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NAS CECIL FIELD, FL
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FACT SHEET 10 PROPOSED REMEDIAL ACTIONS FOR OPERABLE UNIT 1 (OU 1) SITE 1
AND SITE 2 NAS CECIL FIELD FL
4/1/1995
ABB ENVIRONMENTAL SERVICES INC



NAS CECIL FIELD Installation Restoration Program

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FACT SHEET 10: Proposed Remedial Actions for Sites 1 and 2

The *Installation Restoration (IR) program* is a Department of Defense program conducted at bases nationwide to identify and address contamination resulting from past practices that do not meet today's environmental standards. This fact sheet is one in a series informing interested citizens of IR program activities at Naval Air Station (NAS) Cecil Field. Fact sheets will be produced at program milestones and in response to other items of public interest. Distribution is coordinated through the Public Affairs Office at NAS Cecil Field, telephone: (904) 778-6055.

INTRODUCTION

This fact sheet outlines proposed environmental actions (called remedial actions) for two former landfills, called Site 1 and Site 2. Because these sites are similar (i.e., both are landfills) and because they are located adjacent to each other, they have been grouped together as an *operable unit*. Therefore, Sites 1 and 2 are also known as Operable Unit 1.

DESCRIPTION OF OPERABLE UNIT 1

Operable Unit 1 includes two former trench and fill landfills. Site 1 operated from the 1950's to 1965. Site 2 operated from 1965 to 1975. Both sites received solid and liquid wastes from NAS Cecil Field operations. The sites are located on the inside of the southwestern fenceline of the base (see Figure 1).

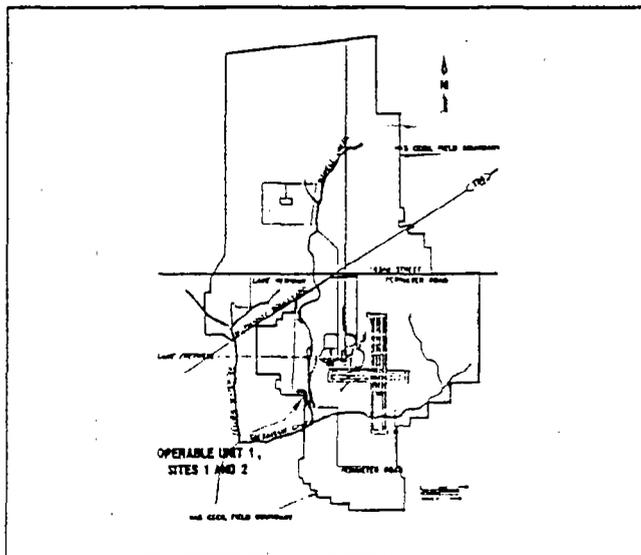


Figure 1. Location of Operable Unit 1

DOES THE PROCESS WORK?

The *Proposed Plan* for Operable Unit 1, described in this fact sheet, is part of the *remedial action process*. This process includes:

- a **Remedial Investigation and Risk Assessment** to locate and evaluate chemicals that pose adverse human health and ecological effects at the site,
- a **Feasibility Study (FS)** to identify and evaluate appropriate remedial actions for the site,
- a **Proposed Plan** to summarize and recommend the best remedial actions for the site,
- **public participation** to encourage interested citizens to review and provide input on the Proposed Plan,
- a **Record of Decision (ROD)** to document the selected action and to respond to any comments raised during the public comment period, and
- **remedial action** to implement the Record of Decision.

Operable Unit 1 is currently at the **public participation** stage of the process.

REMEDIAL INVESTIGATION AND RISK ASSESSMENT RESULTS

The Remedial Investigation for Operable Unit 1 was completed in December 1994. This investigation included collecting and analyzing surface water, sediment, groundwater, and soil samples. A risk assessment was performed to determine if the chemicals at the site were safe for humans and the environment.

Table 1. Remedial Investigation Results

Medium	Human Health Risks	Ecological Risks
Groundwater	None	None
Soil	None	None
Surface water and sediment	None	None for Site 1 Possible risk for Site 2

The results of the Remedial Investigation and Risk Assessment, as summarized above, show no human health risks for either site. A possible ecological risk associated with the surface water and sediment was identified for Site 2. No ecological risks were associated with Site 1.

At Site 2, the possibility of an impact to the environment was based on laboratory measurements of harmful effects to small laboratory test animals (such as water fleas) that normally live in the surface water or sediment. Orange-red particles in the water, referred to as "flocculent", may cause the effect by coating the animal's gills and making it difficult for them to breath. These effects could also be associated with metals in the surface water or sediment.

FEASIBILITY STUDY RESULTS

The Feasibility Study was completed in December 1994. The study identified two types of actions needed at Operable Unit 1.

- **Source control actions** are actions taken to prevent the release of chemicals into the environment. The goal of the source control action is to complete closure of the landfill in accordance with State and Federal requirements.
- **Risk reductions actions** are actions taken to minimize risks to human health or the environment posed by the condition of the site. Risk reduction goals include: (1) removing the orange-red flocculent from Site 2 if it is shown to be harmful, (2) reducing exposure of organisms to unacceptable concentrations of metals in the sediment, and (3) reducing response of organisms to iron, lead, and aluminum in surface water.

Based on these goals, the Feasibility Study identified and evaluated the best three source control and risk reduction alternatives for Operable Unit 1. These

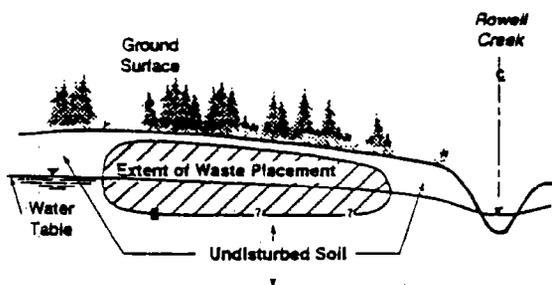
alternatives were evaluated against the nine questions summarized in Table 2. The results of the Feasibility Study are summarized on Figures 2 through 7.

Table 2. Feasibility Study Evaluation Criteria

The feasibility study involves evaluating each possible alternative by asking the following nine questions:

1. Will it protect people and the environment?
2. Will it meet Florida and Federal legal requirements?
3. Will it protect us over the long term?
4. Will it reduce harmful qualities of the contaminant? Keep it from moving away from it's current location? Make it smaller?
5. Will it cause any harm during the short term?
6. Will it be possible to make it work?

Figure 2: Proposed Source Control Alternative SC-1: No Action

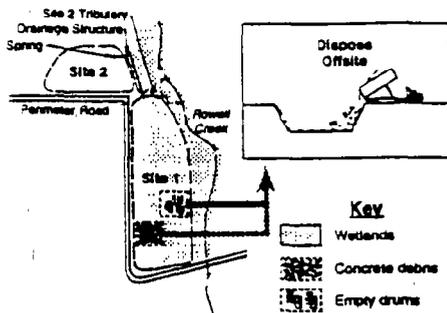


- Institutional controls (deed restrictions)
- 5-year review

Factors to consider:

- Cost of \$36,000.
- Does not improve protection of human health and the environment.
- Does not meet State and Federal requirements.
- Easy to implement.
- Future remedial actions possible.

Figure 3: Proposed Source Control Alternative SC-2, Site Closure

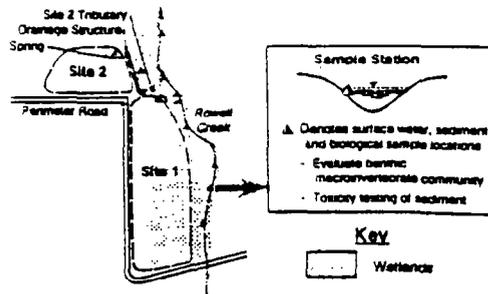


- Institutional controls (fencing, deed restrictions)
- 5-year review
- Closure plan
- An unexploded military ammunition (ordnance) survey
- A landfill gas survey
- Groundwater monitoring

Factors to consider:

- Cost of \$261,500.
- Provides permanent access restrictions.
- Meets all State and Federal requirements.
- Easy to implement.

Figure 5: Proposed Risk Reduction Alternative RR-1, Biomonitoring

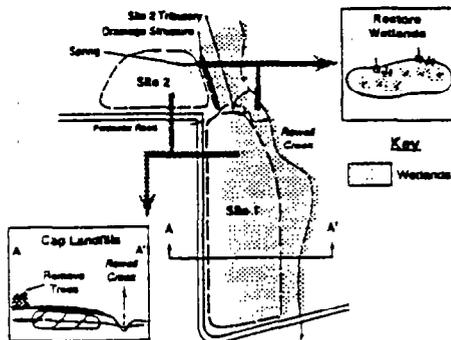


- Biomonitoring of the drainage ditch, Site 2 tributary, adjacent wetlands, and Rowell Creek for 5 years
- Biomonitoring includes:
 - sampling and analyzing surface water and sediment
 - sampling organisms in sediment
 - toxicity testing of sediment
- 5-year review

Factors to consider:

- Cost of \$266,400.
- Future cleanup actions would be possible.
- Would verify result and fill data gaps from the Remedial Investigation.
- No habitat or wetlands destruction.
- Iron, lead, and aluminum levels in surface water would remain slightly higher than Federal guidelines.

Figure 4: Proposed Source Control Alternative SC-3, Site Closure and Capping

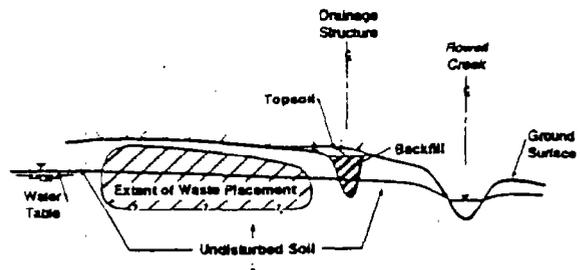


- Institutional controls (fencing, deed restrictions)
- Closure plan
- Landfill cap
- Wetlands restoration
- An unexploded military ammunition (ordnance) survey
- Removal and disposal of debris
- A landfill gas survey
- 5-year review
- Groundwater monitoring

Factor to consider:

- Cost of \$4,500,000.
- Provides permanent access restrictions.
- Construction would destroy wetlands and habitat for some species.
- Wetland mitigation required.
- Meets all State and Federal requirements.

Figure 6: Proposed Risk Reduction Alternative RR-2, Site Grading

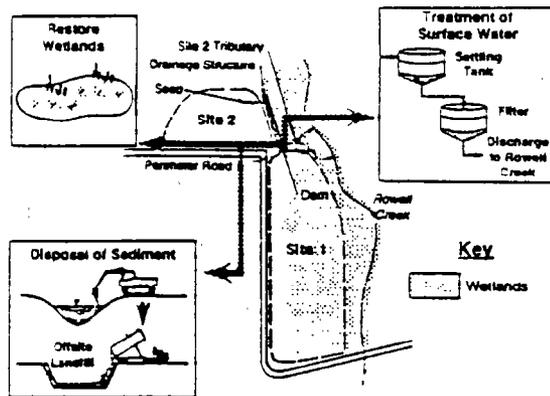


- Grading of the site to cover groundwater spring
- 5-year review
- Wetlands restoration
- Biomonitoring for 5 years as described in RR-1

Factors to consider:

- Cost of \$645,000.
- Would reduce risks but harm the environment by eliminating groundwater spring feeding the wetlands.
- Grading may not permanently stop impact of spring on organisms in sediment.
- Would eliminate plant and animal habitats.
- Wetland destruction and mitigation required.

Figure 7: Proposed Risk Reduction Alternative RR-3, Treatment of Surface Water and Excavation of Sediments



- Treatment of surface water in the drainage structure
- Wetlands restoration
- Excavation and disposal of sediment from the Site 2 tributary and drainage structure
- 5-year biomonitoring program
- 5-year review

Factors to consider:

- Cost of \$1,951,100.
- Would reduce risks but harm the wetlands.
- Long-term effects reduced by removing sediment and treating surface water in drainage ditch and Site 2 tributary.
- Treatment process may need to operate indefinitely because of naturally occurring iron in surface water.
- Eliminates effect of chemicals from groundwater spring.
- Wetland destruction and mitigation required.

PROPOSED PLAN

After evaluating the proposed alternatives, the Navy, in consultation with the U.S. Environmental Protection Agency, the Florida Department of Environmental Protection, and the NAS Cecil Field Restoration Advisory Board, have recommended one source control and one risk reduction alternative, as described below.

Preferred Source Control Alternative: SC-2, Site Closure. This alternative is recommended because it:

- provides for permanent protection of human health and the environment through access restrictions,
- meets all Federal and State requirements, and
- causes no harm to the wetlands located on-site.

Preferred Risk Reduction Alternative: RR-1, Biomonitoring. This alternative is recommended because it:

- recognizes that the orange-red flocculent is naturally occurring and may continue indefinitely;
- monitors the extent, seasonal changes, and cause of any observed effects to organisms in sediment;
- is the most cost-effective alternative;
- causes no harm to wetlands located on-site; and
- leaves existing wetlands intact to provide additional protection for Rowell Creek.

WHAT'S NEXT?

Public Comment Period. The public comment period for the Proposed Plan will be open from April 28 to June 15, 1995.

Record of Decision. The Record of Decision is scheduled to be signed in the fall of 1995.

Remedial Action. Implementation of the decision is scheduled for Spring 1995.

COMMUNITY PARTICIPATION ACTIVITIES

Public Comment Period. The public comment period for the Operable Unit 1 Feasibility Study and Proposed Plan will be held from April 28, 1995, to June 15, 1995.

Public Meeting. The public meeting will be held on May 2, 1995, at 7:00 p.m. at the National Guard Armory, 9900 Normandy Boulevard, Jacksonville, Florida.

Public Notices. Look for public notices to be published in the *Florida Times Union* newspaper.

Information Availability. An Information Repository has been established at the Charles D. Webb Wesconnett Branch of the Jacksonville Public Library, 6887 103rd Street, Jacksonville, FL 32210, (904) 778-7305. This repository contains documents prepared in connection with Operable Unit 1 as well as other Installation Restoration program information and is available for your review.

Point of Contact. For further information or if you would like to be added to the mailing list, please contact Mr. Bert Byers, Public Affairs Officer, NAS Cecil Field, P.O. Box 111, Jacksonville, FL 32215-0111, (904) 778-6055.