

RCRA Corrective Action Supplemental Investigation and Future Work



May 10, 1994

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09.04-05/00/94-00 445

RCRA Steps to Date

1. NSRR Filed for a Part B - RCRA Process started
2. EPA did an RFA in 1988
3. EPA makes decision to change from CERCLA to RCRA
4. EPA does confirmatory site visit (augments RFA) in June 1993
5. EPA issues Draft Part B Permit for DRMO which contains corrective action provisions



Disposition of SWMUs

3 Choices:

- ◆ No Further Action Required
- ◆ First Phase RFI Required
- ◆ Full RFI Required

Decision based on existing investigation information or potential for release as indicated by waste type, length of service, records of spills or other information.

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Scope of Supplemental Investigation

Sites Included:

- ◆ Site 5 - Army Cremator Disposal Area (SWMU 1)
- ◆ Site 6 - Langley Drive Disposal Area (SWMU 2)
- ◆ Site 7 - Station Landfill
- ◆ Site 10 - Building 25 Storage Area
- ◆ Site 13 - Tanks 210 - 217
- ◆ Site 14 - Ensenada Honda Shoveline and Mangroves
- ◆ Site 16 - Old Power Plant, Building 38
- ◆ Site 18 - Bldg. 128, Pest Control Shop & Surrounding Area
- ◆ Site 21 - Building 121, Old Pesticide Storage

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Scope of Supplemental Investigation *(cont.)*

Work Elements:

- ◆ Historical Photo Interpretation
- ◆ Geophysical Investigations
- ◆ Groundwater Measurements
 - ▶ Hydraulic Conductivity
 - ▶ Elevation
- ◆ Sampling of Groundwater
- ◆ Sampling of Soil
- ◆ Sampling of Sediment
- ◆ Comparison of Data to CS results
- ◆ Risk Assessment



Discussion Approach

Each SWMU requiring a First Phase or Full RFI will be discussed as follows:

- ◆ **Basis for classification as SWMU**
- ◆ **Information presently available**
 - ▶ **confirmation study**
 - ▶ **supplemental investigation results**
 - ▶ **other information**
- ◆ **Plans for future investigations**



SWMU 1 - Former Cremator Disposal Site (cont.)

Corrective Action Permit Requirements

Full RFIs are required for:

- ◆ **Groundwater**
- ◆ **Surface Water/Sediment**
- ◆ **Soil**

Data Gaps

Based on all available information (including the SI), the NAVY considers only groundwater to be incompletely characterized

- ◆ **Soil has been adequately addressed during the SI**
- ◆ **SW was addressed during investigations at IR Site 14 (not a part of corrective action but reported on in the SI report)**

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SWMU 1 - Former Cremator Disposal Site (cont.)

Proposed Future Investigatory Work

- ◆ **Up to 4 monitoring wells will be installed and sampled.**
 - ▶ **One installed to intercept flow to the north**
 - ▶ **Up to 3 installed to replace existing wells which were recently unable to be located**

- ◆ **Sw-846 methods to be used with third party data validation.**

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SWMU 2 - Langley Drive Disposal Site

SWMU Characteristics

Period of use: Early 1940s - early 1960s

Wastes Managed: Approximately 1700 cys of solid and industrial waste

Waste Management Techniques: Unlined waste pile/landfill

Reasons for RFI:

- 1. Waste management techniques (landfill)**
- 2. Wastes managed (industrial/potentially toxic)**
- 3. Indications of lead and selenium release to soils, surface water and groundwater**

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SWMU 2 - Langley Drive Disposal Site (cont.)

Supplemental Investigation Results

◆ Soil Sampling

- ▶ **VOC - Trace to moderate concentrations (acetone, benzene, 2-butanone, ethylbenzene, methylene chloride, toluene and xylene**
- ▶ **SVOC - no significant concentrations**
- ▶ **P/PCB - pesticides found randomly at low concentrations**
- ▶ **Metals - within expected ranges**

◆ Groundwater

- ▶ **No VOC, SVOC or P/PCB were found at elevated concentrations. Metals found in expected ranges.**

◆ Risk Assessment

- ▶ **No identifiable risk to sensitive receptors is posed by the site**

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SWMU 2 - Langley Drive Disposal Site (cont.)

Corrective Action Permit Requirements

Full RFIs are required for

- ▶ **Soil**
- ▶ **Groundwater**
- ▶ **Surface Water/Sediment**

Data Gaps

Based on all available information (including the SI), the Navy considers only groundwater to be incompletely characterized.

- ▶ **Soil has been extensively sampled**
- ▶ **SW fluxes daily**
- ▶ **Sediments have been sampled**



SWMU 2 - Langley Drive Disposal Site (cont.)

Proposed Future Investigatory Work

- ◆ **3 additional wells to be installed and sampled.**
 - ▶ **One well to be installed through the area**
 - ▶ **Two wells at downgradient margin**

- ◆ **SW-846 methods to be used with third party data validation**



SWMU 3 - Base Landfill

SWMU Characteristics

Period of use: Early 1960s to Present

Wastes Managed: General base refuse and industrial waste - possible toxic constituents. Now only residential type waste.

Waste Management Techniques: Unlined, landfilling, trench type

Reasons for RFI:

- 1. Waste management techniques**
- 2. Initial investigations indicate potential metals on GW**
- 3. Volume of waste**

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SWMU 3 - Base Landfill (cont.)

Supplemental Investigation Results

Groundwater was sampled. These results were reported as appropriate to the permitted operation of the landfill. No other sampling was performed. Groundwater indicated trace 1,2-DCE in one well.

Reasons for RFI:

- 1. Waste managed (early industrial waste stream)**
- 2. Volume of waste**
- 3. Indications of metals in groundwater (As, Cr, Pb, Se)**

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SWMU 3 - Base Landfill (cont.)

Corrective Action Permit Requirements

Full RFIs are required for

- ▶ **Soil**
- ▶ **Groundwater**
- ▶ **Surface Water/Sediment**

Data Gaps

Based on all available information (including the SI), the Navy considers:

- ▶ **SW is constantly fluxing**
- ▶ **Active landfill - soil samples would be waste or cover**

Therefore, only sediment remains to be characterized.

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SWMU 3 - Base Landfill (cont.)

Proposed Future Investigatory Work

- ◆ **17 sediment samples will be taken at approximately 500 foot intervals around the peninsula containing the landfill.**

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SWMU 9 - Tanks 212-217 Sludge Burial Pits

SWMU Characteristics

Burial pits dug as needed for the disposal of tank sludge during clean-out. This technique was used at the site from approximately 1940 to 1978.

Reasons for RFI:

- 1. Wastes managed (potential mobility of constituents)**
- 2. Waste management procedures (disposal in open pits)**
- 3. Benzene and toluene have been found in GW during previous investigations**
- 4. No sampling performed during Supplemental Investigation**



SWMU 9 - Tanks 212-217 Sludge Burial Pits (cont.)

Corrective Action Permit Requirements

Full RFIs are required for

- ▶ **Soil**
- ▶ **Groundwater**

Contingent RFI for:

- ▶ **Surface water/sediment**

(SW/S RFI contingent upon results of initial soils and GW work.)

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SWMU 9 - Tanks 212-217 Sludge Burial Pits (cont.)

Proposed Future Investigatory Work

3 Areas by geography

- ▶ **Tanks 212 and 213**
3 soil borings - in areas of suspected pits
2 new monitoring wells - two possible flow paths

- ▶ **Tanks 214 and 215**
4 soil borings - in areas of suspected pits
(groundwater adequately addressed)

- ▶ **Tanks 216 and 217**
3 soil borings - in areas of suspected pits
2 new monitoring wells - downgradient

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SWMU 11 - Old Power Plant/Building 38

SWMU Characteristics

The SWMU consists of Building 38 and surrounding areas. Five areas/environmental media are addressed in the permit.

- ▶ The building interior (used to store PCBs)**
- ▶ Cooling Tunnels**
- ▶ Groundwater under the site**
- ▶ SW/S at the cooling tunnels outfall and intake**
- ▶ Soils surrounding the 50,000 gallon tanks**

Reasons for RFI:

- 1. Site History**
- 2. Wastes managed**
- 3. Known releases (PCBs in cooling tunnels).**

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SWMU 11 - Old Power Plant/Building 38 (cont.)

Supplemental Investigation Results

Sediments were sampled in Puerca Bay at the outfall. One qualified detection of PCB (very low level) and minor pesticides were found. The intake could not be found in Esenada Honda.

Additional extensive geophysics could not trace the cooling tunnel to Ensenada Honda.

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SWMU 11 - Old Power Plant/Building 38 (cont.)

Corrective Action Permit Requirements

Full RFIs are required for

- ▶ **Soil**
- ▶ **Groundwater**
- ▶ **Surface Water/Sediment**

Data Gaps

Based on all available information (including the SI), the Navy considers RFIs necessary for:

- ▶ **The building interior**
- ▶ **The cooling tunnels**
- ▶ **Soils associated with the 50,000 gallon tanks**

**Surface water and sediments are adequately characterized.
Groundwater investigations should be contingent on clean-up
and RFI findings**

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SWMU 11 - Old Power Plant/Building 38 (cont.)

Proposed Future Investigatory Work

Building Interior

- ▶ **Grid Sampling Program**

Cooling Tunnels

- ▶ **Tunnel tracing**
- ▶ **Sediment sampling in tunnels**

50,000 gallon tanks

- ▶ **4 soil borings with sampling**
- ▶ **Contents of tanks will be analyzed and removed**

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SWMU 45 - PCB Spill Area/Old Power Plant

The need for an RFI will be based on the results of on-going remedial measures.



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AOC B - Building 25

SWMU Characteristics

Area formerly used to store wastes and raw materials

Reasons for RFI:

IR Site 10 (of which AOC B is a part) groundwater contained detections of As, Se, Cr, and Pb during early investigation



AOC B - Building 25 (cont.)

Supplemental Investigation Results

- ▶ **Samples of soil and groundwater**
- ▶ **Trace P/PCB found**
- ▶ **Some SVOC found**
- ▶ **Metals found within expected ranges**

Corrective Action Permit Requirements

Full RFIs are required for

- ▶ **Soil**
- ▶ **Groundwater**

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AOC B - Building 25 (cont.)

Proposed Future Investigatory Work

- ◆ **2 soil borings through the pad area**
- ◆ **Available soil sampling results from Building 145**
- ◆ **3 monitoring wells - triangular pattern. One upgradient; two downgradient**



SWMU 6 - Building 145

SWMU Description

Partially underground, concrete bunker formerly used for storage of paints, etc.

RFI Requirements

A First Phase RFI is required for soils

Proposed Investigatory Work

- ▶ 3 soil borings with sampling**
- ▶ Standing water sampling**



SWMU 10 - Substation 2 / Building 90

- ◆ **Area contaminated with PCBs**
- ◆ **Clean-up is presently underway**
- ◆ **RFI activities contingent upon remedial action**



SWMU 12 - Fire Training Pit Oil/Water Separator

SWMU Description

Unit manages oily water discharging from fire training pits during training exercises

RFI Requirements

A First Phase RFI is required for soils

Proposed Investigatory Work

- ▶ Soil sampling at 4 locations (surficial)**



SWMU 13 - Old Pest Control Shop / Building 258

Sampling done during the Supplemental Investigation fulfills RFI requirements.

Results of SI indicates there is no significant risk posed by this site to human health or the environment.



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SWMU 14 - Fire Training Pit Area

SWMU Description

Concrete, stone filled, pit used in fire fighting training

RFI Requirements

A First Phase RFI is required for soils

Proposed Investigatory Work

- ▶ **Limited Slam-bar soil gas survey**
- ▶ **Soil sampling based on soil gas survey (minimum 5 locations)**



SWMU 19 - Building 121 - Discarded Pesticide Storage Area

- ◆ **Area contaminated with pesticides**
- ◆ **Presently undergoing RCRA closure**
- ◆ **No RFI required assuming closure successfully completed**

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SWMU 23 - Oil Spill Separator Tanks

SWMU Description

Three aboveground steel tanks with concrete curbing on three sides

RFI Requirements

First Phase RFI for soil required. Contingent RFI for groundwater

Proposed Investigatory Work

- ▶ 2 soil samples selected based on site conditions**



SWMU 24 - Oil Spill Oil/Water Separator and Pad

SWMU Description

**Oil/water separator used in conjunction with spill
clean-up activities**

RFI Requirements

A First Phase RFI is required for soils

Proposed Investigatory Work

- ▶ A single soil sample from a field selected
location will be collected**



SWMU 25 - DRMO Storage Yard

SWMU Description

An area within the DRMO yard where wastes were once stored. Most recently, the area could not be located.

RFI Requirements

A First Phase RFI for soils is required

Proposed Investigatory Work

- ▶ 4 surficial soil samples will be taken from field selected locations**



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SWMU 26 - Building 544 Area

SWMU Description

Area behind the former Building 544 where drums were stored

RFI Requirements

A First Phase RFI is required for soils

Proposed Investigatory Work

- ▶ Locate area**
- ▶ Perform slam-bar soil gas survey**
- ▶ Sample surficial soils as appropriate**

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SWMU 31 - Waste Oil Collection Area Buildings 31 and 2022

SWMU Description

**Pad used to accumulate containers of waste oil.
Staining outside of containment is evident.
Also, area near Building 31 formerly used to
store waste.**

RFI Requirements

A First Phase RFI for soils is required

Proposed Investigatory Work

- ▶ 5 soil borings to bottom of contamination or groundwater**
- ▶ 1 monitoring well**
- ▶ Additional soil borings as necessary**

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SWMU 32 - PWD Storage Yard / Battery Collection Area / Building 31

SWMU Description

**General area where used batteries were
formerly stored**

RFI Requirements

A First Phase RFI for soils is required

Proposed Investigatory Work

- ▶ Slam-bar soil gas survey**
- ▶ Up to 5 soil borings**
- ▶ 1 monitoring well in center of area**



SWMU 37 - Waste Oil Storage Area Building 200

SWMU Description

Container storage area for waste oils, etc. One small area of possible release was noted.

RFI Requirements

A First Phase RFI for soils is required

Proposed Investigatory Work

- ▶ Slam-bar soil gas survey on two grassed sides**
- ▶ Soil sampling as appropriate**



SWMU 39 - Building 3158 Former Battery Drain Area

SWMU Description

- ▶ **Originally an open-sided, covered, concrete pad where liquids from battery draining was collected**
- ▶ **Now a grassed area - pad has been removed**

RFI Requirements

A First Phase RFI for soils is required

Proposed Investigatory Work

- ▶ **3 near surface soil samples to be collected**
- ▶ **Analysis only for metals**



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SWMU 46 - Pole Storage Yard Covered Pad

SWMU Description

- ▶ **Formerly used for storage of electrical equipment**
- ▶ **Now used for under 90 day waste accumulation**

RFI Requirements

A First Phase RFI is required for soils

Proposed Investigatory Work

- ▶ **6 near surface soil samples**
- ▶ **4 wipe samples on pad for PCBs**

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SWMU 51 - New AIMD Storage Pad Building 379

SWMU Description

**Curbed, covered, waste storage area surrounded
by asphalt pavement**

RFI Requirements

A First Phase RFI for soils is required

Proposed Investigatory Work

- ▶ 5 soil sampling locations on the soil adjacent to
the asphalt. Regularly spaced or where possible
releases are visible**



AOC C - Transformer Storage Pad

SWMU Description

3 separate, contained, pads used to store transformers and other electrical equipment. PCB containing materials are present.

RFI Requirements

A First Phase RFI is required for soils

Proposed Investigatory Work

- ▶ **14 soil samples locations effectively surrounding the pads**
- ▶ **Up to 6 additional soil samples as a visual inspection indicates the need**



Summary

- 1. A RCRA Corrective Action will be issued.**
- 2. The Navy has done significant investigatory work applicable to identified SWMUs. This has or will be provided for agency review.**
- 3. The Navy's additional work has negated the need for some RFIs or RFI elements.**
- 4. The Navy has proposed a general scope of RFI activities for each applicable site in the Corrective Measures Evaluation Study.**

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