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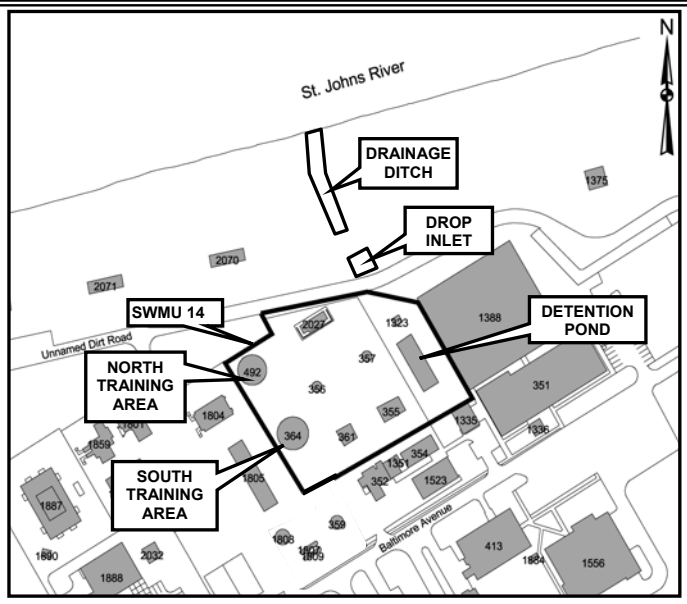
STATEMENT OF BASIS FOR SOLID WASTE MANAGEMENT UNIT 14 MERCURY/OILY WASTE SPILL AREA NS MAYPORT FL

8/23/2002

NAVAL STATION MAYPORT

STATEMENT OF BASIS
SWMU 14 – Mercury/Oily Waste Spill Area
Naval Station Mayport
Mayport, Florida



SUMMARY

The proposed corrective measure for Solid Waste Management Unit (SWMU) 14 at the Naval Station (NAVSTA) Mayport is soil capping, Land Use Controls (LUCs), and site monitoring for soil/sediment and free-product removal, Monitored Natural Attenuation (MNA), and LUCs for groundwater. SWMU 14, the Mercury/Oily Waste Spill Area, has been impacted by low concentrations of petroleum products in groundwater, soil, and sediment. LUCs will be implemented to prevent the site from being used for residential purposes, thus controlling the exposure pathways to the soil/sediment and groundwater. MNA will be used to track the progress of contaminant degradation in groundwater. In addition, an asphalt/concrete cap will be added to surface soil areas where the concentrations of contaminants exceed the Florida Department of Environmental Protection's (FDEP's) Soil Cleanup Target Levels (SCTLs) for future industrial use.

The public is invited to comment on this proposed remedy or any other corrective measure alternatives including those not previously studied. Information on how the public may participate in this decision-making process is provided in the Public Participation section of this document.

INTRODUCTION

Pursuant to the Resource Conservation and Recovery Act (RCRA), as amended by the 1984 Hazardous and Solid Waste Amendments (HSWA), the United States Environmental Protection Agency (EPA) issued an HSWA permit to NAVSTA Mayport, effective June 15, 1993, to address corrective action at the facility and required NAVSTA Mayport to conduct a RCRA Facility Investigation (RFI) to determine the nature and extent of contamination at SWMU 14. At that time EPA served as the lead regulatory agency for corrective action oversight. In November of 2000, HSWA authority was delegated to the State of Florida. The FDEP will become the lead regulatory agency when a State HSWA permit is issued to NAVSTA Mayport. During the transition, EPA will continue to provide limited oversight and the FDEP will perform the technical reviews of documents submitted under the HSWA permit and will provide its comments and recommendations to EPA for forwarding to the Navy.

This Statement of Basis identifies the proposed corrective measure for SWMU 14 and explains the rationale for its selection; describes all alternatives evaluated as part of the Corrective Measures Study (CMS); solicits public review and comment on all alternatives, including those not previously studied; and provides information as to how the public can be involved in the remedy selection process. Additional details regarding the facility, the investigation conducted under the RFI, and the evaluation of the corrective measure alternatives may be found in the RFI and CMS Reports. These documents are kept as part of the administrative record at the information repository. Refer to the Public Participation section of this document for their location. A glossary, which defines some of the technical terms contained herein, is included at the end of this document.

The corrective measures reflected in this Statement of Basis are those proposed by the Navy, EPA, and FDEP for implementation at SWMU 14. Changes to the proposed corrective measure, or a change from the proposed corrective measure to another alternative, may be made if public comments or additional data indicate that such a change would result in a more appropriate solution.

PUBLIC PARTICIPATION

To make a final decision and incorporate a corrective measure into the HSWA permit, the FDEP is soliciting public review and comment on this Statement of Basis for the proposed corrective measure for SWMU 14 at NAVSTA Mayport. The regulations under 40 *Code of Federal Regulations* (CFR) 124.10(6) require a 45-day comment period for a permit modification request made by the permittee under RCRA. The FDEP has undertaken the lead role on this request initiated by the Navy (the permittee). The comment period will begin on Wednesday, September 4, 2002, which is the date of publication of the public notice in the *Florida Times Union* newspaper, and will end on Friday, October 18, 2002.

Copies of the RFI and CMS Reports and the Statement of Basis will be available for public review at the information repository located at the Jacksonville Public Library - Beaches Branch, 600 3rd Street, Neptune Beach, FL, 32266 [Phone (904) 241-1141].

A public hearing will be held if one is requested. To request information about a public meeting or about the comment period, to obtain more information about this Statement of Basis, or to submit written comments, please contact: James Cason, FDEP, Twin Towers Office Building, Technical Review Section, 2600 Blair Stone Road, Tallahassee, FL, 32399-2400, [Phone (850) 921-4230 or Fax (850) 922-4939].

All comments must be postmarked no later than Friday, October 18, 2002.

Next Steps

Following the 45-day public comment period, the FDEP will issue a final decision on the RCRA permit modification request. The RCRA permit modification will detail the corrective measure chosen for SWMU 14 and will include responses to comments received during the public comment period in a Response to Comments. Upon receipt of a group of Statement-of-Basis documents for NAVSTA Mayport SWMUs, the FDEP will develop and issue the draft RCRA permit modification including SWMU 14.

When a final decision to modify the permit has been made, notice will be given to the Navy and to each person who has submitted written comments or who has requested notice of the final decision. The final permit decision shall become effective 30 days after the issuance of the notice of the decision unless a later date is specified or review is requested under 40 CFR 124.19. If no comments are received requesting a change in the draft permit, the final permit modification shall become effective immediately upon issuance.

Contact Persons

NAVY

Cheryl Mitchell, N4E
Environmental Director, Environmental Division
Public Works Office
Naval Station Mayport
Mayport, FL 32228-0067
(904) 270-6730, ext. 201

FDEP

James Cason
FDEP, Twin Towers Office Building
Technical Review Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(850) 921-4230 or Fax (850) 922-4939

PROPOSED REMEDIES

The proposed corrective measure for soil/sediment includes providing a concrete/asphalt cover over the contaminated surface soil areas not presently covered to limit exposure, imposing LUCs in the form of soil/sediment disturbance prohibition, and site monitoring to ensure that the LUCs remain in place. The estimated capital cost for the proposed soil/sediment corrective measure is $106,000 with an annual operation and maintenance cost of $4,000 and an additional $7,000 every fifth year for 5-year reviews. The present worth cost, over a period of 30 years, is $170,000.

The proposed corrective measure for groundwater includes free-product removal, MNA, LUCs, and site monitoring. The LUCs would prohibit the use of the groundwater for drinking water and restrict future development of the site until MNA or any future active corrective measure allows for unrestricted use. The estimated capital cost for the proposed groundwater corrective measure is $44,000, with an annual operation and maintenance cost of $49,000 and an additional $7,000 every fifth year for 5-year reviews. The present worth cost, over a period of 30 years, is $481,000.

To implement the LUCs, a Land Use Controls Implementation Plan (LUCIP) would be developed by the Navy for this site. The LUCIP would be approved by the FDEP/EPA and will serve as the Corrective Measures Implementation Plan as required to implement a corrective measure, pursuant to the requirements of RCRA.

FACILITY BACKGROUND

NAVSTA Mayport is located near the town of Mayport within the city limits of Jacksonville, Florida, in northeastern Duval County on the south shore of the confluence of the St. Johns River and the Atlantic Ocean (Figure 1). SWMU 14 is located (Figure 2) at the current Fire Fighting Training Area due south of the St. Johns River, approximately 1,000 feet west of the Atlantic Ocean

in the northeastern part of NAVSTA Mayport. The SWMU features consist of an equipment mockup, a runoff detention pond, and a spillway. The area is fenced and is mostly covered with concrete.

Construction of the Training Area began in approximately 1964 and in later years this area has undergone several modifications. Flammable liquid was used for training to simulate fire on a ship, and water (or foam) was used to suppress the fire. The fire fighting solution at one time contained aqueous film-forming foam as a fire extinguishing material, but this practice had ceased by the mid-1980s. Currently, propane is used at the facility.

The RFI was conducted during 1995. The RFI field activities were conducted from March through October 1995. Field activities consisted of the collection of surface and subsurface soil samples, surface water samples, sediment samples, and the installation and sampling of groundwater monitoring wells.

SUMMARY OF FACILITY RISKS

A Human Health Baseline Risk Assessment and an Ecological Risk Assessment were performed as part of the RFI report. An exceedance of an FDEP or EPA risk level indicates a potential concern for the SWMU.

Figure 1. Naval Station Mayport Location Map

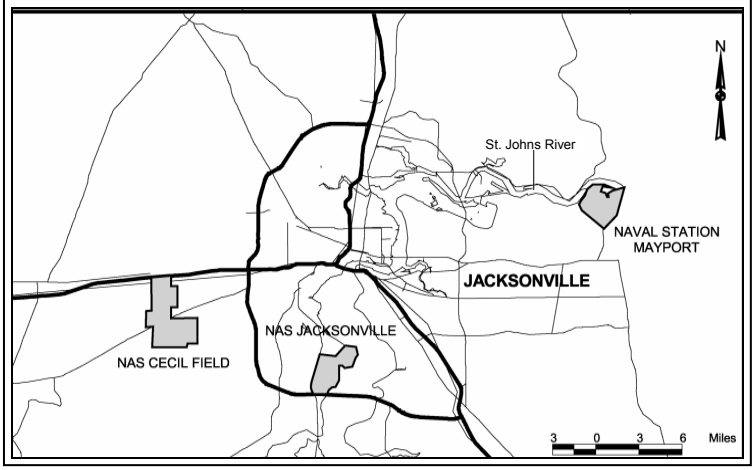
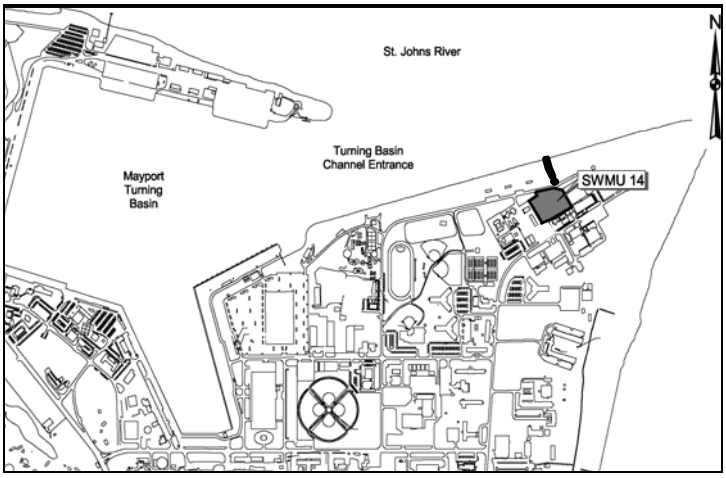


Figure 2. SWMU 14 Location Map



Human Health Baseline Risk Assessment

Risk characterization for SWMU 14 was conducted for potential exposures to surface and subsurface soil, sediment, and groundwater under current and future land-use scenarios.

Soil. The cancer risk for site workers associated with surface soil, under the current industrial land use, slightly exceeded the FDEP acceptable risk level. The cancer risks for hypothetical future residents also exceed the FDEP acceptable risk level. None of the cancer risks for industrial use exceeded EPA's acceptable cancer risk range for all land use scenarios.

Noncancer risks associated with the exposure to surface soil for current industrial land use (adolescent trespasser, adult trespasser, and excavation worker) and for future land use (child resident, adult resident, occupational worker, and site maintenance worker) were all below both EPA's and FDEP's target Hazard Index (HI).

The risks associated with the exposure to subsurface soil were all below both EPA's and FDEP's acceptable risk range for all land use scenarios.

Sediment. The cancer risks for exposure to sediment, under the current industrial land use and hypothetical future residential land use, did not exceed EPA's acceptable risk range but both exceeded FDEP's acceptable risk level. Noncancer risk associated with sediment from ingestion and dermal contact under current and future land use (adolescent trespasser, adult trespasser, child resident, and adult resident) were below both EPA's and FDEP's target HI.

Groundwater. The cancer risk associated with hypothetical future ingestion of groundwater exceeded FDEP's acceptable risk level but not the EPA's acceptable risk range. Noncancer risk associated with groundwater ingestion was below both EPA's and FDEP's target HI.

RFI Assessment of Ecological Impacts

The ecological risk assessment evaluated potential pathways of exposure of ecological receptors to contamination in soil, sediment, groundwater, and surface water.

Soil. Exposure of ecological receptors to soil is prevented because buildings and pavement cover the surface and prevent the growth of vegetation that could provide habitat.

Sediment. Potential adverse ecological risk from exposure to sediments located in the drainage ditch was identified due to the presence of polynuclear aromatic hydrocarbons that exceeded the State of Florida probable effect levels. However, the drainage ditch area was covered with concrete as part of an interim measure conducted in 1998.

Groundwater. The Ecological Risk Assessment concluded that the discharge of groundwater into

surface water was deemed unlikely to increase risks to aquatic receptors.

Surface Water. Only iron was of concern to aquatic receptors. Lead and zinc were of concern for terrestrial receptors due to the ability of aquatic receptors to bioconcentrate these contaminants from surface water.

Exposure of terrestrial wildlife to surface water contaminants and sediment contaminants were evaluated together. The exposure assessment produced results indicating that no risks to terrestrial wildlife populations are associated with the maximum concentrations of surface water contaminants found at SWMU 14.

INTERIM MEASURES

Eight separate evaluations were conducted after the completion of the RFI at SWMU 14.

1. Naval Environmental Leadership Program Technology Evaluation. In 1996, an evaluation was conducted to demonstrate the applicability of in situ bioremediation to reduce levels of petroleum residues on the concrete surface of the stormwater detention pond and the levels of petroleum-related constituents in the soil south of the detention pond.

Testing determined that petroleum-impacted soil at the southern end of the detention pond appeared to be adequately treated during the technology demonstration (bioremediation, i.e., tilling of microorganisms into the soil) to concentrations less than State of Florida standards.

2. Performance Specifications Group III. In 1996, additional samples were collected to define impacted areas and to mitigate possible adverse risks to human or ecological receptors. No additional action was suggested for the soil at SWMU 14, because the concrete surface at the north and south fire fighting training mockups, as well as at the detention pond, prevents exposure to the contaminants and acts as a barrier to the infiltration of surface water. Natural attenuation was suggested as an interim measure for groundwater at SWMU 14.

3. Plume Edge Characterization/Baseline Sampling Event for Monitored Natural Attenuation. In 1997 a study was conducted to determine if natural attenuation was occurring at the SWMU. Interpretation of the natural attenuation parameters suggested that aerobic (and anaerobic) biodegradation was occurring in the groundwater beneath the northern fire fighting training mockup, the southern fire fighting training mockup, and in the vicinity of the stormwater detention pond. The study recommended continuing natural attenuation monitoring at the three areas.

4. Oxygen Release Compound® (ORC®) Demonstration. In 1999, the ORC® technology was used to demonstrate the potential for enhancement of natural attenuation of the petroleum contaminants of concern at SWMU 14. It was concluded that the ORC® successfully increased the micro-metabolism that resulted in the reduction of semivolatile organic compounds in the groundwater. All the constituents in the demonstration area were below the FDEP groundwater cleanup goal at the end of the ORC® demonstration.

5. Detention Pond Drainage Ditch Concrete Lining Interim Measure. In 1998, a concrete lining was installed in the drainage ditch and sediment retention pond that are adjacent to SWMU 14. The purpose of this interim measure was to reduce risk to aquatic receptors from the contaminated sediments.

6. Fleet Training Center Demolition and Replacement of Detention Pond Project. This project included removal of contaminated soil from beneath the pond and replacement of the pond with a watertight structure to prevent upward infiltration of contaminants into the detained stormwater. The action was completed in October 2000.

7. Evaluation of Groundwater Natural Attenuation. The study concluded that biological processes have resulted in stabilization of the groundwater plume of petroleum hydrocarbons.

8. Land Use Controls. LUCs were implemented as an interim measure to restrict the SWMU to industrial use.

SCOPE OF THE CORRECTIVE ACTION

Contaminants in soil that exceed the residential soil cleanup target levels in Chapter 62-777 *Florida Administrative Code* (SCTLs) are arsenic, benzo(*a*)anthracene, 2-methylnaphthalene, naphthalene, N-nitrosodiphenylamine, and Total Petroleum Hydrocarbons (TPH). Contaminants in groundwater that exceed the groundwater cleanup target levels in Chapter 62-777, *Florida Administrative Code* (GCTLs) are antimony, iron, manganese, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, and TPH. A LUC will be required for the SWMU unless a remedy is implemented that achieves unrestricted use.

The future use of the SWMU is to remain industrial. The contaminants in soil/sediment that exceeded the industrial SCTLs include N-nitrosodiphenylamine and TPH. The contaminants in groundwater that exceeded the GCTLs include 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, and TPH.

The total estimated area of soil/sediment contamination is approximately 30,000 square feet (ft^2) with a total volume estimate of 2,300 cubic yards (yd^3) of soil/sediment (Figure 3). The estimated volume of groundwater contamination is approximately 80,200 cubic feet (ft^3). The estimated area of groundwater contamination (Figure 4) is approximately 9,450 ft^2.

SUMMARY OF ALTERNATIVES

An evaluation of the corrective measure alternatives for SWMU 14 was conducted in accordance with the EPA Final RCRA Corrective Action Plan Guidance as follows:

Soil/Sediment Alternatives

Soil/Sediment Alternative 1: No Action. The No Action alternative serves as a baseline consideration or addresses sites that do not require remediation. The No Action alternative includes costs for conducting 5-year reviews over a 30-year period.

Soil/Sediment Alternative 2: LUCs and Site Monitoring. This alternative would implement LUCs in the form of a soil/sediment disturbance prohibition. Once implemented, site monitoring would take place to ensure that the implemented LUCs were being maintained.

The implemented LUCs would serve to both protect human health by precluding residential exposure to contamination and prevent contaminant migration to other areas of the base. LUC implementation would occur via preparation of a site-specific Land Use Control Implementation Plan (LUCIP) that would describe the site location, the prohibition itself, its objectives, and other pertinent information. Once implemented, LUC oversight would be administered under the LUC Memorandum of Agreement[1] (MOA) executed between FDEP, EPA, and NAVSTA Mayport. The LUC MOA would provide for certain periodic site inspection and reporting requirements.

Soil/Sediment Alternative 3: Capping, LUCs, and Site Monitoring. This alternative would address the principal threats posed by contaminated soil through an impermeable cover that would protect humans from direct contact and would also prevent infiltration. This would also reduce the potential for contaminants to leach into the underlying aquifer. LUCs and monitoring would be identical to those discussed under Soil/Sediment Alternative 2.

Currently, the entire site is covered with concrete except for an area outside the perimeter of the concrete detention pond that is unpaved and an area on the northern side of the SWMU. Sampling would be required to determine the additional areas that would require new capping. If no additional contamination is found or if the additional contamination is excavated, no additional capping would be required.

Soil/Sediment Alternative 4: In Situ Treatment, LUCs, and Site Monitoring. This alternative would address principal threats through in situ soil venting to promote volatilization and biodegradation of organic constituents and reduce remediation time. LUCs and monitoring would be identical to those discussed under Soil/Sediment Alternative 2. A vacuum would be applied to the soil column to volatilize and transport organic constituents to a collection/treatment system. The oxygen provided by in situ soil venting also stimulates biological growth.

Soil/Sediment Alternative 5: Surface Soil Excavation, Offsite Disposal, and LUCs. Soil Alternative 5 would reduce long-term management by addressing contaminated surface soil through excavation and

Figure 3. SWMU 14 Soil Contamination Area

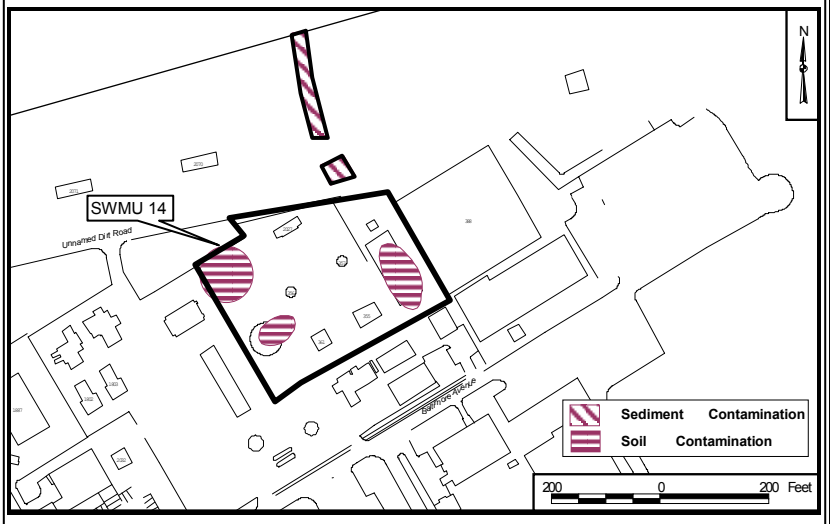
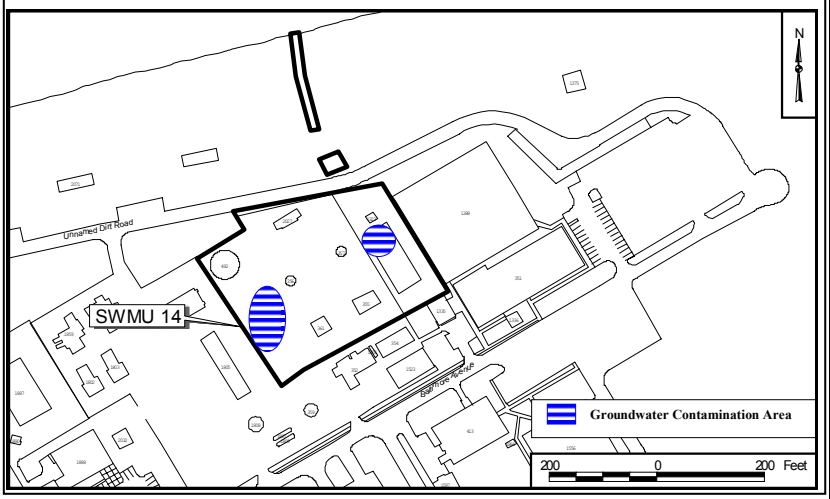


Figure 4. SWMU 14 Groundwater Contamination Area



[1]By separate MOA, effective August 31, 1998, with the EPA and FDEP, the Navy agreed to implement Facility-wide, certain periodic site inspection, condition certification, and agency notification procedures designed to ensure the maintenance by Navy personnel of any site-specific LUCs deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the Navy's substantial good faith compliance with the procedures called for therein, reasonable assurances would be provided to EPA and FDEP as to the permanency of those remedies that included the use of specific LUCs.

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable therein by reference, it is understood and agreed by the Navy, EPA, and FDEP that the contemplated permanence of the corrective measures reflected therein shall be dependent upon the Navy's substantial good faith compliance with the specific LUC maintenance commitments reflected therein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the corrective measure concurred may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment.

disposal. LUCs and monitoring would be identical to those discussed under Soil/Sediment Alternative 2. This alternative would offer aggressive remediation through excavation and transportation of contaminated soil to a hazardous waste landfill. An estimated 2,550 tons of soil/sediments (including 400 tons of sediment) would be excavated.

Excavation would involve the removal of the top 2 feet of soil, that exceeds industrial SCTLs, for disposal in an approved offsite facility.

Groundwater Alternatives

Groundwater Alternative 1: No Action. The No Action alternative serves as a baseline consideration or addresses sites that do not require remediation. The No Action alternative includes costs for conducting 5-year reviews over a 30-year period.

Groundwater Alternative 2: Free-Product Removal, MNA, LUCs, and Site Monitoring. This alternative would implement skimming to remove any free product floating on the water table at Well MPT-14-MW17S and the imposition of LUCs in the form of a groundwater use prohibition. Once implemented, site monitoring would take place to assess natural attenuation and contaminant migration and to ensure that the implemented LUCs would be maintained.

Free-product removal would serve to remove a potential source of groundwater contamination. Future reductions in mobility and toxicity would be expected through natural attenuation.

Groundwater Alternative 3: Free-Product Removal, In Situ Treatment, LUCs, and Site Monitoring. This alternative would address the contaminated water through in situ biological treatment. The LUCs, monitoring, and free-product removal would be identical to those discussed under Groundwater Alternative 2.

In situ biological treatment enhances naturally occurring microbes for the degradation of organic contaminants to nontoxic degradation products such as carbon dioxide and water.

Groundwater Alternative 4: Free-Product Removal, Groundwater Extraction, Ex Situ Treatment, Surface Discharge, LUCs, and Site Monitoring. This alternative would eliminate long-term management by addressing contaminated groundwater through extraction and treatment. The LUCs, monitoring, and free-product removal would be identical to those discussed under Groundwater Alternative 2. This alternative would offer aggressive remediation through removal/treatment of contaminants. The impacted area to be addressed corresponds to the areal extent shown in Figures 3 and 4. An estimated 1.8 million gallons of groundwater would be extracted, passed through a liquid-phase granular activated carbon system, and discharged under a National Pollutant Discharge Elimination System discharge permit.

EVALUATION OF THE PROPOSED REMEDIES AND ALTERNATIVES

The identified corrective measure alternatives were evaluated using the criteria contained in the Final RCRA Corrective Action Plan (EPA, May 31, 1994. OSWER Directive 9902.3-2A). Four criteria and five other factors were used to evaluate this and the other corrective measure alternatives. These criteria and factors are

Criteria

- Protect Human Health and the Environment
- Attain Media Cleanup Standards
- Source Control
- Waste Management Standards

Other Factors

- Long-Term Reliability and Effectiveness
- Reduction in Toxicity, Mobility, or Volume
- Short-Term Effectiveness
- Implementability
- Cost

Tables 1 and 2 depict the evaluation of the corrective measure alternatives as performed in the CMS Report.

RECOMMENDATIONS

Based on the screening of technologies and assessment of various alternatives performed, Soil/Sediment Alternative 3 is recommended for addressing the soil contamination and Groundwater Alternative 2 is recommended for addressing the groundwater contamination.

The preferred soil/sediment corrective measure alternative involves placing a impermeable cap on the surface soil areas that exceed the cleanup levels to provide a barrier and prevent leaching. Confirmation samples would be required to finalize the areas requiring capping.

The impermeable cap would minimize infiltration and contaminant leaching. LUCs would be implemented in the form of a soil/sediment disturbance prohibition and individual contact reduction. Soil Alternative 3 is moderately aggressive in addressing the contamination and should provide a cost-effective corrective measure in approximately 1 year.

The preferred groundwater corrective measure alternative involves LUCs, passive skimming to remove free product, monitoring to address limited groundwater contamination, and monitored natural attenuation (MNA). Once the free product has been removed and the source of contamination in soil has been addressed, the volume and extent of groundwater contamination to be addressed would be limited. Groundwater Alternative 2 relies on natural attenuation, the progress of which would be monitored by the periodic sampling. MNA has been successfully implemented at many sites with limited contamination, and recent data for SWMU 14 shows that MNA is occurring.

TABLE 1. EVALUATION OF SOIL/SEDIMENT CORRECTIVE MEASURE ALTERNATIVES FOR SWMU 14

Soil/Sediment Alternative 1: No Action	Soil/Sediment Alternative 2: LUCs and Site Monitoring	Soil/Sediment Alternative 3: Capping, LUCs, and Site Monitoring	Soil/Sediment Alternative 4: In Situ Treatment, LUCs, and Site Monitoring	Soil/Sediment Alternative 5: Surface Soil Excavation, Offsite Disposal, and LUCs
Protect Human Health and the Environment				
Would not be protective.	Soil contaminants would continue to leach to the groundwater.	Would prevent direct human or ecological contact with soil and prevent potential leaching.	Would eliminate all organic contaminants through in situ treatment using soil venting.	Would provide protection to human health and the environment by source removal.
Attain Media Cleanup Standards				
Would not comply	Natural attenuation would reduce contaminants to acceptable levels over a long period of time.	Would not reduce concentrations but would prevent further leaching in approximately 1 year.	Soil venting would attain cleanup levels in approximately 5 years.	Excavation and disposal would attain the cleanup levels in approximately 1 year.
Source Control				
No new source control would be implemented.	Natural attenuation would eventually eliminate the source.	A cap would control the source of contamination from further leaching.	Would eliminate the source of contamination and prevent further releases.	Excavation and disposal of contaminated soil and sediment would eliminate the source.
Waste Management Standards				
No standards would be applicable.	No standards for management of wastes would apply.	Any waste generated would be properly disposed of in accordance with applicable State, Federal, and local regulations.	Wastes would be properly disposed of in accordance with applicable State, Federal, and local regulations.	Wastes would be properly disposed of in accordance with applicable State, Federal, and local regulations.
Long-Term Reliability and Effectiveness				
Residual contamination and existing risks would remain.	Contaminants may continue to leach from the areas not covered.	A cap would provide long-term reliability and effectiveness.	Long-term reliability and effectiveness would be high.	Effectiveness and reliability would be very high.
Reduction in Toxicity, Mobility, or Volume through Treatment				
No reduction	Reduction of toxicity, mobility, or volume would occur through natural processes.	Mobility would be reduced by the cap. Toxicity or volume would be reduced through natural processes.	Toxicity and volume of organic contaminants would be reduced through biodegradation.	Reduction in contaminant mobility would be close to 100 percent.
Short-Term Effectiveness				
No short-term risks.	No short-term risks.	Short-term risks would be controllable.	Short-term risks would be controllable.	Short-term risks would be controllable.
Implementability				
Would be readily implementable.	Would be readily implementable.	Would be readily implementable.	Would be readily implementable	Would be readily implementable.
Cost (Total Present Worth)				
$18,000	$90,000	$170,000	$438,000	$972,000

Shading indicates Proposed Alternative.

TABLE 2. EVALUATION OF GROUNDWATER CORRECTIVE MEASURE ALTERNATIVES FOR SWMU 14

Groundwater Alternative 1: No Action	Groundwater Alternative 2: Free-Product Removal, MNA, LUCs, and Site Monitoring	Groundwater Alternative 3: Free-Product Removal, In Situ Treatment, LUCs, and Site Monitoring	Groundwater Alternative 4: Free-Product Removal, Groundwater Extraction, Ex Situ Treatment, Surface Discharge, LUCs, and Site Monitoring
Protect Human Health and the Environment			
Not protective	Would be protective	Would be protective	Would be protective
Attain Media Cleanup Standards			
Would not comply.	Free-product removal and natural attenuation would attain standards in approximately 10 years.	Free-product removal and treatment using in situ biodegradation would attain standards in approximately 5 years.	Free-product removal and groundwater extraction would attain standards in approximately 2 years.
Source Control			
No new source control would be implemented.	Free-product removal would control or eliminate the source of contamination.	Free-product removal and in situ biodegradation would eliminate the source of contamination.	Free-product removal would control the source of contamination.
Waste Management Standards			
No standards applicable as no waste would be generated.	Free product would be disposed of in accordance with applicable State, Federal, and local regulations.	Free product would be disposed of in accordance with applicable State, Federal, and local regulations.	Free product and construction waste would be disposed of in accordance with applicable State, Federal, and local regulations.
Long-Term Reliability and Effectiveness			
Residual contamination and existing risks would remain.	Natural attenuation and free-product removal would offer long-term reliability and effectiveness.	Would provide long-term effectiveness and reliability.	Would provide long-term reliability and effectiveness.
Reduction in Toxicity, Mobility, or Volume through Treatment			
No reduction.	Free-product removal would reduce volume and natural processes would reduce toxicity.	Free-product removal would reduce volume and in situ biodegradation would reduce toxicity.	Treatment would reduce toxicity, mobility, and volume. Free-product removal would reduce the volume.
Short-Term Effectiveness			
No short-term risks.	Short-term risks would be minimal.	Short-term risks would be low.	Short-term risks would be controllable.
Implementability			
Readily implementable. No action would occur.	Would be readily implementable.	Would be readily implementable.	Would be implementable.
Cost (Total Present Worth)			
$18,000	$481,000	$580,000	$628,000

Shading indicates Proposed Alternative.

ACRONYMS AND ABBREVIATIONS

62-777	Chapter 62-777 *Florida Administrative Code*
CFR	*Code of Federal Regulations*
CMS	Corrective Measures Study
EPA	U.S. Environmental Protection Agency
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
ft^2	square feet
ft^3	cubic feet
GCTL	groundwater cleanup target level, Chapter 62-777, F.A.C.
HSWA	Hazardous and Solid Waste Amendments
LUC	Land Use Control
LUCIP	Land Use Control Implementation Plan
MNA	Monitored Natural Attenuation
MOA	Memorandum of Agreement
NAVSTA	Naval Station
ORC®	Oxygen Release Compound®
OSWER	Office of Solid Waste and Emergency Response
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SCTL	Soil cleanup target level, Chapter 62-777, F.A.C.
SWMU	Solid Waste Management Unit
TPH	total petroleum hydrocarbons
yd^3	cubic yards

GLOSSARY

Aquifer: An underground layer of rock, sand, or gravel capable of storing and transmitting water within cracks and pore spaces, or between grains.

Corrective Measure: The actual construction or cleanup phase following the selection of cleanup alternatives.

Corrective Measure Design: The cleanup phase where engineers design technical specifications for cleanup remedies.

Corrective Measures Study (CMS): An engineering analysis and report identifying and evaluating the most appropriate technical approaches for addressing contamination at a site.

Florida Department of Environmental Protection (FDEP): State FDEP offices or their counterparts implement State or Federal environmental laws.

Groundwater: Water found within an aquifer.

Hazardous and Solid Waste Amendments (HSWA): Amendments to RCRA, passed in 1984, which greatly expand the nature and complexity of activities covered under RCRA. They include the Federal Underground Storage Program.

Human Health Baseline Risk Assessment: Study to determine the likelihood that a given exposure or series of exposures may have damaged or will damage the health of individuals.

Information Repository: A public file containing technical reports, reference documents, and other materials relevant to the site cleanup.

Interim Measure: An action taken to address a release or potential release of hazardous substances posing immediate danger to human health or the environment.

Land Use Control (LUC): Is broadly interpreted to mean any restriction or control arising from the need to protect human health and the environment, that limits use of and/or exposure to any portion of that property, including water resources. This term encompasses institutional controls, such as those involving real estate interests, governmental permitting, zoning, public advisories, deed notices, and other legal restrictions. The term may also include restrictions on access, whether achieved by means of engineered barriers such as a fence or concrete pad, or by human means, such as the presence of security guards. Additionally, the term may involve both affirmative measures to achieve the desired restriction (e.g., night lighting of an area) and prohibitive directives (no drilling of drinking water wells).

LUC Implementation Plan (LUCIP): A written plan, normally developed after a decision document has required one or more LUCs, for some particular area (operable unit, contaminated unit, and/or solid waste management unit). The LUCIP (1) identifies each LUC objective for that area (e.g., to restrict public access to the area for recreational use) and (2) specifies those actions required to achieve each identified objective (e.g., install/maintain a fence, post warning signs, record notice in deed records). LUCIPs specify what must be done to impose and maintain the required LUCs and are therefore analogous to design and/or operation and maintenance plans developed for active remedies.

Monitored Natural Attenuation (MNA): Assessment of the natural processes that cleanup or attenuate pollution in groundwater.

Permit: A RCRA permit, issued for Mayport, establishes the facility's operating conditions for managing hazardous waste.

Public Comment Period: A legally required opportunity for the community to provide written and oral comments on a proposed environmental action at a hazardous waste site.

RCRA Facility Investigation (RFI): Evaluates the nature and extent of the releases of hazardous waste.

Resource Conservation and Recovery Act (RCRA) of 1976: Requires each hazardous waste treatment, storage, and disposal facility to manage hazardous waste in accordance with a permit issued by the EPA or a State agency that has a hazardous waste program approved by the EPA.

Response to Comments: A document summarizing the public comments received and the responses to the comments.

Risk Assessment: A study estimating the potential risk from a site to human health and the environment.

Solid Waste Management Unit (SWMU): Any discernable unit (to include regulated units) at which RCRA solid waste has been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste.

Statement of Basis: A public participation document detailing the preferred response action at a site.

United States Environmental Protection Agency (EPA): EPA is the Federal agency responsible for implementing environmental laws enacted by Congress.

STATEMENT OF BASIS
SWMU 14 - Mercury/Oily Waste Spill Area
Naval Station Mayport
Mayport, Florida

Your comments on the SWMU 14 proposed remedy:

Does this Statement of Basis provide adequate information regarding the proposed remedy for SWMU 14?

☐ Yes ☐ No

If not, what other information would you like? Do you have any other comments on the actions taking place?

If you have additional comments, include on separate page. Note the Statement of Basis you are commenting on.

If you received this statement of basis in the mail, you are on the mailing list. If you did not receive this newsletter in the mail but would like to be included on the mailing list, please complete the following:

Name _____

Address _____

City, State, ZIP _____

Phone Number (optional) _____

Fax Number (optional) _____

Fold this page in half so that the address on the back is visible, staple or tape closed, stamp, and mail.

Comments on the Statement of Basis for the
Mercury/Oily Waste Spill Area (SWMU 14)

Place
Stamp
Here

James Cason
FDEP, Twin Towers Office Building
Technical Review Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400