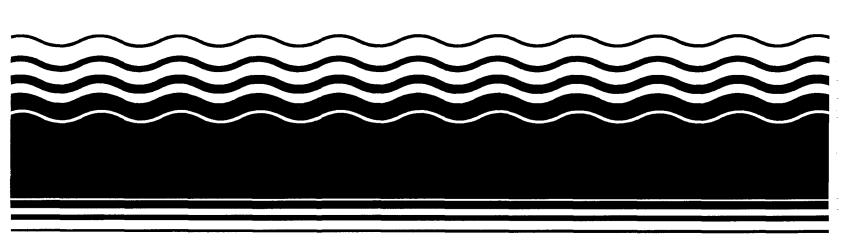
PB95-964043 EPA/ROD/R04-95/262 June 1996

EPA Superfund Record of Decision:

Jacksonville Naval Air Station, Operable Unit 2, FL 9/21/1995



INTERIM RECORD OF DECISION

POTENTIAL SOURCE OF CONTAMINATION (PSC) 42 OPERABLE UNIT 2

NAVAL AIR STATION JACKSONVILLE JACKSONVILLE, FLORIDA

Unit Identification Code (UIC): N00207

Contract No. N62467-89-D-0317/076

Prepared by:

ABB Environmental Services, Inc. 2590 Executive Center Circle, East Tallahassee, Florida 32301

Prepared for:

Department of the Navy, Southern Division Naval Facilities Engineering Command 2155 Eagle Drive North Charleston, South Carolina 29418

Dana Gaskins, Code 1857, Engineer-in-Charge

June 1995



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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Captain R. D. Whitmire Commanding Officer Naval Air Station Jacksonville, Florida 32212-5000

SUBJ: Interim Remedial Action Record of Decision Operable Unit Two - PSC 42 NAS Jacksonville, EPA I.D. FL6 170 024 412

Dear Captain Whitmire:

The United States Environmental Protection Agency (EPA) has reviewed the Department of the Navy's Interim Remedial Action Record of Decision (IROD) for Operable Unit Two - PSC 42 at Naval Air Station (NAS) Jacksonville pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended. EPA concurs with the findings and the selected remedy presented in the IROD.

Sincerely,

Satrice M Tobai

MJohn H. Hankinson, Jr. Regional Administrator

cc: Virginia B. Wetherell, Secretary
Florida Department of Environmental Protection

Captain R. S. Tyler, USN, Commanding Officer Southern Division Naval Facilities Engineering Command



CERTIFICATION OF TECHNICAL DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to—the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/76 are complete and accurate, and they comply with all requirements of this contract.

DATE	:		Ju	ne 2, 1995		
NAME	AND	TITLE	OF	CERTIFYING	OFFICIAL:	<u>Peter Redfern</u> Task Order Manager
NAME	AND	TITLE	OF	CERTIFYING	OFFICIAL:	<u>Mike Dunaway</u> Project Technical Lead

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APPENDIX

Appendix A: Responsiveness Summary

GLOSSARY

ABB Environmental Services, Inc. ABB-ES AOC area of concern applicable or relevant and appropriate requirements ARARs Clean Air Act CAA CAMU corrective action management units CERCLA Comprehensive Environmental Response, Compensation, and Liability Act CFR Code of Federal Regulations CPC contaminants of potential concern CWA Clean Water Act FAC Florida Administrative Code FDEP Florida Department of Environmental Protection Florida Department of Environmental Regulation **FDER** FFA Federal Facility Agreement FRE Focused Risk Evaluation FRI Focused Remedial Investigation **FFS** Focused Feasibility Study FS Feasibility Study **FOTW** federally owned treatment works IROD Interim Record of Decision LDR Land Disposal Restrictions light nonaqueous-phase liquid LNAPL mg/kg milligrams per kilogram micrograms per kilogram μg/kg National Ambient Air Quality Standards NAAQS NEPA National Environmental Policy Act NAS Naval Air Station NCP National Oil and Hazardous Substances Contingency Plan New Source Performance Standards NSPS M&0 operation and maintenance OSHA Occupational Safety and Health Act OU Operable Unit PAH polynuclear aromatic hydrocarbons Preliminary Assessment and Site Inspection PA/SI. PCBs polychlorinated biphenyls

RCRA Resource Conservation and Recovery Act

Publicly Owned Treatment Works

potential source of contamination

RI Remedial Investigation

PM₁₀ POTW

PSC

particulate matter less than 10 microns in size

GLOSSARY (Continued)

SARA SVOCs	Superfund Amendments and Reauthorization Act semivolatile organic compounds
TAL TCL TC TPH TSD TU	target analyte list target compound list toxicity characteristic total petroleum hydrocarbons treatment, storage, and disposal temporary units
USC USDOT USEPA USGS	United States Code U.S. Department of Transportation U.S. Environmental Protection Agency U.S. Geological Survey
VOCs	volatile organic compounds

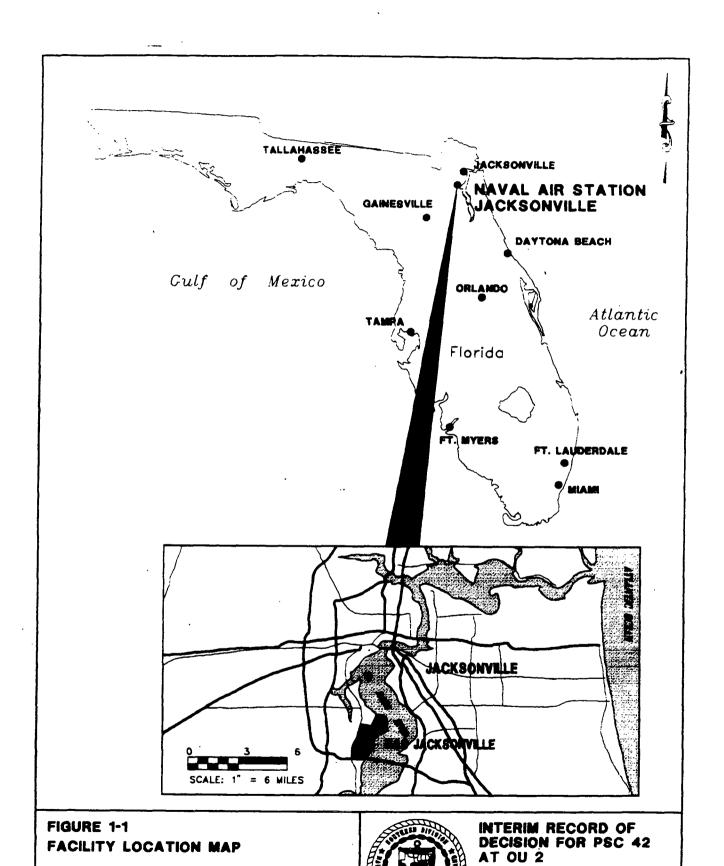
1.0 DECLARATION FOR THE INTERIM RECORD OF DECISION

- 1.1 SITE NAME AND LOCATION. The site name is Operable Unit (OU) 2, Potential source of contamination (PSC) 42 (wastewater treatment plant effluent polishing pond) located at the Naval Air Station (NAS) Jacksonville in Jacksonville, Florida (Figures 1-1, 1-2, and 1-3).
- 1.2 STATEMENT OF BASIS AND PURPOSE. This decision document presents the selected interim remedial action for source control at PSC 42 at OU 2, NAS Jacksonville. The selected action was chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. This decision document explains the factual basis and rationale for selecting the interim remedy at PSC 42. The information supporting this interim remedial action decision is contained in the Administrative Record for this site, which is located at the Charles D. Webb Wesconnett Branch of the Jacksonville Public Library.

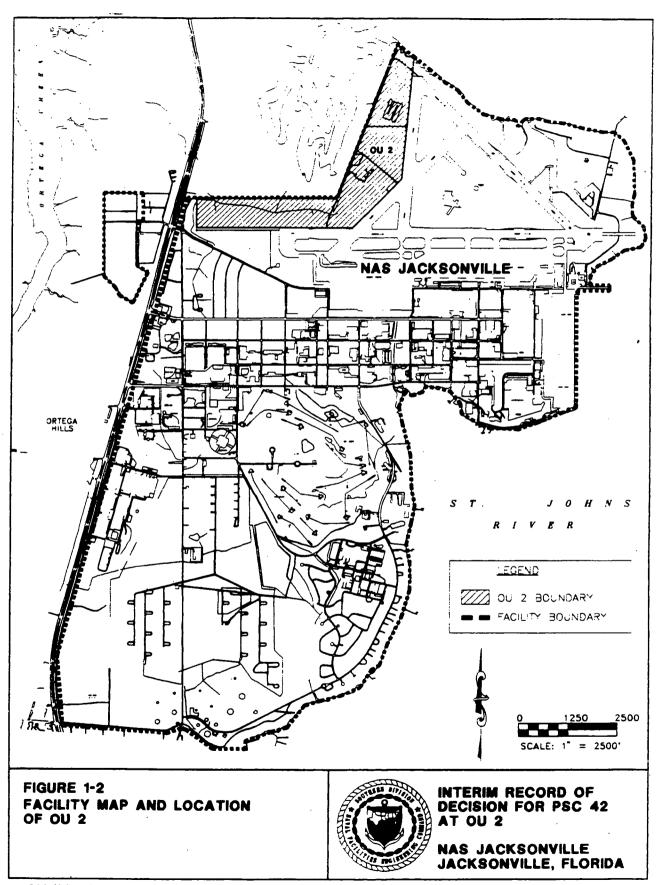
The purpose of the interim remedial action for PSC 42 is to lower the risk of potential future exposure to humans and the environment by reducing the leachability of contaminated media at PSC 42 to groundwater, and to close the pond in accordance with Resource Conservation and Recovery Act (RCRA) closure requirements. Upon completion of the overall Remedial Investigation and Feasibility Study (RI/FS) for OU 2, the need for remedial action to address groundwater contamination will be evaluated. A complete RCRA closure of PSC 42 will be addressed in the overall RI/FS for OU 2.

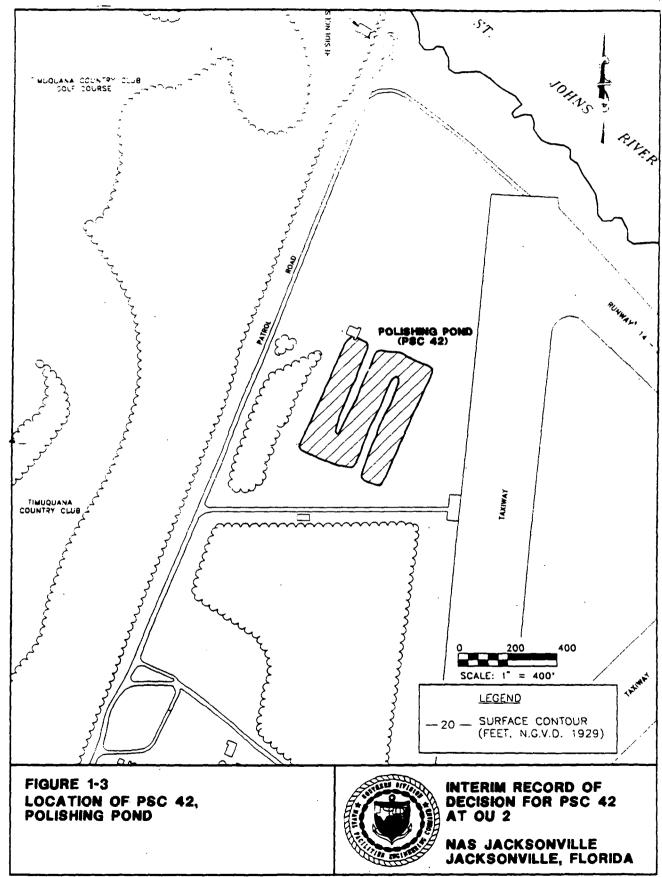
- The U.S. Environmental Protection Agency (USEPA) and the State of Florida's Department of Environmental Protection (FDEP) concur on the selected interim remedy.
- 1.3 ASSESSMENT OF THE SITE. Actual or threatened releases of metals from the site, if not addressed by implementing the response actions selected in the Interim Record of Decision (IROD), may violate RCRA closure requirements, and leave a potential groundwater contaminant. If not addressed, this could present a future risk to human health and the environment.
- 1.4 DESCRIPTION OF THE SELECTED REMEDY. OU 2 is one of three OUs presently identified at NAS Jacksonville, Florida. This section describes the selected remedy for PSC 42, the wastewater treatment plant effluent polishing pond, at OU 2

The preferred interim action for source control at PSC 42 is Alternative 3, developed and evaluated in the Focused Remedial Investigation and Focused Feasibility Study (FRI/FFS) for PSCs 3 and 42 at 0U 2. Alternative 3 proposes stabilizing the pond sludge and the standing pond water in situ. This and other alternatives considered for PSC 42 are summarized in Table 1-1. The major components of the selected remedy include:



NAS JACKSONVILLE JACKSONVILLE, FLORIDA





		able 1-1	• ••
	Comparative Analysis of F	Remedial Alternatives for PS	C 42
	Navai Air S	Decision. Operable Unit 2 Station Jacksonville onville. Florida	
Criterion	Alternative 1: Onsite ex-situ stabilization and onsite re-deposition of the treated polishing pond sludge without containment. Dewatering of the surface water in the polishing pond, pretreatment and discharge to the Federally owned treatment works (FOTW).	Alternative 2: Offsite stabilization and offsite disposal of the treated polishing pond sludge. Dewatering of the surface water in the polishing pond, pretreatment, and discharge to the FOTW.	Alternative 3: In-situ stabilization of the polishing pond sludge an any surface water.
Overall Protection of Hui	man Health and the Environment		٠.
How risks are eliminated, reduced, or controlled	Alternative 1 would provide an increased level of protection of human health and the environment. By stabilizing the sludge, contaminant migration is minimized thereby reducing the risks posed by the contaminants. Following pretreatment contaminant concentrations are reduced to acceptable levels that would not pose a threat to human health and environment.	Analysis is the same as for Alternative 1. However, since the sludge is treated and disposed offsite, there will be no contaminant migration.	Alternative 3 would provide a increased level of protection of human, health and the environment. By stabilizing the sludg and surface water, contaminan migration is minimized, thereb reducing the risks posed by th contaminants.
Short-term or cross-media effects	No short-term or cross-media effects are expected for the implementation of this alternative.	Analysis is the same as for Alternative 1.	Analysis is the same as for Alternative 1.
Compliance with ARARs			
Chemical-, location-, and action-specific ARARs	This alternative will comply with all ARARs concerned. It will also comply with the RCRA closure plan approved for PSC 42 at OU 2.	Analysis is the same as for Alternative 1.	Analysis is the same as for Alte native 1.
Long-term Effectiveness	and Permanence		
Magnitude of residual risk	The magnitude of residual risk due to the sludge at the site is minimal. The stabilization process used to stabilize the sludge will reduce the possibility of contaminants leaching to the groundwater as well as direct exposure. There will be no residual risk from the surface water since it will undergo pretreatment prior to discharge to the FOTW.	There will be no residual risk from the sludge since it will be treated and disposed offsite. Also, there will be no residual risk from the surface water since it will undergo pretreatment prior to discharge to the FOTW.	The magnitude of residual ris due to the sludge and surfact water at the site is minimal. The stabilization process used to stabilize the sludge and surfact water will reduce the possibility of contaminants leaching to the groundwater as well as direct exposure.
Adequacy of Controls	Stabilization processes have been determined to be long term source control technologies. Therefore, the sludge will have long term source control. Since the surface water will be treated onsite prior to discharge to the FOTW and final discharge to the St. Johns River according to NPDES regulations, source control will not be an issue.	The analysis will be the same as for alternative 1 with the exception that the sludge will be treated and disposed offsite.	The analysis will be the same a for alternative 1 with the exception that the sludge and the surface water will be stabilize and will have long-term source control.

Table 1-1 (Continued) Comparative Analysis of Remedial Alternatives for PSC 42

Interim Record of Decision. Operable Unit 2 Naval Air Station Jacksonville Jacksonville, Florida

Criterion

Alternative 1: Onsite ex-situ stabilization and onsite re-denosition of the treated polishing pond sludge without containment. Dewatering of the surface water in the polishing pond, pretreatment and discharge to the Federally owned treatment works (FOTW).

Alternative 2: Offsite stabilization and offsite disposal of the treated polishing pond sludge. Dewatering of the surface water in the polishing pond, pretreatment, and discharge to the FOTW

Alternative 3: In-situ stabilization of the polishing pond sludge and any surface water.

Long-term Effectiveness and Permanence-continued

Reliability of controls

Stabilization is a highly reliable source control technology.

Since the sludge is treated and disposed offsite, this alternative gives the best controls of the

three alternatives.

Analysis is the same as for Alternative 1.

Reduction of Mobility, Toxicity, or Volume

Treatment process and remedy

The sludge would be treated onsite, ex-situ and disposed onsite without containment. The surface water will be treated onsite, sent to the FOTW and then discharged to the St. Johns River.

The treatment process and the remedy is the same as for alternative 1, however, the sludge will be treated and disposed offsita

The sludge and surface water will be treated in-situ, onsite,

Amount of hazardous material destroyed or

treated

The total sludge volume of approximately 9,000 cubic yards and 4 million gallons of surface water will be stabilized and treated respectively.

Analysis is the same as for Alternative 1.

Analysis is the same as for Alternative 1 with the exception of the surface water being stabilized as well as the sludge.

Reduction of mobility, toxicity, or volume through treatment

The mobility and the toxicity of the sludge contaminants will be reduced due to the binding that takes place between the contaminents and the additives. However, the volume of the sludge would increase after the treatment process due to the additives that will be introduced during the treatment process. This volume increase will be in the range of 20 to 50 percent. The toxicity of the surface water will also be reduced after the pretreatment and treatment at the FOTW, however, the water will be discharged to the St. Johns River. There will be no increment in the treated volume of surface water.

Analysis is the same as for Alternative 1. However, the treatment and disposal of the sludge is done offsite and therefore, this alternative best reduces the mobility, toxicity and the volume of the sludge.

Analysis is the same as for Alternative 1. However, since the stabilization is done in-situ the reduction of mobility and toxicity could be less than is alternative 1. The volume of the stabilized mass including surface water and sludge will be increased in the range of 40 to 50 percent with the addition of stabilizing reagents.

Irreversibility of treatment

Stabilization processes are highly irreversible on the long term. In other words, the bonds between the contaminants and the additives do not reverse on the long term. The treatment of surface water is also irreversible.

Analysis is the same as for Alternative 1.

Analysis is the same as for Alternative 1. However, since the mixing is done in-situ the reversibility could be more in this afternative.

See notes at end of table.

		-1 (Continued) Remedial Alternatives for PS	C 42
	Naval Air S	Decision. Operable Unit 2 Station Jacksonville prville, Florida	
Criterion	Alternative 1: Onsite ex-situ stabilization and onsite re-deposition of the treated polishing pond sludge without containment. Dewatering of the surface water in the polishing pond, pretreatment and discharge to the Federally owned treatment works (FOTW).	Alternative 2: Offsite stabilization and offsite disposal of the treated polishing pond sludge. Dewatering of the surface water in the polishing pond, pretreatment, and discharge to the FOTW.	Alternative 3: In-situ stabilization of the polishing pond sludge and any surface water.
Reduction of Mobility, To:	xicity, or Volumecontinued		
Type and quantity of treatment residual	The treatment residual of the sludge would be a solid material with an increase in volume in the range of 20 to 50 percent of the original sludge volume. The treated surface water would be a liquid with no change in volume.	Analysis is the same as for Alternative 1.	The treatment residual of the sludge and surface water would be solid material with an increase in volume in the range of 40 to 50 percent
Short-Term Effectiveness			
Protection of community during remedial action	If required, dust and noise con- trol would be implemented dur- ing dredging and dewstering operations. Volatilization of sludge contaminants would be monitored during dredging opera- tions. Work area would be fenced off to control access.	Analysis is the same as for Alternative 1 except that during transport of sludge the volatilization of the sludge contaminants will be controlled with foam and covering.	Berming and lining of the pond perimeter during stabilization will prevent pond overflow. Volatilization of sludge contaminants would be monitored during stabilization operations. Work area would be fenced off to control access.
Protection of workers during remedial actions	Workers would be required to follow an approved Health and Safety Plan. Underground utilities in the vicinity will be located and staked before intrusive work. There are risks associated with operating stabilization and dewatering equipment which will be addressed in the Health and Safety Plan.	Analysis is the same as for Alternative 1.	Analysis is the same as for Alternative 1.
Environmental effects	No effects are expected to the groundwater. Releases of contaminants or particulate to air are expected to have minimal environmental effect.	Analysis is the same as for Alternative 1.	Analysis is the same as for Alternative 1.
Time until remedial action objectives are achieved	Approximately 3 to 6 months would be required to complete the project.	Approximately 3 to 6 months would be required to complete the project.	Approximately 2 to 4 months would be required to complete the project.

		1 (Continued) emedial Alternatives for PS	C 42
	Naval Air S	Decision, Operable Unit 2 tation Jacksonville prville, Florida	
Criterion	Alternative 1: Onsite ex-situ stabilization and onsite re-deposition of the treated polishing pond sludge without containment. Dewatering of the surface water in the polishing pond, pretreatment and discharge to the Federally owned treatment works (FOTW).	Alternative 2: Offsite stabilization and offsite disposal of the treated polishing pond sludge. Dewatering of the surface water in the polishing pond, pretreatment, and discharge to the FOTW.	Alternative 3: In-situ stabilization of the polishing pond sludge and any surface water.
Implementability			
Ability to construct technology	Stabilization is a widely used technology in metal contamination. Stabilization vendors conduct their work onsite (i.e., using mobile unit) or offsite (i.e., at or near a disposal facility). Dewatering companies are located locally. The handling of the sludge material will be the most difficult in this alternative.	Analysis is the same as for Alternative 1.	Analysis is the same as for Alternative 1. The handling of the sludge material and surface water will be the least difficult in this alternative.
Reliability of technology	Stabilization is a proven technology for sludge contaminated with metals. Many proven technologies exist for pretreatment of the water pollutant present.	Analysis is the same as for Alternative 1. Regulated landfills are designed and constructed to minimize leaching of contaminants.	Onsite stabilization has been implemented successfully at other sites with similar waste streams. Unlike regulated landfills, onsite in situ stabilization does not have leaching or runoff control protocols.
Ease of undertaking additional remedial action, if necessary	Implementation of this alterna- tive would pose no impediment to additional remediation.	Analysis is the same as for Alternative 1.	Care would have to be taken to avoid unnecessary disturbance of the stabilized treated wastes when undertaking additional investigations or remedial actions. Disturbing these areas is undesirable because it may provide pathways for reversal of treatment and weakening of the structural integrity of the stabilized media.
Monitoring considerations	Air monitoring would be con- ducted as appropriate during excavation and transportation.	Analysis is the same as for Alternative 1.	Analysis is the same as for Alternative 1.
Coordination with other agencies	Coordination with NAS Jackson- ville personnel would be required for the duration of remedial activities. Coordination with USEPA, FDEP, county and land- fill regulatory agencies would be necessary.	Analysis is the same as for Alternative 1.	Analysis is the same as for Alternative 1.

		-1 (Continued) Remedial Alternatives for PS	C 42
	Naval Air S	Decision, Operable Unit 2 Station Jacksonville onville, Florida	
Criterion	Alternative 1: Onsite ex-situ stabilization and onsite re-deposition of the treated polishing pond sludge without containment. Dewatering of the surface water in the polishing pond, pretreatment and discharge to the Federally owned treatment works (FOTW).	Alternative 2: Offsite stabilization and offsite disposal of the treated polishing pond sludge. Dewatering of the surface water in the polishing pond, pretreatment, and discharge to the FOTW.	Alternative 3: In-situ stabilization of the polishing pond sludge and any surface water.
Implementabilitycon- tinued			
Availability and capacity of treatment, storage, and disposal services	Stabilization will be conducted in an onsite stabilization unit. This unit will have enough capacity to process 9,000 cubic yards of sludge. The pond has enough capacity for the redeposition of the treated material. The FOTW has a treatment capacity of about 3 million gallons/day and it currently runs at half its capacity.	The analysis is the same as for alternative 1, however, the stabilization and disposal will be conducted offsite. The facility where the stabilization is done should have enough capacity to process 9,000 cubic yards of sludge. Also, the facility would use up about 12,000 cubic yards of capacity (assuming 50 percent increase in volume due to stabilization).	Stabilization will be conducted in situ for the sludge material and surface water. A volume increase of 40 to 50 percent is expected. Berming and lining the pond perimeter will be necessary to prevent pond overflow and provide additional treatment capacity.
			Analysis is the same as for Alternative 1.
Ability to obtain approvals from other agencies	Once the Interim Record of Decision (IROD) is signed the approval from the USEPA and the FDEP is granted. Other local regulatory approval will be obtained before remedial action begins.	Analysis is the same as for Alternative 1.	Analysis is the same as for Alternative 1.
TOTAL COST	3,520,000	6,050,850 (without contingen- cy for transportation)	2,605,000
NAS = Naval Air ARARs = applica OU = operable u VOCs = volatile CERCLA = Comp USEPA = U.S. Er FDEP = Florida D RCRA = Resourc	l Investigation/Feasibility Study. Station. ble or relevant and appropriate requ	Compensation, and Liability Act.	

- · site preparation and installation of the in situ mobile stabilization unit.
- berming and lining the area surrounding the pond perimeter to prevent pond overflow.
- in situ stabilization of polishing pond sludge and water. and
- · demobilization and site restoration.

Implementation of the interim action will lower the risk of potential future exposure to humans and the environment by reducing the leachability of contaminated media, and will close PSC 42 in accordance with RCRA closure requirements. The Navy estimates that the preferred alternative will cost \$2,605,000 to construct and will take 2 to 4 months to implement.

1.5 STATUTORY STATEMENT. This interim action is protective of human health and the environment, complies with Federal and State applicable or relevant and appropriate requirements (ARARs) for this limited scope of action, and is cost effective. Tables 1-2 and 1-3 summarize ARARs for the interim remedial action. Although this interim action is not intended to fully address the statutory mandate for permanence and treatment to the maximum extent practicable, this action uses treatment for contaminated materials and debris and, thus, is in furtherance of that statutory mandate. Because this action does not constitute the final remedy for contaminated groundwater at OU 2, the statutory preference for remedies that employ treatments that reduce toxicity, mobility, or volume as a principal element will be addressed by the final response action(s) for groundwater. This interim action does address the reduction of toxicity and mobility for contaminated materials (soil) considered in this remedy. Subsequent actions are planned to address the potential threats posed by the conditions in the groundwater at OU 2.

Because this is an IROD, review of this site and of this remedy will be ongoing as the Navy continues to develop final remedial alternatives for OU 2.

1.6 SIGNATURE AND SUPPORT AGENCY ACCEPTANCE OF THE REMEDY

Captain R.E. Resavage	
Commanding Officer, NAS Jacksonville	Date

- · site preparation and installation of the in situ mobile stabilization unit,
- berming and lining the area surrounding the pond perimeter to prevent pond overflow,
- · in sicu stabilization of polishing pond sludge and water, and
- · demobilization and site restoration.

Implementation of the interim action will lower the risk of potential future exposure to humans and the environment by reducing the leachability of contaminated media, and will close PSC 42 in accordance with RCRA closure requirements. The Navy estimates that the preferred alternative will cost \$2,605,000 to construct and will take 2 to 4 months to implement.

1.5 STATUTORY STATEMENT. This interim action is protective of human health and the environment, complies with Federal and State applicable relevant and appropriate requirements (ARARs) for this limited scope of action, and is cost effective. Tables 1-2 and 1-3 summarize ARARs for the interim remedial action. Although this interim action is not intended to fully address the statutory mandate for permanence and treatment to the maximum extent practicable, this action uses treatment for contaminated materials and debris and, thus, is in furtherance of that statutory mandate. Because this action does not constitute the final remedy for contaminated groundwater at OU 2, the statutory preference for remedies that employ treatments that reduce toxicity, mobility, or volume as a principal element will be addressed by the final response action(s) for groundwater. This interim action does address the reduction of toxicity and mobility for contaminated materials (soil) considered in this remedy. Subsequent actions are planned to address the potential threats posed by the conditions in the groundwater at OU 2.

Because this is an IROD, review of this site and of this remedy will be ongoing as the Navy continues to develop final remedial alternatives for OU 2.

1.6 SIGNATURE AND SUPPORT AGENCY ACCEPTANCE OF THE REMEDY

Captain R.D. Resavage

Commanding Officer, NAS Jacksonville

Sara

Table 1-2 Synopsis of Potential Federal and State Chemical-Specific ARARs for PSC 42

Interim Record of Decision, Operable Unit 2
Naval Air Station Jacksonville
Jacksonville, Florida

Federal Standards and Requirements	Requirements Synopsis	Consideration in the Remedial Response Process
Occupational Safety and Health Act (OSHA), Occupational Health and Safety Regulations [29 CFR Part 1910, Subpart Z]	Establishes permissible exposure limits for workplace exposure to a specific listing of chemicals.	Standards are applicable for worker exposure to OSHA hazardous chemicals during remedial activities.
Resource Conservation and Recovery Act (RCRA), Identifi- cation and Listing of Hazardous Wastes [40 CFR Part 261]	Defines those solid wastes subject to regulation as hazardous wastes under 40 CFR Parts 262-265.	These requirements define RCRA-regulated wastes, thereby delineating acceptable management approaches for listed and characteristically hazardous wastes that should be incorporated into the characterization and remediation elements of remedial response at PSC 42.
RCRA, Releases from Solid Waste Management Units [40 CFR Part 264, Subpart F]	Establishes the requirements for solid waste management units (SWMUs) at RCRA regulated temporary storage and disposal (TSD) facilities. The scope of the regulation encompasses groundwater protection standards (RCRA maximum contaminant levels [MCLs]), point of compliance, compliance period, and requirements for groundwater monitoring.	This rule is relevant and appropriate for Comprehensive Environmenta Response, Compensation, and Liability Act (CERCLA) sites contaminated with RCRA hazardous constituents, and potential applicable requirements for groundwater remediation executed under the RCRA Corrective Action Program. However, these requirements are not applicable to Superfund sites unless the action involves active placement in regulated units after July 26, 1982.

CFR = Code of Federal Regulations.

Table 1-3

Synopsis of Action-Specific Federal and State Applicable or Relevant and Appropriate Requirements (ARARs) for Potential Source of Contamination (PSC) 42 at Operable Unit (OU) 2

Interim Record of Decision, Operable Unit 2
Naval Air Station Jacksonville
Jacksonville Florida

		Jacksonville, Florida	
Federal or State Standards and Requirements	Status	Requirements Synopsis	Consideration in the Remedial Response Process
Occupational Safety and Health Act (OSHA) Regula- tions, Occupational Health and Safety Regulations [29 CFR, Part 1910, Subpart Z]	Applicable	Establishes permissible exposure limits for workplace exposure to a specific listing of chemicals.	The remedial alternative at PSC 42 will require workers to be exposed to RCRA-regulated listed hazardous waste. Therefore, exposure limits set forth in this regulation are applicable.
RCRA Regulations, Closure and Post-Closure [40 CFR Part 264]	Relevant and appropriate	Details general requirements for closure and post-closure of hazardous waste facilities, including installation of groundwater monitoring program.	The substantive requirements of the rule, including groundwater monitoring, will be met as part of the remedial alternative at this site. The corrective action plan will be revised to reflect the response action selected through the CERCLA process.
RCRA Regulations, Surface Impoundments [40 CFR Part 264, Subpart K]	Relevant and appropriate	Applies to owners and operators that use surface impoundments to treat, store, or dispose of hazardous waste.	Because this remedial action involves the placement of RCRA- regulated hazardous wastes in surface impoundments, this regulation is relevant and appropriate. Closure requirements should be considered for remedial actions for surface impound- ments.
RCRA Regulations, Use and Management of Containers [40 CFR, Part 264, Subpart I]	Relevant and appropriate	Sets standards for the storage of containers of hazardous waste.	If the implementation of the remedial alternative involves the storage of containers containing RCRA-regulated waste onsite, the substantive requirements established in this rule will be met.
RCRA Regulations, Land Treatment [40 CFR Part 264, Subpart L]	Relevant and appropriate	Establishes procedures and operating requirements for both closure and post-closure of land treatment units.	The treatment alternative of hazardous waste should meet the substantive construction, monitoring, operational, and closure standards established within this regulation.
See notes at end of table.			

Table 1-3 (Continued)

Synopsis of Action-Specific Federal and State Applicable or Relevant and Appropriate Requirements (ARARs) for Potential Source of Contamination (PSC) 42 at Operable Unit (OU) 2

Interim Record of Decision, Operable Unit 2
Naval Air Station Jacksonville
Jacksonville, Florida

Federal or State Standards and Requirements	Status	. Requirements Synopsis	Consideration in the Remedial Response Process
RCRA Regulations, Waste Piles [40 CFR Part 264, Subpart L]	Relevant and appropriate	Establishes procedures and operating requirements for both closure and post-closure of waste piles. If removal or decontamination of all contaminated subsoil is not possible, closure and post-closure requirements for landfills must be attained.	Because the remedial action chosen involves the placement of CERCLA generated RCRA listed hazardous waste in waste piles, the substantive requirements established in this rule will be met.
Solid Waste Disposal Act Regulations, Criteria for Classification of Solid Waste Disposal Facilities and Practices [42 USC 6901-6987 and 40 CFR Part 257]	Applicable	Established criteria for use in determining which solid waste disposal facilities and practices pose a reasonable probability of adverse effect on public health or the environment and, therefore, constitute prohibited open dumps.	For waste identified as non-hazardous the substantive requirements of this rule will be met.
Chapter 62-730, FAC, Florida Hazardous Waste Rule, Au- gust 1990	Relevant and appropriate	Adopts by reference appropriate section of 40 CFR and establishes minor additions to these regulations concerning the generation, storage, treatment, transportation, and disposal of hazardous wastes.	Both the substantive and permitting requirements of this regula- tion will be considered in design of the remedy.
Department of Transportation Rules for Transportation of Hazardous Materials [49 CFR Parts 107, 117, 173, 148, and 179]	Applicable	This regulation established the procedures for packaging, labeling, and transporting of hazardous materials.	Requirements established in this rule will be met during trans portation of hazardous material from the site for laboratory analysis, treatment, or disposal.
RCRA Regulations, LDRs for Newly Listed Wastes and Hazardous Debris [40 CFR, Parts 148, 260, 261, 262, 264, 265, 270, and 271]	Relevant and appropriate	This rule sets forth four options for management of hazardous debris: (1) treat the debris to performance standards established in this rule through 1 of 17 approved technologies, (2) obtain a ruling from USEPA that the debris no longer contains hazardous debris, (3) treat the debris using a technology approved through an "equivalent technology demonstration," or (4) treat the debris to existing LDR standards for wastes contaminating the debris and continue to manage under RCRA regulations, Subtitle C.	If debris is encountered as part of the interim remedial action one of the four management options for hazardous debris will be implemented.

Table 1-3 (Continued)

Synopsis of Action-Specific Federal and State Applicable or Relevant and Appropriate Requirements (ARARs) for Potential Source of Contamination (PSC) 42 at Operable Unit (OU) 2

Interim Record of Decision, Operable Unit 2 Naval Air Station Jacksonville Jacksonville, Florida

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Federal or State Standards and Requirements	Status	Requirements Synopsis	Consideration in the Remedial Response Process
Occupational Safety and Health Act (OSHA) Regula- tions, General Industry Stan- dards [29 CFR, Part 1910]	Applicable	This act requires establishment of programs to assure worker health and safety at hazardous waste sites, including employee training requirements.	This regulation is applicable because during remedial action at the site, requirements of these regulations must be maintained.
OSHA Regulations, Recordkeeping, Reporting, and Related Regulations [29 CFR, Part 1904]	Applicable	Provides recordkeeping and reporting requirements applicable to remedial activities.	Recordkeeping and reporting requirements defined in this rule will be followed during site remediation.
OSHA Regulations, Health and Safety Standards [29 CFR, Part 1926]	Applicable	Specifies the type of safety training, equipment, and procedures to be used during site investigation and remediation.	All phases of the remedial response project should be executed in compliance with this regulation.
Chapter 62-4, FAC, Florida Rules on Permits, May 1991	Applicable	Establishes procedures for obtaining permits for sources of pollution.	Substantive permitting requirements of this rule will be met during the remedial action at PSC 42.
Chapter 62-736, FAC, Florida Rules on Hazardous Waste Warning Signs, August 1994	Applicable	Requires warning signs at National Priority List (NPL) and FDEP (formerly FDER) identified hazardous waste sites to inform the public of the presence of potentially harmful conditions.	Because Naval Air Station Jacksonville is currently listed on the NPL, this requirement is applicable.

Notes: NAS = naval air station.

CFR = Code of Federal Regulations.

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act.

CWA = Clean Water Act.

POTW = publicly owned treatment works. FOTW = federally owned treatment works.

USC = U.S. Code.

FAC = Florida Administrative Code.

USEPA =. U.S. Environmental Protection Agency.

FDEP = Florida Department of Environmental Protection.

FDER = Florida Department of Environmental Regulation.

2.0 DECISION SUMMARY

2.1 SITE NAME, LOCATION, AND DESCRIPTION. NAS Jacksonville is located in Duval County. Florida, on the western bank of the St. Johns River; OU 2 is located in the northern part of the installation (Figure 1-3). The official mission of NAS Jacksonville is to provide facilities, service, and managerial support for the operation and maintenance of naval weapons and aircraft to operating forces of the U.S. Navy as designated by the Chief of Naval Operations. Some of the tasks required to accomplish this mission include operation of fuel storage facilities, performance of aircraft maintenance, maintenance and operation of engine repair facilities and test cells for turbojet engines, and support of special weapons systems.

The land use west of OU 2 is primarily residential and recreational. The Timuquana Country Club and Golf Course border OU 2 to the west. Access to the country club is restricted to members and guests. Two private residences abut the NAS boundary on the northwest side of OU 2 near the St. Johns River. A residential area (trailer park) also abuts the NAS boundary west of the Timuquana Country Club; the distance from this trailer park to OU 2 is about 3,000 feet. Access to OU 2 is limited because of its proximity to the NAS taxiways and runways, which have additional security requirements. A chainlink fence along the base boundary and continuous patrols make access by unauthorized personnel unlikely and limited.

2.2 SITE HISTORY AND ENFORCEMENT ACTIVITIES. The area incorporated into NAS Jacksonville has been used for U.S. Navy operations since 1940. OU 2, which is located on the northern part of NAS Jacksonville, has historically been used primarily for wastewater treatment. Its secondary use has been for fire-fighting training.

Past operations at the wastewater treatment plant located within OU 2 that possibly affected soil quality include:

- drying sludge in unlined beds (PSCs 41 and 43),
- · discharge of treated water to an unlined polishing pond (PSC 42), and
- land disposal of sludge removed from the drying beds (PSCs 3 and 4).

In addition to the treatment plant, a former fire-fighting training area (PSC 2) is located within OU 2. Burning fuels within the unlined pit at the training area has affected soil quality at PSC 2.

Probable waste materials disposed of at OU 2 include aviation fuel and waste petroleum products (at the former fire-fighting training area), inorganic and organic compounds (at the domestic and industrial wastewater sludge drying beds), and asbestos (at PSC 4). PSC 4 will be evaluated during the site-wide Remedial Investigation and Feasibility Study (RI/FS) to be conducted in 1995. An FRI/FFS study has been completed for PSCs 2, 41, and 43, and the IROD was signed on September 29, 1994. Interim remedial action for PSCs 2, 41, and 43 is scheduled to occur in 1995. An FRI/FFS has also been completed at PSCs 3 and 42. As a result of this FRI/FFS, it was determined that there was no need for an interim remedial action at PSC 3. Therefore, PSC 3 will be included in the site-wide RI/FS with PSC 4. Investigations and site history of PSC 42 are described briefly in the following paragraphs.

PSC 42 is the wastewater treatment plant effluent polishing pond. It has a capacity of approximately 5.7 million gallons and was built in 1970 to provide final clarification and settling for approximately 2.3 million gallons per day of treated wastewater effluent. It currently contains water from precipitation and seepage from groundwater. The pond was removed from service in 1987. It appears that the surface water level in the polishing pond is controlled by both rainfall events and fluctuations in the groundwater elevation.

The USEPA classified the polishing pond as a surface water impoundment to treat RCRA-listed hazardous wastes F006 and F019 (i.e., wastewater treatment sludge from electroplating operations and from the chemical conversion coating of aluminum) (Process Code T02). The hazardous constituents for which the sludge is listed consist of cadmium, hexavalent chromium, nickel, and cyanide (complexed) for F006 and hexavalent chromium and cyanide (complexed) for F019.

In 1988, after a review of groundwater monitoring data, the FDEP issued a Consent Order requiring closure of the effluent polishing pond. In response to the Consent Order, NAS Jacksonville developed a closure plan for the wastewater treatment plant polishing pond (PSC 42). This closure plan also included PSCs 41 and 43 at OU 2, and in September 1991, FDEP issued a permit for closure and post-closure at PSCs 41, 42, and 43.

As provided in Section VII of the Federal Facility Agreement (FFA), parties should intend to integrate the Navy's CERCLA response obligations and RCRA corrective action obligations into any remedial actions. As such, the FFA establishes the mechanism whereby remediation of the PSC will occur under the provisions of CERCLA with RCRAI considered as an ARAR with respect to releases of hazardous waste. Further, the FFA states that permits shall be modified again after the CERCLA process has resulted in the final selection of a remedial action.

PSC 42 has been investigated for groundwater compliance with RCRA standards since 1983. Monitoring wells in the vicinity of the pond were sampled and analyzed quarterly for 1 year beginning in 1984 in accordance with an FDEP and RCRA closure and post-closure permit. Inorganic constituents exceeded permit standards at the point of compliance monitoring wells in the shallow aquifer zone.

During July 1994, PSC 42 was included in a sampling event to assess the potential or actual contamination of surface water, sediment, and biota at three surface water bodies located within NAS Jacksonville, and to report any constituent concentrations that were greater than standards or guidelines established by the Federal ambient water quality criteria or Florida surface water classification standards. Details concerning this event can be found in the Sampling Event Report Number 17, Electrofishing Fisheries Investigation at Selected Water Bodies, Naval Air Station, Jacksonville, Florida (ABB-Environmental Services, Inc. [ABB-ES] 1993b). Sediment samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and inorganics. According to the Sampling Event Report Number 17, PSC 42 contained levels of inorganic compounds above background levels in surface water and sediment samples.

2.3 HIGHLIGHTS OF COMMUNITY PARTICIPATION. The FRI/FFS report for PSC 42 at 0U 2 and the Proposed Plan were completed and released to the public on May 10, 1995. These documents and other Installation Restoration program information are available for public review in the Information Repository and Administrative Record. The repository

is maintained at—the Charles D. Webb Wesconnett Branch of the Jacksonville Public Library in Jacksonville, Florida. The notice of availability of these documents was published in *The Florida Times Union* on May 10, 1995.

A 30-day public comment period was held from May 10, 1995, to June 9, 1995. Written comments were received during the public comment period. Written comments and questions asked by the public are summarized and addressed in Appendix A, Responsiveness Summary.

2.4 SCOPE AND ROLE OF INTERIM REMEDIAL ACTION. A focused risk evaluation (FRE) was conducted on the soil surrounding the polishing pond, PSC 42. The FRE did not address the sludge and water present in the polishing pond; however, these materials are being treated as part of this remedial action. A risk assessment on the soil surrounding the pond indicated unacceptable risks were not predicted from exposure to surface soil at PSC 42 for either humans, terrestrial wildlife, plants, or soil invertebrates.

RCRA closure requirements support removal of the source. Therefore, source removal was determined to be the interim remedial action objective for PSC 42. The interim remedial action objective for PSC 42 is to reduce future potential risks to human health and the environment and comply with the RCRA closure plan approved for this PSC, as discussed in the FRI/FFS report. Metal contaminants are potentially acting as a continuing source of soil and groundwater contamination at OU 2. The purpose of this interim remedial action is to remove this source of contamination to the soil and groundwater at OU 2. Based on previous investigations and the evaluation of ARARs for this site, the interim remedial action identified is in situ stabilization of the polishing pond sludge and standing water.

Upon completion of the overall RI/FS for OU 2, the need for remedial action to address groundwater contamination will be evaluated. This IROD addresses an interim source control for contaminated materials at PSC 42 and is consistent with any future remedial activities that may take place at the site.

2.5 SITE CHARACTERISTICS. Sampling and analysis of soil, surface water, and sediment found within the effluent polishing pond (PSC 42) were completed as part of the focused RI/FS investigation conducted in September 1994. Soil and sediment samples were analyzed for VOCs, SVOCs, pesticides, PCBs, and inorganics. Surface water samples from the polishing pond were analyzed for target analyte list (TAL) inorganics and miscellaneous wet chemistry parameters. In addition to analyzing the surface water and sediment within the polishing pond, surface soil samples around the perimeter of the pond were analyzed to investigate the possible migration of contaminants from the potential of past flooding and maintenance activities. All surface soil and sediment samples were first screened for the following metals: arsenic, cadmium, chromium, lead, and nickel. The list of selected metals for screening is based on previous soil and groundwater analytical results (ABB-ES, 1992b). Based on the findings of the screening, the soil and sediment were analyzed for TAL inorganics. As part of the base-wide groundwater modeling effort conducted in collaboration with the U.S. Geological Survey (USGS), four piezometer wells were installed on the south and west sides (potentially upgradient) of PSC 42. In addition to groundwater elevation data, groundwater samples were collected and analyzed for contaminants of potential concern (CPC), target compound list (TCL), and TAL parameters and selected water quality tests from the four piezometer wells and two existing downgradient wells. Groundwater data

collection was intended to provide data to support an evaluation of remedial alternatives at PSC 42. The results of the FRI/FFS investigation, which was designed to characterize the extent of metal contamination at PSC 42, are summarized in this section.

Surrounding soil, surface water, and sediment samples at PSC 42 contained inorganics related to the operation of the polishing pond. Fifty-six soil samples were collected from the soil surrounding the pond for screening of the five metals. screening data, chromium, lead, and cadmium were the most often detected metals in the soil around PSC 42. Chromium and lead were detected in all 56 samples collected (including 6 field duplicates). All of the detections of chromium were above background concentrations, whereas only 40 percent of the lead samples were above background concentrations. Cadmium was detected in 46 of 56 samples and nickel was detected in 7 of 56 samples. All detections of cadmium and nickel were above background concentrations. Arsenic was below detection limits in all 56 screening samples collected. Twelve samples were collected for TAL inorganic analytical results to confirm the detection of the above selected screening metals. Lead was detected in all 12 samples (including 2 field duplicates), chromium was detected in 11 of 12 samples, and cadmium was detected in 7 of 12 samples. Iron and aluminum were present in all 12 samples. Antimony, arsenic, barium, beryllium, copper, magnesium, nickel, potassium, sodium, thallium, and vanadium were not detected. Soil samples from areas surrounding the effluent polishing pond were also found to contain a pesticide, which does not appear to be related to PSC 42 operations and may have been a result of past base-wide pest control programs.

Seventeen sediment samples (including two field duplicates) were collected for screening of the five metals. From the screening data, chromium, cadmium, lead, and mickel were detected in all 17 samples (including 2 field duplicates). There was no detection of arsenic in the sediment samples. Four sediment samples were collected for TAL inorganic analyses to confirm the detection of the above selected screening metals. Fifteen TAL inorganic parameters were detected in all four sediment samples. Antimony, arsenic, and selenium were detected in one of the four samples, and sodium and nickel were detected in two of four samples. There are no detections of cobalt, potassium, or thallium. Two of seventeen sediment samples were submitted for total and hexavalent chromium analysis. Hexavalent chromium was not detected in the sample, indicating that the chromium in the sediment is most likely in the trivalent oxidation state.

Three surface samples in the pond were collected and analyzed for TAL inorganics. Metals detected in all three surface water samples include aluminum, barium, calcium, chromium, iron, lead, magnesium, manganese, nickel, potassium, and sodium. Zinc was not detected in two of three samples. There were no detections of antimony, arsenic, cadmium, copper, mercury, selenium, silver, vanadium, and cyanide.

Investigation of groundwater at PSC 42 in the FRI/FFS was conducted solely for the purpose of gathering data to support an evaluation of remedial alternatives for the sediment and surface water. A full evaluation of the groundwater analytical data was deferred until the execution of the overall OU2 RI/FS report.

2.6 SUMMARY OF SITE RISKS. An FRE was completed as a means of characterizing potential risks to humans and the environment that could be attributed to exposure to contaminants present in the soil surrounding the polishing pond, PSC 42. The FRE did not address the sludge and water present in PSC 42 (polishing pond); however, these

materials are being treated as part of this remedial action. A risk assessment on the soil surrounding the pond indicated unacceptable risks were not predicted from exposure to surface soil at PSC 42 for either humans, terrestrial wildlife, plants, or soil invertebrates. However, RCRA closure requirements support removal of the source, the sediment and surrounding surface soil, to comply with ARARs for PSC 42.

- 2.7 SELECTED REMEDY. Of the three alternatives evaluated, the selected interim remedial action for source control at the PSC 42 at OU 2 is Alternative 3, described in the FRI/FFS report for OU 2. Alternative 3 involves:
 - site preparation and installation of the in situ mobile stabilization unit,
 - berming and lining the area surrounding the pond perimeter to prevent pond overflow,
 - · in situ stabilization of polishing pond sludge and water, and
 - · demobilization and site restoration.

The concentrations of contaminants in the materials at PSC 42 are above the RCRA Land Disposal Restrictions (LDR) treatment standards for those hazardous wastes and, thus, would require treatment prior to disposal. As previously discussed, the materials are contaminated with metals. The treatment technology proposed in this alternative is in situ stabilization, which involves immobilizing the metals in the contaminated material by adding a setting agent such as Portland cement. Metals are not destroyed by this treatment process, but rather become physically and chemically entrapped in the resulting material, which can take the form of a semisolid to a solid. Long-term monitoring of this treated soil is contemplated under RCRA and will be incorporated in the final remedy for OU 2.

The sides of the polishing pond will be bermed to the necessary elevation to provide room for the added stabilization mixture; i.e., concrete, sand, and any reagents. After the *in situ* stabilization process, the product and contaminated pond water will remain in place.

Once treatment is completed, the site will be graded and seeded for revegetation. All equipment and features associated with the interim remediation would be removed at the end of the process.

The Navy estimates the total cost of this interim remedial action to be \$2,605,000 to construct and maintain.

2.8 STATUTORY DETERMINATIONS. The interim remedial action selected for implementation at PSC 42 is consistent with CERCLA and the National Oil and Hazardous Substances Contingency Plan (NCP). The selected remedies are protective of human health and the environment, attain ARARs, and are cost effective. The selected remedies also satisfy the statutory preference for remedial treatment of metals that significantly reduces the mobility, toxicity, or volume of hazardous substances as a principal element. Because this remedy is not intended as the final action for remediation of the contaminated soil and groundwater at OU 2, the statutory preference for treatment of this media will be addressed during the final FS for OU 2. Long-term monitoring of

this treated soft is contemplated under RCRA and will also be incorporated into the final remedy for OU 2.

Additionally, the selected remedy uses alternate treatment technologies or resource recovery technologies to the maximum extent practicable. Because this remedy is not intended as the final remedial effort for groundwater at OU 2, any contaminated media remaining onsite after this interim remedial action will be addressed during the overall RI/FS for OU 2 and the resulting Record of Decision.

 $\underline{2.9}$ DOCUMENTATION OF SIGNIFICANT CHANGES. There are no significant changes in this interim remedial action from that described in the Proposed Plan.

APPENDIX A RESPONSIVENESS SUMMARY

Appendix A, Responsiveness Summary

The Responsiveness Summary serves three purposes. First, it provides regulatory agencies with information about the community preferences regarding the remedial alternatives presented for Potential Source of Contamination (PSC) 42, at Operable Unit (OU) 2, Naval Air Station (NAS) Jacksonville. Second, the Responsiveness Summary documents how public comments have been considered and integrated into the decision-making process. Third, it provides the Navy, U.S. Environmental Protection Agency (USEPA), and Florida Department of Environmental Protection (FDEP) with the opportunity to respond to each comment submitted.

The Focused Remedial Investigation and Focused Feasibility Study for PSCs 3 and 42 and the Proposed Plan for PSC 42 were made available in an information repository maintained at the Charles D. Webb Wesconnett Branch of the Jacksonville Public Library.

The following comments were received during the public comment period.

Responsiveness Summary Interim Record of Decision

Potential Source of Contamination 42 at Operable Unit 2
Naval Air Station Jacksonville
Jacksonville, Florida

Comment Response

NO COMMENTS RECEIVED

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