITE 44 RECORD OF DECISION
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA

Chemical	CEF-P44		IBDS Value ⁽¹⁾	FDEP SWCTL ⁽²⁾	
	SW-005	SW-007			
		Sample			Duplicate
Inorganic Compounds (µg/L)					
Aluminum	NA	289	121	1,040	13
Arsenic	NA	3.4U	3.5	5.45	50.0
Barium	NA	30.5	25.8	43.7	48.1 ^a
Iron	NA	1,480	707	3,030	1,000
Selenium	NA	2.0U	2.5	7.6	5.0
Sodium	NA	3,960	3,990	12,200	18,300 ^b
Zinc	NA	36.5	30.7	51.4	^c

NOTES:

Only detected analytes are reported.

Shaded values indicate concentrations in excess of criteria.

µg/L = Micrograms per liter

NA = Not analyzed.

U = Not detected at indicated analytical detection limit.

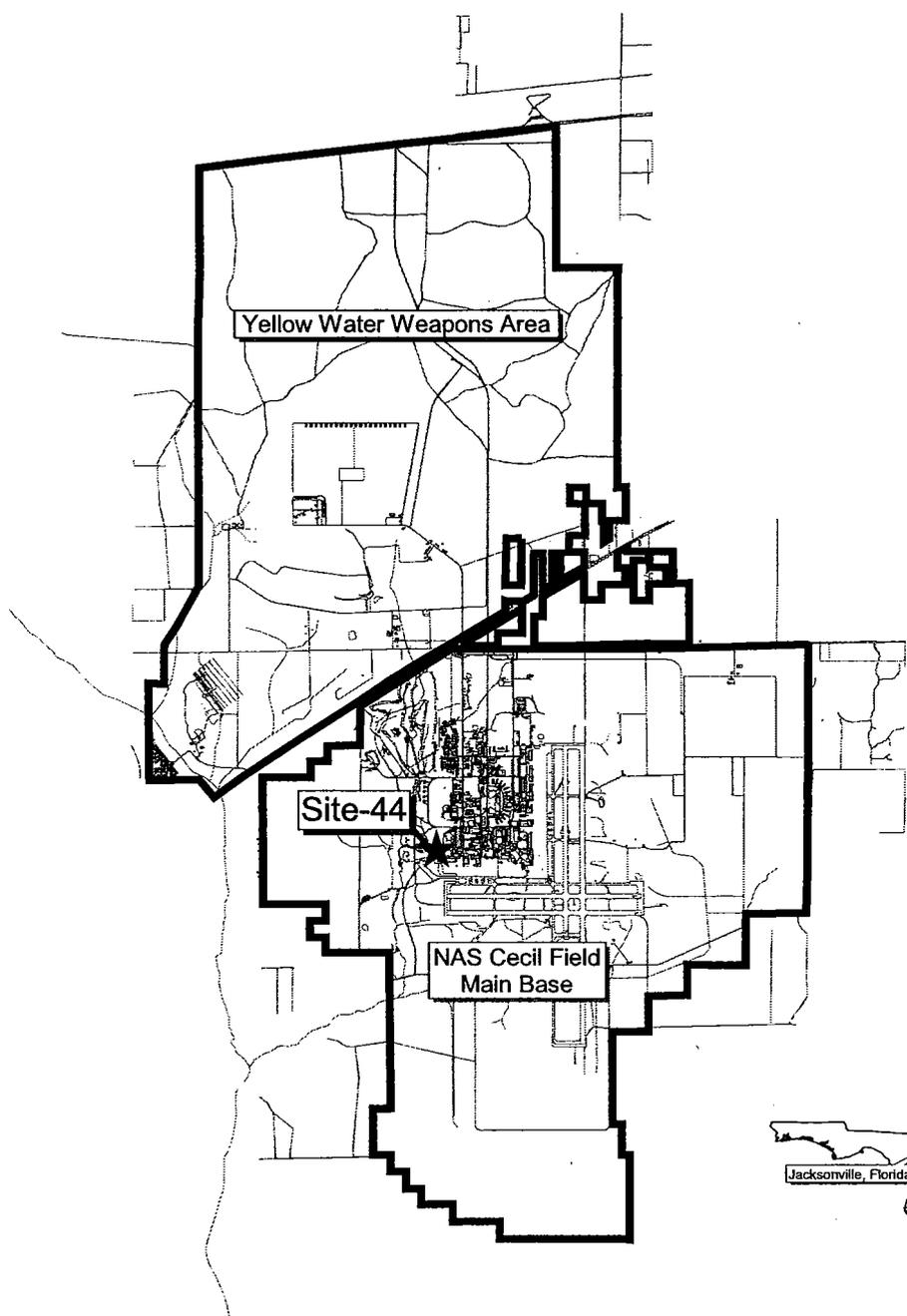
1 IBDS - NAS Cecil Field site-specific Inorganic Background Data Set (HLA, 1998).

2 SWCTL - FDEP Freshwater Surface Water Cleanup Target Level (FDEP, 1999).

a Not greater than 10% above background.

b 50% above background or 1275, whichever is greater (per FAC 62-302).

c Dependent upon the hardness of the water.



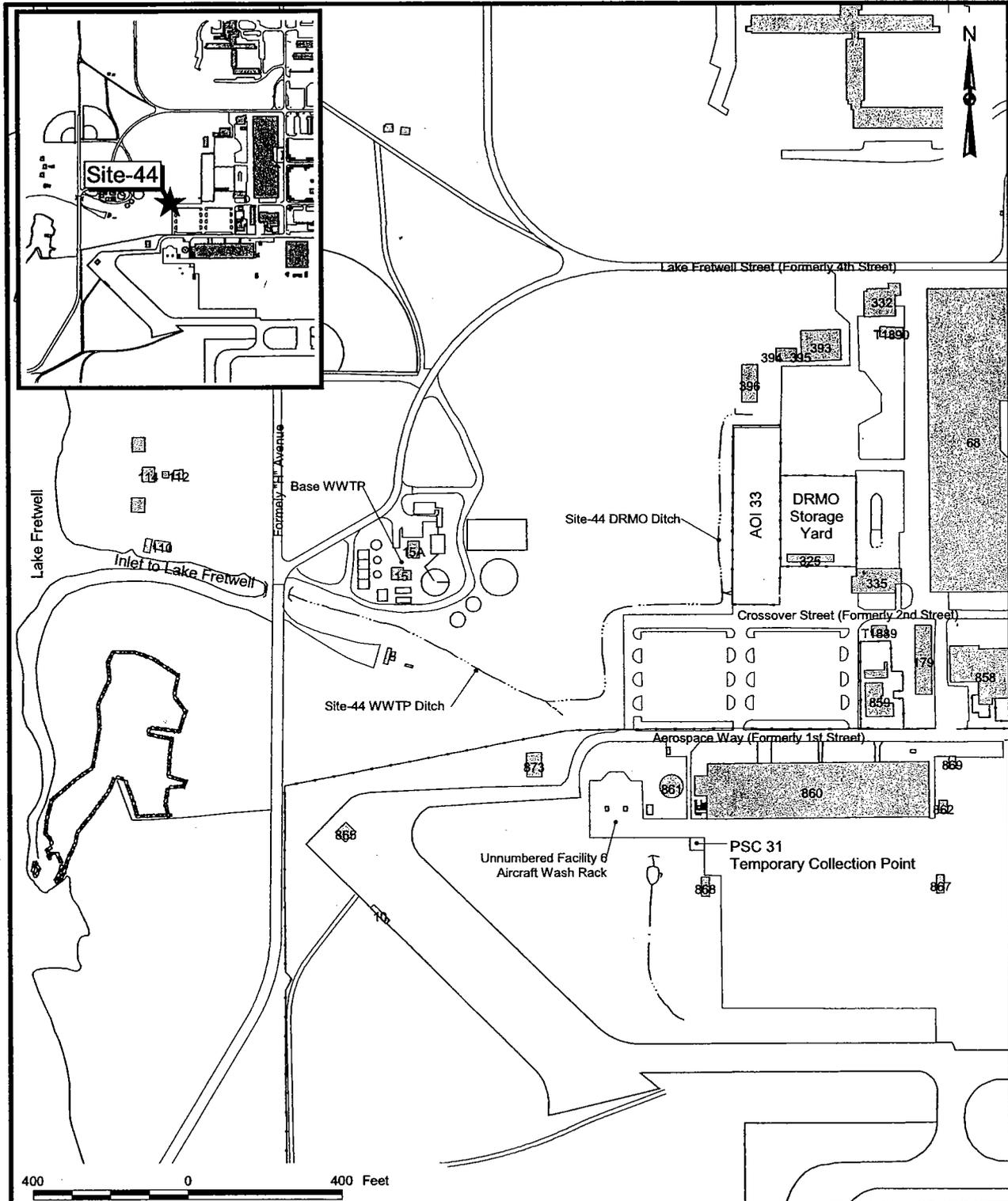
DRAWN BY MJJ	DATE 21May01
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



GENERAL LOCATION MAP
 OU12, SITE 44
 DITCH FROM DRMO TO WWTP
 RECORD OF DECISION
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER 4187	
APPROVED BY <i>[Signature]</i>	DATE 05103102
APPROVED BY	DATE
DRAWING NO. FIGURE 2-1	REV 0

P:\GISWAS_CecilField\PSC44_ROD.apr 01May02 MJJ Site Location Map Layout



400 0 400 Feet

DRAWN BY MJJ	DATE 21May01
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



SITE LAYOUT MAP
OU12, SITE 44
DITCH FROM DRMO TO WWTP
RECORD OF DECISION
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NUMBER 4187	
APPROVED BY <i>[Signature]</i>	DATE 05/03/02
APPROVED BY	DATE
DRAWING NO. FIGURE 2-2	REV 0

P:\GISWAS_CecilField\PSC44_ROD.apr 01May02 MJJ Facility Location Layout

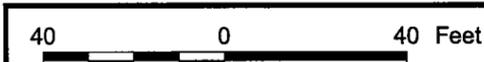
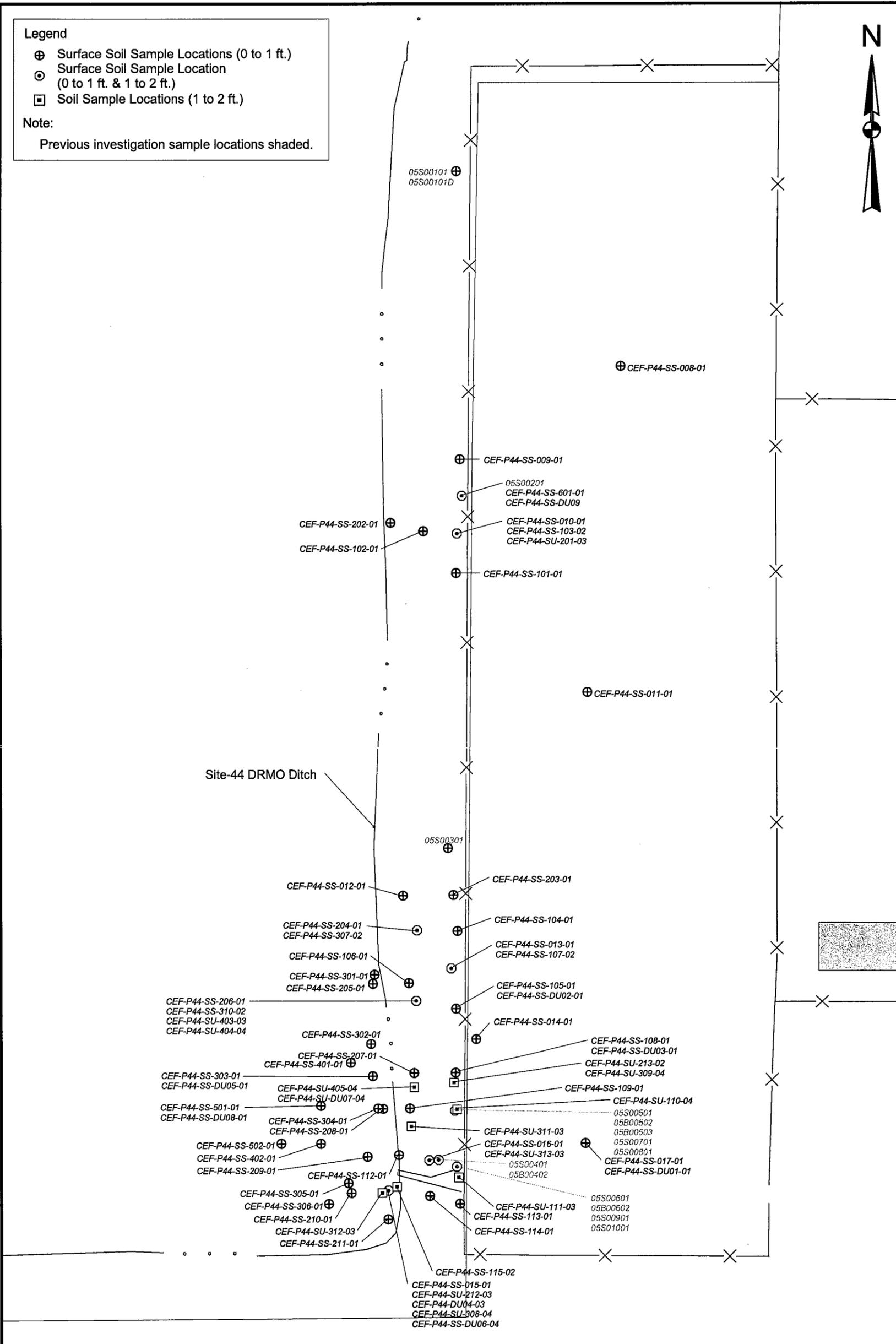
050203/P

2-21

Legend

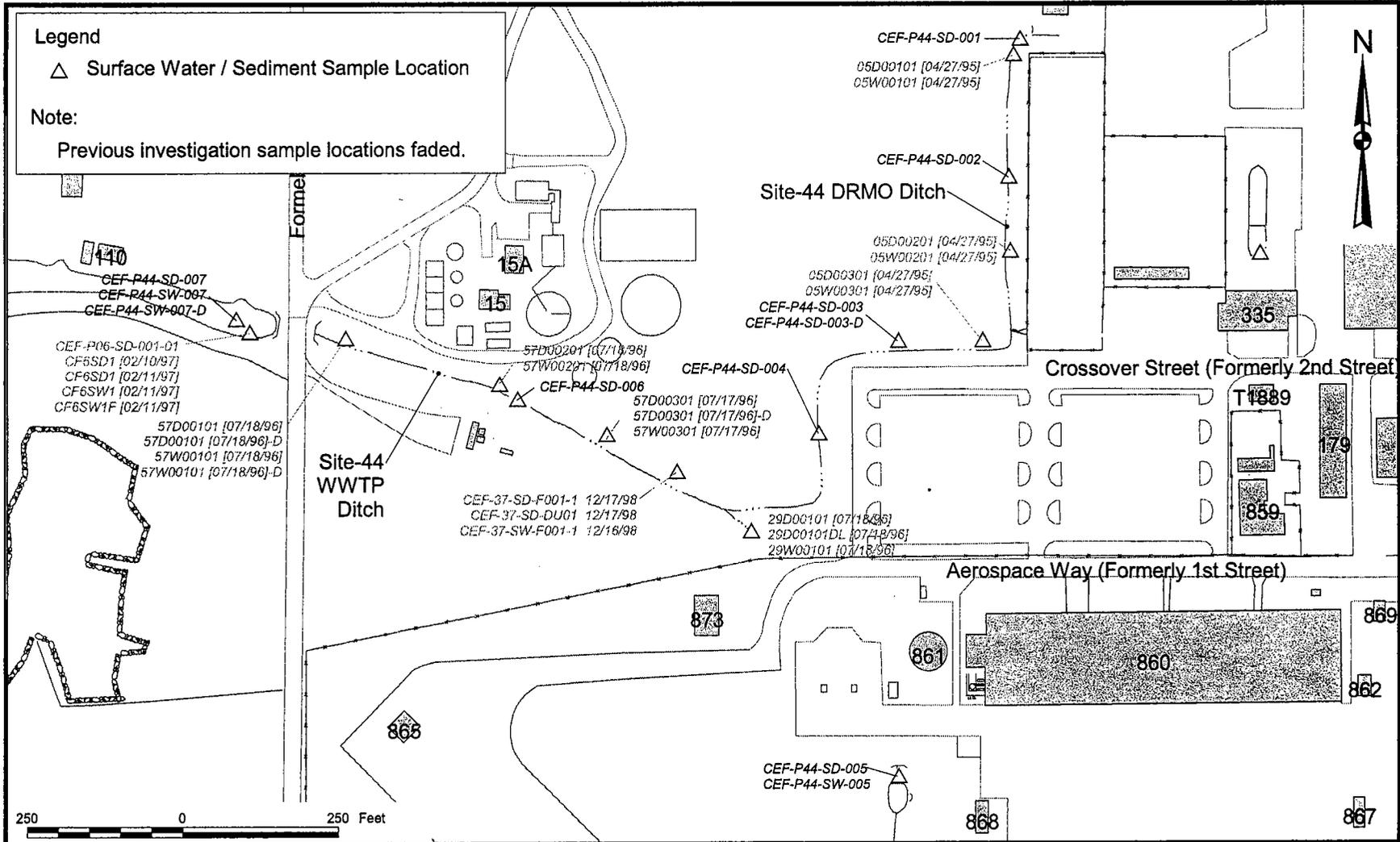
- ⊕ Surface Soil Sample Locations (0 to 1 ft.)
- ⊙ Surface Soil Sample Location (0 to 1 ft. & 1 to 2 ft.)
- ⊠ Soil Sample Locations (1 to 2 ft.)

Note:
Previous investigation sample locations shaded.



DRAWN BY MJJ CHECKED BY COST/SCHEDULE-AREA SCALE AS NOTED	DATE 21May01 DATE DEPARTMENT OF THE NAVY OFFICE OF FACILITIES ENGINEERING	SOIL SAMPLE LOCATIONS OU12, SITE 44 DITCH FROM DRMO TO WWTP RECORD OF DECISION NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4187 APPROVED BY DATE 05/03/02 APPROVED BY DATE DRAWING NO. FIGURE 2-3 REV 0
--	---	---	--

CTO 0226



DRAWN BY	DATE
MJJ	21May01
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



SURFACE WATER/SEDIMENT SAMPLE LOCATIONS

OU12, SITE 44

DITCH FROM DRMO TO WWTP

RECORD OF DECISION

NAVAL AIR STATION CECIL FIELD

JACKSONVILLE, FLORIDA

CONTRACT NUMBER		4187
APPROVED BY	DATE	05/23/02
APPROVED BY	DATE	
DRAWING NO.	FIGURE 2-4	
REV	0	

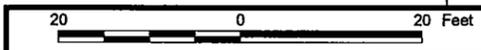
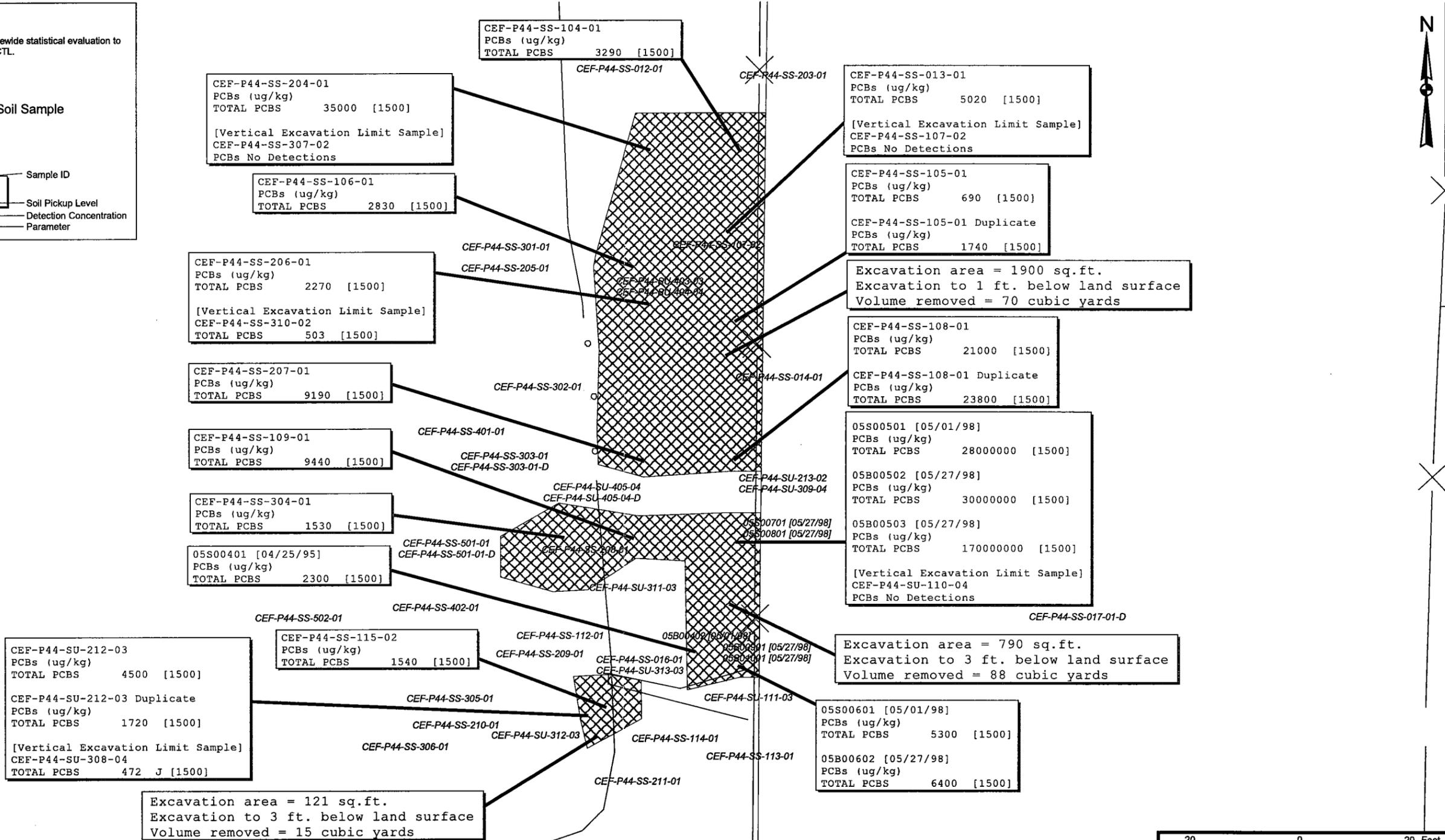
P:\GISWAS_CecilField\PSC44_ROD.apr 01May02 MJJ SW-SD_SampleLocationLayout

This page intentionally left blank.

Notes:
 1. Contaminant of concern is PCBs.
 2. [1500] PCB pickup value based on sitewide statistical evaluation to achieve UCL below the residential SCTL.

Legend
 ⊕ Surface Soil Sample
 ⊙ Surface and Subsurface Soil Sample
 □ Subsurface Soil Sample
 Buildings
 Excavation Area

Sample ID
 Fraction (ug/kg)
 PARAMETER 500 [100.00]
 Soil Pickup Level
 Detection Concentration
 Parameter



DRAWN BY MJJ	DATE 21May01		INTERIM REMEDIAL ACTION OU12, SITE 44 DITCH FROM DRMO TO WWTP RECORD OF DECISION NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 4187	
CHECKED BY	DATE			APPROVED BY <i>[Signature]</i>	DATE 05/02/01
COST/SCHED-AREA				APPROVED BY	DATE
SCALE AS NOTED				DRAWING NO. FIGURE 2-5	REV. 0

REFERENCES

ABB-ES (ABB Environmental Services, Inc.), 1994. Base Realignment and Closure Environmental Baseline Survey. Prepared for Southern Division Naval Facilities Engineering Command (SOUTHDIVNAVFACENGCOM), North Charleston, South Carolina. November.

ABB-ES, 1996. Sampling and Analysis Report, Area of Interest 33, Base Realignment and Closure, Zone C, Administration and Light Industrial Area, Group II. NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. June.

ABB-ES, 1997. Remedial Investigation for Operable Unit 3, Sites 7 and 8, NAS Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. August.

BCT [BRAC (Base Realignment and Closure) Cleanup Team], 2001. BCT Meeting Minutes No. 1480. Meeting of May 16.

CH2M Hill, 2001. Source Removal Report, Excavation of PCB-Contaminated Soil at PSC 44, Ditch From DRMO to Water Treatment Building, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. January.

Department of the Navy, 1999. Navy Policy for Conducting Ecological Risk Assessment. Office of the Chief of Naval Operations, Washington, D.C., April 6.

EE (Envirodyne Engineers), 1985. *Initial Assessment Study of NAS Cecil Field, Jacksonville, Florida*. Prepared for Naval Energy and Environmental Support Activity (NEESA), NEESA 13-073, Port Hueneme, California. July

FDEP (Florida Department of Environmental Protection), 1999. Contaminant Target Levels Rule, Soil, Groundwater, and Surface Water Target Cleanup Levels, Florida Administrative Code (FAC) Chapter 62-777. August.

G&M (Geraghty & Miller, Inc.), 1983. Year-End Report of Groundwater Monitoring.

G&M, 1985. Year-End Report of Groundwater Monitoring.

HLA (Harding Lawson Associates), 1988. RCRA Facility Investigation Report, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina. March.

HLA, 1998. Inorganic Background Data Set.

TtNUS (Tetra Tech NUS, Inc.), 1999. Sampling and Analysis Plans (Phases I through IV), PSC 44, Ditch From DRRMO to WWTP, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina. May, August, September, and November.

TtNUS, 2000a. Sampling and Analysis Plans (Phases V through VI), PSC 44, Ditch From DRMO to WWTP, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina. January, February, and March.

TtNUS, 2000b. Action Memorandum for Potential Source of Contamination 44, Ditch From DRMO to Wastewater Treatment Plant, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina. June.

TtNUS, 2002a. Technical Memorandum For No Further Action, Operable Unit 12, Site 44, Ditch From DRMO to Wastewater Treatment Plant, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina. January.

TtNUS, 2002b. Proposed Plan, Operable Unit 12, Site 44, Ditch From DRMO to Wastewater treatment Plant, Naval Air Station Cecil Field, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOC, North Charleston, South Carolina. May.

U.S. EPA (United States Environmental Protection Agency), 1988. Ambient Water Quality Criteria for Aluminum. EPA 440/5-88-008, Office of Water Regulations, Criteria and Standards Division, Washington, DC.

U.S. EPA, 1995. Supplemental Guidance for RAGS, Region IV Human Risk Assessment. U.S. EPA Region IV Waste Management Division, Atlanta, Georgia. November.

U.S. EPA, 1997. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments. Edison, New Jersey. June 5.

U.S. EPA, 1999a. A Guide To Preparing Superfund Proposed Plans, Records of Decision, and Other remedy Selection Decision Documents. Final, Guidance, Office of Solid Waste and Emergency Response (OSWER) 9200.1-23P, EPA 540-R-98-031, PB98-962341. July.

U.S. EPA, 1999b. Region IV Ecological Risk Assessment Bulletins – Supplement to RAGs, Waste Management Division, Atlanta, Georgia. August 11.

U.S. EPA, 2000a. Region IV Amended Guidance on Ecological Risk Assessment at Military Bases: Process Considerations, Timing of Activities, and Inclusion of Stakeholders. June 23.

U.S. EPA, 2000b. Region IX Preliminary Remediation Goals. R9 PRG Tables. <http://www.epa.gov/Region09/waste/sfund/prg/index>. November 22

U.S. EPA, 2001. Region IV Ecological Risk Assessment Bulletins – Supplement to RAGS. Effective April 20. <http://www.epa.gov/region04/wastepgs/oftecser/ecolbul.htm>